

# AROMATICA

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A Clinical Guide to Essential Oil Therapeutics

VOLUME I: PRINCIPLES AND PROFILES

SINGING  
DRAGON 

PETER HOLMES LAc, MH



‘This is a truly outstanding contribution to the literature on essential oil therapeutics. Based on years of experience, Holmes shares his profound insights into the therapeutic and clinical usage of essential oils, seamlessly weaving vitalistic and allopathic paradigms. Regardless of the individual practitioner’s approach and philosophical leanings, this is an invaluable resource. *Aromatica* is the most significant text on essential oil therapy to emerge in recent years, and is destined to become a “classic” in the field.’

– *Jennifer Peace Rhind, author of Essential Oils: A Handbook for Aromatherapy Practice, Fragrance and Wellbeing, Listening to Scent and Aromatherapeutic Blending*

‘*Aromatica* is a meticulously researched and scholarly book, which covers the use of essential oils from a wide-ranging clinical perspective. It includes precise data on some unusual oils such as Blue tansy, as well as outlining the critical importance of selecting premium quality oils to ensure their therapeutic effectiveness. Overall, this book is a valuable and original contribution to the literature presently available.’

– *Julia Lawless, owner of Aqua Oleum and author of The Encyclopedia of Essential Oils and Complete Essential Oils Sourcebook*

‘If there was ever a book that could transmit the full spectrum of treasure, value and validity of essential oils in our time, this is it.’

– *from the Foreword by Tiffany Carole Pollard, MS, LAc, LMP, Synergy Wellness Center*

‘Peter shares with us his great gift for using the terms and principles of Chinese medicine to explore herbal medicines from beyond the classical Chinese Materia Medica with easily understandable and clinically useful clarity. It is a real feast for the student and the seasoned clinician alike. This book secures Peter’s place as a master of weaving eclectic systems of classification into a clinically useful modern construction.’

– *from the Foreword by Charles Lev, Faculty Instructor in Family Medicine, Oregon Health Science University and Clinical Supervisor, National College of Natural Medicine*

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VOLUME I: PRINCIPLES AND PROFILES

PETER HOLMES

FOREWORDS BY GABRIEL MOJAY,  
TIFFANY CAROLE POLLARD AND CHARLES LEV

ILLUSTRATED BY MIMI CAMP



LONDON AND PHILADELPHIA

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# Contents

FOREWORD BY GABRIEL MOJAY • 7

FOREWORD BY TIFFANY CAROLE POLLARD • 9

FOREWORD BY CHARLES LEV • 10

ACKNOWLEDGEMENTS • 13

Introduction • 15

*Chapter 1.* Exploring the Roots of the Materia Aromatica • 22

*Chapter 2.* Examining the Sources of Essential Oils • 49

*Chapter 3.* Defining Essential Oils as Bioactive Remedies • 62

*Chapter 4.* Issues of Essential Oil Safety • 82

*Chapter 5.* Surveying the Modalities of Essential Oil Therapy • 92

*Chapter 6.* The Essential Oil Profile • 106

## **Materia Aromatica, Part I • 127**

Atlas Cedarwood • 129

Bergamot • 135

Black Spruce • 141

Blue Tansy • 149

Cajeput • 156

Clary Sage • 164

Eucalyptus • 173

*Blue-Gum Eucalyptus • 173*

*Narrow-Leaf Eucalyptus • 174*

Geranium • 184

German Camomile • 193

Ginger • 200

Helichrysum • 208
Juniper Berry • 217
Lavender • 225
Lemon • 237
Lemongrass • 244
Mandarin • 252
Marjoram • 257
May Chang • 265
Palmarosa • 272
Patchouli • 279
Peppermint • 288
Ravintsara • 296
Roman Camomile • 304
Rosemary ct. Cineole and ct. Camphor • 311
Siberian Fir • 321
Spearmint • 328
Tea Tree • 334
Thyme ct. Linalool • 344
Vetiver • 353
Ylang Ylang No. 1 and Ylang Ylang Extra • 362
SELECTIVE BIBLIOGRAPHY • 370
GLOSSARY OF TERMS • 375
COMMON NAME CROSS INDEX • 380
INDEX • 384
ESSENTIAL OILS INDEX • 396

# Foreword

About 25 years ago, an important book entered my then modest library of herbal texts. That book was Peter Holmes' *The Energetics of Western Herbs*. Having first studied medicinal plants from the vitalistic perspective of traditional Chinese medicine, the two-volume tome instantly became a valuable guide for my professional practice. Working as I did according to the same terrain-based, mind-body diagnostic principles enshrined in the book, my first reading of it was akin to meeting someone who spoke the same distinct dialect – and who could expand and refine my therapeutic vocabulary. What's more, the text encompassed discussion of several aromatic extracts – and while the extent of that discussion was naturally but an inkling of what has now arrived in the form of *Aromatica*, it nevertheless reinforced my understanding and clinical use of essential oils.

Over the quarter of a century since, the general popularity and therapeutic use of essential oils has grown exponentially. During that time, Peter Holmes has continued to explore and research plant aromatics and their diverse clinical applications – as a practitioner, scholar, educator and importer-purveyor. He therefore brings to bear a uniquely multifaceted insight into the world of essential oils – one that is imbued with an intricate knowledge of both their empirical history and their medicinal dynamics.

I first met Peter in 1997, at the Tisserand Institute's *Aroma 97* conference at Warwick University, England. It was at this event that he delivered a seminal paper on the key concept of *fragrance energetics*, designating the fragrance of essential oils as their *primary effective quality*. . . just as the characteristics of a herb's taste is indicative of its generalized effect on the body and mind. Thus, in the same way that classic herbal compendia of both the East and West refer in the first instance to the sweetness, bitterness and/or pungency, etc. of a herb, and so provide information about its fundamental faculties, Peter highlighted the importance of apprehending and interpreting the effective fragrance qualities of an essential oil.

The fragrance energetics of essential oils is of course only a starting point for classifying and elucidating their properties, if a primary one. And where *Aromatica* excels, as did *The Energetics of Western Herbs* and indeed *Jade Remedies* (Peter's exhaustive book on Chinese herbs), is in the sheer breadth of focus of its individual aromatic profiles. Above all, this meticulous detail is interwoven and cross-related, so that the psychosensory, historical, physiological and psychological functions and attributes of essential oils are presented in a holistically illuminating way – empowering the practitioner to accurately address both the 'root' and 'branch' of a patient's condition.

It is the eclectic, integrated nature of this exposition – underpinned, in addition, by the time-honoured principles of Chinese medicine – that makes *Aromatica* an indispensable source of reliable information on the energetic and symptomatic therapeutics of essential oils. The fact that these faculties are discussed with eloquence and lucidity, as well as a deep appreciation of the provenance, potency and olfactory subtlety of essential oils, instils this opus with the excellence of artisanship – like the work of the distiller whose plant essences are the product of their passion, the alchemical consummation of their calling.

*Gabriel Mojay LicAc, CertEd, FIFPA*  
*November 2015*

# Foreword

*Aromatica* is a journey through no-time time. One in which the past gives birth to the future in each unbound moment. There is a beginning and an end. And there is an ever-present middle filled with blossoms of potential in aromatic awakening. In the case of *Aromatica*, the beginning connects you to the origin of humanity's interrelatedness to all of life via the potent portal of scent. Each end, whether chapter or essential oil profile, is yet another beginning; one in which you shift gently and majestically into your own deepening sojourn of aromatic discovery.

If there was ever a book that could transmit the full spectrum of treasure, value and validity of essential oils *in our time*, this is it. I remember when Peter Holmes and I once sat together for dinner. We talked of his book in process – this very publication. The sense of paused pregnancy was palpable. We talked of what currently existed in the world of essential oil books, of philosophical perspectives and thought forms, and of the future of humanity. Peter's lifetime of loyal commitment to herbal medicine, being a voice and conduit of insight for essential oils, evoked deep reverence in me. At the very same time I felt an urgent effervescence bubbling up in me in words something like this, 'You must bring a developmental and evolutionary perspective to the understanding of the oils...this is where the freshness and life is!' At this our eyes twinkled and reflected to each other a sort of trans-rational understanding, and a new clock began to tick.

This marked the beginning of our work and creation together, as well as a ticker within me expectantly awaiting Peter's completed creation of *Aromatica*. And at last it is here! I declare this moment of reading, a moment of gratitude for Peter's commitment in action, for his soul labour and for his unending curiosity and dedication to evolving understandings of essential oils and energetic medicine.

Some books you read and experience an expansion of logic-based cognition. Some books you read and have a felt sense of emotional shifting. Others you read and find experiential value in abstractions. *Aromatica*, when feasted upon with your eyes and heart, is a creative vehicle through which all of these realities come into being *through you*. How rare it is to discover such a book!

*Aromatica* brilliantly connects history to future, known to unknown, linear to abstract, and static nature to dynamic nature. Whether you are an experienced health-care practitioner or a lover of essential oils in any walk of life, you will be blessed by this creation. And may your own creations in the world become all the richer for it!

*Tiffany Carole Pollard MS, LAc*  
*Ojai, California, November 2015*

# Foreword

*I am lying on the treatment table, eyes closed. An essential oil is presented before my nose. It is gently shifted back and forth, so that both of my nostrils, and thus both hemispheres of my awareness, are filled with its essence. My breathing deepens. My olfactory nerve, the only nerve ending in my body exposed to the open air; awakens to messages humming in the molecular signatures of the oil's many compounds. These unique botanical whispers send living waves of neural impulses rippling into the deepest chambers of my midbrain. The plant essence and the texture of my consciousness are one. As a pure distillation of botanic fragrance resonates within me, I am filled with harmonic expanse that no other sense experience can evoke. The Ten-Thousand Things that pursue me throughout my week evaporate like clouds in the face of sunlight.*

Over many years of working both as a clinician and as a clinical supervisor teaching acupuncture along with the therapeutics of essential oils, I have seen these scintillating uprisings of restorative selfhood wash over the faces of thousands of people. Our sensing of scent runs deep. Inhaling the fragrances of the oils and placing them directly on the body may be technically simple, but can be transformative for people who seek healing for imbalances of body, mind and spirit. In the presence of the aroma of a pure botanical distillation, possibilities for opening, reframing embodied kinaesthetic perspectives and reorienting toward a new horizon can be found. Through the direct connections between olfaction and the midbrain, the inner recesses of memory and emotion can be opened; simultaneously, a profound awareness of the present moment can be kindled. Essential oil therapy has a transformative capacity that is recognized by all who experience the power of essential oils.

Our planet is alive with a wondrous botanical treasury of aromatic plants – a global *Materia Aromatica*. For centuries, the allures of this spice and herbal cornucopia have aroused culture, medicine and humanity's earliest stirrings of intercontinental trade toward the Incense and Silk routes that eventually transformed into today's vast world market. As the plants themselves have taken root on shores far flung from their origins, the traditional medical wisdom of great civilizations has established its nexus in the collective psyche of herbalists, physicians and healers worldwide who befriend these remedies.

In *Aromatica*, medical herbalist Peter Holmes narrates this storied odyssey with travelled first-hand knowing, tracing the threads of these botanical oils to their spiritual, geo-cultural, and therapeutic depths. From Morocco, across the Mediterranean region, and beyond to the Mascarene Islands, Peter has made many pilgrimages to

establish relationships with these plants and with today's producers who carry on traditional methods of distilling artisan essential oils. Like the discernment of a buyer in a farmer's market, Peter's writing attests to the care he has taken to understand the issues surrounding cultivation practices, botanical quality, and the artistry and history of processing and distillation methods. Peter has searched the global production and trade to find sustainable and authentic handmade small-scale producers.

The unique power of this book comes from its practical integration of many different approaches to understanding the therapeutic application of essential oils. Offering us visions from the cultures and lands where the medicinal capacities of aromatic plants were first recorded, Peter explains the oils in terms of the traditional medical systems that first employed them. To do this, he calls upon herbal medicine's diverse languages for classification, invoking the traditional diagnostic paradigms of Chinese, Greek, and Ayurvedic medicines. The strategies that he presents are then further elaborated by the biochemical realities of the compounds that occur in each oil, and of their pathways in the body. He also elucidates both physiological and psychological functions of each oil. Drawing on traditional aromatherapy research, as well as his own decades of personal clinical experience, Peter explores the oils' actions and classifications through these multiple lenses, and we see more clearly the object of our inquiry and less of the lenses themselves, emerging with a more unified vision. The result is clear and inspired strategies for treating a host of mental and physical ailments with essential oils based on synergistic and complementary combinations matched to individual disease presentations.

It is by the light of Chinese medicine's classification systems that this text offers us access to Peter's most unique insights for working with the over 70 essential oils presented in these two volumes, to effect healing for specific organ system conditions. With a certain graceful intellectual audacity, he manages to accurately apply classical Chinese medicine functions and indications to essential oils from beyond the Chinese pharmacopeia. This volume extends the conversation begun with Peter's previous two-volume text, *The Energetics of Western Herbs* (Snow Lotus, 2007), where he detailed the nature and functions of many of the most common clinically utilized Western herbs in terms of Chinese herbal classification. *Aromatica*, the first in another two-volume set, advances that rich conversation into an equally clinically useful and timely discussion of the world of essential oil therapy. Once again, Peter shares with us his great gift for using the terms and principles of Chinese medicine to explore herbal medicines from beyond the classical Chinese materia medica with easily understandable and clinically useful clarity. It is a real feast for the student and the seasoned clinician alike. This book secures Peter's place as a master of weaving eclectic systems of classification into a clinically useful modern construction.

Singing Dragon's publication of *Aromatica* marks a level of achievement and sophistication that, in our growing capacity to make use of Chinese medicine's knowledge, we can apply to larger conversations about the nature of herbal medicine

worldwide. In so doing, this textbook makes a valuable contribution to expanding and deepening current aromatherapy theory and practice. Like cultural emissaries bearing histories of the civilizations whose cultures have evolved with their fragrances, aromatic plants have informed the most intimate and profound aspects of the human experience: medicine, religious rites, cuisine and even sense of self. With *Aromatica*, Peter Holmes invites us to further deepen our relationship with Earth's most enticing and healing aromatic plants.

*Charles Rothschild Lev, LAc*  
*Portland, Oregon, 2015*

# Acknowledgements

I wish to acknowledge the individuals who contributed in some way to my understanding of essential oils. First of all, I thank Henri Verdier, Parisian pharmacist and medical herbalist, who opened the gates for me to the clinical applications of essential oils in 1981. This book would not exist without his generous encouragement and selfless sharing of clinical and technical information on everything essential oil related. A few years later, when from necessity I began sourcing genuine oils for myself, Eugenia Melisseratos of San Francisco was instrumental in acquainting me with the commercial aspects of essential oils, especially with their artisan production in locations worldwide. For this insider's look and for the opportunity to learn from her relentless search for pure oils, I will always be grateful. I offer a big thank you also to Christine Malcolm, natural perfumer of Santa Fe, who introduced me to the refined world of absolute extracts. The nose never forgets its first contact with delicacies such as Orange flower absolute, Jasmine absolute and many others. My thanks also go to Christopher McMahon for sharing with me in Berkeley the fascinating fragrances of India and their adulteration pitfalls.

Deep appreciation and gratitude goes out to my friend and colleague Tiffany Carole Pollard, whose connection with essential oils is elegantly direct and revelatory. For many years now, she has provided me with invaluable insights from her clinical experience with the oils in energetic and Chinese medicine, as well as in our joint meditation sessions. Working with Tiffany on Aroma Acupoint Therapy over the years has also refined my understanding of the oils' clinical application. Tiffany also generously took time from her busy schedule to critique many of the oil Remarks in this book. Finally, the gift of her unflinching encouragement for the perseverance needed to bring this text to completion was priceless.

I gratefully acknowledge all my teachers and mentors in Western herbal medicine and Chinese medicine, as listed in *The Energetics of Western Herbs* (Snow Lotus Press, 2012); they provided the basic methodologies that I was able to apply to the clinical use of essential oils. I also wish to recognize Daniel Penoel and Rhiannon Lewis for their excellent lectures on the clinical uses of essential oils. In writing this book I have felt a strong kinship with numerous authors past and present who have fostered the holistic clinical tradition, especially Marguerite Maury, Jean Valnet, Philippe Mailhebiau and Susanne Fischer-Rizzi. Their pioneering work has profoundly influenced my approach to essential oil therapeutics.

In turn, my heartfelt thanks also go out to all my students, especially in Portland, San Diego and New York, who over the years have expressed continual support of this project. Through their questions and concerns they were also indirectly my teachers.

Meeting the many artisan distillers I have had the chance to visit over the years has also been extremely valuable for this book, especially those in Morocco, Egypt, Bulgaria, Herzegovina, Italy, England, Thailand, La Réunion, Ndzwani in the Comores and Nossi Be in Madagascar. Learning first-hand the realities of how essential oils are produced has been eye-opening; seeing the human face behind oil production has been humbling as well as enlightening.

My editor and colleague, Anne de Courtenay, not only deftly pruned redundancies but also made insightful content suggestions that have strengthened this text no end – I thankfully appreciate her wordsmith skills.

Last but not least, I gratefully recognize the understanding that my daughter Camille has shown for my writing time – time too often taken away from our time together.

# Introduction

It was a cool spring day in Paris in the early 1980s when my friend Gina from Chicago decided to take me to the Verdier pharmacy near the Place de Clichy. 'It's a beautiful natural pharmacy – and they have essential oils!' she gleefully proclaimed. She knew I would like this. I had finished another long weekend seminar with the Ecole Européene d'Acupuncture, so I thought, 'Why not?' That visit changed my life. Here was a herbal pharmacy much like those run by Chinese doctors in Chinatowns all over the world, redolent with the complex mixed aromas of hundreds of herbs. The main difference here was that the Pharmacie de Clichy additionally actually carried pure aromatic extracts, essential oils and hydrosols.

After meeting Henri Verdier and his gracious wife Elisabeth, I fell in love with essential oils, their countless therapeutic uses and, of course, their extremely varied fragrances. Henri hailed from a long lineage of family oil distillers in Provence and he regaled me with facts and stories about the oils, their many uses and the many misconceptions that surround them. Over the next few months, he initiated me into the French tradition of essential oil use, in which the oils are seen simply as a type of herbal preparation, alongside tinctures, infusions, decoctions, etc. Henri himself prescribed a variety of herbal preparations for his patients and would often add a few drops of oil into a patient's custom tincture. That is exactly how my herbal medicine practice came to include essential oils. I now felt intuitively that my training in herbal medicine was complete. Little did I know then that aromatic extracts such as essential oils and hydrosols had in fact always been an integral part of the Western herbal medicine tradition.

My curiosity about these potent aromatic plant extracts has never left me. This book is essentially an exploration of essential oils and their clinical uses based on my experience and research combined. My research exploration went in two directions: in the temporal dimension of history and the spatial dimension of geography. My clinical experience has been ongoing, serving as a path to bringing this knowledge into the present time in a therapeutic context. This text therefore ultimately serves as a clinical reference for essential oil use in a therapeutic setting. It is my hope that the reader will

easily pass from the exploratory chapters to the reference material on single oils – the *Materia Aromatica* – and back again.

Soon after my first initiation into the clinical uses of essential oils, I began researching the history of Western herbal medicine and its deep roots in traditional Greek medicine (also known as *tibb yunani* or Tibb Unani). My search took me from the earliest medical texts from Greece, Rome and Alexandria, to the Arabic and Jewish texts of the Middle Ages from Baghdad and Cordova in al-Andalus, to the European texts of the Renaissance right up to the 19th century, and finally to the North American texts of the 19th and 20th century. These explorations were motivated by my wanting to confirm a deep suspicion, namely that Western herbal medicine is deeply vitalistic in its origins and is rooted in concepts of energetic medicine also shared by Chinese and Ayurvedic medicine. My suspicion was confirmed beyond what I could have imagined. Along the way I found so much to admire and inspire among my herbal medicine predecessors, especially the succinct, in-depth *materia medicas* of Ibn al-Baitar and Ibn Sina, the brilliant writings of Claudios Galenos (Galen) on the energetic properties of natural remedies, the homey herbals of John Gerard, Walther Ryff and Pierandrea Mattioli, as well as the more analytic textbooks of important Eclectic and Physiomedical practitioners in North America and England, such as John King, Finley Ellingwood, John Fyfe, T.J. Lyle and A.W. and L.R. Priest.

However, my ultimate aim was still to track down and illuminate energetic medicine in the West as it was practised in the form of Galenic herbal medicine, spagyric medicine and even Eclectic and Physiomedical herbal medicine in the United States and England. In an age of rampant scientific reductionism, I felt that the connection had to be made between the vitalistic heritages of Western medicine and Chinese, Ayurvedic and Greek medicine once more practised worldwide today. In this connection, I felt it was also important to recognize the seamless unity of traditional Greek-Galenic medicine practised in Europe and its expression as Unani medicine practised in the Middle East and throughout Asia; ‘Unani Tibb’ literally means ‘Greek medicine.’ The initial result was to bring the Western *materia medica* squarely back into the arena of energetic medicine – an arena that I felt it should never have left in the first place. This re-integration of vitalistic herbal medicine is embodied in *The Energetics of Western Herbs*.

As a practitioner of both Western and Chinese herbal medicine, my research focused not only on the ever-changing currents of traditional Greek medicine theory down the ages, but also on the way that herbal pharmacy was actually practised. What types of herbal preparations did practitioners create, regardless of whether they were a clinical herbalist, university doctor, medicine woman or alchemist? How were these herbal preparations extracted? What herbal and other types of remedies did they use? In my readings of source texts of this tradition, it became clear that, before being eclipsed by the drug industry during the 20th century, herbal medicine had once been a well-developed treatment modality. Based as it was in traditional Greek medicine, it

had developed very specific theories and practices with its own rubrics for preparing and prescribing single herbs, herbal formulas and a wide array of other preparations. It is here that proof became apparent that ‘aromatic waters’ of all kinds, including essential oils, had actually been an important preparation form since the earliest days. This was the second result of my inquiry. It laid the foundation for the present text and, as Chapter 1 explains, specifically for my understanding of the larger context of the medical applications of essential oils.

At the same time, I was intensely curious about the type of vitalistic language used by Western practitioners in the last 2,000 years to describe herbal remedies and formulas. How were their properties and clinical functions described? What conditions were they said to treat? Here again I was pleasantly surprised to find that remedies were invariably described in vitalistic medical terms hailing back to traditional Greek medicine. Right up to the 18th century, single herbs, formulas, aromatic waters and essential oils were all described in terms of their *dynameis* or effective qualities of taste, aroma, warmth (either warming or cooling) and moisture (either moistening or drying), as well as their specific actions on the organs and body fluids or ‘humours.’ Because these descriptions are quite similar to those used in Chinese herbal medicine, I was able to easily categorize the Western herbs and essential oils I was using according to an energetic system of medicine. Together with years of tasting and applying these in clinical practice, these descriptions form the basis of my understanding of essential oils from a vitalistic, energetic medicine perspective.

However, as I began integrating essential oils alongside tinctures, decoctions, etc., in my herbal medicine practice, I felt there was something missing. Despite being described in vitalistic language, I realized that herbalists had not fully developed a system that linked the fragrance qualities of aromatic remedies with their medicinal functions in the way that Chinese medicine systematically describes the taste qualities of herbs to determine their specific therapeutic actions. The only serious attempt to create a systematic link between herb fragrance and function seemed to be John Floyer’s *Pharmaco-Basanos* of 1690, and even that was focused on pharmacognosy rather than pharmacology, using a current alchemical proto-scientific model. This missing link between herb aroma and therapeutic function was a serious drawback in my attempt to use essential oils in Chinese medicine.

In addition, perusing countless pharmacopeias made it clear to me that aromatic extracts had also been the original source of perfumes. In fact, important aromatics of botanical, mineral and animal origin are to be found in most traditional cultures, whether used for personal perfumery, rituals or ceremonies. Fascinating explorations of the aromatic traditions of ancient culture can be followed in detailed texts such as Rovesti’s *Auf der Suche nach den Verlorenen Duften* (*In search of the lost fragrances*, 1995) and Faure’s *Parfums et aromates de l’antiquité* (*Perfumes and aromatics of antiquity*, 1987). In parallel to the demise of the Western herbal medicine tradition, the tradition of natural perfumery too had been severed by the chemicals industry that developed in

the late 19th century. Before carbon chemistry spawned synthetic fragrances, aromatic extracts alone had been the building blocks of perfumery. They had prompted alchemists, herbalists and pharmacists to extract countless aromatic plants such as lavender, bergamot, rosemary, clary sage, rose, orange and jasmine for the making of aromatic floral waters, essential oils and alcohol-based tinctures and elixirs. Most of these aromatic preparations elegantly served the dual purpose of medicine and perfumery for thousands of years.

Clearly, most of the aromatic substances described in this text are delicately poised between serving as a perfume and a remedy, between a source of inhaled olfactory inspiration and a source of internal physical treatment. Moreover, in their role of perfume and their activation of limbic system and peptide responses in the brain, aromatics have more recently opened yet a third pathway to healing: their effect on the psyche and soul. When used by conscious and directed inhalation, aromatic oils become true psychological remedies. This is true aromatherapy.

*Aromatica* is my attempt to clearly differentiate between essential oils as physical and as psychological remedies; between acting as agents for internal and topical use in the case of physical conditions, and acting as agents for inhaled use in the case of mental and emotional conditions. I believe much of the current confusion surrounding the therapeutic potential of essential oils stems from the ambiguity surrounding their intended use and the conflation of their roles as physical and psychological remedies. In turn, this is based on an original poor understanding of the various pathways through which essential oils are absorbed and the mechanisms by which they become pharmacologically active. The fact that in the mid-20th century the French medical use of essential oils was termed ‘aromatherapie’ by its leading practitioners only added to these confusions. I believe it is crucially necessary to create basic differentiations and definitions regarding the intended type of use, absorption pathway and delivery method of essential oils if we are to resolve the contradictions and confusion inherent in today’s practice of essential oil therapy.

However, my attempt to understand the effects of essential oils on the psyche from the perspective of energetic medicine made me run into a major problem: despite years of research in libraries throughout Europe, I could find barely a mention of their effects on the mind or emotions. Western practitioners had written almost nothing connecting the qualities of aromatics with their mental-emotional effect. The taste and fragrance qualities of aromatic remedies are invariably linked to their potential action on physical, not psychological, conditions. Obviously, neither the health-care needs nor the state of awareness of the times created a different demand. It finally dawned on me that the psychological dimension of the effects of aromatics remained largely unexplored territory.

This lack of a system associating essential oil fragrance to its mental-emotional action became an acute issue as I began integrating essential oils into my acupuncture practice. I would often substitute oil application for needling of acupuncture points

when my focus was treatment of the Shen (psychological) aspect of a condition. I no longer felt on secure ground when choosing oils for points based largely on hunches and intuitions, or blindly relying on their known physiological actions. And I simply shied away from oils like Bergamot, Geranium and Ylang ylang, which had no real history of medical use.

I then realized that what was needed was a fundamental way of understanding the nature and functions of essential oils in terms of their fragrance alone, not their taste or even colour (helpful as the latter can be in some cases). To do this, I needed to completely familiarize myself with the language of fragrance, and soon found myself devouring reference books such as Arctander's excellent *Perfume and Flavor Materials of Natural Origin* (1960). I soon discovered that most perfumers juggle a vocabulary of about 24 basic fragrance categories, each subdivided into many (and sometimes endless) sub-categories. I quickly realized that even these could be simplified into a rubric of just a few basic fragrance types. Slowly, over the years, my system of fragrance energetics evolved. It involved many years of experimenting with different types of essential oil fragrance and refining my understanding of how they affect the mind, emotions and moods. It was a trial-and-error process fed in turn by logic and intuition. Having used and taught over many years the use of this clinical model of essential oil therapeutics based on energetic principles, I remain convinced of its high value in treating mental-emotional issues. As Chapters 3 and 4 of Volume 2 explain, this empirical model of fragrance pharmacology is also relevant for treating numerous physiological conditions, especially the multifactorial syndromes seen increasingly today, such as premenstrual syndrome (PMS), polycystic ovarian syndrome (PCOS), attention-deficit disorder (ADD), fibromyalgia (FM), chronic fatigue syndrome (CFS) and various disorders of senile dementia. In Chapter 6 of Volume 2 I argue that the fragrance quality of an oil is not only key for understanding its functions in energetic or Chinese medicine, but is also important in simply clarifying its effect on the mind and on emotions.

Besides differentiating between the physiological and psychological uses of essential oils, the *Materia Aromatica* is my attempt to clearly differentiate the essential oil preparation from the tincture or water preparation of the same plant. When used as a physiological remedy, we cannot assume the nature and action of the oil to be the same as the tincture or decoction. The oil is a specialized extract, the alchemical product of steam, heat and pressure, and never the same as the original oil in the plant itself. Too many assumptions about essential oils have been made in the past based on the plant's use as a tincture. This text serves as a clinical reference for essential oils as distinct and fully fledged remedies, whether used alone in a practice or alongside other preparations, as they are in the French herbal medicine tradition. Chapter 2 in Volume 2 then develops the pharmacology, tropism and main preparation forms for remedies made from essential oils.

From a practical viewpoint, successful administration of essential oils finally depends on their quality as practitioner tools, as well as their safe, competent and responsible use. Issues of essential oil quality and safety are rightly hot topics, today as ever. When used as physiological remedies, it is clearly important to use the right type of oil preparation form, delivery method and specific dosage for the condition being treated. More fundamentally, however, as practitioners we need to be sure to use oils of high bioactivity. We need to be certain that the aromatic tools of our trade will serve us in carrying out our treatment strategies to their fullest extent. This means nothing less than creating a new set of quality criteria based on clinical standards. It is too easy to fall into the trap of borrowing standards from the giant chemical fragrance industries that serve perfumery and food flavouring, or from other commercial enterprises. It means not relying on labels of any kind or concerns for purity alone. In Chapter 3 I propose a set of criteria as a guide for determining essential oil quality based on a concern only for maximum therapeutic efficacy, for full bioactivity.

Knowledge of the safe use of essential oils from a pharmacological perspective is also essential to their successful clinical use, and excellent guidelines of this kind are now available. Equally important, however, is to use essential oils safely from a therapeutic perspective. This presupposes knowledge of laws of therapeutics not yet fully integrated into this arena. Basically, it means prescribing essential oils not just for symptom relief or treatment of particular disorders, but for addressing the general underlying condition, i.e., the terrain. This in turn relies on a working knowledge of therapeutics based on functional vitalistic or energetic medicine, whether traditional Western, Chinese or Ayurvedic. While Chapter 4 lays a foundation for an integrated approach to oil safety, Chapter 4 in Volume 2 discusses diagnostic and therapeutic principles, such as the Six Conditions, that have a direct bearing on issues of not only safe but truly effective prescribing.

All imbalance and illness begins with the individual defining abnormal, unacceptable signs and symptoms. We as practitioners then observe those symptoms through our particular lens. We then proceed to interpret them based on our particular clinical approach. For some, the symptoms will qualify in our minds as expression of a recognized disorder or disease – and the diagnosis will then be that disorder. For others, they will create a true syndrome or pattern of disharmony, which will point to a syndrome diagnosis. Likewise, it may happen that in some cases the symptoms, for any number of reasons, simply need relieving. In other cases, it will be clear that the totality of the symptomatology, whether disorder or syndrome, needs to be addressed. Again, in some cases the place to start treatment will be with the physical symptoms presenting, while in other cases the obvious place to start will be with the mental-emotional aspect of the condition.

We live in a holographic universe. Interpretations, diagnoses and treatment approaches being so numerous and different, it is clear that, when using natural remedies – herbal, essential oil or other – there is no single, ultimate approach to

their use. It is for this simple reason that I decided to present three major lenses through which the clinical use of essential oils may be seen: the psychological, the physiological and the Chinese energetic medicine lens.

Each lens has its own validity, facility and effectiveness. In its own discrete language, each speaks its own clinical truth by virtue of its internal logic and its therapeutic results. These lenses now need to be lined up, one beside the other, so that we may obtain a better overview of their inherent possibilities. The psychological lens allows us to use essential oils to reach the core mental, emotional and spiritual issues that configure and underpin most conditions – this is perhaps the oils' most precious gift. The physiological lens permits us to use essential oils as powerful remedies working directly on endocrine, organ and tissue functions for relieving symptoms and addressing particular disorders. The Chinese medicine lens empowers us to use essential oils as modulators of energy, allowing us to scoop up issues of body and soul in a single gesture through its unitary description of energetic syndromes of disharmony.

It is my deepest hope that, when choosing to treat with essential oils, practitioners will be inspired to take off one lens, the one they feel fluent and secure with, and try another lens. The advantages and clinical results thus obtained far outweigh the initial discomfort of navigating foreign territory. I believe we live at a time in history when we can no longer afford to continue peering, tunnel-vision-like, through a single lens. Health-care needs are too great and too diverse, and the developmental impulse of our collective consciousness is too urgent, for us to ignore this current opportunity for a multi-vision perspective. This *Materia Aromatica* is provided as a working clinical tool for the development of a broader perspective that I feel offers the greatest potential for meeting the full breadth and depth of conditions seen today.

# Exploring the Roots of the Materia Aromatica

An exciting new repertoire of aromatic plant materials consisting of essential oils and hydrosols is currently in the process of being formed. With its deep roots in traditional Greek medicine, the use of aromatic herbal remedies for treatment is renewing itself before our very eyes, witness to a tradition that is truly vital. In the context of the general aromatherapy movement, this tradition is reinventing itself in ways that are branching out into the areas of perfumery, hygiene, preventive health care and domestic treatment. In the arena of complementary medical practices, it is resulting in the creation of an innovative, powerful materia medica of aromatic remedies: a 'Materia Aromatica' for short.

Although the motivation for this development is largely unconscious, the thought of discovering new and marvelous remedies for treatment purposes is always present in the mind of the Western practitioner. The potential for new 'medical breakthroughs,' as the saying goes, is particularly high when it comes to treatment with essential oils, and today more than ever. There is no question that the developing Materia Aromatica has the potential for exerting a powerful influence on modern health-care practices. This seems to hold true, regardless of the medical paradigm for its use. Essential oils are providing effective new treatment options in both traditional medical systems based on the paradigm of Vitalism, such as Western, Chinese and Ayurvedic herbal medicine, and in allopathic Western medicine based on the paradigm of analytical science. Chapter 5 will explore some current developments among therapeutic applications in both types of systems.

In modern times, the origin of this process can be traced to the mid-19th century, when European pharmacists first discovered the antimicrobial actions of essential oils.

Three hundred years earlier, the second half of the 16th century also saw a huge surge in the production, popularization and medical application of aromatic oils and waters (as hydrosols were then called). We shall see how the various historical and geographic sources of the modern essential oil palette together are culminating in the growth of an entirely new and wide-ranging spectrum of botanical aromatics. Arguably we are witnessing the transformation of old knowledge of aromatic herbs into a radically fresh approach that is congruent with both the ‘psychosomatic’ nature of disease at this time and the emergence of a heightened and holistic form of awareness.

### **Herbal Medicine or Essential Oil Therapy?**

In the context of complementary medical practice, this new collection of remedies may be called a ‘Materia Aromatica.’ From this perspective, we may view it in two distinct ways. Firstly, as an extension of the materia medica of Western herbal medicine proper, i.e. as that part of the herbal materia medica that consists of distilled aromatic plant extracts, such as essential oils and hydrosols. Plants with a marked fragrance, such as those in the lipflower family (*Lamiaceae*, e.g. lavender, sage, thyme, rosemary, marjoram, peppermint), have long held a strong foundational position in European herbal medicine and pharmacy. Their wide spectrum of uses, especially as stimulants and spasmolytics to the respiratory, gastrointestinal and reproductive systems, has fully been exploited by a variety of different practitioners since the 1200s. The traditional apothecary in Galenic medicine (as Greek medicine was then called) prepared a larger variety of extracts from aromatic plants than from all others. This was simply because, in addition to the water- and alcohol-based extracts common to all medicinal plants, aromatic plants also yielded aromatic waters (hydrosols) and essential oils. In this context, aromatic waters and oils were simply a selective preparation of a herb’s volatile constituents.

Important compendiums of herbal medicine, whether popular herbals or apothecary pharmacopeias and dispensaries, always documented the different preparation forms in use for a single herbal remedy. In their monographs they often singled out the hydrosol and essential oil preparation of a herb as distinct from its infusion, decoction, tincture, spirit and other preparations. In addition, they usually provided examples of its use in compound formulas for various internal and external preparations. The comprehensive herbals of Walther H. Ryff (1573), Adam Lonicer (1578), Johann Von Bergzabern (Tabernaemontanus, 1588), William Salmon (1696), John Quincy (1722) and Antoine Jourdan (1828) are good examples (see also Holmes 2008). Despite the emergence of homeopathy and the onslaught of pharmaceutical drug treatment, essential oil remedies are still mentioned in relatively modern materia medicas such as John King’s *Dispensatory* (1898), Finley Ellingwood’s *American Materia Medica* (1919) and Harvey Felter’s *Eclectic Materia Medica* (1922). In addition, national pharmacopeias of various countries, including those of Great Britain, France, Germany and Austria,

always contained monographs on essential oils among the natural remedies included. From this perspective, the radical expansion of aromatic remedies used in treatment that we are seeing today is actually a continuation and renewal of a long and well-established tradition within Western herbal medicine itself.

On the other hand, the *Materia Aromatica* could be seen as a discrete *materia medica* in its own right, serving the budding system of treatment we may call 'essential oil therapy.' This would cover any therapeutic uses of essential oils in a clinical context, regardless of the medical paradigm being held (e.g. traditional or modern, vitalistic or scientific), the methods of administration being used (i.e. olfactory, topical or internal), or the types of conditions being treated (i.e. physiological or psychological). It is entirely possible that a completely new system of healing is trying to emerge through an interplay and synergy of different therapeutic contexts.

We propose the term 'essential oil therapy' in preference to the more common word 'aromatherapy' to accurately describe the potential emergence of a distinct treatment system involving the use of essential oils. The descriptor 'aromatherapy' has long become worn out and inaccurate since its original coinage by French pharmacist Henri Gatefossé in the mid-20th century. Gatefossé himself made this word up to mean 'aromatic remedies therapy'; he never intended to denote a new system predicated around the inhalation of essential oil aromas. Nor did he lay any groundwork for the therapeutic use of oils for their psychological action, as has been claimed (Gatefossé 1937). (None of his scientific papers or books makes any mention of their application in a psychotherapy context.) It was only a few of Gatefossé's followers overseas who gradually altered the meaning of the word 'aromatherapy' to literally include a possible psychological effect of fragrance. In France meanwhile, 'aromathérapie' to this day still denotes the use of oils in a traditional herbal medicine context, i.e. for treating physiological conditions based on their internal use.

The word 'aromatherapy' carries two main problems today. First, contrary to the meaning of the word, as currently practised it does not rely solely on the inhalation of aromatic oils. Second, in contradiction to the word's therapeutic promise, 'aromatherapy' has also long been used to describe essential oil use for pleasure and for commercial products. For both these reasons therefore, it is timely and appropriate to define this therapeutic system of essential oil use by terms that are accurate and therefore fully meaningful. Technical accuracy is important for the full development of this system. Concepts currently used, such as 'clinical aromatherapy' and 'aromatic medicine,' while pithy and evocative attempts to improve on the worn out, ambiguous term 'aromatherapy,' fail semantically to do justice to the whole spectrum of techniques actively being developed today.

From the historical perspective, therefore, the *Materia Aromatica* is clearly rooted in the Western herbal *materia medica*. Moreover, the clinical art of essential oil therapeutics itself can then be said to be an extended or renewed form of herbal medicine. It can be seen as a current extension of the botanical repertoire to include

aromatic extracts that possess the ability to treat mental and emotional conditions. Arguably, this is a natural development within herbal medicine itself and simply a reflection of modern health-care needs. Only time will tell whether the surfacing *Materia Aromatica* is simply a modern holistic expansion within herbal medicine and pharmacy, or whether it signals the emergence of a separate new system of essential oil therapy incorporating different therapeutic approaches. It may be useful at this time to hold both viewpoints, without prejudice to either one.

### **The Nature of the New *Materia Aromatica***

What are the characteristics of this emerging *Materia Aromatica* of essential oils and hydrosols? Firstly, its main function is to provide essential oils for treatment purposes, not for pleasure or for commercial applications. It is here to serve the clinical art and science of healing as embodied in the many systems of therapy being practised today. It is therefore distinct from perfumery and the purely aesthetic enjoyment of essential oils, sometimes classified as hedonic uses. As such, it consists almost entirely of essential oils for use as aromatic remedies rather than aromatic pleasures. It focuses on those oils that have been tried and tested by many practitioners who have determined that they possess particular actions, e.g. anti-inflammatory, spasmolytic, anti-infective, etc., with respect to physiological conditions. In the language of functional medicine, these oils may be stimulant or relaxant, restorative or sedative in relation to conditions of tension or weakness, heat or cold, etc. Some work particularly well for mental and emotional conditions, especially when used by inhalation rather than by internal delivery methods. As a result, they tend not to include the more sensuous essential oils that are kept for perfumery, especially not solvent extracts such as the absolutes of Jasmine, Tuberose, Champaca, Clary sage, Rose, Osmanthus, etc. (which in any case are shunned by many practitioners because of their potential toxicity).

This explains why in the 1950s French medical herbalist Jean Valnet began experimenting in his practice with those oils already familiar to him as herbal remedies; for him, this was the obvious place to start. Like his predecessors going back 400 years, Valnet observed interesting similarities as well as differences between the water preparation (i.e. infusion or decoction), tincture and the essential oil of the same herb. Essential oils extracted from lipflower (*Lamiaceae*) family plants formed the backbone of his new aromatic pharmacy. They still maintain that position today, along with other particular oils with a long history of distillation in the West, such as Juniper berry, Scotch pine and Siberian fir.

Not that the aesthetic or hedonic uses of essential oils would exclude therapeutic applications, far from it. This dual purpose of essential oils, therapeutic and aesthetic, is evident in some of the most creative formulations existing today. They can be seen as an expression of the holistic streams of aromatic creativity that are currently emerging in tandem with our ongoing striving for wholeness. Nevertheless, the new *Materia*

Aromatica is essentially oriented to therapeutics and serves the healing of body and soul in their combined physiological, emotional, mental and spiritual aspects.

Ultimately, we would argue that at this truly critical stage of development in human culture, essential oils are becoming increasingly available to both relieve individual suffering and to help us collectively break through to a fundamentally new way of being and living. They are proving to be extremely effective in modulating both the physical and psychic aspects of the individual through a surprisingly complex interplay of different routes of physiological absorption and psychological stimulation.

More than most other modalities of treatment being explored today, whether traditional or experimental, monodic or eclectic, essential oils display a breathtaking versatility of applications. The fact that a single essential oil can be used effectively on the physiological level to treat inflammation and infection; on a mood level to help even out mood swings; on a mental level to treat distractability; and on an emotional level to help resolve negativity and emotional conflict is astonishing in itself. This versatility of treatment applications currently displayed by essential oils clearly engages multiple pathways of therapeutic influence. Moreover, it actually highlights the holistic nature of the healing and transformation that is required today by the individual and the collective at our postmodern stage of development, especially in the West. The chapters that follow will examine some of these applications.

Another characteristic of the new *Materia Aromatica* is that it consists of genuine and authentic essential oils of high bioactivity, not oils that have been chemically engineered and standardized to serve as flavouring materials for the foods, soft drinks and pharmaceutical industries, or fragrance materials for the perfume corporations. Complete bioavailability is needed if essential oils are to fully perform as therapeutic agents. For that, as Chapter 3 explains, they need to possess an integrity as regards their plant source, production and distribution that reflects an intent to create therapeutically potent remedies, not flavouring or fragrancing materials. The new *Materia Aromatica* is essentially an attempt to separate from the commercial context of these industries and create its own identity as a vehicle for various essential oil therapies.

Thirdly, the new *Materia Aromatica* is inherently eclectic and diverse in nature. In contrast to the classical *materia medicas* of traditional Greek, Chinese and Aurvedic medicines, the modern origins of essential oils derive from a variety of different sources both historically and geographically. The emerging *Materia Aromatica* consists of oils and hydrosols from a variety of world traditions, medical, folkloric and culinary, rather than from a single culture or tradition.

More specifically, however, the eclectic nature of the emerging *Materia Aromatica* can be seen as entirely congruous with its major source, the herbal *materia medica* of the West. It is typical that Western herbal medicine has continuously absorbed plant remedies from overseas since the rise of the European mercantile empires of the 14th century. In days past it was Chili pepper from the Caribbean, Coca leaf and Cinchona bark from Peru, Ipecac from Brazil, Jalap from Mexico, Sarsaparilla from Jamaica,

Tobacco from the Virginias, China root from China, among others. In modern times it is Maca root from the high Andes, Asian ginseng root from Korea, Ashwagandha root from India and Dang Gui root, White peony root, Schisandra berry and others from China. The *Materia Aromatica* is merely continuing this hoary and intrinsic tradition of herbal eclecticism. Essential oils as remedies reflect this eclecticity not only by their worldwide sources, but also by offering a large spectrum of treatment possibilities to the globalized postmodern individual.

### **Influences on the Modern *Materia Aromatica***

Several historical threads have intertwined to shape the modern *Materia Aromatica* as it has developed over the centuries. Its roots run deep in the European traditions of alchemy and herbal medicine from over 1,000 years ago; its modern trunk developed from the research in organic chemistry in 19th-century France and Germany; and its core palette of aromatics branched out radically in the 20th century to include essential oils traditionally only used in the perfume and food industries, most of which have no real history of medicinal use before the 1950s.

Taken as a whole, the palette of modern essential oil remedies is solidly rooted in the traditional *materia medica* of Western herbal medicine. Its therapeutic orientation speaks of its deep roots in three different streams: firstly, in the herbal *materia medica*s of traditional Greek medicine (also known as Unani or Yunani medicine) of ancient Greece, Alexandria and the Middle East; secondly, in the mediaeval and Renaissance manuals of Western alchemy and spagyric medicine of Central Europe (in which aromatic waters and oils are first described); and thirdly, in the popular herbals, pharmacopeias and dispensatories of the Renaissance through to the present day. More than two-thirds of the essential oils available to the modern practitioner belong to this threefold Western tradition. They include oils extracted from aromatic herbs of both temperate and Mediterranean biomes (see chart in Chapter 2), ultimately drawing not only on indigenous temperate European plants (which only came into popular use after the 1500s) but, more fundamentally, also on Central and Eastern Mediterranean herbs used in traditional Greek medicine.

Among the many impulses that have gone into shaping today's eclectic *Materia Aromatica*, there is much to discover, appreciate and delight. Identifying and reconnecting with these impulses can be deeply empowering. The journeys that essential oils have taken across the centuries and over the planet is never ending, as practitioners from many cultures continue to weave the aromatic threads of essential oil medicine.

*Western alchemy, distillation and spagyric medicine*

Like its sister arts medieval astrology and magic, Western alchemy emerged in 12th-century Europe as a curious hybrid of Alexandrian neoplatonic theories derived from Egyptian, Phoenician and early Christian mysticism (Berendes 1907). However, its various techniques of distillation and refining of natural substances were sourced directly from Arabian alchemists in 11th- and 12th-century Al Andalus (Muslim Spain) and probably Muslim Sicily. Alchemy provided an important foundation, along with traditional Greek medicine, for the growth of spagyric medicine which, in turn, revitalized the practice of herbal medicine and pharmacy. The primal influence of alchemy on the development of herbal and essential oil medicine is widely underestimated and misunderstood.

On the surface, the alchemists' quest was to extract the quintessence from metals and plants with the aim of producing highly effective remedies. At its core, however, it was a spiritual path or internal yoga that sought to transform human knowledge into divine knowledge by a process of purification that involved the investigation of the inner nature of natural substances. In the process, alchemists discovered a legion of new metal, mineral and plant preparations that came to be known as spagyric remedies. Most of these are now considered commonplace but at the time were prized as panaceas for the relief of disease or even elixirs of longevity. (In contrast to the Chinese alchemists, however, they never ventured to create elixirs of immortality; they considered this the arrogance of a mortal sin to presume that a human, not God, could confer eternal life.)

From the early 1200s onwards, alchemists in Italy and France experimented widely with many different types of preparation methods and their possible applications to therapeutic, magical and life-extension use. As far as plants were concerned, their extraction process of choice was distillation with water heated by a wood fire, i.e. traditional hydrodistillation with the plant material immersed in the hot water, as had been the practice through Arabian lands for centuries. In their fevered quest to extract the essential energetic substance from a plant, the early alchemists experimented with many dozens of different plant distillations. In addition to exploring the production of a wide variety of 'waters,' such as aromatic hydrosols and vinegars, they also ended up creating alcohol and its derivative preparations, such as spirits, tinctures and quintessences. In the process, they eventually discovered those aromatic plants whose volatile essential oil was actually available to extraction with hot water alone, not alcohol. Essential oil distillation was born.

The essential oils the alchemists distilled centred on a large selection of lipflower herbs, such as the extremely popular Spike lavender and Rosemary from Provence. Along with various Pine and Turpentine oils, these were the very first to be distilled and soon widely produced. Other oils were soon distilled from aromatic herbs in the daisy family, such as yarrow, helichrysum, and German and Roman camomile. Juniper berry oil also dates from this early period, and only partly to meet the demands of a

burgeoning gin trade. Because of thriving spice trades landing in the final sea ports of Genoa and Venice from Arabic, Persian, Indian, Indonesian and even Chinese merchant exchanges in the Middle and Far East, even exotic, expensive imported spices were also distilled into essential oils on occasion from the 13th century onward. In Venice, the dealers of aromatic spices imported from the Middle East were called *Aromatarii*; they were the forerunners of the Renaissance apothecaries. The oils on record as being distilled include the oils of clove, cardamom (the 'king of spices'), nutmeg, cinnamon, black pepper, cubeb berries, lemon and orange rind, and sandalwood. Clearly, this period saw the laying of a strong foundation of an aromatic materia medica.

We should remember, however, that hydrosols were the main type of aromatic extract to be distilled from earliest times through to the 19th century. They were believed to embody the distilled vital essence of a plant and therefore valued for their therapeutic and beautifying effects above any other plant preparation. The essential oil that happened to (usually) float on top or (sometimes) sink to the bottom of this fragrant water was considered secondary to the water itself and, by some alchemists, a mere by-product. Aromatic waters were thus the most widely used preparation form in herbal or Galenic medicine until the 18th century and are recorded in 12th-century herbals before even the invention of alcoholic tinctures and essential oil distillation. Hydrosols are even recorded in Sumerian, Babylonian and Cretan texts preceding Greek medicine. In short, after infusions and decoctions, hydrodistilled hydrosols represent the single oldest commonly-used type of herbal medicine preparation in the West. They were relatively easy to prepare simply with hot water, immediately pleasant to the nose and conveniently safe to use both topically and internally for leisure and therapeutic purposes. To this day, women in many countries around the Eastern Mediterranean will still occasionally prepare hydrosols in traditional copper stills.

An early key figure in the technique of producing 'aromatic waters' from essential-oil-rich plants was the illustrious doctor and alchemist Miriam the Jewess, working in Rome during the first century (Forbes 1970). Working in the hoary lineage of Babylonian women perfumers, she inherited this skill from Alexandria, Egypt, the innovative centre of knowledge in the late Greek era. Moreover, Alexandrian methods of hydrodistillation were then taken to Baghdad, the shining Muslim centre of Greek medicine in the 9th century, by medieval Persian alchemist doctors such as Jabir ibn Hayyan and al-Razi. Their initial interest was the production of that universal elixir, Rosewater, for medicinal, culinary and perfumery purposes. Their Rosewater was intensely rich in essential oil as they did not cohobate the first pass, let alone cool it down in order to separate the essential oil. (Cohobation was not invented until the 16th century, finding first mention by Joseph Du Chesne [*Quercetanus*] in his *De priscorum philosophorum verae medicinae materia* of 1603.) In the 9th to 12th centuries, Arabic practitioners working throughout Muslim lands, such as Abulcasis (Cordoba), Mesue the Younger (Baghdad and Cairo), al-Jawbari (Istanbul) and Ibn

al-Baitar (Seville and Damascus) continued to refine water distillation techniques for the production of hydrosols and expand treatment applications in the context of Greek medicine. It is also known that some distillers of the period also brought hydrosol distillation skills to Central Asia and China through the thriving trade routes of the Silk Road (Needham 1980).

The invention of distilled grain alcohol itself may actually date from the 1130s and is attributed by some to the famous Salerno medical school in Italy. Medical college and first European university in one, Salerno inherited traditional Greek medicine mostly from Arabic and Jewish doctors and translators trained in buzzing medical centres such as Alexandria (Egypt), Seville and Cordoba (al-Andalus) and Baghdad (Persia). Distilled alcohol was a landmark discovery with enormous social and economic consequences. Quite apart from spurring on the later rediscovery of essential oil distillation as a technique, it was fundamental for the development of basic herbal medicine preparations, such as the infusion of plant parts with once or twice-distilled wine to produce spirits, tinctures and percolations. To the extent that these alcoholic preparations were aromatic, i.e. were made of essential-oil-rich plants, they were used to combat infection during the plagues; infection was then thought to stem from bad aromas rather than actual germs. Clearly, alcoholic preparations then pre-empted essential oils in their aromatic power to contain infectious diseases by almost 200 years.

Alcohol distillation also allowed for the production of strong liqueurs and cordials from the many indigenous medicinal plants being grown and used medicinally by monks and nuns since the fall of Rome. Many of these, such as Bénédictine and Chartreuse, remain popular to this day, while others, such as the rose-petal and sugar flavoured Rosoglio, have seen better days. Moreover, alcohol fostered the production of simple perfumes to the extent that alcoholic plant extracts were deemed desirable for freshening the body by topical application. Among the first such perfumes to be developed were Hungary Water (named after Queen Elizabeth of Hungary), Eau de Carmes (created by Carmelite nuns) and Lavender Water (Morris 1984). Most of these conveniently doubled as medicinal liqueurs in a wonderful synergy of functions and pragmatic economy of means.

The discovery of herbal tinctures in particular is said to have been made in Toulouse, France around 1371, according to the significant *Libellus de distillatione philosophica* (*Book on Intelligent Distilling*) of the period. It is significant that this text suggestively notes that herb tinctures do not spoil, unlike water preparations such as hydrosols, infusions and decoctions.

From the 13th to 16th centuries, important alchemist-doctors such as Arnaud de Villeneuve, Raymond Lull, Albertus Magnus, Rupecissa and Paracelsus elaborated various distillation and other preparation techniques specifically for the production of treatment remedies. Using as their process either water distillation or alcohol infusion or fermentation, they laid the foundation for what was known as spagyric medicine.

The spagyric remedies were created in private laboratories or, more commonly, in monastery stillrooms dotted around Central Europe. It was their alchemical practices that specifically stimulated the concept of distilling plant materials with hot steam (whether from boiling water or from an external source), as opposed to simmering them after being infused in cold water (hydrodistillation). The exact date and place of when hot steam distillation of essential oils first appeared is unknown, but it definitely occurred after the opening of the first pharmacies in Genoa and Venice during the 12th century. The first actual mention of steam distillation is in Claude Dariot's excellent spagyric textbook of 1603, *La grande chirurgie de Paracelse*, even though this technique failed to become widespread until the innovative technical advances of Johann Glauber in the 1650s and later Rumford around 1802. The alchemical plant processing skills of distillation and alcoholic tincture making then eventually became an important part of the repertoire of spagyric remedies and herbal pharmacy in general.

The cold separation of essential oils from the distilling water with a condenser (or water cooler) and Florentine flask is another invention of these pioneering alchemists. It is credited to master alchemist Raymond Lull during the second half of the 13th century and probably first described by medical herbalist Conrad Gesner in 1552 (Forbes 1970). To this day, hot steam distillation and cold separation are both key steps in essential oil extraction. As the actual techniques of 'artificial distillation' (as it was called) were continuously being refined, many more essential oils were eventually created, most of which ended up being used therapeutically.

For the sake of perspective, it should be remembered that alongside these advances in alchemical and herbal medicine preparations, traditional preparations using simply water or vinegar were still the rule right up to the present day. Only their usefulness and popularity has varied throughout the centuries. The Four Thieves Vinegar is a classic example of a vinegar infusion whose anti-infective and antiseptic efficacy relied solely on a combination of wine vinegar and medicinal herbs. M.A. Rolet and later Boinet report a 15th-century author from Auvergne, France, as first describing its use in 1413 during the bubonic plague (Gattefossé 1937). The original formula was made public in plague-stricken Marseille at the time; a copy of it still exists in the Old Marseille Museum. It consists of various proportions of the raw herbs of Wormwood, Meadowsweet, Wild marjoram, Sage, Clovebuds, Elecampane root and Camphor resin infused for 15 days in white wine vinegar. Boinet's paper concludes: 'Use by rubbing it on the hands, ears and temples from time to time when approaching a plague victim.' This formula would have also kept away fleas and other insects carrying the plague bacteria. It is interesting to note here that essential oils were not part of this formula, even though it relied for its efficacy partly on the essential oil content of the Wormwood, Wild marjoram, Sage and Clove. Moreover, the French Codex of 1758 added three more ingredients, none of them essential oils, to this original formula: Rue herb, Garlic bulb and Calamus root.

Gathering up the ancient threads of Greek medicine and ancient alchemical practices, the early alchemists clearly laid the foundation for the many preparations used in herbal medicine and now essential oil medicine. The legacy of their pioneering work lives on, completely transmuted but always deeply vibrant with the potential discoveries that further explorations may yield.

### *Herbal pharmacy and distillation*

The Renaissance period between 1400 and 1650 made secular and popular a vast amount of knowledge that Europe had originally inherited from Arabic culture in Sicily and Al Andalus from the 9th century onwards. It was knowledge that the developing universities and to some extent Christian fraternities had fostered in the areas of medicine, music, mathematics, philosophy and astronomy. More specifically, the Renaissance witnessed an intense revival of traditional Greek medicine as original source Greek medical texts were now being rediscovered and directly translated into vernacular French, German and English. Doctors, herbalists and pharmacists were swept by the humanistic holistic impulse to turn the dusty Four Element, Four Fluid and Four Temperament theories into medical and hygiene practices that would effectively meet contemporary health-care needs. As the main branch of Greek medicine, herbal medicine itself blossomed with new shoots. It turned to the use of indigenous herbs over imported ones, developed a large number of preparation forms that included essential oils, and created a growing body of herb formulas recorded in dispensaries. Regardless of type of practice or rank, it was these herbal medicine practitioners who had the first inkling of the potential of essential oils as remedies.

In this context, it comes as no surprise that this period also saw the finest flourishing of herb distillation before the modern era and the stirrings of essential oil therapeutics proper. It marked the expansion of herbal pharmacy and distillation practices away from alchemists and monastery laboratories into the larger productions of pharmacies (apothecaries) and practitioners' clinics. Aromatic hydrosols, essential oils and tinctures were increasingly produced by apothecaries, herbalists and even lay people with increasing leisure time available. In their hands, distillation became a more mainstream, secularised technique for producing everything from simple aromatic waters to complex perfumes and spagyric plant and mineral remedies.

During Tudor times in England, for instance, the distillation of medicinal plants became quite secularized and widespread, as evidenced by the thriving still-rooms in many upper class dwellings and the sundry still-room manuals written to assist women in their distillation pursuits. Hydrosols saw especial widespread use in cooking, hygiene and personal perfumery, while essential oils were only used in very small, drop quantities for perfumery and treatment purposes. As a significant example, it is on record that in 1529 King Henry VIII had his personal apothecary distill no less than 29 types of 'aromatic waters,' although unfortunately they were never named (Dugan 2011).

Pharmacies in Italy and later throughout Europe became especially central to the growth of herbal medicine and medicine making. They generated an ever-expanding range of water and alcohol-based preparations, including hydrosols, decoctions, tinctures, fluid extracts, quintessences and steam-distilled essential oils. Hydrosols still remained the main type of aromatic water to be distilled. After 1550, the much more concentrated essential oils saw an increase in production and experimental use. Valerius Cordus' important revised *Dispensatorium* of 1592 already mentions 61 essential oils, for instance, in contrast to the much smaller number listed in previous texts. In addition to the essential oils already mentioned, oils extracted from European plants and already familiar as hydrosols became increasingly distilled. This included Fennel seed, Aniseed, Dill seed, Lovage seed, Angelica seed, Parsley seed, Coriander seed, Caraway seed, Roman camomile, German camomile, Tansy, Wormwood, Myrtle, Melissa, Spearmint, Basil, Peppermint, Winter and Summer Savory, Oregano, Pennyroyal, Neroli (Bitter orange flower), Lemon rind and Orange rind. The widening trade routes with the East also allowed for the increased distillation of more exotic resins and other plants such as Myrrh, Frankincense, Elemi, Galbanum, Labdanum and Asafoetida.

Compound herb preparations, such as compound tinctures and spirits, syrups, pastilles, ointments and the like, were also routinely formulated from various proportions of raw herbs, hydrosols and essential oils. Alcohol and hydrosols were the most frequent bases used for preparing remedies for oral intake. The old *Tinctura lavandulae composita*, the Compound Tincture of Lavender, is just one example of a prescription that incorporated essential oils. It consisted of the essential oils of Lavender and Rosemary and the bruised herbs of Cinnamon bark, Clove bud, Nutmeg seed and Red saunder wood; the whole macerated for several weeks in ethanol. It was given as a warming digestive stimulant and carminative in sweetened water or dropped directly onto a sugar cube. An official remedy in both the British and US Pharmacopeia as late as the late 1800s, this formula belongs to a long lineage of prescriptions that goes back to the earliest dispensaries of the Florentine pharmacies of the early 1400s. It is one among hundreds lost in time among the European dispensaries of this period. It clearly demonstrates the integral use of herbs and essential oils in traditional pharmacy.

A good example of an old pharmacy preparation whose active ingredients consist entirely of essential oils is the Compound Rosemary Ointment. This warming, stimulant and counterirritant ointment contains Rosemary, Laurel and Juniper essential oils in an ointment base. It is traditionally used for treating bronchial phlegm congestion and rheumatic-arthritic conditions of all kinds.

Herbalists such as Ryff, Bergzabern, Mattioli, Lonicer, Schroeder, Gerard, Culpeper and Salmon recorded the therapeutic functions and uses of hydrosols and essential oils as specific types of herbal preparation (along with infusions, decoctions, tinctures, etc.). Their illuminating manuals are generally classified as *Arznei, Kräuter und Destillierbücher*, or medical, herbal and distillation books. Those authors among

them that were also apothecaries and more interested in pharmacy, moreover, went on to articulate the technical, theoretical and medicinal applications of these new-fangled oils. Key writings of this period that discuss their methods of distillation and treatment applications in a fair amount of detail include:

- Saladini's early *Compendium aromatariorum* of 1488
- Brunschwylgk's hugely popular *Liber de arte distillandi de simplicibus* of 1500
- Cordus' detailed *Dispensatorium* of 1535
- Ryff's comprehensive *Neu gross destillierbuch wohl gegründeter künstlicher destillation* of 1545
- Gesner's *De remediis secretis* of 1552 (which in 1562 was translated into English under the title *A new booke of destyllatyon of waters*)
- Besson's *Art et moyen parfaict de tirer huyles et eaux de tous les medicaments simples et oléagineux* of 1571
- Lonicer's encyclopedic *Kräuterbuch* of 1578
- Hieronymus Rubeus' *Liber de destillatione* of 1581
- Coolhaes' *Van seeckere seer costelycke wateren* of 1588
- Liébaut's comprehensive *Quatre livres des secrets de medecine et de la philosophie chimique* of 1593
- Della Porta's innovative *De distillatione libri IX* of 1609

The spagyric preparation techniques of the old alchemists then laid the foundation of Western pharmacy from the 1600s onwards. Dariot, Van Helmont and Libavius in the early 1600s epitomize the late alchemist turned early chemist, determined to bring the early alchemists' promise of creating the most potent and universal remedy by distilling their quintessence finally to fruition (Hahnemann's quest in the early 1800s was essentially the same, only its outcome, the homeopathic remedy, was very different). Although plant distillation of essential oils and hydrosols was only one technique among numerous mineral and metal preparations, it provided important aromatic remedies for apothecaries and doctors to prescribe.

The preparation and treatment applications of particular essential oils and hydrosols are recorded in greater or lesser detail in pharmacopeias such as the ones listed below, as well as in the following:

- Schroeder's *Vollständige Chemical-Galenik und nutzreiche Apotheke* of 1611
- Charas' *Pharmacopée royale galénique et chimique* of 1693
- Pomet's *Histoire générale des drogues* of 1694
- Spielman's *Pharmacopoeia universalis* of 1749

- Lémery's *Pharmacopée universelle* of 1761
- The Dublin and Edinburgh Pharmacopeias during the 18th century

The prominence of essential oils, hydrosols and their compound preparations in medical treatment of this period in various European countries can be gauged to some extent by the fluctuating space devoted to essential oils in various contemporary pharmacopeias.

- Coolhaes' *Van seeckere seer costelycke wateren* of 1588 presents 51 aromatic waters and 17 essential oils.
- Cordus' *Dispensatorium* of 1592 includes 61 essential oils.
- Minderer's *Pharmacopoea Augustana* of 1627 discusses 13 essential oils and hydrosols (aromata).
- Culpeper's *London Dispensatory* of 1659 presents seven essential oils ('oyls of herbs and flowers') and over 50 mineral oils ('chymical oyls').
- Salmon's *New London Dispensatory* of 1691 includes about 37 essential oils and over 200 'simple distilled waters' (hydrosols).
- The *Dispensatorium Brandenburgensis* of 1713 includes 224 'distilled waters,' i.e. miscellaneous hydrosols, essential oils and mineral distillations.
- The *Wiener Dispensatorium* of 1744 presents 82 Olea destillata, 'distilled oils.'
- Lémery's *Cours de chymie* of 1757 discusses the preparation and use in great detail of only nine essential oils in the section on plant preparations, and over 200 mineral preparations.
- Jourdan's *Pharmacopée universelle* of 1828 lists over 45 essential oils and eaux distillées or hydrosols.
- Hoblyn's *Dictionary of Terms Used in Medicine* of 1855 lists 28 essential oils.
- The US *Pharmacopeia* of 1855 includes monographs on 23 essential oils.
- Dunglison's *Dictionary of Medical Science* of 1874 lists 35 essential oils; this number reflects the number included in the US and English Pharmacopeias at the time.
- King and Felter's *Eclectic Dispensatory* of 1899 contains 46 monographs on various essential oils.

### **Pharmacy, Distillation and Natural Perfumery**

From the 1650s onwards, the practice of medicine itself, and with it herbal medicine, began to lag behind the times. With the development of critical thought and the rise

of the analytical sciences, the holistic Greek medicine theories that had sustained European Galenic medicine for over 16 centuries became increasingly meaningless. At the same time, herbal medicines alone, including the traditional aromatic waters and the newer spagyric remedies (essential oils included) were increasingly perceived as not being fully adequate for the health care needs of the day. The time-tested techniques of bloodletting and purging also became empty mannerisms through indiscriminate use. Doctors and pharmacists alike increasingly resorted to exotic toxic and cathartic herbal remedies with drastic dramatic action. Floundering in giddy experimentation mode in an attempt to outsmart new ways of deductive thinking, traditional Greek medicine was slowly but surely falling apart.

As analytical scientific thinking gained increased currency across the board, pharmacists became increasingly research oriented. The practices of traditional herbal and spagyric pharmacy increasingly came under the scrutiny of scientific analysis on one hand and the pressure of advances in industrial technology on the other. Pure research pharmacy then directly fed the advance of modern chemistry and pharmacy as early as the 1700s. Its pioneers include pharmacists who actively combined practice with research, such as Glauber, Sylvius, Boyle, Beckman, Schroeder, Hoffmann and Lavoisier (Berendes 1907). Most of these developed chemistry and chemical technology more than actual pharmacy.

There were two consequences to this scenario. On one hand, there was no advancement in the *Materia Aromatica* itself in terms of either the number of essential oils produced or in the way that pharmacists and doctors prescribed them. As can be seen from the numbers of oils included in the *Materia Medica*s above, the actual variety of essential oils prescribed clinically was on a steady decline. The heady 16th century explorations in aromatic materials were now a thing of the past. And because the theories that underpinned the clinical use of herbal and aromatic remedies became irrational and untenable, the motivation to explore essential oil treatment to its full potential simply waned. Herbal formulating and prescribing languished in a fossilized stagnation.

On the other hand, in the hands of creative technicians such as Johann Glauber, distillation apparatus became more streamlined and efficient without undergoing any systematic changes (Forbes 1970). Among Glauber's many innovations was the idea of adding salt or sodium sulphate into the distillation water to elevate its boiling point, as described in his *Furni novi philosophici* of 1648. This increased the yield of essential oil and further allowed hard gums and resins such as myrrh, mastix and frankincense to yield their full content of essential oil. Glauber also elaborated scientifically on the traditional (but rarely used) concept of plant distillation with introduced hot steam, thereby stimulating its further evolution by later pioneer distillers, starting with Rumford in 1802. Meanwhile, the wine and corn distillation industry for the production of beer, wine, brandy and liquor expanded exponentially during this time, along with the invention of other dedicated distillation equipment.

Enhanced distillation technology also benefitted a rising demand for perfumes during this time. This in turn created a strong upswing in demand for aromatic raw materials. From the 1680s on, hydrosols, essential oils and tinctures became increasingly diverted from use in medicine-making and prescribing to use in natural perfumery. As the skill of perfumery became distinct from that of herbal pharmacy, specialized perfume houses in France, Italy and the Netherlands were set up, independent of the apothecaries that had birthed them. Rising needs for aromatic materials also required an increase in the volume produced. While France had a plentiful supply of such common oils and hydrosols as Lavender, Rosemary and Clary sage, and precious floral absolutes like Jasmine and Neroli, the Netherlands specialized in distilling spices obtained from their Indonesian colonies, including Nutmeg, Cardamom and Black pepper. Ottoman Turkey and later Bulgaria also saw Rose oil production expand at this time to meet the needs of a growing perfumery market. Citrus oil production in Sicily and Calabria, especially the valuable top-note oils of Lemon and Bergamot, also stepped up during this period of emerging perfumery. The first extant mention of Bergamot, in a 1682 apothecary inventory in Giessen, Germany, dates from this time (Flückiger 1876).

The practice of perfuming the body, like the rise in analytical science itself, was only another sign of a cultural shift in awareness that swept 18th-century Europe. The Age of Lights saw a second Renaissance that, like the first Italian Renaissance, involved both a resurgent humanism and the development of critical and analytical thinking in the modern sense. The individual would experience this as an increased concern for the needs of the body and its maintenance, especially in the context of family, community and society as a whole. Not surprisingly, the 1720s then saw a dramatic change in the practices of personal hygiene and grooming. Bathing first became fashionable and then even somewhat popular both in France and in England. Perfuming the body soon became routine as the many new oils and hydrosols of the 17th-century pharmacies were finally seen as fit for use in making a personal and social statement. The wearing of aromatic kid gloves, especially those scented with pure Neroli oil, also became a widespread social custom.

The variety and complexity of perfumes created then proliferated. The court of Louis XV at Versailles itself became known as the 'perfumed court.' With a growing upper class with leisure time on their hands, and with the refined aesthetic sensibilities of the French nobility in particular, the 18th century produced some of the most exquisite and sophisticated/refined perfumes ever created. Not to be outdone by their neighbours across the Channel, the English also were not slow to develop popular perfumes such as Orangeflower, Lavender, Musk and Civet violet, as well as an aromatic range of scented snuffs.

Because they consisted only of natural and whole aromatic ingredients, not isolates or synthetics, these perfumes were extremely subtle, displaying new complexities of fragrance hitherto unknown. Their general character was soft, light and delicate, like

the pastel, softly shimmering Chinese silk fabrics of the current rococo fashion. They did not display the loud, colorful or harsh notes of isolates and synthetics that were only introduced in the 1890s. The trend was away from the heavy, musky fragrance notes so popular during the 17th-century Baroque in favour of lighter agrestic, herbaceous and soft-floral notes. Solid perfumes such as Millefleurs became especially popular, as did pomades of precious flowers extracted by enfleurage in cold lard. The astonishing range of delicate yet emotionally potent floral absolutes produced at the time includes Violet (from Parma, Italy), Iris (from Florence, Italy), Jasmine, Orange flower, Lily-of-the-valley, Narcissus, Carnation and Hyacinth. The most popular hydrosols or floral waters of the times remained Rose, Neroli and Lavender. Clearly, this period should be seen as the birth of natural perfumery in the modern sense. It was truly natural and holistic perfumery.

A large range of cosmetic preparations were also developed on the basis of various hydrosols. Guided by the 'exquisite and unerring taste' of Madame de Pompadour, they served the *soins de beauté* of the noble ladies (Morris 1984). The aromatic 'waters' of the past, based on hydrosols and wine spirits, were also revived and revamped, and new ones formulated. By far the most successful of these was the Aqua Admirabilis, later renamed Eau de Cologne. It was created in Germany in the Italian tradition by the emigrant pharmacist Gian Paolo Feminis in 1709, using hydrosols, herbal tinctures and essential oils. His water won the day because its fresh citrus, herbaceous bouquet of Neroli, Bergamot, Lavender and Rosemary captured the spirit of the times: exploratory, light-hearted and socially engaged.

### *Perfumery and distillation*

The ascent of Napoleon Bonaparte to the imperial throne of France in 1804 had profound repercussions throughout the Western world, affecting not only politics and society, but also the sciences in general. Ambitious, progressive and far-sighted, Napoleon was quick to finance scientific and technological research on a generous scale. His patronage jump-started the French lead in the fields of organic chemistry, plant extraction technology and perfumery – a lead that at least partly endures to this day. Not only that, but his funding eventually resulted directly in the French superiority in the therapeutic use of essential oils, and especially their use in internal medicine.

The personal use of natural perfumes prevailed throughout Napoleon's reign and was only fostered further by Empress Eugenie in the 1840s. The palette of essential oils originally developed by Renaissance apothecaries thereby became fully entrenched in serving a thriving perfume industry, while continuing to dwindle among pharmacists and medical practitioners alike. Important perfumery staples of the times were the oils of Bergamot, Lavender, Neroli, Rosemary and Geranium. By the mid-century, the perfumery industry had grown to such a point that it was absorbing the largest portion of essential oils produced. As a result of this ever-increasing demand, the

mid-century also saw early attempts at sourcing perfumery materials in the European colonies. The search for aromatic plant materials worldwide was on. While British botanists at Kew were busy hybridizing strains of geranium to produce the highest oil content, French entrepreneurs began setting up geranium plantations in the colonies of Algeria, Morocco and then Réunion. The Dutch created patchouli and spice oil plantations in Indonesia and the Germans Ylang ylang production in the Philippines, before the French then developed its production on Réunion and later, Madagascar. Tasmanian eucalyptus also entered the scene at this time: it became the most widely-used sharp top-note oil as well as a reliable staple in cough remedies and for application as a topical respiratory remedy. Peppermint production in Massachusetts and then Michigan was also established in the early 1800s and quickly became a popular oil in pharmacy and the food industries.

Oil distillation itself for the first time began to assume large, commercial proportions. This involved a more efficient production with improved and larger equipment, resulting in an increase in both the quantity and quality of oil produced. Rumford introduced an efficient way to introduce hot steam into the still in 1802 and laid the ground for continued improvements in this technique by Zeise (1826), Van Dyck (1828) and Savalle (1857). A broad range of enterprises, ranging from perfume houses to pharmacies and soap manufacturers, had a plentiful supply of good quality oils available by the mid-century – a supply that was only enriched by the invention of absolute extracts.

Significantly, the first successful extraction of essential oils using chemical solvents was made by Robiquet in 1835. This proved to be a boon for speeding up the extraction of aromatic constituents from delicate plant materials that would not survive the distillation process, mostly flowers such as rose, violet, jasmine, tuberose and narcissus. The production of these floral concretes and absolutes, as they are called, eventually made the costly, time-consuming process of enfleurage obsolete. By the 1870s, absolute extracts by solvent extraction became commercially viable, and by the 1900s French industrialist Garnier exported the technology to Bulgaria and Morocco for the production of rose absolute, Egypt for Jasmine, Violet and Olive leaf absolute, and Algeria and Réunion for the production of various other absolutes vital to the perfumery industry. Although used far less than essential oils in a clinical setting, absolutes have found their place today in treatment, especially for treating emotional conditions by inhalation. Conditions of shock, trauma and chronic pain respond especially well to the euphoric effect of such absolutes as jasmine, rose, tuberose, champaca and clary sage.

As the main trend was the increased availability and sinking prices of essential oils, these also became increasingly used in cosmetic and pharmaceutical products. Rose, Bergamot and Lavender were perennial favourites, Lavender especially in England since the creation of Yardley's Lavender Soap in 1780. Patchouli became the fashionable fragrance after Napoleon's return from the souks of Cairo loaded with

Kashmiri shawls scented with patchouli leaves. Its musty, sweet-woody, sensuous scent likely contributed to the wave of Orientalism that swept the Western imagination. Finding expression among painters in particular, it evoked the mystique of exotic lands and the euphoria of a satiated sensuality. Ylang ylang became a common aroma with the widespread adoption of Macassar hair oil: the heady tropical fragrance was used to mask the bitter-almond scent of this fashionable men's hair dressing.

On an individual and social scale, Napoleon allowed the luxury industries of the old regime to flourish once again, while also setting the tone for a new level of personal hygiene and good grooming. His own toilet consisted largely of liberal use of Farina's Eau de Cologne and Brown Windsor soap from England with its hallmark scent of bergamot, lavender and clove. The use of scented soaps and toilet waters soon became de rigeur, especially with the rising European bourgeoisie. This in turn forced soap and personal product manufacturers to grow completely independent of the pharmacies that had fostered them. In short time, they too became large consumers of aromatic raw materials, the essential oils.

Clearly, the impetus that Napoleon gave organic chemistry and distillation technology ended up exerting very paradoxical effects on the use of essential oils. On one hand, it caused them to be absorbed almost entirely by a thriving perfume and soap industry, thereby reducing their currency in pharmacy and medical prescribing even further – the final culmination of the expansion of beauty and hygiene products for over 100 years. On the other hand, it resulted in essential oils for the first time coming under the analytical scrutiny of science by both botanists and organic chemists. In the long run, this paradoxically served the therapeutic uses of essential oils even more than their perfumery uses. While chemistry-based essential oil therapeutics was in its infancy in the late 19th century and grew strong throughout the 20th, perfume technology all but abandoned natural oils by the 1950s in favour of isolates and, especially, synthetic aromas.

### *Organic chemistry, pharmacy and medicine*

Driven by deductive logic, the progress of analytical science continued apace. The search was on for the 'active constituents' in plants responsible for their effects on body and mind. Based on a budding system of chemistry, chemists began to identify and then isolate particular alkaloids and glycosides, such as morphine from opium in 1804, quinine from Peruvian bark in 1820, nicotine from tobacco in 1828, and so on. Not surprisingly then, essential oils, as major constituents found in aromatic plants, aroused their considerable interest. Slowly but surely over the years, French research chemists were able to eventually analyze and track the complex physiochemical structures and functions of essential oils. In 1818 Houton de Labillardière discovered the so-called terpene rule that underpins essential oils; his analyses were greatly enlarged by Dumas, who focused especially on constituents that congeal at room temperature, such as menthol and camphor. Berthelot meanwhile researched the hydrocarbons in

essential oils. Not to be outdone by their French colleagues, German researchers joined in this developing field with gusto. Liebig and Wohler identified benzaldehyde, the fruity odour found in bitter almonds and peach kernels. Kekulé famously discovered the benzene ring in a dream, a key constituent of aromatic chemicals. Wallach was nicknamed the ‘Messiah of the terpenes’ by pharmacist Flückiger in recognition of the sheer volume of research that he achieved in oil chemistry. Napoleon’s backing of organic chemistry research finally bore fruit in these scientific discoveries. The groundwork for essential oil pharmacognosy was laid.

With the development of chemistry-based pharmacognosy, pharmacy and medicine saw a profound transformation throughout the 19th century. Starting from archaic, weakly effective forms of traditional prescribing and treatment, they gradually morphed to more scientific evidence-based procedures. Having abandoned the threadbare medical theories of traditional Greek medicine and, inspired by the ideas of Positivist philosophy, doctors began to value the simple empirical, sensory evidence of clinical experience above all else. The hot issue was no longer the perennial debate between vitalism and materialism that had haunted practitioners for centuries. It was the pragmatic drive to find experimental methods of diagnosis, treatment and prescribing that clearly yielded clinical results. Phenomenology became the gold standard of all aspects of medical practice right through to the early 20th century. The emblem of this trend from the 1820s was the French school of experimental and hospital medicine, begun by Francois Magendie and matured under Claude Bernard.

Driven by the urge to stick with simple observation untainted by speculation, the definitive experiments of microbiologist Antoine Béchamp and later his follower Louis Pasteur in the 1860s finally confirmed the existence of microbes. Béchamp was adamant that microbes were not necessarily the cause of infectious disease and that the individual’s tissue terrain with its healthy commensal microbes was fundamental in the balance of health and sickness. However, plagiarizing Béchamp, Pasteur flattened his dynamic concepts into a simplistic, causal black-and-white scenario of man versus microbe. Germ theory was born. Rallying around the reductionistic theory of germs as the cause of all disease, medicine became unified again for the first time in 2,000 years. Having been rescued by microbiology, medicine was now able to renew itself as an analytical-science-based system. It finally became allopathic, opting for the use of plant extracts rather than whole plants, and later synthetic drugs rather than the traditional plant preparations of traditional pharmacy, such as infusions, tinctures, hydrosols and essential oils.

Still, amid the rush of so much experimental activity, it was not long before research chemists took to exploring the activity of essential oils against microbes such as bacteria and fungi. Their curiosity lay in the pharmacological properties of essential oils in general, as well as their antimicrobial actions in particular. In France, meanwhile, medical doctors began to clinically apply findings published in various journals and document their successful practice experiences with essential oils. After

200 years of medical moribundity, science was finally able to arouse the motivation to explore essential oil treatment further. Much of the early clinical experience gleaned during the 1860s and '70s is still unknown, most of it presumably unrecorded or lost. However, the revealing scientific papers and books that soon appeared testify to an unstoppable momentum in oil use for treatment. The pathbreaking books and scientific papers of Cadéac and Meunier (1880), Chamberland (1887), Flückiger (1891), Gildemeister and Hoffmann (1899), Clavel (1918), Gatti and Cayola (1922) and Gattefossé (1937) represent key texts summarizing contemporary research and clinical experience with the use of oils. Slowly, painfully, one essential oil at a time, using chemistry-based logic, these medical pioneers began to rebuild the *Materia Aromatica* on a clinical foundation.

The balance of essential oil use between the perfumery and pharmacy industry reached an equilibrium during the first half of the 20th century. Having long abandoned the principles of natural perfumery that had guided perfume making for over 300 years, the perfumery industry had completely turned to isolates, chemically altered oils and synthetic fragrances. Organic chemistry and pharmacy, meanwhile, swept along by the tide of the scientific evidence process, had advanced with a 150-year impetus in essential oil pharmacognosy and pharmacology. This state of balance might have reached a tipping point in favour of pharmacy had it not been for the material reductionism reigning in allopathic medicine. Western medical prescribing was finally unable to make use of its own science-based research on essential oils. Suffocating from the combined crippling weight of the outworn clinical tenets of the previous century (germ theory and cell theory) and incapacitated by the political imperatives of the drug industry, medical practitioners were no longer able to prescribe oils as clinical remedies – even when based on research evidence. As a result, evidence-based prescribing began to move into practitioner circles outside of allopathic medicine itself. The two practitioners that facilitated this move were Marguerite Maury and Jean Valnet.

### **Essential Oil Medicine and Herbal Medicine**

Originally a nurse and surgical assistant with initial interest in biochemistry, Marguerite Maury independently began exploring the therapeutic uses of essential oils in 1940s Paris. As she states in her book *Le capital jeunesse*, she fervently believed that the oils could go deeper and do more than just treat physiological disorders. A brilliant researcher and ingenious practitioner, Maury was firmly rooted in vitalistic principles of healing, exploring numerous homeopathic, naturopathic, Chinese and Tibetan principles of treatment. In her journey she was aided by her supportive husband, Dr. E. Maury, an acupuncturist and homeopath, and no doubt by her and her husband's friendship with Soulié de Morant, the prodigious exponent of traditional Chinese acupuncture in Paris. In this way she was able to develop a unique, whole-person approach to

treatment in her practice. Eventually she focused on exploring the rejuvenative and life-extension properties of essential oils on the whole person and through treating the skin in particular. Passing on her knowledge and practice to her aesthetician students in London, she became the founder of what is now known as holistic or ‘British-style aromatherapy’ (see also Chapter 5). To this day, this holistic approach serves as the foundation for what is generally known worldwide as ‘aromatherapy’ in practitioner circles.

It is both ironic and logical that the dissemination of the oils’ traditional medical uses was also facilitated by a French medical doctor, Jean Valnet. Valnet inherited the combined research and clinical experience of the previous 150 years, from essential oil chemists such as Gildemeister and Gattefossé. Experimenting with an ever-widening palette of oils on one hand, and researching the historical uses of aromatic remedies on the other, Valnet was the first to establish a basic *Materia Aromatica* in modern times. His textbook clearly spells out the functions, indications, cautions and dosages of individual oils in the same language and style as that of herbal remedies. As a clinician with a strong bent for experimentation, Valnet was able to both consolidate and expand on the therapeutic applications of essential oils.

Moreover, as an integrative practitioner, Valnet sought to place essential oil treatment, alongside herbal medicine and nutrition, in the larger context of naturopathic medicine. He not only took chemistry-based essential oil treatment since the 1860s seriously, but also went on to integrate essential oil treatment into the practice of herbal medicine – the first attempt to do so in over 100 years. Valnet brought the practice of essential oils full circle back to its original context at the time they were developed in the Renaissance. This was his major contribution to essential oil therapy. From a modern perspective then, Valnet stands squarely as a science-based medical herbalist and naturopathic physician.

While Valnet’s basic range of oils was those with a long history of traditional use in the West, he also allowed the empirical approach to determining new applications for those oils. Taking his cue from fellow medical herbalists such as Henri Leclerc, Valnet focused especially on their application to contemporary disease conditions, such as anxiety, insomnia, hypertension, colitis (now IBS) and infectious conditions. This approach allowed him to experiment freely with essential oils not part of the Western tradition. As an army doctor stationed for several years in French colonial Vietnam, Valnet had access to a fairly large spectrum of oils traded throughout Southeast Asia. This included not only oils produced in Vietnam itself, such as Basil, Cajeput, Fieldmint, Cassia bark and Citronella, but also oils from neighboring countries, such as Camphor, Niaouli, Nutmeg, Star anise and Ylang ylang. As will be seen below, these new oils were to greatly enrich the *Materia Aromatica*.

From the perspective of Western herbal medicine, it is quite accurate then to describe Jean Valnet as the father of modern essential oil medicine. His many doctor students, including Belaiche, Lapraz, Duraffourd, Penoel and Mailhebiau, have continued to

develop his approach from the 1960s through to the present day. On the other hand, from a wider historical perspective, this type of practice, often known in France as *médecine aromatique* ('aromatic medicine') is clearly a modern development within the wider practice of herbal medicine (itself originally a branch of traditional Greek medicine). Indeed, the majority of French practitioners today will prescribe, alongside essential oils, other herbal preparations such as tinctures, fluid extracts, decoctions, etc. Since the 1980s many French and other European practitioners have been establishing a growing body of clinical knowledge on a herbal-medicine based *Materia Aromatica*. Its growth through both theoretical and clinical research is ongoing.

### **From Fragrance Material to Essential Oil Remedy**

Today, the *Materia Aromatica* reaches well beyond the context of those essential oils belonging to Western herbal medicine and those analysed by pharmacognosy research. It includes aromatic remedies traditionally only used as fragrance materials for perfumery, soap production and food flavouring, such as Jasmine absolute, Lemongrass and Peru balsam. Ultimately, almost all aromatics used at one time or another in perfumery since the 16th century may now find a place in essential oil therapy; and likewise, most therapeutic oils possess potential fragrance application in perfumery. Still, there is a significant core of oils used therapeutically today that only emerged in a clinical context as recently as the late 19th and early 20th century; these have now become indispensable remedies for essential oil treatment. The majority were originally sources of fragrance for the blossoming perfumery industry in far-flung colonies such as Java, India and Madagascar.

As positive experience accumulates in the hands of innovative practitioners, an experimental oil will eventually become an established aromatic remedy. Regardless of the actual source of the essential oil, this progression always remains the same. It is the path of hard-won empirical experience, sometimes (but not always) supported by science-based research. In many parts of the world, essential oils are distilled and put on the market on a purely experimental basis. Only a few will eventually become popular among some oil end-users, particularly among perfumers and therapists. It is a sign of the *Materia Aromatica*'s inherent vitality that essential oils that most practitioners now consider important staples for treatment were originally sourced from these commercial zones. Many aromatics now important for treatment, such as Geranium, Palmarosa, Vetiver, Ylang ylang, May chang, Jasmine and various Cedarwoods, have taken this trajectory.

The essential oil of Ylang ylang is an outstanding example of an aromatic remedy with a long history to its name. First brought to Paris in 1864, it is only one of many oils originally developed by the French purely for perfume production that soon saw investigation as a potential remedy. The flowers of the ylang ylang tree native to the Philippines and Indonesia were traditionally only used cosmetically.

In 1878 their experimental distilled oil was shown at the Paris World Exhibition. It made a huge splash for its intoxicating, languid floral notes. Ylang ylang oil soon rose to an important perfumery material, widely used among French perfume houses. In 1906, Kettenkoffen in Bonn wrote his medical thesis on the oil's pharmacognosy and pharmacology. Finally, following Jean Valnet's trial medical applications in the 1950s, Ylang ylang oil became a full-fledged remedy for treating tense, spasmodic conditions of the smooth muscle organs. Today it is especially valued for its relaxant action on the heart and circulation. Its euphoric and uplifting effect is also valuable for treating acute shock and trauma, while showing potential for treating conditions such as addiction and dissociative disorders.

Originally from South Africa, production of the rosy-sweet Geranium oil was first established for perfume manufacture in the early 19th century by French companies in Grasse, France. Soon after, large plantations were set up in the colonies of Algeria and the Indian Ocean island of La Réunion. After experimentation in the 1950s and '60s, Geranium has become one of the most valuable remedies for women's hormonal disorders in general. It is a specific for restoring lower endocrine deficiencies in particular, especially of the liver, pancreas and adrenal cortex. Geranium is also an important remedy used by inhalation for conditions such as emotional loss and withdrawal, emotional instability and depression with anxiety.

Atlas cedarwood oil from the Atlas mountains of Morocco and Algeria has been distilled since the late 19th century for its sweet-woody notes and good fixative property in French perfume manufacture. Already in the early 1890s, French doctors again began applying it successfully for skin conditions, atonic wounds and urinary tract infections, conditions for which it is still routinely used today (Gattefossé 1937). Today, Atlas cedarwood's indications extend to the psychological realm to include applications for mental-emotional instability and delusional or obsessive thinking, among others.

Steam distilled from bitter orange flowers in Provence, the light, sweet-floral Neroli oil was originally used exclusively for fragancing leather gloves for the Italian and French nobility; from the 18th century onwards it became an important floral note in high-class perfumes. Neroli oil has now become an established potent neurocardiac relaxant remedy for treating tension in the nervous and cardiovascular system. When given by inhalation, Neroli is also extremely useful for promoting emotional stability, especially in acute emotional states or shock.

Eucalyptus oil also enjoys a long history of use as a perfumery, food and pharmaceutical flavouring material. First discovered by John White in New South Wales in 1790 and then by Labillardière on Tasmania in 1792, it gradually rose to prominence in France and Germany with the phenomenal expansion of the perfume industry from the 1850s onwards. Very soon, research into the antimicrobial properties of essential oils in France and Germany quickly established Eucalyptus as an important antibacterial agent. Its extensive use as a stimulant expectorant, antitussive

and antipyretic with an excellent antibacterial action dates back to its first applications for treatment in the 1870s. Today Eucalyptus can also simply be incorporated in an aromatic blend for its awakening and mentally stimulating effect.

The aromatic resins from tropical South America, such as Copaiba balsam, Peru balsam and Tolu balsam, also stem originally from use as valuable fixatives with good tenacity in the perfume and cosmetic industry. The only exception is Copaiba balsam, which was already used medically in the early 1500s. Today, Copaiba balsam is considered a good soothing anti-inflammatory and astringent agent for urinary and bronchial infections with discharges, while Peru and Tolu balsams are given mainly in bronchial infections with phlegm because of their mucolytic, expectorant and antiseptic actions.

Bergamot oil, cold-pressed from a citrus fruit that most likely was hybridized in Muslim Sicily during the 9th century, has a strong tradition of use in perfumery since the 1650s. It is a key top note in the famous Aqua Admirabilis, later renamed Eau de Cologne, for instance, created by an Italian apothecary in 1709. Bergamot has also fragranced the ever popular Earl Grey tea since its inception in 1820s London. Today, Bergamot is invaluable for its profound regulating action on the autonomic nervous system and the brain – in addition to its gastric and biliary stimulant actions when given as an internal remedy.

Palmarosa oil from India was originally seen as merely a cheap adulterant of the super-expensive Turkish and Bulgarian Rose oil, especially by Turkish merchants in Ottoman Constantinople; tongue-in-cheek they dubbed this oil ‘Indian geranium.’ Perfumery valued Palmarosa for its rosy-grassy notes as well as a source of the isolate geraniol. It was again only in the 1950s that Valnet established its restorative action on the heart and nervous system and that its broad anti-infective action, equalling that of Tea tree, was demonstrated. Today Palmarosa, like Geranium, is also very useful in psychology for helping provide emotional support and security.

Floral absolutes such as Rose, Violet, Jasmine, Tuberose, Champaca, Hyacinth, Narcissus and Boronia have long been indispensable in high-class French perfumery, lending body and smoothness to fragrance compositions even in small amounts. Even some of these absolutes have been incorporated into a therapeutic setting when used by inhalation or in a blend for topical application. Jasmine, for instance, was an Arabic inheritance at the time perfumery developed in Italy during the Renaissance; it remains an invaluable sweet-floral heart note to this day, despite the low-cost availability of synthetic jasmine. Among practitioners, Jasmine absolute is now important because of the euphoric and balancing effect of its suave sweet-floral fragrance – an effect particularly useful in treating acute shock and trauma, as well as conditions of dissociation and sensory inhibition or disintegration.

Base note oils with slow evaporation rates are indispensable in quality perfumes for binding and fixing top note oils with their more rapid rates of evaporation. Two such oils that have become vitally important in essential oil therapies are Vetiver and Patchouli.

Originating in West Java, Vetiver oil has served perfume making since the 1890s with its unique combination of deep mossy, rooty and woody notes. Physiologically the oil combines valuable restorative actions on the neuroendocrine and immune system with nervous sedative and anti-inflammatory actions. Psychological applications include instability, anxiety and obsessions.

Patchouli oil also originates in the Indonesian archipelago and was valued for its good fixative persistence since production began in Penang, Malaysia, in the 1830s. A classic base note oil, Patchouli's medical uses hang around a relaxant and analgesic effect in tense conditions presenting pain, and a valuable restorative action on the functions of the whole gut and its vital microflora. When used by inhalation to address psychological issues, the oil has similar indications to Vetiver, and a good sensory integrative effect in addition. The only limitation to its use by inhalation is a possible negative memory association with the hippie era of the 1970s, when cheap, adulterated Patchouli oil became popular. The solution to this current curse might be a renewed appreciation for the aroma of genuine, pure Patchouli oil. Moreover, the problematic fact remains that this is one of the most adulterated oils of all: as with Melissa oil, at least eight different oils are routinely used to cut Patchouli or create a reconstituted oil from scratch.

Other essential oil staples for the modern therapist derive from the food-flavouring and soap-making industries, and especially the soft drink industry. Lemongrass and Citronella oils from East Asia, for instance, traditionally ubiquitous flavouring agents for soaps and soft drinks, are now valued in a therapeutic context for their antifungal, detoxicant and fever-reducing actions. May chang oil from South China is used similarly to these by the flavouring industry, an important source of citral since the mid-20th century. Essential oil practitioners can now make use of its remarkable anti-inflammatory and nervous sedative actions.

The cold-expressed citrus oils of Sweet orange and Mandarin (and its various cultivars) are long-time sweetening agents in the pharmaceutical and soft drink industry; today these oils are routinely used as mild sedative and relaxant remedies in the hands of therapists.

With their sweet, spicy aroma reminiscent of cloves and cinnamon, Pimenta leaf and berry oils from the West Indies (mainly Jamaica) have long been important flavouring ingredients in the soft drink and food industry. For several decades these have found use as excellent warming stimulant and anti-infective remedies in weak, cold types of conditions.

Star anise oil, produced in Vietnam at least since the late 19th century, still today serves as a key flavouring agent in traditional Mediterranean anise liqueurs such as pastis, ouzo and sambuca, as well as various food products. It is a minor but potent treatment oil today, valued for its spasmolytic action in spasmodic bronchial and intestinal disorders.

Other essential oils have their own particular tradition of medical use in East Asian countries and were only introduced on a larger scale in the West in the 1950s

and '60s. The most prominent of these is Cajeput oil, which has been produced in the Maluku islands of East Indonesia since the early 17th century. It rapidly became a useful cure-all remedy throughout Southeast Asia for native and colonial people alike. With its fresh, clean scent and stimulating effect, Cajeput became especially popular with the British in colonial India. Today this *Melaleuca* oil is considered an important warming stimulant remedy to the nervous and circulatory systems, with an excellent anti-infective action.

The botanically related Tea tree oil first saw production in New South Wales, Australia, in the 1920s and rapidly gained general use as an all-purpose anti-infective remedy. It found widespread application as an antiseptic for war wounds among Allied troops in the Second World War. Today it is a much publicised anti-infective, but is additionally recognized among practitioners for its excellent restorative functions in chronic deficiencies of the nervous, cardiac and GI systems.

Yet other essential oils have made it into the therapeutic arena only in very recent times. Blue tansy, the deep cobalt-blue oil distilled from the indigenous wild tansy in the Maghreb, was only developed in the 1960s for its anti-inflammatory and antihistamine action; it is now an important remedy for treating a wide range of inflammatory and allergic disorders. The Australian Blue cypress oil is another more recent example, now esteemed for its antiviral and anti-inflammatory properties.

Currently there is a large pool of experimental oils in the slow process of becoming aromatic remedies. These fringe oils include Saro, Iary, Katrafay and Hazomboay from Madagascar; Zinziba, Cape camomile, African blue grass and Lantana from South Africa; Plai and Siam wood from Southeast Asia; Kunzea, Manuka and Kanuka from New Zealand; Fragonia, Nerolina, Buddha wood, Blue cypress and Emerald cypress from Australia; and Yuzu from Japan. Only a few of these will actually succeed in making the grade of aromatic remedy, and extremely few will ever become established in clinical practice worldwide.

Clearly, the emerging *Materia Aromatica* is truly an eclectic collection of essential oils. With deep roots in the *materia medica* of Western herbal medicine (the main branch of traditional Greek medicine), since the 19th century it has grown to assimilate oils from the world over from the perfumery and food flavouring industries and is ever absorbing purely experimental oils for therapeutic applications. Vigorously eclectic and poly-selective both historically and geographically, the *Materia Aromatica* in evolution is poised to make a significant impact on the spectrum of treatment modalities available today.

# Examining the Sources of Essential Oils

## **The Geographic Diversity of the Materia Aromatica**

Today the palette of the essential oils available to practitioners has never been greater, thanks to global trade networks. Equally, the sources of many important essential oils in therapeutic use are available from a variety of different geographic origins. Lavender oil, for instance, although originally only produced in Provence, South France, is currently also available from countries as far apart as England, Bulgaria, India, China, Tasmania, South Africa and the United States. Peppermint oil production is also currently a worldwide affair, involving China, India, the UK, the USA and Eastern Europe. Rosemary oil is currently produced mainly in Spain and the Maghreb countries of Morocco and Algeria, but also in France, Croatia and South Africa. Even the costly, precious Rose oil, one of the most difficult oil plants of all to cultivate, is now successfully in production not only in its natural habitat in Iran, Turkey and Bulgaria, but also in China and South Africa. Likewise, Bergamot oil, produced for almost a century only in Sicily and Calabria, South Italy, is now also being produced in Tunisia and West Africa.

This survey of today's global essential oil production will emphasize those oils currently used in treatment and includes some lesser-known, experimental aromatics. We should remember that over 90% of global production is absorbed by three major worldwide industries: food flavouring, perfumery and pharmaceuticals. The quality of the essential oils produced in different countries and even within a single country therefore varies greatly. Only an extremely small percentage of oils is produced in a traditional artisanal (not commercial manner), with high quality rather than high quantity in mind; and is not subject to subsequent alteration or adulteration. Of these

oils, a smaller fraction yet becomes certified organic by various certifying agencies. Chapter 3 discusses the issues involved in defining and obtaining an essential oil truly fit for clinical use. It differentiates between an oil that can serve as aromatic remedy and one that functions as flavouring or fragrance material by describing the processes involved in the manufacture of each.

This survey will explore essential oil distillation carried out across the globe, regardless of the size of manufacture. Oil production varies greatly in size, ranging from large commercial enterprises that chiefly serve the flavour and fragrance industries, to small artisan distillations that focus on the aromatherapy market – with every possible variation in between. The main geographic areas that currently produce essential oils in any quantity are those of the Mediterranean, including North Africa; the Mascarene Islands of the Indian Ocean; India and many Southeast Asian countries; Australia and New Caledonia; China; South Africa and several South American countries.

### *The Mediterranean*

France and Spain dominate essential oil production in the Eastern Mediterranean. Provence in South France saw Rosemary and Spike lavender oil production as far back as the early Middle Ages following the discovery of alcohol distillation (see Chapter 1). Provence is historically the source of the core *Materia Aromatica* within Western herbal medicine. Producing mainly oils from the lipflower family (*Lamiaceae*), it has witnessed enormous distillations of Lavender, Spike lavender, the Lavandin hybrid, Rosemary and Clary sage, all of which continue to the present day. South France also produces smaller amounts of high-quality lipflower oils more commonly produced in Spain, including Thyme, Hyssop, Tarragon, Sweet basil and Winter savory. The significant production of Neroli oil and Jasmine absolute by enfleurage of the 19th century has virtually ceased today.

Spain is the largest essential oil producer in the Eastern Mediterranean, putting out a good variety and quality of lipflower oils such as Rosemary (both main chemotypes), Hyssop, Oregano, Spanish sage and various species of Lavender, Thyme and Fennel.

In the Central Mediterranean, the island of Corsica is especially noted for its copious production of Helichrysum oil, while Sicily and Calabria are upholding the centuries-long tradition of cold-pressed citrus oils, especially Lemon, Mandarin and Bergamot. Bergamot oil is manufactured almost exclusively in coastal Calabria.

In the African Mediterranean, Moroccan production includes unique indigenous oils such as Blue tansy, Atlas cedarwood, Wild camomile, Cistus, Khella and Mastic, as well as others such as Myrtle, Laurel and Damask rose oil and absolute. The Damask rose was introduced to Morocco by Arab migrations westward during the 10th century. Tunisia is well known for its excellent Neroli oil in particular.

Egypt sees the greatest diversity of essential oil production, however, with an emphasis on Geranium, Marjoram, Spearmint, Fennel, Neroli and Jasmine absolute. To the south, Somalia in East Africa currently produces large amounts of Myrrh

and Frankincense resin, most of which is shipped to Europe for hydrodistillation. Production of Frankincense resin and oil still continues in small quantities in Oman in the Persian gulf.

### *Europe and the Middle East*

Fringing the East Mediterranean, most Balkan countries have some history of essential oil production that has been in upswing since the 1970s. The coastal countries of Croatia, Slovenia and Bosnia-Herzegovina, for example, focus on the production of Sage, Laurel, Fennel, Helichrysum and Winter savory oils, while further inland and south to Macedonia, Montenegro and Albania, the montane oils of Pine, Cypress and Juniper berry are more commonly produced.

Both Bulgaria and the Ukraine to the east are strong centres for Lavender and Clary sage production. Despite the fact that Damask rose oil distillation originated in the Middle East, Bulgaria has had the lion's share of production since the Ottoman 18th century. While Turkey also shares a significant portion of the world's Rose oil production in a quality equally as good as Bulgaria's, it also offers a variety of indigenous species of Oregano, Thyme and other Mediterranean lipflower oils. Only small-scale production of these is carried out on the islands of Crete and Cyprus.

Oil production in the Middle East is represented by Israel, with its small but good quality assortment of citrus and Mediterranean lipflower oils.

Turning to Central Europe, artisan distillers in the Austrian Tyrol are offering an increasing palette of valuable conifer oils, such as various Fir, Pine, Spruce and Larch oils. In Great Britain, the long-standing traditions of Lavender, Peppermint, Roman camomile and Juniper berry distilling are well and alive, being focused in Southeast and Eastern England.

### *Madagascar and the other Indian Ocean islands*

Like its deeply hybrid population, these Indian Ocean islands supply a surprising variety and quantity of essential oils. Of these, Madagascar is currently the largest producer in both variety and quantity of essential oils. Madagascar is a hot-house of the most diverse flora that has become extinct in neighboring Africa. It now supplies important oils such as Ylang ylang, Black pepper, Niaouli, Ravintsara, Saro and many other lesser-known, experimental oils such as Iary, White cypress, Katrafay, Longoza, Hazomboay, Rambiazina, i.e. the two Malagasy helichrysum oils (Male helichrysum and Female helichrysum). In addition, Madagascar boasts large cultivations of Geranium and some of Vetiver and Palmarosa from plants originally imported from the neighboring island of La Réunion. All of its oils vary widely in quality, the best being among the finest produced.

The islands strewn to the north of Madagascar that comprise the Union of the Comores, and especially the island of Anjouan (Ndzwani), are also prolific producers

of both native and imported plants. The Comores currently supply almost the same quantities of various grades of Ylang ylang oil as North Madagascar itself. Other oils produced include Black pepper and Basil ct. methylchavicol (also known as Tropical basil). Important spice crops also include clove and vanilla, as in Madagascar.

Formerly known as Isle Bourbon, La Réunion today produces mainly the Bourbon type of Geranium oil, and then only in very limited quantities; the once significant Vetiver production has virtually disappeared. Smaller distillations of various tropical oils are carried out on other Mascarene islands such as Mauritius and the Seychelles.

### *South Africa*

South Africa is another focal point for a considerable variety of good quality essential oils, some native, some cultivated. It includes the oils of Geranium (from its native habitat), various Eucalyptus oils, Lemongrass, Tea tree, Clove bud, Marjoram and Cinnamon, as well as a good variety of citrus oils such as Lemon, Mandarin, Lime, Grapefruit, Petitgain and Sweet orange. Several South African producers also offer an interesting selection of lesser known oils from native plants, such as Zinziba, Cape snowbush, Cape May, Cape camomile, African bluegrass and Blue mountain sage. Like the more obscure oils of Madagascar, some of these are finding increased use among therapists.

### *India, Sri Lanka and Nepal*

With its extremely long history of aromatics in daily life, religion and Ayurvedic medicine, the Indian subcontinent offers a large spectrum of essential oils of all qualities. In the south, including Sri Lanka, these range from spice oils such as Clove, Ginger, Nutmeg, Cardamom, Cinnamon, Turmeric, Galangal and Black pepper, to grass oils such as Vetiver, Lemongrass, Gingergrass, Citronella and Palmarosa. In the north, including the Himalayas, they include Juniper berry/twig, various basil (including Holy basil), Spikenard, Valerian and Himalaya cedarwood. Absolute extracts are also produced throughout India in relatively large quantities for the domestic and overseas fragrance industry. The most typical would be floral absolutes such as Jasmine, Jasmine sambac, Champaca, Tuberose, Oleander, Rose, Pink and White lotus, Mimosa, Osmanthus and Frangipani.

### *Australia and Indonesia*

Australia is prolific in its offerings of native tree aromatics such as the various Tea tree, Eucalyptus and Sandalwood oils. A large variety of Eucalyptus species are used in oil production, especially the Blue gum, Narrow leaf, Long leaf, Blue leaf, Gully gum, River-red gum and Lemon-scented types. Tea tree essential oils notably include Nerolina, Rosalina (Lavender tea tree) and Lemon-scented tea tree in addition to the

'normal' Tea tree. The production of one main native Sandalwood species, *S. spicatum*, has been steadily on the rise since the endangered status of Indian sandalwood. A few small Australian companies offer a long string of lesser-known oils such as Blue cypress, Emerald cypress and Buddha wood. Most of these are of only recent production and therefore again experimental from the clinical standpoint.

To the north, various distillers throughout Indonesia, and especially on Java, offer a variety of tropical plant oils, including various spice oils. The most typical oil distillations from this region are Patchouli and Vetiver, both of which are produced in large quantities for the fragrance and flavouring industries.

### *China and Vietnam*

China today also produces a large variety of essential oils in varying qualities, mostly intended for industrial uses, however. They include Ginger, Geranium, Spearmint, Cinnamon, Sassafras, Citronella, Camphor and Star anise. However, its offerings include aromatics less known among therapists, such as Magnolia bud, Dang Gui and Osmanthus; some of these are available in the form of an absolute extract as well as an essential oil. Vietnam to the south today is seeing a significant upswing in high-quality oil production, notably Cajeput, May chang, Siam wood, Lemongrass, Citronella and Cassia bark and leaf.

### *North America*

Although not major centres of essential oil production, Canada and the US do offer some oils important for clinical use. Artisan distillers in Quebec produce a variety of valuable conifer oils, including Black spruce, Hemlock spruce, Scotch pine, White pine and Balsam fir. Traditional Lavender, Peppermint and Spearmint production in the Pacific Northwest is increasing steadily, while Melissa is produced in the Midwest. Almost all citrus oils produced in Florida and California are spin-offs from the citrus juice industry and are virtually reconstituted oils with limited, if any, use in a clinical setting.

## **Classifying Essential Oils from an Integrated Perspective**

Every evolved system of traditional medicine has faced the challenges of describing and classifying the diversity of natural remedies, and their solutions can be seen in countless herbal textbooks, pharmacopeias and botanical texts worldwide. With the emergence of a new materia medica of aromatics, we are faced once again with the problem of reconciling comprehensiveness with detail and accuracy with practicality. However, it seems that the solutions to this challenge that once served practitioners in the past are insufficient for meeting the requirements of the postmodern practitioner today.

As we strive for integration in a cultural context and wholeness as individuals, it appears relevant today to develop a classification of the aromatic remedies that remains embodied and not separate from our personal experience. The solution to the current challenge is specifically to articulate and integrate the botanical context of the oil plants (based on their biomes) with information on their essential oils (fragrance qualities, constituents and therapeutic functions). In this way, classification itself remains connected to the earth, the source of the plant remedies, as well as connected to our direct sensory experience through the sense of smell – the organoleptic approach. The large variety of aromatic plants can then literally begin to make ‘sense’: their fragrance qualities, even their colour and appearance, can tell us much about their nature and functions as aromatic remedies. In both ways then, this classification remains truly embodied and grounded. In so doing, it also honors the gifts of the Earth’s natural richness, abundance and infinite variety. We may call this a truly integrated scientific approach.

In addition, connecting with and learning about the aromatic plants directly with our senses, and with smell in particular, provides the clinical advantage of exercising our senses for the purpose of patient diagnosis. It can hone our ability to diagnose from signs alone, not from symptoms – important in Five Element constitutional acupuncture, for instance. The very practice of exercising our olfactory sense will also stimulate odour perception and prove beneficial for those with a poor or lost sense of smell. Because essential oils encapsulate the very essence of a plant’s aroma, they are ideal vehicles for completing the symbiotic feedback loop between learning about aromatic plants and enhancing olfactory discernment.

A strictly botanical classification of the essential oil plants, while useful in the botanical sciences, in itself fails to provide either the depth or perspective that is needed to obtain a real understanding of the nature of the many plant families that yield essential oils. More is needed today than the approach of analytical botany. Only by placing the aromatic plants in the context of the Earth’s actual physical biomes, i.e. their climatic and geographic context, is it truly possible to see the larger organic patterns of life that are involved. Connecting the plants with their original environment will then give us the large perspective needed to understand their broad functions and uses as remedies for treatment. Once the broad strokes of this general overview are understood, the specific variations of the individual oils can then be appreciated.

Nor does a simple botanical classification of the essential oil plants provide the crucial link to our sense perceptions that is needed to make this an organoleptically integrated approach. By combining the botanical families with their perceived sensory fragrance, we arrive at a picture of the essential oils that relates information to experience and knowledge with sense perception. This important link that ensures understanding and retention of the information is further strengthened by noting the

dominant constituents seen in different plant families and species – constituents that are usually responsible for their fragrance quality.

Chart 1 shows, for instance, that aromatic conifer trees (the *Pinaceae*) represent a large and varied spectrum of essential oil sources within temperate biomes. Found in various temperate forests, they divide into four basic types: conifer needles, woods, twigs and berries. The needle oils in turn divide into five main types or genres: the spruces, pines, firs, Douglas firs and hemlock spruces. As a whole, however, this group of needle oils possess fresh-pungent-woody fragrance qualities, monoterpene dominance, and an affinity for respiratory, urinary and adrenal functions. In general therefore, they are revitalizing, stimulating and detoxifying, and are essentially indicated for weak, cold and damp conditions, including when these present an infectious component.

Essential oils in the grass or *Poaceae* family divide into grass oils from the *Cymbopogon* species (e.g. Lemongrass, Palmarosa, etc.) and a single root oil, Vetiver in the *Vetiveria* species. The grass oils are predominantly either rosy-sweet or green-lemony in fragrance, and their dominant constituents are monoterpenols. The root oil Vetiver, however, is rooty-woody in aromatic quality and is high in sesquiterpenes.

The fragrance quality and dominant constituent of an oil group therefore links back to its botanical source, and also points forward to its clinical functions by means of the system of fragrance energetics. So the sweet fragrance quality of Palmarosa grass oil, for instance, is not only typical of a grass oil in general, but it also tells us about its potential for restoring, relaxing, cooling, decongesting, etc.

Approaching herbal and aromatic remedies in this sense-connected way has a long history. It is the basic approach for all vitalistic systems of medicine, i.e. virtually all systems of traditional medicine except for modern Western medicine. In the 1680s, John Floyer pioneered this approach with nice originality on the subject of English plants in *Pharmako-Basanos* or *The Touchstones of Medicines*, a landmark text in Western herbal medicine.

Clearly, a systemic, integrated approach to surveying and classifying essential oils used therapeutically is what is currently needed. This helps solve the traditional dilemma of how to reconcile comprehensiveness with detail of information on each remedy, as well as accuracy and practicality. Basing a new organization of the oils on climatic and geographic biomes allows not only integration of our sensory experience of the oils with their physical source, but also integration of this experience with their known therapeutic properties.

## Essential Oils of Temperate Biomes

Botanic and geographic source	Essential oils	Fragrance qualities and constituents	Essential tropism	Essential functions and indications
<ul style="list-style-type: none"> <li><b>Conifer needles</b> <i>Pinaceae</i></li> <li>Boreal forests of Siberia, the Balkans, Austria, Switzerland, France, Canada, North America, East Asia</li> </ul>	<ul style="list-style-type: none"> <li>Spruce oils from <i>Picea</i> species: Black/White/Sitka/Norway/Red spruce</li> <li>Pine oils from <i>Pinus</i> species: Scotch/Swiss/Dwarf/Sea/Mountain/Black/White/Norway/Jack/Korean/Yunnan pine</li> <li>Fir oils from <i>Abies</i> species: Siberian/Grand/Silver/Balsam/Nordman</li> <li>Douglas fir from <i>Pseudotsuga menziesii</i></li> <li>Hemlock spruce from <i>Tsuga canadensis</i></li> </ul>	<ul style="list-style-type: none"> <li>Fresh-pungent-woody</li> <li>Monoterpenes (alpha and beta pinenes, delta-3 carene, etc.)</li> </ul>	Lungs, adrenal cortex, kidneys, bladder	<ul style="list-style-type: none"> <li>Revitalizing, strengthening, stimulating, detoxifying, drying, potentially warming</li> <li>Stabilizes and restores energy, and raises it to the head</li> <li>For weak conditions with cold or damp, simple or infectious</li> </ul>
<ul style="list-style-type: none"> <li><b>Conifer woods</b> <i>Pinaceae</i></li> <li>Montane forests of most temperate regions</li> </ul>	<ul style="list-style-type: none"> <li>Cedarwood oils from <i>Cedrus</i> species: Atlas/Himalaya/Lebanon cedarwood</li> <li>Siam wood from <i>Fokienia hodginsii</i></li> <li>Blue cypress and Emerald cypress from <i>Callitris</i> spp.</li> <li>Himoki from <i>Chamaecyparis obtusa</i></li> <li>Virginia cedarwood from <i>Juniperus virginiana</i></li> </ul>	<ul style="list-style-type: none"> <li>Sweet-woody</li> <li>Sesquiterpenes</li> </ul>	Lungs, kidneys, bladder, blood and lymphatic circulation	<ul style="list-style-type: none"> <li>Strengthening, decongesting, relaxing</li> <li>Stabilizes and relaxes energy</li> <li>For weak, damp and tense conditions</li> </ul>
<ul style="list-style-type: none"> <li><b>Conifer twigs</b> <i>Cupressaceae</i></li> <li>Montane forests of most temperate regions</li> </ul>	<ul style="list-style-type: none"> <li>Cypress oils from <i>Cupressaceae</i> species: Cypress (Mediterranean), Madagascar cypress</li> <li>White cedar oil from <i>Thuja</i> species</li> </ul>	<ul style="list-style-type: none"> <li>Fresh-pungent-woody</li> <li>Monoterpenes</li> </ul>	Lungs, kidneys, bladder, uterus, blood and lymphatic circulation	<ul style="list-style-type: none"> <li>Stimulating, decongesting, detoxifying, drying</li> <li>Stabilizes and restores energy</li> <li>For weak and damp conditions</li> </ul>
<ul style="list-style-type: none"> <li><b>Conifer berries</b> <i>Cupressaceae</i></li> <li>Montane forests of Europe and Asia</li> </ul>	<ul style="list-style-type: none"> <li>Juniper berry oils from <i>Juniperus</i> species: Juniper, Mountain juniper, Cade, Nepal juniper, Phoenicia juniper</li> </ul>	<ul style="list-style-type: none"> <li>Fresh-pungent-woody</li> <li>Monoterpenes</li> </ul>	Kidneys, bladder, uterus	<ul style="list-style-type: none"> <li>Stimulating, decongesting, detoxifying, potentially warming</li> <li>Stabilizes and restores energy</li> <li>For weak, damp and cold conditions</li> </ul>
<ul style="list-style-type: none"> <li><b>Daisy family herbs</b> <i>Asteraceae</i> (<i>Compositae</i>)</li> <li>Grasslands of Europe, Madagascar</li> </ul>	<ul style="list-style-type: none"> <li>German chamomile, Roman chamomile, Blue tansy, Yarrow, Wild chamomile, Helichrysum, Tarragon, Tree wormwood, Male/Female helichrysum, St. John's wort, Cape chamomile, Cape snowbush</li> </ul>	<ul style="list-style-type: none"> <li>Sweet-green</li> <li>Sesquiterpenes, esters</li> </ul>	Nervous, digestive, urogenital systems	<ul style="list-style-type: none"> <li>Relaxing, calming, potentially cooling</li> <li>Regulates and circulates energy</li> <li>For tense conditions tending to heat</li> </ul>
<ul style="list-style-type: none"> <li><b>Carrot family roots</b> <i>Apiaceae</i> (<i>Umbelliferae</i>)</li> <li>Grasslands and forests of Europe, Asia</li> </ul>	<ul style="list-style-type: none"> <li>Angelica root, Lovage root, Dong quai root, Parsnip</li> </ul>	<ul style="list-style-type: none"> <li>Rooty</li> </ul>	Nervous, digestive, urogenital systems	<ul style="list-style-type: none"> <li>Stimulating, potentially warming</li> <li>Grounds and stabilizes energy</li> <li>For weak conditions</li> </ul>

<ul style="list-style-type: none"> <li>• <b>Carrot family seeds</b> <i>Apiaceae</i> (<i>Umbelliferae</i>)</li> <li>• Grasslands and forests of Europe</li> </ul>	<ul style="list-style-type: none"> <li>• Fennel (sweet/bitter), Aniseed, Coriander seed, Carrot, Celery, Parsley, Angelica seed, Cummin, Caraway, Dill, Khella</li> </ul>	<ul style="list-style-type: none"> <li>• Spicy-pungent-sweet</li> </ul>	Digestive tract, kidneys, bladder	<ul style="list-style-type: none"> <li>• Stimulating, somewhat warming</li> <li>• For circulating and moving energy</li> <li>• For all forms of energy stagnation</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Miscellaneous roots and leaves</b></li> <li>• Forests, especially Nepal</li> </ul>	<ul style="list-style-type: none"> <li>• Root oils in <i>Valerianaceae</i> family: Spikenard, Nepal valerian, European valerian</li> <li>• Nutsedge</li> <li>• Wintergreen, Rhododendron</li> </ul>	<ul style="list-style-type: none"> <li>• Rooty</li> <li>• Sesquiterpenes, misc. others</li> </ul>	Misc. organ systems, esp. cardiovascular, nervous	<ul style="list-style-type: none"> <li>• Cooling, calming, relaxing</li> <li>• For sinking and grounding energy</li> <li>• For hot and tense conditions</li> </ul>

## Essential Oils of Mediterranean Biomes

Botanic and geographic source	Essential oils	Fragrance qualities and constituents	Essential tropism	Essential functions and indications
<ul style="list-style-type: none"> <li>• <b>Lipflower herbs</b> <i>Lamiaceae (Labiatae)</i></li> <li>• Grasslands and mountains of Mediterranean Europe and the Middle East</li> </ul>	<p><b>Sweet-green types:</b></p> <ul style="list-style-type: none"> <li>• Lavender oils from <i>Lavandula angustifolia</i> &amp; hybrids: Lavender, Lavandin, Dalmatia lavender</li> <li>• Clary sage</li> <li>• Thyme ct. linalool/thujanol/geraniol</li> <li>• Basil ct. linalool oils from <i>Ocimum</i> species: Sweet/Hoary basil</li> </ul> <p><b>Pungent-sweet-green types:</b></p> <ul style="list-style-type: none"> <li>• Mint oils from <i>Mentha</i> species: Peppermint, Spearmint, Commint, Catmint</li> <li>• Sage oils from <i>Salvia</i> species: Sage, Greek/Lavender/White/Black/Hummingbird sage</li> <li>• Hyssop, Hyssop var. <i>decumbens</i></li> <li>• Rosemary ct. verbenone</li> <li>• Basil ct. chavicol</li> </ul> <p><b>Fresh-pungent types:</b></p> <ul style="list-style-type: none"> <li>• Rosemary oils from <i>Rosmarinus</i> chemotypes: Rosemary ct. cineole/camphor</li> <li>• Marjoram, Spike lavender, Spanish lavender</li> </ul> <p><b>Acrid-pungent types:</b></p> <ul style="list-style-type: none"> <li>• Thyme oils from <i>Thymus vulgaris</i> &amp; spp. chemotypes: Thyme ct. thymol/carvacrol/borneol/cineole</li> <li>• Thyme oils from <i>Thymus</i> species: Wild/Cretan/Mastic/Spiked/Spanish sauce/Caraway/Lemon thyme</li> <li>• Oregano oils from <i>Origanum</i> species: Wild/Compact/Wavering/Cretan/Greek/Moroccan/Lavender oregano</li> <li>• Savory oils from <i>Satureia</i> species: Winter/Summer savory</li> <li>• Basil ct. eugenol oils from <i>Ocimum</i> species: Holy/Tree/Bush/Large-leaf basil</li> </ul> <p><b>Miscellaneous other types:</b></p> <ul style="list-style-type: none"> <li>• Patchouli: sweet-woody type</li> <li>• Melissa: green-lemony type</li> <li>• Bee balm oils from <i>Monarda</i> species: Wild bergamot, Oswego tea, Lemon bergamot</li> </ul>	<ul style="list-style-type: none"> <li>• Sweet-green</li> <li>• Monoterpenols, esters</li> <li>• Pungent-sweet-green</li> <li>• Ketones, monoterpenols</li> <li>• Phenolic ethers</li> <li>• Fresh-pungent</li> <li>• Monoterpenes, 1,8 cineole</li> <li>• Acrid-pungent</li> <li>• Phenols</li> <li>• Sesquiterpenes</li> <li>• Aldehydes</li> <li>• Linalool, geraniol, carvacrol, etc.</li> </ul>	<p>All organs and body systems, especially neuroendocrine, respiratory, digestive, urogenital</p>	<p><b>Most possess good anti-infective actions</b></p> <ul style="list-style-type: none"> <li>• Relaxing, restoring, regulating</li> <li>• For restoring and relaxing energy</li> <li>• For dysregulation and tense-weak conditions</li> <li>• Stimulating, relaxing</li> <li>• For moving and relaxing energy</li> <li>• For energy stagnation resulting from any pathogenic condition</li> <li>• Revitalizing, stimulating, warming</li> <li>• For raising energy</li> <li>• For weak, cold or damp conditions</li> <li>• Warming, stimulating, drying</li> <li>• For restoring energy</li> <li>• For cold and weak conditions</li> <li>• Restoring, relaxing, stabilizing energy, etc.</li> <li>• Relaxing, cooling, decongesting, etc.</li> <li>• Misc. actions and indications</li> </ul>

<ul style="list-style-type: none"> <li>• <b>Myrtle family leaves</b> <i>Myrtaceae</i></li> <li>• Moist woodlands of Mediterranean Europe; subtropical moist broad-leaf woods and forests of Australia, China, Brazil</li> </ul>	<ul style="list-style-type: none"> <li>• Eucalyptus oils from <i>Eucalyptus</i> species:</li> <li>• <b>Fresh-pungent types:</b> Blue gum, Narrow leaf, River red gum, Blue-leaf mallee, Green-leaf mallee, Gully gum, Woolly-butt, Forest red gum</li> <li>• <b>Peppermint-scented types:</b> Broad-leaf peppermint, Peppermint, Grey peppermint</li> <li>• <b>Lemon-scented types:</b> Lemon-scented eucalyptus, Lemon-scented ironbark</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh-pungent</li> <li>• 1,8 cineole</li> <li>• Spicy-pungent</li> <li>• Piperitone</li> <li>• Sweet-lemony</li> <li>• Citronellal, citral</li> </ul>	<p>Lungs, kidneys, bladder, digestive organs</p>	<p><b>Most myrtle and laurel family oils possess good anti-infective actions</b></p> <ul style="list-style-type: none"> <li>• Revitalizing, stimulating, drying</li> <li>• Restores energy and raises it to the head</li> <li>• For weak conditions, especially cerebral deficiency</li> <li>• Cooling, pain-relieving, decongesting</li> <li>• For dispersing energy; for hot conditions</li> </ul>
<ul style="list-style-type: none"> <li>• Tea tree oils from <i>Melaleuca</i> species:</li> <li>• <b>Sweet types:</b> Nerolina, Rosalina, Narrow-leaf tea tree, Madagascar niaouli</li> <li>• <b>Fresh-camphoraceous types:</b> Tea tree, Capeput, Niaouli</li> <li>• <b>Fresh-lemony types</b> from miscellaneous species: Lemon-scented tea tree, Citronella tea tree, Lemon myrtle, Manuka</li> <li>• <b>Spicy-warm types:</b> Weeping tea tree, Black tea tree</li> <li>• Pimenta oils from <i>Pimenta</i> species: Pimenta leaf/berry, Bay rum leaf/berry</li> <li>• Clove oils from <i>Syzygium aromaticum</i>: Clove leaf/stem/bud</li> <li>• Myrtle oils from <i>Myrtus communis</i> subspecies: Green myrtle, Red myrtle</li> </ul>	<ul style="list-style-type: none"> <li>• Sweet</li> <li>• Monoterpenols</li> <li>• Fresh-pungent</li> <li>• 1,8 cineole</li> <li>• Lemony</li> <li>• Citronellal, citral</li> <li>• Spicy-pungent</li> <li>• Eugenol</li> <li>• Fresh-pungent</li> <li>• 1,8 cineole</li> </ul>	<p>Misc. organ systems, but especially respiratory system</p>	<ul style="list-style-type: none"> <li>• Restoring, relaxing; for weak-tense cds.</li> <li>• To restore and move energy</li> <li>• Revitalizing, stimulating, drying, etc.</li> <li>• Cooling, pain-relieving, decongesting</li> <li>• For hot and tense conditions</li> <li>• Stimulating, warming</li> <li>• For restoring and moving energy</li> <li>• For weak and cold conditions</li> <li>• Revitalizing, stimulating, drying</li> <li>• For restoring and raising energy, etc.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Laurel family leaves</b> <i>Lauraceae</i></li> <li>• Coastal and montane Mediterranean and subtropical Asian regions</li> </ul>	<ul style="list-style-type: none"> <li>• Laurel</li> <li>• Camphor oils from <i>Cinnamomum camphora</i> ctt.:</li> <li>• Ravintsara, Camphor</li> <li>• Saro in <i>Canellaceae</i> family</li> <li>• May chang</li> <li>• Cinnamon leaf and bark oils from <i>Cinnamomum</i> spp:</li> <li>• Cinnamon, Cassia cinnamon, Padang cassia</li> <li>• Rosewood from <i>Aniba roseodora/Dalbergia</i> spp.</li> </ul>	<p>Extremely varied fragrance qualities and constituents</p>	<ul style="list-style-type: none"> <li>• Revitalizing, stimulating, drying</li> <li>• For restoring and raising energy, etc.</li> <li>• Cooling, relaxing, etc.</li> <li>• Warming, stimulating, etc.</li> <li>• Restoring, regulating, etc.</li> </ul>	

Botanic and geographic source	Essential oils	Fragrance qualities and constituents	Essential tropism	Essential functions and indications
<ul style="list-style-type: none"> <li>• <b>Citrus rinds</b> <i>Rutaceae</i></li> <li>• Grasslands of the Mediterranean, South Africa, South America</li> </ul>	<ul style="list-style-type: none"> <li>• Citrus rind oils from <i>Citrus</i> species: <b>Fresh-citrus types:</b> Lemon, Grapefruit, Bergamot, Lime, Yuzu</li> <li>• <b>Sweet-citrus types:</b> Mandarin, Clementine, Tangerine, Sweet/bitter/Blood orange</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh-lemony</li> <li>• Monoterpenes</li> <li>• Sweet-lemony</li> <li>• Esters</li> </ul>	Nervous, vascular systems	<ul style="list-style-type: none"> <li>• Stimulating, decongesting, detoxifying</li> <li>• For dispersing and raising energy</li> <li>• For congestive, toxicosis conditions</li> <li>• Regulating, restoring</li> <li>• For regulating and circulating energy</li> <li>• For dysregulation conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Citrus leaves</b> <i>Rutaceae</i></li> <li>• Mediterranean-type grasslands</li> </ul>	<ul style="list-style-type: none"> <li>• Citrus leaf oils from <i>Citrus</i> species: Petrigrain bigarade, Mandarin/Lemon/Combava petigrain</li> <li>• Buchu</li> </ul>	<ul style="list-style-type: none"> <li>• Spicy-citrus</li> <li>• Monoterpenols, esters</li> </ul>	Nervous, vascular systems	<ul style="list-style-type: none"> <li>• Regulating, relaxing</li> <li>• For regulating and circulating energy</li> <li>• For dysregulation and tense conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Citrus flowers</b> <i>Rutaceae</i></li> <li>• Semi-arid N. Africa</li> </ul>	<ul style="list-style-type: none"> <li>• Neroli, Neroli Portugal</li> </ul>	<ul style="list-style-type: none"> <li>• Floral-sweet</li> <li>• Monoterpenols</li> </ul>	Nervous, cardiovascular systems	<ul style="list-style-type: none"> <li>• Relaxing, restoring</li> <li>• For circulating and moving energy</li> <li>• For tense and tense-weak conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Citrus family woods</b> <i>Rutaceae</i></li> <li>• Misc. regions</li> </ul>	<ul style="list-style-type: none"> <li>• Amyris, Sugandh kokila</li> </ul>	<ul style="list-style-type: none"> <li>• Sweet-woody</li> <li>• Sesquiterpenols</li> </ul>	Nervous system	<ul style="list-style-type: none"> <li>• Relaxing, strengthening</li> <li>• For circulating and stabilizing energy</li> <li>• For tense and weak conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Rose flowers</b> <i>Rosaceae</i></li> <li>• East Mediterranean grasslands and semi-arid deserts of Bulgaria, Turkey, Morocco, Iran</li> </ul>	<ul style="list-style-type: none"> <li>• Rose oils from <i>Rosaceae</i> species: Damask/May/French/Tea/Musk/Chinese rose</li> </ul>	<ul style="list-style-type: none"> <li>• Rosy-sweet</li> <li>• Monoterpenols</li> </ul>	Liver, heart, reproductive organs	<ul style="list-style-type: none"> <li>• Regulating, harmonizing, restoring</li> <li>• For regulating and circulating energy</li> <li>• For all forms of dysregulated and stagnant conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Miscellaneous others</b></li> </ul>	<ul style="list-style-type: none"> <li>• Lemon verbena, Zinziba, Cistus, Pistachio, Nigella, Zdravetz, Prickly ash berry/leaf</li> </ul>	<ul style="list-style-type: none"> <li>• Misc. qualities and constituents</li> </ul>	Misc. organs	<ul style="list-style-type: none"> <li>• Misc. functions and indications</li> </ul>

## Essential Oils of Tropical and Subtropical Biomes

Botanic and geographic source	Essential oils	Fragrance qualities and constituents	Essential tropism	Essential functions and indications
<ul style="list-style-type: none"> <li>• <b>Pantropical grasses</b> <i>Poaceae (Gramineae)</i></li> <li>• Humid regions of Southeast Asia and Indian Ocean</li> </ul>	<ul style="list-style-type: none"> <li>• Grass oils from <i>Cymbopogon</i> species: Palmarosa, Lemongrass, Gingergrass, Citronella, African bluegrass</li> </ul>	<ul style="list-style-type: none"> <li>• Rosy-sweet, green-lemony</li> <li>• Monoterpenols</li> </ul>	Neuromuscular, cardiovascular, digestive, lymphatic systems	<ul style="list-style-type: none"> <li>• Relaxing, cooling, decongesting, detoxifying</li> <li>• Disperses energy</li> <li>• For tense, hot and damp conditions, simple or infectious</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Pantropical root</b> <i>Poaceae (Gramineae)</i></li> <li>• Humid regions of South Asia</li> </ul>	<ul style="list-style-type: none"> <li>• Vetiver</li> </ul>	<ul style="list-style-type: none"> <li>• Roopy, woody</li> <li>• Sesquiterpenes</li> </ul>	Neuroendocrine, digestive systems	<ul style="list-style-type: none"> <li>• Cooling, calming, restoring, regulating</li> <li>• Grounds and stabilizes energy</li> <li>• For hot and weak conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Geranium herbs</b> <i>Geraniaceae</i></li> <li>• Humid regions of South Africa, Indian Ocean, North Africa</li> </ul>	<ul style="list-style-type: none"> <li>• Geranium oils from <i>Pelargonium</i> species and varieties: Rose geranium</li> <li>• Zdravetz</li> </ul>	<ul style="list-style-type: none"> <li>• Rosy-sweet</li> <li>• Monoterpenols</li> </ul>	Neuroendocrine and reproductive systems, liver, pancreas	<ul style="list-style-type: none"> <li>• Regulating, restoring, decongesting</li> <li>• Regulates and restores energy</li> <li>• For dysregulated and weak conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Tropical roots and fruits</b> <i>Zingiberaceae</i></li> <li>• Southeast Asia</li> </ul>	<ul style="list-style-type: none"> <li>• Ginger oils from <i>Zingiber</i> species: <b>Root oils:</b> Ginger, Turmeric, Galanga, Plai <b>Fruit oil:</b> Cardamom</li> </ul>	<ul style="list-style-type: none"> <li>• Spicy-pungent</li> <li>• Sesquiterpenes, monoterpenes</li> </ul>	Respiratory, digestive, reproductive systems	<ul style="list-style-type: none"> <li>• Stimulating, warming, drying</li> <li>• Restores and moves energy</li> <li>• For cold conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Misc. berries</b> <i>Piperaceae</i>, <i>Myristicaceae</i></li> <li>• Southeast Asia</li> </ul>	<ul style="list-style-type: none"> <li>• Pepper oils from <i>Piper</i> species: Black pepper, Cubeb pepper</li> <li>• Nutmeg oils from <i>Myristica</i> species: Nutmeg, Mace</li> </ul>	<ul style="list-style-type: none"> <li>• Spicy-pungent</li> <li>• Monoterpenes</li> </ul>	Lungs, kidneys, bladder, uterus	<ul style="list-style-type: none"> <li>• Stimulating, decongesting, detoxifying, potentially warming</li> <li>• Restores and moves energy</li> <li>• For weak, damp and cold conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Miscellaneous flowers</b></li> <li>• South and Southeast Asia, North Africa</li> </ul>	<ul style="list-style-type: none"> <li>• Ylang ylang, Jasmine, Jasmine sambac, Tuberose, Champaca, Kewda, Osmanthus, Coffee flower, Karo karounde</li> </ul>	<ul style="list-style-type: none"> <li>• Floral-sweet</li> </ul>	Neuroendocrine system	<ul style="list-style-type: none"> <li>• Euphoric</li> <li>• Suspends and protects energy</li> <li>• For shock, trauma and intense emotions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Miscellaneous resins</b></li> <li>• Arid desert regions</li> </ul>	<ul style="list-style-type: none"> <li>• Frankincense, Myrrh, Elemi, Galbanum, Asafoetida, Copaiba, Cabreuva, Copahu</li> </ul>	<ul style="list-style-type: none"> <li>• Woody, pungent</li> <li>• Miscellaneous constituents</li> </ul>	Nervous, respiratory, mucosal system	<ul style="list-style-type: none"> <li>• Restoring, drying</li> <li>• Stabilizes and consolidates energy</li> <li>• For weak and damp conditions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Misc. barks and woods</b></li> <li>• Misc. regions</li> </ul>	<ul style="list-style-type: none"> <li>• Sandalwood oils from <i>Santalum</i> species: India/West Australia/New Caledonia/Hawaii sandalwood</li> <li>• Cinnamon, Camphor, Palo santo</li> </ul>	<ul style="list-style-type: none"> <li>• Sweet-woody</li> <li>• Sesquiterpenols, sesquiterpenes</li> </ul>	Nervous system, heart, venous and lymphatic circulation	<ul style="list-style-type: none"> <li>• Relaxing, strengthening</li> <li>• Circulates and centers energy</li> <li>• For tense, weak and damp conditions</li> </ul>

# Defining Essential Oils as Bioactive Remedies

## **The Need for Clinical Essential Oil Definitions**

This chapter poses a basic question that can be stated in various ways. In its simplest form, the question is: How do we know whether an essential oil is actually going to work in a therapeutic way? More specifically, what is it that makes an essential oil a remedy rather than just a pleasant-smelling oil? Ultimately, the question then becomes, how do we set out to define an oil that is suitable for use as a bioactive remedy, i.e. a therapeutic agent to be used in essential oil therapy and general health care? This chapter proposes a comprehensive set of criteria to answer these difficult questions before further chapters go on to tackle consequent issues of oil safety and usage for psychological, physiological and energetic applications.

Both clinical and experimental evidence consistently show that plant essential oils do in fact possess valuable and versatile therapeutic properties. These properties have been demonstrated empirically and scientifically to affect both body and mind; they interact beneficially in particular conditions in both physiological and psychological ways. Other chapters describe the how and the why of these interactions, as well as their historical origin and context. In short, essential oils are considered bioactive (Cadéac and Meunier 1880, Franchomme and Penoel 1990, Buckle 2003, Price and Price 2007). Living tissue and living bioenergy respond to them in ways that enhance normal physiological functions, further homeostasis, promote healing and eliminate pathogens. In the context of the human psyche in both its mental and emotional aspects, essential oils generally tend to promote integration, balance and wholeness, while assisting with the resolution of neuroses or problems of a mental-emotional nature.

The need to define and determine essential oil bioactivity is fundamental. Even if the problems associated with oil identity and purity were not the huge challenges they are, essential oil therapy, like herbal medicine proper, needs to possess clinical standards for its remedies rather than industrial or scientific research standards. Its clinical effectiveness as a valid treatment modality ultimately depends on the efficacy of the tools of its trade. Regardless of the strength and accuracy of a health-care practitioner's evaluation or diagnosis, and regardless of the merits of their treatment principles and methods, the therapeutic result of these clinical skills depend entirely on the efficacy of the oils themselves. Oil effectiveness is the problematic link in the articulated chain that enlaces client diagnosis and treatment. Clearly, there is no possibility of circumventing this issue.

Practitioners using essential oils in a clinical setting are currently in a critical situation because true clinical definitions for essential oil bioactivity are generally missing at the present time. This leaves a significant void in the very validity of using essential oils as remedies and weakens the position of any therapist purporting to use them as such. To the detriment of any kind of essential oil therapy, the lack of true clinical criteria has by default invited industrial scientific standards to fill the current void. Users of essential oils have unwittingly accepted from both the flavouring industry and pharmacognosy research an overly narrow focus on essential oil identity and purity at the expense of an equal striving for oil bioactivity. This one-sided concern has supplanted and confused the emergence of any true, authentic clinical definition. Clearly, this is an unacceptable situation from the point of view of any essential oil usage that is designed to create a therapeutic, rather than a simple aromatic effect.

What is required for the use of essential oils in a clinical context is a rubric of logical criteria that would define them as fully bioactive remedies; criteria that meet the requirements for oils of the highest possible therapeutic efficiency. In other words, a clinical definition of what constitutes an essential oil appropriate for health care needs to be created. These criteria must be elucidated by health-care practitioners themselves rather than come from commercial enterprises and research science that use essential oils as raw materials for purposes unrelated to health-care settings. The definitions required here would be specifically based on the criteria of therapeutics, not ones designed to meet scientific standards (biochemistry) or perfumery or food flavouring standards as set out by international organizations such as the ISO (International Standards Organization) and the IFRA (International Fragrance Association).

### **The Key Features of Clinical Definitions**

In seeking a definition of a clinically valuable oil from a therapeutic perspective as opposed to a perfume or flavouring industry perspective, our ultimate concern is for an oil that exhibits maximum bioactivity. In order to determine essential oil bioactivity, issues of intrinsic oil quality become paramount. The intrinsic quality of a bioactive

oil can be defined as one that possesses 100% of its original integrity from both the electrochemical and the energetic point of view. The concern goes beyond basic issues of identity and purity (or lack thereof) to another level that involves criteria of quality. While for the fragrance industry, identity and standardized purity are paramount and in fact all that are commercially required, in the context of essential oil therapy it is important to realize that they are only a part of the whole equation.

There are two specific criteria that form the basis for evaluating bioactivity in an essential oil: firstly, the quality of the plant material from which the oil is extracted; secondly, the quality of the extraction process used to produce an essential oil. Background knowledge of these two factors is therefore important in clinical work for the simple reason that the majority of essential oils produced are designed for the perfume and flavouring industries, while only a very small percentage of oils are actually produced with therapeutic applications in mind.

Unfortunately, the current lacuna in clinical oil definitions has generated confusion between essential oil purity and intrinsic quality. Purity of an oil in itself does not guarantee a high-quality, bioactive oil, one that can be given the status of a remedy. For instance, an oil can be shown to be pure but still possess poor bioactivity when used in actual treatment; this is a common occurrence.

Based on the erroneous premise that lack of adulteration automatically translates into high bioactivity, serious essential oil users have generally assumed a myopic analytical focus on the types and levels of oil chemical constituents as a way to determine bioactivity. Specifically, they have allowed gas chromatography (GC) analysis to become the gold standard for extrapolating oil bioactivity. The problematic assumption here is that the structure-function link, based on an oil's chemical profile, is seen as the ultimate, reliable indicator of its purity and therefore potency. In so doing, essential oil users have tended to ignore the weight of documentary evidence provided by certificates of authenticity and organic production status, not to mention the evidence of simple empirical tests such as colour densitometry, optical polarity and rotation. Even the time-tested, basic sensory method of organoleptic examination of an oil's odour and the colour of its liquor has become marginalized – a paradoxical fact, considering the general developmental thrust of true aromatherapy as a refining of the sense of smell to achieve true integration among the senses (Rhind 2014). Instead, there is now an exclusive, abstract focus on an oil as a chemical product in isolation rather than an inclusive acceptance of a wider realistic perspective: that of an oil as the end-result of real-time, physically-based agricultural production and mechanical extraction. This limited perspective in turn has reinforced the deep dependence on pharmacognosy and its parent industries to the virtual exclusion of any qualitative or energetic criteria.

It is proposed that for clinical work, the criteria of oil identity and purity simply need to be placed in a broader context – the context of the two specific criteria above, the quality of the plant material and the extraction process. This can only be

obtained through a deepened understanding of essential oil production in relation to ecology and technology. The resultant four criteria (discussed below) can then provide a complete picture of potential oil bioactivity.

### **The Four Clinical Criteria for a Bioactive Essential Oil**

A bioactive essential oil can be defined as one that meets the following four criteria:

1. Biological identity
2. Purity
3. Integrity of the oil's source plant material
4. Integrity of the oil's extraction process

The first two criteria were originally (and somewhat confusingly) called 'genuineness' and 'authenticity' by French artisan distiller Henri Viaud. They concern the essential oil itself, whose identity and purity can usually be physically and scientifically substantiated. Criteria three and four concern the oil's original plant material and its extraction process as a means of establishing its therapeutic quality; these two aspects can largely be ascertained only by applying criteria of quality rather than quantity.

It is important to realize that from a clinical point of view all four criteria are equally relevant in creating the total equation of a bioactive aromatic remedy. Together these four factors constitute a true clinical or clinician's definition, one that goes beyond the abstraction of an essential oil in isolation.

It is interesting to note that, when it comes to defining the identity, purity and integrity of plant materials and production, there is a significant difference between crude herbs and essential oils. Where herbal remedies are concerned, these issues are relatively straightforward as there is little or no difference between the source plant material and the finished raw herbal product: they are essentially one and the same thing. In contrast, in the case of essential oils, these issues become highly complex, as just noted, involving as they do more complex issues that arise from the very nature of the various industries involved. It is the responsibility of end-users in a health-care setting to obtain the information needed to determine whether a particular oil can qualify as a fully-fledged remedy.

### **The First Criterium: Biological Identity**

An essential oil should be accurately defined in terms of its botanic and geographic source. This is the first basic requirement for an oil to qualify as a remedy rather than a fragrance material. A practitioner must be fully confident of an oil's actual identity in order to put it to therapeutic use.

An oil should be extracted from a plant that is botanically identified, plant-part specific and traceable to a certain geographical region. These three criteria together are what in Europe is sometimes called a 'genuine' oil. Although an oil's sensory characteristics of odour, colour and consistency will often give us sufficient information about these three criteria, it should also be shown through appropriate labelling and associated documentation to fulfill these purported criteria. A certificate of authenticity provided by the producer should contain this information and include, most importantly, both the oil's analytic physical data (specific gravity, refractive index and optical rotation) and percentages of its key chemical constituents as determined by gas chromatography.

### *Botanical specificity*

This refers to a specific plant genus, species and possibly chemotype. If necessary, the botanical information may be documented with a certificate of authenticity or analysis.

### GENUS AND SPECIES

Knowing an oil's common name or even genus name often provides insufficient botanical information. An oil simply designated as 'Lavender' can refer to several different types of lavenders and for therapeutic use should be differentiated by type and species, among them:

- *Lavandula angustifolia*, Lavender, is considered the true and main type of lavender. It is especially useful for its nervous sedative, relaxant and anti-inflammatory actions. It should have a characteristic floral-sweet-herbaceous fragrance.
- *Lavandula latifolia*, Spike lavender, has restorative and stimulant actions used for atonic and asthenic conditions. Its aroma is similar to Lavender but with more pronounced fresh-pungent notes.
- *Lavandula x fragrans*, Lavandin, is a hybrid type of lavender that combines the properties of Lavender and Spike lavender. Its fragrance is similar to Lavender but with an additional mild fruity-pungent note.

Being able to differentiate both the fragrance characteristics and the clinical action of various types of lavender is clearly important in practice.

The various species of Eucalyptus oil available also present three good examples of greatly overlapping yet somewhat distinct clinical uses. This again is entirely based on specificity of genus and species.

- *Eucalyptus globulus*, Blue-gum eucalyptus, is generally preferred for lower respiratory conditions and, because of its good antibacterial and expectorant

action, especially with bacterial bronchitis present. Its fragrance is strongly fresh-camphoraceous.

- *Eucalyptus radiata*, Narrow-leaf eucalyptus, is considered more useful for upper respiratory conditions, in addition to being thought of by some practitioners a superior antiviral. The fragrance is softer than the Blue-gum type, but with higher top notes.
- *Eucalyptus camaldulensis*, River red-gum eucalyptus, is similar to the Blue-gum eucalyptus but gentler in action because of its lower cineole content and softer scent, and therefore more suitable for milder infections and for treating children in general. Its fragrance is correspondingly softer and has an additional mild woody base note.

Even Jasmine absolute can be extracted from different species whose psychological effects, are quite distinct:

- *Jasminum grandiflorum* is the well-known Arabian jasmine, sweet and ambric in fragrance; it is euphoric, warm and emotionally nourishing and uplifting, and is often used in treating depression.
- *Jasminum sambac*, with its sweet, green notes is more relaxing, cooling and emotionally centring.

Other important oils where several different species exist include *Abies*, the firs; *Picea*, the spruces; *Melaleuca*, the melaleucas; and *Salvia*, the sages. For differentiations of these, see the profiles themselves.

#### CHEMOTYPE

In very few cases, essential oil plants will express themselves in several different chemotypes, or chemical dominance, usually written ct. or CT. Notable examples would be *Ocimum* (basil), *Thymus* (thyme) and *Melaleuca* (tea tree). Here the oil's dominant type of constituent will largely colour its general therapeutic character.

- *Thymus* ct. *linalool*, Thyme linalool, has linalool as chief component, is completely non-irritant to the skin and has an excellent antifungal action. Its fragrance complex consists mainly of rich sweet-herbaceous notes.
- *Thymus* ct. *thymol*, Thyme thymol, in contrast, with its high percentage of the phenol thymol, is strongly skin-irritant and has better broad antibacterial and immunostimulant actions. Its typical fragrance is strongly herbaceous-spicy.

Clearly, it is important for accurate treatment to be able to identify the right type of Thyme oil among the several types available.

Only a minority of oil plants develop chemotypes, and most possess just a small number of them. Ravintsara (*Cinnamomum camphora* ct. *cineol*), is a good example. The

genus is *Cinnamomum*, the species is *camphora* and the chemotype is *cineol*. In this oil, cineol is the dominant component, evidenced in its fresh-pungent scent. Ho wood oil, in contrast, is *Cinnamomum camphora* ct. *linalool*; its fragrance is strongly rosy sweet, somewhat similar to Rosewood. Most essential oils, however, only possess a single chemical dominance, thus making chemotyping unnecessary.

### *Plant part specificity*

Every essential oil remedy is derived from a particular part of a plant, whether leaf, herb, fruit, wood, root, and so on. This also contributes to an oil's identity. In some cases this may tell us whether the correct part was used to distill the oil in the first place. Each part of a plant yields a somewhat different scented oil with a somewhat different chemistry, as well as energetic properties, and lends itself to particular treatment applications. This principle of botanical specificity is no different than is found in the materia medicas of Western, Chinese or Ayurvedic herbal medicine.

Plants that yield several different oils, each extracted from different parts, include Clove (bud/leaf), Cypress (twig/cone), Juniper (berry/twig), Laurel (leaf/berry), Coriander (seed/leaf), Cinnamon (bark/leaf), Angelica (root/seed), Pimenta (berry/leaf) and Lovage (root/herb). Each of these particular extractions has a typical profile of fragrance and constituents, and will emphasize a particular action and clinical usage. For example, Cinnamon bark oil with its high level of cinnamaldehyde possesses a typical fine, powdery sweet-woody aroma; used internally, it is essentially a warming stimulant for treating cold, asthenic conditions. Cinnamon leaf oil, in contrast, includes a fresh-pungent, clove-like note with its extremely high levels of eugenol; its use is mainly for treating infections and pain conditions because of its anti-infective and analgesic properties.

### *Geographical specificity*

Each essential oil remedy is produced from a plant of a specific bioregion. It is both interesting and informative to know where and when the plant was collected and its oil extracted. Each oil should be geographically traceable. Its origin can tell us much about the type of quality and scent of an oil – as well as, in a few cases, the circumstantial chances of it being adulterated. Many of us also have actual preferences or natural affinities for oils from certain countries and regions, often based on our own cultural heritage. Currently, Lavender oil is available in significant quantities from at least six different countries, including Bulgaria, France, England, South Africa, China and Tasmania. Each region produces fine examples of this oil, but which are subtly different because of geographic and climatic variations. These variations will condition or modulate the plant's genetic material through up- or down-regulation. In the sensory terms of fragrance, some lavenders are more green, herbaceous; others more sweet, floral or even powdery; others more pungent; others more woody, and so

on. Likewise, they vary slightly in their proportion of chemical components (although rarely in tandem with their variations in aroma). Fragrance and chemistry both allow us to select which ones are preferred or needed for clinical use.

Vetiver oil is a good example of an oil produced in an amazing range of aromas and colors, being extracted variously in Indonesia, Madagascar, India and Haiti. Some are deep-smoky in their earthy, rooty quality, while others are more lyrical with sweet-wood and pungent notes, and others again have lush, musty-green notes. All types of Vetiver have their potential place and purpose in practice, especially in the context of psychological applications.

### **The Second Criterium: Purity**

As the second clinical definition of a bioactive essential oil, purity is more descriptive than the term 'authentic' still sometimes used in Europe. A practitioner clearly needs to know with certainty that an oil is completely pure and unaltered if he is to obtain the desired therapeutic results. Purity is defined by whether an oil in the dispensing bottle is exactly the same oil that was originally distilled by the producer. A pure oil is one that has not changed in any way through natural alteration, nor been altered by any artificial means. This can again be determined largely by a combination of organoleptic inspection of odour, colour and consistency, and a report of the oil's analytic physical and chemical data, all of which should be provided by the oil producer as part of its accompanying paperwork.

A pure aromatic remedy is a whole, complete oil rather than a fragrance material. A plant's original therapeutic intention or evolutionary design as a species will express itself as a particular pattern of primary and secondary constituents. This unique chemical constellation is made possible by the natural integrity and synergy among its many constituents. It is ultimately responsible for its specific bioactivity and therapeutic efficacy. Any tampering with the whole balance of components will therefore automatically degrade or destroy this innate integrity, regardless of what and how many adulterants are involved.

In the common case of nature-identical addition (see below), the oil's integrity and bioactivity is further inhibited by the fact that the body's vital energy, or bioenergetic healing potential, in general cannot interpret and utilize synthetic molecules. Because our aim here is to create definitions of oil quality in a therapeutic context, any tampering with essential oils or absolutes is clearly unacceptable.

It is therefore axiomatic to say that only pure essential oils carry bioactivity, not their synthetic analogue. A scientific example is the proven restraining action of essential oils on pathogenic microorganisms. Simply stated, the ability of oils to treat infection is generally not possible with synthetic oils or isolated constituents – although the one exception would be the antiviral effect of monoterpenes, natural or synthetic, as a result of their non-selective activity. Put in simple terms, pure oils will

give and create more bioenergy, or Qi, whereas their synthetic analogue will drain or reduce bioenergy as the body tries to detoxify and eliminate something alien and unacceptable to itself, i.e., a toxin. This is the most basic premise that makes altered oils inappropriate for clinical use.

Between the essential oil producer and the ultimate consumer, in the time period it takes for an oil to pass from one to the other, an oil can be altered in two basic ways, both of which render it less than pure: by natural circumstances or by industrial intervention.

#### *Natural alteration or degradation*

Oil degradation is largely caused by poor storage conditions and sometimes unfavourable shipping methods. These speed up oil oxidation and therefore degradation, producing a flat or stale oil. Warm temperatures, exposure to sunlight and excessive headspace of air inside oil drums, canisters and bottles all promote the undesirable process of oxidation. Those oils most vulnerable to oxidation are the citrus oils, such as Lemon, Mandarin, Bergamot, Lime, Grapefruit, and so on. It is specifically their aldehydes and monoterpenes that are prone to oxidation, while their unsaturated compounds are subject to polymerization. In a worst-case scenario, these spoilage reactions can in time turn a fresh, fizzy bioactive citrus oil into a lifeless, fishy-smelling liquid. Citrus oils from Italy or South Africa, for instance, will not survive long ocean journeys to distant continents. Hydrosols or aromatic waters, too, are particularly vulnerable to high temperatures and day/night temperature fluctuations during shipping.

To prevent spoilage during the summer months, citrus oils should be refrigerated when room temperature exceeds 72°F or 22°C. Citrus oil containers should generally have as little air space in them as possible, regardless of their size, large or small. This will prevent or at least reduce these two types of spoilage reactions.

#### *Industrial falsification or adulteration*

This is by far the main reason for essential oils losing their purity, thereby making them unfit for therapeutic use. Essential oils have since recorded history been falsified or altered in order to enhance their attractiveness and saleability, and increase end-profits. Falsification is performed either by improving the fragrance of an oil (also called 'bouquetting'), or by simply increasing its volume with another liquid ('cutting' or 'stretching'). For both these reasons, falsification especially affects the most expensive oils, most of which are also desirable fragrance materials, such as the oils of Rose, Neroli, Melissa and Sandalwood, as well as absolutes such as Jasmine, Tuberose, Champaca, Violet and the like – all of which are extensively used in the perfume industry.

Today, most industrial falsification stems from the commercial need to produce chemically standardized oils as opposed to oils with minor seasonal and yearly

variations in aroma and constituents. It is estimated that about 95% of all oils available on the open market have been commercially standardized (Schnaubelt 2004). One could argue that purely from the fragrance point of view, industrial falsification may be acceptable if the oil is not designed to be used therapeutically in the first place. One may also ask, why does it really matter whether an oil is bouquetted with chemical highlights or with natural isolated highlights from other oils? The simple answer again is that for clinical use, the requirement is for bioactive oils that completely retain their original integrity both electrochemically and energetically.

A high degree of chemical sophistication goes into engineering adulterated oils, thanks to the highly developed synthetic fragrance industry. These man-made alterations are a very common, virtually routine occurrence. They usually occur in the process of oil distribution itself, and more rarely at the source of essential oil production. The more middle-men that lie between the original producer and the ultimate consumer, the higher the chance of unwanted alterations becomes.

There are three basic ways in which essential oils are commercially adulterated: addition to an oil, extraction from an oil and simulation (reconstitution) of an oil. Together, these three techniques generate an enormous number of possibilities for falsifying pure essential oils.

#### ADDITION TO AN OIL

This is the most common type of adulteration in the flavouring-fragrancing industry. For industrial requirements, an essential oil's chemical profile must be standardized in its content of typical or marker constituents. Because essential oils, like wines, are agricultural products subject to seasonal and yearly variations, they very often fail to meet the standard chemical profile required in industry. Addition of some kind therefore ensures year-round chemical consistency; the result is a standardized or bouquetted oil. The oil or other liquid substance being added is called the diluent or adulterant, and may be synthetic or natural in origin. Here the oil's inherent natural balance is lost as its synergy of major and minor constituents is disrupted, resulting in a major loss of bioactive effectiveness.

In the process of standardization, however, considerations of increased sales and profit margins will also come into play. The further aim then becomes to 'improve' its odour characteristic and increase the quantity of an oil. If, for instance, exaggerated amounts of the characteristic diluent are added to an oil in order to 'improve' its fragrance quality, this is known as a 'reinforcement' technique.

The three basic types of additions that are possible to produce standardized essential oils are nature-identical, isolate and classical addition.

**A. Nature-identical or synthetic addition.** Here a synthetic analogue or aroma chemical with the same molecular structure and fragrance character as the naturally occurring one is added to an oil. This is the most common and profitable form of oil

adulteration performed today. Essential oils and absolutes are both highly prone to the addition of synthetic aroma chemicals, and not only the most expensive oils. For instance:

- Poor-quality Lavender oil can be nicely upgraded with the addition of chemical highlights such as extra linalool and esters, including linalyl acetate, terpenyl propionate, and so on.
- Substandard Geranium oil may be ‘beautified’ with synthetic geraniol, citronellol and esters.
- Clary sage oil can be ‘improved’ with synthetic linalool, linalyl acetate, etc.
- Rose oil can have added to it such synthetic compounds as phenylethyl alcohols, diethylphthalate, citronellol, geraniol and many others.
- Neroli oil can be complemented with synthetics such as linalool, nerol, limonene, linalyl acetate, etc.
- Vetiver oil may be supplemented with synthetic caryophyllene and its derivatives.
- Conifer oils such as Cypress and Juniper berry may be boosted with additional monoterpenes.

The problem here again is that, from the therapeutic perspective, the synthetic analogue lacks bioactivity. This is especially true of constituents possessing selective activity, such as sesquiterpenes. The term ‘nature identical’ used industrially to describe these chemical additives is clearly euphemistic and misleading, because ‘identity’ is defined here only from the point of view of its measurable GC profile, not from the aspect of electrochemical bioenergy or Qi. As far as the body’s bioenergy is concerned, the synthetic analogue is more or less inert. Not only that, but introducing chemical proxies also reduces the bioactivity of most other components by inhibiting their innate synergism. It is more accurate, therefore, to define this extremely common form of oil adulteration simply as ‘synthetic addition.’

**B. Isolate addition.** This is the second most common form of adulteration performed today. Here an isolated constituent from another essential oil is added to an oil to enhance its fragrance and/or to standardize the product for commercial use in soft drinks, foods, cosmetics and perfumes. This, too, ensures consistency of a product at low cost. As with classical adulteration, this form of addition still results in a natural yet highly unauthentic product. Natural isolate addition is clearly a more sophisticated form of standardization and even more difficult to detect with gas chromatography and mass spectrometry analysis. This is because only the higher levels of key constituents provide a clue as to the possible presence of isolate addition. For example:

- Poor quality Peppermint oil may have menthol isolated from other, cheaper mints added to enhance its odour profile.
- Inadequate Lavender oil may contain esters and sesquiterpenes extracted from other, cheaper oils.
- Substandard Geranium oil may contain isolates from other oils such as geraniol and citronellol.
- Low quality Black pepper oil may be enhanced with various isolates such as limonene, phellandrene and pinene; also sesquiterpenes from the much cheaper Clove oil.
- Poor Clove oil, itself usually distilled from clove sawdust remains, may contain isolates such as eugenol and eugenyl acetate from even cheaper oils.
- Low-quality conifer oils such as firs, pines and spruces may be enhanced with monoterpenes derived from other oils.
- Rosemary oil may contain such added isolates as limonene, alpha-pinene and camphene from Orange and other monoterpene-rich citrus oils.
- Petitgrain oil may contain added isolates such as citral, linalool and methyl anthranilate from various other oils.
- The expensive Neroli oil may have nerol, nerolidol, linalyl acetate and citrus oil terpenes added to it.

Isolate adulteration also causes a loss of functional synergistic balance among an oil's constituents, resulting in a significant reduction in its therapeutic bioactivity. This involves an unnatural predominance in the oil of the introduced components and a loss or functional quenching by valuable minor and trace components that are crucial to the overall osmic and electrochemical balance of the whole oil. Isolate adulteration is therefore as undesirable as synthetic addition when it comes to using essential oils as remedies.

**C. Classical addition.** This means that one or more cheaper oils are added to a more expensive oil of a similar chemical or fragrance character – again to increase the quantity and lower the cost of the final product. This cheaper oil in turn may be adulterated with another cheaper oil, and so on down a prescribed pecking order.

Classical addition is a time-tested technique of adulteration that has survived the onslaught of the petroleum and coal-tar chemistry of modern times. Although it is the oldest technique of essential oil adulteration, classical addition is far less common today than synthetic/nature identical or isolate addition. However, it is often practised on more expensive oils where isolate or nature-identical addition would be too crude and easily detectable – especially if a comparative GC/MS analysis were performed.

At times, oils are stretched by the producers themselves. Years of bad harvest, sudden increases in living costs and such like make this a distinct possibility. In some cases, unscrupulous manufacturers may be involved. While difficult circumstances and misfortunes are understandable, this still clearly does not justify the acceptance of a falsified, altered oil in a clinical setting: inferior treatment results are liable to result.

- The expensive French lavender oil is very often stretched with the more cost-effective Bulgarian lavender oil to create a standardized 'French Lavender'; in some cases the even cheaper Lavandin oil is used as a classical additive.
- Most commercial citrus oils, so-called cold-pressed, including Lemon, Grapefruit and Sweet orange, are blended with the distilled versions of these citrus fruits.
- Lemon oil itself may also be bouquetted with added Citronella or Lemongrass oil.
- The high-priced Rose oil may contain diluents such as the much cheaper oils of Ho wood, Geranium and Lemon as classical additions.
- Rosemary oil can be blended with more cost-effective classic additives such as Eucalyptus, White camphor, Turpentine and Spanish sage.
- German camomile oil, especially if low in azulene, can be cut with the cheaper and lesser known Yarrow oil; both are dark blue, should be high in azulene as per GS analysis, and have a very similar odour profile.
- Roman camomile oil can easily be stretched with the much cheaper Moroccan wild camomile oil, even though the latter is from a different plant genus and species.
- The higher grades of Ylang ylang, especially Ylang no. 1 and Ylang extra, which obtain the best prices, are sometimes mildly diluted with lower grades, and always with the next grade down.
- Patchouli oil may contain the oils of any number of different genera and species, starting with the inferior Java patchouli, as well as with Chinese patchouli, Gurjun balsam, Caesarweed and, last but not least, various Cedarwood oils, e.g. Himalayan cedarwood.
- The very expensive Indian sandalwood oil used to be almost always adulterated with the cheaper Australian or Indonesian Sandalwood oil. Now that these have reached almost the same price as Indian sandalwood, the latter is always bouquetted with synthetics.
- Indonesian sandalwood oil may in turn be cut with other sweet-woody oils such as Amyris and Copaiba.

The problem with classical addition is that here again the unifying bioactivity or organicity of a single oil literally becomes diluted and weakened. Botanically, an adulterated oil usually ends up being a mixture of different genera, species and varieties, and should technically be called a blend and made available for fragrance purposes only. True, it *may* smell gorgeous and sell well, but clinically we should remember that it no longer has the specific therapeutic actions and indications that its name promises. On the other hand, the fragrance of an adulterated oil may actually be worse than the pure oil. Either way, although it may retain some degree of therapeutic efficacy despite the added oils, it will usually be inferior or may not work in the way intended by the practitioner.

### *Extraction from an oil*

Major valuable chemical constituents can be removed from essential oils through a second and even third distillation to make them industrially acceptable. These are called 'rectified' oils, because the process involves a second distillation that rectifies or corrects the first distillation. Technically, all rectified oils are alterations of the authentic original product, and so are considered less effective from the therapeutic point of view, regardless of the compound removed. From the electrochemical aspect, the synergy of all constituents is lost. Here are some examples:

- Lavender oil can have its important esters stripped out through fractional redistillation.
- Eucalyptus and the coniferous oils can have terpenes removed to enhance their fragrance character and make them sweeter. However, this also reduces their restorative, stimulant and antimicrobial properties.
- Patchouli oil distilled in iron stills can have its colour pigments taken out, resulting in a reconstituted blonde or light Patchouli.
- Bergamot oil can have its valuable fresh-scented monoterpenes removed to make it softer and sweeter, resulting in an unbalanced, terpeneless Bergamot oil. Most other commercial citrus oils and high-terpene oils, including Grapefruit, Sweet orange, Lemon and May chang, are often deterpenated for the same reason.
- Bergamot oil can also have its bergaptene content removed because it increases its acceptability and useability in the perfume and beauty-care industry. The coumarin bergaptene increases the skin's photosensitivity to ultraviolet light and therefore increases the risk of sunburn and, with today's depleted ozone layer, skin cancer. Bergaptene-free Bergamot oil today is de rigeur in any cosmetic or beauty product.

- Thyme ct. thymol oil can have some or all of its valuable thymol (a strong phenol compound) taken out to make it softer, less irritating to the skin and therefore more industrially useable. The result is traditionally called a ‘white thyme’ in the flavouring industry as opposed to the skin-irritant so-called ‘red thyme.’

#### SIMULATION OR RECONSTITUTION OF AN OIL

Although less common, this form of adulteration is sometimes practised for very expensive essential oils and absolutes. Here, a fragrance product similar to the natural oil is simply compounded or reconstituted from different isolate and synthetic constituents. Simulated oils are often used in functional perfumery to obtain an acceptable type of fragrance without incurring the high cost of using pure oils. Note that it is impossible, however, to completely replicate an pure oil with its hundreds of components, many of them trace constituents that are often unidentifiable.

A reconstituted oil itself can be added to a pure oil, which is another form of classical adulteration. Some examples of reconstitution are:

- Industrial Lemon oil mostly made from the constituent citral extracted from Lemongrass or May chang oil, with some d-limonene from Orange oil added.
- Melissa oil reconstituted from Citronella, Lemongrass and Lemon in judicious proportions. The aim is to duplicate the same GC profile as the pure Melissa essential oil. Simulated Melissa oil is then sold as either true Melissa oil or as reconstituted Melissa oil – the ‘poor man’s Melissa,’ as the expression goes.
- Absolutes that may be prohibitively difficult or expensive to produce may be reconstituted, such as the absolutes of Violet leaf, Linden blossom, Hyacinth and Narcissus. Most of these are manufactured in France and India and are used in the perfumery industry; some even come with a disclosure of being reconstituted.

### **The Third Criterium: Integrity of the Source Material**

Whereas the first two criteria for essential oil bioactivity concern the identity and composition of an oil itself, the next two criteria have to do with the source and processing methods used in the production of that oil. In this way it is possible to establish and assess an oil’s actual therapeutic quality and potential. The better the quality of the plant source and the higher the skill of the distiller, the finer the resultant quality of the oil will be, and the greater its therapeutic potential. An essential oil that is intentionally produced with these two elements in mind results in a truly artisanal oil rather than a commercial product, no matter how good its identity and purity may

be. The difference between these two in clinical practice can be night and day, and will especially affect an oil's ability to treat mental-emotional conditions.

These two qualitative aspects of an oil can largely be experienced directly through the sense of smell, and to a lesser extent through visual inspection of its liquor.

### *The aromatic properties of an oil with therapeutic potential*

Bringing this knowledge home to our sensory experience, it is possible to actually distinguish through smell the aromatic properties of an oil possessing good integrity and high-quality extraction. Its aromatic properties can be summarized as follows:

#### DEPTH

A high-quality oil should possess depth or a wide spectrum of fragrance. Any oil perceived as being flat, stale or in any way one-dimensional and uninspiring may lack integrity of quality.

#### SMOOTHNESS

A high-quality oil should be perceived as smooth and even when inhaled. Any roughness or unevenness can indicate a lack of integrity of the original plant material or the distillation process. It may also reveal a lack of purity caused by adulteration of some kind. Smoothness is non-fatiguing to the nose, whereas roughness will cause some degree of olfactory fatigue, especially with repeated inhaling.

#### SUBTLETY

A high-quality oil should have many subtle, complex, minor fragrance notes, regardless of how prominent the dominant note may be. A good Geranium oil, for instance, should not only present the typical rosy-sweet main note, but also faint yet distinct musky, slightly spicy-green side notes and mild citrusy-sweet top notes.

In terms of the integrity of the plant material itself, that derived from organically-grown plants or harvested from relatively clean sources in the wild will score higher in potency than other plant sources. Every artisan producer of integrity knows from experience the importance of getting collectors or growers to supply the highest quality plant materials available. Very often, producers will own their own fields or plantations in order to gain greater control over the growing and harvesting process and therefore obtain the best possible starting material for distillation.

### *Criteria for integrity of plant material*

The main factors that go towards the production of high-quality plant materials for distillation include:

#### PLANT COLLECTION AND HARVESTING

Plants should be collected at the peak of their season, not prematurely or tardily. Even the right time of day is important. Morning is usually the best time for plant collection in general. Jasmine and rose flowers, for instance, should be gathered between 5 and 8 a.m., before the sun gets too hot and dries out the petals. Harvesting by hand rather than by machine of any type has also shown to produce more potent, bioactive oils. Harvesting of wild-occurring plant material should be carried out away from sources of pollution, including electrosmog from power lines, cell towers and so on. Of course this should also be done with local ecological sustainability in mind – which it usually is, as producers are generally not mobile or nomadic.

#### CULTIVATED CROPS

The less that these see chemical fertilizers and weed-killers, the more vital and bioactive they will be, and the more strongly therapeutic their final oil. This has been shown experimentally.

#### LACK OF ADMIXTURE

There should be a minimum of foreign plants in the collection or harvesting of a particular species. Careless collection will include other unwanted plant parts along with the correct plant, whether grasses, weeds, flowers, and so on. Plants that may be difficult to identify, such as conifer trees, should be properly identified by collectors before harvesting. For instance, different types of conifer needles should not be mixed up to make some kind of standard conifer oil, or a generic fir oil, spruce oil and so on. This clearly also involves the issue of diluting and conflating an oil's botanical identity.

#### ORGANIC CERTIFICATION OF PLANT

This usually ensures that most of these criteria are met. How stringent these criteria are, however, depends on the certifying agency. There are currently about ten major organizations in Europe, Africa and North America that provide organic certification of plant materials. However, note that the certification as 'organic' of wild-occurring oil crops in itself poses problems. Food and plant crops that are collected in the wild, including those used in herbal medicines, like wildcrafted American ginseng, in contrast, never undergo any such certification. Here the designation of 'organic' only pertains to cultivated crops. One questions the double standard here.

### **The Fourth Criterium: Integrity of the Extraction Process**

Optimal extraction procedures are vital to obtaining a fully bioactive oil, regardless of how good the raw plant material may be. Material of prime quality is of little use unless the distillation process can match it in calibre. Optimal extraction is the other

50% of the quality equation – a fact that is frequently and conveniently overlooked in favour of the more tangible and traceable concern among essential oil users for ‘organic quality’ essential oils. But the fact remains that it is almost impossible for anyone, including the purchaser, to substantiate this aspect of oil production. The only way left to determine distillation quality is again to infer it organoleptically through smell, colour and so on, as well as simple empirical testing – always keeping in mind the quality of the plant material itself, if this is known.

Again, because most of the world’s oils end up being standardized by the corporate flavouring industry anyway, there is little incentive for many producers (large or small) to even entertain the idea of high-quality distillation. Large-scale, commercial types of plant distillation or large citrus extraction operations are often geared to producing the largest volume of oil in the shortest possible time. This means using high-temperature steam at a high vapour pressure, as well as in some cases introducing solvent chemicals to speed up the process. This results in an oil of considerably lower quality than if a more ideal, lower steam temperature and pressure were used.

When distilling oils destined for therapeutic purposes, the producers’ aim should be to obtain the widest range of oil molecules from the plant. This includes all the top and bottom notes that are unavailable to the commercial type of distillation – in fact, new molecules also appear as a result of distillation itself, many of them therapeutically valuable, such as 1,8 cineole. To maximize the range of different molecules that pass over in the distillation process, then, distillation should be done in the traditional artisanal way, using a longer distillation time and generally lower temperature steam than would be used for a typical commercial distillation. Distillation time, steam temperature and steam pressure should all be in the optimal range for the type of plant material being distilled. However, distillation time should not be too long or steam pressure and temperature not too low either, as in the case of ylang ylang flowers, for instance. This also will negatively alter the oil quality, although in a different way, usually bringing out base notes at the expense of the top and middle notes. This optimization of quality translates sensorily into a richer, fuller fragrance as well as a more bioactive oil. This is the ideal of the ‘full-spectrum’ oil, as it has been called.

In reality, it is typically small producers running a traditional, artisanal family or cooperative business that truly concern themselves with these technical aspects of distillation. This is usually because small producers are still small enough to take pride and personal responsibility for their product. In some cases, it is also because they are able to somehow market their oils directly to discerning, appreciative buyers in the field of essential oil therapeutics who will support their higher prices. Fortunately, in today’s global theatre of instant communication via virtual social media, this is a trend that appears to be greatly on the upswing.

## The Challenge of the Current Commercial Context

The current commercial context in which essential oils are produced and traded across the globe makes the simple task of identifying bioactive oils anything but a simple proposition. A quick glance at the statistics of world trade in essential oils and other fragrance products, such as plant concretes and absolutes, will reveal that the global food-flavouring and perfumery corporations between them utilize an estimated 95% of the world's supply of essential oils. Only the remaining few percent are ever used for other purposes. In this tiny sector, the manufacture of beauty-care products dominates the market, which leaves only an extremely small percentage of oils ever used in true clinical practice of one kind or another. The commercial reality is that the global flavour and fragrance giants between them virtually monopolize world trade in essential oils, and in so doing set a universal chemistry-based standard for their characteristics. The multinational flavouring corporations, for instance, consume most of the world's supply of spice, citrus and mint oils (a huge range of essential oils), while the global perfume corporations absorb the majority of floral oils and absolutes, including rose, jasmine, lavender, neroli, geranium and ylang ylang (Williams 1997). Their monopoly starts right at the place of agricultural production of the essential oils, their transportation to developed countries, through to their chemical elaboration and standardization in the laboratory and finally their commercial distribution to all enterprises.

The practical challenge in this situation of global essential oil monopoly is for health-care practitioners to source essential oils that have literally not been produced and standardized to the GC levels of the giant corporations. This is clearly a difficult task, given the lion's share in the world market of these corporations. It is arduous and confusing for the end-consumer to attempt to seek out the very few oils available that have been intentionally produced with high bioactivity in mind. Still, as a result of the ongoing and increasing need for bioactive, high-quality essential oils by therapists of all kinds, some new, small independent oil sourcing networks have gradually appeared since the 1970s. This sourcing of essential oils directly from the producers themselves has occurred with the development of the original aromatherapy industry in England, in tandem with an increased recognition of essential oils as potential remedies. The rise of essential oil therapies in turn has encouraged small producers to manufacture higher quality oils and, in many cases, to start developing organic crops – expensive and time-consuming though this process usually is. This is clearly a welcome trend, despite the inconsistencies and abuses that sometimes arise in tandem with the expansion of this market, particularly in connection with the organic certification of wild-harvested plant crops.

Two challenges present themselves here, the first being a purely financial one. The producers, importers and wholesalers of genuine bioactive oils designed to meet the needs of essential oil therapists tend to be small businesses. As a result, they face a stiff financial challenge both on the buying and the selling end. As far as the general mass

market is concerned, they usually cannot compete with the huge volume- and profit-driven perfume and flavouring corporations, who support mass production of poor-quality essential oil crops and large-volume, low-quality distillation. For the small importer, the buying and selling prices for high-quality oils are considerably higher than the corporate ones, sometimes resulting in slow turnover, product spoilage or even liquidation as the market fails to support those higher prices.

The second challenge in today's commercial context is the discussion at hand – namely, the need for education in a clinical setting about what constitutes an essential oil that is bioactive and therapeutically potent. Bioactive essential oils will clearly not announce themselves within the oil production industry itself. Simply labelling them arbitrarily as 'therapeutic grade' within the definitions of flavour-fragrance industry standards is also not a genuine solution. Again, what is needed here is the creation of clear criteria and guidelines based on understanding the issues involved, not random adherence to a quality grading system of any particular agency or organization, let alone assumption of in-house definitions of small companies. Practitioners need to be proactive in defining for themselves what constitutes a clinically viable oil.

# Issues of Essential Oil Safety

## Creating a Positive Context

Ever since the explosion of aromatherapy in England in the 1980s, the question of how essential oils might be used safely has come under lively and increasing debate. It has seen a variety of different opinions, schools of thought and practical guidelines expressed by the various professions involved with essential oils – the fragrance industry, beauty-care professionals, aromatherapists, medical herbalists, energetic medicine practitioners, pharmacologists and Western doctors, among others. Essential oil safety can receive different definitions, depending on whether it is seen from a pharmacological, allopathic medical, functional medical or aesthetic perspective. Each profession has developed a particular method of interpreting and practising their safe use. In this chapter, we will review the question of essential oil safety from the largest possible perspective, potentially going beyond the immediate needs of any particular profession and resolving the different and contradictory opinions seen today. Having done that, we can proceed to narrow down our definitions from a therapeutic perspective that is holistic, vitalistic and functional in nature; one that has the potential for encompassing all types of healthcare that strive to be in any way integrative rather than purely separatist.

Fundamentally, what constitutes the safe use of essential oils? Are they actually safe to use or not? If we consider that essential oils are simply natural extracts from plants, we would have to say that their safe use is essentially the same as for the herbs and foods from which they are extracted. The only difference is that essential oils are a particular extracted constituent, not a whole food or plant preparation as in a decoction or tincture. Still, the fact remains that we have adapted to them for food and remedies and have co-evolved with them ever since the angiosperms developed aromatic molecules about 300 million years ago. Our genes are absolutely familiar with plant chemicals: our biology recognizes plants intimately and completely. We must

therefore basically respect them as partners, as evolutionary allies in a hoary symbiotic relationship.

In this light it is only reasonable to create a positive context for the question of essential oil safety. For instance, it is important here that we free ourselves of the negatively biased approach of the aromatic chemicals industry. With its vested interest in promoting fragrance chemicals for the food, perfume and pharmaceutical industries, it has in the last 40 years arguably fostered a fear-based perception toward natural oils. It has achieved this negative perception by highlighting and falsely exaggerating their purported dangers. The problem with this approach is that it has not served the budding field of holistic essential oil therapies, which also uses essential oils, albeit in a completely different context. On the contrary, these scare tactics have deeply infected the basic safety assumptions of therapists intending to use essential oils in a clinical setting. Unfortunately, these assumptions remain intact to this day in ways that are often difficult to identify.

However, if we recognize essential oils fundamentally as familiar allies rather than alien foes, we can then assume the wider perspective of them being inherently safe rather than unsafe. In this wider positive context, an approach of respect may naturally arise. This deep respect includes caution toward essential oils in recognition of their potentially powerful effects, as well as appreciation and gratitude for their health-promoting benefits. There is no room for any emotional, fear-driven perception that essentially arises from a conflict between us and nature, whether consciously perceived or not.

### **Essential Oil Safety from a Therapeutic Perspective**

A positive understanding of essential oil safety can be summarized as follows.

1. Essential oils are safe to use as aromatic remedies when selected and administered appropriately. This is based on our fundamental symbiotic relationship with essential oil plants throughout our evolution.
2. Essential oils generally need to be administered with greater care than herbs or foods when used for treatment purposes. This is because an essential oil is an isolated plant extract, not a whole-plant preparation. When unsuitably selected, prepared or administered, they can cause adverse reactions despite being natural, not synthetic products.
3. Certain essential oils need to be approached with particular caution and circumspection as regards various olfactory, topical or internal methods of delivery.

Using essential oils safely in clinical practice depends on two aspects: pharmacological and clinical.

The pharmacological aspect has to do with the nature of an oil itself, which can be summarized by its general therapeutic status, which in turn is dependent on its potential toxicity. Essential oils have seen much research on their pharmacology and toxicology.

The clinical aspect involves the safe usage of an oil in the treatment of particular conditions, syndromes and diseases, which are summarized in the therapeutic precautions for particular oils or classes of oils.

There are two types of precautions, then, for the safe use of essential oils: pharmacological and therapeutic. While pharmacological precautions and contraindications are fairly well known and understood, therapeutic precautions are much less so. They are usually overlooked in clinical practice either as a result of essential oil practitioners' blithe reliance on pharmacological precautions alone or in ignorance of the necessity to address the systemic conditions or terrains that underpin the majority of symptoms.

### **General Therapeutic Status**

The general therapeutic status is a traditional clinical model for evaluating the nature of a natural remedy in terms of its therapeutic applications at the most basic level. It is expressed as far back as 2nd-century physician Zhang Zhong Jing's Chinese classic *Shang Han Lun* with its threefold classification of superior, moderate and inferior remedies. It exists in the works of Hippocrates and Galen, early developers of traditional Greek (Unani) medicine. In modern times, this traditional model has been expressed in the work of medical herbalist Fritz Weiss (2000), who defined and updated the three traditional categories of remedies in modern pharmacological terms.

From this perspective then, the three categories of therapeutic status presented here simply place modern research about plant and essential oil toxicity in a context that is therapeutically useful in the practice of herbal and essential oil medicine. It applies to all natural therapeutic substances, whether botanical, mineral or animal. This threefold model is especially relevant to essential oils because of their potentially more drug-like effects when administered internally or when absorbed in significant amounts through any method of delivery.

In a clinical context, the most important information about an essential oil is knowing about its relative benign quality versus its relative toxic quality. This gradation determines its general therapeutic status. Knowing an oil's therapeutic status can modify, for instance, the dosage, duration and intensity of a course of treatment, regardless of the form of administration used. It can also dictate the use of certain preparation forms in preference to others. Knowing an oil's therapeutic status becomes increasingly important to the extent that it is absorbed internally and produces physiological actions that are separate from psychological effects. This is especially the case for repeated, long-term usage of oils where a cumulative effect is likely to engage

and affect the tissue levels of certain constituents. It holds true regardless of the route of delivery, be it inhalation, internal absorption or transdermal absorption.

The three categories of therapeutic status of essential oils are as follows.

*Mild essential oil remedies with no chronic cumulative toxicity*

When taken over long periods of time and within the accepted standard dosages of internal administration, mild aromatic remedies pose no significant risk of toxic accumulation in any body system. Any internal absorption resulting from topical applications such as liniments, massage and so on is completely benign and therefore potentially only beneficial (aside from any topical safety issues – see below).

The majority of essential oils in therapeutic use today belong to this category. Good examples of these would be Lavender, Geranium, Tea tree, Palmarosa, Thyme ct. linalool and Roman camomile.

*Medium-strength essential oil remedies with some cumulative toxicity*

When taken over a certain period of time and within the accepted standard dosages of administration, medium-strength aromatics pose a degree of risk of toxic accumulation of certain constituents. This again is regardless of the form and route of delivery employed. For instance, caution is advised with the topical application of medium-strength oils at high dilutions (over 5%) when administered repeatedly, for instance daily over periods of time.

Absorption of medium-strength essential oils through any delivery route is contraindicated throughout pregnancy; environmental diffusion in open spaces is usually harmless, however.

The oils in common clinical use that possess medium-strength status are:

- Sage, because of its significant content in alpha- and beta-thujone, and camphor, both of which act as neurotoxins
- Rosemary ct. verbenone, because of its content in the neurotoxic ketone verbenone
- Hyssop, to a lesser extent, because of the neurotoxic iso-pinocamphone and a trace amount of alpha-thujone
- Spearmint also to a lesser extent because of its content in the slightly neurotoxic ketone carvone, although this is relatively mild in comparison to thujone
- Rosemary ct. camphor, also to a lesser extent, because of the neurotoxic camphor

The cautions regarding these medium-strength oils are found in their respective profiles.

### *Strong essential oil remedies with acute toxicity*

When taken internally or absorbed through topical application, symptoms of acute poisoning may appear soon after ingestion of essential oils with a strong status, regardless of the size of the dose. Today these oils are no longer administered internally, as the risk is considered too high, especially to the nervous system and the liver.

Examples of strong oil remedies with acute toxicity include Wormwood (*Artemisia absinthium*) and Cedarleaf (*Thuja occidentalis*), both of which contain the neurotoxin thujone; and Pennyroyal oil (*Mentha pulegium*), which contains pulegone, another neurotoxin. These oils are actually often found in extremely small amounts in perfumes and other flavouring applications within limits that are considered safe.

For an in-depth discussion of the therapeutic status of herbal remedies, see Chapter 5 of the author's textbook on herbal medicine (Holmes 2007).

## **Topical Safety Status**

Because of the common practice of applying essential oils on the skin in all types of essential oil usage, including essential oil therapy, issues of topical safety for essential oils are perhaps the most important safety consideration. Conflicting information, questionable testing methodology and the unpredictability of skin reactions, as well as therapeutic considerations proper regarding the topical administration of essential oils, all conspire to make their topical application the most complex and difficult type of delivery method. More expanded discussions of skin safety issues in a clinical context can be found in *Aromadermatology* (Bensouilah and Buck 2006), while *Essential Oil Safety* (Tisserand and Young 2013) focuses on safety in relation to pharmacology and toxicity.

There are three issues that govern the safe use of essential oils in topical forms of administration: skin irritation, sensitization and photosensitization. With proper oil selection and dilution, and with appropriate location and frequency of application, topical treatment usually remains problem free. When any of the three pathological skin reactions occur, they result in one common skin condition: inflammation. The treatment of all three is therefore basically the same, with minor variations. It consists firstly of complete topical avoidance of the offending oil or oils. Secondly, soothing anti-inflammatory remedies should be applied topically to reduce inflammation and irritation, and speed up the healing process. Highly effective ones include Aloe vera gel, Rose and Lavender hydrosol, Black seed and Tamanu (Foraha) fatty oils, and MSM cream or lotion. Any additional treatment considerations arising from the particular type of skin reaction are discussed below.

### *Skin irritation*

Certain oils are known to irritate the skin on contact. The severity of irritation is dependent on the concentration or dilution of the oil used. The irritation occurs quickly with initial exposure to the skin and usually causes local inflammation. It can range from mild to moderate to fairly strong. Individuals with sensitive skin are more prone to experience irritation resulting from essential oil contact, as they are from ingredients found in various cosmetic products in general. It is important to remember that for these individuals, even oils that are generally known as mild skin irritants will act as moderate or strong irritants. In addition, any chemical adulteration of an oil may increase the chances of skin irritation of occurring and may obscure or even mask the source of the irritation.

Applying soothing anti-inflammatory remedies topically (see above) will usually speed up reduction of the local irritation and inflammation.

While a large number of essential oils are not considered skin irritants, the following may cause various degrees of acute irritation to the skin and mucosa.

#### MILD SKIN IRRITANTS

Mildly irritant oils should be used topically with some caution. The dilution should generally not exceed 6% after first doing a patch test for any adverse reaction.

- Fir oils (Siberian fir, Silver fir, etc.), the Spruce oils (Black spruce, Hemlock spruce, etc.) and all Cypress and Juniper berry oils are high in monoterpenes. The skin irritation they can cause is thought to be due to their oxidation products, e.g. peroxides, epoxides and endoperoxides. These can form during the storage of most of these oils, albeit at levels well below 1%.
- Peppermint and Cornmint oils, which are high in menthol, can also cause moderate irritation in high concentration.
- Basil ct. chavicol and Tarragon are also mild skin irritants as they contain a high percentage of the phenolic ether methyl chavicol.
- Citrus rind oils such as Lemon and Grapefruit may also be somewhat irritant to the skin when these are standardized industrial oils rather than simple cold-pressed oils. For details see the oil profile itself.

#### MODERATE SKIN IRRITANTS

These should generally be used in a 1–2% dilution on the skin after doing a patch test and should never be allowed to contact mucous membranes. They include oils rich in monoterpenic aldehydes, particularly citral, found in such oils as:

- May chang, Lemongrass, Melissa, Lemon eucalyptus, Lemon myrtle and Lemon tea tree. Note that these oils are also skin sensitizers and therefore pose a double hazard to the skin with topical use.
- Pimenta berry, Pimenta leaf, Sweet birch and Wintergreen are also moderately skin irritant.

#### STRONG SKIN IRRITANTS

Oils that strongly irritate the skin should only be used topically in carefully diluted and limited amounts for limited periods of time; and then usually in a blend with non-irritant oils. They may be chosen mainly in the treatment of specific skin infections. However, we should remember that in practice it is rarely necessary to have to resort to the anti-infective action of these strong skin irritants, as there are many non-irritant oils with excellent anti-infective actions available, such as Palmarosa, Tea tree and Thyme ct. linalool, to mention but a few.

The dilution for these strongly irritant oils should be kept to a maximum of about 1% (Tisserand and Young 2013), although modern practice usually suggests a maximum of 0.5% (Bensouilah and Buck 2006). They should especially be avoided in whole-body massage applications and should never be allowed to contact the eyes or mucous membranes, even when diluted less than 1%, as these tissues are more sensitive. Strongly irritant oils are only included in internal forms of administration that do not involve any direct contact with the mucosa, which means that they are limited to oral administration by gelatin capsule.

- Clove bud, Pimenta berry and leaf, Cinnamon leaf, Oregano, Thyme ct. carvacrol and thymol, Capitata thyme, Winter savory, Summer savory, and most other species and chemotypes of *Origanum* and *Thymus* belong in this category because of their high content in various phenols, including eugenol, thymol and carvacrol.
- Cinnamon bark and Cassia bark are strongly irritating to the skin because of their high levels of cinnamic aldehyde.

#### *Skin sensitization*

Sensitization from essential oils is arguably the most important topical safety issue today, as it accounts for the most commonly seen adverse skin reactions. It refers to an idiosyncratic allergic skin response to an oil which, acting as an antigen, causes acute allergic contact dermatitis. This involves either an immediate or delayed hypersensitivity that induces dermal histamine release with the resultant red, itching skin rash. This response can occur on first exposure to an oil or with repeated exposure, which creates a cumulative sensitization. Similarly, the adverse skin response may be immediate or delayed by anywhere from several hours to 15 days. The cause is always

the idiosyncratic response to certain compounds found in the oil itself, whether these are 'normal' constituents or constituents that arise from oxidation. It is important to note here that any chemical adulteration of an oil will increase the chances of skin sensitization and may obscure or even mask the source of the sensitization. In short, chemical adulteration increases the likelihood of both irritation and sensitization of the skin – a fact often overlooked when skin issues arise from topical use.

With avoidance of the sensitizing oil, the allergic skin response usually resolves on its own, although the healing process will be speeded up considerably with topical application of the soothing, anti-inflammatory remedies mentioned above. In addition, very low dilutions of anti-histamine and antipruritic essential oils may be used, such as Blue tansy, Helichrysum, German chamomile and Vetiver. Emollient, skin-regenerating anti-inflammatory oils rich in monoterpenols or sesquiterpenes, especially Palmarosa, Atlas cedarwood and Patchouli, are also indicated here for their soothing and tissue-healing actions.

In individuals with an allergic terrain or disposition however, it often takes longer for the rash to subside. It may turn into a chronic rash that requires internal as well as topical treatment that aims to reduce the allergic response with its resultant histamine-induced inflammation. A complete diagnosis should be made at this point with particular attention to the patient's stress levels, dietary habits and lifestyle.

Skin sensitization from essential oils can range from relatively mild to strong, with every shade in between. While the majority of oils are not sensitizing, the following are known to carry a potential risk for sensitization. They should be used with some caution, especially as regards dosage, dilution and continuous usage in treatment.

#### MILD SKIN SENSITIZERS

Topical dilutions of the following mildly sensitizing oils should usually be no higher than 2%.

- Wintergreen and Sweet birch contain methyl salicylate. In addition to mild skin sensitization, this constituent can also cause mild skin irritation.
- Some authorities also consider oils high in linalool to be potential sensitizers when oxidation generates linalool hydroperoxides. Lavender, Thyme ct. linalool, Rosewood and Ho wood are among those in this category.

#### MODERATE SKIN SENSITIZERS

The topical dilution of these moderately sensitizing oils should generally be no higher than 1%.

- All citrus rind oils (e.g. Bergamot, Orange, Mandarin, Lime), Cypress oils, Juniper oils, Spruce oils, Pine oils, Fir oils, Fennel (sweet and bitter types), Frankincense, Black pepper, Cajeput, Niaouli, Tea tree; these may contain

oxidized monoterpenes that can cause moderate sensitization (oxidized monoterpenes can also cause mild skin irritation).

- Thyme ct. thymol, Niaouli, Ginger, Benzoin and Peru balsam to a lesser extent.
- Laurel leaf may be moderately skin sensitizing owing to its methyl-eugenol content.
- Lemongrass, May chang, Melissa, Citronella, Lemon tea tree, Lemon myrtle and Lemon verbena contain citral and/or citronellal that are sensitizing as well as skin irritant.
- Oregano, Clove bud, Pimenta berry and leaf, and Cinnamon leaf contain high amounts of various phenols that are skin irritant in addition to moderately sensitizing.

#### STRONG SKIN SENSITIZERS

- Cinnamon bark and leaf, and Cassia bark and leaf oils, contain cinnamaldehyde that is strongly sensitizing as well as skin irritant; the maximum recommended dilution is 0.07%
- Lavender absolute (not the essential oil) is considered a strong sensitizer with a maximum of 0.1% dilution.

#### *Skin photosensitization*

A very few essential oils, when applied topically in any dilution, will increase the skin's sensitivity to UV sunlight, thereby promoting dermatitis. Photosensitization may be photoallergic or phototoxic by nature. Photoallergy to an essential oil is very rare, especially in comparison to the many photoallergenic chemicals routinely used as sunscreens. Phototoxicity is more common and produces the common painful, inflamed sunburnt skin. With chronic exposure to solar UV light, it may become a possible cause of skin cancer.

The treatment of phototoxic skin reactions is similar to that of the dermatitis caused by skin sensitization, namely reduction of the local inflammation with an additional analgesic action by means of topical applications and internal remedies. Peppermint oil is the safest analgesic for topical use.

Phototoxic skin reactions are caused by various plant coumarins found in essential oils of the citrus and carrot family (*Rutaceae*, *Apiaceae*), especially linear furanocoumarins such as psoralens, which include the well-known bergapten found in Bergamot oil. These photosensitizing oils should not be used before exposure to sunlight or other UV light for 12–24 hours, all depending on the dilution percentage used.

#### MILD PHOTSENSITIZERS

In descending order of strength, these include Bitter orange, Lemon, Grapefruit and Mandarin petitgrain.

#### MODERATE TO STRONG PHOTSENSITIZERS

These include Bergamot, Lime, Celery seed, Angelica root and Tagette.

#### OILS THAT ARE NOT PHOTSENSITIZING

These include bergaptene-free Bergamot, Lemon (distilled), Lemon leaf, Lime (distilled), Mandarin, Sweet orange, Tangerine and Yuzu (expressed or distilled).

# Surveying the Modalities of Essential Oil Therapy

A fascinating array of different essential oil uses is emerging today in the West. The trend since the 1960s has been to greater experimentation and eclecticism in the expanding field of complementary medicine. After a hiatus of about 400 years, the clinical use of essential oils is attracting increasing attention from practitioners in a variety of different medical disciplines. Treatment modalities that use essential oils are multiplying at an astonishing rate. The original 20th-century styles of aromatherapy themselves have become popularized and, in some quarters, cheapened beyond recognition. Today there exists a confusion of different approaches to the use of essential oils and a complexity of ways of actually using them in clinical practice. The treatment context and modalities with which they are currently employed also varies greatly, ranging from the most holistic approach of treating body and spirit as one, to the most reductionistic approach of symptom relief based on linear modern pharmacology; from the use of the oils in various types of energy work to their internal use as a herbal medicine preparation; from various inhalation techniques to topical dermal applications in massage, skin care and dermatology. It seems as though no possible variation among the parameters of medical paradigms, treatment modalities and absorption pathways has been left unexplored. Clearly, if we are to make sense of the many styles of essential oil use today, it is crucial to firstly, probe their historical origins and secondly, make clear differentiations among the underlying paradigms being unwittingly adopted, the numerous treatment modalities being explored, and the types of therapeutic effects being generated.

## The Origins of Modern Essential Oil Therapy

It is important to realize that since the 1960s, modern essential oil therapy has developed squarely in the context of the general growth of complementary medicine and the human potential movement. It has grown in the burgeoning climate of postmodern thinking that has imbued much of Western culture. However, its modern scientific roots go right back to the bacteriological experiments of mid-19th century scientists working in France and Germany (see Chapter 1). Their experimental findings were gradually applied to clinical practice by certain medical doctors and formally culminated in the comprehensive ‘aromathérapie’ of Gattefossé in the 1930s. The clinical use of oils was then further consolidated and developed independently in the early 1950s by medical herbalist Jean Valnet and nurse Marguerite Maury. The pioneering work with essential oils of these two practitioners ultimately became what is now known as ‘French medical aromatherapy’ on one hand and ‘British aromatherapy’ on the other (Rhind 2013). These two streams of practice represent the two poles between which most essential oil therapies have become polarized.

Consistent with the paradigm of Western medicine, essential oil applications in France have focused on the treatment of physiological conditions, including infections. Since the 1820s, the rationale for the effectiveness of essential oils has always been the pharmacological activity of their main individual constituents (Jourdan 1828, Chabènes 1838, Gildemeister and Hoffmann 1899, 1956). A clinician first and foremost, Valnet was able to consolidate and expand the internal uses of essential oils for contemporary conditions, placing them squarely alongside herbal remedy prescribing in the process. As seen in Chapter 1, he also greatly enlarged the *Materia Aromatica* through his experiments with Asian essential oils during his term as an army doctor in colonial Vietnam. In Valnet’s footsteps, the administration forms of choice became the wide spectrum of internal uses, such as gel caps, sublingual tablets, suppositories and pessaries. Despite its origins in Western herbal medicine, essential oil therapy in France basically ended up becoming a variation on conventional allopathic medical treatment, rubbing elbows with the more usual practice of drug prescribing. Still, several interesting attempts at integrating pharmacology with more holistic models of treatment have more recently been made (Franchomme and Penoel 1990, Duraffourd and Lapraz 1995).

Austrian-born Marguerite Maury began her innovative explorations of natural systems of healing in Paris as early as the Occupation 1940s. It was a book on essential oils written by Dr. Chabènes in 1838 that particularly inspired her to delve deeper into their therapeutic potential. Her close students Danièle Ryman and Micheline Arcier then helped her set up the first true aromatherapy clinic in London in the early 1950s, thereby initiating the ‘British’ stream of essential oil use.

With her boundless curiosity and strong intuition, Maury investigated almost every natural method of healing known at the time. Her French husband, Dr. E. Maury, practised acupuncture and homeopathy, and inspired her to apply their treatment

principles to essential oil use. She eventually became a classic eclectic practitioner, finding the building blocks of her syncretic system of aromatic treatment in aspects of Tibetan, Chinese and homeopathic medicine (Maury 1961). Consistently pursuing a holistic emphasis of treating body and mind as one in the best vitalistic tradition, she created novel treatments for both maintaining well-being and for treating actual conditions. Administering essential oils just topically and by inhalation, she developed their use according to the laws of individual prescribing, as in homeopathy. Besides inhalation techniques, her main forms of treatment became oil applications for body and beauty, including aromatic massages – a union once aptly called ‘a marriage made in heaven.’

### Essential Oil Therapy Today

The 1960s onwards saw more practices and training schools of ‘British aromatherapy’ being established by individuals such as W.E. Arnould-Taylor (who had also studied with Maury in Paris in the early 1950s), Robert Tisserand and Shirley Price. Each in their own way developed a particular style of practice that endures to this day. One result has been a gradual cross-pollination between these styles, particularly between the original forms of essential oil therapy, the French and the British. This has generated some interesting hybrid styles of treatment, particularly in Australia and the US, where experimentation has been carried out more freely.

However, some practitioners using essential oils have had to awkwardly come to terms with the paradoxes and contradictions generated by the attempt to combine the very different French medical and British holistic styles of practice. For many others, an uneasy truce has been an easier solution, whereby the tenets of the scientific medical approach are simply allowed to co-exist quietly with the holistic approach. Any creative friction arising between the two approaches has tended to be ignored, resulting in a loss of any possible integration. Others again have opted out of the French-British dichotomy entirely and moved on to embrace a vitalistic approach to essential oil use based on Chinese or Ayurvedic medicine. Still, the majority of practitioners using essential oils can be placed more or less uncomfortably somewhere on the continuum of the two polarized schools.

To this somewhat ambiguous situation is now added the significant appearance in the West of traditional medicines. The teachings of the world’s three major traditional medical systems, the Chinese, Ayurvedic and Greek, have been in a slow process of transmission to the West since the 1950s. In contrast to the scientific and allopathic character of Western medicine, these traditional systems are deemed ‘energetic’ and vitalistic by nature. The West in turn has continuously digested and transformed them into indigenous forms better adapted to local and contemporary conditions of culture and health care. Their integration into the theatre of Western medicine is currently well underway – notably Chinese medicine with acupuncture treatment at the forefront.

The long-term result of this transference has been the subsequent emergence of an 'energetic medicine' modality of essential oil therapy. A variety of 'energetic' treatments incorporating essential oils, usually based on the three medical traditions, is emerging. In some cases, these new treatments are simply described (and justified) as being enhancements or updates of traditional ones. They are genuine, timely attempts to bring forward and renew the traditional medicine in light of current health-care needs, using essential oils as a highly effective treatment modality. A separate chapter in the second volume of the present text covers the use of oils in Chinese medicine, based on the experience of the author and his students.

In other cases, however, these treatments have been disingenuously construed as having belonged to the mother tradition itself all along. Revisionism of historical facts is currently an unavoidable, if undesirable, aspect of essential oil therapies that purport to locate their source in the traditions of Chinese and Ayurvedic medicine.

Aspects of these traditional treatment modalities are now being hybridized at an astonishing rate, both within one therapeutic system and among different systems of therapy. This eclectic recreation involves both physical medicine and psychology, body therapies and psychotherapies, traditional systems and practices without any historical precedent or methodology. Hybrid practices of obscure origin and hazy rationale are sometimes labelled 'New Age' types of treatment.

This survey of current styles of therapeutic essential oil use would be incomplete without considering the seductive undertow of the mass marketing of essential oils that entered the scene in the 1990s. In a larger social context, essential oil use has been reduced to mass-marketed trends and the practice of questionable formulaic routines. The result of this general downgrading is an ongoing whirlwind of confusion and contradictions that shows no sign of abating. Largely fuelled opportunistically by commercial enterprises, it has exacerbated the allopathic-versus-holistic ambiguity surrounding the therapeutic use of oils. This confusion has also tended to further obscure the historical roots and context of clinical usage, allowing them to be revisioned for purposes of commercial promotion. Undermining the practitioner, it has also eroded clinical confidence. The identity and meaning of essential oil treatment itself has become unclear, creating a free-floating intersubjective space that offers little security. It is not surprising then that, in a popular context, key words that have defined the use of oils for treatment applications since the mid-20th century, such as 'aromatherapy' and 'clinical,' have lost much of their meaning and credibility. The fact that these days they can mean widely different things in different contexts to different individuals is confusing, disorienting and ultimately disempowering to the serious practitioner.

In these powerful cross-currents of traditional treatment modalities on one hand and popular cookie-cutter procedures on the other, both original streams of 20th century 'aromatherapy' have been increasingly subjected to modification and variation. It comes as no surprise then that some practitioners using essential oils, weakened by insecurity, now find themselves prone to an eclectic pick-and-choose approach to

treatments. Like diners at a full-on Victorian or Chinese dim sum banquet, they will sample one item at a time, selecting whatever treatment would work for them in a particular situation. Hybrid practices that combine a variety of different treatment styles are on the rise.

### **Essential Oil Therapy as Aromatic Experiment**

The wide range of essential oil modalities practised today may certainly be seen as a response to the challenges raised by modern health-care needs and by the critical state of Western health care in general. It is true that essential oils offer superlative treatment options in certain areas of health maintenance and therapeutics. Notably, these include the prevention and treatment of infectious diseases, the treatment of systemic or terrain conditions, the maintenance of mental-emotional balance and the treatment of mood disorders. In each of these different areas of therapeutics, essential oils will shine in the hands of a trained professional. Their wide range of clinical applications is partly due to their existing in both a liquid and gaseous state, as well as their inherent volatility. Their volatility is a key factor in their ready absorption by inhalation. On one hand, oil inhalation favours application to treating respiratory conditions as the oil is absorbed by respiratory membranes into the sinuses and bronchi. On the other hand, inhalation favours treating mental-emotional conditions as the oil is decoded by dendrites as olfactory messages for the hypothalamus. Moreover, when used in a purely liquid state, oils present various further treatment possibilities. Topical forms of administration, such as liniments, gels, creams, spot treatment, etc., and internal forms such as tablets, gel caps, suppositories and pessaries, all rely on maintaining the oils in a liquid state and actively preventing a loss of potency through evaporation. Clearly, regardless of the styles, methods and applications of treatment being used, essential oils with their extreme versatility are able to effectively provide treatment options for many of today's key health-care challenges.

However, this alone does not account for the profusion of essential oil or 'aromatherapy' products and services currently being offered. Since the 1960s, the appreciation of essential oils and other aromatic plant extracts purely for their fragrance has rapidly increased. The close connection between fragrance and general well-being has always been instinctively acknowledged by essential oil practitioners, as well as some perfumers and fragrance research scientists, and is under increasing investigation (Rhind 2014). The continued experimental use of aromatics for simple olfactory pleasure and the instinctive enhancement of quality of life – and not necessarily for therapy – has resulted in a proliferation of preparations and treatments, many of them designed to promote individual balance and integration on all levels. Natural perfumes, misters and single or blended essential oils for various daily activities and occasions are just some examples of these.

Above all, the increased use of natural fragrances has resulted in a rebirth of natural perfumery, i.e., perfumes composed entirely of authentic aromatic plant extracts, notably plant absolutes and essential oils. These are reminiscent of the natural perfumes created during the first golden age of Western perfumery itself, between the 1650s and the 1780s. Significantly, solid natural perfumes and aromatic waters (hydrosols) – popular fragrance preparations of that expansive era – are now making a comeback. Likewise, in the area of cosmetology and cosmetics in general, essential oils and even hydrosols are enjoying a new-found niche throughout an ever-expanding range of ‘natural’ beauty-care products.

Driven by a general increased appreciation of the sense of smell, the aim of this aromatic experiment is arguably the drive to personal integration and balance in the individual and in society as a whole. A key aspect of this need is the integration of mind and body, and of the five senses among themselves – an integration of the various endemic human splits. This alone might explain the immense popularity of British Holistic Aromatherapy throughout the world. Bringing the sense of smell up to the same stage of development as the other special senses, especially the sense of sight, is a phenomenon peculiar to Western culture since the mid-20th century (Ackerman 1990). This process has been instrumental in satisfying the need for increased olfactory awareness and for enhanced olfactory perception. It has also led to investigations into the fascinating history of scent as a cultural vector, now maligned, now glorified, but always significant (Rovesti 1995, Le Guéer 1994, Classen, Howes and Synnott 1994, Dugan 2011).

Essential oils express fragrance in a singularly pure, clear and unalloyed way in contrast to the diffuse, opaque and compound nature of scents generally encountered (whether natural or in the form of synthetic perfumes). They also express fragrance in small portions that possess simple, potent aromatic information instead of the complex, diffuse fragrance notes found in perfumes since the early 20th century. It is entirely plausible to assume that this large-scale olfactory enhancement and re-education would then tend to regulate brain chemistry, promote sensory integration and, ultimately, serve to foster a healing of inborn human splits. In simplest terms, today’s renewed appreciation for the dimension of fragrance could be seen as a natural coping mechanism for the sensory overload that modern stimuli provide, at a time when multitasking and a five-minute-long attention span are often considered normal functions for an individual.

### **Untangling the Threads of Essential Oil Treatment Modalities**

Clearly, what is required now is an untangling of the many threads that currently constitute therapeutic essential oil usage. A key step here is making systemic differentiations among the basic types and styles of treatment modalities. This in turn will allow us to create stronger definitions for the principles and practices of essential

oil therapeutics as a whole. Creating differentiations will also re-establish semantic weight and accuracy to basic terms, thereby restoring true meaning and value to them. Strong, unambiguous definitions of key concepts of essential oil therapeutics will result. Important questions we should ask ourselves at this point would be, What are the different paradigms that inform essential oil usage today? Which treatment modalities currently include essential oils in their practice? What are the basic types of treatment pathways and effects currently being engaged with essential oils?

### *Differentiating paradigms*

Based on the ever-evolving morphic fields in the intersubjective space of Western culture (Sheldrake 2009), two opposing paradigms can be seen at work in the current emergence of essential oil therapy in its many variations: the Western scientific and the vitalistic paradigm. These drive the nature and dynamic of the various essential oil treatment modalities and strongly define the way different individuals and groups tend to view essential oils and their role in treatment.

The first paradigm entails the conservative pull of linear logic exerted by orthodox Western science, itself based on material reductionism. With its need for validation through objective scientific research, for evidence-based procedures and for reductionist scientific explanations, the paradigm of orthodox Western science remains pervasive in our cultural and scientific discourse, coloring every thought process with its bright analytical light.

The vitalistic paradigm is responsible for the radical pull of non-linear knowledge through subjective inner intuition. Needing to explore new methods of healing, different treatment techniques and experimental remedies such as essential oils, it represents an individual and collective striving to reclaim and validate inner wisdom. The paradigm of vitalism is particularly prevalent in traditional energetics-based medical systems, such as the Chinese, Ayurvedic and Greek; it is the basis for their epistemology as highly developed systems of clinical science.

Practitioners searching for meaningful solutions and for greater therapeutic effectiveness using essential oils are caught in the cross-currents of the morphic fields that generate these two paradigms. Practitioners now stand polarized between the outer necessity of scientific certainty and the inner desire to break through to new sources of knowing and understanding. Interestingly, the traditional streams of essential oil uses that are based on a vitalistic paradigm by far outnumber those based on a Western science paradigm. These include Western herbal medicine, British Aromatherapy and now the various traditional medical systems, mainly Chinese, Ayurvedic and Greek. The main practice that is based on a scientific paradigm is French medical aromatherapy, firmly anchored as it is in the rationale of essential oil pharmacognosy and pharmacology. Despite this disproportion, however, the pull exerted by the paradigm of Western science through pharmacognosy and pharmacology is equally as strong as all those based on vitalism for the simple reason that it constitutes the

basis of modern Western culture's world view and epistemology. In Western societies, it forms the larger context in which the vitalistic paradigm manages to somewhat express itself in the form of these various treatment modalities. This phenomenon is consistent with the postmodern aspects of many of today's Western societies.

### *Differentiating treatment modalities*

Looking beyond the fundamental nature and dynamic of treatment modalities, we can differentiate among the different ways that essential oils are actually used for treatment today.

#### HERBAL MEDICINE AND FRENCH MEDICAL AROMATHERAPY

There is no clear distinction today between the way that a practitioner of Western herbal medicine (or phytotherapy) and a general practitioner of allopathic Western medicine uses essential oils. As seen in Chapter 1, French medical aromatherapy is a direct descendant of Western pharmacy as a whole, itself rooted in the Western herbal medicine tradition that is embedded in traditional Greek medicine. Here, essential oils are employed as liquid aromatic remedies alongside other herbal preparations, whether water-based, alcohol-based or prepared in various other ways.

The oils' therapeutic actions are explained, as much as possible, in terms of their known pharmacognosy and their pharmacological functions with respect to basic tissue pathology such as pain, spasm, inflammation and infection. The ideal logical emphasis underpinning oil remedy selection, like that of herbal remedy selection, is on a putative *a priori* structure-function analysis of the oils' constituents. Despite this, however, practitioners of both Western herbal medicine and French medical aromatherapy will admit that the fundamental rationale for oil or herb remedy selection remains the traditional body of actions and indications acquired empirically. The epistemology for herbal medicine practice is still essentially based on empirical clinical knowledge, not scientific research. The rationalisation of a remedy's therapeutic functions with reference to its constituents usually comes after the fact, not before.

Treatment itself is based on known Western physiopathology, with a focus on the relief of symptoms and the management of known diseases. Its efficacy relies entirely on the internal absorption of essential oils in liquid form in the case of internal conditions, and on dermal absorption in the case of skin, soft tissue and neuromuscular conditions. Administration forms are both internal and topical, drawing on a range of pharmaceutical preparations developed in the long tradition of Western pharmacy. Internal delivery methods include drop-size doses in gel caps, sublingual tablets, sugar cubes, specialized nebulizers, suppositories and pessaries. Topical methods include gels, lotions, creams, compresses and liniments.

Within this basic framework, some variations exist regarding the interpretation of essential oil pharmacology, treatment strategies and delivery methods. The differences

result chiefly from various emphases given by various herbal and naturopathic medicine trainings. Some schools do retain traditional functional concepts of herbal medicine, for example, such as the 'restore-relax, stimulate-sedate' rubric of Eclectic and Physiomedical herbal medicine (Holmes 1999). Others will openly encourage incorporating traditional uses for herbal remedies even though no satisfactory pharmacological explanation can be found. Others again will selectively include aspects of energetic pharmacology based on any of the traditional medical systems, Chinese, Greek and Ayurvedic. For example, they may respect the warming or cooling, drying or moistening properties of herbs and oils when prescribing. Likewise, some practitioners will emphasize endocrine balance when treating internal conditions, while others will focus more on disease management and symptom relief. Whatever the condition being treated, practitioners have a variety of different treatment strategies available to them, and most have favourites among them that they have consistent success with. All these approaches will modify essential oil selection when these are included in a formula or topical preparation.

Differences also result from the medical and socio-political divide that exists between the training of a herbal practitioner and a medical doctor. Of note is also the fact that the majority of herbal and naturopathic medicine practitioners in the West rarely, if at all, use essential oils as remedies by themselves. Oils are most often compounded with herbal extracts of various kinds to make a compound herbal preparation. Likewise, the vast majority of medical doctors also do not prescribe essential oils. Those very few who do, however, have developed ingenious delivery methods in addition to building a solid *Materia Aromatica* of physiological functions and indications based on cumulative clinical experience.

#### BRITISH HOLISTIC AROMATHERAPY

With its eclectic origins, this style of essential oil use is clearly a postmodern child of the human potential movement of the mid-20th century. British Holistic Aromatherapy is a composite of various topical, psychological and aesthetic oil applications that may be used separately or together in any combination, as required by the condition presented by the client. In contrast to the French tradition therefore, it is a non-traditional, eclectic, innovative system of treatment. Essential oils are used here as independent therapeutic agents without the help of other types of remedies, whether aromatic or not, herbal or otherwise. The functions of the oils themselves are understood and classified in very general terms, such as 'stimulants,' 'relaxants' and 'regulators,' as well in more specific terms such as 'euphorics,' 'mental stimulants' and 'sensory integrators' (Tisserand in Van Toller 1988).

Treatment itself is based on restoring overall balance to the individual in physical, emotional and mental areas. British Holistic Aromatherapy therefore relies on very diffuse, generalized treatment methods. It employs two main techniques. Firstly, topical application of essential oils in a carrier oil on the skin with resultant mild transdermal

(but only minimal internal) absorption, as well as possible minor inhalation of the oils arising from topical evaporation. Secondly, mild direct inhalation of essential oils in vapour form from a diffuser, resulting in a psychological effect (and possibly a mild physiological effect).

British Holistic Aromatherapy is clearly a unitary body-centred system that aims to cut through the body-mind dichotomy endemic to the West. By engaging an undifferentiated physiological-psychological therapeutic effect during treatment, this approach is able to transcend treatment of either body or psyche alone. As such it can be said to run parallel to body-centred psychologies such as Bioenergetics, the Hakomi Method, and so on. By providing a diffuse rather than an intense type of aromatic treatment, this approach is able to address chronic and systemic conditions that present the whole continuum of mental, emotional and physiological aspects.

British Holistic Aromatherapy is also a return to Vitalism, an approach largely lost since the decline of Greek medicine principles since the 18th century. As in traditional Greek medicine, its aim is ultimately to regulate the individual's vital energy rather than treat particular disorders, the emphasis being to maintain well-being and therefore prevent the development of actual disorders.

In its purest form, this approach to oil use may be seen as an elegant holistic system of therapeutic interventions that in many respects mirrors the principles of Five-Element Acupuncture as we know it today. Originating in an oral tradition that harks back to the famous 12th century Chinese physician Liu Wan-Su, this style of acupuncture was introduced to the West by the celebrated French acupuncturist Jacques Lavier during the 1950s. It is no coincidence that Marguerite Maury was busy developing her holistic style of essential oil treatments during the very same decade! (Five-Element Acupuncture was further popularized by Lavier's many students, among them notably J.R. Worsley in England) (Eckman 2007). Like this acupuncture system itself, British Holistic Aromatherapy has been widely adopted across the world, testifying to its timeliness and viability as a modern health-care option.

However, an interesting and confusing paradox emerges when we realize that, since the 1960s, this modality has consistently looked to orthodox pharmacognosy and pharmacology for its basic essential oil rationale (Tisserand 1977, Lis-Balchin 2006). This chemistry-based approach is more consistent with French medical aromatherapy. It has tended, firstly, to reduce the scope of the holistic British approach in actual practice; and secondly, to subtly undermine its theoretical basis, which is clearly a holistic paradigm. Modern attempts to align essential oil pharmacology with a holistic paradigm of some kind are aimed at rescuing and consolidating the holistic aspects of 'British aromatherapy' (Holmes 2008, Rhind 2012). They are fully consistent with the wide explorations in vitalistic medicine pioneered by its founder herself, Marguerite Maury. These attempts and their application in the present *Materia Aromatica* will be explored in later chapters of this text.

The many variations within British Holistic Aromatherapy, particularly as practised in North America and Australia, arise mainly from the emphasis given to one or another treatment method in actual practice. While some practitioners will stick to the traditional body applications, aromatherapy massage and mild inhalation techniques, others prefer to include more specialized psychological, skin care or environmental oil applications derived from a variety of other sources.

#### ENERGETIC MEDICINE SYSTEMS

It would not be too far-fetched to say that essential oil treatment modalities that claim to be based on a form of energetic medicine are actually an extension or variation of British Holistic Aromatherapy. Energetic medicine, such as Chinese medicine and Ayurvedic medicine, is vitalistic by nature and holistic in therapeutic approach – key features shared by the ‘holistic aromatherapy’ approach originally developed by Marguerite Maury. Still, systems of essential oil usage that are based on a system of energetic medicine are distinct enough to merit the definition of a separate treatment modality.

For one thing, energetic systems of treatment are typically based on acupuncture points and meridians of vital energy flow in the body rather than on modern physiology. For another, they are languaged in the specialized medical terminology of that particular system. Essential oil treatment based on Chinese medicine, for instance, usually involves applying oils to points with the intention of addressing the whole syndrome presenting. Based on a diagnosis of signs such as the pulse, tongue, complexion and breathing, and of the patient’s symptoms, in the process it often involves balancing of meridians and energy transfers based on Yin-Yang and Five-Element laws, as well as the treatment of various types of energy blocks.

It is interesting that correlations between essential oils and points were already made in Paris in the 1950s, where acupuncture made its first big debut in the West, courtesy of acupuncture giants such as Soulié de Morant, Jean Borsarello and Jacques Lavier. Further correlations between oils and points have been published by Holmes (Holmes 1994, 2008, Holmes and Pollard 2013), Mojay (2008) and Odoul (2004). Similar treatment approaches using herbal remedies on acupoints are to be found in Chinese, Ayurvedic, Thai, Tibetan and Mongolian medicine. Here, instead of an oil being applied to a point, it is a single herb or herbal formula, ground up and made into a bolus, that is applied. It should also be noted that the tentative early use of essential oils on points was seen merely as an adjunct to acupuncture; typically the point would be oiled prior to needle insertion with the idea of preparing or boosting the point. Today, the combined 35 years’ experience of Holmes and Pollard, applying essential oils to points in treatment, leads us to believe that this is actually a treatment modality in its own right (Holmes and Pollard 2013). Moreover, the clinical results achieved by this aromatic modality are somewhat different from those achieved by acupuncture. Whereas acupuncture excels at treating physiological issues such as pain, spasm and

inflammation, essential oils have the potential for reaching further into the mental-emotional aspects of the individual to create healing. Highly energetic themselves by nature, they seem better able to get to the core energetic disturbance presenting. From any holistic and developmental perspective, this is an exciting dimension of essential oil usage today.

The functions of essential oils may also be understood and expressed in a language based on energetic medicine, and in relation to conditions of functional pathology such as heat, cold, damp, etc., as well as in terms of syndromes of the organs, meridians and Five Elements. However, the problem here is that no energetic functions for essential oils exist in Chinese medicine, nor in any other system of traditional medicine. Developing largely in an agrarian society, Chinese medicine has always relied on acupuncture, herbal medicine, dietary therapy, *tui na* massage and *qi gong* exercise for its treatment methods. It is only the recent explorations by the authors just mentioned that have opened up this completely uncharted territory.

As seen in Chapter 1, distilled essential oils are a particularly recent discovery in the West and were only gradually and tentatively introduced by practitioners into the Western materia medica from the late 1500s onward. Even then, they never gained the full therapeutic status that other herbal, mineral and metal preparations enjoyed, such as tinctures, fluid extracts, elixirs and homeopathic remedies. Consequently, any descriptions of essential oil usage in energetic medicine (e.g., oil functions and indications) are of very recent origin and should be seen as purely tentative and experimental. The descriptions of essential oil use in Chinese medicine in the present text, therefore, are merely initial explorations. It will take the combined, cumulative experience of many practitioners over many years to consolidate and refine this emerging body of medical knowledge. A parallel may be seen here with the tentative descriptions of Western herb use in Chinese medicine that have emerged since the 1980s (Holmes 2010).

#### PSYCHOTHERAPY AND SOUL HEALING

The modern use of essential oils for psychotherapeutic purposes may also trace its roots to British Holistic Aromatherapy. Here the essential oils are vaporized and inhaled to create a beneficial effect on mental and emotional disposition. Various types of research since 1922 have shown essential oils by inhalation to be instrumental in modulating brain hormones and neurotransmitters, resulting in changes in perception, cognition, mood and even sleep patterns (Gatti and Cayola 1922, Van Toller and Dodd 1988, Kirk-Smith 1995, Torii 1997, Buckle 2015). These effects were formally categorized mainly by Tisserand (1988) and, as noted above, have since become an integral part of mainstream British Holistic Aromatherapy. Various categories of essential oils are thought to affect certain brain structures and modulate the functions of their associated peptides, i.e., neurotransmitter and hormone functions. Ongoing research continues to validate the potential uses of essential oils for this purpose. Moreover, the exciting

advances in brain imaging research and interpretation have opened a new avenue of possible investigation on the effects of essential oils on neuroendocrine functions (Amen 1998, 2008).

Despite these recent advances in the neurosciences that portend vast potential, however, the number of therapists, counselors or even neuropsychiatrists using essential oils in this way is likely to be minuscule – and certainly much smaller than the number of French medical doctors using essential oils in internal medicine, for instance.

By all accounts however, the practice of inhaling aromatic substances in one way or another is the most ancient and widespread of all methods of essential oil delivery (Rovesti 1995, Morris 1983, Faure 1987, Fischer-Rizzi 1991). The recognition that this type of inhalation can benefit well-being by supporting and promoting balance to human mental, emotional and spiritual functions is also perennial. These benefits are experienced in the cultural intersubjective and are then expressed in the artifacts and practices of a particular culture. This is understandable once we realize that different cultures actually exist in different stages of development and express different types of consciousness (McIntosh 2007). As a result, the positive experience and expressed benefits associated with a particular fragrance is seen to vary widely in different cultures. Certainly, for most civilizations in the BC era, for instance, fragrance was associated mainly with a connection to the divine and with spiritual realms in general. Classic examples are ancient Sumerian, Babylonian and Egyptian practices. For other cultures, the inhalation of fragrance serves as a doorway to the individual or group soul within, with its rich reservoir of normally unconscious information; this is seen in the temple practices of ancient Cretan and Greek cultures, as well as in shamanistic practices performed worldwide in general. For others again, fragrance is an important marker of significant community and family events, such as births, weddings and funerals, being an essential aspect of ceremonies and celebrations of all kinds; this is seen in ancient Middle Eastern cultures, especially in Hebraic and Arabic ones. For yet other cultures, especially the Chinese and Japanese, fragrance becomes a key aspect of their cultural aesthetic and an artistic expression of their sensibility – the Japanese incense art of *koh-do* is a clear example of that. However, the beneficial influence of inhaling aromatic substances on emotional and spiritual well-being is universally experienced and recognized, regardless of how the positive effects of fragrance are expressed through the creation of aromatic products and practices.

How can modern individuals express and define our experience of aromatic substances on the way we feel and think at the deepest level? More specifically, how can we map what we know about the fascinating essential oil-brain connection through direct inhalation of aromatics? And how can we do this without falling into the trap of materialistic scientism while attempting to describe experiences that truly reach into the depths of the soul and the psyche?

While a separate chapter in Volume 2 of this work will explore these questions in more depth, it is clear that the way forward is twofold. Firstly, the psychological

effects of essential oils need to be based on our actual sensory experience of them. The starting point should be: when inhaling an oil, noticing the way that an oil makes us feel in our own bodily experience, nothing more and nothing less. The next step in the process is simple observation, noticing how certain body-centred experiences seem to be associated with particular types of fragrance. The third step is making systemic deductions about the various fragrance qualities and their psychological effects and functions. The fourth step would be to link the oils' fragrance qualities to their known chemical constituents. This final step completes the loop of inquiry which links subjective experience with a deduced conclusion, and this in turn with objective knowledge. This approach to understanding the psychological effects of essential oils has been called the 'psychosensory approach' (Rhind 2012).

Secondly, again using the word 'psychological' in its most generous sense, the effects of essential oils should be established and described afresh in simple language. The language should not be restricted to science-based psychology, but should encompass all functions of the true psyche, properly and traditionally called the 'soul.' With simple language, we can describe the effects of fragrance on most aspects of the soul's functions. These will range from its effects on purely mental and cognitive functions, to its effects on the unconscious lands of the soul inhabited by motivations, instincts and desires, and finally to its effects on our emotions and feelings.

Clearly, most types of treatment with essential oils involve some degree of inhalation and therefore necessarily a psychological effect. However, that effect can be magnified and controlled when the aim is psychotherapy or soul healing. The focus then becomes entirely the inhalation pathway of delivery, which can be engaged either to promote general wellbeing or to create specific effects on brain functions for treating particular conditions, e.g. mood swings, depression, anxiety, PTSD, and so on.

As we explore the current streams, modalities and paradigms of therapeutic essential oil use, the larger question raised in Chapter 1 comes to mind, namely: Is essential oil therapy a development within herbal medicine proper, or is it a separate treatment modality in the process of emergence? Given the contradictions and confusion surrounding essential oil use today, we can now proceed to parse this question into a series of further questions. Is essential oil therapy emerging as a single modality, or as a cluster of different treatment modalities? In other words, are the various essential oil modalities practised today merely parts of an overarching system we may call essential oil therapy, or is each modality becoming a self-sufficient system?

Because these questions reflect the developmental nature of essential oil therapy as a work in progress, they really have no definite answers yet. It would seem best to remain suspended with the questions and remain content to paradoxically speak about both 'essential oil therapy' as a single modality and 'essential oil therapies' in the plural as the various modalities emerging today. Regardless, it is clearly exciting to consider the expanding avenues for effective treatment with essential oils. The *Materia Aromatica* gathers the various streams of their clinical uses and creates a rich tapestry of therapeutic potential.

# The Essential Oil Profile

## The Identifying Information

### *Botanical source*

The botanical identity of the source plant is basic information for defining a bioactive essential oil, along with the specific part of the plant used to distill the oil. Both are important because different species usually yield oils of a different quality and character; e.g. the *Helichrysum* species distilled in Madagascar are very different from the one species produced in the Mediterranean. Likewise, a single plant can yield different oils from different parts; e.g. Juniper berry and Juniper twig oil, Cinnamon bark oil and Cinnamon leaf oil; Pimenta berry and Pimenta leaf oil.

### *Other names*

Alternative English names in common use for the oil or the plant are given, along with its names in other major languages.

### *Appearance*

This describes the mobility, colour and odour of the essential oil, which together are its key identifiers from the organoleptic point of view. Any significant differences in appearance and aroma usually point to an element of adulteration. Minor differences may also simply indicate a deterioration of oil quality, which is usually due to oxidation or polymerization from poor storage and/or ageing.

### MOBILITY

Most essential oils are approximately as mobile as water; others range from somewhat thicker (Palmarosa, Peppermint, Ylang ylang) to quite syrupy (Cistus, Patchouli,

Sandalwood) to highly viscous (Vetiver, Myrrh). Most of the viscous oils are high in sesquiterpenols, e.g. patchoulol in Patchouli, vetiverol in Vetiver and santalols in Sandalwood.

An important clinical consequence of high viscosity is that it increases the drop size of the oil dramatically, which is a consideration in formulating work of any kind. Absolute extracts are generally also fairly thick, as with the absolutes of Rose, Jasmine, Tuberose, Champaca, Patchouli and so on. Some, like Balsam fir and Clary sage absolute, are solid at room temperature.

## COLOUR

While the whole colour spectrum can be seen in the oils in common use, the two most common shades seen are clear, like water (as seen in Eucalyptus and most conifer oils), and pale green-yellow (e.g. Tea tree, Clary sage, Palmarosa, Frankincense). Others are various shades of green (Bergamot, Clary sage), deep amber (Vetiver) and olive brown (Patchouli, Spikenard, Vetiver). The cobalt blues of German camomile, Blue tansy, Yarrow and Blue cypress, from their chamazulene content, is very striking.

It is tempting to make systematic associations between an oil colour and its basic quality and typical clinical functions. One can draw from several models to create these associations, e.g. the Western four elements, the Oriental five-element system, the yogic seven chakras, all of which have strong traditional colour associations. While this approach is perfectly valid, we should remember that not all oils express themselves in colour. There is an inherent limitation then to obtaining therapeutic information from the colour of an essential oil alone.

## ODOUR

This is the most important identifier for an essential oil, as much adulteration (but not all) can be detected experientially through its aroma. Essential oil odour is largely the result of oxygenated compounds in combination, especially alcohols such as monoterpenols and sesquiterpenols; but also esters, aldehydes, ethers, ketones and acids. The weakest aspect of describing oil odour is simply language itself, which is frankly poorly developed in defining the many small nuances found in the odours of natural plant materials. This reflects the relatively minor role of scent in Western culture, science included, especially in comparison to sight (Ackerman 1990). Still, there exists a small but solid body of terms used by perfumers that almost everyone seems to share and understand. Arctander's reference work on perfumery materials (1960) is a current example of the most useful categorization and description of the spectrum of essential oil odours.

*Perfumery status*

Essential oils are important components of high-class and 'natural' perfumery. Moreover, although perfumery and the creation of aesthetic blends is clearly not the focus of this text, it is still important that the therapeutic blends be considered pleasant, especially if they are being diffused in the environment for any length of time. For this, knowledge of fragrance aesthetics can be very helpful.

To create a treatment blend that is not just effective, but also highly acceptable, we need to understand the fragrance aesthetics of essential oils both singly and blended. This will ensure not just user-friendliness, but also client compliance. Clients will reject an unpleasant blend, regardless of any positive suggestions given by the therapist. The placebo effect can easily be made almost non-existent. Olfaction in a therapeutic context is here clearly in marked contrast to ingestion, where having to drink decoctions of awful-tasting medicinal herbs (as in some Chinese herbal decoctions) is often the norm and largely manageable. The 'pleasant' versus 'unpleasant' factor of olfaction ultimately depends on the limbic system. Unlike with all other sensory input of information, the limbic system does not rely on the thalamus to reduce and attenuate the olfactory information it receives from the external environment. The limbic system simply desires pleasant aromas for individual survival and will not tolerate anything else. While it prefers complex over simple fragrance notes, it will still tolerate simple aromatic combinations as long as it deems them pleasant and they do not create olfactory fatigue.

What, then, constitutes a pleasant aromatic blend? First and foremost, one that takes the aesthetic laws of fragrance into consideration. Such a blend will be considered pleasant, i.e. non-fatiguing on prolonged exposure and positive in connection with repeat usage. This is emphatically not to say that treatment blends for inhalation with diffusers, nebulizers, etc., should conform to the classic formula of perfumery, where head, heart and base note oils must all be present in general proportions. Our aim here in a clinical context is to create a therapeutic blend, not a perfume. On the contrary, because treatment blends are deliberately one-sided in one way or another, they tend not to include all three scent notes. They will usually be top heavy, bottom heavy or middle heavy, and sometimes heavy in the two adjacent categories. It is possible, for instance, to make a therapeutic blend of mainly head notes with a minor amount of heart notes to increase acceptability and therefore client compliance; or mainly base notes with small amounts of heart notes to keep the whole blend alive.

The main three aesthetic aspects of fragrance are its note, intensity and persistence. In a treatment context, only the first two aspects are ever a real consideration in the creation of a blend or formula.

## THE FRAGRANCE NOTE

Fragrance notes largely result from their degree of volatility, i.e. the rate at which they evaporate. They come in three categories: head, heart and base notes, and can

be understood as the relative ‘pitch’ of essential oils. Creating a satisfying proportion among the three notes is a major consideration in the creation of an aesthetic or perfume blend, while in therapeutic formulation it is a secondary issue.

- **A head note oil** is often described as ‘fresh’ and is usually pungent or lemony in fragrance. It has a high degree of volatility and a light, sharp, penetrating character that gives a blend lift, movement, clarity and, ultimately, lyric interest. Head notes are perceived first in a well-balanced fragrance composition; they are its introduction. Lemon, Grapefruit, Bergamot, Lime, Mandarin, Grand fir, Lemongrass, May chang, Lavender, Eucalyptus, Peppermint, Spearmint, Cajeput, Saro, Niaouli, Cardamom, Nutmeg and Black pepper are all typical head note oils.
- **A heart note oil** is usually floral, sweet, green, ambery or spicy. It is moderately volatile; it has a balancing, harmonizing, unifying character that gives a blend body, warmth, fullness and coherence. Heart notes are perceived after head notes in a well-balanced composition and literally form its heart or central core. They express the main aesthetic statement of a blend. In that sense they are the most important of all three notes. Good heart note oils include Geranium, Rose, Palmarosa, Helichrysum, Neroli, Jasmine absolute, Jasmine sambac absolute, Ylang ylang, Blue tansy, Clary sage, Roman camomile, Marjoram, Galbanum, Clove, Ginger and Cinnamon.
- **A base note oil** is usually woody, rooty or mossy. It is poorly volatile and has a dark, heavy, static character that grants a blend depth, glow, richness and presence. In a well-balanced composition, base notes are perceived last of all after heart notes and play a supportive role to them. Their presence will make a blend complete. Vetiver, Cedarwood (all types), Patchouli, Cistus, Sandalwood (all types), Spikenard and Frankincense are common base-note oils. Many absolute and other types of extracts possess a good base note, including Cistus, Oakmoss, Patchouli, Benzoin, Peru balsam, Lavender, Clary sage, Cacao, Coffee and Balsam fir.

#### THE FRAGRANCE INTENSITY

Fragrance intensity refers to an oil’s relative loudness or softness and is divided into high, moderate and mild. This is a major consideration in the creation of an aesthetic or perfume blend, while in therapeutic blending it is again of secondary importance.

- **A high intensity oil** has a strong aroma and may be either intensely sweet-floral or strongly fresh-pungent. Oils that exhibit a high intensity include Blue tansy, German camomile, Yarrow, Helichrysum, Ylang ylang extra and no. 1, Petitgrain, Cinnamon, Basil (most types), Cardamom, Marjoram, Eucalyptus, Ravintsara, Cajeput and Niaouli. Smaller amounts of these are often used in blending work.

- **A moderate intensity oil** is moderately strong and represents the majority of oils used.
- **A mild intensity oil** has a weak aroma and includes many woody oils, such as Myrrh, Atlas cedarwood, Patchouli and Sandalwood, as well as more subdued green oils such as Lavender, Clary sage and Hyssop.

#### THE FRAGRANCE PERSISTENCE

Also called tenacity, this refers to the duration or length of time that an oil will stay on the skin. This is only a consideration when the aim is to create a perfume rather than a therapeutic blend.

- **Excellent persistence** means the oil has excellent staying power on the skin; e.g. Vetiver, Helichrysum, Patchouli, Cistus, Atlas cedarwood, Sandalwood, Spikenard, Ambrette seed. Many, but not all, are base notes.
- **Moderate persistence** indicates the oil as having moderate staying power on the skin; e.g. Geranium, Palmarosa, Clary sage, Rose, Fennel. The majority are heart notes.
- **Poor persistence** means the oil has poor staying power on the skin because of rapid evaporation, e.g. Bergamot, Lavender, Eucalyptus, Sweet orange, Pepper-mint, May chang, Lemongrass and Grapefruit. Most of these are head notes.

## Plant Source and Essential Oil Production

### *Extraction*

This gives the extraction method, the plant part used, and whether fresh or dried, and the average time of year that harvesting and distilling take place. Most oils are steam distilled, but citrus oils are also cold pressed.

### *1 kg oil yield from*

The weight of plant material needed to extract a single kilogram (about 2.2 lbs) of essential oil. Essential oils are usually measured by weight as their density can vary considerably. This helps give us a sense of the high concentration of the oils, as well as the sheer volume of raw material and energy needed to produce just a small amount of essential oil. The plant's yield in oil, together with the time and labour intensity of the growing, harvesting and distillation process, will determine the final cost of the oil.

- **High yield oils** include Clove, Sage, Lemongrass, Eucalyptus and Tea tree; these are lower priced in general.

- **Low yield oils** include Rose, Neroli, Melissa and Helichrysum; these are higher priced as a result.

Most essential oils fall somewhere in between, i.e. they have a moderate yield.

### *Production areas*

Only the major production areas are listed here, but include smaller production areas of high-quality oils that focus on serving the essential oil therapy industry in particular. Chapters 2 and 3 discuss oil production from a number of different aspects.

## **Chemical Constituents and Adulteration Issues**

### *Typical constituents*

These are grouped in decreasing order by the volume actually found, not by the categories of essential oil chemistry or the sequence of gas chromatography analysis. Percentages are given when significant; no percentages are usually given for constituents present in less than 1% quantity.

The first two types of constituents very often represent the chemical signature of the oil, as with the oils of Lavender (esters and monoterpenols), Blue tansy (sesquiterpenes and monoterpenones), Patchouli (sesquiterpenes and sesquiterpenols) and Tea tree (monoterpenols and monoterpenes). In some oils there is only one type of dominant constituent, as with the oils of Grapefruit (monoterpenes), Clove bud (phenols), Palmarosa (monoterpenols) and Grand fir (monoterpenes). In other cases there may be several equally important constituents, as with Bergamot oil, which is delicately balanced among esters, monoterpenols and monoterpenes; and Green myrtle, which hangs mainly on oxides, esters and monoterpenes. This is not to say that other, often minor, constituents are not significant in completing the overall picture and providing insights into the physiological actions of the oils. We should remember also that often 'the major constituent (by volume) is not responsible for the characteristic odour of the oil' (Arctander 1960).

### *Chance of adulteration*

Adulteration of essential oils as clinical remedies is a huge problem that diminishes essential oil quality more than anything else. Chapter 3 discusses the issues involved in full detail. That industrial standardization and commercial adulteration are common practice underscores the importance of distinguishing those oils designed from the very start (i.e. from plant cultivation or collection onwards) as therapeutic agents from those designed to be flavouring and perfumery materials. Knowing some of the typical industrial methods of producing, chemically standardizing or engineering an

essential oil can provide insight that will aid selection of oils that are truly genuine and therefore appropriate for use as aromatic remedies.

### *Related oils*

This section puts the oil in relation to other important essential oils in the same genus or of the same general type. Some of these are also profiled in this text, while others are relatively minor and rarely available or rarely used in clinical application. Remember, though, that there are always up-and-coming oils in these lists; these should be kept in mind with an eye on future needs and developments.

## **Therapeutic Functions and Indications**

This next large section provides the basic information needed to use an essential oil as a remedy. It broadly divides the uses of the oil as a psychological remedy (via the inhalation pathway), a physiological remedy (via a pathway of internal absorption) and a topical remedy (via topical methods of application).

### *Therapeutic and topical safety status*

See Chapter 4 on safety issues.

## **Specific Symptomatology**

When grouped together, the major signs and symptoms that indicate the use of a remedy form a specific symptom picture – often called a pattern or symptomatology. This goes for any herbal, essential oil or other remedy, but applies especially to stronger preparation forms like alcoholic tinctures, essential oil remedies and high-potency homeopathic remedies. This symptomatology is unique and specific to the remedy, in this case the essential oil. It includes both physiological and psychological signs and symptoms. One could say that it is the ultimate indication for the use of an oil, and is therefore listed first in the therapy section for ease of reference.

Because the specific symptomatology is so all-encompassing and touches the identity of an essential oil in such a direct way, it means that any administration method and preparation form can benefit from this knowledge. It is not limited to any particular form of administration, whether internal or olfactory, but transcends them.

The basic diagnostic question here is, to what extent does a particular client fit and resonate with an oil's specific symptomatology? Any person presenting more than a third of a specific symptomatology is a good candidate for the corresponding essential oil remedy. Any person presenting over two-thirds of a remedy's specific symptomatology in their case history may have a need for the corresponding oil

remedy on a constitutional basis. In such cases there is a resonance between the individual's constitution and the essential oil, which can be made use of during a long-term course of treatment. Using the language of homeopathy, we can say that the individual is then such-and-such a constitutional type, e.g. a Geranium or a Clary sage type. The majority of oils in Volume 1 of this work were chosen precisely because they can more often be given as constitutional remedies and can be considered the equivalent of the polycryst remedies of homeopathy.

However, in other cases a client or patient may simply have a need for a particular oil on a conditional, not constitutional basis. Treatment with that oil is then more likely to be short-term rather than long-term.

The specific symptomatology of a remedy then is potentially a unified description of a patient's pattern of imbalance. It is the archetypal geography of a remedy type against which a patient's symptomatology can be held up and evaluated.

The origins of the specific symptomatology in clinical practice go back to the physician and alchemist Paracelsus and his school of alchemical (spagyric) medicine of the early 1500s in central Europe. Three hundred years later, Samuel Hahnemann then developed this concept further by naming patients' disease patterns after the remedy's specific symptomatology, e.g. the Pulsatilla type, the Calc. carb. type, and so on. Taking their cue from homeopathic practitioners, Eclectic doctors in North America, starting with John Scudder in the 1840s, soon adopted this concept and eventually applied it to all the major herbal remedies in their extensive Eclectic materia medica. *King's American Dispensatory*, for example, perhaps the most comprehensive and authoritative herbal medicine textbook of the time, lists the specific symptomatology for almost all of its remedies, which include numerous essential oils (see the author's *Energetics of Western Herbs, Volume 1* for further details).

### **Psychological Functions and Uses**

These describe the psychological effects and indications of the oil when absorbed in vapour form by various methods of aromatic diffusion. Inhalation of an oil vapour will deliver olfactory information directly to the limbic system without any reduction of information by the thalamus. The preferred methods of inhalation include direct techniques such as inhaling from a tissue, warm washcloth, facial towel or bowl of hot water (i.e. steam inhalation); with the use of room diffusers; and with indirect inhalation methods such as body massage, which combines touch with a significant absorption of the oil vapour.

To better understand the logic behind this type of effect, the psychological functions of the oil are preceded by four types of information, its essential PNEI function, its possible brain dynamics, its fragrance category and its indicated psychological disorders.

*Essential PNEI function and indication*

This gives the oil's known actions on the psychoneuroendocrine-immune (PNEI) system. This information is an important basis for understanding the effects of essential oils on the mind and emotions, i.e. their psychological functions through the olfactory pathway. This and the psychological aspect of using essential oils is explored in a separate chapter in Volume 2.

*Possible brain dynamics*

The work of researchers such as Daniel Amen (1998, 2008) on the PNEI functions of various brain structures can clarify many clinical experiences with essential oils. The reader interested in exploring this aspect should consult Amen's literature.

*Fragrance category*

This provides important guidance for the use of an essential oil in helping to resolve mental-emotional conditions using inhalation techniques. This system of energetic fragrance qualities is also extremely useful in the context of any treatment that is based on energetic principles. This includes the use of an oil in the context of Chinese medicine itself. The Chinese medicine functions and uses of each oil are presented separately. See the relevant chapter in Volume 2 for further details.

*Indicated psychological disorders*

Mental and emotional balancing with essential oils is effective regardless of whether a diagnosed condition is present or not. The conditions listed here are simply possible conditions that may exist and/or be diagnosed in connection with the psychological functions and indications outlined here.

## **Physiological Functions and Uses**

These describe the physiological functions and indications of the oil when used with a form of administration that is able to deliver the oil in liquid form to the body's internal environment. The preparation forms suggested to engage physiological absorption of an essential oil – diffusion by nebulizer, gel cap, suppository, pessary and liniment – are not exclusive. High dilutions given in a whole-body massage, for instance, are likely to cause a certain amount of internal absorption – in addition to the well-known psychological effect produced through inhalation. This furtive absorption can occur especially in those body areas away from the large muscles where the tissues are thin and the circulation lies close to the surface, such as the cubital and popliteal creases.

This physiological information presented is the combined experience of French practitioners from the 1950s onward, and increasingly in Europe and the US, through to the present day. It is to some extent influenced and modified by the author's own experience as a medical herbalist, as well as by parallel essential oil research worldwide that continues on an ongoing basis.

From the therapeutic perspective, it is important to know the tropism and fundamental clinical indication for each oil before exploring the details of its many actions and indications. Once we understand its broad clinical themes, its many details become clearer and more accessible.

### *Tropism*

Like any plant remedy, an essential oil possesses a tropism or specific affinity for certain body tissues, organs and even general body areas. This holds true regardless of the particular administration form used. There is speculation that essential oils contain guiding molecules in their chemical composition that act as keys to locks in particular tissues. The main body systems affected by the oil are listed here.

### *Essential functional and diagnostic indication*

This summarizes the oil's essential indication in terms of the diagnostics and therapeutics of functional medicine. The template system used here is the Six Conditions of pathology and diagnosis. This particular model of functional diagnosis integrates and updates the diagnostic paradigms used in traditional Greek, Chinese and Ayurvedic medicine. This topic is discussed in detail in Volume 2.

The oil's physiological functions and indications themselves are listed from the most systemic and general to the most local and specific. In general therefore, larger, systemic functions involving endocrine balance, CNS functions and arterial circulation are listed first. They tend to be the clinically more important functions as well, because their systemic effect usually underpins all others and truly characterizes that oil. Occasionally a more local action on a body system will be listed first if it happens to be of greater clinical importance.

In many cases, an oil's many functions and uses will usefully break down into two or three major 'theme' functions. Clary sage, for instance, is best understood as having both restorative and relaxant functions in general. Most of Clary sage's many clinical actions can be seen to belong to either a restorative or a relaxant category. Organizing the many actions of an oil around its dominant theme function will clarify both its essential therapeutic nature and the nature of its minor or lesser-known actions. From a practical perspective, the approach of going from the general to the particular of an oil will also make its clinical usage clearer and easier to remember.

### *Antimicrobial actions*

For ease of reference and because a few essential oils excel at treating various kinds of infection, a separate antimicrobial (anti-infective) section is presented for most oils. It should be noted that the information on an oil's various antipathogenic actions is entirely based on research, i.e. it is evidence-based. Its indications, however, are for the most part based on accumulated clinical experience. This is the exact point where scientific research meets clinical practice. The development of the aromagram, or disc diffusion test, pioneered by Dr. Maurice Girault in 1969, has been instrumental in charting the antimicrobial properties of essential oils using actual patient fluid samples (including sputum, saliva, urine, blood and vaginal discharge).

Palmarosa oil, for example, is a strong antifungal, antibacterial and antiviral, and therefore can be useful for an exceptionally wide range of infections. Note, however, that most antimicrobial oils will reduce a particular infection not by inhibiting microbes on contact alone; they also cause some organ or tissue stimulation that mechanically helps remove pathogens and their toxins from the body. Their anti-infective function therefore usually consists of a twofold action:

1. Direct inhibition of microbial function and proliferation on contact
2. Assistance of the host's tissue terrain in coping with non-commensal microbes and their toxic by-products

In addition, research has shown that many essential oils exert a direct stimulant action on immune functions (e.g. Tea tree, Thyme *ct. linalool* and *ct. thymol*, Saro and Ravintsara).

The antimicrobial action can largely be determined *in vitro* through lab research, where the aromagram is the most commonly used method. The action on the tissue terrain or ground, however, can only be ascertained in physiological terms by repeated trial and observation of treatment results in the clinic.

A good example of this twin antimicrobial and tissue terrain action at work is Spearmint oil. While it is a moderate bacterial inhibitor when compared to Palmarosa, Niaouli or Tea tree, it nevertheless effectively treats respiratory and urinary infections because of its excellent expectorant and diuretic actions.

It is for this reason that infectious conditions are often listed in both the main section and the specific antimicrobial section, as they can respond to both types of actions.

Despite their superficial drug-like action with respect to pathogens, we should never fall into the trap of viewing essential oils as simple drug substitutes. Essential oils are specialized botanical extracts after all and, like all botanical remedies, are complex and usually work in complex comprehensive ways to successfully treat infectious conditions. This is often seen in the chemical composition of an oil, where several types of constituents will often work in synergy to achieve a particular antimicrobial effect. In Tea tree oil, for instance, the dominant antimicrobial monoterpene alcohols

(notably terpinen-4-ol) are backed up by monoterpenes and 1,8 cineole, both of which have shown to promote the access and penetration of monoterpenols to the cell membranes at the site of infection (Harris 2008).

Equally important, essential oils on the whole work in cooperation with the individual's vital functions and energy, whereas synthetic drugs work by overriding them. This is another enormous difference between them. Experientially this accounts for the relatively few side effects resulting from the appropriate clinical use of essential oils as compared to the use of synthetic medications. Looking at the action of strong antibacterial oils on the gut in comparison to antibiotics, for instance, it is known that oils do minimal damage to the commensal gut microflora, which is not the case with antibiotics. Cinnamon oil, for instance, is currently thought to selectively inhibit gut pathogens only (whether from dysbiosis or infection), while high-phenol oils, e.g. Clove, Oregano, Thyme ct. thymol, are considered to negatively impact the eubiotic microflora (Harris 2008). Again, the action of anti-inflammatory oils such as German camomile, Blue tansy and Frankincense, is completely free of any adverse effects, in contrast to NSAIDS in common use.

In short, the Antimicrobial section is simply provided as a convenience to quickly reference infectious conditions, with no further implications of any kind intended.

The physiological and pharmacological aspects of using essential oils in general are discussed separately in Volume 2.

### **Synergistic and Complementary Combinations**

When administered for internal use, essential oils, like herbal remedies, are more often used in combination rather than singly. The idea behind this is both to increase their efficacy and tailor their use to the needs of a particular client's condition. All three of the world's major traditional medical systems (Chinese, Greek and Ayurvedic medicine) have developed the fine clinical art of combining single remedies to create formulas. These traditional systems of herbal medicine all began with simple, tried and tested herb clusters that later became the building blocks for more complex, comprehensive formulas. Over millennia, physicians wrote hundreds of texts (known as formularies) containing formulas for treating particular syndromes and disorders. We can do the same when using an essential oil to treat physiological conditions. There exist only two types of combinations among remedies: synergistic and complementary.

Keep in mind that combinations suggested in this text are meant as examples only – although they are important examples in themselves. By no means exhaustive, they are given here as a stimulus to further clinical experimentation. After all, the clinical reality here is the client's treatment needs: this is what finally determines specific oil selection.

### *Synergistic combinations*

Combining two or more essential oils with the same properties will create a synergistic effect that mutually enhances the strength and effectiveness of a particular action. For instance, Lavender and Clary sage, when combined, create a greater particular action than when either is used separately. Specifically, pairing these two oils produces a stronger nervous restorative and nervous relaxant action than otherwise possible with either one alone. Another example would be the synergistic action achieved by combining Marjoram and Peppermint. Together, their spasmolytic and analgesic action (particularly on the gut) is superior than if either is used alone.

Despite the empirically proven effectiveness of this type of remedy combining in clinical practice, we are justified in asking about any science behind this principle. Taking recourse in the oils' chemical constituents, we find that a synergistic action is usually obtained when the dominant constituents are the same. In the case of Lavender and Clary sage, it could be argued that the synergy lies in the simple meshing of esters with esters. Taking this example to the next level of secondary constituents, we again find monoterpenols fusing and therefore presumably mutually enhancing their effect.

In the second example of Marjoram and Peppermint, the dominant constituents are monoterpenols; the synergistic action is achieved presumably through the fusion of both similar and dissimilar types of monoterpenols. Conceivably the presence of both types of monoterpenols would strengthen and enrich their bonding. Of these two oils' secondary constituents, we find a significant proportion of monoterpenes in both, which would only add to the overall ability of these two oils to form a new functional unit. Clearly, both these oil pairs are therefore good examples of very effective synergistic combinations.

Other good examples of good synergistic oil pairing would be Tea tree and Thyme ct. linalool for an enhanced antifungal action, where various monoterpenols reinforce each other; Niaouli and Ravintsara for an enhanced antiviral action (especially with acute respiratory infections), where 1,8 cineole and various monoterpenes would work in tandem; and Black spruce and Scotch pine for a stronger neuroendocrine restorative action, involving the synergy of various monoterpenes.

The other way to arrive at synergistic combinations, and without knowledge of the oils' chemistry, would be to use the empirical method of the energetic fragrance qualities. Lavender and Clary sage, for example, are both essentially green oils and therefore are potentially relaxing and cooling – which implies usage in hypertonic/tense and sthenic/hot conditions respectively. While it is true that these functions have the advantage of being holistic – that is, affecting both mind and body as one – they are very broad descriptions that lack the precision of chemical pharmacology when it comes to understanding or at least rationalizing known physiological actions and combinations. On balance, the clinical model of the fragrance categories is more useful when the focus is comprehensive body-mind rebalancing rather than specific

physiological intervention. Ultimately, both potentially contribute hugely to our understanding of how essential oils work in clinical practice.

### *Complementary combinations*

Combining two or more essential oils with different properties will create a complementary effect where one oil is supported with an assistant oil of a different character or quality to reinforce a particular action. Rather than creating a single synergistic action as discussed above, here two oils can enhance each other by combining different actions. Lavender and Marjoram, for instance, make for a good complementary combination that targets hypertonic/tense neuromuscular conditions. Both oils act as relaxants but possess different energetic qualities and constituents. Lavender is a sweet-green aromatic dominated by esters, while Marjoram is a pungent-herbaceous green oil dominated by monoterpenols and monoterpenes. The combination of their complementary qualities and constituents makes their particular relaxant action more comprehensive and focused, and therefore clinically more effective for treating painful spasmodic conditions of the heart, coronary circulation and digestive tract.

Another example would be the complementary effect achieved by combining Marjoram with Blue tansy in treating asthmatic conditions. Both oils are systemic nervous relaxants with good bronchodilator (bronchospasmolytic) and analgesic actions. However, while Marjoram is also a particularly effective smooth- and striated-muscle relaxant that opens the chest and relieves wheezing, Blue tansy is additionally a strong anti-inflammatory and antihistamine oil that will address the inflammatory component of asthma. Here, their common relaxant action on bronchial smooth muscle is enhanced by their other focus of action, effectively resulting in a more comprehensive treatment of asthmatic conditions.

Good complementary oil combinations usually involve two dominant constituents that are different and yet achieve the same therapeutic effect. In the case of Lavender and Marjoram, the action of Lavender's esters is presumably assisted by the action of Marjoram's monoterpenols. In the example of Marjoram and Blue tansy, the complementary effect of monoterpenols is supported by sesquiterpenes. Again, the fact that both oils also contain significant amounts of monoterpenes strengthens their general affinity through a minor synergy and ultimately encourages positive clinical results.

Another example of a good complementary combination is Tea tree and Niaouli, two *Melaleuca* species that together create a broad anti-infective action for treating a wide range of infections. Here the monoterpenols of sweet Tea tree are complemented by the 1,8 cineole of fresh-pungent Niaouli. Both oils also share significant levels of monoterpenes that serve to reinforce their complementary action with a secondary synergistic one.

Blue tansy and *Helichrysum* make a good complementary pair in the treatment of immediate allergies through their shared anti-inflammatory and antihistamine actions.

Blue tansy's sesquiterpenes (notably azulene) match Helichrysum's esters and ketones. For the treatment of venous congestion in the lower limbs causing varicose veins, Patchouli's sweet-woody sesquiterpenols and sesquiterpenes are complemented by the floral-sweet monoterpenols of Geranium.

How can one uncover complementary combinations where one fragrance quality is supported by another possessing the same function? In the complementary combination of Lavender and Lemongrass, for instance, we find a green oil supported by a lemony oil for treating inflammation and fever. Both aromatic qualities potentially have cooling effects. The energetic functions of Lavender and Lemongrass, therefore, are described as 'clearing heat,' through the combined energies of the green and lemony fragrance quality. The function of 'clearing heat' has wide implications on the whole body-mind-emotions system and implies heat on the mental-emotional level as well as the physiological one. In terms of their constituents, sweet-green esters and monoterpenols (Lavender) are assisted by lemony monoterpene aldehydes (the citral, geranial, etc. in Lemongrass) to create anti-inflammatory and antipyretic actions. This particular case clearly illustrates a direct dovetailing between the empirical energetic and the pharmacological approach to oil combining. However, it is generally best to support any conclusion drawn with rationales based on oil constituents that match their larger energetic fragrance character.

### **Topical Functions and Uses**

When selected judiciously and administered correctly in relation to carrier substance and required dilution, essential oils prove very effective for a large number of both acute and chronic conditions involving the skin and soft tissues. This section describes the topical actions and indications of an oil when used locally in compresses, liniments, lotions, creams, serums, washes, etc. They divide basically into two types of applications: first, usage in beauty care; second, usage in the treatment of surface conditions in general, involving the skin, hair and scalp, muscles and other soft tissues, and joints. Therapeutic and cosmetic applications are not placed in separate sections because of the large overlap between them.

The listing begins with skin care usage with an emphasis on the particular skin type that will typically benefit most from the oil in cosmetic preparations. Palmarosa oil, for instance, is especially indicated for the dry skin type as well as for treating irritated or lifeless skin in general because of its topical emollient action. But Palmarosa is also generally helpful with wrinkles, broken capillaries, itchy skin and acne, regardless of skin type, because of its additional ability to regenerate the skin both functionally and structurally. In turn, these emollient and skin-regenerative actions are very useful for treating other skin disorders such as dermatitis.

## Precautions

Whether used topically or internally, precautions often arise in the safe and effective clinical use of an essential oil. These are based on an oil's therapeutic status in terms of its safety of internal absorption and topical application. As for an oil's psychological applications in the context of aromatic diffusion, no precautions are necessary; the brain will automatically shut off perception of a fragrance that is either disliked or simply present for too long. This shutting off of a fragrance results from olfactory fatigue and will occur sooner or later, depending on individual levels of tolerance.

Precautions divide into cautions, which involve adjusting or monitoring a particular situation; and contraindications, which should be followed to the letter.

There are two kinds of precautions: therapeutic and pharmacological. Therapeutic precautions have to do with the use of an oil for certain conditions or under special circumstances. For example, individuals with hypertension or who are prone to migraines or epileptic seizures, should not take or absorb Hyssop oil internally by gel cap or nebulizer, as it is a medium-strength oil with cumulative chronic toxicity (see Chapter 3 on issues of essential oil safety). Usage during pregnancy and with infants present other treatment precautions again with certain oils.

Pharmacological precautions arise from the nature of the oil itself; these currently are much better understood than therapeutic precautions. This type of precaution can affect the degree of dilution and typical methods of application. For internal administration, it usually affects the gel cap (etc.) dosage and the duration of intake in terms of the number of days. Grapefruit oil, for instance, should only be used in skin care when of good quality, i.e. non-oxidized. When oxidized, this oil can act as a skin irritant and sensitizer. In addition, Grapefruit oil is photosensitizing and so needs to be avoided topically before exposure of the skin to sunlight or other UV light.

## Preparations

Essential oils are notorious for their ability to be delivered in a large number of preparations or forms of administration. Each oil profile gives the optimal dosage range for use in a diffuser (i.e. aroma burner), massage oil, liniment and gel cap, in ascending order of intensity of exposure to the oil and progressing from the psychological to the physiological end of the spectrum.

- **Diffusers and massage oils** are important forms of olfactory delivery with primarily a psychological impact.
- **Liniments, ointments, gels** and similar topical applications are designed for more intensive local treatment on the superficial level, i.e. affecting the skin, soft tissues and sinews (muscle, joints, ligaments).

- **Gel caps, nebulizers, suppositories and pessaries** are the main preparations for addressing internal physiological conditions.

See the Volume 2 chapter on preparation forms for further details.

It will be seen that most oils fall within the same dosage range. Smaller doses relate to a precaution for that oil.

### **Chinese Medicine Functions and Indications**

This second section of the essential oil profile is entirely devoted to its use in the context of energetic medicine, and Chinese medicine in particular. Along with the change of approach, the terminology here also changes to that of Chinese medicine. The chief nature of this change is from a linear, dualistic approach to a circular, holistic approach to body-mind pathology and treatment.

The last fifty or so years have seen an exponential increase in the use of traditional systems of medicine in the West in providing the kind of health care needed for treating chronic disorders. This is especially true for the three extant world medicines, Chinese medicine, Greek (Unani) medicine and Ayurvedic medicine. As a result, it is important today to start defining a separate category for the uses of essential oils in energetic and Chinese medicine. Their energetic uses do not correlate with the psychological versus physiological dichotomy used in the previous sections. Rather, it embraces both these in a single, whole expression.

Two main delivery systems are proposed for essential oil use in a Chinese medicine practice. First, essential oils may be applied directly to acupoints to stimulate their functions. This can be done as a form of treatment in itself or as a complement to acupressure, acupuncture and other forms of energy treatment to enhance their effect. Secondly, oils may be used for aromatic environmental diffusion with a diffuser or nebulizer. This can be performed in the treatment room itself as a supplement to the acupoint treatment, as well as in the comfort of the client's own home. The idea here is to keep the treatment going in between the typical weekly acupuncture sessions given in the West.

#### *Aroma energy*

Every essential oil has a fragrance quality that is an expression of its energetic potential. This is discussed in detail in the Volume 2 chapter on the use of essential oils in energetic and Chinese medicine.

#### *Movement*

The oil's energetic movement is described, whether rising, sinking, expanding, contracting or circulating. The five movements are the four basic energetic movements

that Chinese medicine describes for herbal remedies, with an additional circulating movement. As previously described, essential oils are particularly active in their ability to both stimulate and engage the body's healthful upright energies (*zhen qi*) and move and circulate stagnant pathogenic energies (*xie qi*) that may be present.

### *Warmth*

Most essential oils, like most of the body's acupuncture points, are fairly neutral in terms of the body's warmth response to them. In general, they do not evoke either warming or cooling responses in the individual. This may be because essential oils interact primarily with the neuroendocrine system rather than with the warmth system (the functional unit of thyroid, liver, arterial and capillary circulation) – which incidentally is what makes them currently so useful for treating a large number of contemporary disorders.

A few essential oils, however, often do elicit marked warming or cooling effects. Note here that a range of warmth quality is indicated, e.g. 'neutral to warm': the individual's response may vary, to some extent, depending on any pre-existing hot or cold condition. Another way of saying that is that the terrain of the individual can modify the warmth response of an oil towards more of a warming or cooling effect. The warmth quality of an oil is entirely based on the variable dynamic between the oil and the individual response to that oil.

### *Meridian tropism*

Every oil possesses a tropism or selective affinity that can be energetically charted in terms of the body's network of energy meridians laid out in Chinese acupuncture. This phenomenon is no different from the meridian tropism (or meridian entering property) described in Chinese herbal medicine.

### *Five-Element affinity*

As a result of an oil's tropism for certain organs and meridians and its therapeutic effect in correcting particular imbalances among them, it can be said to possess an affinity for one or more of the Chinese Five Elements (Fire, Earth, Metal, Water and Wood). This is especially true as the elemental affinity includes psychological and spiritual as well as purely physiological applications: the Five Elements is a whole systems model that encompasses body, mind and spirit. In Chinese medicine terms, essential oils encompass treatment of both the Qi and Shen aspect of the organs and Five Elements.

*Essential function*

This summarizes the oil's Chinese medicine functions in one concise statement. This is especially useful for familiarizing oneself with their energetic functions, as well as for providing a good mnemonic anchor for quick reference in clinical practice.

### **Functions, Indications and Combinations**

Here the oil's functions are described in simple statements, as is traditionally done with acupoints and herbs. Each function is then illustrated with the specific syndromes or patterns that indicate its use, complete with the most typical signs and symptoms seen in every case.

Because essential oils exert such a direct effect on the Shen, spirit or mental-emotional aspects of the individual, each oil's impact in this area is carefully described. The oil's actions and indications on the spirit are in a sense a summary recapitulation of its psychological functions described in the previous section. Shen is a clinically important dimension of essential oil use in contrast to its secondary status in acupuncture and herbal medicine, and an aspect that is also somewhat missing from current Chinese medicine point and herb descriptions.

Beneath each syndrome, several other oils are suggested as useful combining possibilities. These selections include both oils that treat the same overall syndrome as the profiled oil and some that will address particular aspects of the syndrome, either energetically or by symptom relief.

For instance, looking at Frankincense's third function, that of descending Lung Qi and relieving wheezing: Fennel and Hyssop also descend Lung Qi. These are complementary oil choices with an overlapping energetic function, with the idea of creating an enhanced effect.

Next, Lavender and Cypress are also suggested as possible combinations. Lavender is suggested because of its excellent general function of activating the Qi, which will support Frankincense's action of descending Lung Qi in particular. Lavender would be especially useful for cases of Qi accumulation in the Lung presenting heat, as Lavender also clears heat from the Lung, or cases where there is also mental agitation, as Lavender is widely useful for calming the Mind or Shen.

Cypress oil is suggested because of its excellent function of diffusing Lung Qi and relieving chest tightness and distension, often with coughing; it opens the chest. Cypress will also reinforce Frankincense's action of tonifying Lung Qi and strengthening the Mind in those cases where there is an underlying Lung Qi deficiency – as seen in chronic asthma, for example. It will also address a situation where someone has developed asthmatic breathing as a result of a negative emotional experience such as deep sorrow or depression.

It is, of course, up to the practitioner to decide what number of oils, if any, to add to the main oil. On the whole, however, it is best to stick to two, three or four oils combined, which of course may or may not be chosen from the ones actually suggested.

In each case above, other oils could have been chosen: this is offered emphatically as a start-up list to illustrate possible synergistic and complementary combinations.

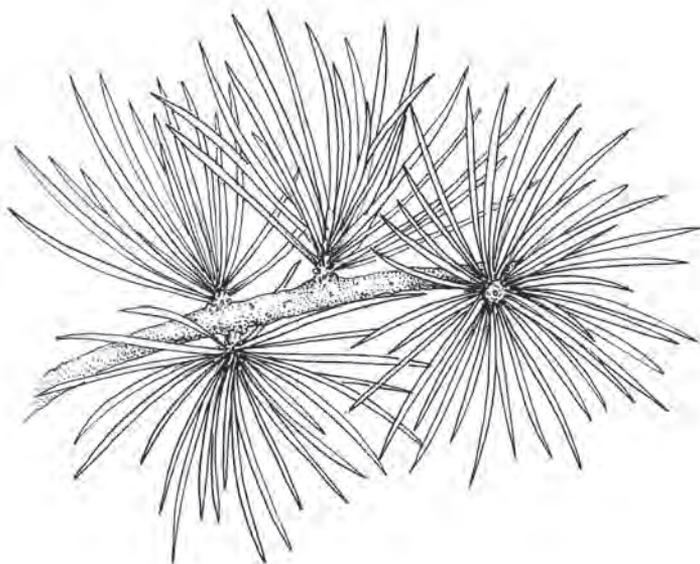


**Materia  
Aromatica,  
Part I**



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# Atlas Cedarwood



**Botanical source:** The heartwood of *Cedrus atlantica* (Endl.) Manetti ex Carrière (Pinaceae – pine family)

**Other names:** Blue Atlas cedar, Moroccan cedarwood; Bois de cèdre (Fr), Ars (Arabic), Zeder (Ge), Cedro del Atlas (It), Cedron Atlas (Sp)

**Appearance:** A viscous orange-to-amber fluid with a warm sweet-woody aroma and a slight camphoraceous top note

**Perfumery status:** A base note of medium intensity and good persistence

**Extraction:** Steam distillation of the wood throughout most of the summer

**1 kg oil yield from:** 30–50 kg of the dried wood chips (an excellent yield)

**Production areas:** The mountains of the Middle Atlas in Morocco and Algeria

**Typical constituents:** Sesquiterpenes <50% (incl. beta-himachalene 31–40%, alpha-himachalene 10–16%, alpha- and beta-cedrene, cadinene 2%, beta-caryophyllene, longifolene, curcumene isomer) • sesquiterpenols 30% (incl. atlantol, cedrol, alpha-bisabolol, cadinadienol) • sesquiterpenones 20% (incl. alpha/beta/gamma-atlantone) • aliphatic aldehyde

**Chance of adulteration:** Almost none, because of the good yield and low cost

**Related oils:** Himalaya cedarwood from *Cedrus deodora*, which has a similar odour to Atlas cedarwood but without the pronounced sweetness and with a stronger dry-woody note. The chemical profile is also very similar, as are its therapeutic functions and uses.

### Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing

#### SPECIFIC SYMPTOMATOLOGY – All applications

**Mild anxiety**, insecurity, fearfulness, **low self-esteem**, **resignation**, **low will power**, poor perseverance, debility, **burnout**, cough with sputum, bladder irritation, vaginal itching and discharge, **overweight**, water retention, varicose veins, swollen glands

#### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulation conditions; relaxant in overstimulation conditions

**Possible brain dynamics:** Reduces basal ganglia and cingulate system hyperfunctioning

**Fragrance category:** Base tone with woody and sweet notes

**Indicated psychological disorders:** ADHD, dissociative disorder, obsessive-compulsive disorder

#### STABILIZES THE MIND AND PROMOTES REALISM AND EMOTIONAL SECURITY

- Mental-emotional instability, anxiety, fearfulness, agitation
- Disconnection, spaciness, oversensitivity, dissociation (hysteria)
- Euphoria, delusion, paranoia
- Insecurity, loss of safety, vulnerability

#### PROMOTES COGNITIVE FLEXIBILITY

- Worry, obsession, compulsion
- Repetitive thinking, excessive thinking, inability to let go

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Nervous, circulatory, digestive, urinary, respiratory systems

**Essential functional and diagnostic indication:** Strengthens, decongests and relaxes hypotonic/weak, congestive/damp and hypertonic/tense conditions

*nervous sedative and restorative:* hypotonic (weak) and hypertonic (tense) conditions with fatigue, debility, burnout, sexual debility, mild anxiety; chronic stress-related conditions in general, mental hyperactivity, ADHD

*anti-inflammatory, antiseptic:* bronchitis, lung TB, laryngitis; urinary irritation, cystitis, urethritis

*antihistamine, antiallergic:* type II and IV (delayed) hypersensitivities, incl. food allergies

*mucosal restorative, mucostatic:* chronic bronchitis with sputum; mucus in stool, chronic vaginitis with discharges/leucorrhoea, gonorrhoea, chronic mucous cystitis, vaginal pruritus

*antiatherosclerotic, lipolytic:* atherosclerosis, lipoma

*venous decongestant, diuretic:* venous congestion with varicose veins, haemorrhoids; edema, abdominal obesity

*lymphatic stimulant/decongestant:* lymphatic congestion with swollen glands; cellulite

#### SYNERGISTIC COMBINATIONS

- Atlas cedarwood + Patchouli: *nervous sedative-restorative* for chronic stress-related conditions with anxiety, debility, insomnia, burnout, adrenal exhaustion
- Atlas cedarwood + Patchouli: *venous decongestant* for venous congestion with varicose veins, haemorrhoids, ankle edema
- Atlas cedarwood + German camomile: *anti-inflammatory and nervous sedative* for a wide range of inflammatory conditions, esp. with anxiety, stress

#### COMPLEMENTARY COMBINATIONS

- Atlas cedarwood + Clary sage: *nervous restorative-sedative* in hyper- and hypotonic conditions with exhaustion, anxiety, stress
- Atlas cedarwood + Spearmint/Green myrtle: *mucostatic* for bronchitis with copious sputum

- Atlas cedarwood + Tea tree: *anti-inflammatory* for chronic intestinal inflammation, peptic ulcer, IBD, IBS
- Atlas cedarwood + Helichrysum: *antiatherosclerotic and lipolytic* for atherosclerosis
- Atlas cedarwood + Cypress: *venous decongestant and diuretic* for venous congestion with varicose veins, haemorrhoids, edema
- Atlas cedarwood + Grapefruit: *lymphatic decongestant* for swollen glands, lymphatic congestion
- Atlas cedarwood + Juniper berry: *detoxicant diuretic, alterative and mucostatic* for metabolic toxicosis, esp. with chronic mucus discharges

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TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

**Skin care:** Oily skin type

*skin decongestant, antiseborrhoeic:* oily skin, acne, seborrhoea

*antiseptic astringent:* psoriasis, herpes, skin parasites, cellulite

*antipruritic, anti-inflammatory:* all skin irritation, itching or inflammation; eczema, dermatitis, insect bites

*vulnerary:* wounds

**Hair and scalp care:**

*hair restorative:* oily scalp and hair, seborrhoeic dermatitis with dandruff

*hair-growth stimulant:* hair loss, alopecia

**Precautions:** None

**Preparations:**

- Diffuser: 3–4 drops in a diffuser
- Massage oil: 2–5% dilution in a vegetable oil
- Liniment: 2–10% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with some vegetable oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Woody, sweet

**Movement:** Stabilizing

**Warmth:** Neutral

**Meridian tropism:** Kidney, Lung

**Five-Element affinity:** Water, Earth

**Essential function:** To nourish the Yin, resolve damp and calm the Shen

**1. Nourishes the Yin, relieves debility and calms the Shen**

- **Yin deficiency with Shen agitation**, with anxiety, restlessness, debility, burnout:

Patchouli/Clary sage/Vetiver

**2. Braces the Kidney, astringes fluids and stops discharges**

- **Kidney-Bladder Qi deficiency with Lower Warmer damp**, with chronic vaginal and urinary discharges, dysuria, fatigue:

Silver fir/Green myrtle/Juniper berry/Niaouli

**3. Resolves phlegm, dries damp and stops discharges**

- **Lung phlegm-damp** with coughing, copious sputum expectoration:

Rosemary/Niaouli/Spearmint

**4. Invigorates the Blood, reduces stagnation and relieves varicosis**

- **Blood stagnation in the lower limbs** with varicose veins, ankle edema:

Geranium/Rosemary/Cypress

**REMARKS**

Atlas cedarwood oil has been distilled in Algeria since the 1880s thanks to the work of Trabut that pioneered its therapeutic applications (1899). Today, this valuable oil is still produced in the outskirts of the majestic cedarwood forests of the Moroccan Atlas mountains. Inhaling its warm, sweet, fluid and deeply woody aroma makes one immediately feel centred, grounded and present, and intuitively connected to the timeless power of the conifer tree kingdom.

This oil has become a classic in clinical work for the sweet-wood category of aroma. Like Patchouli and Sandalwood in the same group, Atlas cedarwood has a firm calming and stabilizing effect on the mind. This can be put to good use in conditions of mental and emotional instability, particularly when anxiety and mental hyperactivity are involved. This oil is perfect for those presenting both tension and weakness at the same time, a condition usually seen in chronic conditions that eventually lead to exhaustion and burnout. In terms of brain mapping of particular psychological

functions, it seems that Atlas cedarwood would also calm down a hyperactive cingulate system, with its tell-tale symptoms of worry, obsession and repetitive thinking.

The central stabilization of energies induced by this oil in turn is very useful for individuals presenting a disconnection from their surroundings or within themselves. This will often present as spaciness or dissociation and, in extreme cases, delusion and paranoia. On the emotional level too, Atlas cedarwood can provide a secure anchor for feelings of insecurity and loss of safety, particularly in men.

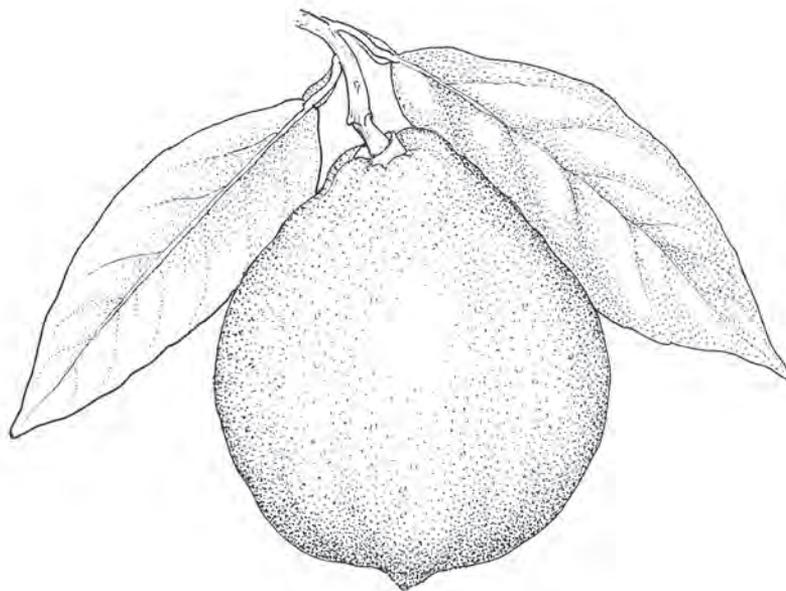
From a larger perspective, Atlas cedarwood's bracing, centring energetic effect can help us come to terms with reality just as it is, not as we may wish it to be. Ultimately it can thereby promote steadfast perseverance and endurance in the face of challenge and adversity. It is both a true emblem and source of soul strength and fortitude.

Looking at this oil's profile of chemical constituents, it is clear that a good anti-inflammatory action is likely. The predominant combination of sesquiterpenes and sesquiterpenols would strongly indicate that. Atlas cedarwood is indeed an important oil here, including when delayed allergic reactions are involved, as in the majority of food allergies. Clinical use by internal administration has also borne out its excellent action in reducing atherosclerotic plaque.

In the body's fluid environment, Atlas cedarwood acts as a good decongestant to both the venous and lymphatic circulation with its dry, bracing, astringing qualities. It will combine well with other woody or pungent oils with the same focus on pelvic and venous congestion. Here the oil is also an effective mucostatic for chronic mucous discharges, whether urinary, vaginal or intestinal. In Chinese medicine terms, Atlas cedarwood treats both damp and Blood stagnation in the Lower Warmer.

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# Bergamot



**Botanical source:** The rind of *Citrus x bergamia* L. bergamot-group (syn. *Citrus bergamia* Risso and Poiteau) (Rutaceae – citrus family); the three varieties are Castagano, Feminello and Inserto. Recent DNA analysis has shown Bergamot orange to be a cross between the bitter orange (*Citrus x aurantium*) and the sweet lime (*Citrus limetta*). It is thus a hybrid from a partial hybrid (Federici 2012).

**Other names:** Bergamote (Fr), Bergamotte (Ger), Bergamoto (It), Laymun adalya barnati (Ar)

**Appearance:** A mobile light-emerald or olive-green fluid with a warm fruity-sweet odour with fresh-citrus overtones

**Perfumery status:** A head note of moderate intensity and poor persistence

**Extraction:** Cold expression of the somewhat unripe bergamot fruit rinds, December-March

**1 kg oil yield from:** 200–250 kg of the rinds (a moderate yield)

**Production areas:** Calabria in South Italy, Guinea, Ivory Coast. Commercial production in Sicily and Calabria appears to have begun around 1690.

**Typical constituents:** Esters (incl. linalyl acetate 17–58%, geranyl acetate, neryl acetate) • monoterpenols 45–65% (incl. linalool 4–29%, nerol, geraniol, dihydrocuminal alcohol) • monoterpenes (incl. limonene 19–52%, beta-pinene 3–13%, gamma-terpinene 4–13%, sabinene, myrcene, cymene) • sesquiterpenes • furanocoumarins 0.44% (incl. bergapten, bergamottin)

**Chance of adulteration:** Common, e.g. with synthetic linalool, limonene, linalyl acetate, citral and terpinyl acetate; with lime, bitter orange and lemon oils (Lis-Balchin 2006); with rectified or acetylated Ho wood (Burfield 2003). Bergamot oil is also available with the furanocoumarins, which are photosensitizing, removed by steam distillation. This **bergapten-free Bergamot oil** is often used in the manufacture of skin-care products.

**Related oils:** The large family of citrus oils in general, and especially other species of orange: Mandarin (*Citrus reticulata*) and Sweet orange (*Citrus aurantium*).

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, strongly photosensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

Emotional disposition, **mood swings**, **irritability**, frustration, **emotional and mental confusion**, pessimistic outlook, depression, sluggish energy in the morning, disorganization, **digestive problems worsened by stress**, bad breath, oily or lifeless skin

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulation conditions

**Possible brain dynamics:** Reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with sweet and lemony notes

**Indicated psychological disorders:** Bipolar disorder, ADHD, minor depression, addictions and addictive behaviours in general

### PROMOTES EMOTIONAL STABILITY AND INSIGHT

- Irritability, moodiness, frustration, mood swings, emotional instability
- Distraction, emotional confusion with conflict; increased negative or distressed feelings

- Poor discernment with loss of insight or foresight
- Feeling/thinking conflict

#### MILDLY PROMOTES ALERTNESS AND OPTIMISM

- Disorientation, mental confusion, increased negative thinking, closed-mindedness, repetitive thinking
- Pessimism, mild depression

#### PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository*

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**Tropism:** Nervous, digestive, urinary, respiratory systems

**Essential functional and diagnostic indication:** Balances and harmonizes dysregulated conditions

*ANS regulator, nervous relaxant and restorative:* dysregulated and mildly hypertonic (tense) and weak (atonic) chronic conditions with tension, mood swings, insomnia, anxiety; chronic neurasthenia; all chronic stress-related conditions, bipolar disorder, anorexia

*biliary and gastric stimulant, cholagogue, spasmolytic, carminative:* biliary and gastric deficiency with appetite loss, dyspepsia, flatulence, colic, halitosis

*febrifuge:* fevers, esp. from infection, incl. malaria

#### Antimicrobial actions:

*antiviral:* herpes simplex, herpes zoster/shingles

*moderate antibacterial:* mouth, throat, skin, bladder and respiratory infections (incl. laryngitis, strep throat, tonsillitis)

*mild anthelmintic, vermifuge:* intestinal parasites

#### SYNERGISTIC COMBINATIONS

- Bergamot + Mandarin: *nervous sedative* for all acute or chronic stress-related conditions, esp. anxiety, insomnia
- Bergamot + Lavender: *nervous sedative, hypnotic, biliary and gastric stimulant* in all hyperactive, stress-related conditions, esp. with upper digestive deficiency

#### COMPLEMENTARY COMBINATIONS

- Bergamot + Lemongrass: *antipyretic* for fevers in general

- Bergamot + Rosemary/Peppermint: *cholagogue, spasmolytic, carminative* in upper digestive deficiency with indigestion, bloating, flatulence
- Bergamot + Niaouli + Peppermint: *antiviral* for shingles and other viral conditions

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TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

**Skin care:** Oily, congested skin types

*rubefacient, skin toner:* dull, devitalized or crepey skin, wrinkles, cellulite

*antieczema, antipruritic:* eczema, psoriasis, pruritus

*antiseptic:* oily skin, acne, eczema, seborrhoea and dandruff, infected wounds

*vulnerary, tissue-healing:* wounds, burns, cold sores, varicose ulcers, insect bites

*photosensitizer:* vitiligo

*deodorant:* environmental diffusion for odours

**Precautions:** Bergamot oil increases skin photosensitivity, so avoid any exposure to sunlight or ultraviolet light for 18–24 hours after any type of use.

**Preparations:**

- Diffusor: 3–5 drops in water
- Massage oil: 2–4% dilution in a vegetable oil
- Liniment: 2–10% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Sweet, lemony

**Movement:** Circulating

**Warmth:** Neutral to warm

**Meridian tropism:** Liver, Spleen, Stomach, Heart

**Five-Element affinity:** Wood, Fire

**Essential function:** To regulate the Qi and harmonize the Shen

### 1. Spreads Liver Qi, relaxes constraint and harmonizes the Shen

- **Liver Qi constraint with Shen disharmony**, with distraction, confusion, irritability, mood swings, frustration:  
Mandarin/Spearmint/Grapefruit/Basil ct. chavicol
- **Liver and Heart Qi constraint with Shen disharmony**, with distraction, restlessness, overstimulation, insomnia, palpitations, irritability, anxiety with possible depression:  
Blue tansy/Marjoram/Ylang ylang/Jasmine sambac

### 2. Activates the Qi, reduces stagnation and harmonizes the Middle Warmer

- **Liver-Stomach disharmony/Qi stagnation** with epigastric fullness, bloating, appetite loss, nausea, vomiting:  
Peppermint/May chang/Fennel/Ginger

#### REMARKS

Bringing their advanced agricultural skills with them, the Arabs established extensive citrus plantations in Malta and Sicily during the early 10th century. They introduced the lemon, a variety of oranges and various other citruses to these islands. Their hybridization of the bitter orange and the Persian citron, creating the bergamot orange, was their special gift to the region – and to the West. The name Bergamot may also be rooted in the now defunct language of Sicilian Arabic. Its oil has long since become the most classic of all the cold pressed citrus oils from the sun-soaked climes of Southern Italy. Perfumery, aromatherapy and Earl Grey tea would not be the same without it.

Bergamot oil has always been regarded as being beautifully relaxing, refreshing and uplifting at the same time, and rightly so. A tangle of fine fresh-citrus notes embedded in sweet-fruit notes, Bergamot on inhalation at first never fails to relax tension and overcome any emotional frustration that may be present. Moodiness, irritability, and so on, can easily be lifted here.

However, this oil also exerts a renewing and uplifting effect that can be beneficial in conditions such as negative thinking, mild depression and **loss of insight and discernment**. Bergamot can promote optimism and set the stage for true emotional transformation. What is behind Bergamot's unique ability to help in navigating these two opposite phases, the relaxing and the uplifting?

Clinical experience shows that it is essentially a balancing and harmonizing effect that underpins Bergamot's psychological and physiological actions. In the corresponding language of energetic Chinese medicine, Bergamot basically regulates the flow of Qi. On both mental and emotional levels, Bergamot clearly promotes a balance between the extremes of **elation and depression, stimulation and**

**sedation**; mood swings and emotional conflict and instability are primary indications for its use. In clinical terms therefore, we can say that Bergamot is a fundamental oil for treating conditions of dysregulation, which present symptoms of neither true hyper- nor hypo-functioning, but simply of dys-functioning. This includes clinical conditions such as bipolar disorder and ADHD. In terms of fragrance energetics, we note the balancing and relaxing effect of the sweet citrus aroma offset with the stimulant, uplifting effect of fresh, pungent top notes; together these two notes also point to a net balancing effect.

Bergamot oil can definitely be viewed as exceptionally harmonizing. Bergamot ‘helps close the gap between mind, body and emotions’ (Pollard 2011) and is useful for enhancing integration between thinking and feeling with general conflicts present.

On the physiological level as well, Bergamot essentially addresses **dysregulated conditions**. This oil is one of the very few *autonomic nervous regulators*, thereby managing to reduce swings between sympathetic and parasympathetic functioning. Bergamot is ideal then for treating stress-related conditions with symptoms that fluctuate between hyper- and hypo-functioning – the hallmark of an ongoing state of dysregulation. Because Bergamot has a selective affinity for the upper gut and, along with that, the enteric nervous system, it should be used for all stress-related disorders involving the upper digestive tract and gallbladder, and that require relaxation and stimulation at the same time. Bergamot can act as both a *gastrobiliary stimulant* and a *spasmolytic relaxant* at the same time, especially when dosed orally.

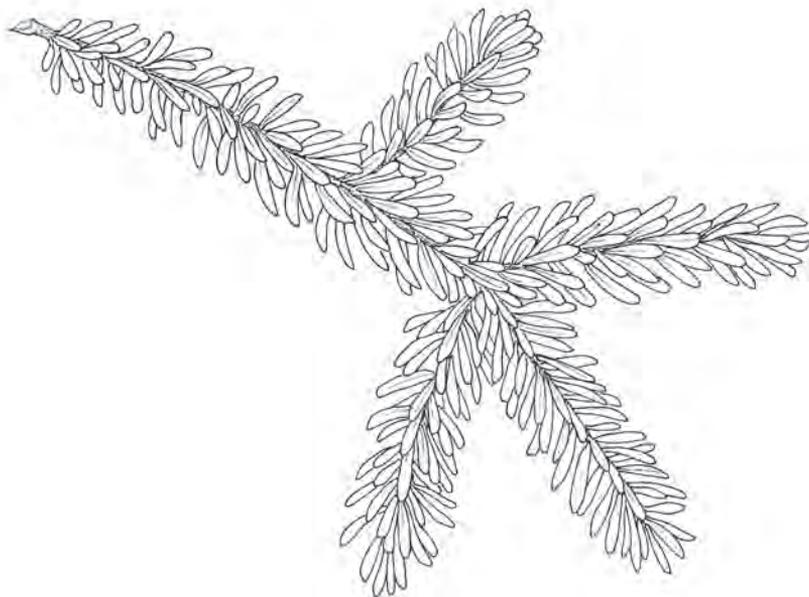
It is interesting and illuminating for many reasons to see Bergamot’s balancing nature reflected in its chemical composition. Not only is this dominated by esters (primarily linalyl acetate), well known to be inherently balancing, but it is in addition equally polarized between the more *relaxant* monoterpenols and the more *stimulant* monoterpenes.

In terms of mental awareness, Bergamot helps us let go of **preconceived notions, fixed ideas and ego-driven thoughts** in general. It can gracefully lighten the load of thoughts that can bog us down with their stagnant, rutted, repetitive patterns. Bergamot seems to re-set the brain by short-circuiting the brain’s habitual stimulus-response pathways, and by stimulating the hippocampus it helps different parts of the brain to communicate and integrate memory packets. In this connection, Bergamot can be very helpful for breaking bad habits of any kind, as well as for treating addictions in general.

Ultimately, then, we can say that Bergamot’s highest gift is to assist in staying with our own experience and to be ever open, curious and in wonder about each moment of life as it arises, each now as it unfolds – without the burden of previous feelings and concepts. As a light-filled refresher of mind and soul, Bergamot simply suggests that to experience life in a balanced way, we need to start by accepting the experience of each moment exactly for what it is, without prior expectations.

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# Black Spruce



**Botanical source:** The twig and needle of *Picea mariana* (Mill.) Britton. et al. (Pinaceae – pine family)

**Other names:** Epinette noire (French), Schwarze Fichte (Ge), Abete nero (It), Abeto negro (Sp)

**Appearance:** A mobile clear fluid with a fresh-conifer odour with deep woody, earthy, musty undertones

**Perfumery status:** A head note of moderate intensity and poor persistence

**Extraction:** Steam distillation of the fresh twigs and needles, usually from September through December, then again March through May

**1 kg oil yield from:** 100–200 kg of the twigs and needles (a fairly good yield)

**Production area:** Eastern Canada

**Typical constituents:** Bi- and tri-cyclic monoterpenes up to 55% (incl. camphene 14–19%, alpha-pinene 13–16%, beta-pinene 4–10%, santene 2–3%, delta-3-carene 4–11%, limonene 5%, myrcene 2–4%) • terpenoid esters 30–52% (incl. bornyl acetate 31–49%, isobornyl acetate, geranyl acetate) • sesquiterpenes (incl. longifolene,

longicyclene, cadinene, caryophyllene, muurolene) • monoterpenols (incl. borneol, thujanol, terpinen-4-ol) • sesquiterpenol longiborneol

**Chance of adulteration:** Uncommon, but theoretically with cheaper fir oils of the *Abies* genus

**Related oils:** Oils in the conifer, *pinaceae* family in general (including the firs, pines, larch, etc.), as well as the following other spruces, among others sometimes distilled:

- **White spruce** (*Picea glauca* [Moench.] Voss.) from throughout Canada, with its strong green-fresh-camphor notes from a higher monoterpene content
- **Norway spruce** (*Picea abies* [L.] H.Karst.) from the Balkan countries and Canada, with its salty-fresh-camphor notes
- **Sitka spruce** (*Picea sitchensis* [Bong.] Carr.) from Pacific North America and Canada, with its fresh-conifer, somewhat sweet-minty notes
- **Hemlock spruce** (*Tsuga canadensis* [L.] Carrière), also known as Eastern or Canadian hemlock spruce, and pruche du Canada, from East Canada and alpine Europe, with its stronger fresh top note
- **White spruce** (*Picea glauca*) [Moench] Voss), also known as Canadian spruce
- **Red spruce** (*Picea rubens* Sarg.)

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing. However, some skin sensitization is possible with significant delta-3-carene content, and some additional irritation if the oil is oxidized.

### SPECIFIC SYMPTOMATOLOGY – All applications

**Mental fatigue or burnout**, apathy, **discouragement**, low motivation, low self-confidence, depression, hallucinations, **low stamina**, low vitality, weight gain, **chronic infections**, shallow breathing, chronic weak cough, **menstrual disorders**, **muscle aches and pains**, weight loss, dry skin, cold extremities

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases prefrontal cortex and basal ganglia functioning

**Fragrance category:** Top tone with pungent-camphoraceous and woody notes

**Indicated psychological disorders:** ADD, depression, psychotic and schizoid conditions

PROMOTES WILL POWER, COURAGE AND ENDURANCE

- Low will power or strength, indecision
- Discouragement, low endurance or perseverance
- Mental and emotional burnout

PROMOTES MOTIVATION AND SELF-CONFIDENCE

- Loss of motivation with apathy, procrastination, self-neglect, flat affect
- Low self-esteem and self-confidence, depression

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

**Tropism:** Neuroendocrine, respiratory, reproductive, digestive, musculoskeletal systems

**Essential functional and diagnostic indication:** Restores hypotonic/weak conditions and decongests congestive/damp conditions

**Primarily restorative:**

*systemic neuroendocrine-immune restorative and regulator, adaptogenic:* chronic hypotonic (weak) conditions involving functional pituitary/adrenal/thyroid/thymus/ovarian (and other endocrine) and immune deficiencies and imbalances; with chronic fatigue, debility

- *immune enhancer:* immune impairment with recurring or chronic infections; all immunodeficiency disorders, incl. CFS, FM, AIDS
- *pituitary-adrenal and -thyroid restorative and regulator:* adrenal fatigue or exhaustion with low stamina, afternoon fatigue, salt cravings; hypothyroid syndrome (thyroxine resistance), HPA axis deficiency; anabolic and catabolic deficiencies with weight gain or weight loss, debility; metabolic disorders in general; CFS, neurasthenia, chronic asthma
- *pituitary-gonadal/reproductive restorative and regulator:* hormonal dysregulation with oestrogen/progesterone deficiency, incl. dysmenorrhoea, amenorrhoea, PMS, menopausal syndrome, frigidity, impotence

**Primarily stimulant and decongestant:**

*arterial circulatory stimulant:* poor circulation with cold extremities, painful diarrhoea

*respiratory restorative, stimulant expectorant:* chronic lower respiratory weakness and congestion, incl. weak lungs, chronic cough, bronchitis, emphysema

*stimulant spasmolytic:* muscle cramps, stomach cramps, colic, asthma

*prostate decongestant:* prostate congestion/hyperplasia, prostatitis

*anti-inflammatory:* rheumatic and arthritic conditions, asthma

**Antimicrobial actions:**

*antibacterial, immunostimulant:* bacterial respiratory infections, incl. colds, bronchitis, flu(?); chronic and recurring infections in general

*antifungal:* intestinal fungal dysbiosis, candidiasis

*anthelmintic, antiprotozoal:* intestinal parasites, incl. *Giardia lamblia*, hookworm (*ankylostoma*)

**Note:** The following differentiation with this other spruce oil can be clinically useful: **White spruce** (*Picea glauca*) has similar functions to Black spruce but has no apparent restorative action on neuroendocrine-immune functions (Catty 2008). Instead, its higher monoterpene content ensures a more stimulating oil that is less balanced by esters and sesquiterpenes (none present). White spruce acts particularly as a *stimulant expectorant* with a *mucoytic* action that is reinforced by a small amount of the ketone camphor.

**SYNERGISTIC COMBINATIONS**

- Black spruce + Scotch pine: *systemic neuroendocrine-immune restorative* in chronic endocrine and immune deficiencies of all types
- Black spruce + Scotch pine: *respiratory restorative, expectorant and antiseptic* for all chronic lower respiratory infections, incl. chronic asthma, emphysema
- Black spruce + Niaouli: *pituitary-ovarian restorative, progesteronic(?)* for chronic dysmenorrhoea, PMS, frigidity, menopausal syndrome
- Black spruce + Niaouli: *prostate decongestant* for benign prostate congestion

**COMPLEMENTARY COMBINATIONS**

- Black spruce + Vetiver: *systemic neuroendocrine-immune restorative* in chronic endocrine and immune deficiencies of all types in general; for convalescence

- Black spruce + Vetiver: *hormonal restorative and regulator* for chronic amenorrhoea, dysmenorrhoea, PMS, frigidity, menopausal syndrome
- Black spruce + Clary sage/Geranium: *hormonal regulator, progesteronic(?)* for dysmenorrhoea, PMS, frigidity, menopausal syndrome
- Black spruce + Rosemary + Geranium: *pituitary-adrenal restorative* for all metabolic disorders, chronic adrenocortical deficiency and dysregulation
- Black spruce + Myrrh: *thyroid stimulant/restorative* for hypothyroid syndrome
- Black spruce + Green myrtle: *respiratory restorative and expectorant* for chronic chest congestion with cough, sputum expectoration, fatigue
- Black spruce + Clove: *anthelmintic* for a wide range of intestinal parasites

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TOPICAL – Compress, liniment, lotion and other cosmetic preparations

**Skin care:** Dry skin type

*rubefacient, capillary stimulant:* dry eczema, dry lifeless skin, acne; muscle fatigue (e.g. from sports)

*insecticidal:* lice, ticks, scabies

*misc.:* breast enlargement

**Precautions:** Do not exceed the dilutions below when applying Black spruce oil topically. Some skin sensitization with rashes is possible if Black spruce oil is high in delta-carene or is somewhat oxidized from age; therefore avoid in those with sensitive skin. Avoid internal use during the first trimester of pregnancy.

**Preparations:**

- Diffusor: 3–4 drops in water
- Massage oil: 2–3% dilution in a lotion or vegetable oil
- Liniment: 4–10% dilution in a vegetable carrier oil after doing a patch test
- Gel cap: 2–3 drops with some olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Woody, pungent

**Movement:** Stabilizing, rising

**Warmth:** Neutral to warm

**Meridian tropism:** Lung, Kidney, *du, chong, ren*

**Five-Element affinity:** Water, Metal

**Essential function:** To tonify the Qi and Yang, and strengthen the Shen

**1. Tonifies the Qi and protective Qi, strengthens the Lung and lifts the Shen**

- **Qi and protective Qi deficiency with Shen weakness** with fatigue, low endurance, frequent or recurrent infections, chronic stress, low motivation, depression:  
Rosemary/Ravintsara/Sage
- **Lung Qi deficiency with Shen weakness** with mental and physical fatigue, shallow breathing, low motivation, sadness, withdrawal, disconnection:  
Grand fir/Rosemary/Eucalyptus/Frankincense

**2. Tonifies the Lung and Kidney, fortifies the Yang and relieves coughing and wheezing**

- **Lung and Kidney Yang deficiency** with chronic cough, wheeze, chest tightness:  
Pine/Clove/Cypress
- **Kidney Yang deficiency** with Shen weakness with low stamina, mental and physical fatigue, backache, weak knees and legs, low libido, fearfulness:  
Pine/Clove/Cinnamon

**3. Tonifies Kidney Essence and *chong* and *ren mai*, and regulates menstruation and menopause**

- **Kidney Essence and *chong* and *ren mai* deficiency** with long or irregular cycles, amenorrhoea, menopausal syndrome, frigidity, impotence:  
Vetiver/Niaouli/Geranium

**4. Dries damp-cold in the Large Intestine and Lower Wamer**

- **Large Intestine damp-cold** with diarrhoea, irregular bowel movement:  
Nutmeg/Myrrh/Cinnamon
- **Lower Warmer damp-cold** with prostate congestion, difficult dribbling urination:  
Silver fir/Niaouli/Basil/Juniper berry

## 5. Warms and opens the meridians, dispels wind-damp, relaxes the tendons and relieves pain

- **Wind-damp-cold obstruction** with rheumatic pain (esp. in the upper parts), joint cramping:  
Ginger/Frankincense/Juniper berry

### REMARKS

Produced in the expansive boreal conifer forests of Eastern Canada only since the 1960s, Black spruce has finally secured a place in the international arena of essential oil therapeutics. It is Canada's answer to Europe's Scotch pine and Russia's Siberian fir. Showing an exceptionally wide range of fragrance, from deep woody-earthly base notes to prickly-fresh conifer top notes, Black spruce arguably displays the largest range of therapeutic effects among these valuable conifer oils.

Fuelled by knowledge of a good delta-3-carene content within its generous profile of monoterpenes, European practitioners have long established good clinical results using Black spruce as a booster and regulator of the HPA axis (Penoel 1990). Syndromes of **adrenal dysregulation and fatigue** may be improved at the core with its internal use. Positive results have included regulation of pituitary-thyroid and pituitary-gonadal functions, showing this remedy to benefit **functional hypothyroid conditions** as well as **female hormonal dysregulation** in general. In addition, **immune functions** have shown both short-term and long-term improvement.

Since then, Black spruce has emerged with a newer, larger clinical profile that warrants defining it as a true *adaptogen*, in the same league as the herbal remedies Rhodiola, the Ginsengs and others. Taking the premise that an *adaptogenic* effect must involve the core triangle of physiology – the nervous, endocrine and immune systems – and moreover must have an essentially *broad-spectrum regulating, normalizing* action, Black spruce clearly meets both characteristics. The oil seems to exert a broad regulating effect on virtually all endocrine glands, proving useful for an exceptionally wide range of weak conditions. Chronic fatigue syndrome is perhaps its most telling indication here, involving as it does **long-term neuro-hormonal** and **immune deficiencies**. The emphasis here (as with several conifer oils) is the treatment of *chronic* rather than short-term deficiencies, and so Black spruce should be included in a large variety of formulations addressing chronic deficiency and dysregulation.

The Earth's temperate conifer forests, like the tropical rainforests, act as planetary lungs and are an important part of its healthy functioning. Unsurprisingly, conifer needles and their extracted essential oils have been used to treat respiratory complaints for thousands of years in all medical traditions. Black spruce is no exception. Like Scotch pine oil, its advantage over most aromatic respiratory remedies lies in the deep *respiratory restorative* and *systemic revitalizing* action it displays. As such, it clearly goes beyond a simple *stimulant expectorant* effect. Black spruce should therefore be selected

for **chronic weak, congestive bronchial conditions** of any kind, especially with chronic weak coughing and wheezing present.

In Chinese medicine terms, these deeply restorative actions all amount to a tonification of the individual's Qi, Yang and Essence, with particular involvement of the Lung and Kidney Yang. Like this tall conifer tree itself with its needles high in the sky and its roots firmly in the ground, Black spruce oil spans the vertical axis of Lung and Kidney, of Qi and Essence, of Heaven and Earth, of prenatal and postnatal energies, of Metal and Water elements. In the body, this primordial axis is expressed through embryological development in the spine as a structure and in the Governing Vessel as an energetic function. Black spruce shows a remarkable affinity for both these in actual treatment.

Age-old conifer forests exude a timeless presence. As a *neuroendocrine-immune restorative*, Black spruce is a prime emblem of our ancestral inheritance, our deep reserves of energy and our long-term evolution. This oil can reconnect us to the roots of our family lineage, our ancestral wisdom and, we could say, to the ever-evolving process of life itself. By connecting us to our collective past, our genetic tradition, Black spruce can become a source of deep and enduring strength as we move into the future.

In its tall, strong, spine-like uprightness, Black spruce when used by inhalation can evoke the qualities of strength and endurance at the level of the soul. Its woody-pungent fragrance notes – centring, strengthening and energizing – also testify to this. Specifically, Black spruce can help us muster the inner strength and self-confidence needed to face challenging situations. When our inner resources are exhausted, and difficulties sap our will to persevere, this oil can be a valuable ally in helping us draw from the deeper wellspring of connected, deep inner strength and hope. From this collective source, from this reconnection to our true ancestral roots, our collective history, we may discover a quality of willpower and courage hitherto unknown.

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# Blue Tansy



**Botanical source:** The herb of *Tanacetum annuum* L. (Asteraceae/Compositae – daisy family)

**Other names:** Annual tansy, Moroccan blue tansy; Khellala zarka, Mkheinza (Arabic), Tanaïsie bleue ou annuelle (Fr), Blauer Rainfarn (Ge)

**Appearance:** A mobile, deep marine-blue fluid with an extremely intense sweet-green-fruity odour with mild fresh-camphoraceous overtones

**Perfumery status:** A heart note of extremely high intensity and poor persistence

**Extraction:** Steam distillation of the fresh herb as soon as the first flowerbuds appear, from mid-July through early September

**1 kg oil yield from:** 300–400 kg of the fresh herb (a moderate yield)

**Production area:** North Morocco

**Typical constituents:** Sesquiterpenes 18–39% (incl. chamazulene 17–38%, dihydroazulene, beta-caryophyllene, germacrene-D 1%, gamma-curcumene, gamma-murrolene, alpha-humulene, beta-elemene, hydroaristolochine) • monoterpenes 12–35% (incl. sabinene 4–16%, beta-pinene 2–7%, alpha-pinene 0.7–2%, beta-myrcene 1–14%, alpha-phellandrene 2–5%, limonene 1%, para-cymene 5%,

camphene, alpha-thujene) • monoterpenones (incl. camphor 3–12%, trace carvone, carvotanacetone) • sesquiterpenols 7–10% (incl. beta-eudesmol 5–7%, oubenol and gamma-eudesmol 1.7%, 2,5,8-trimethyl-naphthol 1.7%, hinesol, cadinol, bisabolol, beta-elemenol) • monoterpenol borneol 0.5–4%, terpinen-4-ol <2% • phenol thymol 1–2% • oxides 1,8-cineole 1%, caryophyllene oxide 0.7–1% (Greche et al. 1997)

**Chance of adulteration:** Moderate, and traditionally because of co-harvesting or blending with White mugwort, *Artemisia herba alba*, which has a similar but different scent and colour. White mugwort oil is emerald green rather than cobalt, and has deeper green, ‘bitter’ notes mostly due to its thujone or davanone content, and less apple-fruity notes typical of Blue tansy. Because of a decimated harvest in 2015, however, Blue tansy has soared not only in price but also into the category of commonly adulterated oils. Even reconstituted ‘Blue tansy’ has been found on analysis, predictably variously containing Yarrow, German camomile and Moroccan wild camomile.

**Related oils:** Because of its blue colour and high content in azulene, this oil is closely related to other blue oils: **German camomile** (*Matricaria recucita*), **Yarrow** (*Achillea vulgaris*) and, to some extent, **Roman camomile** (*Anthmis nobilis*). Botanically however, Blue Tansy is related to **Tansy** (*Tanacetum vulgare*), which produces an oil that is neurotoxic if taken internally.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Emotional frustration**, anger, **irritability**, agitation, **sudden fits of rage**, emotional indulgence, severe moodiness, mood swings, **oversensitivity**, **anxiety**, fearfulness, guilt, low self-esteem, depression with anxiety or agitation, **insomnia**, restless sleep, nightmares, **allergies and sensitivities**, itchy red skin rashes, aches and pains worse with stress, headaches, muscle pains, **shooting nerve pains**, skin rashes, all symptoms worse with stress

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulation conditions; relaxant in hyperfunctioning conditions

**Possible brain dynamics:** Reduces deep limbic system and basal ganglia hyperfunctioning; resolves temporal lobe dysregulation

**Fragrance category:** Middle tone with sweet, green notes

**Indicated psychological disorders:** Bipolar disorder, anxiety, depression, phobias, panic attacks, PTSD

PROMOTES EMOTIONAL STABILITY, FLEXIBILITY AND RENEWAL

- Irritability, mood swings, anger management issues
- Emotional instability with distressed feelings (including negativity, cynicism, jealousy, self-deprecation, guilt, suicidal tendencies)
- Mental/emotional conflict with rigidity, lack of flexibility

CALMS THE MIND AND PROMOTES RELAXATION

- Nervous tension, restlessness, distraction; impulsivity
- Anxiety, including with depression; fear, panic, phobia
- Agitated depression

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Neuroendocrine, respiratory, vascular, epidermal systems

**Essential functional and diagnostic indication:** Relaxes and cools hypertonic/tense and sthenic/hot conditions

*systemic nervous relaxant:* hypertonic (tense) and sthenic (hot) conditions with oversensitivity, nervous tension, irritability, pain; all stress-related conditions in general

- *cerebral sedative*, hypnotic: anxiety, insomnia, agitation, PMS
- *respiratory relaxant*, bronchodilator/spasmolytic: all asthmatic conditions, incl. allergic croup, whooping cough, emphysema, bronchial asthma
- *gastrointestinal relaxant*, spasmolytic: nervous indigestion, colic, IBS, acute colitis
- *cardiovascular relaxant, hypotensive:* hypertension

*strong anti-inflammatory and analgesic:* inflammatory conditions with pain, esp. acute; esp. of the nervous, dermal, digestive, respiratory and musculoskeletal systems; headaches (all types); acute dermatitis; gastritis, enteritis, stomatitis; arthritis, fibromyalgia, neuritis, neuralgia, tendinitis, plantar fasciitis, bursitis

*strong antiallergic, antihistamine:* immediate (type I) allergies, incl. atopic asthma, rhinitis, sinusitis, otitis, pruritic atopic dermatitis, urticaria

*venous decongestant:* venous congestion with varicose veins, phlebitis

*antidiabetic*: diabetes

*antileukemic, thymus stimulant(?)*: leukemia

*hormonal*

#### SYNERGISTIC COMBINATIONS

- Blue tansy + German camomile: *systemic relaxant, analgesic and anti-inflammatory* in conditions of pain, spasm, inflammation, esp. neurological, respiratory, rheumatic, digestive and dermatological conditions
- Blue tansy + Atlas cedarwood: *anti-inflammatory and nervous sedative* in a wide range of inflammatory conditions with anxiety, tension
- Blue tansy + Atlas cedarwood: *venous decongestant* for varicose veins, phlebitis

#### COMPLEMENTARY COMBINATIONS

- Blue tansy + Mandarin: *nervous sedative* for stress-related conditions in general with tension, anxiety, insomnia
- Blue tansy + Lavender: *nervous sedative, anti-inflammatory and analgesic* in a wide range of inflammatory and pain conditions with anxiety, insomnia
- Blue tansy + Helichrysum: *anti-allergic, anti-inflammatory and analgesic* in all acute type-I allergies, incl. rhinitis, otitis, asthma, dermatitis, urticaria
- Blue tansy + Siberian fir: *bronchodilator* in asthmatic conditions
- Blue tansy + Patchouli: *venous decongestant* for varicose veins

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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##### **Skin care:**

*anti-inflammatory, antipruritic*: all skin irritation and inflammation with redness, swelling, itching; dermatitis; wet or dry eczema; burns, sunburn, acne, erythema, couperose, shingles

*analgesic*: neuritic/arthritis/rheumatic pain; painful skin conditions; sprains and strains, bruises; all soft tissue pain

**Precautions:** Because of its untested hormonal action, avoid internal use of Blue tansy oil with oestrogen-dependent cancers and during the first trimester of pregnancy. Note that this oil does not contain any known neurotoxic ketones (unlike e.g. Sage oil), only mainly the safe monoterpene camphor.

**Preparations:**

- Diffusor: 1–2 drops in water
- Massage oil: 2–4% dilution in a lotion or vegetable oil
- Liniment: 2–5% dilution in a vegetable carrier oil
- Gel cap: 1–3 drops with some olive oil

**Chinese Medicine Functions and Indications**

**Aroma energy:** Sweet, green

**Movement:** Circulating

**Warmth:** Neutral to cool

**Meridian tropism:** Liver, Lung, Heart

**Five-Element affinity:** Wood, Fire

**Essential function:** To activate the Qi, settle the Heart and calm the Shen

**1. Activates the Qi, relaxes constraint, harmonizes the Shen and relieves pain**

- **Qi constraint turning into heat with Shen disharmony**, with irritability, oversensitivity, mood swings, restlessness, emotional behaviour:  
Mandarin/Petitgrain/Lavender/Ylang ylang no. 1
- **Heart Qi constraint with Shen disharmony**, with tension, anxiety, insomnia:  
Lavender/Marjoram/Vetiver
- **Qi constraint with pain**, with muscle or joint aches, nerve pains, oversensitivity:  
Basil/Roman camomile/Marjoram
- **Liver-Stomach/Spleen disharmony** with indigestion, abdominal pains, flatulence, bloating, digestive symptoms worse from stress:  
Mandarin/Lemongrass/Peppermint

**2. Nourishes Liver and Heart Yin, settles the Heart and calms the Shen**

- **Liver Yin deficiency with Shen agitation**, with restlessness, irritability, agitated depression, anger, resentment, restless sleep, insomnia, nightmares:  
Vetiver/Patchouli/Helichrysum

- **Heart Yin deficiency with Shen agitation** with anxiety, worry at night, restlessness, fearfulness, insomnia, palpitations:

Lavender/Neroli/Patchouli

### 3. Descends Lung Qi, relaxes the chest and relieves wheezing

- **Lung Qi accumulation** with wheezing, cough, chest distension or pain:

Hyssop/Siberian fir/Basil

### 4. Dispels wind-damp-heat from the skin and meridians, and relieves pain

- **Wind-damp-heat in the skin** with red, itchy, painful eruptions:

Lavender/Tea tree/Helichrysum

- **Wind-damp-heat obstruction** with red, swollen painful joints, rheumatic pains:

Vetiver/Wintergreen/Lemon eucalyptus

#### REMARKS

So called because of its deep marine blue colour, Blue tansy oil is extracted from the annual tansy, a distant cousin to the common tansy indigenous to Mediterranean North-west Africa. In production only since the 1960s, this oil has virtually no credentials of traditional use, but instead offers its signature fragrance, colour and chemical profile as compellation for its use. Intensely apple-sweet and herbaceous, yet fruitier, fuller and smoother than the aroma of German camomile, Blue tansy oil is also higher in the key component azulene.

Medical and herbal medicine practitioners in France have long since recognized the therapeutic potential of this blue oil, itself an emblem of coolness and relaxation. With both internal and topical use in the clinic they saw its excellent *anti-inflammatory*, *antiallergic* and *analgesic* effects in a large variety of acute and chronic **inflammatory and allergic conditions with pain**. They obtained particularly good results in **immediate allergies** and investigated an *antihistamine* action, which has since been confirmed. Its generous sesquiterpenes, lactones and sesquiterpenols content supports these actions from the perspective of pharmacology.

Clinical experience since then points to an emerging portrait of an oil that in vitalistic terms is, firstly, a *relaxant* for treating **tense conditions**; and, secondly, a *refrigerant* for treating **hot conditions**. Clinical fragrance energetics fully bears this out: Blue tansy's sweet, green aroma qualities speak of circulating energy, promoting relaxation and clearing heat as their two major themes.

When used on a physiological basis, Blue tansy, like Ylang ylang, is a *systemic relaxant* for tense conditions affecting the brain, the nervous system and the smooth

muscle organs. It acts as a *spasmolytic* and *vasodilator* in the vascular, respiratory and gastrointestinal systems, and as a sedative in the nervous and immune systems where it calms hypersensitivity and hyper-responsiveness. At the same time, Blue tansy slows and cools things down, making it perfect for stress-related conditions of all kinds that present **heat and inflammation** as well as **spasm and pain**. This aromatic is perfect for tense, irritable, reactive individuals who run hot in their general tension and who present emotional instability with underlying anxiety or resentment. All in all, Blue tansy shows a marked resemblance to the Chinese remedy Asian buplever root, Chai Hu (*Bupleurum chinense* sp.), which also has fever, pain and allergies as its prime indications.

In terms of the olfactory pathway of absorption, Blue tansy has more to offer in the psychological dimension. Here again it exerts a calming effect that works well in **anxiety states, agitated depression and acute panic states** in particular. Moreover, it can help provide emotional stability in the presence of conflicting distressed feelings, rigid attitudes and general negativity. Here it acts in a similar way to Bergamot. But while the latter is also uplifting, Blue tansy is also calming and soothing.

The body focus of Blue tansy is the solar plexus, which it softens, relaxes and expands. This indicates this aromatic for individuals presenting a hardening and tensing up in this area, which results in a corresponding hardening of the Self. The Specific symptomatology above clearly displays the issues of self-fulfilment in the world under major challenge. Characterized by rigid thinking, a lack of flexibility, a need to remain in control and an inability to let go of difficult issues, the Blue tansy personality is punctuated by **frustration, anger, irritability, depression and anxiety**. By reminding us of the ever-changing, impermanent nature of reality, Blue tansy can be a valuable ally in helping us make our relationship to the world and others a more flowing, adaptive, spontaneous and dynamic one.

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# Cajeput



**Botanical source:** The twig and leaf of *Melaleuca cajuputi* Powell [syn. *M. leucadendron* (L.) L. var. *minor* (Smith) Duthie] (Myrtaceae – myrtle family). Three subspecies of this plant exist, all of which yield cajeput oil: subsp. *cajuputi* (in the Maluku Islands), subsp. *cumingiana* (in Java, Borneo, Malaysia and Vietnam), and subsp. *platyphylla* (in the Northwest tip of Australia and New Guinea). However, almost all of the commercially available Cajeput oil derives from *Melaleuca cajuputi* subsp. *cajuputi*.

**Other names:** Swamp tea tree, White tea tree, Weeping tea tree, Whitewood, Punk tree; Kayu putih (Indonesian, Malay), Gelam (Javanese, Madurese)

**Appearance:** A pale yellow mobile liquid (sometimes with a blue-greenish hue) with a fresh-pungent and slightly fruity-sweet-spicy odour

**Perfumery status:** A head note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh leaves and twigs or branches

**1 kg oil yield from:** 100–150 kg of the leaves and twigs (an excellent yield)

**Production areas:** Indonesia (native), esp. Maluku (Moluccas) and Nusa Tenggara, including Buru, Seram and Timor; Vietnam, Malaysia and Philippines. Cajeput oil distillation originally began in the Maluku archipelago from wild stands during the

early 18th century. The first plantations for oil production were established in Central Java in 1926 but are relatively few there today.

**Typical constituents** (*M. cajuputi* subsp. *cajuputi*): Oxide 1,8-cineole 16–65% • monoterpenes (incl. alpha- and beta- pinene 10–40%, limonene trace-7%, terpinene 4%) • sesquiterpenes (incl. beta-caryophyllene 1–6%, viridiflorene 1–9%, alpha-phellandrene 2%, humulene trace-2%, terpinolene, ylangene) • monoterpenols (incl. alpha-terpineol 6–10%, linalool 0,3–4%) • sesquiterpenols (incl. globulol <9%, viridiflorol, spathulenol, nerolidol) • aldehydes (incl. valeric/butyric/benzoic aldehydes) • ester terpineol acetate • caryophyllene oxide <7%

Because there is no internationally accepted quality standard for Cajeput oil, its chemical composition can vary widely. This is partly because of intrinsic subspecies variations found in different regions and countries (see above) and partly because of the commercial admixture of oils from other *Melaleuca* species (see below).

The Moluccan Cajeput oil, *Melaleuca cajuputi* subsp. *cajuputi*, is produced and traded in three grades, based on geographical origin and pungency, the top grade having a 55–65% cineole content from hillside trees; the second grade a 20–55% cineole content from lower situated trees; the third grade from lowlands and elsewhere with very low cineole content (Oyen and Dung 1999, Southwell and Lowe 1999).

**Chance of adulteration:** Fairly common, usually with oils from various other *Melaleuca* species, e.g. Niaouli (*M. quinquenervia*) and Liniment tree (*Astero-myrtus symphyocarpa* (F. Muell.) L.A. Craven, syn. *M. symphyocarpa* F. Muell.); sometimes with Eucalyptus, Camphor, Rosemary or Lavender oils; and sometimes with synthetic components (Oyen and Dung 1999).

**Related oils:** Cajeput oil is just one *Melaleuca* among many (see the Tea tree profile).

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Slightly skin-irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – *All applications*

**Cold hands and feet**, low vitality, mental and physical fatigue, low enthusiasm, **low self-confidence**, insecurity, withdrawal, **difficulty with making decisions**, discouragement, depression, **acute and chronic digestive and respiratory problems**, **joint and muscle aches and pains**, low-back ache, heavy painful periods, haemorrhoids

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

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**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases prefrontal cortex and basal ganglia functioning

**Fragrance category:** High tone with a pungent note

**Indicated psychological disorders:** ADD, depression

STIMULATES THE MIND AND PROMOTES ALERTNESS

- Lethargy, drowsiness, stupor
- Mental confusion, disorientation, lack of concentration, poor short-term memory

PROMOTES MOTIVATION AND SELF-CONFIDENCE

- Loss of motivation with apathy, procrastination, self-neglect, flat affect
- Low self-esteem and self-confidence, pessimism, depression

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Cardiovascular, digestive, respiratory, musculoskeletal systems

**Essential functional and diagnostic indication:** Warms and restores asthenic/cold and hypotonic/weak conditions

**Primarily restorative and stimulant:**

*nervous and cerebral restorative:* neurasthenia with fatigue, low vitality, debility, mental deficiencies, depression; CFS, convalescence

*arterial circulatory stimulant:* a wide range of asthenic (cold) and congestive conditions with poor circulation, cold skin

- *strong respiratory stimulant, expectorant, bronchodilator:* congestive upper and lower respiratory conditions, incl. chronic laryngitis, chronic bronchitis, asthma
- *gastrointestinal stimulant and relaxant, spasmolytic, antiemetic:* dyspepsia, stomach cramps, colic, hiccups, nervous dysphagia, nervous vomiting
- *musculoskeletal stimulant and sedative: antirheumatic, analgesic, anti-inflammatory:* chronic rheumatic-arthritis conditions with pain; neuralgia, menstrual/ovarian pain

*radioprotective:* radiation exposure

**Primarily decongestant:**

*pelvic and uterine decongestant:* congestive dysmenorrhoea, haemorrhoids, prostate swelling

*venous decongestant:* pelvic congestion with venous congestion, varicose veins, haemorrhoids

**Antimicrobial actions:**

broad-spectrum anti-infective: antimicrobial, detoxicant, immunostimulant, anti-inflammatory: a wide range of infections, esp. bacterial; esp. respiratory, ear-nose-throat, gastrointestinal, urogenital

- strong antibacterial (broad-spectrum): a wide range of bacterial infections, both gram-positive and gram-negative, incl. with *E. coli*, *Pseudomonas*, *Staph. aureus*, *Strep. pyogenes*, incl. respiratory, gastrointestinal, urogenital; incl. colds, sore throat; gastritis, enteritis, bronchitis, whooping cough, typhoid fever, cholera, malaria; cystitis, urethritis
- strong antiviral: viral infections, incl. influenza, adenovirus, rhinovirus; common cold, flu, rhinitis, sinusitis
- antifungal: fungal infections with *Candida* spp., *Trichophyton* spp., *Aspergillus* spp., *Microsporon* spp., incl. candidiasis, thrush, tinea/ringworm, aspergillosis
- anthelmintic: intestinal parasites, esp. roundworms (*Nematoda*)

**SYNERGISTIC COMBINATIONS**

- Cajeput + Niaouli/Blue-gum eucalyptus: *broad-spectrum antibacterial and circulatory stimulant* for many types of bacterial infections, esp. with poor peripheral circulation and asthenia
- Cajeput + Rosemary cineole/camphor/Ravintsara: *antirheumatic, analgesic* in painful rheumatic and arthritic conditions, esp. with cold, low vitality, depression

**COMPLEMENTARY COMBINATIONS**

- Cajeput + Clary sage: *uterine and venous decongestant* for congestive dysmenorrhoea with heavy periods, venous congestion with varicose veins, haemorrhoids, ankle edema
- Cajeput + Thyme linalool: *respiratory stimulant* for bronchitis, asthma, coughs

- Cajeput + Clove: *gastrointestinal stimulant/relaxant* for a wide range of upper and lower digestive disorders, esp. with colic, bloating, vomiting, diarrhoea, gastroenteritis
- Cajeput + Peppermint: *gastric relaxant, antiemetic* for epigastric cramps/colic, vomiting

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TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Oily skin type

*analgesic, mild rubefacient and anti-inflammatory:* rheumatic-arthritic or neuralgic pain, spasms, burns, insect bites or stings, toothache, earache, indolent tumours

*antiparasitic:* parasitic skin conditions incl. scabies

*insect-repellent:* fleas, lice, mosquitos

**Precautions:** Avoid use in babies and infants. Use with caution topically because of possible skin irritation from oxidized monoterpenes in old Cajeput oil. Eclectic doctors of the 19th century advised Cajeput oil not to be given internally with acute inflammation present because of its stimulant, warming character (Felter and Lloyd 1898); i.e. only for chronic inflammatory conditions.

**Preparations:**

- Diffusor: 3–5 drops in water
- Massage oil: 1–3% dilution in a lotion or vegetable oil
- Liniment: 4–10% dilution in a vegetable carrier oil after doing a patch test
- Gel cap: 2–3 drops with some olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Pungent

**Movement:** Rising

**Warmth:** Warm to hot

**Meridian tropism:** Lung, Spleen, Stomach, Liver

**Five-Element affinity:** Metal, Earth

**Essential function:** To raise the Yang, warm the interior and strengthen the Shen

**1. Tonifies the Qi, raises the clear Yang and strengthens the Shen**

- **Clear Yang Qi deficiency with Shen weakness**, with mental confusion and fog, poor focus, headaches:  
Ravintsara/Rosemary/Grand fir/Peppermint

**2. Warms the Lung, expels phlegm and relieves coughing; diffuses Lung Qi and relieves wheezing**

- **Lung phlegm-cold/damp** with coughing, wheezing, sputum expectoration, chest distension, fatigue:  
Thyme linalool/Hyssop/Cardamom
- **Lung wind-cold** with coughing, sore throat, aches and pains, fear of cold, chills, possible fever:  
Eucalyptus (narrow-leaf)/Ravintsara/Rosemary/Sage

**3. Warms the Middle Warmer and relieves pain; descends Stomach Qi and stops vomiting**

- **Stomach cold** with epigastric pain, distension, cramping, colic:  
Fennel/Ginger/Nutmeg
- **Stomach-Spleen empty cold** with epigastric or abdominal pain, odourless loose stool:  
Pimenta berry/Ginger/Juniper berry/Black pepper
- **Stomach cold with Qi rebellion**, with nausea, hiccups, vomiting:  
Fennel/Peppermint/Cardamom

**4. Warms and releases the exterior, warms the meridians, dispels wind-damp- cold, opens the sinuses and relieves pain**

- **External wind-cold/heat with Qi or Yang deficiency**, with sneezing, sinus congestion, muscle aches and pains, fatigue, possible fever:  
Basil/Rosemary/Eucalyptus (narrow-leaf)/Ravintsara
- **Wind-damp-cold obstruction** with rheumatic aches and pains:  
Rosemary/Frankincense/Black pepper

**5. Invigorates the Blood in the lower limbs**

- **Blood stagnation in the lower limbs** with heavy legs, varicose veins, haemorrhoids:  
Atlas cedarwood/Patchouli/Rosemary

## REMARKS

Since the 1850s, Cajeput has held pride of place as *the* common, classic essential oil of Southeast Asia. Originating in the Maluku Islands of East Indonesia and distilled from the swamp tea tree, it has served as a popular household remedy for over 250 years for both indigenous people and colonizers in countries such as Indonesia, Malaysia, Thailand, Vietnam and India. Cajeput oil was already being imported to Europe from South East Asia by Dutch traders at the beginning of the 18th century. Today it is still a common ingredient in a variety of topical products for treating conditions ranging from rheumatic pain to digestive and respiratory conditions. The name Cajeput derives from the tree's Indonesian and Malay name, *kayu* (wood) *putih* (white).

The swamp tea tree itself is a tropical *Melaleuca* in the myrtle family. It is an excellent source of wood and provides habitat for wildlife, including bees that produce honey (which could be called cajeput honey). Predictably, as with the tea tree itself, its leaves were originally prepared into poultices for soothing aches and pains and used to make aromatic steam inhalations for nasal and bronchial congestion. Cajeput oil is therefore happily related to other tree oils from the same broad geographic region, such as Niaouli, Tea tree and Eucalyptus. As such, it shares many of their characteristics, which revolve around their strong, fresh pungent aroma and their high content in the components cineole and monoterpenes.

Along with the oils of Ravintsara and Niaouli, Cajeput is a marker for fresh-pungent stimulating oils in general: it may be considered the most warming, drying and dispersing of them all. Recognizing this, Eclectic physicians in the US as early as the late 19th century actually cautioned against its use as an internal remedy when acute inflammation was present. Driven by a *central stimulant* action to the circulation, Cajeput is essentially a *warming stimulant* that unfailingly addresses **cold and weak conditions of the respiratory, digestive and musculoskeletal systems**. As such, it effectively warms and relaxes both smooth and striated muscles, hence being useful in a very wide range of bronchial and digestive conditions both atonic and spasmodic.

The oil's impressive *broad-spectrum antibacterial* action ensures inclusion of most bacterial infections among these conditions, and is especially useful for treating **chronic, cold infections**. Its systemic stimulant, revitalizing action is perfect for the individual who is weak, run down and immune deficient, presenting infections that take a long time to resolve or never fully resolve, as well as reoccurring infections. Chinese medicine here enumerates various cold syndromes of the Lung, Stomach and Spleen, as it does with fresh and dried Ginger, Sheng Jiang and Gan Jiang (*Zingiber officinale*), for instance. However, as with most other oils high in cineole and monoterpenes, such as Ravintsara, Narrow-leaf eucalyptus and the closely-related Niaouli, Cajeput is no slouch in treating viral infections either. With its rising and dispersing energetic qualities, this oil is especially effective with respiratory infections, both upper and lower, both bacterial and viral.

When used both internally and topically, Cajeput is not only a premier *warming stimulant* but also an excellent *analgesic* and *anti-inflammatory* for **painful muscle and joint conditions**, especially chronic ones. This we can attribute to its content in mono-terpenols and sesquiterpenes such as beta-caryophyllene.

Stimulation is also the key word for Cajeput's psychological effect. Mentally it will promote alertness and focus, like many other pungent-fresh oils. In terms of energetics, it raises the body's Yang energy towards the head. For the psyche, Cajeput can bring self-confidence and optimism, while helping to spark the deeper motivations that feed these qualities. Renewed motivations in turn will enhance immune functioning which, as a bridge between body and psyche, can prove to be pivotal for those on the steep slope to recovery from chronic illnesses.

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# Clary Sage



**Botanical source:** The herb of *Salvia sclarea* L. (Labiatae/Lamiaceae – lipflower family)

**Other names:** Sauge sclarée (Fr), Muskatellersalbei (Ge), *Salvia sclarea* (It)

**Appearance:** A mobile pale viridian- or emerald-green fluid with a soft sweet-herbaceous, dry-tea-leaf odour with some woody undertones. There is considerable variation in Clary sage's fragrance palette. Oils from France tend to be drier, less sweet, more woody and bracing, while those from Eastern Europe and points east are much sweeter, rounder and softer, with gentler dry-woody notes.

**Perfumery status:** A heart note of medium intensity and medium persistence

**Extraction:** Steam distillation of the fresh herb in flower, usually in August–September. If the flowers alone are distilled, this results in an oil higher in esters.

**1 kg oil yield from:** 100–150 kg of the herb (a good yield)

**Production areas:** South France, Bulgaria, Crimea, England, Hungary

**Typical constituents:** Esters (incl. linalyl acetate 49–80%, geranyl acetate 0.3–3%, citronellyl/neryl/bornyl acetate, butyrates, valerates) • monoterpenols 17% (incl. linalool 8–28%, geraniol, terpineol, citronellol, borneol, thujol) • diterpenols

5–7% (incl. sclareol 1–3%) • sesquiterpenes 5% (incl. beta-caryophyllene 1–2%, germacrene-D <4%, trans-calamene, trans-ocimene, terpinolene, copaene, bourbonene) • monoterpenes 2–3% (incl. pinenes, sabinene, camphene, myrcene, terpinolene, limonene) • sesquiterpenols bisabolol • oxides (incl. 1,8-cineole, caryophyllene oxide, sclareol oxide) • ketones

Clary sage oil is a complex oil with more than 450 individual constituents.

**Chance of adulteration:** Moderate, e.g. with Lavender or Lavandin oils, Bergamot mint oil (*Mentha citrata*), as well as synthetic components such as linalyl acetate and linalool (Lis-Balchin 2006).

**Related oils:** Oils from other species of *Salvia*, including **Sage** (*Salvia officinalis*)

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Anxiety, nervous tension with fatigue**, scatteredness, apprehension, fearfulness, **anxious or agitated depression**, palpitations, irritability, emotional confusion with negative outlook, **scanty or stopped periods**, long cycles, menstrual cramps, vaginal discharges, **sexual disinterest**, debility, muscle tension and pain, **varicose veins**, oily skin, scalp and hair

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Relaxant in overstimulation conditions; regulating in dysregulation conditions; euphoric in acute shock conditions

**Possible brain dynamics:** Reduces basal ganglia and limbic system hyperfunctioning; resolves temporal lobe dysregulation

**Fragrance category:** Middle tone with green, sweet and woody notes

**Indicated psychological disorders:** Hypomania, panic attacks, bipolar disorder, ADHD, depression, phobia, PTSD

### CALMS THE MIND, PROMOTES RELAXATION AND MILD EUPHORIA

- Nervous and emotional tension, scatteredness, anxiety
- Emotional shock of any kind, fear, panic, phobia
- Depression with anxiety or agitation; other types of depression (*for short-term use*)

**PROMOTES EMOTIONAL STABILITY AND RENEWAL**

- Irritability, moodiness
- Emotional conflict or instability with confusion, scatteredness
- Feeling-sensing disconnection and conflict
- All pathogenic distressed emotions in general

**PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment***

**Tropism:** Neuroendocrine, reproductive, vascular systems

**Essential functional and diagnostic indication:** Restores hypotonic/weak conditions and relaxes hypertonic/tense conditions

**Primarily restorative:**

*systemic nervous and cerebral restorative:* chronic atonic (weak) conditions with fatigue, insomnia, chronic stress; neurasthenia with fatigue, burnout, exhaustion; chronic adrenal fatigue

*antidepressant, mild euphoric:* depression, esp. with tension or anxiety; menopausal and postpartum depression; shock, trauma

*reproductive restorative:* pituitary-ovarian stimulant, oestrogenic: chronic hormonal disorders from oestrogen deficiency, incl. PMS, dysmenorrhoea, amenorrhoea, menopausal syndrome, frigidity, senile vaginitis, infertility

*uterine restorative and stimulant:* amenorrhoea, oligomenorrhoea

**Primarily decongestant:**

*venous and pelvic restorative and decongestant:* venous insufficiency with congestion, incl. varicose veins, haemorrhoids; congestive dysmenorrhoea

*astringent, mucostatic:* diarrhoea, mucous colitis, enteritis, indigestion from excessive gastrointestinal mucus, vaginal discharge (leucorrhoea)

*anhydrotic:* excessive daytime and night-time sweating

*agalactic:* excessive lactation (for weaning)

**Primarily relaxant:**

*systemic nervous relaxant: PNS inhibitor, spasmolytic, analgesic, anti-inflammatory:* hypertonic (tense) conditions with tension, anxiety, pain and spasms, esp. of the nervous, digestive, reproductive, respiratory systems; chronic stress-related disorders in general

- *cerebral sedative, hypnotic*: anxiety, insomnia
- *hypotensive, antilipemic*: hypertension, hyperlipidemia
- *uterine relaxant*: spasmodic dysmenorrhoea with menstrual cramps, ovulation pain, labour pains, spasmodic uterine dystocia, PMS
- *respiratory relaxant, bronchodilator*: asthma
- *intestinal relaxant, spasmolytic*: colic, cramps, IBS
- *neuromuscular relaxant, analgesic, anticonvulsant*: muscle tension, spasms and pain; children's seizures

*mild antifungal and antibacterial*: incl. *Strep. pneumoniae*

#### SYNERGISTIC COMBINATIONS

- Clary sage + Geranium/Rose: *female reproductive restorative and hormonal regulator (oestrogenic/progesteronic)* for dysmenorrhoea, PMS, (peri)menopausal syndrome, frigidity
- Clary sage + Palmarosa: *neurocardiac restorative* for neurasthenia with heart weakness, palpitations, chronic stress-related disorders
- Clary sage + Lavender: *nervous system restorative and relaxant* for neurasthenia, burnout with anxiety, tension; agitated depression, insomnia, pain
- Clary sage + Petitgrain: *nervous sedative and restorative* in chronic hypertonic and atonic neurasthenia with fatigue, insomnia, debility; chronic stress-related disorders
- Clary sage + Geranium: *venous, pelvic and uterine restorative and decongestant* for congestive dysmenorrhoea, varicose veins, haemorrhoids

#### COMPLEMENTARY COMBINATIONS

- Clary sage + Roman camomile: *spasmolytic and analgesic* for acute, severe spasmodic dysmenorrhoea, ovarian or pelvic pain, labour pains with spasmodic dystocia; colic, IBS
- Clary sage + Sage: *uterine and ovarian hormonal restorative: gonadal/oestrogen/progesterone deficiency* with amenorrhoea, dysmenorrhoea, PMS with fatigue; (peri)menopausal syndrome, frigidity, infertility, sterility
- Clary sage + Cypress: *venous restorative* for varicose veins, haemorrhoids, pelvic congestion

- Clary sage + Green myrtle: *mucostatic and astringent* for vaginal discharges, mucus colitis, diarrhoea
- Clary sage + Sage: *anhydrotic* for spontaneous day or night sweats with fatigue, esp. in women

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TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Oily skin type

*dermal decongestant, hair restorative:* oily skin, scalp and hair, dandruff, poor hair growth, hair loss; wrinkles, ulcers

*antiseptic:* local/topical infections, acne, boils

*antifungal:* fungal skin conditions

**Precautions:** Use Clary sage oil with caution during pregnancy in general. Because of its untested hormonal action, it should be used with caution for internal use in oestrogen-dependent conditions, which may include cysts, endometriosis and cancers.

**Preparations:**

- Diffusor: 3–4 drops in water
- Massage oil: 2–5% dilution in a vegetable oil
- Liniment: 2–10% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with some olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Green, sweet, woody

**Movement:** Circulating, stabilizing

**Warmth:** Neutral to cool

**Meridian tropism:** Heart, Liver, Kidney

**Five-Element affinity:** Fire, Wood

**Essential function:** To nourish the Blood and Yin, descend the Yang and calm the Shen

**1. Nourishes the Blood and regulates menstruation; nourishes Heart Blood, settles the Heart and calms the Shen**

- **Blood deficiency** with stopped periods, irregular periods/cycles, cramps, PMS:  
Geranium/Fennel/Sage
- **Heart Blood deficiency with Shen agitation** with anxiety, restlessness, insomnia, palpitations:  
Lavender/Neroli/Marjoram

**2. Nourishes the Yin, settles the Heart and calms the Shen**

- **Yin deficiency with Shen agitation**, with restlessness, insomnia, night sweats, headaches:  
Geranium/Vetiver/Patchouli

**3. Calms the Liver, descends the Yang, extinguishes wind and relieves spasms**

- **Liver Yang rising (floating Yang) with Shen agitation**, with tension, headaches, insomnia, agitation:  
Lavender/Blue tansy/Vetiver
- **Internal Liver wind** with tremors, muscle spasms, seizures:  
Marjoram/Roman camomile/Laurel
- **Liver and Uterus Qi constraint** with menstrual cramps, irritability, anxiety, PMS:  
Lavender/Blue tansy/Ylang ylang no. 1

**4. Invigorates the Blood in the Lower Warmer and the lower limbs, and reduces stagnation**

- **Lower Warmer Blood stagnation** with heavy dragging pelvic pains, painful clotted periods:  
Rosemary/Geranium/Niaouli
- **Blood stagnation in the lower limbs** with varicose veins, ankle edema, fatigue:  
Cypress/Tea tree/Rosemary

## REMARKS

Monographs on Clary sage can already be found in many herbals of the Hellenic and Roman period. This aromatic remedy has a long and venerable history of use in both the official tradition of Greek medicine in Europe and the unofficial, unwritten tradition of European wise woman practitioners. Clary sage is the kind of herb we can imagine Hildegard of Bingen, for instance, to have cultivated in her secluded cloister physic garden near St. Gallen, Switzerland. We can be fairly certain that, as an exceptionally educated woman herbalist, she was fully conversant with Clary sage's properties, especially as regards the treatment of women's problems.

Today, the essential oil of Clary sage is re-emerging as a major aromatic ally for women. At the same time, we should realize that this is one of several remedies with a profound effect on neuroendocrine functions. We could even say that currently Clary sage oil is to the essential oil therapist what Black cohosh root (*Actaea racemosa*) is to the medical herbalist. Chemically poised nicely between alcohols and esters, the oil can both restore **weak conditions** and relax **tense conditions**. In Chinese medicine terms, this would translate as both a tonification of the Blood and Yin, and a calming of the Shen. Likewise in terms of fragrance energetics, its sweet fragrance attests to a *restorative* effect, while its green fragrance signals a *relaxant* one. Understanding this polarity can help us clarify the great diversity and complexity of its actions.

Menarche, childbirth and menopause are the three phases of a woman's life in which Clary sage has been found to excel. The broad spectrum of its applications results from a comprehensive physiological action on both tissue and hormonal levels. The oil can directly tone and relax the uterine muscle, as well as exert a systemic oestrogenic effect that seems to arise from pituitary-gonadal stimulation. It is much appreciated for the relief it can bring to menstrual cramps because of its *uterine spasmolytic* and somewhat *analgesic* action. The oil's high content in the ester linalyl acetate helps explain this action in the presence of **spasmodic dysmenorrhoea**, for instance, while borneol is a noted pain-reliever.

Conversely, as a *uterine restorative* and *stimulant*, Clary sage acts as an *emmenagogue* for delayed, scanty or completely absent menses. Its application for functional **amenorrhoea** is justified in view of its content in linalool and sclareol; these alcohols are known to possess restoring, stimulating and regulating activities on their target tissues. The oil is much used in France, for instance, in girls during puberty for ensuring a smooth transition from childhood to womanhood.

There are several important oils for treating PMS, and Clary sage is one of them. Like Fennel oil, it is specifically given in **PMS** and **dysmenorrhoea** that is due to **oestrogen deficiency**. This is the dynamic of its Blood-nourishing action in Chinese medicine. Conversely, by blocking oestrogen receptor sites, Clary sage is also useful in conditions of **oestrogen accumulation**, marked by a more aggressive type of PMS syndrome. Many other low-oestrogen conditions will also respond well to this *oestrogenic* remedy, especially during the **menopausal years** when symptoms such

as hot flashes and night sweats are prominent. The additional calming effect of its herbaceous fragrance here provides a soothing, stabilizing limbic complement.

It is also possible that Clary sage exerts a *regulating* action on the pituitary gland – evident, for example, in a harmonising effect in most menstrual disorders, as well as in the *prolactin-inhibiting* action that tends to dry up breast milk.

Clary sage's twin *uterine stimulant* and *relaxant* actions are also the basis for its use in childbirth – as they are with Black cohosh, once again. During the first stage of labour, this *parturient* oil is indicated in failure to progress caused by either hypertonic or hypotonic contractions. Its systemic *central nervous relaxant* action provides a good complement to its action on the uterus. It can help the mother release the tension and anxiety usually present before and during labour, right up to the transition phase, as well as ensure regular, strong contractions.

Clary sage should also be seen as an important remedy for the nervous system. It can systemically *restore* a weak, debilitated nervous system as well as *relax* a tense, wound-up system, both central and peripheral. Clary sage exerts this bivalent effect more strongly than Lavender, for instance, and like Lavender is a classic for **chronic stress-related disorders** ranging from chronic fatigue, insomnia and chronic illness to depression and anxiety. It is the oil of choice for treating **neurasthenia** resulting from years and years of **nervous tension**, especially involving chronic pain, anxiety or simply emotional instability and conflict. Here it acts particularly as a *hypnotic cerebral sedative* without compromising the nervous system in any way. Its *nervous relaxant* action, like that of Marjoram oil, in turn splays out over all smooth and striated muscles, making it useful in formulas for a wide range of **spasmodic and painful conditions**. Here we see a classic remedy for calming the Liver Yang while at the same time extinguishing internal wind.

Along with Clary sage's *restorative* actions, a good *blood decongestant* and *drying, astringent* action is also evident. We see this particularly in its positive results with pelvic congestion, varicose veins, etc., as well as conditions of fluid leakage of many kinds. Clary sage is an excellent remedy for **damp, congestive conditions of the pelvis and lower limbs with discharges**. A resonance with Geranium is evident here.

When used by inhalation methods, Clary sage is an aromatic poised between tonification and relaxation for the psychological aspect as well. While its sweet fragrance energy fosters emotional stabilization, its green energy provides calming. As on the physiological level, Clary sage excels in those whose irritability, scatteredness, emotional confusion and stagnant, distressed feelings arise from weakness and a lack of centre. Clary sage serves to bring awareness within, allowing one to come from one's deeper emotional and energetic core. In so doing, it has a softening effect that can help us dissolve any unnecessary hard protective structures we normally use in relating to others. It can also satisfy the yearning for the unknown within us, uncannily stirring up long-lost feelings and half-buried dreams. Inhalation is also

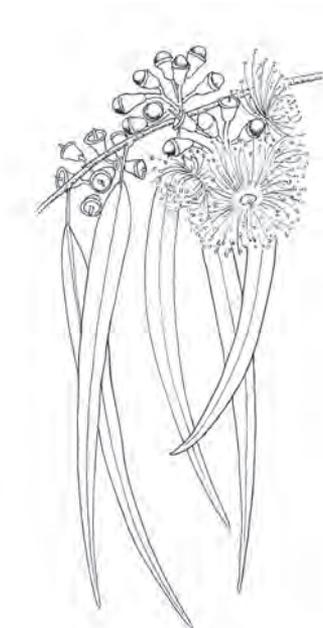
generally useful as a settling, centring aid for meditation – a welcome change from the sweet-woody oils more commonly used.

As one of several herbaceous-green oils, Clary sage exerts a pronounced relaxing, calming effect on the limbic system and basal ganglia. This is amplified by a secondary *euphoric* action that indicates this oil not only for the usual tension, anxiety, emotional agitation, and so on, but also for more acute states of fear, panic, emotional shock and other trauma. A slew of psychiatric conditions clearly stand to benefit here, including ADHD and PTSD. Working through olfaction on the psychological level, Clary sage here again is best kept for those forms of depression attended with anxiety or agitation.

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# Eucalyptus

## Blue-Gum Eucalyptus



**Botanical source:** The leaf of *Eucalyptus globulus* Labill. (Myrtaceae – myrtle family)

**Other names:** Blue-gum eucalyptus, Tasmania blue gum, Southern blue gum, Fever tree; Eucalyptus (Fr), Eukalyptus (Ge), Eucalipto (It, Sp), Kaleto (Arabic)

**Appearance:** A mobile clear fluid with a fresh camphoraceous and somewhat leafy-green odour with faint sweet-wood undertones

**Perfumery status:** A head note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh leaves (and sometimes twigs) at many different times of the year, depending on the location

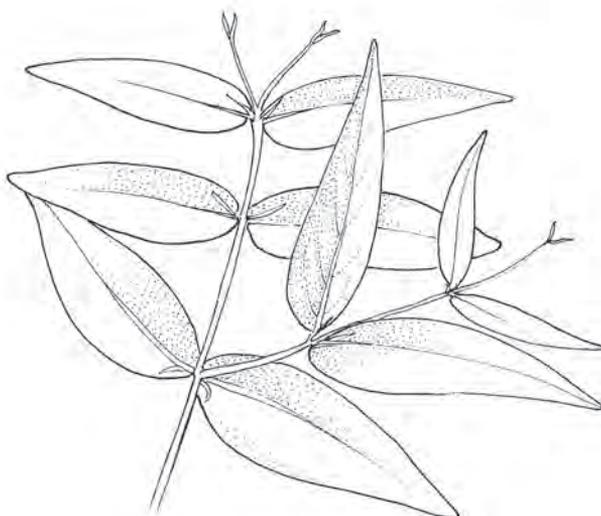
**1 kg oil yield from:** 30–80 kg of the leaves (an excellent yield)

**Production areas:** South-eastern Australia (native), Spain, Portugal, Morocco, Brazil, China

**Typical constituents:** Oxide 1,8-cineole 59–75% • monoterpenes (incl. alpha-pinene 3–27%, limonene 2–10%, cymene 1–4%, para-cymene 4%) • sesquiterpene aromadendrene 0.1–6% • monoterpenones (incl. pinocarvone, fenchone, carvone) • monoterpenols, sesquiterpenols, transpinocarveol • ester terpenyl acetate <2% aldehydes (incl. myrtenal, geranial, valeric/butyric aldehyde)

**Chance of adulteration:** Almost none, because the yield is so good. Note also that most Eucalyptus oils on the market are redistilled or rectified by vacuum redistillation to reduce the levels of its harsh terpenes and volatile aldehydes (mostly isovaleric). While the result is no longer a complete oil, the advantage is a much safer oil when taken internally (including in products such as cough syrups, pastilles and so on).

## Narrow-Leaf Eucalyptus



**Botanical source:** The leaf of *Eucalyptus radiata* Sieb. ex DC. (Myrtaceae – myrtle family)

**Other names:** Black peppermint eucalyptus; Eucalyptus radié (Fr)

**Appearance:** A mobile clear fluid with a soft fresh-camphoraceous, somewhat sweet odour

**Perfumery status:** A head note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh leaves and twigs at many different times of the year, depending on location

**1 kg oil yield from:** 30–80 kg of the leaves and twigs (an excellent yield)

**Production areas:** Australia, South Africa. This was the first eucalyptus oil of all to be produced commercially; the first distillation was established by Bosisto outside of Melbourne in 1852.

**Typical constituents:** Oxides (incl. 1,8-cineole 63–72%, caryophyllene oxide) • monoterpenes (incl. alpha-pinene 4–14%, limonene 5%, myrcene 2%, alpha-phellandrene 0.12%) • monoterpenols 20% (incl. alpha-terpineol 3%, geraniol 2–3%, isoterpineol-4 2%, linalool, borneol) • monoterpenals 8% (incl. myrtenal, citronnellal, neral, geranial)

**Chance of adulteration:** Rare, because of the high yield

**Related oils:** Over 700-plus species of eucalyptus originated in Australia and East Indonesia and many of these are used for industrial purposes today. The ones given below are more often produced than others. Generally speaking, there are three groups of Eucalyptus oils, each with their characteristic fragrance and related dominant constituent:

### **1. Fresh-camphoraceous eucalypti with 1,8 cineole dominant**

On the whole this produces predominantly stimulating therapeutic actions. They include:

- **Blue-gum eucalyptus** (*E. globulus* Labill.) (see above)
- **Narrow-leaf eucalyptus** (*E. radiata* Sieb. ex DC.) from Australia and South Africa (see above)
- **River red gum** (*E. camaldulensis* Dehnh.) from Australia, South France, Morocco and Brazil, with a much lower cineole and higher sesquiterpene content and an overall softer aroma. However, there also exists a high-cineole (<84%) chemotype of this oil.
- **Blue-leaf mallee** (*E. polybractea* Baker) from Southeast Australia, with its full-bodied fresh-camphor aroma and 60–92% cineole content
- **Green mallee** (*E. viridis* Baker) from Southeast Australia, very similar to the Blue-leaf mallee (and often harvested indiscriminately along with it)
- **Gully gum** or **Smith's gum** (*E. smithii* Baker) from Australia, its aroma similar to *E. globulus* but with a musty earthy base note as well as a higher 1,8 cineole level that ranges from 70–90%
- **Woolly-butt** (*E. macarthurii* D. and M. Camden) from Australia, with its high levels of geranyl acetate (44%)
- **Forest red gum** (*E. tereticornis* Sm.) from Eastern Australia and Papua New Guinea, with high levels of alpha-pinene (15%) and beta pinene (17%) and 5–38% sesquiterpenols

## **2. Lemon-scented eucalypti with citronellal and/or citral dominant**

This imparts cooling and sedative therapeutic effects. These include:

- **Lemon-scented eucalyptus** (*E. citriodora* Hook. syn. *Corymbia citriodora*) from Brazil and other countries, with its sweet-lemomy aroma from high levels of the aldehyde citronellal (52–91%)
- **Lemon-scented ironbark** (*E. staigeriana* F. Muell. ex Bailey) from Australia and Brazil, with its soft fruity lemony-green aroma from balanced levels of esters (26%), geraniol (16%), monoterpenes (36%) and aldehydes (12%)

## **3. Peppermint-scented eucalypti with piperitone and/or phellandrene dominant**

These are collectively known in Australia as the peppermint gums or peppermint trees:

- **Broad-leaf or blue peppermint eucalyptus** (*E. dives* Schauer ct. piperitone) with its fresh-minty herbaceous aroma, high in both piperitone (36–52%) and alpha-phellandrene (18–28%). A chemotype *E. dives* ct. cineole also exists.
- **Peppermint or Sydney eucalyptus** (*E. piperita* subsp. *piperita* Sm.) with its peppermint-like aroma from high piperitone levels (45–55%)
- **Grey peppermint eucalyptus** (*E. radiata* var. *phellandra*) with high piperitone levels and a peppermint-like aroma

## **Therapeutic Functions and Indications of Blue-Gum and Narrow-Leaf Eucalyptus**

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Apathy**, poor motivation, **despondency**, depression, low self-confidence, **emotional confusion** and indifference, conflicting feelings, difficulty grieving, **chest infections with cough**, chest pain and wheezing, **flu and colds** with sneezing, **sinus congestion**, sore throat, fever; intestinal, skin, bladder and vaginal infections

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

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**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases basal ganglia and prefrontal cortex functioning

**Fragrance category:** Top tone with pungent, green notes

**Indicated psychological disorders:** ADD, depression

STIMULATES THE MIND AND PROMOTES ALERTNESS

- Lethargy, drowsiness, stupor
- Mental confusion, disorientation, lack of concentration, weak short-term memory

PROMOTES CLARITY AND PERSPECTIVE

- Confusion, loss of perspective, mental conflict

PROMOTES OPTIMISM AND SELF-CONFIDENCE

- Negative thinking, pessimism, flat affect, depression
- Apathy, loss of self-confidence

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Respiratory, urinary, musculoskeletal systems

**Essential functional and diagnostic indication:** Decongests in damp/congestive conditions

*stimulant expectorant, mucolytic, antitussive:* congestive respiratory conditions with cough, incl. bronchitis, emphysema, bronchial asthma, pneumonia; pulmonary gangrene (see also below)

*antipyretic:* flu, intermittent fevers, incl. malaria, typhoid, cholera; eruptive fevers, incl. measles, chickenpox, scarlet fever; swollen lymph glands

*antirheumatic, analgesic, anti-inflammatory:* chronic rheumatic and arthritic conditions; neuralgia, headache, migraine; cystitis

*mild hypoglycaemiant, pancreas restorative:* hyperglycaemia, diabetes

*restorative, antioxidant:* fatigue, low vitality

### Antimicrobial actions:

*anti-infective: antimicrobial, immunostimulant, anti-inflammatory:* a wide range of upper and lower respiratory and urogenital infections, both bacterial and viral

- **strong antibacterial:** bacterial infections, esp. respiratory and urogenital, incl. with *Haemophilus influenzae* and *parainfluenzae*, *Strep. pneumoniae* and *pyogenes*, *Staph. aureus*, *Bacillus cereus*, *Enterococcus faecalis*, incl.: bronchitis, emphysema, lung TB, whooping cough, pneumonia, rhinitis, sinusitis, otitis, tonsillitis, laryngitis, pharyngitis, adenitis; cystitis, cervicitis, urethritis, vaginitis, pyelitis, nephritis, cervical erosion; gastrointestinal infections
- **antiviral:** flu, croup, acute bronchitis
- **antifungal:** athlete's foot (*Trichophyton mentagrophytes*)

*vermifuge:* intestinal parasites, incl. roundworm, pinworm

**Note:** While the following species of *Eucalyptus* are largely interchangeable in their treatment of the above respiratory conditions, each species nevertheless has its own particular therapeutic emphasis.

- **Blue-gum eucalyptus** (*E. globulus*) is considered especially strongly *antibacterial* and therefore better for treating lower respiratory infections and often those at a later stage of development.
- **Narrow-leaf eucalyptus** (*E. radiata*) is considered especially strongly *antiviral* and so better for treating the early or onset stage of infections, and especially upper respiratory infections. It is somewhat gentler than the Blue-gum eucalyptus, a quality seen also in its significant content in monoterpenols. Narrow-leaf eucalyptus is a good choice for sensitive people and children, and whenever an emotional or stress-related component is present.
- **River red gum** (*E. camaldulensis*) with its lower 1,8-cineole content is considered somewhat milder than either one above and is more often used for mild respiratory infections or those seen in children.
- **Gully gum** (*E. smithii*) with its very high cineole levels should be considered an alternative to both the Blue-gum and the Narrow-leaf types of eucalyptus.
- **Blue-leaf mallee** (*E. polybractea* Baker) with its very high cineole content is another alternative to both the Blue-gum and Narrow-leaf types of eucalyptus.
- **Blue-leaf mallee cryptone** (*E. polybractea* Baker ct. cryptone) with its 40% content of cryptone is an excellent *antiviral* and respiratory *mucoytic*; it is also used successfully for condylomas, cervical dysplasia and prostatitis (both congestive and viral). Its *antibacterial* action is also effective for gonorrhoea, chlamydia, gonorrhoeal urethritis and epididymitis; it is also effective for amoebiasis.

- **Broad-leaf peppermint eucalyptus** (*E. dives*) is considered an especially good *mucolytic decongestant* and *expectorant* in both acute and chronic respiratory conditions; its key constituents are piperitone (37–48%) and phellandrene (28%), while being low in cineole. Broad-leaf eucalyptus also has a good *diuretic detoxicant* action on liver and kidney functions, while offering good kidney support with its *kidney regenerative* action. Its indications here therefore include metabolic toxicosis, nephritis, nephrosis and uremia, as well as vaginitis with leucorrhoea. This oil is contraindicated in babies and during pregnancy.
- **Lemon-scented ironbark** (*E. staigeriana*) presents a nice balance of esters, monoterpenes, aldehydes and monoterpenols, and is a versatile respiratory oil that works gently and very safely; it is especially indicated in chronic infections/inflammations where treatment of the whole condition, including terrain support, is important. Its strongest actions are *expectorant*, *anti-inflammatory* and *nasal decongestant* ones with good *antiviral* and *antifungal* activity. In addition, this oil is *spasmolytic* and *nervous sedative*, and therefore useful in anxiety states. It makes a good *deodorant* too.
- **Lemon-scented eucalyptus** (*E. citriodora*) is more effective for treating acute hot conditions than most other eucalyptus oils because of its lemony, sweet aroma arising from its high levels of citronellal. Its strong *anti-inflammatory*, *antipyretic*, *anti-infective*, *analgesic* and *nervous sedative* actions are especially indicated in acute respiratory infections with fever, including bronchitis, pneumonia, rhinitis, laryngitis and otitis; urogenital infections such as cystitis and vaginitis; acute, hot forms of arthritis; and acute pericarditis and coronaritis. Its *antibacterial* action has tested strong against *Staph. aureus* and *E. coli* in particular. Like other lemony aldehyde-rich oils, it also has a strong *antifungal* action that can be used for any number of fungal infections, including *Candida*, depending on the type of administration used.

#### SYNERGISTIC COMBINATIONS

- Narrow-leaf eucalyptus + Blue-gum eucalyptus: *antiviral and antibacterial stimulant expectorant* in all upper and lower respiratory infections with cough, sputum, fever
- Narrow-leaf eucalyptus + Ravintsara: *antiviral and decongestant* for acute flu and all upper respiratory and throat infections, incl. sinusitis, pharyngitis
- Narrow-leaf eucalyptus + Niaouli: *antiviral, anti-inflammatory and antipyretic* for acute viral respiratory infections, incl. acute bronchitis, RSV, croup, pleurisy and other viral infections, esp. with fever

- Blue-gum eucalyptus + Niaouli: *antibacterial and anti-inflammatory* in urogenital infections
- Blue-gum eucalyptus + Green myrtle: strong *antibacterial stimulant and mucolytic expectorant* for acute bacterial respiratory and throat infections with productive cough

#### COMPLEMENTARY COMBINATIONS

- Blue-gum eucalyptus + Spearmint: *mucolytic stimulant expectorant and antibacterial* for acute and chronic bronchitis, emphysema
- Narrow-leaf eucalyptus + Lemongrass + Lavender: *antipyretic* for fevers in general
- Narrow-leaf eucalyptus + Basil ct. chavicol: *antipyretic* for intermittent and eruptive fevers

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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*antibacterial, antiparasitic:* infectious dermatitis, parasitic skin infections; acne, seborrhoea, dandruff

*vulnerary:* wounds, cuts, ulcers, insect bites

*mild rubefacient, anti-inflammatory:* sprains, strains

*insect repellent*

**Precautions:** Because of their high cineole content, all types of Eucalyptus oil are contraindicated for all types of administration in babies and sensitive infants. They are also best avoided in those with high blood pressure or those prone to epilepsy. Narrow-leaf eucalyptus is generally the best type to use in children over the age of five.

Internal use of Blue-gum and Narrow-leaf eucalyptus is contraindicated in acute inflammation of any kind; it should be used for subacute or chronic inflammation only. When taken by gel cap, overdosing may result in gastrointestinal irritation and inflammation, kidney congestion, hypotension and muscular weakness (Felter 1922).

#### Preparations:

- Diffusor: 3–5 drops in the water
- Massage oil: 2–4% dilution in a vegetable oil
- Liniment: 4–10% dilution in a vegetable carrier oil
- Gel cap: 2 drops with some olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Pungent

**Movement:** Rising

**Warmth:** Neutral to cool

**Meridian tropism:** Lung, Bladder

**Five-Element affinity:** Metal, Fire

**Essential function:** To raise the Yang, strengthen the Shen and expel external pathogens

### 1. Raises the clear Yang, tonifies Lung and Heart Qi, and strengthens the Shen

- **Clear Yang Qi deficiency with Shen weakness**, with mental fogginess and fatigue, poor focus, confusion, forgetfulness:  
Rosemary/Sage/Grand fir/Frankincense
- **Lung and Heart Qi deficiency with Shen weakness** with withdrawal, poor emotional response, mental fatigue, discouragement, depression, grief:  
Rosemary/Black spruce/Cypress/Rose

### 2. Cools and releases the exterior, dispels wind-heat and relieves coughing; boosts the protective Qi

- **External wind-heat with wind in the head**, with sore throat, aches and pains, possible fever, sinus pain and congestion, sneezing:  
Spearmint/Niaouli/Lavender/Black pepper
- **Lung wind-heat** with sore throat, fever, cough, irritability:  
Lavender/Green myrtle/Niaouli
- **Shaoyang stage heat** with debility, episodes of alternating chills and fever:  
Basil ct. chavicol/Blue tansy/Laurel

### 3. Cools the Lung, expels phlegm and relieves coughing

- **Lung phlegm-heat** with cough, expectoration of foetid sputum:  
Spearmint/Lemon eucalyptus/Niaouli
- **Lung phlegm-dryness** with difficult dry cough with plugs of sputum, chest distension:  
Thyme linalool/Scotch pine/Jasmine

#### 4. Drains damp-heat in the Lower Warmer and stops discharges

- **Bladder damp-heat** with irritation, urgent burning urination, cloudy urine:  
Lemon/Spearmint/Wintergreen
- **Lower Warmer damp-heat** with white or yellow vaginal discharges, painful urination:  
Atlas cedarwood/Thyme linalool/Tea tree

#### REMARKS

Native to Australia, Eucalyptus was originally an aboriginal remedy for fevers and infections. Like so many other aromatic plants, it first caught the attention of the West as a flavouring and perfumery material. The blue-gum eucalyptus was first identified in 1792 by Labillardière on the island of Tasmania and by the 1850s was under cultivation in the South of France, Algeria and California. The fresh-camphoraceous group of eucalypts is best known among the many hundred species, with the native Australian blue-gum and the narrow-leaf in the lead. Despite being largely interchangeable in clinical practice, these two species nevertheless have their own advantages (see Note above). Here we will simply call both species 'Eucalyptus.'

With its airy, clean, fresh, pungent and yet pleasantly leafy-green aroma, Eucalyptus literally amplifies the energy of the in-breath and opens and expands the lungs. This oil is perhaps *the* classic *respiratory stimulant* and *antitussive* cough remedy. Among its constituents figure predominantly stimulating ones such as cineole and monoterpenes. More specifically, Eucalyptus is best used clinically as a *bronchial decongestant* in the **early and developing stages of chest infections** rather than in the later, more chronic stages. Here its *drying*, *antimicrobial*, *immunostimulant*, *anti-inflammatory* and *antipyretic* actions together will address the typical symptoms seen: productive coughing, fever with chills, and general aches and pains. They also engage specifically in the presence of viral respiratory infections, including influenza and sinusitis. Eucalyptus oil saw an amazing boom during WWI when it was used as a general *antiseptic* and *antimicrobial* remedy, including for the widespread influenza pandemic after the war. Its *immuno-stimulant* action in particular has shown to involve activation of the monocyte/macrophage system as expression of innate cell-mediated immune response; it has shown immune enhancing results after chemotherapy, for instance (Serafino et al. 2008).

In vitalistic terms, Eucalyptus addresses damp and hot conditions of the lungs, as seen in the Chinese medicine syndromes above. It is interesting to note in this connection that eucalyptus trees were often planted in North Africa and Italy to dry up and sanitize swampy, mosquito-infested areas, prime breeding grounds for malaria. While being inherently stimulating, we should remember that Eucalyptus is also a *cooling* oil in every sense of the word: not just feeling cool to the touch, but more importantly helping the body resolve fever systemically, as well as exerting good

*anti-inflammatory* and *analgesic* actions locally where needed. Eucalyptus is an important traditional *antipyretic* remedy for both **intermittent fevers** (e.g. malaria) and **eruptive fevers** such as measles.

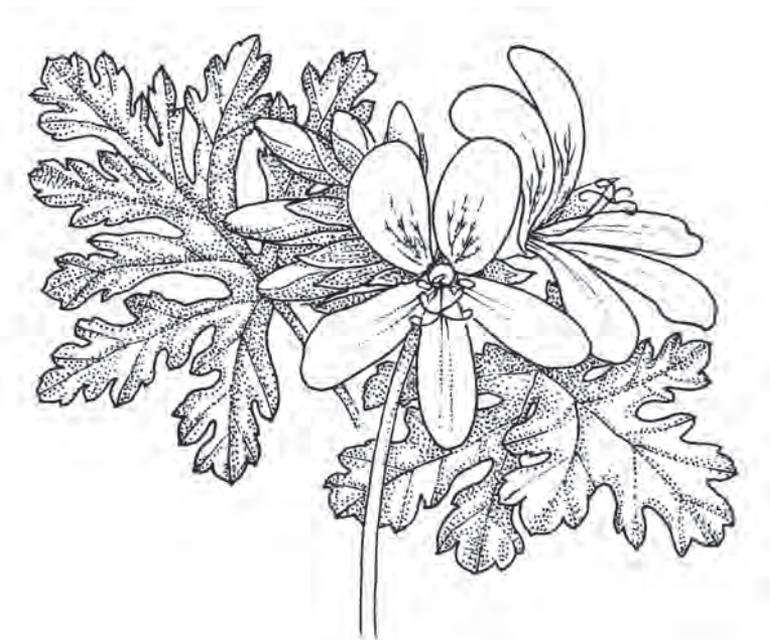
The *analgesic* effect, often used for treating **acute rheumatic-arthritic conditions** as well, has been shown to engage both the central and peripheral nerves. As a *cooling stimulant* then, Eucalyptus is similar to Tea tree but in clear contrast to the majority of other pungent-fresh *stimulants* such as Cajeput, Rosemary, Saro, Ravintsara and the like, which systemically promote a definite warming effect.

The key to understanding Eucalyptus' action on the psyche is to experience its refreshing, expansive, vitalizing effects first-hand through inhalation. Just as it opens and cleanses the lungs, so it can expand, clear and energize the mind and psyche. **Awakeness and mental alertness** are its most obvious and immediate effect. Moreover, by creating more space, Eucalyptus allows the mind to see things more clearly, helping promote perspective in situations marked by **confusion, ambiguity or simply negativity**. When faced with challenging situations, we can then begin to see all the options that we really have and the different choices we can make. It allows us to perceive a measure of freedom not apparent before.

Ultimately, Eucalyptus can help revitalize the psyche to make one feel more confident in one's ability to tackle obstacles. It can support clear personal expression in the face of difficult, stagnant situations where letting go of the old is as much of an issue as embracing the new. It can help create a freer, clearer and more open-ended exchange between the individual and others – the same exchange that occurs with every in- and out-breath that we take.

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# Geranium



**Botanical sources:** The herb of *Pelargonium* L'Hérit. cv. group Rosat (Geraniaceae – geranium family). All Geranium oils, regardless of origin, are produced from the following two main hybrid species (Weiss 2000):

1. *Pelargonium capitatum* (L.) L'Hérit. x *P. radens* H.E.Moore; this hybrid is the source of the so-called Bourbon type of Geranium oil (Bourbon refers to the Isle de Bourbon, i.e. La Réunion, originally the world's most important production centre)
2. *Pelargonium capitatum* (L.) L'Hérit. x *P. graveolens* L'Hérit. ex Ait. (syn. *P. graveolens*, *P. x asperum*)

**Other names:** Rose geranium, Rose-scented geranium; Géranium, Géranium rosat (Fr), Geranie, Rosengeranie (Ge), Geranio (It, Sp)

**Appearance:** A mobile pale yellow-green liquid with an intense rosy-sweet, warm, somewhat green-fruity odour; the odour varies with the exact botanical cultivar. The Bourbon type of Geranium in particular has a mild musky overlay to it.

**Perfumery status:** A heart note of high intensity and medium persistence

**Extraction:** Steam distillation of the dried herb in flower at many times throughout the year, depending on the location, but usually in spring and autumn; distillation usually takes about four hours

**1 kg oil yield from:** 500–700 kg of the fresh herb (a fairly poor yield)

**Production areas:** South Africa, Madagascar, Réunion, Egypt, Morocco, China, India. Although South Africa is the native habitat of all geraniums, Grasse in South France in the early 19th century began the first commercial cultivation of Geranium for oil production. From here production spread to the French Colonies, notably Algeria in 1847, La Réunion in the 1870s, then Morocco and Egypt soon after.

**Typical constituents:** Monoterpenols up to 68% (incl. citronellol 33%, geraniol 15–25%, linalool 5%, nerol, terpineol) • esters 15–30% (incl. citronellyl/geranyl/linalyl formates, citronellyle/geranyle acetate) • ketones 1–8% (incl. menthone, isomenthone 6%, methylheptone, piperitone) • monoterpenes 1–2% sesquiterpenes 1–2% (incl. alpha-copaene, gamma-cadinene, guaiaadiene, bourbonenes, guaiazulene) • 10-epi-g-eudesmol

In the Bourbon variety: additionally aldehydes up to 10% (incl. neral, geranial, citronellal)

**Chance of adulteration:** Quite common, often with isolated components of other oils, including citronellol, geraniol and/or with their synthetic analogues

**Related oils:** None, except possibly more obscure hybrids of the two main botanical types listed above

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing

### *SPECIFIC SYMPTOMATOLOGY – All applications*

**Emotional despondency**, withdrawal, feels unloved or worthless, guilt, **low self-esteem**, **mood swings**, irritability, **chronic anxiety**, weeps easily, pessimism, **low stamina**, **sugar cravings**, **PMS**, menstrual cramps, **irregular, scanty or heavy periods**; **chronic discharges**, body odour, swollen glands, **varicose veins**, water retention

### *PSYCHOLOGICAL – Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Regulates dysregulated conditions

**Possible brain dynamics:** Reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with sweet, lemony notes

**Indicated psychological disorders:** Addiction disorders, including food addictions; codependency; bipolar disorder, depression

PROMOTES EMOTIONAL SECURITY AND INNER STRENGTH

- Loss of emotional support, emotional loss, disappointment or deprivation; grief
- Emotional withdrawal, insecurity, neediness
- Low self-esteem, guilt, suicidal tendency

PROMOTES EMOTIONAL STABILITY AND CALM

- Irritability, moodiness, frustration, mood swings, emotional instability
- Depression with anxiety, negative (distressed) emotions and outlook
- Mental/emotional or thinking/feeling conflict

PHYSIOLOGICAL – Nebulizer inhalation, gel cap, suppository, pessary, liniment

**Tropism:** Neuroendocrine, reproductive, circulatory systems

**Essential functional and diagnostic indication:** Regulates, strengthens and decongests in dysregulated, hypotonic/weak and congestive/damp conditions

Primarily regulating and restorative:

*female hormonal regulator/restorative:* hormonal disorders from oestrogen or progesterone deficiency, incl. PMS, dysmenorrhoea, long cycles, infertility(?), menopausal syndrome with hot flashes

*adrenocortical regulator/restorative:* adrenal dysregulation or fatigue with energy swings, low stamina, afternoon fatigue, salt cravings; menopausal syndrome

*pancreatic (blood sugar) regulator/restorative:* hyper- and hypoglycaemia, dysglycaemia, diabetes

*antioxidant*

Primarily decongestant and detoxicant:

*liver decongestant and detoxicant:* liver congestion, metabolic toxicosis, high blood cholesterol

***draining and detoxicant diuretic:*** edema, retention of toxic kidney metabolites, metabolic toxicosis

***lymphatic and venous decongestant:*** venous and lymphatic stasis with swollen glands, varicose veins, haemorrhoids with pruritus, phlebitis; jet lag

***pelvic and uterine decongestant:*** pelvic/uterine congestion with congestive dysmenorrhoea, haemorrhoids

***astringent mucostatic:*** mucus and other discharges, incl. leucorrhoea, diarrhoea

***strong haemostatic:*** passive bleeding, incl. bleeding haemorrhoids, uterine bleeding, menorrhagia, nosebleeds, etc.

***agalactic:*** excessive lactation (for weaning)

***anhidrotic:*** excessive sweating (day or night)

***antitumoral:*** cancerous conditions (esp. colon cancer)

### **Primarily relaxant:**

***nervous relaxant:*** chronic hypertonic (tense) conditions, esp. stress-related, with chronic anxiety

***spasmolytic:*** colic, cramps, mucous colitis, IBS

***anti-inflammatory, mild analgesic:*** rheumatic and arthritic conditions, neuralgia, tonsillitis, colitis, gastritis, phlebitis

### **Antimicrobial actions:**

***strong broad-spectrum antifungal:*** fungal infections, esp. with *Candida* spp., *Trichophyton* spp., *Cryptococcus neoformans*, incl. intestinal dysbiosis, candidiasis, thrush, athlete's foot, jock itch, nail fungus, tinea/ringworm, fungal meningitis

***antibacterial:*** bacterial infections, incl. *Staph. aureus*, *Pseudomonas*

### **SYNERGISTIC COMBINATIONS**

- Geranium + Palmarosa: *antifungal* in various fungal infections, esp. with deficiencies
- Geranium + Palmarosa: *hormonal regulator and adrenal restorative* for amenorrhoea, dysmenorrhoea, adrenal fatigue, menopausal syndrome

### **COMPLEMENTARY COMBINATIONS**

- Geranium + Clary sage: *hormonal restorative and regulator* for PMS, dysmenorrhoea, menopausal syndrome, esp. stress-related, chronic

- Geranium + Fennel: *oestrogenic uterine restorative* for oestrogen-deficiency PMS and dysmenorrhoea, menopausal syndrome
- Geranium + Rosemary: *adrenocortical and pancreatic restorative* for adrenal fatigue with hypoglycaemia, loss of stamina, burnout, diabetes
- Geranium + Lemon: *liver detoxicant and decongestant* for liver congestion and liver/metabolic toxicosis
- Geranium + Cypress: *pelvic and uterine decongestant* in congestive dysmenorrhoea
- Geranium + Green myrtle: *mucostatic* for vaginitis with discharges
- Geranium + Sage: *astringent mucostatic* for mucoid stool, diarrhoea, esp. with fatigue; *agalactic* for weaning; *anhydrotic* for excessive day or night sweating
- Geranium + Patchouli: *antifungal* for various fungal infections, incl. skin conditions
- Geranium + Juniper berry: *diuretic* for edema; *diuretic detoxicant* for metabolic and kidney toxicosis
- Geranium + Helichrysum: *haemostatic* for passive bleeding
- Geranium + Clary sage: *nervous relaxant* for chronic stress-related conditions

#### TOPICAL – Compress, liniment, lotion and other cosmetic preparations

**Skin care:** Dry, oily and mature skin types

**skin regenerator:** rosacea, broken capillaries, wrinkles, acne, stretch marks

**vulnerary, anti-inflammatory:** tissue trauma: most types, incl. bruises, wounds, ulcers, varicose ulcers, abscesses, scars, adhesions, psoriasis, phlebitis, couperose

**antiseptic, antifungal, antibacterial:** boils, acne, abscesses, ringworm (tinea), candidiasis, acne, impetigo

**styptic:** passive bleeding, incl. nosebleeds, bleeding cuts

**analgesic:** rheumatic and neuralgic disorders, pain of urinary stones

**insect repellent:** head lice, mosquitos, gnats

**Precautions:** In rare cases, Geranium oil may not be tolerated topically in highly sensitive individuals. Internal use should be avoided during the first trimester of pregnancy.

**Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 2–5% dilution in a lotion or vegetable oil
- Liniment: 2–10% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with some olive oil

**Chinese Medicine Functions and Indications****Aroma energy:** Sweet**Movement:** Circulating**Warmth:** Neutral**Meridian tropism:** Liver, Heart, Spleen**Five-Element affinity:** Wood, Earth**Essential function:** To nourish and invigorate the Blood, strengthen the Spleen and harmonize the Shen**1. Nourishes the Blood and regulates menstruation and menopause**

- **Blood deficiency** with irregular or scanty periods, amenorrhoea or long cycles, fatigue, menstrual cramps, PMS with weepiness, depression, insomnia:  
Palmarosa/Clary sage/Fennel
- **Blood and Yin deficiency** with menopausal hot flashes, fatigue, night sweats, anxiety:  
Clary sage/Vetiver/Patchouli

**2. Nourishes Liver Blood and strengthens the Shen**

- **Liver Blood deficiency with Shen weakness** with poor concentration, low motivation, sadness, depression, pessimism, chronic anger with depression, insomnia:  
Grapefruit/Mandarin/Helichrysum/Rose

**3. Regulates Heart Qi and harmonizes the Shen**

- **Heart Qi constraint with Shen disharmony** with worry, anxiety, distraction:  
Mandarin/Petitgrain/Lavender

#### 4. Tonifies Spleen Qi, resolves damp and stops discharge

- **Spleen Qi deficiency** with fatigue, lethargy, poor appetite, daytime sweating:  
Rosemary/Juniper berry/Sage
- **Spleen toxic-damp** with indigestion, abdominal distension, flatulence, diarrhoea, lethargy, appetite loss:  
Patchouli/Niaouli/Palmarosa
- **Lower Warmer damp-cold** with fatigue, vaginal discharge, backache:  
Atlas cedarwood/Green myrtle/Niaouli

#### 5. Invigorates the Blood in the lower limbs and Lower Warmer, and reduces stagnation

- **Blood stagnation in the lower limbs** with varicose veins and ulcers, haemorrhoids:  
Atlas cedarwood/Patchouli/Rosemary/Grapefruit
- **Lower Warmer Blood stagnation** with pelvic weight or dragging sensation; clotted, heavy, painful periods, uterine bleeding:  
Niaouli/Rosemary/Cypress

#### REMARKS

Belying its origins in South Africa, for a century and a half the rose-scented geranium has become the very emblem of French colonial essential oil production. Feeding an ever more thirsty perfume industry in Grasse, the Isle de Bourbon, now known as La Réunion, has been the epicentre of Geranium oil production since the 1870s – to the point of lending its name to the Bourbon cultivar grown on that French island colony.

Although virtually everyone is confused about the taxonomy of geraniums, the good news is that, as far as therapeutic usage is concerned, the two main types of rose geranium oils are completely interchangeable. Warm, rich, rosy sweet in fragrance, this oil's deeply balancing and relaxing effects have been recognized for many years. In terms of fragrance energetics also, this quintessentially sweet oil provides the perfect example of what it means to possess the sweet fragrance energy. In three words: nourishing, balancing and calming. These three big interwoven themes underpin most of Geranium's superb versatility in clinical practice.

Geranium 'helps us to reconnect to our feeling life, to our emotional sensitivity' (Mojay 1996). Inhaling Geranium is truly a litmus test for the balance in our emotional bank account. Any **deficit, loss, insecurity or neediness** in our feeling life can be registered with great sensitivity in the presence of its deeply supportive and nurturing aroma. As Geranium also supports our inner strength as well as security, it is also

applicable to individuals chronically ridden with low self-esteem and feelings of guilt, especially in introverted personalities.

**Emotional balance, stability and calm** are truly key words for Geranium. As a key oil for bracing emotional instability, Geranium can be helpful for moodiness and mood swings and, by extension, addiction disorders, especially food addictions. Its closely related calming effect has shown good results in states of depression with anxiety, and with negative, distressed feelings in general. Interestingly, Geranium is also known to exert a *relaxant* action on the nervous system to the extent of absorption.

Geranium's physiological actions rely on systemic internal absorption and are essentially *regulating, restorative* and *decongestant*. Geranium is nothing less than a deep *metabolic regulator* and *restorative* in **dysregulated, weak and congestive conditions**. Acting on the pivotal axis of liver, pancreas, adrenal cortex and spleen, Geranium essentially re-creates proper cycles and timing among these hormone-secreting organs/glands. This establishes its status as the premier essential oil for virtually all conditions of metabolic dysregulation. This applies equally to dysregulated liver glycogen cycles, dysregulated blood-sugar levels and dysregulated adrenocortical hormone levels. The only herbal remedy to come close to this profile is Yarrow (*Achillea millefolium*).

Our clinical evidence for Geranium's virtually unfailing ability to treat hyper- and hypo-glycaemia – **dysglycaemia** in short – is overwhelming. To regulate blood sugar, the oil seems to reduce insulin resistance at the cellular level, although we can only conjecture as to the mechanisms involved. Likewise, Geranium evens out and regulates cortisol and DHEA levels in conditions of **adrenal dysregulation** as seen in their adaptive phase of resistance to stress. And last but not least, Geranium's ability to regulate menstrual cycles, regardless of which hormone is deficient, is long established. (Peri)menopause is also a strong indication for this remedy because of its *adrenocortical restorative* action. In this respect, Geranium's important components geraniol and nerol very likely act as weak estrogens (Harris 2007).

Geranium has been dubbed a woman's oil for many of these reasons which, moreover, do not stop there. This oil shows significant *fluid decongestant* and *detoxicant* actions that work in tandem on the liver, kidneys, uterus and the whole lymph- and venous blood-filled pelvic basin. When any of these organs are **congested and burdened with metabolic toxins**, Geranium is the remedy of choice. It turns out, then, that we are looking here at an important *liver, venous* and *lymphatic decongestant* and *detoxicant* with a good *diuretic* action to match. In the language of Chinese medicine, Geranium addresses damp conditions of various kinds, as well as aspects of Blood stagnation in the Lower Warmer and lower limbs. Noteworthy here is the experimental success of the oil's key component, geraniol, in detoxifying the liver and mildly reducing blood cholesterol, as well as suppressing the growth of aggressive cancers (Broadhurst and Duke 1997).

In terms of microbial conditions, Geranium is decidedly *antifungal* in action for a broad array of fungal infections, while being less effective as an *antibacterial*.

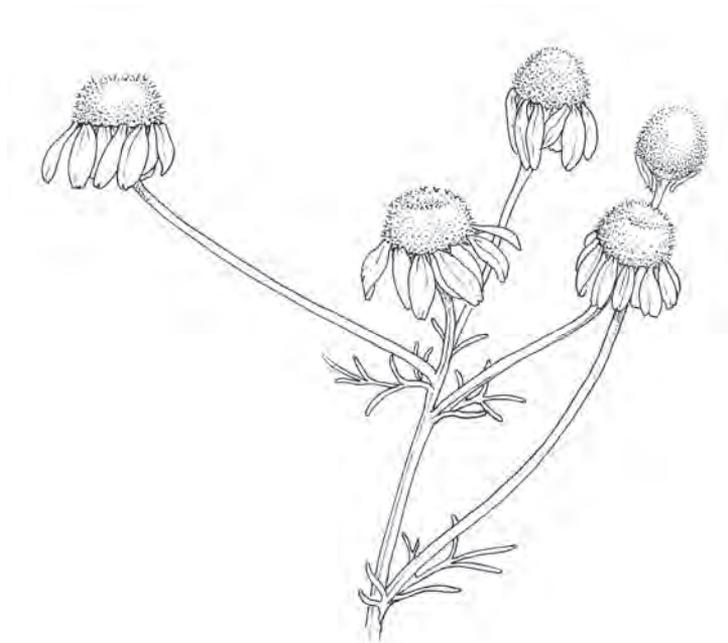
These support its application for damp-type conditions of the digestive tract, such as intestinal dysbiosis and candidiasis.

Geranium's versatility in treating a variety of different skin conditions for both medical and cosmetic purposes is well known. It pivots on its rich combination of actions on physical tissue, foremost of which are its excellent *skin regenerating* and *anti-inflammatory* actions. These establish Geranium as a premier aromatic remedy for tissue trauma both acute and chronic.

Emotionally deeply nurturing, stabilizing and calming with its deep rosy fragrance, Geranium helps us achieve a more objective and less reactive or impulsive relationship to our feelings and emotions. In so doing, it has the ability to expose us to greater intimacy and vulnerability. Geranium's ultimate gift to our feeling life lies in its potential for laying us open to a highly intimate and authentic dialogue with both ourselves and with others.

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# German Camomile



**Botanical source:** The herb of *Matricaria recutita* (L.) Rauschert, syn. *Matricaria chamomilla* (L.) Rydb. (Asteraceae/Compositae – daisy family)

**Other names:** Blue camomile, Hungarian camomile; Matricaire, Camomille allemande (Fr), Kamille, Camomilla tedesca (It), Manzanilla alemán (Sp)

**Appearance:** A somewhat viscous cobalt-blue liquid with an intense herbaceous, sweet and somewhat fruity, oily odour

**Perfumery status:** A heart note of very high intensity and good persistence

**Extraction:** Steam distillation of the fresh or partially dried herb in flower, usually in June

**1 kg oil yield from:** 300–500 kg of the fresh herb (a poor yield)

**Production areas:** Egypt, Hungary, Nepal

**Typical constituents:** Sesquiterpenes (incl. [cham]azulene 1–35%, dihydroazulenes I and II, trans-alpha-farnesene 15–27%, trans-beta-farnesene 2–13%, delta-cadinene 5%, alpha-muurolene 4%, gamma-muurolene, caryophyllene, alpha-copaene, bisabolenes, cadinene, proazulenes, furfural, spanthulenol) • sesquiterpenols (incl. alpha-bisabolol 4–77%, farnesol, spathulenol) • oxides (incl. alpha-bisabol oxide A

0–55%, alpha-bisabol oxide B 4–59%, epoxybisabolol, bisabolone oxide A 0–64%, 1,8-cineole) • coumarins herniarine and umbelliferone • monoterpenes (incl. ocimene 1–2%, p-cymene, limonene, alpha terpinene) • trans-en-yn-dicycloether 1–19% • sesquiterpene lactones

**Chance of adulteration:** Very high, because of the low yield and high price. Typical additives include high-yield solvent extracts (i.e. absolutes) of German camomile; azulene from other plants, e.g. Yarrow (*Achillea millefolium*) and Balsam apple (*Populus balsamifera*); and Moroccan wild camomile (*Ormenis mixta*) with added synthetic azulene.

**Related oils:** Worldwide, a large number of oils in the daisy family yield essential oils. Those more commonly used, however, include **Roman camomile** (*Anthemis nobilis*), **Blue tansy** (*Tanacetum annuum*), **Yarrow** (*Achillea millefolium*), **Helichrysum** (*Helichrysum angustifolium*) and **Moroccan wild camomile** (*Ormenis mixta*).

Of these oils, the best therapeutic comparisons for German camomile are the other two 'blue oils' in the 'azulene-camomile group':

- **Blue tansy** (*Tanacetum annuum*), with its consistently high content in azulene, often higher than that of German camomile
- **Yarrow** (*Achillea millefolium*), with its variable azulene content but potentially as high as Blue tansy or German camomile

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Emotional frustration**, anger, **irritability**, agitation, **sudden fits of rage**, emotional indulgence, mood swings, **oversensitivity**, **anxiety**, fearfulness, guilt, low self-esteem, depression with anxiety or agitation, **insomnia**, restless sleep, nightmares, **allergies and sensitivities**, itchy red skin rashes, aches and pains worse with stress, headaches, muscle pains, **shooting nerve pain**, skin rashes, all symptoms worse with stress

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulation conditions; relaxant in overstimulation conditions

**Possible brain dynamics:** Reduces deep limbic system and basal ganglia hyperfunctioning; resolves temporal lobe dysregulation

**Fragrance category:** Middle tone with sweet, green notes

**Indicated psychological disorders:** Bipolar disorder, anxiety, depression, phobias, panic attacks, PTSD

PROMOTES EMOTIONAL FLEXIBILITY AND STABILITY

- Emotional conflict with lack of flexibility, rigidity, worry
- Irritability, mood swings, anger management issues
- Emotional instability with distressed feelings (including negativity, cynicism, jealousy, self-deprecation, guilt, suicidal tendencies)

CALMS THE MIND AND PROMOTES RELAXATION

- Nervous tension, restlessness, distraction; impulsivity
- Anxiety, including with depression; fear, panic, phobia
- Agitated depression

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment*

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**Tropism:** Neuroendocrine, digestive, urinary, respiratory systems

**Essential functional and diagnostic indication:** Relaxes and cools hypertonic/tense and sthenic/hot conditions

**Primarily relaxant:**

*systemic nervous relaxant:* hypertonic (tense) and sthenic (hot) conditions with nervous tension, oversensitivity, irritability, pain; all stress-related conditions in general

*analgesic, spasmolytic:* spasmodic and pain conditions of all types, incl. tension and vascular headaches, incl. migraine; chronic pain conditions, arthritic and rheumatic pain

- *cerebral sedative, mild hypnotic:* insomnia, anxiety, PMS
- *gastrointestinal relaxant, spasmolytic:* spasmodic intestinal conditions, incl. colic, irregular stool, IBS
- *uterine relaxant, spasmolytic:* spasmodic dysmenorrhoea
- *neuromuscular relaxant, spasmolytic:* tremors, seizures (incl. infantile)

*strong anti-inflammatory:* inflammatory conditions with pain, esp. acute, of the nervous, digestive, respiratory, urinary and musculoskeletal systems; gastritis, enteritis, IBS, stomatitis, cystitis; arthritis, fibromyalgia, neuritis, neuralgia, tendinitis, plantar fasciitis, bursitis

*moderate antiallergic/antihistamine:* allergic rhinitis, sinusitis, asthma, dermatitis

*antipyretic*: fevers, incl. intermittent fevers, e.g. malaria; low-grade fevers

*stomachic, digestive*: gastric and biliary dyspepsia

### **Primarily restorative:**

*gastric tissue regenerator*: gastric and duodenal ulcers

*liver restorative and detoxicant*: liver-cell regenerator: liver congestion with toxicosis; liver disease; bacterial toxicosis

*moderate antioxidant, antitumoral*

*moderate antifungal*: fungal infections with *Trichophyton* spp., *Microsporum* spp., *Aspergillus* spp.

*moderate antibacterial*: incl. with *Strep. pneumoniae/pyogenes/aureus*, *Bacillus subtilis*

### SYNERGISTIC COMBINATIONS

- German chamomile + Blue tansy: *nervous sedative-relaxant and spasmolytic* in all hypertonic conditions with anxiety, tension, spasms, oversensitivity
- German chamomile + Blue tansy: *anti-inflammatory, anti-allergic and analgesic* in a wide range of inflammatory conditions with pain, incl. type-I allergies

### COMPLEMENTARY COMBINATIONS

- German chamomile + Lavender: *nervous sedative and anti-inflammatory* in inflammatory conditions of nervous or stress-related origin, including headache, gastritis, neuritis, fibrositis
- German chamomile + Roman chamomile: *spasmolytic, analgesic and sedative* in various painful spasmodic conditions, esp. nervous, digestive, uterine
- German chamomile + May chang/Lemongrass: *antipyretic and sedative* in fevers
- German chamomile + Lemon: *liver restorative and detoxicant* for liver congestion with toxicosis, chronic liver disease in general
- German chamomile + Palmarosa: *gastric tissue restorative* for gastric and duodenal ulcers

### TOPICAL – Compress, liniment, lotion and other cosmetic preparations

**Skin care:** Dry and sensitive skin types

*anti-inflammatory, antipruritic, detumescent*: all skin irritation and inflammation with redness, swelling and itching; burns (incl. from radiation), scalds, sunburn, acne, rosacea, dermatitis, eczema, urticaria, shingles, vulvar pruritis, cellulitis, insect bites

*vulnerary, tissue healing:* wounds, sores, ulcers (incl. when infected), perineal tears; abrasions, cuts

**Precautions:** None except that German chamomile oil may in *extremely* rare cases cause dermatitis in someone generally allergic to members of the daisy family, the Asteraceae (Foster 1997).

**Preparations:**

- Diffusor: 1–3 drops in the water
- Massage oil: 2–5% dilution in a vegetable oil
- Liniment: 2–10% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with some olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Sweet, green

**Movement:** Circulating

**Warmth:** Neutral to cool

**Meridian tropism:** Liver, Heart, Spleen

**Five-Element affinity:** Wood, Fire

**Essential function:** To regulate the Qi, settle the Heart and calm the Shen

**1. Activates the Qi, relaxes constraint, harmonizes the Shen and relieves pain**

- **Qi constraint turning into heat with Shen disharmony**, with irritability, oversensitivity, mood swings, restlessness, emotional behaviour:  
Blue tansy/Petitgrain/Ylang ylang no. 1/Marjoram
- **Qi constraint with pain**, incl. muscle or joint aches, nerve pains, oversensitivity, facial neuralgia, earache, toothache, painful skin rashes:  
Basil/Roman chamomile/Marjoram
- **Liver/Stomach-Spleen disharmony** with indigestion, abdominal pains, flatulence, bloating, digestive symptoms worse from stress:  
Mandarin/Lemongrass/Peppermint/Roman chamomile
- **Liver Qi stagnation** with dysmenorrhoea, cramps, premenstrual irritability and sensitivity:  
Lavender/Clary sage/Marjoram

## 2. Calms the Liver, descends the Yang, extinguishes wind and relieves spasms

- **Liver Yang rising/floating Yang** with frontal or occipital headaches, tinnitus, dizziness, vertigo, facial congestion:  
Clary sage/Lavender/Neroli
- **Internal Liver wind** with tremors, muscle spasms, seizures:  
Vetiver/Roman camomile/Laurel

## 3. Nourishes Liver and Heart Yin, settles the Heart and calms the Shen

- **Liver Yin deficiency with Shen agitation**, with restlessness, irritability, anger, resentment, restless sleep, insomnia, nightmares:  
Patchouli/Vetiver/Helichrysum
- **Liver Yin deficiency** with red eyes, vision problems:  
Lavender/Helichrysum/Roman camomile
- **Heart Yin deficiency with Shen agitation** with anxiety, worry at night, restlessness, insomnia, fearfulness, palpitations:  
Patchouli/Neroli/Rhododendron

## 4. Dispels wind-damp-heat from the skin and meridians, and relieves pain

- **Wind-damp-heat in the skin** with rashes, with redness, swelling, itching:  
Lavender/Helichrysum/Tea tree
- **Wind-damp-heat obstruction** with joint or muscle pain, swelling, redness:  
Lemon eucalyptus/Basil/Wintergreen

### REMARKS

Long an iconic remedy in Western herbal medicine, the so-called German camomile originates in traditional Greek medicine, where it was called *kamai melon* or ‘ground apple’ because of the plant’s apple-like scent. The essential oil, too, has become iconic in modern essential oil therapy, a standard to which other blue oils such as Blue tansy, Yarrow and Blue cypress are compared. Its unique mossy-seaweed-green fragrance with apple overtones is similar to Blue tansy but without the latter’s freshness.

In terms of aroma energetics, German camomile embodies sweet-green aromatic qualities that are essentially relaxing and cooling. When some physiological absorption is achieved, this remedy is a classic *relaxant* and *heat-clearing* oil for treating tense and hot conditions, seen from the perspective of functional diagnosis. These two conditions are traditionally called hypertonic and hypersthenic conditions, respectively. They

involve **nervous tension and circulatory excess**, typically presenting symptoms of spasms, pain, inflammation and heat, usually with mental or emotional irritability or agitation. Two of the oil's key constituents, azulene and bisabolol, have both shown *anti-inflammatory*, *antihistamine* and *spasmolytic* actions. Whereas Roman camomile excels at treating the spasm and pain aspect of this syndrome, German camomile focuses on the reduction of **inflammation** both acute and chronic, regardless of cause. Although less reliable in its *antihistamine* action than Blue tansy, it can also help relieve a myriad immediate allergies, wherever found.

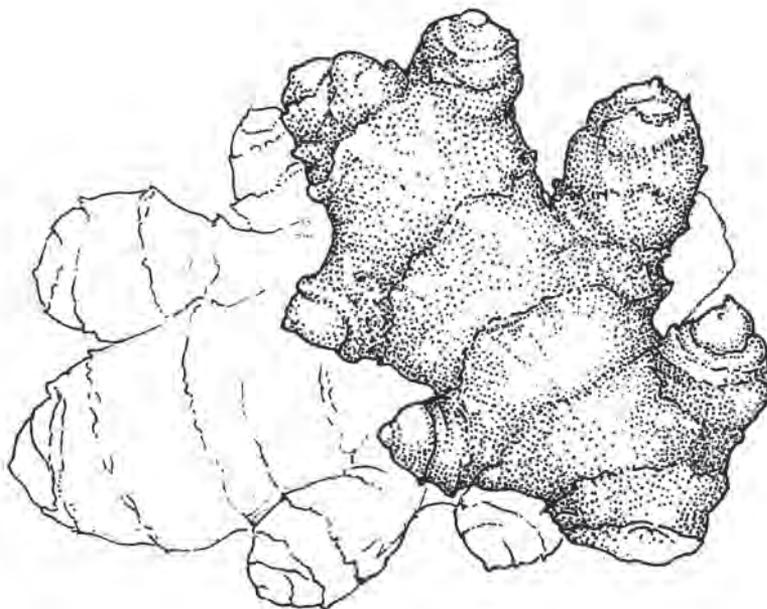
The corollary of this indication on the mental-emotional level is the calming and anxiety-relieving effect that German camomile achieves. Most conditions of **anxiety, fear, agitation and anger** will be helped simply with its use by inhalation or in a massage session. Moreover, like Blue tansy oil, German camomile exerts a good stabilizing effect in individuals presenting **emotional instability**, along with its many possible distressed emotions. Where emotional conflict is present that expresses itself as a worry-laden form of rigidity, this oil is particularly helpful. We can imagine its sweet, green, fluid, soothing energy softening and making flexible the hardness of mind and attitude. In so doing, German camomile can be an invaluable ally in helping us deal with life's obstacles and challenges in a lateral way not bound by habit or fear-induced rigidity. It can remind us of the problem-free possibility of adapting to these with a flexible, free-flowing spontaneous response.

Chinese medicine sees all these conditions as resulting from either constrained Qi with Shen disharmony, particularly with the generation of heat, or from a deficiency of the Heart and Liver Yin with Shen agitation. Like Helichrysum, German camomile is excellent for nourishing the energetic Liver presenting irritability, resentment, shallow restless sleep, etc., as well as for settling the energetic Heart causing anxiety, worry and insomnia.

There is a secondary but potentially no less important aspect to German camomile oil that hinges around its ability to regenerate tissue. The remedy's function as a *vulnerary* for wounds and ulcers in herbal medicine is long established, and the essential oil has shown several extensions of this action with internal and especially gel cap administration. Its *tissue regenerative* action has shown excellent results in **ulcers of the upper GI tract** and in **liver toxicosis** (e.g. from metabolic or chemical toxins). The compound bisabolol has even proven ulcer preventive. This is associated with a general *liver-restorative* effect that would seem to include a valuable *liver-protective* action. Like Geranium too, German camomile shows promise as an *antioxidant antitumoral* remedy.

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# Ginger



**Botanical source:** The root of *Zingiber officinalis* Roscoe (Zingiberaceae – ginger family)

**Other names:** Common ginger, Garden ginger; Jahe (Indonesian), Gingembre (Fr), Ingwer (Ger), Zenzero (It), Gingibre (Sp), Zangabil (Arabic, Persian), Adrak (Hindi)

**Appearance:** A mobile yellow to amber fluid with a warm-spicy, mildly lemony odour with sweet, rooty and sometimes balsamic undertones. The oil becomes less mobile, i.e. thicker as it ages from oxidation and polymerization.

**Perfumery status:** A head note of high intensity and medium persistence

**Extraction:** Steam distillation of the fresh rhizome, usually December through March

An absolute extract is currently also produced from ginger roots. **Ginger absolute** is a thick, reddish-amber liquid with a deep, rich spicy-sweet-woody aroma. An essential oil is also produced as a CO<sub>2</sub> extract in Europe; this has a slightly wider range of chemical components, including the aromatic compounds gingerol and shogaol that characterise the familiar fresh aroma of the root.

**1 kg oil yield from:** 20–30 kgs of the fresh roots (a very good yield)

**Production areas:** India, Sri Lanka, Indonesia, Madagascar, West Africa, China. Although ginger root was first imported to Spain from Jamaica in 1547, the essential oil did not see commercial distillation in Europe until the following century.

**Typical constituents:** Sesquiterpenes 55% (incl. alpha-zingiberene 12–51%, beta-sesquiphellandrene 2–9%, beta-farnesene 19%, ar-curcumene, alpha-copaene, beta-elemene, germacrenes B and D, calamenene, cyclosativene, cyclocopacamphene, sesquithujene, beta-ylangene, beta-caryophyllene, alpha amorphophene, zonarene, 10-epizonarene, cis-gamma-bisabolene) • monoterpenes 20% (incl. camphene, alpha and beta-pinene, beta-phellandrene, sabinene, myrcene, limonene) • monoterpenols (incl. linalool 1–6%, citronellol 6%, 2-nonanol, 2-butanol, 2-methyl-butenol) • sesquiterpenols (incl. nerolidol 1–9%, cis-sesquisabinene hydrate, elemol, beta-bisabolol, zingiberol, beta-eudesmol) • hydrocarbons (incl. undecane, dodecane, haxadecane, toluene, p-cymene) • ketones (incl. acetone, 2-hexanone, 2-heptanone, methyl-heptanone, cryptone, 2-nonanone, gingerone, carvotanacetone) • 1,8-cineole

**Chance of adulteration:** Rare, because of the good yield, but possibly with Galanga oil

**Related oils:** Other oils commonly produced from plants in the ginger family include:

- **Plai** (*Zingiber cassumunar*) from Thailand, with its fresh-pungent and lemony notes from high levels of monoterpenes and sesquiterpenes, along with their alcohols
- **Cardamom** (*Elettaria cardamomum* L.) from India
- **Turmeric** (*Curcuma longa* L.) from India has sweet-woody and somewhat warm-spicy notes; it contains mainly sesquiterpenes (25%) and sesquiterpenoid ketones (<60%), mainly ar-turmerone
- **Galanga** or **Galangal** (*Alpinia officinarum* Hance) from India and Indonesia
- **Yellow ginger** or **Longoze** (*Hedychium flavescens*) from Madagascar
- **Spiked gingerlily**, **Sanna** or **Sandharlika** (*Hedychium spicatum*) from India

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, but potentially skin sensitizing

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### SPECIFIC SYMPTOMATOLOGY – *All applications*

**Poor motivation**, low willpower, **discouragement**, burnout, confusion, emotional coldness, **cold hands and feet**, **cold skin**, **muscle aches and pains**, chronic

digestive disorders with bloating and loose stool, chronic respiratory disorders with cough and sputum, **stopped periods**, painful periods, sexual disinterest

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases basal ganglia and prefrontal cortex functioning

**Fragrance category:** Middle tone with sweet and pungent notes

**Indicated psychological disorders:** ADD, depression, dissociative disorder, psychotic and schizoid conditions

PROMOTES MOTIVATION, COURAGE AND SELF-CONFIDENCE

- Apathy, loss of motivation or drive, withdrawal
- Low self-esteem and self-confidence, discouragement, depression
- Low endurance or perseverance

STIMULATES THE MIND AND PROMOTES ALERTNESS

- Lethargy, drowsiness, stupor
- Mental apathy, spaciness, confusion, disorientation; poor concentration

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

**Tropism:** Digestive, respiratory, reproductive systems

**Essential functional and diagnostic indication:** Stimulates and warms asthenic/cold conditions

*arterial circulatory stimulant:* a wide range of asthenic (cold) conditions with circulatory deficiency: esp. gastrointestinal, respiratory, reproductive and musculoskeletal

- *gastrointestinal stimulant: stomachic, carminative:* gastrointestinal atony (with or without spasms) with indigestion, flatulence, nausea; chronic gastritis, anorexia
- *respiratory stimulant: stimulant expectorant:* chronic congestive bronchitis
- *uterine/reproductive stimulant: emmenagogue, aphrodisiac:* amenorrhoea, oligomenorrhoea, lochial retention; low libido, impotence
- *musculoskeletal stimulant: antirheumatic:* rheumatic and arthritic conditions, esp. with stiffness

*antiemetic*: vomiting, travel and altitude sickness

*moderate analgesic, anti-inflammatory and spasmolytic*: spasmodic, painful and inflammatory conditions in general, incl. spasmodic dysmenorrhoea, intestinal colic, IBS

*immune regulator*: immune stress with immune complex disorders (incl. bronchial asthma, rheumatoid arthritis, food allergies, gluten sensitivity(?))

*liver detoxicant (phase II)*: liver toxicosis (from diet, drugs)

*antioxidant*

### Antimicrobial actions:

*antiviral, interferon inducent, immunostimulant*: *Rhinovirus* and other viral conditions

*mild antibacterial*: mild bacterial respiratory, intestinal and other infections

*moderate detoxicant*: food or herb poisoning

**Note:** There are two closely related oils in the ginger family that are especially useful:

- **Plai** (*Zingiber cassumunar*) is a *warming stimulant-relaxant* that addresses cold, tense conditions of respiratory, digestive, reproductive and musculoskeletal functions. Being specifically *spasmolytic* and *anti-inflammatory*, it is especially useful in cold-tense conditions marked by spasms and inflammation, including asthma, colic, colitis, dysmenorrhoea, muscle cramps and various rheumatic-arthritic disorders. Plai's actions can also be usefully engaged in topical preparations for local treatment of painful cramps and inflammation.
- **Turmeric** (*Curcuma longa*) is a *warming stimulant*, especially to gastrointestinal, hepatobiliary and reproductive functions. *Carminative, choleric* and *analgesic*, it treats stagnant, cold conditions of the liver, gallbladder and intestines. Turmeric is also *analgesic, anti-inflammatory* and *rubefacient* when given for painful rheumatic conditions. The oil is also an excellent *anthelmintic* for intestinal parasites and may have *antitumoral* activity. Like Ginger, it also has a reputation as an *aphrodisiac* for low libido. Note that Turmeric is contraindicated for internal use in infants and during pregnancy because of its *uterine stimulant* and *teratogenic* actions.

### SYNERGISTIC COMBINATIONS

- Ginger + Patchouli: *antiemetic* for nausea, vomiting, morning sickness
- Ginger + Patchouli: *detoxicant antibacterial* for food poisoning, chronic microbial toxicosis, gastroenteritis

#### COMPLEMENTARY COMBINATIONS

- Ginger + Cajeput: *arterial and gastrointestinal stimulant* for circulatory deficiency with cold skin and extremities, appetite loss
- Ginger + Rosemary/Niaouli: *muscular stimulant, analgesic* in chronic rheumatic-arthritic conditions
- Ginger + Thyme ct. linalool/Green myrtle: *stimulant expectorant* for bronchitis, emphysema
- Ginger + Juniper berry: *gastrointestinal stimulant, carminative* for chronic digestive weakness with bloating; chronic gastritis
- Ginger + Rosemary: *emmenagogue* for amenorrhoea, scanty periods
- Ginger + Vetiver: *immune regulator and anti-inflammatory* in type-III hypersensitivity conditions, incl. food allergies, atopic asthma, rheumatoid arthritis

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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***rubefacient, irritant in high concentration:*** muscular aches, pains and stiffness; sprains, strains

**Precautions:** Do not exceed the topical doses of Ginger oil, as it may act as a skin sensitizer in some individuals (see Topical safety status). Internal use of this oil is best avoided during pregnancy because of its uterine stimulant action. Used postpartum, it can help expel the lochia.

#### **Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 1–2% dilution in a vegetable oil
- Liniment: 2–5% dilution in a vegetable carrier oil
- Gel cap: 2 drops with some olive oil
- Foot bath: 2–5 drops

### **Chinese Medicine Functions and Indications**

**Aroma energy:** Pungent, sweet

**Movement:** Rising

**Warmth:** Warm to hot

**Meridian tropism:** Stomach, Lung, Liver

**Five-Element affinity:** Water, Fire

**Essential function:** To tonify the Yang and warm the interior

**1. Tonifies the Yang, warms the Kidney and strengthens libido**

- **Kidney Yang deficiency** with low sex drive, frigidity, impotence, weak loins and knees, fatigue, cold skin and extremities, apathy, spaciness:  
Clove bud/Black spruce/Scotch pine

**2. Warms the Middle Warmer, resolves damp and relieves pain**

- **Stomach-Spleen empty cold** with epigastric or abdominal pain, odourless loose stool:  
Cajeput/Juniper berry/Pimenta berry
- **Stomach-Spleen damp-cold** with chronic diarrhoea, undigested food in stool, cold limbs:  
Nutmeg/Clove/Black pepper

**3. Descends Stomach Qi, harmonizes the Stomach and relieves vomiting**

- **Stomach cold with Qi rebellion**, with nausea, hiccups, vomiting:  
Fennel/Peppermint/Cardamom

**4. Warms the Lung, resolves and expels phlegm, and relieves coughing**

- **Lung phlegm-cold/damp** with cough, copious expectoration of sputum, chest distension, cold hands and feet:  
Cajeput/Cardamom/Grand fir/Frankincense

**5. Warms and invigorates the Blood, breaks up stagnation and promotes menstruation**

- **Blood cold with Lower Warmer Qi and Blood stagnation**, with scanty periods, amenorrhoea, spasmodic dysmenorrhoea, lochial retention:  
Rosemary/Niaouli/Angelica root

## 6. Warms and opens the meridians, dispels wind-damp-cold, relaxes the tendons and relieves pain

- **Internal cold with wind-damp-cold obstruction**, with muscle and joint aches, pains and cramping:  
Black pepper/Juniper berry/Nutmeg

### REMARKS

The perennial plant ginger is believed to originate in that East Asian crescent spanning South China, Vietnam and Indonesia, and was found cultivated in earliest times in Inner Mongolia and South India. It spread eastward with early migrant Polynesians to the South Pacific islands, and westward with Arab traders plying the Indian Ocean to West Africa, where it is still cultivated. Through the slave trade it eventually beached on the Carribean Antilles – Jamaica in particular, where it is still a cash crop today.

The ancient Greeks and Romans knew ginger mainly as a spice and warming remedy that came from India. With the resurgence of the spice trade with the Middle East in the post-crusadal Middle Ages, ginger roots began pouring into the hungry ports of Venice and Genoa. As a costly, exotic cooking spice it was distributed to wealthy princely, imperial and ecclesiastical households, where it was prized for its complex spicy yet sweet-tart flavour. A growing number of apothecaries also began demanding Ginger. They required the root as an indispensable ingredient for their lengthy Arabian herbal formulas: the traditional Greek system of medicine of those days had been reformulated by a vigorous Islamic culture and was then in the process of being transmitted back to Europe. It is likely that Ginger essential oil was first extracted in Europe around 1500, alongside many other local and imported essential oil plants then in use.

Ginger in fact has the distinction of being one of the very few herbal remedies used for the last two millennia in all three extant major systems of traditional medicine, Chinese, Ayurvedic and Greek. Textbooks of all three systems agree (for once!) as to its *warming, stimulating* and gently *pain-relieving* effects, recommending its use essentially for **cold conditions**. Physiologically speaking, Ginger is an *arterial stimulant* to the circulation, diffusing blood flow and therefore warmth to the very capillary end of the arterial circulation. Ginger oil performs this basic action as much as the tincture and the root decoction. In so doing it also acts as a *warming stimulant* to the respiratory, digestive, reproductive and musculoskeletal systems, where it exerts additional gentle *spasmolytic, analgesic* and *anti-inflammatory* actions. **Chronic cold, atonic conditions with pain and numbness** will therefore respond best to its use in general. This would include chronic gastritis, bronchitis, arthritis, etc. In relation to reproductive functions, Ginger acts both as an *emmenagogue* for delayed or absent periods, and as a functional *aphrodisiac* for loss of libido. Here the oil even more than the tincture or

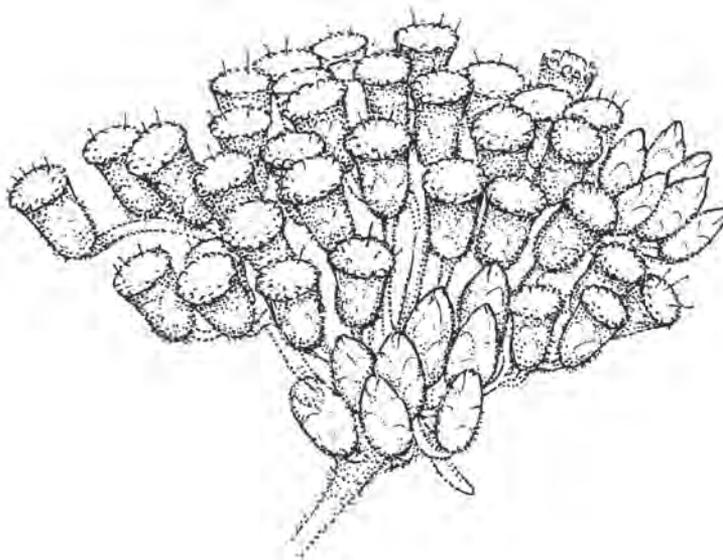
decoction will act as a deeply warming, invigorating Yang tonic, in Chinese medical terms.

Ginger is also a good *antiviral* and *immunostimulant* agent when added to other oils or tinctures to treat the onset of colds and flus, and has shown to stimulate both T-lymphocytes and cell-mediated immunity. However, it is a less useful *antibacterial* once the infection sets in and becomes bacterial. In bacterial infections of a cold, chronic nature, of course, Ginger is always in the right place.

In terms of the olfactory pathway of absorption, Ginger is also useful in the psychological dimension. With its pungent, sweet aroma qualities, Ginger essentially addresses issues of **motivation, self-confidence and courage**. Infusing warmth and passion into the soul and the feeling life, this aromatic is for the individual who has become apathetic, unmotivated and discouraged to the point of indifference, emotional coldness and downright depression. In treating emotional withdrawal, Ginger can help bring these individuals out of themselves, with all their insecurities and undefined fears. In so doing, it can help them become more fully present and passionate about that which they truly, deeply care.

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# Helichrysum



**Botanical source:** The herb of *Helichrysum angustifolium* (L.) DC [syn. *H. italicum* (Roth) G. Don fil.] (Asteraceae/Compositae – daisy family)

**Other names:** Curry plant, Everlasting; Helichryse, Immortelle (Fr, Ge), Elicriso (It)

**Appearance:** A somewhat viscous pale to yellow-brown fluid with an intense, warm ambery-sweet, somewhat sweet-hay odour with mild dry-tea-leaf undertones

**Perfumery status:** A base note of very high intensity and excellent persistence

**Extraction:** Steam distillation of the fresh flowering herb in July and August

**1 kg oil yield from:** 1,100–1,400 kg of the fresh herb (a very poor yield)

**Production areas:** Dalmatia and Herzegovina (native), Albania, Corsica

**Typical constituents:** Esters 47–70% (incl. monoterpenyl neryl acetate 46–70%, neryl butyrate) • ketones: diones 15–20% (incl. italdiones 15–20%, beta-diketones, tetra-methyl-dione, tetra-methylundecen-dione, dimethyloctan-dione, dimethylheptandione) • monoterpenols (incl. nerol 4%, linalool, geraniol, terpinen-4-ol) • sesquiterpenes (incl. curcumenes 8–19%, caryophyllene 5%, copaene) • monoterpenes (incl. alpha-pinene <25%, limonene 2%, camphene, myrcene, comenes)

**Chance of adulteration:** High, because of the low yield, limited availability and high cost. The more scarce and expensive Corsican helichrysum oil is sometimes mixed with the somewhat cheaper Balkan oil, resulting in a hybrid type from the fragrance and pharmacology aspects. In addition, the Balkan oil may suffer from inferior quality because of poor harvesting habits, e.g. the inclusion of other local plants such as sage.

**Related oils:** There are two types of Helichrysum oil: the native Balkan type from the Dalmatian coast of Croatia, Herzegovina and Albania; and the Corsican type. These could be called different chemotypes. They present some differences in aroma, chemistry and effect. The Balkan type has pronounced sweet-dry-tea leaf undertones which are only faint in the oil from Corsica. The Corsican type is more ambery-sweet. Chemically, the Balkan oil is higher in the sesquiterpene curcumenol, making it possibly more *anti-inflammatory* and *antihistamine*, and possessing a greater tropism for the liver. The Corsican oil by contrast is low in curcumenol but higher in neryl acetate, giving it theoretically a better *analgesic* action. In clinical practice, however, the two types of Helichrysum are completely interchangeable as these minor differences of composition are overridden by their dominant electrical charge, which is negative from their predominant content in dienes and esters.

Of the approximately 600 species of *Helichrysum* found in Africa, Madagascar, Australasia and Eurasia, two other main species are often distilled in the high plateaus of Madagascar. Confusingly, both species are called **Rambiazina** in Malagasy:

- **Male helichrysum** or **Golden everlasting** (*Helichrysum bracteiferum*, syn. *Xerochrysum bracteatum* [Vent.] Tzvelev), with its herbaceous, hay-like and somewhat woody fragrance; its use is mainly as an *anti-inflammatory* and *antiallergic* in rheumatic, arthritic and allergic conditions of various kinds.
- **Female helichrysum** (*Helichrysum gymnocephalum*), with its strongly fresh-pungent, sweet aroma; its use is as an *anti-inflammatory*, *anti-infective*, *expectorant* and *antiallergic* in upper and lower respiratory infections and allergies, including bronchitis, allergic rhinitis, atopic asthma, and so on. Other traditional uses for the plant benefit from its *endocrine regulative*, *digestive stimulant*, *carminative*, *analgesic*, *astringent*, *deodorant* and *general restorative* properties (Boullard 1997). Both species are non-skin irritant and also find numerous topical uses.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

SPECIFIC SYMPTOMATOLOGY – *All applications*

**Anxiety, suppressed anger**, frustration, resentment, **agitated or anxious depression**, moodiness, sorrow, **emotional instability or disconnection**, negative outlook, flat affect, insecurity, guilt, **sluggish energy** (especially in the morning), heaviness of body, **chronic headaches** from tension, toxicosis or allergies; **allergies** of various types, chronic skin and rheumatic conditions, **painful conditions** in general; feels better from activity, exercise and fresh air

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Regulating in dysregulated conditions; calming and somewhat euphoric in overstimulation conditions

**Possible brain dynamics:** Reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with sweet note

**Indicated psychological disorders:** Anxiety states, shock, PTSD, agitated or anxious depression; addiction disorders, including food addictions, codependency

PROMOTES EMOTIONAL STABILITY AND CALM

- Emotional instability with moodiness, frustration, irritability
- Distressed and negative emotions and outlook
- Anxiety, panic
- Agitated or anxious depression
- Mental/emotional or thinking/feeling conflicts

PROMOTES EMOTIONAL SECURITY AND STRENGTH

- Emotional wounding or trauma, including loss, betrayal, deprivation
- Emotional withdrawal, disconnection, with insecurity, neediness

PROMOTES THE TRANSFORMATION OF SHOCK AND TRAUMA

- Acute shock from trauma (mental/emotional/physical)
- All acute and distressed emotions, including acute sorrow/anxiety/anger/fear

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

**Tropism:** Neuroendocrine, reproductive, hepatic, circulatory systems

**Essential functional and diagnostic indication:** Relaxes hypertonic/tense conditions and restores atonic/weak conditions

**Primarily relaxant:**

*systemic nervous relaxant:* hypertonic (tense) conditions with nervous tension, pain, irritability; all stress-related conditions in general

*analgesic:* spasmodic and pain conditions of all types, incl. tension and vascular headaches, incl. migraine; rheumatic and arthritic pain, neuralgia, fibromyalgia, injury pain; dermal pruritis

- *cerebral sedative, hypnotic:* anxiety, insomnia, agitation, PMS
- *cardiovascular relaxant: coronary relaxant, vasodilator, hypotensive:* spasmodic angina pectoris, pre-infarction; Raynaud's phenomenon, peripheral vasoconstriction, hypertension
- *respiratory relaxant: bronchodilator (bronchospasmolytic):* spasmodic bronchial conditions, incl. asthma, whooping cough, croup
- *gastrointestinal relaxant, anti-inflammatory:* colic, IBS, colitis

*anti-inflammatory, antihistamine, antiallergic:* allergic dermatitis, allergic asthma, allergic rhinitis; sinusitis, conjunctivitis, food allergies, phlebitis, polyarthritis

*fluidifying expectorant:* congestive bronchitis with viscous sputum, chronic asthma

*antitussive:* all chronic coughs in general, spasmodic and congestive

**Primarily restorative:**

*liver (cell) restorative, choleric, detoxicant:* liver congestion, liver disease in general, incl. hepatitis, cirrhosis, glycogen storage disorders(?), metabolic toxicosis

*gastrointestinal restorative:* tissue-regenerative, anti-inflammatory, antiallergic: intestinal hyperpermeability with food allergies or sensitivities, peptic ulcer, ulcerative colitis, inflammatory bowel disease, adhesions

*dermal restorative:* eczema, dermatitis, psoriasis

*anticoagulant:* hematoma; hyperviscous and sludged blood conditions with thrombosis, phlebitis

*antilipemic:* hyperlipidemia, hypercholesterolemia, atherosclerosis

*misc.:* hearing loss, tinnitus

*antioxidant*

**Antimicrobial actions:**

**antiviral:** viral conditions, incl. colds, flu, croup, acute bronchitis; *Herpes simplex 1*

**antibacterial:** bacterial infections, esp. with *Staphylococcus* spp., *Streptococcus*, *Klebsiella pneumoniae* and other gram-positive species

**antifungal:** candidiasis

**SYNERGISTIC COMBINATIONS**

- Helichrysum + Lavender: *nervous sedative, analgesic, anti-inflammatory* in chronic tense conditions (also stress-related), incl. chronic tension, insomnia, headaches, neuralgia, rheumatic pain, pain from trauma and injury
- Helichrysum + Clary sage: *nervous sedative, mood regulator* in tense conditions with mood changes, PMS
- Helichrysum + Ylang ylang no. Ylang ylang1 extra: *cardiovascular relaxant, vasodilator* in all neurocardiac stress, spasmodic angina pectoris

**COMPLEMENTARY COMBINATIONS**

- Helichrysum + Rosemary (ct. verbenone): *liver restorative and detoxicant* for liver congestion, metabolic toxicosis, glycogen storage disorders; all liver disease
- Helichrysum + Lemon: *anticoagulant* in hyperviscous blood conditions, incl. thrombosis, hematoma
- Helichrysum + Blue tansy: *bronchospasmolytic, anti-inflammatory and anti-allergic* in asthmatic disorders, incl. bronchial asthma, croup, whooping cough
- Helichrysum + Blue tansy: *antihistamine, anti-inflammatory* in all type-I allergies
- Helichrysum + Green myrtle: *expectorant* for bronchitis, asthma with viscous sputum
- Helichrysum + Hyssop: *antitussive* for chronic coughs both congestive and spasmodic

**TOPICAL – Compress, liniment, lotion and other cosmetic preparations**

**Skin care:** Sensitive and dry skin types

**skin regenerator, collagen stimulant:** eczema, cuts, broken veins, scars, stretch marks, adhesions, dermatitis, psoriasis

*vulnerary, analgesic, antiseptic, antihematomic*: acute and chronic injuries/tissue trauma with severe bruising/hematoma, pain, bleeding; strains, sprains, muscle aches and pains; sores, ulcers, abscesses, fissures; broken capillaries; skin itching

*anti-inflammatory, antipruritic*: all skin irritation and inflammation with itching, redness, swelling; dermatitis; wet or dry eczema; burns, sunburn, shingles

**Precautions:** None

**Preparations:**

- Diffusor: 1–3 drops in water
- Massage oil: 2–5% dilution in a vegetable oil
- Liniment: 2–10% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with some olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Sweet

**Movement:** Circulating

**Warmth:** Neutral to cool

**Meridian tropism:** Liver, Heart, Pericardium, Lung

**Five-Element affinity:** Wood, Fire

**Essential function:** To activate Qi and Blood, settle the Heart and harmonize the Shen

### 1. Spreads Liver Qi, relaxes constraint and harmonizes the Shen

- **Liver Qi constraint with Shen dysregulation** with frustration, irritability, anger, depression with anxiety, headaches, indigestion:  
Bergamot/Mandarin/Lavender/Basil ct. chavicol
- **Heart Qi constraint with Shen dysregulation**, with tension, anxiety, insomnia, negative attitude:  
Lavender/Marjoram/Vetiver
- **Qi constraint** with allergies:  
Blue tansy/Niaouli/Tea tree

## 2. Descends Lung Qi, moistens the Lung and relieves coughing and wheezing

- **Lung Qi accumulation** with asthmatic breathing, chest distension and pain:  
Siberian fir/Hyssop/Laurel
- **Lung phlegm-dryness** with dry cough, difficult expectoration of viscous scanty sputum:  
Eucalyptus/Scotch pine/Thyme ct. linalool
- **Lung wind-heat** with cough, fever, aches and pains:  
Lavender/Eucalyptus (blue-gum)/Niaouli
- **Chronic cough** in general:  
Cypress/Hyssop/Sage

## 3. Activates Blood and Qi, reduces stagnation and relieves pain

- **Blood and Qi stagnation** with pain, swelling, contusion from tissue trauma; headaches, nerve, muscle and joint pains:  
Spike lavender/Frankincense/Roman camomile/Peppermint
- **Blood stagnation** with clots, sludged blood:  
Lemon/Grapefruit
- **Heart Blood and Qi stagnation** with chest pains, general tension, emotional neurosis:  
Fennel/Laurel/Spikenard

## 4. Nourishes Liver and Heart Yin, settles the Heart and calms the Shen

- **Liver Yin deficiency with Shen agitation** with restlessness, agitated depression, anger, restless sleep, frequent waking at night, nightmares:  
Marjoram/Blue tansy/Neroli
- **Heart Yin deficiency with Shen agitation** with anxiety, worry at night, restlessness, fearfulness, insomnia, palpitations:  
Lavender/Patchouli/Neroli

## 5. Clears wind-damp-heat and relieves pain

- **Wind-damp-heat obstruction** with muscle and joint pain:  
Lemon eucalyptus/Blue tansy/Marjoram
- **Wind-damp-heat in the skin** with skin rashes, irritation, itch:  
Blue tansy/Vetiver

## REMARKS

Helichrysum, the ‘turning-round gold’ or ‘sun gold’ from the Greek *helissein* or *helios chrysos*, is perennial plant in the daisy family native to both Italy and the coastal Adriatic in the Balkans. An unknown time ago this species was transplanted to Corsica, where the similar climate and equally sandy, silica-rich soil allowed it to thrive. Helichrysum is one of many medicinal plants of the European herbal medicine tradition that, for one reason or another, failed to make it into 20th-century textbooks and pharmacopeias, despite finding extensive use in the Renaissance as a remedy for the liver and gallbladder, for respiratory conditions and other indications. It is all the more interesting then that in the 1960s Helichrysum saw its first steam distillation and clinical experimentation in France. Rising phoenix-like from the ashes of herbal oblivion, this herbal remedy today has secured itself a place among essential oil practitioners as one of the most precious essential oils of all.

What captured the rapt attention of French doctors from the very beginning was Helichrysum’s superior performance in treating **injuries**, in particular tissue trauma with severe ecchymosis. In connection with its *anticoagulant* and *analgesic* actions, they also noted its particular content in a string of unique ketones. Soon it became clear that this oil excelled also at managing both chronic and acute **skin disorders** with its combined *skin-regenerating*, *collagen-stimulating* and *anti-inflammatory* actions. Experience demonstrates its peerless ability to heal all irritated, itching skin conditions. It is also the premier remedy, aromatic or otherwise, for **trauma care** bar none.

With an aromatic signature that is a subtle mix of amber, hay and honey sweet notes, one might guess Helichrysum to be a complex remedy. It is. Courtesy of a cocktail of sesquiterpenes, monoterpenols and esters, we would expect Helichrysum oil to display mostly *restorative* and *balancing* actions on body and mind. This it does, even though it is under-appreciated as such. Helichrysum has shown *regenerative* and *choleric* actions in chronic liver weakness; deep *restorative* effects in most skin diseases; and can also be used internally as an effective *tissue-regenerating*, *anti-inflammatory* remedy (note the curcumenes) in conditions of the gut presenting hyperpermeability, acute or chronic inflammation, and food allergies.

We can also think of this aromatic’s sweet energy as a textbook example of a softening, fluidifying and liquidising effect on various fluids. Helichrysum can help *dissolve* blood clots, *fluidify* hard viscous phlegm and *soften* and *remove* atherosclerotic deposits.

However, despite its rich sweet fragrance, Helichrysum oil exerts a pronounced systemic *relaxant* effect on most smooth-muscle organs that makes it act much like Lavender, only stronger. **Tense conditions** manifesting **agitation**, **pain**, **spasm**, **inflammation** and **allergy** are its terrain of choice. As a complex bronchial remedy, Helichrysum will not only relax and dilate the bronchi, but also help resolve coughs both spasmodic and congestive. A variety of coronary and arterial conditions requiring vasodilation respond to it in a similar way. Helichrysum’s combined *anti-inflammatory*

and *antihistamine* actions act like Blue tansy in a slew of hypersensitivity conditions, depending on the administration method used.

Like other sweet oils, especially Geranium, when used by inhalation, Helichrysum is emotionally calming, softening and stabilizing, helping one cope with **deep frustration**, long bottled-up resentment and such like. As much as it treats physical trauma, it is also an important remedy for managing acute energetic trauma, especially **shock, anxiety and intense emotions**. Helichrysum in particular, however, works by being able to exert a profoundly purifying and transformative effect on the emotional body and the heart as an energetic and spiritual organ. It can therefore potentially heal the core emotional trauma from which distressed feelings and negative emotions arose in the first place. As such, it is also a prime remedy for the closed and deeply wounded heart, whether from loss, betrayal or any other cause.

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# Juniper Berry



**Botanical source:** The fruit of *Juniperus communis* L. (Cupressaceae–cypress family)

**Other names:** Common juniper; Genièvre (Fr), Wacholder (Ge), Junipero (Sp)

**Appearance:** A mobile clear to faint-yellow liquid with a fresh spicy, fruity, green, balsamic-woody odour

**Perfumery status:** A heart note of medium intensity and poor persistence

**Extraction:** The best quality Juniper berry oil is a steam distillation of the fresh or dried ripe berries in September and October. Most Juniper berry oil, however, is a by-product of large-scale distillations producing gin-type drinks, where the berries are crushed, soaked in warm water, fermented with alcohol and then finally distilled.

**1 kg oil yield from:** 100–300 kg of the dried ripe berries (a moderate yield)

**Production areas:** Bosnia-Herzegovina, Macedonia, Albania, Turkey, France, Italy, Hungary, England. The best quality Juniper berry oil traditionally came from Italy and Hungary.

**Typical constituents:** Monoterpenes 65–90% (incl. alpha-pinene 25–70%, beta-pinene 2–14%, sabinene 10–40%, limonene 3–40%, myrcene, thujene, camphene, cymene, terpinene, carene, terpinolene) • monoterpenols (incl. terpinen-4-ol 3–10%,

terpineol, borneol, geraniol) • sesquiterpenols elemol, eudesmol and cadinol • sesquiterpenes (incl. beta-caryophyllene, germacrene D, humulene, cadinene, copaene) • coumarin umbelliferone • esters bornyl and terpinyl acetate • caryophyllene oxide

**Chance of adulteration:** Juniper berry oil distilled from the dried unfermented berries, and without any twigs included, is quite hard to find. Adulteration is therefore quite common, usually with other parts of the tree, e.g. the twigs or branches. The more of these are included, the less sweet and the more pungent the oil becomes, with a higher monoterpene content. Possible synthetic additives include pinenes, camphene, myrcene and fractions of turpentine oil (Lis-Balchin 2006).

**Related oils:** An oil is also distilled from the juniper twigs and branches alone (see Note below). Other oils that are botanically related and often distilled include:

- **Mountain or Dwarf juniper** (*Juniperus communis* var. *montana* L.) from montane Europe has fresh-pungent, sweet-woody notes; it is especially high in limonene and the esters bornyl and terpinyl acetate.
- **Cade juniper** (*Juniperus oxycedrus* L.), native to Croatia, with fresh-pungent, sweet-woody notes; this is a rectified oil distilled from the crude oil or tar of cade branches and heartwood.
- **Phoenicia juniper** (*Juniperus phoenicea*) native to Croatia, with pronounced sweet-woody notes (this tree is incidentally known to reach over 1,000 years of age, while the common juniper only reaches up to 600 years).
- **Savin juniper** (*Juniperus sabina* L.), native to Croatia, with fresh-pungent, woody notes.
- **Nepal juniper** (*Juniperus squamata*) from Nepal, North India and China, similar in aroma to *J. communis* but less sweet.
- **Virginia cedarwood or Eastern red cedar** (*Juniperus virginiana* L.) from the Eastern US, with its strong dry-woody notes, not particularly sweet or fresh.
- **Texas cedarwood** (*Juniperus mexicana* Schiede).
- **Cypress** (*Cupressus sempervirens* L. var. *stricta* Ait.).
- **Northern white cedar** (*Thuja occidentalis* L.) from the Northeastern US and East Canada, with its fresh, pungent green notes.
- **Hinoki** (*Chamaecyparis obtusa* [Sieb et Zucc.] Endler).

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

SPECIFIC SYMPTOMATOLOGY – *All applications*

**Lethargy**, apathy, **discouragement**, gloominess, negative thoughts, **mental disorientation or spaciness**, confusion, loss of instinctive self-confidence, **cold skin and extremities, muscle aches and pains, difficult or irritated urination**, skin rashes, chronic headaches, **general water retention, chronic indigestion with bloating**, abdominal pains, painful periods

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases prefrontal cortex and basal ganglia functioning

**Fragrance category:** Middle tone with pungent and woody notes

**Indicated psychological disorders:** ADD, depression, psychotic and schizoid conditions

PROMOTES WILL POWER, COURAGE AND ENDURANCE

- Low will power or strength, indecision
- Discouragement, low endurance or perseverance
- Mental and emotional burnout, depression

PROMOTES MOTIVATION, SELF-CONFIDENCE AND POSITIVITY

- Loss of motivation with apathy, procrastination, self-neglect, flat affect
- Low self-esteem and self-confidence, negativity

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment*

**Tropism:** Circulatory, digestive, urinary, reproductive systems

**Essential functional and diagnostic indication:** Stimulates atonic/cold conditions and decongests congestive/damp conditions

**Primarily stimulant:**

*arterial circulatory stimulant:* asthenic (cold) conditions with circulatory deficiency, esp. chronic; esp. with cold extremities, cold skin

- *neuromuscular stimulant, analgesic, spasmolytic antirheumatic:* chronic painful rheumatic-arthritic conditions, fibromyalgia, muscle spasms/cramps/pain, neuralgia, low-back pain

- *gastrointestinal stimulant, detoxicant and spasmolytic*: chronic hypotonic gastrointestinal conditions, incl. intestinal dysbiosis, hypochlorhydria, atonic-type peptic ulcer; chronic gastroenteritis, colic, atonic IBS
- *pancreatic stimulant, hypoglycaemiant*: hyperglycaemia, diabetes, insulin resistance
- *uterine stimulant, spasmolytic*: amenorrhoea, spasmodic dysmenorrhoea, uterine dystocia

#### Primarily decongestant and alterative:

- *urinary stimulant: diuretic*: general edema, cellulite, ascites
- *detoxicant, alkalizer, antirheumatic and alterative*: metabolic toxicosis, esp. with urinary irritation from uric acid; skin conditions, incl. eczema, dermatosis, psoriasis; rheumatic conditions, gout, albuminuria; incontinence, enuresis
- *antilithic*: urinary stones, arteriosclerosis

*antibacterial, dissolvent*: chronic urinary infections, incl. cystitis, esp. with mucus; leucorrhoea; microbial toxicosis with bacterial intestinal dysbiosis; other chronic cold-type infections

**Note:** The following types of Juniper oil are the most commonly used variants; they should be carefully distinguished from Juniper berry oil.

- **Juniper twig** (*Juniperus communis*) has essentially the same actions and indications as Juniper berry oil. However, some practitioners use it clinically to emphasize the *detoxicant diuretic* action in the same wide range of toxicosis conditions, including use for high uric acid conditions with gout or rheumatism, urinary stones and arteriosclerosis. With its more fresh-pungent notes and a tropism for the lungs, Juniper twig oil is also a good *mucolytic expectorant* for mucousy bronchial conditions. With topical use, the oil is considered especially effective for seborrheic scalp, i.e. dandruff.
- **Mountain juniper twig and berry** (*Juniperus communis* var. *montana*) is a wide-ranging *warming stimulant, decongestant* and *alterative*, like Juniper berry, but exerts an additional *sedative* action on the autonomic nervous system. Its resultant *spasmolytic, analgesic* and *anti-inflammatory* actions are valuable in such conditions as autonomic nervous dysregulation, neuritis, sciatica, neurogenic dermatitis and spasmodic and inflammatory conditions of the digestive tract in general (e.g. colitis, IBS, IBD, etc.). In functional medicine terms, Mountain juniper will treat tense, cold and damp conditions marked by toxicosis, pain, spasm and inflammation.

- **Cade juniper** or simply **Cade** (*Juniperus oxycedrus*) is a rectified oil commonly used in the pharmaceutical, fragrance and cosmetic industry. Its use as a remedy is primarily for topical preparations in various skin conditions, including eczema, dermatitis, dandruff and possibly skin parasites. Its actions are *antiseptic*, *analgesic* and *antipruritic*. Although non-toxic and non-irritant, with repeated use it may cause skin sensitization in some individuals.

#### SYNERGISTIC COMBINATIONS

- Juniper berry + Rosemary ct. cineole/camphor: *analgesic, spasmolytic* for muscle pain and spasms, most rheumatic conditions
- Juniper berry + Rosemary ct. cineole/camphor: *gastrointestinal stimulant* for chronic digestive atony with indigestion, bloating, poor appetite; chronic gastroenteritis
- Juniper berry + Angelica root: *uterine stimulant* for amenorrhoea
- Juniper berry + Lemon: *broad detoxicant and alterative* for a wide range of skin, rheumatic and urinary disorders from metabolic toxicosis

#### COMPLEMENTARY COMBINATIONS

- Juniper berry + Helichrysum: *analgesic* for low-back pain
- Juniper berry + Palmarosa: *intestinal regulator* for intestinal dysbiosis, malabsorption
- Juniper berry + Thyme ct. linalool: *intestinal detoxicant and antibacterial* for chronic intestinal dysbiosis with bloating, indigestion, fatigue, sugar cravings
- Juniper berry + Fennel: *draining diuretic* for most types of edema
- Juniper berry + Geranium + Fennel: *hypoglycaemiant* for hyperglycaemia
- Juniper berry + Hyssop + Silver fir: *dissolvent detoxicant* for urinary stones, urinary irritation

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Oily skin type (*facial steam*)

*capillary stimulant, rubefacient, detoxicant:* tired devitalized skin, overhydrated skin, skin impurities, cellulite

*subastringent, antiseptic, vulnerary:* acne, boils, wet eczema, chronic wounds

**Hair and scalp care:**

*hair restorative:* hair loss, slow hair and scalp activity, dandruff (*hair rinse*)

**Precautions:** Juniper berry oil is contraindicated for internal use during pregnancy because of its uterine stimulant action; topical and environmental use is generally fine during that time, however. The oil is also strongly cautioned in chronic organic kidney disease (nephritis, nephrosis) as there is a possibility that its terpineol and terpinen-4-ol content, both of which are involved in its diuretic action, may irritate and overstimulate the kidneys (the research is still inconclusive). In functional urinary disorders, however, Juniper certainly poses no problems.

**Preparations:**

- Diffusor: 2–3 drops in water
- Massage oil: 3–5% dilution in a lotion or vegetable oil
- Liniment: 5–10% dilution in a vegetable carrier oil
- Gel cap: 1–3 drops with some olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Pungent, woody, sweet

**Movement:** Contracting and rising

**Warmth:** Neutral to warm

**Meridian tropism:** Spleen, Stomach, Bladder, Liver

**Five-Element affinity:** Water, Earth

**Essential function:** To strengthen the Spleen, resolve damp and warm the interior

### 1. Strengthens the Spleen, resolves toxic-damp and harmonizes urination

- **Spleen toxic-damp** with abdominal distension, indigestion, flatulence, headache:  
Patchouli/Niaouli/Black pepper/Thyme linalool
- **Lower Warmer turbid-damp** (stone, damp *lin*) with bladder irritation, frequent urination, bedwetting, strangury, cloudy urine:  
Atlas cedarwood/Geranium/Tea tree/Green myrtle

### 2. Drains water-damp and promotes urination

- **Water-damp accumulation** with edema of waist and lower limbs, dysuria:  
Geranium/Fennel/Grapefruit

### 3. Warms the Middle Warmer, resolves damp and relieves pain

- **Stomach-Spleen empty-cold** with diarrhoea, colic, abdominal bloating, flatulence:  
Rosemary/Nutmeg/Ginger
- **Stomach-Spleen damp-cold** with chronic diarrhoea, undigested food in stool, cold limbs:  
Nutmeg/Clove/Black pepper

### 4. Warms the Lower Warmer, dispels cold and promotes menstruation

- **Lower Warmer Blood and Qi stagnation with cold**, with amenorrhoea, delayed periods, dysmenorrhoea, chronic vaginal discharges, urinary irritation:  
Rosemary/Fennel/Ginger

### 5. Warms and opens the meridians, dispels wind-damp-cold and relieves pain

- **Wind-damp-cold obstruction** with chronic rheumatic muscle/joint pain:  
Siberian fir/Rosemary/Cajeput/Frankincense
- **Skin wind-damp** with chronic eczema, dermatitis, psoriasis, boils, acne, pruritus:  
German camomile/Lavender/Helichrysum

#### REMARKS

Juniper berry is one of the many aromatic remedies from the Greek medicine tradition now also used in essential oil form. The ancient tree grows wild in eastern Mediterranean countries and as far east as the Western Himalayas, and has been used for thousands of years in most cultures in fumigations for ritual and therapeutic purposes. Since the discovery of distilled alcohol, the berries have been distilled mainly for flavouring gin and sloe gin spirits such as Steinhäger. Today the steam-distilled essential oil is a modern staple of essential oil therapeutics. To fully appreciate its many functions, here again we need to separate its true physiological and psychological functions, depending on the route of absorption used.

To the extent that we achieve a physiological delivery of the oil, Juniper berry is essentially a *warming, drying stimulant*. Based on stimulating the arterial circulation, its *stimulant* effect fans out to include a variety of organ systems. In the context of herbal medicine, its traditional indication has always been **chronic atonic, cold conditions**, especially of the gastrointestinal and urinary and neuromuscular systems. **Chronic rheumatic and arthritic conditions** in particular benefit from a cluster of inter-related pharmacological actions. These include an excellent *diuretic* action that serves

to promote systemic metabolic detoxification and alkalization – much like Dandelion root. Many forms of *metabolic toxicosis*, including skin eruptions, will improve from its general alterative effect that can shift over-acid interstitial fluids to more alkaline.

In the GI tract, when given by gel cap administration, Juniper berry again is perfect for chronic atonic disorders such as low stomach hydrochloric acid production, gastric ulcer, chronic dysbiosis, infections, etc. Here it will treat pain and spasms not stemming from ANS imbalance of any kind (like Marjoram or the Camomiles, for instance), but from simple inertia and lack of blood flow. Its considerable *antibacterial* action is absolutely pertinent in this situation where certain bacteria thrive on functional atony and thereby create an infection.

Juniper berry is one of the few essential oils with a good *fluid decongestant* effect. This is closely related to its overall stimulant nature and again involves a revving up of kidney functions more than anything else. As a *diuretic* it is also one of the very few aromatics with a tradition of softening **hard deposits** such as urinary stones and arterial mineral deposits, i.e. arteriosclerosis. In Chinese medicine, Juniper would be considered a primary oil for resolving many types of damp conditions in the Middle and Lower Warmers.

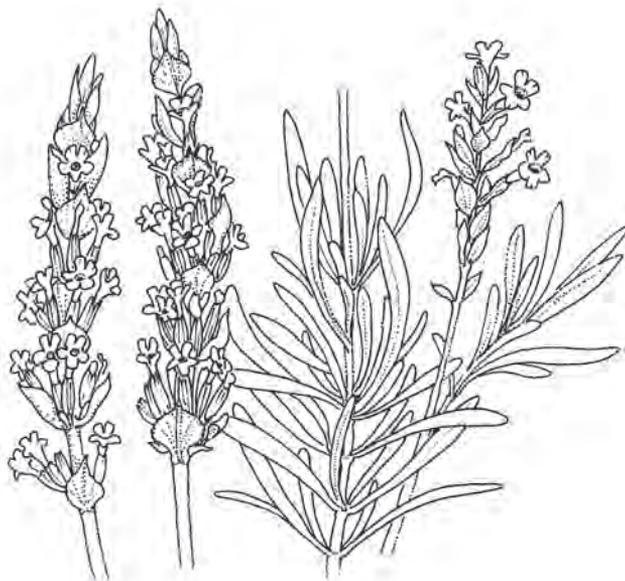
From the energetic perspective, Juniper berry with its pungent-woody fragrance quality exerts a good stabilizing and centring effect. It should be used for those with dispersed energy, mental spaciness, lack of embodiment, and a weak, uncentred instinct. In these individuals Juniper can promote strength, empowerment and instinctive self-confidence. Those with low perseverance and will power, with insecurity and a tendency to become easily discouraged and apathetic, will clearly stand to benefit.

At the same time, Juniper's pungent energy also has a gentle upward movement that is able to refresh and clarify the mind. Stagnant, negative, confused thoughts and mental fog are its terrain as much as the symptoms of scattered energy. We could think of Juniper as a mental detoxifier as much as a physiological one.

Overall, Juniper berry is for the **cold, congested, stagnant** type of individual who feels worse in cold, damp weather; who suffers from poor elimination of metabolic toxins with resultant fatigue, malaise, aches and pains; who presents symptoms of mental-emotional stagnation, such as apathy, listlessness and a negative outlook, all underpinned by a vague deeper feeling of insecurity and disempowerment.

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# Lavender



**Botanical source:** The flower spike of *Lavandula angustifolia* P. Mill. (syn. *L. officinalis* Chaix, *L. vera* DC.) (Lamiaceae/Labiatae – lipflower/mint family)

**Other names:** True lavender, French lavender, English lavender, Small-leaf lavender; Lavande, Lavande femelle (French), Lavendel (German), Lavanda (It, Sp)

**Appearance:** A mobile clear to pale yellow fluid with a light sweet-herbaceous floral odour, with faint fresh overtones and mild woody undertones

**Perfumery status:** A head note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh or wilted, dried flowering spikelets in July and August

**1 kg oil yield from:** 100–150 kg of the herb; see also below (a moderate yield)

**Production areas:** France (native), England, Bulgaria, Ukraine, China, Tasmania, Japan, the American Pacific Northwest. Lavender oil distillation began in southern France in the 15th century and was always wild harvested until the 1920s, when cultivation began. Spike lavender, however, had been distilled since at least the early 14th century.

**Typical constituents:** Esters 40–55% (incl. linalyl acetate 30–60%, lavandulyle acetate <6%, geranyl acetate) • monoterpenols 27–52% (incl. linalool and its acetic esters 26–50%, geraniol, terpineol, borneol, lavandulol) • sesquiterpenes 2–8% (incl. beta-caryophyllene 2–8%, farnesene) • monoterpenes 4–5% (incl. beta-ocimenes, limonene, pinene, camphene) • oxides 2% (incl. 1,8-cineole 0.5–2.5%, linalool oxide) • ketones 4% (incl. camphor <1%, octanone < 3%) • lipic aldehydes 2% (incl. myrtenal, cuminal, benzaldehyde) • lactones, coumarins 0.3%

**Chance of adulteration:** Very common, often with the much cheaper Lavandin oil (see below) or simply cheaper, more large-scale industrial versions of the same species (often from overseas), including from the clonal varieties mentioned above. Synthetic additions, if present, may include linalool, linalyle acetate, terpenyl propionate, isobornyl acetate, terpineol and fractions of Ho leaf and Rosewood oils (Lis-Balchin 2006).

**Botanical differentiations:** In France, distinctions are made between wild-growing and cultivated lavenders, and between high-altitude and lower-altitude plants. **Wild lavender**, growing in the French alps between 500–1,600 meters, has very few blossoms and the finest fragrance of all lavenders. Its essential oil is called **Lavande sauvage** and is generally also considered to have the best therapeutic properties. There are two *Lavandula* varieties that yield wild lavender.

1. **High-altitude wild lavender**, named *petite* or *fine lavande* (i.e. small or thin lavender), *Lavandula angustifolia* var. *fragens*, is collected at 1,200–1,600 meters in dry terrain. This extremely hardy, weather resistant, sun-loving variety has the most delicate, fine ‘powdery-floral’ fragrance. This is because the ester content of its oil is higher than lavenders from lower elevations (whether wild or cultivated), which maximizes the sedative effect. The extra esters are produced mainly because high-altitude distillation means a lower temperature boiling point, which reduces the rate of ester hydrolysis during distillation. It is also entirely possible (but difficult to prove) that high-altitude lavenders also naturally contain more esters. 150–220 kg of dried plant material is needed to distill 1 kg of wild lavender oil, depending on the altitude. Because of the cost-intensiveness of harvesting and extracting at this altitude, only very small amounts are ever available, and then at a premium price.
2. **Low-altitude wild lavender**, named *moyenne lavande* (i.e. medium-sized lavender), *L. angustifolia* var. *delphinensis*, grows at 450–1,200 meters in cooler valleys and shady areas. It is somewhat less delicate in fragrance than the high-altitude variety, lower in esters, and also only available in small quantities.

**Cultivated lavender** is grown in the low-to-medium altitude range of 600–1,200 meters in the French alps. It is the best French lavender oil

generally available, and is called *lavande fine*. 120–130 kg of dried plants is required to produce 1 kg of this essential oil. Its ester content is considered the standard for lavender and the floral aroma is sweet-herbaceous, warm and rich.

An important distinction made among both cultivated and wild lavenders is between population and clonal lavender. **Population lavender**, or *lavande population* in French, should be cultivated at a minimum of 800 meters altitude and possesses an official quality norm called AOC, *appellation d'origine contrôlée*, i.e. 'controlled designation of origin,' like certain wines, cheeses and other agricultural products. This is a fertile plant originally of wild seed: each population lavender plant is genetically different from the other, because each one comes from a different seed. All wild and high-quality lavender oils, including all *Lavande fine*, are produced from population growths, not clonal types. This is what makes them therapeutically potent or highly bioactive. It also imparts their rich complexity of fragrance, a hallmark of their high vitality and quality. This complexity can also be appreciated visually in the variegated purples and violets that compose a field of population lavender, rather than the uniform dark purple presented by clonal plantations.

**Clonal lavender**, in contrast, is a sterile plant where all plants are genetically similar, coming as they do from just one mother plant. They grow and flower in perfect unison and to the same height, making harvesting much easier, thereby lowering the final cost of production. However, the fragrance profile of clonal lavender oils is simpler and less interesting, and is generally considered less desirable. The bioactivity of clonal lavenders is also lower compared to population lavender.

Several important lavender clones have been developed in the last 80 years, the most popular of which in France and England are the clones Maillette and Abrialis. In England, other common clones include Foldgate and Twickle purple. A Lavender oil that is clonal should be declared as such on labelling and documentation to distinguish it from population lavender.

**Lavender absolute** is a perfumery material prepared in France by alcohol extraction from the concrete extract of *L. angustifolia*. It contains all of the plant's components except for the waxes, terpenes and odourless substances. It is a dark green, thick liquid with a coumarin-honey-sweet-herbaceous, slightly floral fragrance that is much closer to the odour of flowering lavender itself. Its aroma is richer and sweeter, but less floral, than lavender essential oil, even when diluted 10% in alcohol or a vegetable oil. This is due mainly to its content in coumarins and umbelliferones – components unavailable with normal steam distillation.

**Related oils:** Of the 30-odd species of lavender that range from the Canary Islands through to India, the following are also collected or cultivated for essential oil production. Beware also of completely unrelated oils bearing the name 'lavender,' such

as Lavender sage (*Salvia lavandulifolia*), Lavender oregano (*Origanum dubium* ct. linalool) and Lavender tea tree (*Melaleuca ericifolia*).

- **Spike lavender** (*Lavandula latifolia* Medikus, syn. *L. spica* auct., non L.), also known as *aspic*, *grande lavande* or *lavande male*, grows in coastal southern France, Spain and Dalmatia at elevations of up to 600 metres. This oil has a less fine, more fresh-pungent top note because of its higher content in both camphor (8–16%) and 1,8-cineole (16–39%) and, conversely, a much lower content of esters (>2%); monoterpenols are 34–50%. The oil yield is at least three times that of true Lavender, or about the same as Lavandin.
- **Spanish lavender** (*Lavandula stoechas* L.), also known as **Arabian** or **sea lavender** (*lavande maritime*, *lavande stoechade* or *querelet* in French), has prominent fresh-pungent top notes. Its dominant constituents are ketones (70–80%), with fenchone at 48% and camphor at 15–30%, and a minor amount of verbenone; all other constituents recede into the background.
- **Lavandin** (*Lavandula x fragrans*, *L. x intermedia* Emeric ex Loisel.) from France and Morocco, is also known as **Dutch lavender**. The clones generally available are Super (a larger clone), Abrialis and Grosso. Lavandin is a hardy hybrid of lavender (*Lavandula angustifolia*) and spike lavender (*L. latifolia*) that originated with natural cross-pollination by bees at about 700–800 m altitude. It is cultivated in the French alps from sea level up to 900 m, and some wild growing lavandin is also found in Haute Provence. This species is highest in essential oil content of all lavender species (at least 3%), and so the yield is excellent: as little as 30–40 kg of dried plant material is needed to produce 1 kg of Lavandin essential oil. Over 1,000 tons of Lavandin oil is produced yearly in France alone from this plant, with smaller quantities also in Spain and England. It enjoys mainly industrial purposes, including in perfumery, and minor use in a clinical setting (see below). It has a more sweet-fruity-green-herbaceous aroma than true Lavender, with fresh-spicy-camphoraceous topnotes. Lavandin is lower in esters (c. 25%) and higher in camphor (5–16%).
- **Dalmatia lavender** (*Lavandula x hybrida*), *budrovka* in Croatian, comes from the Dalmatian coast of Croatia. Its essential oil is from a plant hybridized in the 1980s from Lavender (*Lavandula angustifolia*) and Lavandin (*Lavandula x fragrans*), and is therefore half Lavender, half Lavandin – a minor Lavandin, therefore.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing

SPECIFIC SYMPTOMATOLOGY – *All applications*

**Irritability**, mood swings, emotional confusion, negative emotions, **nervous tension**, restlessness, agitation, **agitated depression**, **anxiety**, fear, **insomnia**, **disturbed sleep**, wakes up at night, **palpitations**, headaches, muscle aches and pains, upper digestive bloating and pain, **lifeless blue skin**, cold extremities, scanty periods, stopped periods

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Regulating in dysregulation conditions; relaxant in overstimulation conditions; mildly euphoric in acute shock conditions

**Possible brain dynamics:** Reduces limbic system and basal ganglia hyperfunctioning; resolves temporal lobes dysregulation

**Fragrance category:** Middle tone with sweet, green notes

**Indicated psychological disorders:** Hypomania, panic attacks, bipolar disorder, ADHD, depression, phobias, PTSD

**CALMS THE MIND AND PROMOTES RELAXATION AND MILD EUPHORIA**

- Nervous tension, restlessness, anxiety, emotional tension, fear, panic, phobia
- Emotional shock of any kind
- Depression with anxiety or agitation; other types of depression (for short-term use)

**PROMOTES EMOTIONAL STABILITY AND RENEWAL**

- Irritability, moodiness, mood swings
- Emotional conflict or instability with confusion
- Feeling-sensing disconnection and conflict
- All pathogenic (stuck) emotions and distressed feelings in general

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment*

**Tropism:** Neuroendocrine, digestive, urinary, reproductive, respiratory systems

**Essential functional and diagnostic indication:** Relaxes hypertonic/tense conditions, cools thenic/hot conditions and restores weak conditions

**Primarily relaxant and cooling:**

*ANS regulator and systemic nervous relaxant:* dysregulated, hypertonic (tense) and sthenic (hot) and conditions with anxiety, pain and spasms, esp. of nervous, cardiovascular, respiratory and reproductive systems; all stress-related conditions in general

*analgesic, spasmolytic:* spasmodic and pain conditions of all types, incl. tension and vascular headaches, incl. migraine; chronic pain conditions, arthritic and rheumatic pain, incl. fibromyalgia; tendinitis, bursitis, plantar fasciitis

- *cerebral sedative, mild hypnotic:* insomnia, anxiety
- *cardiovascular relaxant, hypotensive:* palpitations/tachycardia, neurocardiac syndrome, hypertension
- *respiratory relaxant: bronchodilator, antitussive:* spasmodic bronchial conditions, incl. spasmodic asthma, whooping cough, croup
- *intestinal relaxant, carminative, antiemetic:* spasmodic digestive conditions, incl. IBS, colic, dyspepsia, flatulence, vomiting; incl. stress-related conditions
- *uterine relaxant:* spasmodic dysmenorrhoea or dystocia, menstrual cramping

*anti-inflammatory:* inflammatory and allergic conditions, incl. neuritis, otitis, bronchitis, vaginitis, cystitis, gastroenteritis, phlebitis, coronaritis

*moderate antihistamine, antiallergic:* allergic dermatitis, asthma, rhinitis, etc.

*antipyretic:* fevers, esp. low-grade; eruptive fevers with anuria, incl. chickenpox, measles

**Primarily restorative and stimulant:**

*nervous restorative, antidepressant:* chronic atonic (weak) conditions with fatigue, insomnia, chronic stress; neurasthenia with fatigue, exhaustion; depression with anxiety or agitation

*cardiac restorative:* heart weakness (from illness, ageing, constitution)

*biliary stimulant: cholagogue:* upper gastric dyspepsia, liver-gallbladder congestion

*arterial and capillary circulatory stimulant:* poor arterial and capillary circulation

*diuretic, detoxicant:* edema, systemic toxicosis

*uterine stimulant: emmenagogue, parturient:* amenorrhoea, dysmenorrhoea, difficult or stalled labour, retained placenta

*mild anticoagulant:* hematomas

*moderate antioxidant*

### Antimicrobial actions:

#### *anti-infective (incl. immunostimulant/leucocyte stimulant):*

- **moderate antifungal:** fungal infections with *Candida albicans*, *Tinea pedis*, *Aspergillus niger*, incl. candidiasis, athlete's foot
- **moderate antibacterial, antipyretic:** bacterial infections (incl. with *Strep. pyogenes*), e.g. laryngitis, pharyngitis, impetigo; esp. with fever; also with *Klebsiella*, *E. coli*, *Beta-haemolytic strep.*, *Staph. aureus*, *Diplococcus pneumoniae*
- **moderate antiparasitic:** intestinal and skin parasites

**Note:** The following differentiations with other lavender species are clinically useful:

- **Spike lavender** (*Lavandula latifolia*) is essentially *stimulating* and *warming* because of its greatly altered balance of constituents (see above). Its main applications are hypotonic (weak) and asthenic (cold) conditions, especially when they involve nervous, respiratory, cardiovascular and gastrointestinal functions. Spike lavender is especially useful as a *stimulant expectorant* and *mucostatic* in congestive bronchitis with copious sputum; rhinitis, colitis and enteritis; as a *stimulant analgesic* in asthenic (cold) rheumatic and arthritic conditions; as a general *nervous restorative* and *arterial stimulant* in neurasthenia with poor circulation, fatigue, debility, depression, neuritis, etc. Topically, it is also a *capillary stimulant*, *vulnerary* and *analgesic* for cold, lifeless skin conditions, hairloss, wounds, headaches, neuralgia, etc. Spike lavender also has excellent *antiviral* and moderate *antibacterial* properties in many of the above infections. Because of its camphor content (<1%), the oil is contraindicated in fevers, epilepsy and during pregnancy.
- **Spanish lavender** (*Lavandula stoechas*) is a *stimulant expectorant* with *mucolytic*, *mucostatic*, *anti-inflammatory* and *antibacterial* actions used for sinusitis, serous otitis media, bronchitis and stomatitis. It acts as a *general restorative* or *tonic* in hypotonic (weak) conditions and is considered a specific for *Pseudomonas aeruginosa* in treating urinary infections. Topically, Spanish lavender has *vulnerary* properties for wounds, eczema, sores, burns and such like. Note that this oil carries cumulative chronic toxicity because of its ketone content and should therefore be used with the same cautions as Sage oil.
- **Lavandin** (*Lavandula x fragrans*, *Lavandula x intermedia*): Because this oil is generally only available from clonal cultivations, it is considered somewhat less bioactive than Lavender oil. Lavandin is therefore especially useful for treating mental-emotional conditions with diffusion, whole-body massage and acupoints. It may also be appropriate in cases where milder treatment is sufficient, e.g. in children, the elderly, and so on.

This consideration aside, Lavandin has similar functions and indications as Lavender, especially the 'Super' variety. However, with its higher camphene content, its action is somewhat more *stimulant* than Lavender. Lavandin can address mild hypotonic (weak) conditions involving lethargy, chilliness, headaches, nasal congestion with pain, muscle aches, and insufficient hair growth and renewal.

#### SYNERGISTIC COMBINATIONS

- Lavender + Clary sage: *nervous and cerebral restorative and relaxant* for chronic neurasthenia, insomnia, anxiety, agitated depression or burnout
- Lavender + Clary sage: *analgesic, spasmolytic* in many acute tense, painful, spasmodic conditions, esp. spasmodic dysmenorrhoea, ovarian pain, intestinal colic, asthma
- Lavender + Roman camomile: *nervous and cerebral sedative* in acute stress-related hypertonic and sthenic conditions with agitation, insomnia, anxiety
- Lavender + Roman camomile: *analgesic, anti-inflammatory, spasmolytic* in a variety of acute tense, painful, spasmodic and/or inflammatory conditions, incl. headache, intestinal colic or colitis, spasmodic dysmenorrhoea, neuromuscular pain/spasm/inflammation

#### COMPLEMENTARY COMBINATIONS

- Lavender + Marjoram: *nervous and cerebral sedative* in acute anxiety states, insomnia, agitation
- Lavender + Marjoram: *relaxant analgesic and spasmolytic* in many acute tense, painful, spasmodic conditions, esp. tachycardia, spasmodic angina pectoris, spasmodic dysmenorrhoea, colic
- Lavender + Palmarosa: *cardiotonic* for heart weakness from illness, chronic stress, old age
- Lavender + Geranium: *antifungal* for various fungal infections; also *anti-inflammatory*
- Lavender + Lemongrass/May chang: *anti-inflammatory* in a wide range of inflammatory conditions
- Lavender + Lemongrass/May chang/Melissa: *antipyretic* in fevers
- Lavender + Fennel: *carminative and choleric* for dyspepsia, flatulence, nausea, esp. with insomnia

TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Sensitive and combination skin types

*skin-cell stimulant:* for all skin types, esp. sensitive skin, scar tissue; hair loss

*vulnerary, skin regenerator:* wounds, cuts, ulcers, sores, perineal tears, scabs; esp. slow-healing wounds and injuries

*anti-inflammatory, analgesic, antipruritic:* burns, scalds, sunburn, ulcers, bruises, sprains, acute dermatitis, pruritus, acne, insect stings, arthritic and rheumatic conditions

*antifungal:* fungal skin conditions, incl. tinea

**Precautions:** None

**Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 2–5% dilution in vegetable oil
- Liniment: 5–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Green, sweet

**Movement:** Circulating

**Warmth:** Neutral to cool

**Meridian tropism:** Heart, Pericardium, Liver, Lung

**Five-Element affinity:** Fire, Wood

**Essential function:** To nourish the Yin, activate the Qi, clear heat and calm the Shen

**1. Nourishes the Yin, settles and clarifies the Heart, clears empty heat and calms the Shen**

- **Heart Yin deficiency with Shen agitation**, with mental restlessness, anxiety, worry, fearfulness, depression, palpitations:  
Patchouli/Marjoram/Petitgrain
- **Yin deficiency with empty heat and Shen agitation**, with fatigue, insomnia, hot spells, night sweats, headaches:  
Clary sage/Vetiver/Patchouli

- **Yin deficiency with empty heat in late-stage fevers**, with chronic low or remittent afternoon or evening fever, debility, night sweats, five centres heat:  
Tea tree/Rose/Blue tansy
- **Shaoyang-stage heat with Shen agitation**, with alternating fever and chills:  
Basil ct. chavicol/Eucalyptus (blue-gum)/Ylang ylang no. 1

## 2. Activates the Qi, relaxes constraint, harmonizes the Shen and relieves pain

- **Qi constraint turning into heat with Shen dysregulation**, with irritability, mood swings, palpitations, restlessness:  
Mandarin/Blue tansy/Petitgrain
- **Liver and Uterus Qi constraint** with menstrual cramps, irritability, anxiety, PMS:  
Blue tansy/Clary sage/Ylang ylang no. 1
- **Liver-Stomach disharmony** with epigastric fullness, bloating, appetite loss:  
Bergamot/Spearmint/Fennel
- **Liver-Spleen disharmony** with abdominal pains, flatulence, bloating, digestive symptoms worse from stress:  
Mandarin/Lemongrass/Peppermint
- **Lung Qi accumulation** with wheezing, chest pain and tightness:  
Fennel/Basil ct. chavicol/Blue tansy

## 3. Activates Blood and Qi, breaks up stagnation and regulates menstruation

- **Lower Warmer Blood and Qi stagnation**, with late or painful periods, amenorrhoea:  
Rosemary/Angelica root/Nutmeg

## 4. Cools and ventilates the Lung, dispels wind-heat and relieves pain; boosts the protective Qi

- **Lung wind-heat** with fever, cough, irritability, aches and pains:  
Green myrtle/Eucalyptus (blue-gum)/Niaouli
- **Lung heat** with high fever, cough, agitation:  
Lemon eucalyptus/Lemon/May chang

## REMARKS

The word ‘lavender’ conjures up a kaleidoscope of historical images. Sybaritic Romans luxuriating in lavender water baths; medieval abbess Hildegard von Bingen contemplating lavender plants in her cloister physic garden in St. Gallen, Switzerland; Renaissance European apothecaries preparing Eau de Cologne with freshly distilled French lavender and Sicilian bergamot essential oils; women in Victorian London hawking lavender posies in the bustling streets; and René Gattefossé plunging a badly burnt arm into a beaker of lavender oil in the early 20th century, so confirming its reliable pain-relieving, inflammation-reducing and tissue-healing properties.

Lavender is one of many Mediterranean plants that has seen widespread use from earliest times. Its fine floral, refreshing fragrance, versatile therapeutic actions and multi-purpose usefulness in first-aid situations have always made it a popular choice. The herb has long been loved for its soothing, somewhat euphoric effect and, in the home, for its use as a freshening antiseptic of household linen.

The essential oil itself has been in production since the early 1500s at the latest, securing its first written reference in alchemist Gianbatista Della Porta’s *Liber de destillatione* of 1567, fol. 87; then again in the herbal dispensatory *Dispensatorium Noricum* of 1589 as *Oleum lavandulae*. It is interesting to note that Spike lavender or Aspic, at that time a much more widely used essential oil, had already been mentioned as *Oleum spicae* in Valerius Cordus’ *Dispensatorium Noricum* of 1543. Today Lavender is arguably the most popular of all oils and can be considered a polycryst aromatic remedy in Western societies. Although there are plenty of oils that will duplicate Lavender’s individual functions, there is no oil quite able to perform *all* of its functions.

The large theme that emerges from the totality of Lavender’s therapeutic effects is one where relaxation is balanced by restoration, followed by a net regulating effect. Whether used as a psychological remedy via activation of the limbic system or as an aromatic remedy through internal absorption, Lavender displays an interesting dual nature that lies at the core of its ability to treat such a variety of symptoms and disorders. Ultimately, this duality lies at the core of its potential for balancing most states of dysregulation – those preclinical conditions that precede true hyper- and hypofunctioning.

With its green, sweet aromatic quality, Lavender is a classic *relaxant* and *regulator* through the olfactory pathway. States of **tension, anxiety and fear** respond well to its calming actions on the limbic system and basal ganglia, as will states of **depression** when specifically associated with **anxiety or agitation**. For other, simpler conditions of depression, Lavender is recommended only for short-term use as a mild *euphoric*. Moreover, by resolving dysregulation of the temporal lobes, this oil also serves as a good alternative to Bergamot for balancing **mood swings** and helping one reconcile **emotional conflict**. Studies have shown its ability to help with mood changes and instability during menopause, for instance (Buckle 2003).

With its unique mix of calming, balancing and somewhat uplifting effective qualities, Lavender is also generally indicated for all types of **distressed and stuck emotions**. Its Latin root word *lavare* already points to its ability to ‘cleanse’ stagnant emotional states. Individuals who get repeatedly stuck in unproductive emotional postures, who are unable to put the brakes on their volatile tempers, will stand to benefit the most from this potentially transformative oil. The net result of Lavender’s ability to generate emotional renewal is a refreshed, equanimous state where everything is poise and composure.

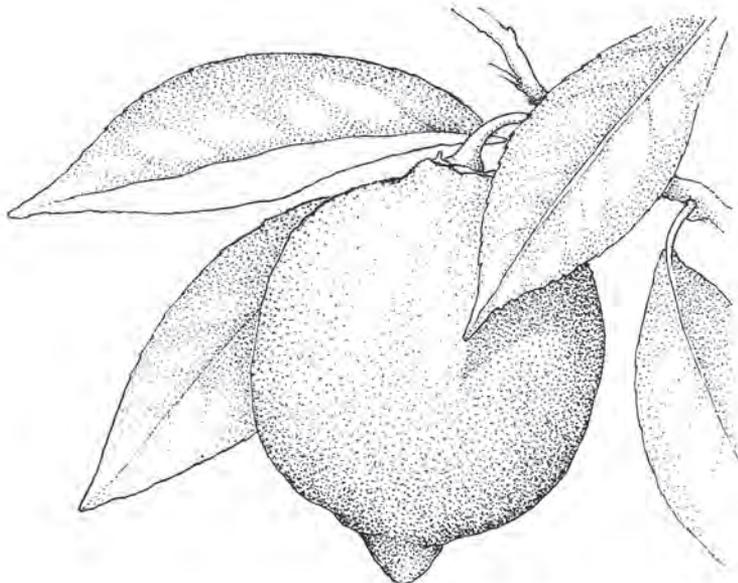
On the physiological level too, Lavender is on one hand a classic *relaxant* and *cooling* aromatic, and on the other hand a *restorative* and somewhat of a *stimulant*. These opposing functions are closely matched, if not predicated, on its constituent profile: generous amounts of esters balanced by monoterpenols, monoterpenes, oxides and ketones. Linalyl acetate in particular has been shown to protect and restore the nerves (Harris 2006), thereby reinforcing Lavender’s classic use as a *nervous restorative* for nervous weakness or neurasthenia. As such, Lavender is the aromatic equivalent of a remedy such as Skullcap (*Scutellaria lateriflora*), for instance. By following the thrust of the oil’s fundamental two functions and types of constituents, we can begin to make sense of its tangled indications and put it to the most rational use in a clinical setting.

Lavender’s main use in the context of addressing the whole terrain is for treating **chronic tense and hot conditions** that have progressed to an underlying **weakness**. Because Lavender’s core tropism is the autonomic nervous and cardiovascular system, its major indication is chronic stress-related conditions presenting anxiety, insomnia and palpitations mixed with symptoms of weakness – as seen in many chronic disorders, especially neurasthenia. Chinese medicine describes these conditions as various syndromes of Yin deficiency, including Heart Yin deficiency with Shen agitation. Lavender can both strengthen and relax the heart, while in the circulation it will treat hypertension with poor arterial and capillary perfusion.

This is not to deny Lavender’s paradoxical usefulness in managing **acute conditions** involving **pain, spasms and heat**. Here the oil will relax most smooth muscle organs with its good *analgesic-spasmolytic* action, as well as resolve many febrile and inflammatory conditions. **Fevers** of many kinds can be cleared with its use. Whether helping to resolve late-type or early-stage fevers, Lavender the dependable *antipyretic* is nicely poised to not only clear the heat, but also to calm irritability, reduce aches and pains, and relieve any coughing that may be present.

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# Lemon



**Botanical source:** The rind of *Citrus limonum* (L.) Burm. fil. (Rutaceae – rue family)

**Other names:** Yellow lemon; Citron (Fr), Zitrone (Ge), Limone (It), Limón (Sp)

**Appearance:** A mobile yellow to orange or greenish liquid with a light citrusy-fruity and sweet odour

**Perfumery status:** A head note of medium intensity and poor persistence

**Extraction:** Cold-pressing of the fresh rind

**1 kg oil yield from:** 120–150 kg of the fresh rind (a moderate yield)

**Production areas:** Italy, Spain, Israel, Argentina, USA

**Typical constituents:** Monoterpenes 90–96% (incl. limonene 54–78%, gamma-terpinene 3–10%, beta-pinene 11%, sabinene, cymene, myrcene) • monoterpenoid aldehydes 2–3% (incl. geranial 0.6–2%, neral 1%, citronellal, nonanal, octanal) • sesquiterpenes (incl. bisabolene 2–4%, bergamotene, caryophyllene) • monoterpenols (incl. linalool, terpineol, trace terpinen-4-ol) • aliphatic alcohols (incl. hexanol, heptanol, octanol, nonanol, decanol) • esters (incl. neryl/geranyl/terpenyl acetate) • coumarins and furanocoumarins (incl. bergamottene, bergaptole, bergapten, scopoletine, umbelliferone, phellopterin)

**Chance of adulteration:** Very high, firstly because of various industrial procedures used to remove the photosensitizing coumarins for use in the food and perfumery industry; the result is not a complete or authentic oil. Secondly, because Lemon oil is often adulterated with other oils such as distilled, concentrated, terpeneless or sesquiterpeneless lemon oil; and natural or synthetic limonene, citral, turpentine and other compounds (Lis-Balchin 2006).

Preservative antioxidants like butylated hydroxyanisole (BHA) are also usually added to commercial productions of Lemon oil so as to prevent rapid oxidation.

**Related oils:** Lemon oil is generally related to many other *Citrus* oils. Those most closely related are:

- **Lime** (*Citrus aurantifolia* Swingle), with its fresh lemony-green fragrance
- **Grapefruit** (*Citrus x paradisi* Macfad.), with its sweeter lemony fragrance
- **Combava** or **Leech lime** (*Citrus hystrix* DC.) from Madagascar, with its green-lemony fragrance
- **Persian lime** (*Citrus latifolia* Tanaka), with its fruity-green lemony fragrance

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Somewhat skin irritant, non-sensitizing, mildly photosensitizing

Skin irritation is typically the result of commercial standardization of the oil (see above).

### SPECIFIC SYMPTOMATOLOGY – All applications

**Mental fatigue with fogginess**, poor concentration, **distraction**, mental confusion, **listlessness**, flat affect, **pessimism**, depression, loss of good judgement, loss of foresight and planning, **difficulty getting up in the morning with low energy**, indigestion, headaches, **aches and pains**, varicose veins, haemorrhoids, **chronic abdominal bloating and fullness**, pale devitalized sluggish skin, water retention

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases prefrontal cortex functioning

**Fragrance category:** Top tone with lemony note

**Indicated psychological disorders:** ADD, depression

STIMULATES THE MIND AND PROMOTES ALERTNESS AND OPTIMISM

- Lack of concentration and attention span, distraction, poor short-term memory
- Mental foginess, disorientation, disorganization
- Negative thinking, pessimism, flat affect, depression

PROMOTES DISCERNMENT AND FORESIGHT

- Poor discernment or evaluation with loss of insight and critical thinking
- Loss of foresight, inability to plan, procrastination
- Loss of visualisation or envisioning

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Hepatobiliary, digestive, circulatory systems

**Essential functional and diagnostic indication:** Decongests congestive/damp conditions and strengthens atonic/weak conditions

**Primarily restorative:**

*nervous restorative:* mental fatigue, memory loss, depression, exhaustion; neurasthenia

*liver restorative, decongestant and detoxicant:* liver and biliary congestion, anaemia

*pancreatic restorative, hypoglycaemiant:* hyperglycaemia, diabetes

**Primarily decongestant and alterative:**

*gastrointestinal stimulant, aperitive:* atonic dyspepsia, flatulence, anorexia

*venous and capillary restorative, capillary and lymphatic stimulant:* venous deficiency with varicose veins, broken capillaries, nosebleeds, pelvic congestion, edema; swollen glands, fibrocystic breasts

*detoxicant, alkalizer, antirheumatic and alterative:* metabolic and microbial toxicosis, incl. intestinal dysbiosis; chronic fatigue, headaches; rheumatic-arthritic conditions, gout; hypertension

*anticoagulant:* hyperviscous blood, phlebitis, thrombosis

*antilithic (litholytic), antisclerotic:* urinary and gall-stones, kidney colic from stones; arteriosclerosis

*astringent:* diarrhoea, intestinal hyperpermeability

*antipyretic, anti-inflammatory, mild immunostimulant*: fevers, infections in general  
*mild nervous sedative*: insomnia, nightmares

### **Antimicrobial actions:**

*antifungal*: fungal infections with *Trichophyton* spp., *Microsporum* spp., *Epidermophyton* spp., *Candida*, incl. tinea/ringworm; fungal intestinal dysbiosis

*antiviral*: viral infections, incl. herpes, warts, verucas

### SYNERGISTIC COMBINATIONS

- Lemon + Juniper berry: *detoxicant and antirheumatic* for metabolic toxissosis, rheumatic-arthritis conditions
- Lemon + Scotch pine/Niaouli: *antilithic* for gallstones

### COMPLEMENTARY COMBINATIONS

- Lemon + Rosemary: *liver restorative and decongestant* for chronic liver congestion
- Lemon + Geranium: *pancreatic restorative* for hyperglycaemia
- Lemon + Lemongrass: *antifungal detoxicant* for fungal intestinal dysbiosis
- Lemon + Hyssop: *antilithic* for urinary stones
- Lemon + Patchouli: *venous restorative* for varicose veins
- Lemon + Lemongrass/May chang: *antipyretic, anti-inflammatory, lymphatic stimulant* in fevers, inflammations, esp. with swollen glands
- Lemon + Helichrysum: *anticoagulant* in sludged/hyperviscous blood conditions with thrombosis, hematoma, phlebitis

### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Oily skin type (*facial steam*)

*astringent, mild antiseptic*: tired congested skin, enlarged pores, seborrhoea, varicose veins, broken capillaries, acne, boils

*capillary stimulant, rubefacient, detoxicant, skin and muscle toner*: devitalized/weak/cold skin, skin impurities, muscle fatigue, cellulite

*lymphatic stimulant*: swollen glands, lymph stagnation, edema

*antimelanistic*: brown skin spots

*escharotic*: squamous cell cancer

*antiviral:* herpes, warts, verucas

*analgesic:* insect bites and stings, esp. as preventive for resultant itching and swelling

### **Hair and scalp care:**

*hair restorative and hair-growth stimulant:* poor hair growth, slow hair and scalp activity, dandruff

**Precautions:** Low dilutions of 0.5% to 1% of Lemon oil are generally used in skin-care and massage because of its somewhat skin irritant quality; combining Lemon with three or four other oils is usually the best solution to prevent any possible irritation. Avoid using this oil on sensitive or damaged skin. Lemon oil mildly photosensitizes the skin and so should not be used before exposure to sunlight for up to 20 hours.

Because authentic Lemon oil, like all citrus oils, degrades and oxidizes easily on contact with oxygen, it is important in skin care especially to use fresh, non-oxidized oil. Oxidized Lemon oil may cause skin irritation and sensitization – a problem exacerbated by synthetic additives (see above). The generally accepted shelf-life of authentic Lemon oil at room temperature is 12 months, or 24 months if refrigerated (assuming no preservatives have been added in the first place).

### **Preparations:**

- Diffusor: 4–5 drops in water
- Massage oil: 1% dilution in a lotion or vegetable oil
- Liniment: 3–10% dilution in a vegetable carrier oil after doing a patch test for skin sensitivity
- Gel cap: 2–3 drops with olive oil

## **Chinese Medicine Functions and Indications**

**Aroma energy:** Lemony

**Movement:** Expanding, rising, circulating

**Warmth:** Cool

**Meridian tropism:** Liver, Spleen

**Five-Element affinity:** Fire, Wood

**Essential function:** To raise the clear Yang, resolve damp and strengthen the Shen

### **1. Raises the clear Yang and strengthens the Shen**

- **Clear Yang Qi deficiency with Shen weakness**, with mental fatigue, poor focus, confusion, fogginess, headaches:

Lemon eucalyptus/Rosemary/Ravintsara/Peppermint

## 2. Resolves toxic-damp and stops discharges

- **Spleen toxic-damp** with chronic indigestion, abdominal bloating, diarrhoea, mucus in stool:  
Patchouli/Palmarosa/Thyme linalool
- **General damp** with lethargy, heaviness of body, swollen glands, water retention, swollen breasts:  
Lemongrass/Grapefruit/May chang

## 3. Regulates the Qi in the Middle Warmer and relieves distension

- **Stomach-Spleen Qi stagnation** with indigestion, fullness on eating, bloating:  
Mandarin/Peppermint/Fennel

## 4. Invigorates the Blood in the lower limbs and reduces stagnation

- **Blood stagnation in the lower limbs** with varicose veins, edema, haemorrhoids:  
Atlas cedarwood/Patchouli/Rosemary/Grapefruit

## 5. Clears heat and calms the Shen

- **Yangming-stage heat with Shen agitation**, with fever, anxiety, restlessness, insomnia, rapid forceful pulse:  
Lemongrass/May chang/Melissa

### REMARKS

Although originally from Southeast Asia, the lemon tree was brought by the Moors to Sicily and Spain during the 10th-century mediaeval Al-Andalus era. Herbal medicine practitioners of those times, such as the renowned Ibn Al-Baitar, recognized its value as a premier medicinal food, deeming it especially cooling and restorative in fevers. Since then, the essential oil, Lemon's main constituent, has been cold-pressed by hand in Sicily for many centuries and, with more widespread production, has now become an important aromatic remedy. More, Lemon oil has by very definition become a classic in fragrance energetics by defining a whole category of aroma energy, the lemony energy. As it embodies pure expansive, uplifting and clarifying effects, we should remember that these play out not only in the psyche but also in the soma.

Lemon's physiological functions revolve around two basic themes: restoring and decongesting. Working on the central nervous system and the upper digestive organs in particular, Lemon has an important *restorative* action that distinguishes it

from most other citrus oils. It is the only citrus oil in fact that will treat **weakness of the nervous system, the liver and pancreas**, as well as the **vascular system**, specifically *toning* and *astringing* those with a major venous blood supply. Lemon at the same time will systematically *decongest* these organs if congested, particularly the liver, veins, capillaries and lymphatic ducts. Congestion of these fluid-filled organs is called 'damp' in energetic medicine and is an important form of stagnation at the fluid level. Lemon oil is for tissues that are slack, boggy, congested and swollen.

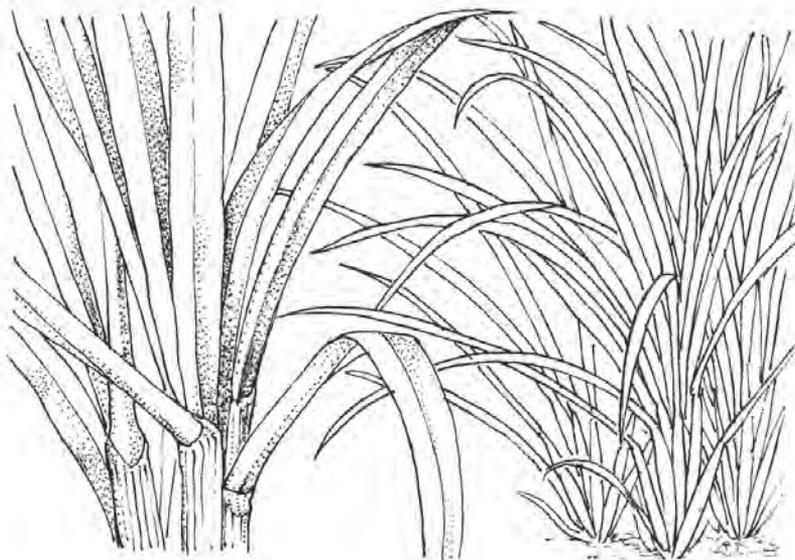
The result of these two physiological actions combined is one of *detoxification*. Lemon oil will scour and dissolve any obstruction in its *decongestant* path, whether blood clots, hyperviscous blood clusters, stuck or sticky lymphatic fluid, mineral deposits (arteriosclerosis), and so on. In short, we are looking at an important *detoxicant* and *alkalizing* aromatic for treating conditions of **metabolic toxicosis** and, to a lesser extent, **microbial toxicosis** – with all the pathological consequences that these entail, highlighted as they are by symptoms of **chronic pain, fatigue and inflammation**. In the gut in particular, Lemon's combined *astringent*, *restorative* and *antifungal* actions would serve hyperpermeability with fungal dysbiosis, a common condition in the West.

Although Lemon is a prime representative of the lemony category of fragrance, there is nothing sour or acidic about authentic, cold-pressed lemon oil. It is a sweet lemon aroma that is always smooth and round while being uplifting, clearing and lightening. The aromatic energy of Lemon creates space through light, providing perspective, clarity and detail. Lemon oil is very useful for those who feel confused or simply overwhelmed by their responsibilities; it 'rescues a mind bogged down by burdens, decisions and obstacles' (Mojay 1996). Not only conceptual but also challenging emotional issues can be clarified in its expansive light, allowing us to apply to them true discernment and timely foresight.

Like other oils high in monoterpenes, Lemon oil by inhalation is a good alternative to the fresh-pungent oils; it is less fatiguing to the nose. It is for the individual presenting mental sluggishness and disconnection from underlying mental fatigue. From a wider viewpoint, by enhancing the functions of the prefrontal cortex, Lemon can also go a long way to dig us out of the rut of routine, habit-bound, unimaginative patterns of thinking. By creating light and clarity in the psyche, it can help shrink gloomy, negative, depressive thoughts – which can be considered a mental kind of congested damp.

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# Lemongrass



**Botanical sources:** The herb of *Cymbopogon citratus* (DC.) Stapf, or *C. flexuosus* (Nees ex Steudel) J.F. Watson, or *C. pendulus* (Nees ex Steudel) J.F. Watson (Graminaceae/Poaceae – grass family)

**Other names:**

- *Cymbopogon citratus*: West Indies lemongrass; Verveine des Indes, Herbe citron (Fr), Zitronengras (Ge), Erba di limone (It), Serai dapur (Indonesian, Malay)
- *Cymbopogon flexuosus*: East India lemongrass, Malabar grass, Cochin grass, Fever grass, Herbe de malabar (Fr)
- *Cymbopogon pendulus*: Jammu lemongrass

**Description:** A mobile yellow to amber fluid with a grassy-green fragrance with mild lemony top notes

**Perfumery status:** A top note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh or partly dried cultivated grass, usually May through October

**1 kg oil yield from:** 40–90 kg of the fresh herb (an excellent yield)

**Production areas:** India, Sri Lanka, Indonesia, Madagascar, Egypt, South Africa, China, Guatemala

**Typical constituents:** Monoterpenoid aldehydes 60–86%, incl. citral 70–75% (incl. geranial 45–87%, neral 25–50%, citronellal) • sesquiterpenols (incl. farnesol 13%) • monoterpenes (incl. limonene 10%, myrcene, dipentene) • sesquiterpenoid aldehydes (incl. farnesal 3%, furfural) • monoterpenols (incl. terpineol, borneol, geraniol, nerol) • isovaleric aldehyde, n-decyclic aldehyde • esters (incl. valeric, caprylic, capric)

**Chance of adulteration:** Moderate, given its low price, but sometimes with May chang or Citronella oil or their citrals; or even with synthetic citrals

**Related oils:** The above three *Cymbopogon* species are the main ones that yield Lemongrass oil, and all can present minor chemotype variations. Other *Cymbopogon* species that are distilled for their essential oil include:

- **Palmarosa** (*Cymbopogon martini* var. *motia*) (see Palmarosa oil profile)
- **African bluegrass** (*Cymbopogon validus* (Stapf) Stapf ex Burt Davy), with its grassy-green, sweet aroma
- **Gingergrass** (*Cymbopogon martini* var. *sofia*), known as Sofia or Russa grass in India, with deep-green and mild spicy-gingery aroma; it is sometimes co-distilled with Lemongrass; it is especially high in geraniol (<65%) and counts perilla alcohol and carvone among its constituents
- **Ceylon citronella** (*Cymbopogon nardus* [L.] Rendle), with its lemony, deep grassy-green fragrance, contains up to 35% mixed monoterpenols (geraniol, citronellol, borneol) and relatively balanced percentages of aldehydes, esters and phenols
- **Java citronella** (*Cymbopogon winterianus* Jowitt) has a finer lemony-green fragrance because of the higher levels of citronellal (<50%)

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Somewhat skin-irritant, possibly sensitizing

### SPECIFIC SYMPTOMATOLOGY – *All applications*

**Mental fatigue**, poor concentration, **distraction**, mental and emotional confusion, **flat affect**, pessimism, **depression**, poor discernment and critical thinking, poor foresight and planning ability, **chronic digestive problems**, poor appetite, **chronic headaches**, general aches and pains, tense muscles, **swollen lymph glands**, tendency to fungal infections, **flabby devitalized or oily, congested skin**

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

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**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases prefrontal cortex functioning

**Fragrance category:** Top tone with green, lemony notes

**Indicated psychological disorders:** ADD, depression

PROMOTES EMOTIONAL RENEWAL

- All pathogenic (unproductive, stuck) emotions and distressed feelings in general, especially from past negative experiences

PROMOTES DISCERNMENT, INSIGHT AND FORESIGHT

- Poor discernment or evaluation with loss of insight, loss of critical thinking
- Loss of foresight, inability to plan, procrastination
- Loss of visualization or envisioning

PROMOTES ALERTNESS AND OPTIMISM

- Lack of focus and attention span, distraction, poor short-term memory
- Mental foginess, confusion, disorientation, disorganization
- Negative thinking, pessimism, flat affect, depression

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Nervous, cardiovascular, digestive, neuromuscular systems

**Essential functional and diagnostic indication:** Cools and calms hypertonic/tense and sthenic/hot conditions; decongests congestive/damp conditions

**Primarily relaxant and cooling:**

*nervous and neurocardiac relaxant: sedative, refrigerant, vasodilator:* hypertonic (tense) and sthenic/ (hot) conditions, esp. spasmodic, inflammatory, painful; hypertension, cardiac arrhythmia, palpitations, autonomic nervous dysregulation

*gastrointestinal relaxant: analgesic, spasmolytic, anti-inflammatory:* gastric pain and colic, IBS, inflammatory bowel disease, colitis

*muscle relaxant: analgesic, spasmolytic, anti-inflammatory:* muscle tension and pain, acute arthritic and rheumatic pain and inflammation, tendinitis, headache

*refrigerant, antipyretic, immunostimulant*: hot spells, fevers from infection, incl. food poisoning, acute gastroenteritis, dysentery

*anhydrotic*: excessive sweating

### **Primarily stimulant and decongestant:**

*digestive stimulant, carminative*: gastric and hepatobiliary deficiency with upper indigestion

*capillary and lymphatic decongestant*: lymphatic congestion, swollen glands, spleen enlargement, fibrocystic breasts

*metabolic and microbial detoxicant*: metabolic and microbial toxicosis in general, incl. intestinal dysbiosis

*galactagogue*: scanty or absent lactation

*antioxidant, antitumoral*: cancers (incl. skin cancer)

### **Antimicrobial actions:**

*strong broad-spectrum antifungal*: a wide range of fungal infections with *Candida*, *Fusarium*, *Epidermophyton*, *Trichophyton*, *Microsporum* and *Aspergillus niger/ochraceus* spp., incl. intestinal dysbiosis, athlete's foot, candidiasis, oral thrush, nail-bed fungus, tinea/ringworm, jock itch

*antibacterial*: bacterial infections, esp. gastrointestinal, intestinal bacterial dysbiosis; esp. with *E. coli*, *H. pylori*, *Staph. aureus*, *Proteus*

*antiviral*: viral infections, incl. HSV-1, cold sores, shingles

*anthelmintic*: intestinal parasites

**Note:** The following variants of Lemongrass oil are similar yet different in therapeutic profile.

- **Gingergrass** (*Cymbopogon martini* var. *sofia*) is more similar to Palmarosa than Lemongrass. The oil is a valuable *nervous* and *cardiac restorative* for chronic weak conditions such as neurasthenia (nervous exhaustion) and burnout, weak heart conditions of all kinds, and chronic disorders in general, which require heart support. It has also been used as a gentle *uterine restorative* or *tonic*, like Raspberry leaf in herbal medicine. Like Palmarosa also, Gingergrass is an excellent anti-*infective* remedy with broad *antifungal*, *antibacterial* and *antiviral* actions. It is used clinically mainly for infections of the upper respiratory, digestive, reproductive and urinary organs, including gastroenteritis, viremia and a host of gynaecological infections. In topical preparations it will treat skin infections such as dry and weeping forms of eczema.

- Both the **Sri Lanka** and **Java** varieties of **Citronella** (*Cymbopogon nardus* or *C. winterianus*), although similar lemony-green oils in many ways to Lemongrass, are especially valued for their *anti-inflammatory*, *spasmolytic*, *anti-infective* and *antipyretic* or *heat-clearing* properties. Both will treat spasmodic and inflammatory conditions such as acute spasmodic intestinal conditions (colic, colitis, etc.) and acute rheumatic-arthritic conditions. Both are also excellent *antifungal* and *antibacterial* agents for various infections, including febrile infections, and for treating hot spells, hot flushes, etc. Both are environmentally *disinfectant*, *deodorant* and *insect-repellent*, especially to a broad range of mosquito species. However, **Sri Lanka citronella** is deemed a stronger *spasmolytic* and highly effective for many types of pelvic pain, while Java citronella may be a stronger *anti-infective*. Caution: skin sensitization has been reported with both types of Citronella. Caution with internal use during pregnancy.

#### SYNERGISTIC COMBINATIONS

- Lemongrass + Lemon eucalyptus: *neuromuscular sedative/anti-inflammatory, analgesic* for acute arthritis
- Lemongrass + May chang: *gastrointestinal stimulant and relaxant* for many types of indigestion with pain and bloating

#### COMPLEMENTARY COMBINATIONS

- Lemongrass + Petitgrain: *autonomic nervous regulator and intestinal relaxant* for variable mood disorders and digestive conditions
- Lemongrass + Marjoram: *muscle relaxant* for muscle cramps and pain
- Lemongrass + Cajeput: *digestive stimulant/relaxant* for upper indigestion, stomach cramps
- Lemongrass + Atlas cedarwood: *lymphatic decongestant* for swollen glands
- Lemongrass + Juniper berry: *detoxicant* for metabolic and microbial toxicosis of all kinds, esp. with skin, rheumatic or digestive disorders
- Lemongrass + Clove: *antibacterial* for bacterial gastrointestinal infections
- Lemongrass + Geranium + Tea tree: *antifungal* for many types of fungal infections

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#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

**Skin care:** Oily skin type

*astringent, antiseptic*: tired, congested skin, enlarged pores; acne, boils, skin infections

*detoxicant, skin toner*: skin impurities and blemishes

*lymphatic stimulant*: swollen glands, lymph stagnation, edema

*connective tissue and epidermal restorative, antioxidant*: slack, devitalized skin, wrinkles, stretch marks, cellulite, weak elastin; bruising, sprains, strains, poor muscle tone

*antiperspirant*: excessive sweating, sweaty skin and scalp

*antifungal, antiparasitic*: fungal skin conditions, incl. athlete's foot; skin parasites

*analgesic*: muscle aches and pains

*strong deodorant, antiseptic*: topical and environmental

*insect repellent, insecticidal*: mosquitoes, lice, fleas, ticks (*ointment, cream*)

**Precautions:** With topical use of Lemongrass oil, watch out for any possible signs of skin sensitization if the oil is used more than once in massage or in a liniment or facial preparation. Avoid use on sensitive or damaged skin and do not exceed the dilutions below. Use with caution or avoid internal use with prostate hyperplasia present.

**Preparations:**

- Diffusor: 2–3 drops in water
- Massage oil: 2–3% dilution in lotion or vegetable oil
- Liniment: 3–6% dilution in a vegetable carrier oil after doing a patch test
- Foot bath: 3–5 drops for tired, achey, heavy feet and legs; for varicose veins, swollen ankles
- Gel cap: 2–3 drops with olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Lemony, green

**Movement:** Expanding, circulating

**Warmth:** Cool to cold

**Meridian tropism:** Liver, Spleen, Heart

**Five-Element affinity:** Wood, Fire

**Essential function:** To regulate the Qi, clear heat and harmonize the Shen

### 1. Spreads Liver Qi, relaxes constraint and harmonizes the Shen

- **Liver Qi constraint turning into fire**, with irritability, moodiness, anger, restlessness, agitated depression:  
Petitgrain/Blue tansy/German camomile

### 2. Regulates the Qi in the Middle Warmer and relieves distension

- **Stomach-Spleen Qi stagnation** with indigestion, flatulence, epigastric bloating and pain, nausea, appetite loss:  
Peppermint/Black pepper/Cardamom

### 3. Clears heat, dries damp and calms the Shen

- **Large Intestine damp-heat** with acute painful diarrhoea, colic, tenesmus:  
May chang/Lavender/Rose
- **Shaoyang-stage heat with Shen agitation**, with alternating fever and chills:  
Basil/Eucalyptus (blue gum)/Ylang ylang no. 1/Laurel
- **Yangming-stage heat with Shen agitation**, with fever, anxiety, restlessness, insomnia, rapid forceful pulse:  
Lemon/Lavender/Melissa

### 4. Clears wind-damp-heat and relieves pain

- **Wind-damp-heat obstruction** with muscle and joint pain:  
Lemon eucalyptus/Blue tansy/Marjoram

#### REMARKS

A common pan-tropical grass, Lemongrass is widely cultivated for its content in citral, an important perfumery material. Meanwhile, aromatherapists in England have long made use of the oil's enlivening, refreshing effect when inhaled. Starting from the indigenous uses of this medicinal plant, French practitioners in turn have widely extended the clinical applications of this aromatic oil in the field of physiological medicine.

The most common use of Lemongrass as a traditional remedy worldwide is for the reduction of **fever and inflammation** of all kinds. Its *antibacterial* action dovetails nicely here with its *antipyretic* and *anti-inflammatory* actions, making this a good choice for acute infections such as food poisoning and dysentery. However, when absorbed internally, the essential oil is actually an important cooling, relaxing oil in general. It

has the ability to address **hot, tense conditions**, especially when seen in individuals who run hot and tense from urban stress. Lemongrass is relaxant to both smooth and striated muscles and hence is used in a variety of conditions involving spasm, pain and inflammation. We have its high content in monoterpenoid aldehydes to thank for these actions, while the *relaxant* and *analgesic* effects most likely arise from its content in alcohols. Noteworthy also is the researched antitumoral action driven by its constituents geraniol, citral and d-limonene.

In terms of infection, Lemongrass is an important aldehyde-based aromatic that shines with a very broad *antifungal* effect used for both **internal and topical fungal infections**. Its citral content has also shown activity in *H. pylori* infections, for instance.

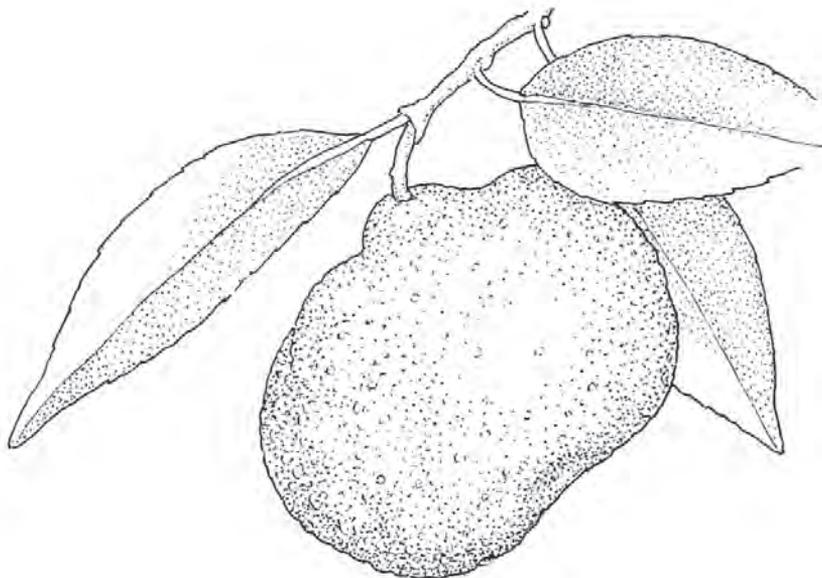
There is another side to this valuable oil that has received less attention, however: its *stimulant-decongestant* effect. By working on metabolic, connective tissue and lymphatic-capillary levels, and by reducing bacterial load, Lemongrass is an effective *systemic detoxifying* remedy. It performs especially well in that grey zone lying between **intestinal dysbiosis and infection**, and is especially useful for those whose dysbiotic terrain has already moved toward creating an actual infection. Here it acts much like the non-aromatic remedy Dandelion root (*Taraxacum officinale*). Lemongrass' *antiparasitic* action is just a finishing touch to its comprehensive *detoxicant* action on the intestines.

Green and lemony are the fragrance categories to which Lemongrass belongs. When inhaled in low amounts, green oils can induce **renewal and transformation** on the psyche. Just as it stimulates the elimination pathways of physical toxins, so Lemongrass can help resolve day-to-day **distressed feelings and pathogenic emotions**, especially when these are underpinned by pessimism and mental depression. This process in turn can aid producing integration of past negative experiences, wrongs and injuries. It can open the door to new, positive experiences, which Lemongrass with its lemony aroma then propels forward, all the while promoting **clarity, discernment and optimism**. On the purely mental level, this classic lemony-green oil always promotes cool, clear thinking and relaxed focus and concentration, never overfocus or intellectual thinking like the more sharp, lemony monoterpene-dominant oils.

As an emblem of transformation and clarification, Lemongrass creates an articulated movement from the past to the future, and from the impure to the pure. As such, in today's cultural setting, this oil can steer us deftly from cynicism to optimism and from confusion to clarity. It can be our ally in allowing our aspirations to clearly emerge.

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# Mandarin



**Botanical source:** The rind of *Citrus reticulata* Blanco var. *mandarine* et al. (Rutaceae – citrus family)

**Other names:** European mandarin; Mandarine (Fr, Ge), Mandarino (It), Mandarina (Sp)

**Appearance:** A mobile bright-orange fluid with a warm, dry fruity-sweet, somewhat floral odour; occasionally a ‘fishy’ amine note is also present

**Perfumery status:** A head note of moderate intensity and poor persistence

**Extraction:** Cold expression of the bruised fresh mandarin rinds, January through March

**1 kg oil yield from:** 100–150 kg of the fresh fruit rinds (a good yield)

**Production areas:** Italy, Israel, South Africa, Argentina, Brazil

There are three types of Mandarin oil generally available, the **Green**, **Yellow** and **Red mandarin** oil, depending on the stage of maturity of the fruits at the time of picking. Green and Yellow mandarin oil have a drier, more tart aroma, while the Red mandarin is sweeter and rounder.

**Typical constituents:** Monoterpenes (incl. limonene 65–77%, terpinene up to 21%, alpha-pinene 2%, sabinene, myrcene, cymene, phellandrene) • monoterpenols (incl. linalool 1–5%, citronellol, terpineol, geraniol) • esters methyl-anthranilate, benzyl acetate aldehydes 1% (incl. decanal, sinensal, perillaldehyde, octanal) • [non-volatile fraction:] flavonoids, carotenoids, steroids, coumarins, furanocoumarins

**Chance of adulteration:** Moderate, typically with other related citrus oils, especially the cheaper Orange, Tangerine and Clementine oils

**Related oils:** The citrus family oils in general, e.g. Sweet orange, Lemon, Grapefruit, Lime, etc., as well as specific variants on Mandarin oil in particular, especially:

- **Tangerine** (*Citrus x tangerina* Tanaka), with a fresh fruity-sweet aroma
- **Clementine** (*Citrus reticulata*), with an aroma similar to Tangerine oil

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing

Mandarin oil may be moderately skin sensitizing if it contains oxidized monoterpenes caused by poor storage.

### SPECIFIC SYMPTOMATOLOGY – All applications

Emotional disposition, **mood swings**, irritability, frustration, **anger**, nervous tension, depression with anxiety, **guilt**, morbid thoughts, low energy in the morning, **stress-related insomnia**, palpitations, **indigestion and bloating worse with stress**, bad breath, oily skin

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulation conditions

**Possible brain dynamics:** Reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with sweet and lemony notes

**Indicated psychological disorders:** Bipolar disorder, ADHD, minor depression

### PROMOTES EMOTIONAL STABILITY

- Irritability, moodiness, frustration, mood swings
- Emotional instability with negative (distressed) emotions, guilt
- Mental/emotional or thinking/feeling conflict

**PROMOTES OPTIMISM AND JOY**

- Poor discernment with loss of insight or foresight
- Negative or morbid thinking, negative outlook
- Depression, esp. with anxiety; melancholia

**PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository***

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**Tropism:** Nervous, digestive, cardiovascular systems**Essential functional and diagnostic indication:** Balances dysregulated conditions and calms hypertonic/tense conditions**Primarily relaxant:***nervous sedative (hypnotic), SNS inhibitor:* hypertonic (tense) conditions with nervous tension, agitation, insomnia, anxiety; all stress-related conditions in general*neurocardiac relaxant:* palpitations, extrasystoles, hypertension; stress-related heart conditions*mild gastric spasmolytic:* hiccups, stomach/epigastric pain*antiemetic:* nausea, vomiting**Primarily stimulant:***biliary and gastric stimulant (cholagogue), carminative, laxative:* atonic biliary and gastric dyspepsia, epigastric bloating, constipation, appetite loss*antifungal***SYNERGISTIC COMBINATIONS**

- Mandarin + Bergamot: *nervous sedative* for tension, insomnia, agitation; all acute stress-related conditions
- Mandarin + Bergamot: *biliary and gastric stimulant* for upper indigestion with bloating, pain, emotional upset, mood swings

**COMPLEMENTARY COMBINATIONS**

- Mandarin + Lavender: *nervous sedative* for tension, insomnia, palpitations and all stress-related conditions in general, esp. chronic
- Mandarin + Petitgrain: *nervous relaxant and restorative* in chronic stress-related conditions, especially with digestive and mood disorders

- Mandarin + Fennel/Basil: *biliary and gastric stimulant* for upper indigestion with pain, bloating, nausea
- Mandarin + Ylang ylang no. 1: *neurocardiac relaxant* for palpitations, tachycardia; all acute stress-related heart conditions in general

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TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Oily, congested skin

*dermal lipolytic:* acne, boils, spots, verrucas (plantar warts), vitiligo

*misc.:* scars, stretch marks

**Precautions:** None, except the importance of using non-oxidized oil in skin care. Note that Mandarin oil does not increase skin photosensitivity.

**Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 2–5% dilution in vegetable oil
- Liniment: 2–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Sweet, lemony

**Movement:** Circulating, expanding

**Warmth:** Neutral

**Meridian tropism:** Liver, Heart, Stomach

**Five-Element affinity:** Wood, Earth

**Essential function:** To regulate the Qi and harmonize the Shen

### 1. Spreads Liver Qi, relaxes constraint and harmonizes the Shen

- **Liver Qi constraint with Shen disharmony**, with distraction, irritability, nervous tension, mood swings, emotional behaviour:  
Bergamot/Grapefruit/Lavender
- **Liver and Heart Qi constraint with Shen disharmony**, with distraction, restlessness, anxiety, mood swings, irritability, insomnia, palpitations:  
Bergamot/Blue tansy/Marjoram/Jasmine sambac

## 2. Regulates the Qi and harmonizes the Middle Warmer

- **Liver-Stomach disharmony** with indigestion, epigastric fullness, nausea, hiccups:  
Spearmint/Peppermint/Fennel
- **Stomach-Spleen Qi stagnation** with indigestion, bloating, appetite loss, nausea, vomiting:  
Spearmint/Peppermint/May chang

### REMARKS

A far cry from its botanical origins in central China, Mandarin oil is now produced in numerous countries worldwide that are blessed with a warm, generous Mediterranean climate. Like all citrus oils, today it is mostly a by-product of the large-scale soft drinks flavouring industry. The genuine cold-pressed oil is extensively used in therapeutic settings, however, with treatment that hinges mainly around its ability to balance mind and feelings in general. In this respect, Mandarin is similar to Bergamot and somewhat interchangeable with it, but with interesting differences.

On the psychological level, where inhalation methods are important for accessing the deep limbic system, the elegantly citrus-sweet Mandarin, like Bergamot, has a deeply stabilizing and calming effect. This will benefit states of **emotional instability** with irritability, mood swings, and so on. Mandarin essentially addresses conditions of **dysregulation** with its emotionally engaging, warm aroma. This condition in energetic medicine is one of constrained or stagnant Qi.

On the physiological level, when the oil is absorbed in physiological doses, Mandarin is used less as a *regulator* than as a *relaxant* with a SNS-inhibiting action. This is a classic aromatic for **moderate tense conditions** with irritability, insomnia, etc., as well as for **stress-related conditions** when they affect the solar plexus and the heart. On biliary and gastric secretions, Mandarin acts as a good *stimulant* and time-tested *carminative*, just like the Mandarin peel itself that is used in both traditional Western and Chinese herbal medicine. Chinese medicine uses it here to regulate stagnant Qi in the Middle Warmer.

Where Mandarin really scores over Bergamot, however, is with its uplifting, playful energy. Its ability to infuse light to **dark, negative, hardened or morbid thoughts**, especially in individuals presenting chronic guilt and self-deprecation, is unsurpassed. Depression with anxiety is another related condition that will benefit from this oil's combined uplifting and calming action. The unique gift of Mandarin lies perhaps in its ability to lighten, open and soften the emotional heart and help reveal the joy buried within.

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# Marjoram



**Botanical source:** The herb of *Origanum maiorana* L. (Lamiaceae/Labiatae – Lipflower family)

**Other names:** Sweet marjoram, French marjoram; Marjolaine (Fr), Majoran (Ge), Maggiorana (It), Mejorana (Sp)

**Appearance:** A pale yellow liquid with a fresh-pungent, sweet-herbaceous odour with mild woody undertones and lemony overtones

**Perfumery status:** A heart note of high intensity and medium persistence

**Extraction:** Steam distillation of the fresh herb in flower, usually in August and September

**1 kg oil yield from:** 160–200 kg of the fresh herb (a moderate yield)

**Production areas:** Egypt, Tunisia, Hungary, France

**Typical constituents:** Monoterpenols 50% (incl. terpinen-4-ol 14–24%, alpha-terpineol 7–16%, cis-thujanol 12%, trans-thujanol 1–5%, linalool 2–10%, menthenol, piperitol) • monoterpenes 40% (incl. alpha-terpinene 14–19%, gamma-terpinene 15%, sabinene 9%, myrcene <9%, cymene, terpinolene, pinenes, ocimene, cadinene, carene,

phellandrene, limonene) • aldehyde citral • esters (incl. geranyl acetate 1–8%, terpenyl acetate, linalyl acetate) • trans- and cis-sabinene hydrate

**Chance of adulteration:** Fair, especially with other cheaper similar essential oils such as Ajowan, Summer savoury, Tea tree, Oregano and Thyme

**Related oils:** Many plants of the *Origanum* genus yield essential oils: these are discussed under Oregano, as they belong to the more warming, stimulating group of *Origanum* oils, to which Marjoram does not belong

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Irritability**, moodiness, **emotional confusion with negative outlook**, distraction, agitated depression, **anxiety**, **restlessness**, tension, insomnia, **palpitations**, chest pains, **severe cough**, headaches, spells of dizziness, abdominal pain, urinary difficulty and irritation, **urinary pain**, urinary dribbling, **severe menstrual cramps**, sexual overstimulation, convulsions, nervous breakdown, all symptoms worse with stress

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulation conditions; relaxant in overstimulation conditions

**Possible brain dynamics:** Reduces deep limbic system and basal ganglia hyperfunctioning

**Fragrance category:** Middle tone with green, sweet, pungent notes

**Indicated psychological disorders:** Hypomania, bipolar disorder, ADHD, depression, phobias, panic attacks, PTSD

### PROMOTES EMOTIONAL STABILITY AND RENEWAL

- Irritability, moodiness
- Emotional conflict or instability with confusion, distraction
- Feeling-sensing disconnection and conflict
- All pathogenic (stuck) emotions and distressed feelings in general

**CALMS THE MIND AND PROMOTES RELAXATION**

- Nervous tension, restlessness, anxiety, emotional tension, fear, panic, phobia
- Anxiety with agitation or depression

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment*

**Tropism:** Nervous, muscular, digestive, urinary, respiratory systems

**Essential functional and diagnostic indication:** Relaxes hypertonic/tense conditions and restores asthenic conditions

**Primarily relaxant:**

*systemic nervous relaxant, SNS inhibitor, vagotonic:* hypertonic (tense) conditions with nervous tension; acute stress-related conditions in general

*strong analgesic, spasmolytic:* a large range of acute spasmodic and pain conditions of all types, of both smooth and striated muscles; incl. tension and vascular headaches, incl. migraine; acute and chronic pain conditions

- *strong cerebral sedative, hypnotic:* insomnia, anxiety, agitation, PMS, psychosis
- *strong neuromuscular relaxant, anticonvulsant:* muscle spasms and pain, arthralgia, neuralgia, myalgia, sciatica, plantar fasciitis, toothache, headache; paralysis, epileptic seizures, dizziness, vertigo, coma
- *strong cardiovascular relaxant (vasodilator, hypotensive):* palpitations, tachycardia, arrhythmia, precordial pain, hypertension, chilblains
- *respiratory relaxant (bronchospasmolytic, mild anti-inflammatory):* asthma (all types), whooping cough, croup, all spasmodic and nervous coughs
- *gastrointestinal relaxant:* nervous indigestion, colic, IBS, hyperchlorhydria
- *urinary relaxant:* strangury, neurogenic bladder with dysuria
- *uterine relaxant:* dysmenorrhoea with severe cramps

*sexual sedative, anaphrodisiac:* sexual overstimulation, nymphomania, satyriasis

*antipyretic:* fevers

*hypothyroidal:* functional hyperthyroid conditions

**Primarily restorative and stimulant:**

*nervous and cerebral restorative:* neurasthenia from chronic SNS excess; nervous breakdown, chronic stress-related conditions; agitated depression, mental/emotional exhaustion or burnout

*diuretic, antilithic*: urinary irritation, oliguria, urinary stones

*emmenagogue*: amenorrhoea

*antioxidant*

### **Antimicrobial actions:**

*antibacterial*: bacterial infections, incl. with *Pseudomonas a.*, esp. respiratory, incl. rhinitis, sinusitis, otitis, pharyngitis, bronchitis; and digestive infections, incl. aphthous sores, gastritis, enteritis with diarrhoea

*moderate antifungal*: mild fungal infections

### SYNERGISTIC COMBINATIONS

- Marjoram + Peppermint: *spasmolytic* for stress-related gastrointestinal spasms, pain, colic, IBS

### COMPLEMENTARY COMBINATIONS

- Marjoram + Lavender: *nervous and cardiac sedative* for all acute stress-related conditions with anxiety, insomnia, agitation, palpitations, etc.
- Marjoram + Neroli: *nervous sedative and restorative, SNS inhibitor* in chronic stress- or disease-related hyperactive conditions with neurasthenia, debility
- Marjoram + Clary sage: *spasmolytic, analgesic and nervous sedative* for acute painful spasmodic dysmenorrhoea, acute PMS with agitation
- Marjoram + Roman camomile: *spasmolytic, analgesic, hypnotic* in many types of acute spasmodic conditions with pain, anxiety; for all severe acute hypertonic conditions
- Marjoram + Cypress: *antitussive* for spasmodic cough, esp. of emotional origin
- Marjoram + Ylang ylang: *hypotensive, vasodilator* for hypertension, tachycardia
- Marjoram + Blue tansy/German camomile: *bronchodilator and anti-inflammatory* in all asthmatic conditions, incl. neurogenic asthma
- Marjoram + Spearmint: *urinary relaxant* for strangury, neurogenic bladder with dysuria

### TOPICAL – Compress, liniment, lotion and other cosmetic preparations

**Skin care:** Oily skin type

*detergent, anti-inflammatory*: skin impurities, acne, eczema

*analgesic, spasmolytic*: muscle and joint aches, pains, cramps and spasms; sciatica and other neuralgias, headache, sprains, strains, bruises, chilblains

**Precautions:** Marjoram oil is contraindicated during pregnancy because of its uterine stimulant action.

**Preparations:**

- Diffusor: 2–3 drops in water
- Massage oil: 2–5% dilution in vegetable oil
- Liniment: 2–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Green, sweet, pungent

**Movement:** Circulating

**Warmth:** Neutral to cool

**Meridian tropism:** Liver, Heart, Kidney, Spleen

**Five-Element affinity:** Wood, Fire

**Essential function:** To activate the Qi, calm the Liver and harmonize the Shen

**1. Activates the Qi, relaxes constraint, harmonizes the Shen and relieves pain**

- **Qi constraint turning into heat with Shen disharmony**, with irritability, restlessness, muscle tension and pain, mood swings, emotive behaviour:  
Petitgrain/Blue tansy/German camomile/Ylang ylang no. 1
- **Liver and Heart Qi constraint with Shen disharmony**, with restlessness, insomnia, palpitations, irritability, mood swings, anxiety:  
Mandarin/Blue tansy/Ylang ylang no. 1
- **Liver-Spleen disharmony** with stress, abdominal pain, cramps, flatulence, bloating:  
Fennel/Peppermint/Roman camomile
- **Bladder Qi constraint** with irritated, difficult, painful, dripping urination:  
Fennel/Carrot seed/Cypress

## 2. Calms the Liver, descends the Yang, extinguishes wind and relieves spasms

- **Liver Yang rising** with headache, tinnitus, dizziness, muscle tension:  
Clary sage/Lavender/Neroli
- **Internal Liver wind** with tremors, muscle spasms, seizures:  
Vetiver/Roman camomile/Laurel
- **Wind-phlegm obstruction** with seizures with spasms, paralysis:  
Blue tansy/Ylang ylang no. 1

## 3. Descends Lung Qi, opens the chest and relieves wheezing

- **Lung Qi accumulation** with wheezing, coughing, chest distension, anxiety:  
Hyssop/Blue tansy/Sage

## 4. Activates Qi and Blood, breaks up stagnation and promotes menstruation

- **Lower Warmer Qi and Blood stagnation** with severe menstrual cramps, PMS, late periods, amenorrhoea:  
Clary sage/Rosemary/Angelica root/Nutmeg

## 5. Settles and clarifies the Heart, clears empty heat and calms the Shen

- **Heart Yin deficiency/Heart fire with Shen agitation**, with anxiety, insomnia, overstimulation, palpitations, hot spells:  
May chang/Lime/Patchouli/Helichrysum
- **Heart and Kidney Yin deficiency with empty heat and Shen agitation**, with insomnia, palpitations, hot spells, sexual overstimulation, wet dreams:  
Patchouli/Vetiver/Melissa

### REMARKS

Marjoram is not only the well-known herb from the garden and kitchen in the lipflower (mint) family, but also a traditional European remedy with a long history of medicinal usage dating back to Egyptian times. Doctors of traditional Greek medicine esteemed this remedy highly, especially at the time of Galen during the Roman Empire. Its essential oil has been produced since the mid-19th century and has become an important *relaxant* remedy from both the physiological and psychological perspective.

Intensely rich, herbaceous and yet refreshing in aroma, Marjoram is extremely versatile for treating a wide spectrum of tense or hypertonic conditions. It is one of

several mid-tone oils that possess a green, calming fragrance energy, including Lavender and Clary sage, among others. Marjoram's reliably effective *relaxant*, *spasmolytic* and *analgesic* actions addresses **tense conditions** marked by **spasms**, **pain** and **general nervous tension** involving any of the smooth-muscle organs. Countless herbal and essential oil formulas have been written in European herbal materia medicas over the centuries with Marjoram as king ingredient for treating severe tense conditions ranging from acute asthma and tachycardia to intestinal colic, strangury and dysmenorrhoea. These conditions in Chinese medicine would come under the rubric of constrained Qi syndromes of various kinds. Like Clary sage, this oil is also a dependable cerebral sedative for acute episodes of **mental agitation**, whatever the cause, and never fails to procure rest and sleep.

Marjoram's high levels of monoterpenols, supported by the synergistic presence of esters, go a long way to explain its *relaxant* actions. However, it is interesting to note the oil's almost equally high assortment of monoterpenes. Marjoram is correspondingly also fresh-pungent and uplifting in terms of fragrance energetics. The feeling of warmth and elation for life that it produces has been variously expressed by different cultures down the ages, pointing to the dual nature of Marjoram that has fascinated herbal medicine practitioners throughout the ages.

On one hand *relaxant and cooling*, Marjoram addresses tense conditions that tend to heat, as seen in the constrained Qi syndromes that turn into heat, as well as clearing empty heat and Shen agitation from Yin deficiency. On the other hand somewhat *restorative* with its fresh and sweet fragrance energy (monoterpenes and their alcohols), Marjoram like Lavender itself will also treat chronic Yin deficiency conditions. Its secondary restorative effect plays out mainly in the central nervous system. Its main indication here is **neurasthenic conditions** resulting from chronic sympathetic nervous hyperfunctioning, as in anxiety with fatigue, agitated depression and nervous breakdown. In being both *relaxant* and *restorative* at the same time, Marjoram is very similar to Valerian root (*Valeriana officinalis*), another important Western botanical remedy.

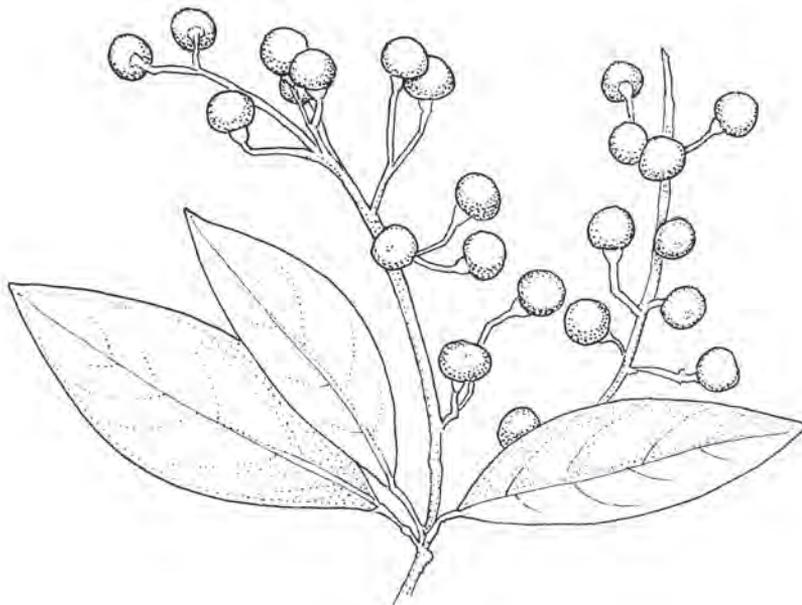
What does Marjoram's green, somewhat lemony and marked pungent qualities imply for its psychological applications? Primarily, the potential for supporting **emotional renewal**. It is interesting to note, in this connection, that in ancient Egypt Marjoram was associated with Osiris, the god of constant death and rebirth inherent in all of life. Significantly, emotional rejuvenation results mainly from one's ability to let go of long-held distressed emotions. The process of grieving for personal loss, for instance, is traditionally often supported with Marjoram, as with Cypress. In this context, we can interpret this as a telling traditional practice.

For helping one release and resolve stuck, festering emotions then, Marjoram is one of the best aromatic remedies. It performs this emotional renewal specifically by supporting us to regroup our true emotional resources, promote a resolution of conflicts and sort out contradictions.

Through this oil's gift of profound emotional transformation can arise a refreshed, renewed emotional strength and stability. For this reason, Marjoram can address issues of deep-seated emotional conflict and instability at their root, in a way similar to Helichrysum. Ultimately, Marjoram can potentially help an individual establish vibrant, authentic emotional truths rather than superficial feelings and desires underpinned by sometimes unconscious currents of conflict.

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# May Chang



**Botanical source:** The fruit of *Litsea cubeba* (Lour.) Persoon (syn. *Litsea citrata* Blume) (Lauraceae – laurel family)

**Other names:** Pheasant pepper, Mountain pepper, Aromatic litsea; Myü Tsam Fa (Cantonese), Bi Cheng Qie (Mandarin), Medang Ayer (Malay), Kranglean (Javanese)

**Appearance:** A mobile pale yellow fluid with an intense fresh, lemony-green, fruity-sweet odour

**Perfumery status:** A head note of high intensity and poor persistence

**Extraction:** Steam distillation of the dried berries in July and September

**1 kg oil yield from:** 40–80 kg of the berries (an excellent yield)

**Production areas:** Vietnam, South China, Taiwan, Java

**Typical constituents:** Monoterpenoid aldehydes, incl. citral <74% (incl. geranial 25–40%, neral 26–34%), citronnellal 2–10% • monoterpenes (incl. limonene 8–15%, alpha-pinene 1%, beta-pinene, camphene, sabinene, myrcene) • monoterpenols (incl. linalool 2%, geraniol 1%) • 1,8-cineole 2% • ketones (incl. 6-methyl-5-hepten-2-one) • esters

**Chance of adulteration:** Moderate, as the yield is very good; the most common adulterant is synthetic nature-identical citral

**Related oils:** None. From the fragrance perspective, however, May chang oil is similar to Lemongrass and Melissa oil (see related oil profiles), but with more fruity and less herbaceous-green notes. Their chemical profile is also similar, and their clinical functions overlap to quite an extent as well.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant but very skin-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Mental fatigue**, poor concentration, **distraction**, mental confusion, disorientation, **flat affect**, pessimism, **depression**, poor judgment and critical thinking, poor foresight and planning ability, **chronic digestive problems with indigestion**, digestive symptoms worse with stress, poor appetite, **chronic headaches**, general aches and pains, tense muscles, tendency to fungal infections, **flabby devitalized skin**

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases prefrontal cortex functioning

**Fragrance category:** Top tone with lemony, green notes

**Indicated psychological disorders:** ADD, depression

#### PROMOTES EMOTIONAL RENEWAL

- All pathogenic (unproductive, stuck) emotions and distressed feelings in general, especially from past negative experiences

#### PROMOTES DISCERNMENT, INSIGHT AND FORESIGHT

- Poor discernment or evaluation with loss of insight, loss of critical thinking
- Loss of foresight, inability to plan, procrastination
- Loss of visualization or envisioning

**PROMOTES ALERTNESS AND OPTIMISM**

- Lack of focus and attention span, distraction, poor short-term memory
- Mental foginess, confusion, disorientation, disorganization
- Negative thinking, pessimism, flat affect, depression

**PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment***

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**Tropism:** Nervous, digestive, lymphatic, circulatory systems**Essential functional and diagnostic indication:** Cools and calms hypertonic/tense and sthenic/hot conditions; decongests congestive conditions**Primarily relaxant and cooling:***nervous and neurocardiac relaxant: sedative, refrigerant, vasodilator:* hypertonic (tense) and sthenic (hot) conditions, esp. with spasms, inflammation, pain; hypertension, cardiac arrhythmia, tachycardia, palpitations, autonomic nervous dysregulation*gastrointestinal sedative/relaxant: analgesic, spasmolytic, anti-inflammatory:* gastric pain and colic, IBS, inflammatory bowel disease, colitis*antiemetic:* nausea, vomiting*muscle relaxant: analgesic, spasmolytic, anti-inflammatory:* muscle tension and pain, acute arthritic and rheumatic pain and inflammation, tendinitis, headaches*refrigerant, antipyretic:* hot spells, hot flashes, fevers*anhydrotic:* excessive sweating**Primarily stimulant and decongestant:***digestive stimulant, stomachic, aperitive, carminative:* upper gastric deficiency with dyspepsia, flatulence, appetite loss*capillary and lymphatic decongestant:* lymphatic congestion, swollen glands, fibrocystic breasts, ovarian cysts, spleen enlargement*diuretic, metabolic and microbial detoxicant:* metabolic and microbial toxicosis in general, incl. intestinal dysbiosis*oestrogenic(?)**antitumoral(?)*

**Antimicrobial actions:**

**antiviral:** viral infections, incl. *Herpes simplex*, *Molluscum c.*, incl. shingles, cold sores, genital herpes

**antifungal:** fungal infections with *Aspergillus* spp., incl. aspergillosis; candidiasis

**antibacterial:** bacterial infections, incl. with *Staph. aureus*, *E. coli*, *H. pylori*, peptic ulcer

**SYNERGISTIC COMBINATIONS**

- May chang + Lemongrass: *nervous and cardiovascular relaxant* for anxiety, insomnia, hypertension, vascular spasms
- May chang + Lemongrass: *lymphatic decongestant, diuretic and detoxicant* for swollen lymph glands, fibrocystic breasts, general metabolic or microbial toxicosis
- May chang + Lemongrass + Lavender: *antipyretic, detoxicant* for fevers in general, esp. in bacterial infections
- May chang + Lemon eucalyptus: *anti-inflammatory and analgesic* for acute arthritic and rheumatic conditions; for acute urinary inflammation and pain

**COMPLEMENTARY COMBINATIONS**

- May chang + Ylang ylang no. 1: *cardiac relaxant* for tachycardia, arrhythmia
- May chang + Basil: *intestinal relaxant and analgesic* for intestinal colic and pain
- May chang + German camomile: *anti-inflammatory and spasmolytic* in all inflammatory and spasmodic gastrointestinal disorders
- May chang + Fennel: *digestive stimulant and carminative* for flatulence, bloating, appetite loss
- May chang + Spike lavender/Frankincense: *analgesic* for many types of aches and pains, esp. of muscles, joints, chest, abdomen

**TOPICAL – Compress, liniment, lotion and other cosmetic preparations****Skin care:** Oily skin type

**astrigent, antiseptic:** tired, congested skin, enlarged pores; acne, boils, skin infections

**detoxicant:** skin impurities and blemishes

**lymphatic stimulant decongestant:** swollen glands, lymph stagnation, edema

**anti-inflammatory:** inflammations, incl. acne, boils, dermatitis

*antiperspirant*: excessive sweating, sweaty skin and scalp

*strong deodorant, antiseptic*: topical and environmental

*insect repellent, insecticidal*: mosquitoes, lice, fleas, ticks (*cream, ointment*)

**Precautions:** With topical use of May chang, watch out for any possible signs of skin sensitization if the oil is used more than once in massage or in a liniment or facial preparation. Avoid all use on sensitive or damaged skin and do not exceed the dilutions below. Use with caution or simply avoid with prostate hyperplasia present. Avoid during the first trimester of pregnancy.

**Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 2–3% dilution in vegetable oil
- Liniment: 3–6% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Lemony, green

**Movement:** Expanding, circulating

**Warmth:** Cool to cold

**Meridian tropism:** Liver, Heart, Spleen, Stomach

**Five-Element affinity:** Fire, Wood

**Essential function:** To regulate the Qi, clear heat and harmonize the Shen

### 1. Spreads Liver Qi, relaxes constraint and harmonizes the Shen

- **Liver Qi stagnation turning into fire**, with moodiness, irritability, anger, restlessness, agitated depression:  
Blue tansy/Petitgrain/German camomile

### 2. Regulates the Qi, harmonizes the Middle Warmer and relieves distension

- **Stomach-Spleen Qi stagnation** with indigestion, flatulence, epigastric bloating and pain, nausea, appetite loss:  
Spearmint/Peppermint/Black pepper

### 3. Clears heat, cools the Heart and Liver, and calms the Shen

- **Shen agitation**, especially with **heat** or **Qi stagnation**, with irritability, overstimulation, overexcitement, anger:  
Lavender/Marjoram/Spikenard
- **Heart fire** with agitation, talkativeness, intense emotions, insomnia, palpitations:  
Lavender/Neroli/Marjoram
- **Liver fire with Shen agitation**, with headache, red complexion, anger, possible fever:  
Lemongrass/Marjoram/Melissa

### 4. Clears heat, dries damp and calms the Shen

- **Large Intestine damp-heat** with acute painful diarrhoea, colic, tenesmus:  
Lemongrass/Lavender/Rose
- **Shaoyang-stage heat with Shen agitation**, with alternating fever and chills:  
Basil/Eucalyptus (blue gum)/Ylang ylang no. 1/Laurel
- **Yangming-stage heat with Shen agitation**, with fever, anxiety, restlessness, insomnia, rapid, forceful pulse:Lemon/Lavender/Melissa

### 5. Clears wind-damp-heat and relieves pain

- **Wind-damp-heat obstruction** with muscle and joint pain:  
Lemon eucalyptus/Blue tansy/Marjoram

#### REMARKS

The aromatic mountain or pheasant pepper tree in the laurel family is native to Taiwan, South China and Indonesia. Its lemony, spicy berries that yield a peppery spice in traditional cooking, especially by the Atayal aboriginal tribe in Taiwan. The berries' distilled essential oil is used in huge amounts in the soft drink and perfume industry for its citral content. Today, it has become the significant aromatic remedy known in essential oil therapy circles as May chang.

According to our personal research in South China, the English name 'May chang' was coined by a Chinese person as a derivation of its Cantonese name, Myu Tsam Fa, which literally means 'May (the month) Tsam (a surname) flower.' Clusters of the tree's snow white blossoms do in fact flower abundantly in spring. They may well embody the instinctive forces of renewal that begin stirring at that time of year.

By stimulating the pathways of elimination through the capillaries, lymphatics, kidneys and bladder, May chang oil exerts a good systemic *detoxicant* action on both

metabolic and microbial toxins. The theme of spring cleansing is apparent here. Swollen glands and fibrocystic breasts are just two conditions that respond brilliantly to its *decongestant* effect, thereby reducing swelling and breaking up nodules. On a microbial level, with its high citral content, May chang is able to reduce any **viral, fungal or bacterial load** that may be present and is therefore clinically especially valuable for the tail-end of bacterial infections when mobilizing toxins becomes a high priority.

With infections presenting high fever, pain and agitation, May chang is invaluable not only for its *anti-infective* actions but also for its ability to clear heat and reduce restlessness and pain. Like Lemongrass oil, this aromatic has excellent *antipyretic* and *anti-inflammatory* properties for treating acute **hot conditions**, wherever they may be found, and whether systemic or local. Acute inflammatory conditions of many kinds, especially arthritic, can thereby be helped.

On the axis of the nervous system, May chang when absorbed acts as a good *relaxant* with ensuing *nervous sedative* and *vasodilant* actions. It treats the individual with **tense, hypertonic conditions** that tend to **heat** and involve **spasms, pain and inflammation**, including those affecting the cardiovascular, neuromuscular and digestive system. The berries are traditionally brewed into a decoction for gastric and abdominal pain. Today, the *analgesic, spasmolytic* oil is appropriate for a broad range of spasmodic and inflammatory conditions of the digestive tract.

There is speculation as to a possible *oestrogenic* action in this oil from the citral, which has shown activity of this kind (Harris 2006). The same goes for a possible *antitumoral* effect, which may result from the citral and geranial in concert. Before any definite conclusions can be reached about these two actions, however, we still await the results of supportive clinical evidence.

Interestingly, May chang oil acts as an emotional *detoxifier* as much as a physiological one. When used by inhalation, its powerful fresh-lemony, green aroma qualities rival those of Lemon verbena. Its effect on the psyche is expansive and clarifying. Working through the prefrontal cortex, May chang not only promotes focus and alertness like the fresh-pungent oils, but in a spring-energy surge toward the future, helps create optimism, vision and foresight where there is pessimism, negative thinking and loss of vision. It is impossible even to remain in a posture of common postmodern cynicism while inhaling this radically uplifting oil!

In tandem with its energy of springtime renewal, May chang's green aromatic quality also tells us about its potential for emotional transformation – another facet of its action that makes it instantly attractive. Acting somewhat like an upgraded Blue tansy, it can help us in letting go of negative, distressed feelings that deep down we truly know need to be discarded. Its gift? The open space of potentiality for fresh, positive experiences, for feelings we never knew existed. On a larger cultural scale, like many another lemony-green aromatic, May chang is poised as a key oil for guiding us from cynicism to optimism and for helping clarify our vision for moving with positivity toward the future.

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# Palmarosa



**Botanical source:** The herb of *Cymbopogon martini* Stapf. var. *motia* (syn. *Cymbopogon martini* [Roxb.] J.F. Watson) (Graminaceae/Poaceae – grass family)

**Other names:** Palmarosa grass, Rosha, Russa; Motia (Hindi), Palmarosa (Fr, Ge, It, Sp)

**Appearance:** A semiviscous pale yellow to green fluid with a mild rosy-sweet-herbaceous odour with mild citrus overtones

**Perfumery status:** A heart note of moderate intensity and medium persistence

**Extraction:** Steam distillation of the fresh or dried grass in April and May, and again September through December

**1 kg oil yield from:** 50–70 kg of the grass (a very good yield)

**Production areas:** India (native), Java, Nepal, Madagascar, Brazil, Guatemala, Honduras. Distillation first began in India during the 18th century

**Typical constituents:** Monoterpenols 80–95% (incl. geraniol 70–85%, linalool 2–4%, eugenol, citronellol, nerol, farnesol) • terpenoid and aliphatic esters 11–42% (incl. geranyle acetate 5–25%, geranyle formiate 5–15%, geranyle butyrate/isobutyrate/caproate) • sesquiterpenol elemol • sesquiterpenes (incl. caryophyllene, elemene, humulene)

**Chance of adulteration:** Moderate, as the yield is good. Natural geraniol from Citronella oil or synthetic geraniol is sometimes added to stretch Palmarosa, as well as the classical addition of the botanically related Gingergrass oil with its tell-tale low content in geraniol.

**Related oils:** **Lemongrass** (*Cymbopogon martinii*) with its typical lemony-herbaceous fragrance (see Lemongrass oil profile); **Gingergrass** (*Cymbopogon martinii* Stapf. var. *sofia*), confusingly also known as Russa or Rosha grass, with its deep grassy-green-gingery notes

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### *SPECIFIC SYMPTOMATOLOGY – All applications*

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Emotional confusion, **mood swings**, irritability, **distraction**, **negative feelings**, loss of insight, discouragement, emotional disconnection and withdrawal, feelings of insecurity, **long-term fatigue**, **insomnia**, palpitations, **chronic digestive problems**, weight loss, dysmenorrhoea, dry lifeless skin

### *PSYCHOLOGICAL – Aromatic diffusion, whole-body massage*

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**Essential PNEI function and indication:** Regulating in dysregulation conditions

**Possible brain dynamics:** Reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with sweet, mild lemony notes

**Indicated psychological disorders:** Addiction disorders, including food addictions; codependency, schizoid states, phobias

#### PROMOTES EMOTIONAL OPENNESS AND INSIGHT

- Emotional confusion or disconnection with conflict
- Emotional defensiveness or denial
- Poor discernment with loss of insight

#### PROMOTES EMOTIONAL SUPPORT AND SECURITY

- Loss of emotional support, emotional loss
- Emotional withdrawal or shut-down, insecurity, fear of emotional loss
- Fear, anxiety, phobias

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment*

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**Tropism:** Neuroendocrine, cardiovascular, digestive, reproductive systems

**Essential functional and diagnostic indication:** Restores hypotonic/weak conditions and balances dysregulated conditions

*systemic restorative in various hypotonic (weak) conditions:*

- *nervous restorative:* neurasthenia, debility, burnout, depression
- *cardiac restorative:* cardiac deficiency with palpitations, chronic stress-related heart disorders, incl. hypertension or hypotension; any chronic condition in general
- *microfloral restorative: prebiotic-like, detoxicant, antifungal, antibacterial:* intestinal microflora dysbiosis with irregular stool (diarrhoea or constipation), microbial toxicosis, chronic intestinal parasites; malabsorption syndrome with fatigue, weight loss
- *gastrointestinal restorative: tissue-regenerative, anti-inflammatory:* intestinal hyperpermeability with food sensitivities/allergies, gluten sensitivity, peptic ulcer, ulcerative colitis, inflammatory bowel disease, adhesions
- *adrenocortical restorative/regulator(?):* adrenal fatigue and dysregulation
- *mild ovarian and uterine restorative, mild hormonal restorative/regulator:* mild hormonal disorders from oestrogen or progesterone deficiency
- *mild pancreatic (blood sugar) regulator/restorative:* hyper- and hypoglycaemia

*liver detoxicant(?):* liver congestion, metabolic toxicosis(?)

*antitumoral(?):* tumours(?)

*vasodilator, hypotensive:* headaches, hypertension

*analgesic, spasmolytic:* neuralgia (incl. sciatica), muscle spasms and cramps, rheumatic pain

*antipyretic:* fevers

*thyroid regulator(?)*

### Antimicrobial actions:

*broad-spectrum anti-infective: antimicrobial, anti-inflammatory, immunostimulant:* a wide range of infections, esp. oral, gastrointestinal, urogenital, dermal and respiratory

- *strong antifungal:* fungal infections with *Candida* spp., *Trichophyton* spp., *Epidermophyton* spp., *Aspergillus* spp., incl. oral thrush, intestinal dysbiosis, candidiasis (all types), jock itch, tinea/ringworm (all types)

- ***strong antibacterial:*** bacterial infections, incl. gastroenteritis, intestinal dysbiosis, laryngitis, sinusitis, otitis, bronchitis, urethritis, cystitis, vaginitis, cervicitis, chlamydia
- ***antiviral:*** viral infections, incl. laryngitis, sinusitis; enteritis, viremia, herpes

#### SYNERGISTIC COMBINATIONS

- Palmarosa + Lavender: *nervous restorative and antidepressant* for chronic neurasthenia, debility, depression
- Palmarosa + Lavender: *cardiac restorative* for heart weakness from any cause
- Palmarosa + Clary sage: *nervous restorative* for chronic neurasthenia and burnout
- Palmarosa + Thyme ct. linalool: *antifungal and antibacterial digestive restorative* for intestinal dysbiosis, hyperpermeability, candidiasis; topical *antiseptic* for skin infections (in dilution)
- Palmarosa + Geranium: *antifungal* in all fungal infections, incl. fungal intestinal dysbiosis, candidiasis

#### COMPLEMENTARY COMBINATIONS

- Palmarosa + Niaouli: broad *anti-infective* and *anti-inflammatory* in a large range of acute infections, fungal, viral and bacterial
- Palmarosa + Frankincense: *cardiac restorative* for chronic heart weakness
- Palmarosa + Patchouli: *antifungal and antibacterial prebiotic microfloral restorative* for fungal dysbiosis, chronic irregular stool, candidiasis
- Palmarosa + Lemongrass: *antifungal microfloral restorative* for fungal dysbiosis, chronic irregular stool, candidiasis
- Palmarosa + Blue tansy: *gastrointestinal restorative, anti-inflammatory, anti-allergic* for digestive weakness with intestinal hyperpermeability, food allergies/sensitivities, peptic ulcer, ulcerative colitis
- Palmarosa + Tea tree: *gastrointestinal restorative, antifungal, anti-inflammatory* for digestive weakness with intestinal dysbiosis and hyperpermeability, peptic ulcer, ulcerative colitis, inflammatory bowel disease, microbial toxicosis
- Palmarosa + Vetiver: *gastrointestinal and systemic restorative* for digestive weakness with chronic fatigue, malabsorption, intestinal hyperpermeability

TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Dry, sensitive and combination skin types

*skin regenerator:* chronic skin conditions of most kinds, incl. scars, eczema, wrinkles, broken capillaries

*emollient, antiseptic, antipruritic:* dry/lifeless/irritated skin, dry or wet dermatitis/eczema, acne, pruritus

*vulnerary, tissue repairer, anti-inflammatory, analgesic:* wounds (incl. infected, pus-filled, chronic), cuts, sores

*antifungal:* fungal skin infections, incl. ringworm, athlete's foot, nail fungus, nappy rash

*analgesic, spasmolytic:* neuralgia (incl. sciatica), muscle spasms and cramps, rheumatic pain

*insect repellent*

**Precautions:** None

**Preparations:**

- Diffusor: 2–5 drops in water
- Massage oil: 2–5% dilution in vegetable oil
- Liniment: 5–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### **Chinese Medicine Functions and Indications**

**Aroma energy:** Sweet

**Movement:** Circulating

**Warmth:** Neutral

**Meridian tropism:** Heart, Spleen, Stomach

**Five-Element affinity:** Fire, Earth

**Essential function:** To nourish Heart Blood, strengthen the Spleen and the Shen

#### **1. Tonifies Heart Blood and Qi, and strengthens the Shen**

- **Heart Blood and Qi deficiency with Shen weakness**, with chronic physical and mental fatigue, depression, palpitations:  
Lavender/Neroli/Nutmeg

- **Heart Blood and Spleen Qi deficiency with Shen weakness**, with mental fatigue, poor memory, palpitations, shallow sleep:

Rosemary/Geranium

## 2. Strengthens the Spleen, resolves toxic-damp, regulates digestion and promotes weight-gain

- **Spleen Qi deficiency** with fatigue, irregular stool, bloating, chronic digestive problems, weight loss:

Geranium/Patchouli/Thyme ct. linalool

- **Spleen toxic-damp** with chronic indigestion, abdominal bloating, diarrhoea, mucus in stool:

Niaouli/Thyme ct. linalool/Sage

### REMARKS

Palmarosa grass is an Indian native that spread South over the islands of the Indian Ocean down to Madagascar, and East to Thailand and Indonesia. Like lemongrass, today it is cultivated worldwide. Although closely related botanically to lemongrass and gingergrass, palmarosa grass developed very different fragrance qualities in its essential oil, which are reflected in its chemical make-up. Sweet, rosy and only somewhat lemony, Palmarosa oil is based on monoterpenols and esters rather than the lemony citral of Lemongrass. Its high content in geraniol made it just rosy enough for Turkish perfume merchants in the 19th century to use it to adulterate Turkish Rose oil. In their minds, wishing to upgrade Palmarosa oil, they simply dubbed it ‘Turkish geranium.’

Palmarosa’s therapeutic uses are peppered with references to other oils. It is a good alternative and synergist to Tea tree, Thyme ct. linalool and other monoterpenol-dominant *anti-infective* oils. True, Palmarosa possesses a good, broad *antimicrobial* power, like the *Melaleucas*, but its strong suit is the treatment of **fungal and bacterial infections** without a doubt. Its chemical dominance in geraniol and linalool fully support this. Then again, Palmarosa is often used for its *skin-regenerative* and *tissue-healing* capacity in skin care, in a similar way to Lavender. Here Palmarosa scores over Lavender with its superior *emollient* quality that is especially useful for treating dry, irritated skin conditions.

While these clinical actions are time-tested and true, they do not tell the whole Palmarosa story. Clinical experience shows that Palmarosa is emerging as an important *restorative* remedy for the gut through oral administration. Firstly, it is one of the very few oils, perhaps the only one, to act as a *restorative* to the *microflora* with both a *prebiotic-like* and a *detoxicant* action. It is perhaps the only oil that acts like a *prebiotic*, even though the mechanisms are unknown. These twin actions are able to both

support healthy commensals and eliminate pathogenic strains in the gut, thereby addressing today's average state of **intestinal dysbiosis** in a truly comprehensive way. It is mainly through this *microfloral restorative* action that Palmarosa is able to increase nutrient absorption.

Secondly, Palmarosa is an excellent *restorative* to the whole gut through its *tissue-healing* and *anti-inflammatory* actions. This calls for its use in another of today's rampant conditions, **intestinal hyperpermeability** (also known as leaky gut syndrome) with resultant food sensitivities; not to mention other inflammatory bowel conditions, such as gluten intolerance. From the diagnostic perspective, we can summarize by saying that Palmarosa essentially treats **chronic weak conditions of the digestive tract**, specifically those involving dysbiosis and hyperpermeability. These in Chinese medicine are known as Spleen Qi deficiency syndromes with toxic-damp.

Palmarosa is also a good *restorative* to the heart and nervous system, like Lavender, regardless of administration route, and is indicated for those presenting **nervous and heart weakness** at the same time. This *neurocardiac tonic* excels in chronic stress-related heart conditions, even though it is not a *cardiac relaxant* in itself. In chronic illness of any kind, in individuals who overexercise and in age-related heart weakness, Palmarosa should be used, much like Hawthorn berry (*Crataegus oxyacantha*), to offer the much-needed heart-nerve support.

It is interesting to note that Palmarosa contains a considerably higher percentage of geraniol than Geranium, despite lacking Geranium's deep, musky sweetness. This would suggest usage for which geraniol has tested useful: liver detoxification, liver cancer and hormonal balancing in women in general. However, these actions have *not* been truly borne out in clinical practice. Certainly, the hormonal regulating effect of Palmarosa on both gonadal hormones and blood-sugar has proven mild and unreliable in comparison with those of Geranium.

On the emotional level, Palmarosa is a *restorative* of the energetic Heart with a classic sweet aromatic quality for treating conditions of **emotional scarcity**. Nourishing, supporting and softening, the oil can be extremely helpful for those with stifled or hardened feelings involving emotional denial or simply disconnection. Moreover, bridging the rosy-sweet and lemony qualities, Palmarosa is especially useful where emotional hardness prevents insight or discernment into one's feelings. With its gentle, illuminating and opening presence, it can act as a true integrator where there is conflict between feeling and thought. Equally, Palmarosa is a gentle moderator between Heart feelings and the spontaneous, instinctive gut feelings associated with the enteric nervous system.

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# Patchouli



**Botanical source:** The herb, i.e. leaf and stem, of *Pogostemon cablin* (Blanco) Benthham (Lamiaceae/Labiatae – lipflower family)

**Other names:** Puchaput (Hindi), Nilam wangi (Indonesian), Phimsen (Thai), Huo xiang (Mandarin Chinese), Patchouli (Fr, Ge)

**Appearance:** A viscous dark orange to dark amber-brown fluid with a rich sweet-woody-rooty odour, often with a faint spicy overtone and a wine-like green-floral note. With ageing the aroma becomes sweeter, richer, rounder and smoother as it loses the minty-green and damp-earth notes. Many producers will age the oil appropriately before making it available, others will not.

Patchouli oils of a dark colour and a deeper, more earthy, penetrating aroma are distilled in traditional iron stills that impart iron to the oil; these oils are known as **Dark patchouli**. Patchouli oils with a lighter orange colour and a lighter, less deep but more wine-like aroma are distilled in stainless steel stills, and are known as **Light patchouli**.

Note that the desirable wine-like notes can also result from prolonged distillation time. In many cases, Light patchouli oil undergoes an additional bleaching process. In other cases, Light patchouli is created by bleaching or rectifying Dark patchouli in order to remove the iron.

**Perfumery status:** A base note of medium intensity and good persistence

**Extraction:** Steam distillation of the dried leafy herb, performed year round. For a full and high-quality yield to be obtained, the leaves are first dried and slightly fermented (without being allowed to become mouldy) before being steam distilled. Drying is done in the shade (preferably) or in the sun for about three days; then the leaves are stripped off the stems and packed in baskets or bales, which causes gentle intermittent fermentation in the leaves; a process similar to the curing of tobacco leaves. As a less desirable but commercially interesting alternative, the leaves are scalded with superheated steam (like the blanching process for vegetables before canning) or lightly fermented through other means. The aim of drying and mild fermentation is to make the cell membranes more permeable and help rupture the plant cell walls, which makes more oil available to the hot steam.

The distillation time is anywhere from 6 to 20 hours, depending on the skill and dedication of the producer. The low pressure required to produce a good Patchouli oil requires longer distillation time and the most desirable fractions are among the last to distill over. The final oil is then usually filtered to remove any plant or other unwanted material.

**1 kg oil yield from:** 30–50 kg of the dried herb (an excellent yield)

**Production areas:** Indonesia (Sumatra), Malaysia, Seychelles, India, Madagascar, South China, Brazil. The first plantations dedicated to oil production were well established in Penang (Malaysia) by 1835, using plants originally imported from the Philippines. Java then soon became the main producer. By the late 19th century, most Patchouli oil was distilled in Europe from imported raw material in order to ensure a steady supply for the production of perfumes.

**Typical constituents:** Sesquiterpenes 40–45% (incl. alpha-bulnesene 10–26%, alpha-guaienes 6–15%, aromadendrene 10–21%, seychellene 5–12%, alpha-patchoulene 2–7%, beta-patchoulene 1–5%, caryophyllene 2–4%, cycloseychellene, humulene, cadinene) • sesquiterpenols 35–45% (incl. patchoulol 24–50%, norpatchoulol, pogostol, bulnesol, guaiol) • sesquiterpenones (incl. patchoulone) • epoxy sesquiterpenes (incl. epoxygaienes, epoxy caryophyllene, epoxybulnesene) • pyranones • sesquiterpenoid alkaloids (incl. patchouli pyridine, gaiapyridine) • carboxy-pentyl-cyclopropanic acid • traces of monoterpenes (incl. pinenes, limonene)

**Chance of adulteration:** Historically and still today, Patchouli oil is one of the most commonly adulterated oils. A variety of other species and genera are often included in the source plant material, or are distilled separately and then added to genuine Patchouli oil. Those herb sources most commonly included or added in various regions of Southeast Asia are **Java patchouli** (*Pogostemon heyneanus* Benthams, syn. *P. patchouli*), **Chinese patchouli** (*Microtoena insuavis* (Hance) Prain ex Briquet) and the completely unrelated **Gurjun balsam** (*Dipterocarpus turbinatus* Gaertner and spp.) from India, **Caesarweed** (*Urena lobata* L.) in the mallow family and *Plectranthus patchouli* (Oyen and Dung 1999).

Other oils commonly used for cutting or even reconstituting the final Patchouli oil include sweet-wood oils high in sesquiterpenes, such as various cedarwoods (*Cedrus* spp.), Copaiba, Cubeb and Clove, as well as synthetic components such as methyl and isobornyl acetate (Lis-Balchin 2006).

**Related oils:** **Java patchouli** (see above), also known as **Indian patchouli**, is considered much inferior to Patchouli oil and is often sold alone as just Patchouli oil.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – *All applications*

**Anxiety, insecurity, resignation, disconnection** with fantasizing or delusion, **oversensitivity, fear**, chronic digestive problems, aches and pains, poor libido, **varicose veins**, oily or rough skin

### PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Relaxant in overstimulation conditions; sensory integrating in sensory-emotional deficiency

**Possible brain dynamics:** Reduces basal ganglia and cingulate system hyperfunctioning

**Fragrance category:** Base tone with woody and mild rooty notes

**Indicated psychological disorders:** ADHD, PTSD, dissociative disorder, sensory integration disorder, dyslexia, autism

### STABILIZES THE MIND AND PROMOTES REALISM AND EMOTIONAL SECURITY

- Mental-emotional instability, anxiety, fearfulness, agitation
- Disconnection, spaciness, oversensitivity, dissociation (hysteria)
- Euphoria, delusion, paranoia
- Insecurity, loss of safety, vulnerability

### PROMOTES COGNITIVE FLEXIBILITY

- Worry, obsessions, compulsions
- Repetitive thinking, excessive thinking, inability to let go

**PROMOTES SENSORY INTEGRATION**

- Sexual disinterest or inhibition, loss of libido
- Sensory-emotional inhibition, thinking-feeling conflict or disconnection
- Sensory deprivation and disintegration

**PHYSIOLOGICAL** – *Nebulizer inhalation, gel cap, suppository*

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**Tropism:** Neuroendocrine, digestive, circulatory systems**Essential functional and diagnostic indication:** Relaxes hypertonic/tense and restores hypotonic/weak conditions**Primarily relaxant:***nervous relaxant: hypnotic*, hypertonic (tense) conditions with restlessness, irritability, insomnia, sexual anxiety; chronic stress-related conditions, esp. digestive*analgesic:* pain, including from smooth muscle spasm, incl. headache, colic, angina pectoris, neuromuscular pain*gastrointestinal (digestive) relaxant: mucostatic, mild spasmolytic:* gastrointestinal mucus overproduction; chronic dyspepsia, mucousy stool, diarrhoea, colic, abdominal discomfort or pain; mucous colitis-type IBS**Primarily restorative:***antifungal microfloral restorative:* intestinal microflora dysbiosis, candidiasis*gastrointestinal restorative: tissue-regenerative, anti-inflammatory, antiallergic:* intestinal hyperpermeability with food allergies or sensitivities, gluten sensitivity, peptic ulcer, ulcerative colitis, inflammatory bowel disease, adhesions*antiemetic:* nausea, vomiting*venous decongestant, vein restorative:* venous weakness/deficiency with varicose veins, haemorrhoids (external and internal)*antipyretic, diuretic:* fever (most types)**Antimicrobial actions:***antifungal:* fungal infections with *Candida* spp., *Trichophyton* spp., *Epidermophyton* spp., *Microsporum* spp., incl. intestinal dysbiosis, candidiasis (many types), fungal skin infections incl. tinea/ringworm (most types)*mild antibacterial:* food poisoning, gastroenteritis*antispirochetal:* Spirochetes bacterial infections

#### SYNERGISTIC COMBINATIONS

- Patchouli + Atlas cedarwood: *nervous sedative-restorative* for chronic stress-related conditions with anxiety, insomnia, debility, burnout
- Patchouli + Blue tansy: *anti-inflammatory* and *antiallergic* for acute and chronic intestinal inflammation with hyperpermeability, dysbiosis, food allergies and various digestive symptoms; also for conditions of chronic pain

#### COMPLEMENTARY COMBINATIONS

- Patchouli + Petitgrain: *nervous relaxant* for chronic stress-related conditions, esp. with digestive symptoms
- Patchouli + Palmarosa: *antifungal mucosal restorative, mucostatic, anti-inflammatory, tissue-regenerative* for chronic intestinal dysbiosis and hyperpermeability with food sensitivities/allergies, mucousy stool, mucous colitis
- Patchouli + Tea tree: *antimicrobial digestive restorative and detoxicant* for intestinal dysbiosis and hyperpermeability
- Patchouli + Black pepper: *analgesic and anti-infective* for acute abdominal pain, food poisoning, diarrhoea
- Patchouli + Ginger: *antiemetic* for vomiting, morning sickness
- Patchouli + Geranium: *venous restorative and decongestant* for varicose veins, incl. haemorrhoids

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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##### **Skin care:** Oily skin type

*antiseptic, subastringent, anti-inflammatory, antiallergic:* oily congested skin and scalp; dandruff, acne; allergic, seborrhoeic and inflammatory eczema/dermatitis; thread veins

*skin regenerator, emollient:* irritated, rough, dry, tired, sagging or aging skin; wrinkles, skin chaps/cracks/fissures; scars, adhesions, cellulite

*vulnerable:* sores, wounds

*antifungal, antiparasitic:* fungal and parasitic skin conditions, e.g. tinea, athlete's foot, scabies, lice

*insect-repellent*

*deodorant*

##### **Precautions:** None

**Preparations:**

- Diffusor: 2–3 drops in water
- Massage oil: 2–4% dilution in a lotion or vegetable carrier oil
- Liniment: 4–10% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with some olive oil

**Chinese Medicine Functions and Indications**

**Aroma energy:** Woody, rooty, sweet

**Movement:** Stabilizing, sinking

**Warmth:** Neutral

**Meridian tropism:** Heart, Kidney, Spleen, Stomach, Lung

**Five-Element affinity:** Earth, Water

**Essential function:** To nourish the Yin, resolve damp and calm the Shen

**1. Nourishes Heart and Kidney Yin, and calms the Shen**

- **Heart Yin deficiency with Shen agitation**, with anxiety, fearfulness, worry at night with insomnia, mental restlessness:

Neroli/Vetiver/Rose

**With empty heat**, add Lime/May chang/Lemongrass

- **Kidney Yin deficiency with Shen agitation** with anxiety, fearfulness, guilt, restlessness, insomnia, fatigue:

Vetiver/Angelica root/Spikenard/Myrrh

**With empty heat**, add Lemongrass/May chang

**2. Strengthens the Spleen, resolves toxic-damp and stops discharges**

- **Spleen Qi deficiency** with lethargy, poor appetite, weight loss:

Palmarosa/Tea tree/Vetiver

- **Spleen toxic-damp** with chronic indigestion, abdominal bloating, diarrhoea, mucus in stool:

Niaouli/Thyme ct. linalool/Sage

### 3. Invigorates the Blood in the lower limbs, reduces stagnation and relieves varicosis

- **Blood stagnation in the lower limbs** with varicose veins, tired legs, ankle edema:

Geranium/Rosemary/Cypress

#### REMARKS

With its legacy of hippiedom and drug abuse in the West, Patchouli was the most overused social scent of the psychedelic 1970s. Today however, it is appropriate to engage a renewed appreciation for this currently neglected oil. Historically, Patchouli is actually deeply associated with the early 1800s and the cultural revolt against the industrial revolution, as seen in the Orientalism art movement of the Napoleonic era. The huge increase in trade between India and Europe at that time indirectly fuelled the Romantic sensibility by introducing the warm, musty, sensuous fragrance of Patchouli into its Victorian cultural milieu. Among the imported carpets, clothes and woven accessories were layers of crushed patchouli leaves, always used in Asia as a repellent to moths and small insects. Notably, the shawls from Kashmir – quickly Anglicized to cashmere – always arrived impregnated with their fragrance, evoking the mystery and exoticism of distant lands. It was the enduring popularity of the Patchouli fragrance that eventually led to the large-scale importation of the herb, which soon after led to the distillation of the aromatic oil itself. This was around the same time as distillation was begun on the island of Penang, Malaysia.

Since the mid-19th century, Patchouli oil has been extensively used in perfumery, where it is an important base note for mossy, woody and rooty accords in various perfume types, including Oriental, chypre and fougère blends; as well as for soft and alcoholic drinks in the food flavouring industry .

Throughout southeast Asia, including India, the herb Patchouli has a long history of medical usage. It is one of the very few herbal remedies found common to all three of the world's traditional medical systems, traditional Chinese, Ayurvedic and Greek. These medical systems know the herb to be effective for regenerating, disinfecting, moistening and cooling tissue, being used in both topical treatments and skin care in general. Today the essential oil is effective in various cosmetic preparations treating rough, irritated, dry or tired skin; and is thought by some to act like Vetiver in being able to deeply moisten the epidermis and increase skin elasticity. In the form of compresses, liniments and similar preparations, Patchouli is a versatile topical agent for many conditions involving inflammation, tissue injury and infection.

When used internally, Patchouli's actions revolve around the two axes of *relaxing* and *restoring*. Extracted from a member of the lipflower (mint) family, this oil exerts a typical *relaxant* action on the nervous system that excels at treating **tense conditions** involving **pain and stress**. This comes as no surprise, considering its high levels of

sesquiterpenes and their alcohols. On the other hand, it evokes a good *restorative* effect in **weak conditions of the gut** involving **inflammation, mucus congestion and microfloral dysbiosis**. Because Patchouli displays a particular tropism for both the nervous system and the digestive tract, it will shine in disorders found to involve three components simultaneously: the enteric nervous system, the gut mucosa and the commensal microflora. This aromatic reduces mental-emotional stress on the gut, reduces mucus overproduction, restores the intestinal lining and reduces fungal dysbiosis all at the same time. Secondary actions include the quelling of any inflammation present, including those via allergic pathways. The net result is that Patchouli can treat a string of gastrointestinal complaints, ranging from IBS or mucous colitis-type complaints with **chronic mucus overproduction and diarrhoea** – classified as **damp intestinal disorders** in energetic medicine – through to **intestinal dysbiosis and hyperpermeability with food allergies**.

Even though Patchouli oil is clearly not derived from a tree, its aroma energy is mainly sweet-woody and secondarily rooty, making it a true base note oil. Like Atlas cedarwood, Patchouli exerts a strong centring effect that hones in on the lower abdominal area, the *hara*. Mentally this creates a stabilizing effect that pulls one into one's physical body. Used by inhalation therefore, Patchouli is an oil for mental chatter, worrying, repetitive thinking, and so on, as well as for the anxiety or just feeling of overwhelm that often comes with this type of disconnection between mind and body. On the emotional level, this aromatic provides a sweet-woody anchor in feelings of insecurity or loss of safety which, when challenged, can result in defensive hard attitudes, harsh behaviours and routine emotional postures.

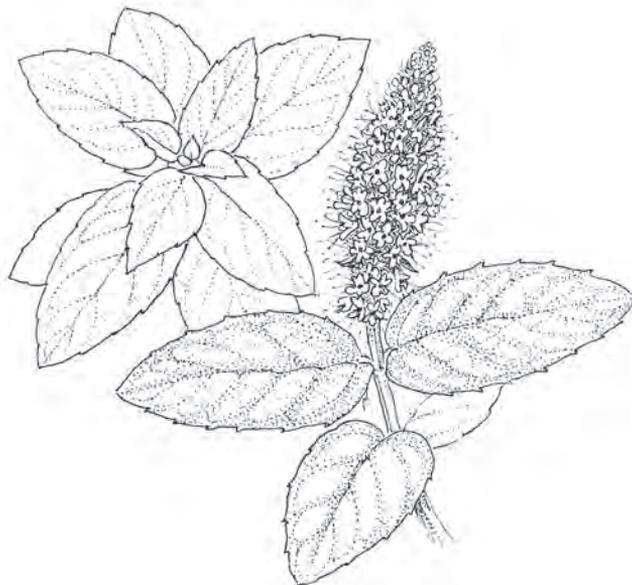
Like the classic sweet-woody oil, Sandalwood, Patchouli is also an important *sensory integrator* that makes us literally come to our senses, grounding us fully in physical experience. This makes it ideal for individuals suffering from sensory-emotional inhibition caused by conflicts among thinking, feeling and sensing, as well as for clinical states of sensory deprivation. Patchouli has a gentle yet persistent sensualizing nature that can seduce us into accepting our body needs, helping allow ourselves to develop a genuine sensuality. Although Patchouli could be called an *aphrodisiac*, it is certainly not one of the overtly pheromonal oils, such as Sandalwood and Ylang-ylang. Patchouli treats the sexual anxiety or premature ejaculation of those simply out of touch with their body and senses.

From a larger perspective, Patchouli the Asian herb can help heal negative detachment from both body and environment. By helping integrate mind and body, the scent tends to move us away from abstract thinking and self-investment in social status symbols (car, dress, etc.) toward pragmatic thinking and the satisfaction that appreciating the real wealth of the physical world can bring – what Alan Watts called 'true materialism.' Likewise, Patchouli can help us live grounded in the ever-present moment rather than in ambition-driven plans or anxiety-laden ideas.

Thus, Patchouli can ultimately lead us to a place of 'spiritual immanence,' the realization that spirit is immanent in all matter. It can bring us deeply present with that connected interface of spirit and matter, in that wondrous moment that Japanese Zen practitioners call *sono-mama*, 'suchness.'

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# Peppermint



**Botanical source:** The herb of *Mentha x piperita* L. (Lamiaceae/Labiatae – lipflower/mint family). Peppermint is now considered a hybrid between spearmint (*Mentha spicata*) and water mint (*Mentha aquatica*) (Foster 1990), hence the 'x' in its botanical name.

**Other names:** Brandy mint; Menthe poivrée (Fr), Pfefferminze (Ge), Menta peperita (It), Yerba buena (Sp), Na'na, Lammam (Arabic)

**Appearance:** A mobile pale green-yellow fluid with a sweet-herbaceous aroma moving into fresh-pungent, somewhat peppery overtones

**Perfumery status:** A head note of high intensity and poor persistence

**Extraction:** Steam distillation of the partly dried herb in flower, usually during July, August and September

**1 kg oil yield from:** 70–100 kg of the semi-dried herb (a fairly good yield)

**Production areas:** USA, England, France, Italy, Egypt, Ukraine, Hungary. The first commercial extraction of peppermint oil was in Mitcham, England, in about 1750, and then in about 1812 in Ashfield, Massachusetts from English plants; from There, it spread to Michigan in the 1830s.

**Typical constituents:** Monoterpenols <63% (incl. menthol 29–48%, neomenthol 3–11%, isomenthol, terpinen-4-ol, alpha-terpineol, linalool) • ketones 16–44% (incl. menthone 9–33%, isomenthone 4–10%, neomenthone, piperitone, pulegone 1%) • monoterpenes 3–18% (incl. pinene, limonene 3%, menthene, sabinene, myrcene, cisocimene, alpha-terpinene) • sesquiterpenols (incl. viridiflorol) oxides (incl. 1,8-cineol 3–8%, menthofuran 3%) • esters (incl. menthyl acetate 9%, neo-/iso-menthyl acetate) • menthofuran <6%, trans-sabinene hydrate • sesquiterpenes (traces)

**Chance of adulteration:** Very common, often with the cheaper Cornmint oil (*Mentha arvensis* var. *piperascens*) or fractions thereof; or with synthetic highlights of menthol, menthone, etc.

**Related oils:** There are two general varieties of peppermint and their oils:

- **Mitcham or Black peppermint** (*Mentha x piperita* var. *vulgaris* L.), highest in menthol and so generally with a strong pungent aroma; the most cultivated and cloned of all the mints, including those in the United State's Midwest and Pacific Northwest
- **White peppermint** (*Mentha x piperita* var. *officinalis* L.), especially high in menthyl acetate and with a more delicate aroma; rarely produced today unfortunately because of its low yield

Any differences in their therapeutic action are very minor and immaterial.

Several other oils in the *Mentha* genus are also often extracted, usually for fragrance industry purposes:

- **Spearmint** (*Mentha spicata* L.) with its more sweet-green aroma (see Spearmint oil profile)
- **Fieldmint or Cornmint** (*Mentha arvensis* L.) with its less sweet but delicate fresh aroma
- **Horsemint or Hungarian peppermint** (*Mentha longifolia* [L.] Hudson, syn. *Mentha sylvestris* L.) from Balkan countries and South Africa, highest in menthone and therefore very pungent and less sweet.
- **Bergamot mint or Orange mint** (*Mentha x citrata* L.) with its fresh-citrus minty aroma
- **Applemint or Woolley mint** (*Mentha suaveolens* Ehrh.) with its very sweet-green aroma
- **Pennyroyal** (*Mentha pulegium* L.) with its drier, earthy-pungent, minty aroma

These mints have similar properties to Peppermint but with individual emphases.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant (except in concentration), slightly sensitizing

### SPECIFIC SYMPTOMATOLOGY – *All applications*

Mental and emotional lethargy and inertia, **apathy**, indecision, **mood swings**, sluggish energy, **confusion**, distraction, **poor emotional insight and response**, difficulties with focus and memory, **faintness**, **poor vision**, **chronic headaches**, poor appetite, **upper or lower abdominal bloating**, abdominal pains, shooting aches and pains

### PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Stimulant in weakness conditions; regulating in dysregulated conditions

**Brain function dynamics:** Increases basal ganglia functioning and reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with pungent, green, sweet notes

**Indicated psychological disorders:** Minor depression, ADD, bipolar disorder

### PROMOTES MOTIVATION, SELF-CONFIDENCE AND ALERTNESS

- Loss of motivation with apathy, procrastination, flat affect
- Low self-esteem and self-confidence, self-neglect
- Lack of concentration, fogginess, poor short-term memory, drowsiness

### PROMOTES EMOTIONAL RENEWAL

- All pathogenic (stuck) emotions and distressed feelings in general

### PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, liniment*

**Tropism:** Nervous, digestive, respiratory, vascular, urinary systems

**Essential functional and diagnostic indication:** Restores and stimulates hypotonic/weak conditions

**Primarily stimulant:**

*cerebral stimulant, analeptic:* mental fatigue with concentration and memory difficulties, cognitive impairment; headaches, poor vision, dizziness, vertigo, fainting, coma

*capillary stimulant, optic:* vision impairment (neural and circulatory)

*neurocardiac stimulant, hypertensive:* shock, trauma, fatigue, hypotension

*moderate arterial circulatory stimulant:* asthenic (cold) conditions with poor circulation, cold skin

*hepatobiliary stimulant:* choleric, cholagogue: liver and biliary deficiency with liver congestion, epigastric dyspepsia, jaundice, hepatitis

*gastric and pancreatic stimulant: stomachic, carminative, antiemetic:* gastric and pancreatic enzyme deficiency with dyspepsia, nausea; motion sickness, vomiting

*mild expectorant and mucolytic:* bronchitis, sinusitis with congestion

**Miscellaneous:**

*gastrointestinal, biliary and renal spasmolytic:* acute spasmodic gastrointestinal conditions with spasms/colic, pain and flatulence; gallstone colic/spasms, spasmodic IBS; kidney colic, uterine spasms

*analgesic:* vascular and tension headaches, all pain of inflammation or spasm, incl. neuralgia (incl. facial/dental/sciatic), toothache, laryngitis, tendinitis, neuritis, plantar fasciitis, CTS, cholecystitis

*moderate anti-inflammatory:* gastritis, pancreatitis, enteritis, IBS, hepatitis (congestive and spasmodic), prostatitis; otitis, sinusitis, laryngitis; dermatitis, urticaria; chronic cystitis

*agalactic:* excessive breast-milk, weaning

*antioxidant*

**Antimicrobial actions:**

*antiviral:* viral infections, incl. influenza, sinusitis, gastroenteritis; *Herpes*, incl. shingles, cold sores, HSV-1; viral neuritis, viral hepatitis

*antifungal:* fungal infections, incl. with *Candida* spp., *Trichophyton* spp., incl. candidiasis, tinea/ringworm

*mild antibacterial*

#### SYNERGISTIC COMBINATIONS

- Peppermint + Sage: *cerebral stimulant-restorative* for symptoms of mental fatigue, vertigo, hypotension, coma
- Peppermint + Marjoram/Basil ct. chavicol: *spasmolytic* for acute colic, spasmodic IBS

#### COMPLEMENTARY COMBINATIONS

- Peppermint + Lavender: *carminative* for acute digestive distress (food stagnation)
- Peppermint + Fennel: *stomachic and carminative* for gastric and pancreatic deficiency with upper digestive disorders
- Peppermint + Lemon: *liver decongestant* for chronic liver congestion
- Peppermint + Bergamot/Rosemary: *choleric, cholagogue* for hepatobiliary weakness with liver congestion, upper indigestion, liver disease
- Peppermint + Roman camomile: *spasmolytic, anti-inflammatory and analgesic* for acute gallstone or kidney stone spasms, cholecystitis
- Peppermint + Blue tansy: *analgesic and anti-inflammatory* for neuralgia, neuritis
- Peppermint + Niaouli: *antiviral* in various viral infections

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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##### **Skin care:** Oily skin type

*detergent, anti-inflammatory, capillary stimulant:* skin rashes and impurities, burns, scalds, dermatitis, urticaria, herpes, acne, boils, rashes (incl. from poison oak/ivy)

*analgesic, antipruritic:* pain of insect stings, toothache, muscle aches and pains, spasms; sores, ulcers; itching skin conditions

*antiparasitic:* skin parasites, incl. scabies

*mild antifungal:* fungal skin infections, incl. ringworm

*insect repellent*

**Precautions:** Peppermint oil is contraindicated for internal use in gastric hyperacidity, during lactation and in all dry conditions generally. All use is also contraindicated in babies and infants, as it may cause reflex apnea and spasm of the larynx. Avoid use during pregnancy and breastfeeding.

Because Peppermint oil is slightly sensitizing, do not exceed the topical dilutions listed below to avoid possible skin irritation.

**Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 1–3% dilution in vegetable oil
- Liniment: 2–10% dilution in vegetable carrier oil
- Gel cap: 1–3 drops with olive oil

**Chinese Medicine Functions and Indications**

**Aroma energy:** Pungent, green

**Movement:** Rising, circulating

**Warmth:** Neutral

**Meridian tropism:** Spleen, Stomach, Gallbladder, Bladder, Lung

**Five-Element affinity:** Wood, Earth

**Essential function:** To activate the Qi, raise the Yang and strengthen the Shen

**1. Raises the clear Yang and strengthens the Shen**

- **Clear Yang Qi deficiency with Shen weakness**, with light-headedness, giddiness, fogginess, poor focus, headaches, impaired vision, confusion:  
Rosemary/Saro/Ravintsara

**2. Activates the Qi, reduces stagnation and relieves pain**

- **Qi stagnation** with aches and pains, shooting nerve pains, headache, toothache:  
Lavender/Roman camomile/Helichrysum/Blue tansy
- **Gallbladder Qi stagnation** with flank/hypochondriac pain and distension:  
Basil/Roman camomile/German camomile

**3. Activates Qi and Blood, harmonizes the Middle Warmer and descends Stomach Qi**

- **Stomach-Spleen Qi and Blood stagnation** with chronic dull or sharp epigastric or abdominal pain, distension, colic, diarrhoea:  
Lavender/Blue tansy/Roman camomile
- **Stomach Qi and food stagnation** with indigestion on eating, appetite loss, epigastric bloating, eructations, flatulence:  
Fennel/May chang/Lavender

- **Stomach Qi stagnation with rebellious Stomach Qi**, with nausea, vomiting:

Ginger/Cardamom/Patchouli

#### 4. Releases the exterior, dispels wind, opens the sinuses and relieves pain

- **External wind-cold/heat** with sore throat, sinus pain and congestion, headache, aches and pains:

Eucalyptus radiata/Niaouli/Ravintsara

#### REMARKS

Peppermint has enjoyed the role of an important Mediterranean medicinal plant over a two thousand-year history in traditional Greek medicine. However, the extracted essential oil seems to have only come into general use during the mid-17th century. Since then it has become one of the most widely used oils in Western pharmacy, the food flavouring industry, and now modern essential oil therapeutics, happily backed as it is by considerable research. It is interesting to note that Peppermint's popularity seems to have risen in tandem with the expansive, driven, external world-exploratory impulse of Western culture. Whether Peppermint should be seen as the cause or the result of this impulse is debatable, but the two are clearly synchronistic.

With its fresh-minty yet rich sweet-herbaceous aroma, Peppermint is perhaps the emblem of a Western *cerebral stimulant*. Awakening and uplifting, when inhaled this oil can go a long way to induce a more optimistic outlook, increase alertness and generally promote motivation. Like Rosemary, Peppermint is a classic for individuals suffering from loss of enthusiasm or downright pessimism; for loss of self-esteem and for reduced left-brain activities such as difficulty focusing, memorizing, etc. Putatively, a stimulation of basal ganglia functions is involved. However, clinical experience shows that the oil can help one break through and release distressed feelings and stagnant, unproductive emotions in general. This may be another factor that would explain Peppermint's enormous popularity in the many forms in which it is encountered.

In energetic terms, Peppermint oil with its pungent aroma raises energy up to the head, regardless of how it is utilized. In addition to its psychological effect, the oil also physiologically can improve a variety of deficient cerebral symptoms, including dizziness, fainting and headaches, as well as improved cognition, memory, etc. It has even shown to exert an *optic stimulant* and *restorative* action for vision impairment that is both neural and circulatory in function.

While there is no doubt in anyone's mind about Peppermint being a *stimulant*, there has been a 1,000-year long discussion among medical herbalists concerning its warmth quality. Is it a warming or cooling stimulant? The confusion seems to lie in the *cooling, analgesic* effect of the oil or hydrosol on the skin when applied topically, in contrast to its warming effect when drunk internally. The first is certainly a much

appreciated action, much employed clinically for the relief of a wide variety of pain conditions (courtesy of its high menthol content). When we factor in Peppermint's added *anti-inflammatory*, *antipruritic* and *capillary stimulant* actions, used in a large variety of topical issues ranging from burns to acute skin eruptions, it is easy to see this as a cooling remedy through and through.

However, Peppermint is also a *stimulant* to the *arterial circulation*, as well as *hypertensive*, when taken internally in any way. Like Rosemary again, this oil is excellent for treating a variety of **weak, cold, sluggish conditions** arising from poor circulation, liver congestion, biliary congestion and general hypotension. Peppermint is a particularly fine *liver, gallbladder, stomach* and *pancreas stimulant* that addresses the deficiency stagnation so commonly found in these upper digestive organs. As such, it acts very much along the lines of the Chinese remedy Mu Xiang (*Saussurea lappa*).

The conclusion? Simply this: Peppermint is a *cooling stimulant* when applied externally and a *warming stimulant* when taken internally. As a dynamic expression of remedy-human interaction, its effective warmth quality depends entirely on how and where it is administered.

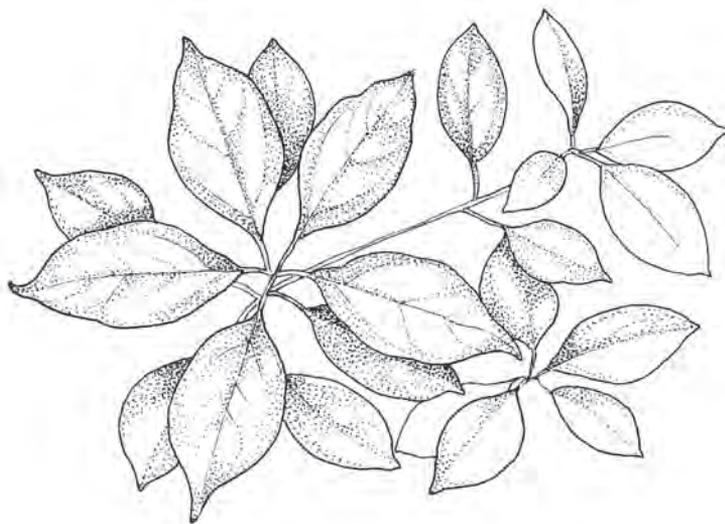
Embedded within Peppermint's *stimulant* qualities is a good *spasmolytic* action directed specifically at the smooth muscles of the gut. **Spasmodic, colicky, painful conditions of the digestive organs** with poor circulation are best here treated – but include painful gallstone and kidney stone spasms. In Chinese medicine terms, this would be Qi and Blood stagnation in the Middle and Lower Warmer. Peppermint's dual *stimulant-spasmolytic* action on the upper digestive organs is what has created its deserved reputation as a superior *carminative*. Note that Peppermint does not treat striated muscle spasms (i.e. tight muscles) in the way of *muscle relaxants* such as Lemon-grass and Marjoram. Nor does it act as a *general relaxant* for tense conditions in the way of Clary sage and Petitgrain.

In terms of microbes, Peppermint is best known for its good *antiviral* action that is useful both topically and internally. Because of its important tropism for the liver, it is used for neural hepatitis as well as various nerve-related viral conditions; this action has been shown to work before and during cellular absorption of the virus (Harris 2006).

Peppermint's fundamental clinical indication can best be wrapped up in the word 'stagnation.' The oil addresses the pathological results of three major sources of stagnation seen in Western societies: Firstly, festering unproductive, negative emotions and their resultant distressed feelings; secondly, the long-term intake of low-nutrient junk food; and thirdly, a sedentary lifestyle. The result is chronic weak, cold conditions with stagnation of energy and blood, especially to the head and the whole abdominal region.

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# Ravintsara



**Botanical source:** The leaf of *Cinnamomum camphora* (L.) J.S. Presl ct. *cineole* (syn. *Laurus aromatica*, *Agathophyllum aromatica*) (Lauraceae – laurel family)

**Other names:** Madagascar camphor, Madagascar spice, Clove nut; Voaravintsara (Malagasy), Ravintsara (Fr, Ge)

**Appearance:** A mobile clear (colorless) fluid with a fresh-pungent, somewhat sweet-spicy odour

**Perfumery status:** A head note of high intensity and poor persistence

**Extraction:** Steam distillation of the fresh leaves, mainly from March through May

**1 kg oil yield from:** 120–250 kg of the fresh leaves (a fairly good yield)

**Production areas:** Madagascar, Réunion, Mauritius

**Typical constituents:** Oxide 1,8-cineole 50–70% • monoterpenes <19% (incl. sabinene 12%, alpha and beta-pinene 9%, myrcene 1%, beta-ocimene 1%, alpha-thujene, gamma-terpinene, alpha-terpinene, limonene) • monoterpenols <15% (incl. alpha-terpineol 7–12%, terpinen-4-ol 2%, delta-terpineol 1%) • sesquiterpenes 4–5% (incl. alpha-humulene 2%, beta-caryophyllene 1%, germacrene, alpha-selinene) • phenols eugenol, isoeugenol • methyleugenol • ester terpenyl acetate

**Chance of adulteration:** Good, and usually by classical addition of cheaper oils with a similar fragrance, such as White camphor (*Cinnamomum camphora*), Aromatic ravensara (*Ravensara aromatica*), Saro (*Cinnamosma fragrans*), Cajeput (*Melaleuca cajuputi*) and Niaouli (*Melaleuca quinquenervia*)

**Related oils:** Ravintsara oil should not be confused with two related oils, both extracted from the tree *Ravensara aromatica* Sonnerat in the laurel family, called **Havozo**, **Hazomanitra** and **Tavolomanitra** in the Malagasy language.

- **Aromatic ravensara**, the *leaf oil* of *Ravensara aromatica*, with its sweet, green, somewhat pungent, slightly aniseed-like aroma and pale yellow appearance. This oil is dominant in monoterpenes (limonene 17–21%, sabinene 11–15%, alpha-pinene 4%, alpha-terpinene 5%, delta-3-carene 6%, myrcene 4%, alpha-phellandrene 4%, beta-pinene 2%), with methyleugenol 7%, methyl-chavicol 2%, elemicine 2%, sesquiterpenes <21% (incl. germacerene-D 12%, beta-caryophyllene 6%, alpha-humulene 2%, alpha-copaene 1%, delta-elemene, germacrene-B, alpha- and beta-cubebene, delta- and gamma-cadinene), and only a very low 1,8-cineole content (unlike Ravintsara oil).
- **Havozo**, the *bark oil* of *Ravensara aromatica*, which is distinguished by a strong aniseed-like aroma from its high methylchavicol content (90%), completely absent in Ravintsara oil (Juliani et al. 2005).

There are currently two problems associated with Aromatic ravensara oil and Havozo bark oil, the first environmental and the second terminological. First, the tree that yields both oils is now an endangered species in Madagascar as a result of over-exploitation for the perfume industry; it cannot therefore be recommended for use for ethical reasons alone.

Second is the persistent confusion among distributors between *Cinnamomum camphora* oil, by far the more important and commonly-used oil, and both of the lesser-used *Ravensara aromatica* oils, Aromatic ravensara and Havozo. The confusion concerns both the identity of these oils and, as a result, their therapeutic properties. In brief, during the mid-20th century the *Ravensara aromatica* tree was previously considered identical with the *Cinnamomum camphora* tree by French botanists. Later identification made it clear that *Ravensara aromatica* was actually distinct from *Cinnamomum camphora*, which is now considered a type of camphor tree. Unfortunately, however, all the attributed therapeutic functions and indications of *Cinnamomum camphora* reported in the literature remained stuck with *Ravensara aromatica* because of the confusion. This is why it was decided to create the distinct spelling Ravintsara for *Cinnamomum camphora* oil, to clearly distinguish it from the Aromatic ravensara and Havozo oils of *Ravensara aromatica* (Juliani et al. 2005).

The only question now remaining is to determine the actual properties of **Aromatic ravensara** oil. Based on recent research of local Madagascar usage and

modern clinical usage, Aromatic ravensara can be considered antiviral, possibly immune stimulant and a nervous restorative for viral infections such as colds and flus, especially with fatigue present. However, because its use should in any case be discontinued for environmental reasons, its functions can more than adequately be covered in similar oils such as Ravintsara, Cajeput and Niaouli.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing

### *SPECIFIC SYMPTOMATOLOGY – All applications*

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Low vitality, **chronic mental and physical fatigue**, low enthusiasm, **low self-confidence, insecurity, withdrawal, difficulty with making decisions**, depression, grief, mild anxiety, **cold hands and feet, weak muscles**, joint and muscle aches, low-back ache, **swollen glands, chronic or recurrent infections**

### *PSYCHOLOGICAL – Aromatic diffusion, whole-body massage*

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**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases prefrontal cortex and basal ganglia functioning

**Fragrance category:** High tone with fresh-pungent and sweet notes

**Indicated psychological disorders:** ADD, depression

### STIMULATES THE MIND AND PROMOTES ALERTNESS

- Lethargy, drowsiness, stupor
- Mental foginess, disorientation, poor concentration, poor short-term memory

### PROMOTES MOTIVATION AND SELF-CONFIDENCE

- Loss of motivation with apathy, procrastination, self-neglect, flat affect
- Low self-esteem and self-confidence, depression

### *PHYSIOLOGICAL – Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Nervous, cardiovascular, respiratory, digestive, lymphatic, neuromuscular systems

**Essential functional and diagnostic indication:** Restores and warms hypotonic/weak and asthenic/cold conditions

*nervous and cerebral restorative:* hypotonic (weak) conditions with cerebral deficiency, mental and physical fatigue, debility, memory or concentration loss, somnolence; neurasthenia, CFS, postviral depression

*immune restorative:* chronic immune deficiency with recurrent infections

*arterial circulatory stimulant:* a wide range of asthenic (cold) conditions with poor circulation, cold skin

- *respiratory stimulant: mucolytic expectorant:* congestive upper and lower respiratory conditions, esp. bronchitis, sinusitis
- *lymphatic stimulant and decongestant, detoxicant, diuretic:* toxicosis with general eliminatory deficiency, esp. with swollen lymph glands
- *musculoskeletal stimulant/restorative: antirheumatic, anti-inflammatory, analgesic:* rheumatic and arthritic pain and inflammation, fibromyalgia; neuromuscular atony, muscle weakness

*mild nervous sedative:* insomnia, mild anxiety

*antiallergic(?):* immediate allergies

*cardiovascular stimulant(?), analeptic(?):* circulatory deficiency or collapse, shock, coma

### Antimicrobial actions:

*anti-infective, immunostimulant, anti-inflammatory, analgesic:* a large range of infections with resultant painful inflammation; esp. acute, viral or epidemic infections

- *strong antiviral:* flu, sinusitis, rhinitis, acute viral bronchitis, viral croup, viral enteritis, viral hepatitis, infectious mononucleosis/glandular fever, chickenpox, herpes zoster/shingles, dendritis, herpes simplex/genital herpes, cold sores, EBV
- *antibacterial:* common cold, sinusitis, rhinitis, chronic bronchitis, whooping cough; gastroenteritis, cholera, dysentery

### SYNERGISTIC COMBINATIONS

- Ravintsara + Saro/Niaouli/Eucalyptus radiata: *antiviral, anti-inflammatory, analgesic* for the acute onset of upper respiratory infections, influenza

- Ravintsara + Cajeput/Green myrtle: *arterial and bronchial stimulant, expectorant, antibacterial* for bacterial bronchitis with sputum, cough. esp. with poor circulation
- Ravintsara + Rosemary: *nervous restorative and circulatory stimulant* for neurasthenia with fatigue, depression, cold extremities, etc.
- Ravintsara + Niaouli: *immune restorative* in chronic immune deficiency with recurrent or chronic infections, fatigue, systemic toxicosis

#### COMPLEMENTARY COMBINATIONS

- Ravintsara + Spike lavender: *arterial and mucolytic respiratory stimulant* for poor circulation, bronchial infections with sputum, cough, cold extremities
- Ravintsara + Lemongrass: *detoxicant, lymphatic stimulant and diuretic* for general toxicosis with swollen glands
- Ravintsara + Blue tansy + Lavender/Eucalyptus citriodora: *neuromuscular sedative/anti-inflammatory, analgesic* for acute arthritis, fibromyalgia
- Ravintsara + Peppermint + Tea tree: *antiviral* for herpes (all types) and other viruses
- Ravintsara + Clary sage: *nervous restorative, antidepressant* for chronic neurasthenia, depression
- Ravintsara + Palmarosa/Neroli: *nervous restorative and sedative* for chronic stress-related disorders with anxiety, insomnia, burnout

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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##### **Skin care:**

*vulnerary, analgesic, antiseptic:* cuts, wounds, infections, rheumatic and arthritic conditions.

*antiviral:* herpes, shingles

**Precautions:** Avoid use in babies and infants, and use with caution during pregnancy.

##### **Preparations:**

- Diffusor: 3–4 drops in water
- Massage oil: 2–5% dilution in lotion or vegetable oil
- Liniment: 5–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

## Chinese Medicine Functions and Indications

**Aroma energy:** Pungent

**Movement:** Rising

**Warmth:** Neutral to warm

**Meridian tropism:** Lung, Bladder, Heart

**Five-Element affinity:** Metal, Fire

**Essential function:** To tonify the Qi, raise the Yang and strengthen the Shen

### 1. Tonifies the Qi, raises the clear Yang and strengthens the Shen; tonifies the protective Qi

- **Qi and protective Qi deficiency with Shen weakness**, with chronic physical and mental fatigue, poor concentration, lethargy, depression, grief, chronic or recurring infections:  
Sage/Tea tree/Niaouli/Black spruce
- **Yang deficiency with Shen weakness**, with fatigue, poor focus and memory, depression, cold skin and extremities, low-back weakness and pain, weak muscles:  
Scotch pine/Black spruce/Clove
- **Clear Yang Qi deficiency with Shen weakness**, with mental fogginess, confusion, poor focus, slow response:  
Rosemary/Peppermint/Grand fir/Frankincense

### 2. Warms the Lung, expels phlegm and relieves coughing

- **Lung phlegm-cold** with sputum expectoration, chronic cough, cold extremities:  
Cardamom/Siberian fir/Green myrtle/Laurel
- **Lung phlegm-heat-dryness** with dry cough, thirst, fever, fatigue, expectoration of scanty sticky sputum:  
Lemon eucalyptus/Lavender/Cypress/Tea tree

### 3. Warms and releases the exterior, warms the meridians, dispels wind-damp-cold, opens the sinuses and relieves pain

- **External wind-cold with Qi or Yang deficiency**, with aches and pains, sneezing, sinus congestion, cough, fatigue, cold extremities, frequent infections:  
Eucalyptus radiata/Rosemary ct. cineole/Basil/Ginger

- **Lung wind-cold** with coughing, chest congestion and pain:  
Grand fir/Rosemary/Niaouli/Cypress
- **Wind-damp-cold/heat obstruction** with rheumatic aches and pains:  
Juniper berry/Rosemary/Frankincense/Black pepper

#### REMARKS

Like Geranium, Ravintsara is one of several oils found on practitioners' shelves today that comes to us courtesy of the historical French colonial islands of the Indian Ocean, Réunion, the Comores and Madagascar. This oil is distilled from the leaves of a species of camphor tree that is considered native to Madagascar. It is just one of many oils produced from the amazing diversity of Madagascar's tropical flora, which includes Basil, Saro, Ylang ylang and various species of Helichrysum. Ravintsara oil should not be confused with the similar leaf oil, Aromatic ravensara, which is distilled from *Ravensara aromatica*, also in the laurel family (see the Related oils section above).

Ravintsara in Malagasy means 'good leaf' and has been an indigenous folk remedy since pre-history for treating colds, coughs, digestive symptoms and epidemic infections in general. From the perspective of both energetic usage and chemical composition, Ravintsara in fact has much in common with Cajeput. Very high in 1,8 cineole and monoterpenes, it is an outstanding pungent-fresh oil that is essentially stimulant, warming and drying. Clinical usage therefore revolves around the treatment of **weak** and **cold conditions**. A *stimulant* to both the arterial circulation and the respiratory system when absorbed internally, Ravintsara is a versatile aromatic remedy for colds, flus and other **upper and lower respiratory infections** of all kinds.

Again like Cajeput and other pungent-fresh oils, Ravintsara is a brilliant *stimulant expectorant* and *mucoytic* aromatic that will dry up and decongest mucus in both the upper and lower airways. Being *immune stimulant*, *anti-inflammatory* and highly *antiviral*, this oil is especially indicated for the onset of all ear, nose, throat and respiratory infections. It can also be used successfully as a general antiviral agent, regardless of the type or location of infection. Ravintsara combines easily with other oils of this kind. In the energetic terms of Chinese medicine, this aromatic treats both external wind-cold invasion and the later, often chronic stage of phlegm-cold in the Lung.

In distinction to Cajeput, however, and in common with Niaouli, Ravintsara also exerts a deeply *restoring* action on *nervous*, *cerebral* and *immune* functions. This is a warming Qi and Yang tonic from the Chinese medicine perspective. It is clearly indicated for individuals tending to **chronic neurasthenia** with fatigue, symptoms of cold and **ongoing or recurrent infections**. Here its *lymphatic stimulant*, *detoxicant* and *diuretic* actions will support the treatment of **any infection**, viral or bacterial, acute or chronic, that requires successful resolution. Paradoxically, Ravintsara can also be useful as a mild *sedative* to the nervous system for insomnia, which points to a

possible regulating effect of some kind on cerebral functions. This certainly comes as no surprise in view of its significant content in monoterpenols.

With its clean, pungent fragrance underpinned by a hint of spiciness (note the phenols present), Ravintsara is invigorating to the mind and soul as much as to the body. Uplifting, refreshing and motivating, it will treat not only the usual mental deficiencies that pungent oils are known to target, but will be found especially useful for individuals suffering from low self-esteem, low self-confidence, pessimism and so on that is underpinned by a fundamental lack of motivating power. The 'good leaf' holds much promise yet for weak conditions of the soul.

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# Roman Camomile



**Botanical source:** The flower of *Anthemis nobilis* L. (syn. *Chamaemelum nobile* L.) (Asteraceae/Compositae – daisy family)

**Other names:** Garden/Double/English camomile; Camomille romaine ou noble (Fr), Römische/Edle Kamille (Ge), Camomilla romana (It), Manzanilla romana (Sp)

**Appearance:** A clear to faintly yellow or pale blue mobile fluid with an intense fruity-sweet and dry tea-leaf green odour

**Perfumery status:** A heart note of high intensity and poor persistence

**Extraction:** Steam distillation of the fresh or partially dried herb in flower, usually in July

**1 kg oil yield from:** 80–100 kg of the fresh herb (a good yield)

**Production areas:** England, France, Hungary, Chile. The first commercial production of Roman camomile oil was established in Hungary in 1822.

**Typical constituents:** Esters 72–78% (incl. 2-methyl butyl angelate 4–25%, 3-methyl butyl angelate 4–6%, 3-methyl pentyl isovalerate 21%, methyl angelate 16%, isobutyl angelate 4%, methylbutyl methyl propionate 1–25%, methylbutyl methylbutyrate 1–25%, methylpropyl butyrate 1–10%, methylpropyl methylbutyrate 0–10%,

methylpropyl angelate 1–25%, butyl angelate, propyl angelate, methylpentyl angelate, hexyl acetate, isobutyl isobutyrate) • ketone pinocarvone 13% oxide 1,8-cineole 0–25% • sesquiterpenes (incl. sabinene 1–10%, caryophyllene 0–10%, chamazulene 0-trace, copaene, cadinene) • aldehyde 0–10% • monoterpeneol trans-pinocarveol 5% • sesquiterpenols 5–6% (incl. farnesol, nerolidol) • coumarin scopoletin glucoside

**Chance of adulteration:** Moderate, and usually with the cheaper, more available Moroccan wild camomile (*Ormenis mixta*) which, however, has a quite different chemical profile.

**Related oils:** In the daisy family, those oils most commonly distilled are German camomile (*Matricaria recutita*), Blue tansy (*Tanacetum annuum*), Yarrow (*Achillea vulgaris*), Helichrysum (*Helichrysum angustifolium*), Moroccan wild camomile (*Ormenis mixta*) and Sweet annie (*Artemisia annua*), Cape camomile (*Eriocephalus punctatus*) and Cape snowbush (*Eriocephalus africanus*).

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – *All applications*

Nervous tension, **oversensitivity**, agitation, **irritability**, moodiness, **agitated depression**, **emotional frustration**, **anger**, resentment, rage, **anxiety**, aches and pains, headaches, dizziness, **muscle pains**, **shooting nerve pains**, skin rashes, restless sleep, nightmares, **insomnia**, muscle tremors and spasms, **painful periods**, pelvic pain, **all symptoms worse with stress**

### PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Relaxant in overstimulation conditions; regulating in dysregulation conditions

**Possible brain dynamics:** Reduces basal ganglia and deep limbic system hyperfunctioning; resolves temporal lobes dysregulation

**Fragrance category:** Middle tone with sweet, green notes

**Indicated psychological disorders:** Bipolar disorder, anxiety states, depression, phobias, panic attacks, PTSD

### PROMOTES EMOTIONAL FLEXIBILITY AND STABILITY

- Emotional conflict with lack of flexibility, rigidity, worry

- Irritability, mood swings, anger management issues
- Emotional instability with distressed feelings (including negativity, cynicism, jealousy, self-deprecation, guilt, suicidal tendencies)

#### CALMS THE MIND AND PROMOTES RELAXATION

- Nervous tension, restlessness, distraction; impulsivity
- Anxiety, including with depression; fear, panic, phobia
- Agitated depression

#### PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Nervous, digestive, urinary, respiratory systems

**Essential functional and diagnostic indication:** Relaxes hypertonic/tense conditions

*systemic nervous relaxant:* hypertonic (tense) conditions with nervous tension, pain, irritability; all acute stress-related conditions

*strong analgesic, spasmolytic and anti-inflammatory:* a large range of acute spasmodic, pain and inflammatory conditions, of both smooth and striated muscles; incl. tension and vascular headaches, incl. migraine; acute and chronic pain conditions

- *strong cerebral sedative, hypnotic:* insomnia, agitation, anxiety, PMS, nightmares
- *strong neuromuscular relaxant:* muscle spasms, aches and pains; arthritic and rheumatic pain, fibromyalgia, tendinitis, bursitis, neuritis, plantar fasciitis, CTS, neuralgia, lumbar and back pain, gout; sore throat, toothache, earache; painful or itching dermatitis, eczema, urticaria, shingles, conjunctivitis
- *uterine relaxant:* spasmodic dysmenorrhoea, ovarian pain, orchitis
- *biliary and gastrointestinal relaxant:* nervous indigestion, intestinal colic, IBS, colitis, gallstone colic, cholecystitis, pancreatitis, gastritis

*moderate antihistamine, anti-allergic:* conditions of immediate allergy, incl. dermatitis, atopic asthma, urticaria, rhinitis, etc.

*aperitive, carminative:* appetite loss, flatulence

*antipyretic:* intermittent fevers

*anthelmintic, vermifuge:* *Giardia lamblia*, hookworm (*Ankylostoma*)

#### SYNERGISTIC COMBINATIONS

- Roman chamomile + Lavender: *relaxant analgesic-spasmolytic and anti-inflammatory* in a variety of acute tense, spasmodic and/or inflammatory conditions, incl. headache, colitis, colic, spasmodic dysmenorrhoea, neuromuscular pain/spasm/inflammation
- Roman chamomile + Lavender + Clary sage: *uterine spasmolytic-analgesic* for acute spasmodic dysmenorrhoea; ovarian and pelvic pain in general
- Roman chamomile + Clary sage: *relaxant and restorative analgesic-spasmolytic* in chronic hypertonic and atonic conditions, esp. in painful spasmodic gynaecological and neuromuscular conditions with neurasthenia, fatigue, insomnia, chronic stress

#### COMPLEMENTARY COMBINATIONS

- Roman chamomile + Marjoram: *relaxant and hypnotic analgesic-spasmolytic* in many acute hypertonic, spasmodic painful conditions, esp. in stress-related conditions with anxiety, agitation, insomnia
- Roman chamomile + Blue tansy: *anti-inflammatory and analgesic* for acute neuritis, neuralgia, dermatitis
- Roman chamomile + Peppermint: *biliary-gastrointestinal spasmolytic and anti-inflammatory* for acute gallstone colic, cholecystitis, pancreatitis, colitis, intestinal colic

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Sensitive and oily skin types

*anti-inflammatory, antiallergic:* skin irritation or inflammation, incl. from allergy, incl. dermatitis, eczema; scalds, burns, acne, boils, gum inflammation

*vulnerary, antiseptic:* cuts, wounds, sores, ulcers (all esp. slow-healing), broken capillaries, cracked nipples

*analgesic, antipruritic:* muscle cramps and pains (see also above), painful or itchy dermatitis, insect bites, teething pain, toothache

**Precautions:** Although Roman chamomile is non-irritant and non-sensitizing to the skin, and is able to treat allergic dermatitis, it has also been known to cause an allergic rash (i.e. contact dermatitis) very occasionally in individuals who are generally hypersensitive to plants in the daisy family.

Excessive doses for internal absorption may potentiate anti-coagulant drugs because of its coumarin content (Lis-Balchin 2006).

**Preparations:**

- Diffusor: 2–3 drops in water
- Massage oil: 2–4% dilution in vegetable oil
- Liniment: 2–8% dilution in vegetable oil
- Gel cap: 1–3 drops with olive oil

**Chinese Medicine Functions and Indications**

**Aroma energy:** Sweet, green

**Movement:** Circulating and descending

**Warmth:** Neutral to cool

**Meridian tropism:** Liver, Heart

**Five-Element affinity:** Wood, Fire

**Essential function:** To regulate the Qi, calm the Liver and harmonize the Shen

1. Spreads Liver Qi, relaxes constraint, harmonizes the Shen and relieves pain

- **Liver Qi constraint with Shen disharmony**, with moodiness, frustration, irritability, indigestion, aches and pains:  
Mandarin/Petitgrain/Blue tansy/Helichrysum
- **Liver-Spleen disharmony** with abdominal colicky pains, irregular loose stool, digestive symptoms worse from stress:  
Bergamot/Lavender/Peppermint
- **Liver and Uterus Qi constraint** with menstrual cramps, symptoms of PMS:  
Lavender/Marjoram/Sage/Helichrysum

2. Calms the Liver, descends the Yang, extinguishes wind and relieves spasms

- **Liver Yang rising (floating Yang) with Shen agitation**, with tension, headaches, muscle tension, restlessness:  
Clary sage/Lavender/Blue tansy
- **Internal Liver wind** with spasms, tremors, convulsions, low-grade fever:  
Marjoram/Spikenard/Laurel

### 3. Nourishes Liver Yin, reduces irritability and calms the Shen

- **Liver Yin deficiency with Shen agitation** with irritability, frustration, agitated depression, restless sleep, insomnia, nightmares:

Clary sage/Helichrysum/Vetiver

### 4. Dispels wind-damp-heat from the meridians and relieves pain

- **Wind-damp-heat obstruction** with joint or muscle pain, swelling, redness:

Lemon eucalyptus/Basil/Wintergreen

#### REMARKS

As a premier medicinal plant, Roman chamomile has played an important part in the materia medicas of the medical systems of ancient Egypt, Greece, Islam and Europe. With the development of full-scale essential oil distillation in English Tudor times, English chamomile became more than just a pedestrian strewing herb around the house; even more than a beloved and trusty remedy from the physick garden. It became a popular essential oil and aromatic water that eventually came to be distilled in many a still-room throughout the country. Today, Roman chamomile essential oil as a special aromatic continues this hoary tradition with an enhanced application to mental-emotional as well as physiological conditions. This aromatic remedy has much in common with other medicinal members of the daisy family, such as German chamomile, Blue tansy, Yarrow and Helichrysum.

With its extremely high levels of fragrant esters reminiscent of green apples and late-summer fields, Roman chamomile oil today is seen as one of the classic relaxant remedies. Using the diagnostic model of the Six Conditions, it is one of the most effective aromatics for treating **tense conditions**. This oil will shine when the tension is systemic, causing pain, spasm, inflammation and **energy stagnation**. Roman chamomile is able to relax and diffuse tension at its root, in the brain and nervous system, acting as a good *hypnotic* for acute stress-related conditions in particular. Like Marjoram oil, it then unfolds a systemic *relaxant* effect that affects smooth and striated muscles equally, involving excellent *analgesic*, *spasmolytic* and *anti-inflammatory* actions. Roman chamomile comprehensively treats conditions of **pain** by *sedating* the central end of the nervous system and *inhibiting pain* at the peripheral end. The oil is unequalled in treating tension headaches, for instance, as well as nervous indigestion, colic and the like.

In Chinese medicine terms, Roman chamomile excels for individuals presenting constrained Qi causing Qi stagnation and internal wind. As an oil that has the potential to cool in those tending to Liver Qi stagnation turning into heat, it also exerts a descending function that reduces floating Yang and conditions of Shen agitation.

Unlike Marjoram, Lavender or Clary sage, however, Roman chamomile does not exert a complementary *nervous restorative* action: it is simply a straight-ahead relaxant

that is most useful in those presenting recent or acute emotional tension, irritability or agitation, along with physical signs. When used topically or with acupoints, it certainly does not need combining with any other oils to be effective, but it certainly can be when there is a need to manage more complex conditions.

When this aromatic is used by inhalation, Roman chamomile conjecturally reduces hyperfunctioning of the basal ganglia and deep limbic system. Psychologically it exerts a softening, soothing, calming and centring effect that is appropriate for individuals that present any rigidity, harshness, tension, anxiety or instability. Roman chamomile can especially help dissolve those ego defenses rooted in anger. Promoting both flexibility and stability (possibly by regulating the temporal lobes), the oil is extremely useful for emotional rigidity and for helping dissolve distressed feelings of negativity, especially when these involve anger issues. Roman chamomile's highly effective relaxant effect works here by olfaction to reduce nervous tension, impulsivity, anxiety and so on. Because of this, Roman chamomile should only be used for the agitated or nervous type of depression, not the melancholic or liver type, nor any depression arising from a weak, e.g. neurasthenic condition.

Like an abundant Earth Goddess, Roman chamomile engages the gentle warmth and sweetness of lingering late summer days, inviting us to relax into the inherent harmony of life's rhythms, to yield to the innate flow of life and enjoy its fruits of cyclical nurture and serenity. In so doing, it may gift us with the valuable experience of being sustained by and belonging to the whole universe rather than operating merely from the identity and will of the separate self.

**Note:** Two similar but lesser-known oils in the daisy family are the following:

- **Cape chamomile** (*Eriocephalus punctatus*), an evergreen bush from the Western Cape region of South Africa, has sweet-green fragrance notes similar to Roman chamomile and is also dominant in esters. By both inhalation and internal delivery it is used for tense conditions marked by anxiety, irritability, pain and spasms. Cape chamomile is a *cooling systemic nervous, cerebral and neuromuscular relaxant* with specific indications broadly the same as Roman chamomile. It is a specific for agitated depression. The oil is additionally *anti-allergic* and often used in topical preparations for eczema (dermatitis) and other hot, inflamed skin lesions, e.g. boils, acne, insect bites and sunburn.
- **Cape snowbush** (*Eriocephalus africanus*), also known as Kapokbush and Wild rosemary, is a showy bush with rosemary-like leaves from the Western Cape and Karoo regions of South Africa. With sweet-green fragrance notes, the oil is dominant in linalyl acetate and exerts a *nervous restorative* and *sedative* action useful for chronic insomnia, neurasthenia and chronic depression. It acts as a *relaxant spasmolytic* in the digestive tract for colic, flatulence and diarrhoea; a *uterine relaxant-stimulant* for painful or delayed menstruation, and a good *haemostatic* for hemorrhagic conditions. Topically it is *tissue regenerative, vulnerary, styptic* and *antiseptic* in the case of wounds and bleeding.

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# Rosemary ct. Cineole and ct. Camphor



**Botanical source:** The herb of *Rosmarinus officinalis* L. ct. *cineole* and *Rosmarinus officinalis* L. ct. *camphor* (Lamiaceae/Labiatae – lipflower family)

**Other names:** Romarin (Fr), Rosmarin (Ge), Rosmarino (It), Romero (Sp)

**Appearance:** A mobile clear fluid with a sweet-herbaceous odour with strong fresh pungent-camphoraceous overtones. Rosemary ct. *cineole* is usually more sweet and fresh-pungent, while Rosemary ct. *camphor* is more green-herbaceous.

**Perfumery status:** A head note of high intensity and poor persistence

**Extraction:** Steam distillation of the whole fresh leafy shrub in flower; throughout most of the year in Morocco and Algeria, and in spring in other Mediterranean countries. In Croatian Dalmatia it is traditional to distill the leaves alone without the stems. The fragrance quality of the oil is inversely proportional to the amount of woody stems used – hence the finest quality Rosemary oil, historically, was probably produced by Dalmatian distillers between about 1850 and 1939, the era when Dalmatian Rosemary oil – a pure needle oil – was at peak production.

**1 kg oil yield from:** 50–100 kg of the herb (a good yield)

**Production areas:** Morocco, Algeria, Spain, France, Italy, Croatia, South Africa

**Typical constituents:** Oxides (incl. 1,8-cineole: 38–58% in R. ct. cineole, 17–25% in R. ct. camphor; caryophyllene oxide, humulene epoxydes I and II) • monoterpenes 30–37% (incl. alpha- and beta-pinenes 4–32%, camphene 3–13%, myrcene 0–10%, limonene 1–5%, terpinenes, para-cymene, phellandrene) • monoterpenones (incl. camphor [12–22% in R. ct. camphor], verbenone, carvone) • sesquiterpenes (incl. beta-caryophyllene 1–3%) • terpenoid esters (incl. bornyl acetate <1.6, alpha-fenchyl acetate) • monoterpenols (incl. linalool, terpineol, borneol, thujanol, cymeneol, verbenol) • aliphatic ketones (incl. hexanone, methylheptanone)

**Chance of adulteration:** Moderate, because of the good supply and yield. Adulterants may include cheap grades of Eucalyptus oils (*Eucalyptus* spp.), White camphor oil (*Cinnamomum camphora*), Spanish sage oil (*Salvia lavandulifolia*), Turpentine oil (*Pinus* spp.) and fractions from synthetic terpineol production, as well as many other synthetic constituents (Lis-Balchin 2006).

**Related oils:** Other chemical variants or chemotypes of Rosemary, the most common being **Rosemary ct. verbenone**. See the discussion under Note below.

## Therapeutic Functions and Indications

**Therapeutic status:**

- *Rosmarinus officinalis* ct. *cineole*: Mild remedy with no cumulative toxicity
- *Rosmarinus officinalis* ct. *camphor*: Medium-strength remedy with mild cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

SPECIFIC SYMPTOMATOLOGY – *All applications*

**Discouragement, pessimism**, apathy, grief, **depression**, timidity, withdrawal, feels disconnected, **low self-confidence**, low self-worth, feels stuck in a rut, **chronic tiredness**, lethargy, cold hands and feet, **sluggishness in the morning and/or late afternoon**, poor stamina, **chronic headaches**, **poor concentration and memory**, palpitations, chronic cough with sputum, **chronic digestive problems**, **scanty or absent periods**, varicose veins, muscle and joint aches and pains

PSYCHOLOGICAL – *Aromatic diffusion, whole-body massage*

**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases basal ganglia and prefrontal cortex functioning

**Fragrance category:** Middle to top tone with pungent, sweet, green notes

**Indicated psychological disorders:** ADD, depression

STIMULATES THE MIND AND PROMOTES ALERTNESS

- Lethargy, drowsiness, stupor
- Mental foginess, disorientation, lack of concentration, poor short-term memory

PROMOTES MOTIVATION AND SELF-CONFIDENCE

- Loss of motivation, apathy, procrastination, self-neglect
- Low self-esteem and self-confidence, cynicism, pessimism, depression
- Loss of connection, withdrawal, detachment

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, passary, liniment*

**Tropism:** Neuroendocrine, respiratory, cardiovascular, digestive, neuromuscular systems

**Essential functional and diagnostic indication:** Restores, stimulates and warms hypotonic/weak and asthenic/cold conditions

**Primarily stimulant:**

*arterial circulatory stimulant, hypertensive:* a wide range of asthenic (cold) conditions with central, peripheral and cerebral circulatory deficiency, with cold extremities, hypotension, cerebral/mental deficiencies

- *cardiac stimulant/restorative:* cardiac weakness, congestive heart failure
- *respiratory stimulant:* mucolytic expectorant: congestive upper and lower respiratory conditions, incl. bronchitis (esp. chronic), chronic asthma, sinusitis, rhinitis
- *digestive and gastrointestinal stimulant:* choleric, cholagogue, stomachic, carminative: atonic biliary and gastric dyspepsia with flatulence; gastrointestinal atony; chronic gastroenteritis, colitis
- *liver stimulant: decongestant, detoxicant, antilipemic:* liver congestion, jaundice, chronic cholecystitis and hepatitis, cirrhosis, gallstones; hyperlipidemia
- *uterine stimulant: emmenagogue:* atonic amenorrhoea, oligomenorrhoea

### Primarily restorative and regulating:

*nervous and cerebral restorative:* hypotonic (weak) conditions involving cerebral deficiency, neurasthenia with mental and physical fatigue; debility, memory or concentration loss, mental fog, somnolence, vertigo, depression; CFS, deficiencies of the special senses

*adrenocortical and adrenomedullary restorative and regulator:* adrenocortical deficiency with afternoon fatigue, low stamina, salt cravings; adrenomedullary deficiency; adrenal dysregulation or fatigue

*autonomic nervous regulator:* autonomic dysregulation with digestive and neurological symptoms

In small internal dose: *circulation equalizer, hypotensive:* hypertension, cerebral hypertension, headaches, incl. migraine; arteriosclerosis

*analgesic, spasmolytic (muscle relaxant), antirheumatic:* muscle spasms/cramps, pain and stiffness, tendinitis, rheumatic and arthritic conditions, fibromyalgia, muscle sprains, strains; neuralgic pain, CTS, plantar fasciitis

*venous decongestant:* venous deficiency with varicose veins, pelvic congestion

*antioxidant*

*moderate antibacterial:* incl. *E. coli*, *Staph. aureus*, *Vibrio cholerae*

*moderate antifungal:* incl. *Candida* spp., *Aspergillus parasiticus*

**Note:** Although Rosemary oil is traditionally defined as one of three different chemotypes, clinically we should not think of these as entirely separate oils with distinct uses. Each chemotype contains all three constituents (cineole, camphor and verbenone), but in different proportions. The three chemotype oils should be thought of as the extreme variants within a continuum, whose therapeutic actions and indications are essentially the same. There exist Rosemary oils from various countries that do not conform to a defined chemotype, but are simply more balanced in their proportions of cineole, camphor and verbenone. The reasons for choosing one chemotype over another then would only be to emphasize one or other of its common actions.

The following therapeutic differentiations among the three defined chemotypes may serve as a general rule of thumb:

- **Rosemary ct. cineole** is the most *stimulating* and *warming*, **Rosemary ct. verbenone** the least, and **Rosemary ct. camphor** somewhere in between. The amount of stimulation present is mainly related to its levels of 1,8 cineole.
- **Rosemary ct. camphor** exerts the best *muscle relaxant* and *analgesic* actions for muscle pain and spasms, relative to its levels of camphor.

- **Rosemary ct. verbenone** is the most *regulating* by nature, especially on the pituitary-gonadal axis and on cardiovascular functions.
- **Rosemary ct. cineole** and **ct. verbenone** have the best *antifungal* actions, while **Rosemary ct. verbenone** has the best *antiviral, antibacterial* and *antifungal* actions.

#### SYNERGISTIC COMBINATIONS

- Rosemary + Nutmeg: *arterial and cardiac stimulant, hypertensive* in asthenic conditions with cold skin and extremities, chronic hypotension
- Rosemary + Spike Lavender/Cajeput: *nervous restorative, arterial stimulant and analgesic* for neurasthenia with fatigue, poor circulation, rheumatic/arthritis conditions

#### COMPLEMENTARY COMBINATIONS

- Rosemary + Ravintsara/Eucalyptus: *respiratory stimulant and anti-infective* in upper respiratory infections, incl. sinusitis, rhinitis, otitis
- Rosemary + Cajeput: *stimulant expectorant and anti-infective* for bronchitis, acute rhinitis, sinusitis
- Rosemary + Thyme linalool: *stimulant expectorant and anti-infective* for chronic bronchitis, bronchial asthma
- Rosemary + Angelica root: *emmenagogue* for oligomenorrhoea, amenorrhoea
- Rosemary + Fennel: *choleric and cholagogue* for upper digestive deficiency with appetite loss, bloating, flatulence
- Rosemary + Lemon: *liver decongestant and detoxicant* for liver congestion, jaundice, hepatitis, gallstones
- Rosemary + Peppermint: *cerebral restorative* for mental impairment, incl. loss of focus, amnesia, somnolence, dizziness, vertigo
- Rosemary + Frankincense: *analgesic, antirheumatic* for muscle spasms, pains or sprains; rheumatic-arthritis conditions in general
- Rosemary + Geranium: *adrenal and pancreatic restorative* for adrenal fatigue with chronic low stamina, afternoon fatigue, blood-sugar imbalances, diabetes
- Rosemary + Tea tree: *nervous restorative* for neurasthenia with chronic physical and mental fatigue, debility, depression

TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Pale, cold skin types

*tissue stimulant, rubefacient:* lifeless/pale/cool/atonic/sagging/puffy (edematous) skin, acne, eczema

*analgesic, spasmolytic, counterirritant:* muscle pain, cramps, tendinitis, sprains, strains; toothache, headache

**Hair and scalp care:**

*hair restorative:* weak or oily hair, seborrhoea, dandruff

*hair-growth stimulant:* hair loss, alopecia

**Precautions:** Use all Rosemary oils with caution in children because of their 1,8 cineole content, and avoid use in babies and infants. Avoid using Rosemary ct. cineole and ct. camphor on damaged skin. Contraindicated internally during pregnancy because of its *uterine stimulant* action. Internal administration should be avoided in those prone to epilepsy. The cineole chemotype of Rosemary is also contraindicated in hypertension.

**Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 2–5% dilution in a vegetable oil
- Liniment: 5–7% dilution in a vegetable carrier oil
- Gel cap: 2–3 drops with some olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Pungent, sweet

**Movement:** Rising, circulating

**Warmth:** Warm

**Meridian tropism:** Lung, Spleen, Heart, Kidney

**Five-Element affinity:** Metal, Earth

**Essential function:** To tonify the Qi, warm the interior and strengthen the Shen

**1. Tonifies the Qi, raises the clear Yang, strengthens the Shen and relieves depression**

- **Qi deficiency with Shen weakness**, with physical and mental fatigue, depression, frequent infections, slow emotional response, sorrow:  
Tea tree/Ravintsara/Sage
- **Clear Yang Qi deficiency with Shen weakness**, with fogginess, disorientation, poor focus and memory, dizziness, headaches:  
Peppermint/Ravintsara/Cajeput/Saro
- **Heart Qi/Yang deficiency** with fatigue, palpitations, cold hands and feet, depression:  
Clove/Nutmeg/Winter savory

**2. Activates Qi and Blood, reduces stagnation and harmonizes the Middle Warmer; warms the interior, dispels cold and promotes menstruation**

- **Stomach-Spleen Qi and Blood stagnation** with chronic epigastric or abdominal pain, distension, constipation:  
Lavender/Peppermint/Fennel
- **Lower Warmer Qi and Blood stagnation** with internal cold, with painful, late scanty periods, amenorrhoea:  
Ginger/Juniper berry/Fennel
- **Blood stagnation in the lower limbs**, with varicose veins, ankle swelling:  
Cypress/Cajeput/Tea tree

**3. Warms the Lung, expels phlegm and relieves coughing**

- **Lung phlegm cold/damp** with chronic cough, sputum expectoration, cold extremities:  
Cajeput/Cardamom/Grand fir/Green myrtle

**4. Warms and releases the exterior, dispels wind-cold and opens the sinuses**

- **External wind-cold with Qi or Yang deficiency**, with sneezing, sinus congestion, cough, aches and pains, fatigue:  
Eucalyptus radiata/Ravintsara/Basil/Ginger

## 5. Warms and opens the meridians, dispels wind-damp-cold, relaxes the tendons and relieves pain

- **Wind-damp-cold obstruction** with rheumatic aches and pains, cold joints and muscles, joint stiffness and contraction:

Juniper berry/Frankincense/Ginger

### REMARKS

The hardy shrubby herb, rosemary, originates in the Mediterranean basin and has been located in relics as ancient as the pharaohic tombs of Egypt's First Dynasty. Fresh-pungent and sweet-herbaceous, rosemary was one of the most commonly used aromatics by ancient European and Middle Eastern cultures to purify and clear negative energy, alongside other important fragrance materials such as sage, laurel, cedarwood and frankincense. The traditional French name of this iconic herb, *incensier*, incense herb, is a record of its ubiquitous use throughout Western cultures – European, Roman, Greek, Cretan, Judaic and Egyptian – as a specific incense for religious worship and ritual. Greek and Roman temples, for instance, saw rosemary routinely fumigated as both offering and invocation to certain deities, especially to Athene, Artemis and Apollo.

Many secular occasions also saw rosemary branches fumigated to make them more memorable, including weddings, funerals, family or state meetings, festivals, banquets and such like. At these, rosemary would also be worn, strung together in garlands, leis and headdresses. During times of plague, rosemary was an important ingredient in anti-infectious posies. In modern times, rosemary fumigation with juniper twigs or sage leaves is recorded in French hospitals, for example, to purify the air and prevent infection.

In the semi-empirical tradition of Western herbal medicine, Rosemary also has a glowing reputation. Traditional apothecaries made Rosemary into countless medicinal, dietetic and confectionary preparations, a few of which have survived the systemic onslaught of modern science and chemical medicine. They include Rosemary tincture, essential oil, hydrosol and infusion; rosemary conserve (or preserve) and rosemary wine, a classic cordial drink traditionally taken to bolster heart functions (*cor* is Latin for heart). The Cologne apothecaries that created the most famous toilet water of all, Eau de Cologne, included Rosemary in the formula for its medicinal virtues as much as for its fresh herbaceous note.

Like most other essential oils in the West, Rosemary oil was first distilled during the early Renaissance or late Middle Ages, either in Spain or France, possibly as far back as the 13th century and conjecturally by the alchemist Arnald de Villanova. Since then, oil production has spread to other Mediterranean regions such as North Africa to the South and the Dalmatian coast to the East.

The essential oil incorporates many, if not most, of the herb's physiologic therapeutic actions, with important volatile constituents like oxides, monoterpenes and ketones at play. These emphasize *stimulation* and *warmth*, stimulating as they do the arterial circulation, nervous response and smooth and striated muscle activity. The degree of stimulation seems to be directly proportional to the oil's content in 1,8 cineole and monoterpenes. Rosemary is then the classic Western equivalent of Asian *stimulant* oils such as Cajeput and Niaouli and, as such, an important oil for treating **cold and weak conditions** with resultant **stagnation of energy and blood**. Sluggish, stagnant conditions of the upper digestive organs, including the gallbladder, it handles well, like Peppermint.

**Liver congestion** is another important indication for Rosemary, especially with the use of an oil high in verbenone (e.g. ct. verbenone). In women with sluggish menstrual functions from cold stagnation in the pelvis/uterus, Rosemary will act as a *warming emmenagogue*, like Blue cohosh root (*Caulophyllum thalictroides*). In the chest, this aromatic with its pungent dispersing effect is a good *stimulant expectorant* with a *mucolytic* action in congestive, mucousy bronchial conditions, like Elecampane root (*Inula helenium*). Used in liniments, Rosemary – like Nutmeg oil – is an important *warming spasmolytic* and *analgesic* topical in a large variety of **neuromuscular conditions**, especially when cold, lifeless tissues with pain, cramping and stiffness are involved.

As experienced by practitioners throughout history, Rosemary also has a specific affinity for the brain and for mental functions. Today we can understand this as resulting from a deeply *restorative* and *regulative* effect on various branches of the body's central axis, the neuroendocrine system. Pituitary, heart, adrenal and gonadal functions are enhanced and regulated, with special emphasis on the pituitary-heart connection and on regulating both the adrenal cortex and medulla. The pituitary action is especially pronounced in the verbenone chemotype. In this context, Rosemary should be chosen as a *mental stimulant* for treating **chronic weak and dysregulated conditions** presenting key symptoms such as chronic fatigue, loss of stamina, drowsiness, loss of mental focus and memory, depression and neurological symptoms that come and go.

In tandem with this, Rosemary stimulates the peripheral as well as central circulation, acting as a fine *cerebral arterial stimulant* with resultant benefits to mental and cognitive functions that remind one of the herb Ginkgo (*Ginkgo biloba*). Rosemary is a classic aromatic for vascular headaches, for instance, for this very reason. By enhancing both peptidic neuroendocrine functions and vascular perfusion, Rosemary clearly exerts an effect on the brain that is truly comprehensive. This is whether taken internally or by inhalation. In the vitalistic language of Chinese medicine, we may deem Rosemary a deep-acting Qi tonic that raises the clear Yang Qi to the head.

**Autonomic nervous and adrenocortical dysregulation** is a core metabolic indication for Rosemary in this connection – a common condition in Western societies systemically stressed by overwork, lack of sleep and emotional imbalances. **Blood**

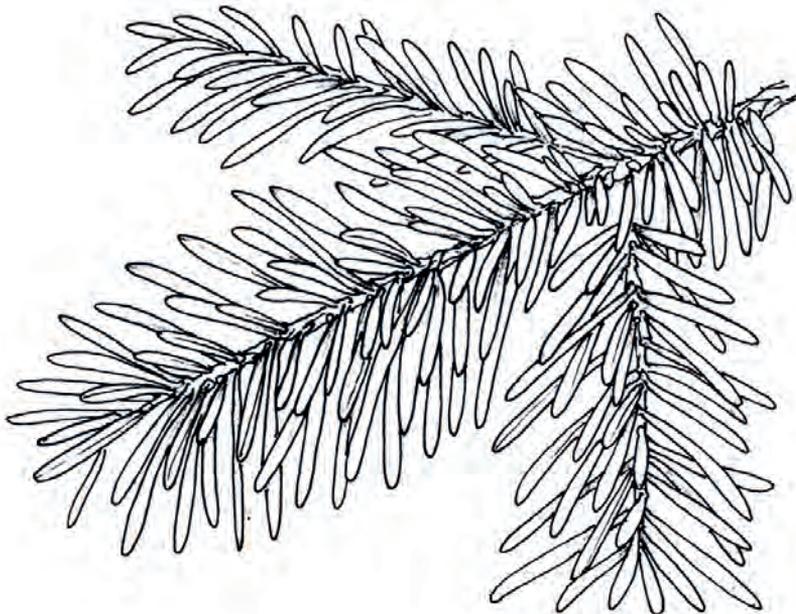
**pressure dysregulation** is also managed by this deeply regulating aromatic, which can act as a *hypertensive* and *hypotensive* equalizer of the circulation.

Considering its deeply *restoring* and *regulating* effects on both neuroendocrine and metabolic functions, it may be accurate to define Rosemary as a true *adaptogen*. It certainly comes as no surprise today that a Renaissance herbalist such as Otto Brunfels felt confident in declaring in his 1532 herbal: 'Rosemary slows down ageing, drunk on a regular basis.'

On the psychological side, this weakness and dysregulation translates as apathy, detachment, coldness and a pessimistic or cynical outlook, and is based on insufficiency of the basal ganglia and prefrontal cortex. The Rosemary individual suffers from emotional stagnation that arises from a more fundamental feeling of insecurity about their needs being met and a feeling of disconnection from the richness of life. With the fullness of its combined fresh-pungent and herbaceous-sweet fragrance qualities, Rosemary offers this individual the potential for increased self-worth, renewed motivation and the self-confidence needed to express themselves authentically.

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# Siberian Fir



**Botanical source:** The twig and needle of *Abies sibirica* Ledeb. (Pinaceae – pine family)

**Other names:** Sapin de Sibérie (Fr) Sibirische Tanne (Ge), Abete di Siberia (It), Abeto de Siberia (Sp)

Note that in commerce this oil is often mistakenly called Siberian pine, Pin de Sibérie (Fr), Sibirische Fichte (Ge), and so on.

**Appearance:** A mobile clear fluid with a fresh conifer, somewhat green-balsamic odour

**Perfumery status:** A head note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh end-twigs and needles, April through September

**1 kg oil yield from:** 100 kg of the fresh needles (a good yield)

**Production areas:** Siberia, Austria

**Typical constituents:** Monoterpenes 33–64% (incl. camphene 10–26%, alpha-pinene 10–22%, beta-pinene 2%, delta-3-carene 10–15%, limonene 4%, santene, alpha-phellandrene, terpinolene) • esters 27–50% (incl. bornyl acetate 25–49%, terpinyle

acetate) • monoterpenols borneol, alpha-terpineol, terpinen-4-ol • diterpenols (incl. iso-abienol trace) • sesquiterpenes <1% (incl. bisabolene, cadinene, caryophyllene, humulene, longifolene, gurjunene) • ketone camphor <1% • sesquiterpenols <1% (bisabolol, nerolidol) • ether methyl thymol • oxides <1% (incl. aryophyllene oxide, humulene II epoxide, manoyl oxide)

**Chance of adulteration:** Moderate, usually with other species of fir only as long as their supply remains good.

**Related oils:** Other fir oils extracted from the *Abies* genus include:

- **Grand fir** (*Abies grandis* Lindley) from France, with its fresh-lemony aroma
- **Silver fir** (*Abies alba* Miller) from France and Austria, with its sweet, fine conifer fragrance
- **Nordman's fir** (*Abies nordmanniana* [Steven] Spach) from Austria, with an even more fresh-lemony aroma than Grand fir
- **Balsam fir** (*Abies balsamea* Miller) from the Pacific Northwest of America and Canada, with its green conifer notes
- **Douglas fir** (*Abies douglasii* Lindl. syn. *Pseudotsuga menziesii* (Mirb.) Franko.) also from the Pacific Northwest of Canada and North America, with somewhat fresh-lemony topnotes and deep, balsamic-conifer base notes (stronger than Grand fir)

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing. However, some skin sensitization is possible with significant delta-3-carene content present, and some irritation if the oil is oxidized.

### SPECIFIC SYMPTOMATOLOGY – All applications

**Apathy, low self-confidence**, discouragement, depression, low endurance, low will power, indecision, **mental or emotional burnout, muscle aches, pains, cramps or stiffness**, stomach cramps, intestinal colic, **chronic cough**

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Restorative in weak conditions

**Possible brain dynamics:** Increases prefrontal cortex and basal ganglia functioning

**Fragrance category:** Top tone with pungent-camphoraceous and woody notes

**Indicated psychological disorders:** ADD, depression, dissociative disorder, psychotic and schizoid conditions

PROMOTES WILL POWER, COURAGE AND ENDURANCE

- Low will power or strength, indecision
- Discouragement, low endurance or perseverance, grief
- Mental and emotional burnout

PROMOTES MOTIVATION AND SELF-CONFIDENCE

- Loss of motivation with apathy, procrastination, self-neglect, flat affect
- Low self-esteem and self-confidence, depression

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Nervous, respiratory, digestive, musculoskeletal systems

**Essential functional and diagnostic indication:** Restores hypotonic/weak conditions and relaxes hypertonic/tense conditions

**Primarily restorative and decongestant:**

*nervous restorative:* mental and physical fatigue, neurasthenia, debility, depression

*pituitary-adrenal restorative and regulator:* adrenal fatigue or exhaustion with low stamina, afternoon fatigue, salt cravings; HPA axis deficiency; CFS, chronic asthma

*respiratory restorative, stimulant expectorant, antitussive:* chronic lower respiratory weakness and congestion, incl. weak lungs, chronic cough, bronchitis, emphysema

**Primarily relaxant:**

*neuromuscular relaxant, spasmolytic, anti-inflammatory:* spasmodic conditions of the smooth and striated muscles, especially respiratory, digestive, skeletal

- *bronchial relaxant (bronchodilator), antitussive:* spasmodic asthma, croup, whooping cough
- *gastrointestinal relaxant, analgesic:* intestinal colic, colitis, IBS; upper digestive dyspepsia, stomach cramps
- *muscle relaxant, analgesic:* muscle aches, pains and cramps; rheumatic-arthritis conditions with cramps, stiffness; fibromyalgia

***respiratory and urinary antibacterial:*** chronic bronchitis, whooping cough, urinary infections incl. cystitis, urethritis

***immune stimulant(?)***

#### SYNERGISTIC COMBINATIONS

- Siberian fir + Lavender: *nervous restorative and relaxant* in chronic asthenia with anxiety, sleeping problems, stress
- Siberian fir + Roman camomile: *intestinal spasmolytic and analgesic* in colic, colitis, IBS
- Siberian fir + Roman camomile/Marjoram: *analgesic muscle relaxant* for muscle spasms, pain, cramping
- Siberian fir + Black spruce: *respiratory relaxant and restorative, expectorant* for chronic asthma, chronic bronchitis with fatigue, low stamina
- Siberian fir + Bergamot: *urinary antibacterial* for cystitis, urethritis and other urinary infections

#### COMPLEMENTARY COMBINATIONS

- Siberian fir + Scotch pine: *stimulant expectorant* for chronic bronchitis with cough, chest tightness, chronic fatigue
- Siberian fir + Cypress: *antitussive* for coughing, wheezing, apnea, esp. with underlying weakness
- Siberian fir + Basil/Fennel: *bronchodilator* for spasmodic asthma with anxiety, stress
- Siberian fir + Fennel/Peppermint: *intestinal spasmolytic* for intestinal colic, IBS, colitis with pain
- Siberian fir + Rosemary/Laurel: *antirheumatic* in painful, cramping rheumatic-arthritis conditions

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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##### **Skin care:**

***rubefacient, analgesic, spasmolytic:*** muscle aches and pains, incl. from cold or exertion; muscle cramps, sprains, strains

***deodorant***

**Precautions:** Some skin sensitization with rashes is possible if Siberian fir oil is high in delta-carene or is somewhat oxidized from age; therefore avoid in those with sensitive skin. For all topical use, only use this oil if relatively fresh, i.e. non-oxidized.

Avoid using Siberian fir during acute asthma attacks, because of a theoretical risk of causing bronchospasm. This oil is best used in between attacks.

**Preparations:**

- Diffusor: 3–5 drops in water
- Massage oil: 2–4% dilution in vegetable oil
- Liniment: 4–10% dilution in vegetable carrier oil after doing a patch test for skin irritation
- Footbath: 2–4 drops in warm water with two teaspoons of sea salt
- Gel cap: 2–3 drops with olive oil

### **Chinese Medicine Functions and Indications**

**Aroma energy:** Pungent, woody

**Movement:** Rising and circulating

**Warmth:** Neutral to warm

**Meridian tropism:** Lung, Bladder, Spleen

**Five-Element affinity:** Metal, Water

**Essential function:** To tonify and regulate the Qi, and strengthen the Shen

**1. Tonifies the Qi, strengthens the Shen and relieves fatigue**

- **Qi deficiency with Shen weakness**, with physical and mental fatigue, low vitality and stamina, grief:  
Rosemary/Lemon/Ravintsara

**2. Warms the Lung, dispels wind-cold, expels phlegm and relieves coughing**

- **Lung wind-cold** with cough, sore throat, aches and pains, fatigue, sinus congestion:  
Eucalyptus (narrow-leaf)/Rosemary/Ravintsara
- **Lung phlegm-cold** with cough, sputum expectoration, fatigue:  
Fennel/Hyssop/Frankincense

### 3. Circulates and descends Lung Qi, opens the chest and relieves wheezing

- **Lung Qi accumulation** with asthmatic breathing, wheezing, chest pain, distension:

Cypress/Hyssop/Basil

### 4. Harmonizes the Middle Warmer and relieves pain

- **Stomach-Spleen Qi stagnation** with epigastric pain and bloating, abdominal pain, colic, diarrhoea:

Fennel/Peppermint/May chang

### 5. Warms and opens the meridians, dispels wind-damp-cold and relieves pain

- **Wind-damp-cold obstruction** with rheumatic aches and pains:

Juniper berry/Rosemary/Frankincense/Black pepper

#### REMARKS

Like the majestic black spruce, the Siberian fir tree is a native of the taiga or boreal forest biome. This ancient conifer inhabits the vast expanses that range from the river Volga through Siberia to the Russian Far East. Hardy and frost resistant, it thrives in a subarctic climate marked by extremes of year-round cold, dampness and darkness. Distillation of the oil goes back to at least the early 19th century and occurs during the very short summer months.

Among the many conifer oils distilled today, Siberian fir oil is *the* classic conifer oil. It enjoys a long history of use in both traditional Russian and European spas and mineral spring resorts as an invigorating oil for Turkish steam baths, massage liniments and the like. Long prized also in the perfumery trade for its fine, fresh conifer needle notes, this oil has also come into its own among essential oil practitioners. Its unique fragrance profile is said to be derived mainly from its content in camphene and the ester bornyl acetate. Coincidentally, these two constituents can also be seen as the very two emblems of its therapeutic actions.

In traditional health and fitness circles, Siberian fir oil has always been thought of as a polycryst kind of respiratory remedy and a revitalizing energy tonic rolled into one. As the conditions that foster the tree's growth would suggest, the oil embodies the vitality that is needed to resist challenging conditions. This translates on the level of physiology into a deeply-acting tonification of the HPA axis, as signaled by the constituent delta-3-carene (Penoe 1990). Long-term **nervous and adrenal deficiency** and its subsequent disorders is therefore its main indication. The key symptoms are always chronic low stamina, mental and physical fatigue, shallow breathing, etc. In Chinese medicine parlance, this would be a chronic Qi deficiency.

It is no coincidence that Siberian fir also has a strong affinity for strengthening and rebalancing that part of the body's energy that is derived from the inbreath, from oxygenation. Specifically, it exerts a three-pronged action on the lungs and bronchi: *restorative*, *decongestant* and *relaxant*. This oil is therefore best used in chronic respiratory conditions typified by **weak lungs**, **phlegm congestion** and **bronchial spasm**. This is its main use for a particular organ dysfunction rather than for a systemic imbalance.

On one hand Siberian fir warms, dries and decongests lungs permeated by the energies of cold and damp; here it is one of the very best aromatic remedies for respiratory conditions marked by chronic cough, ranging from chronic bronchitis to emphysema. For these, topical and inhalation methods of treatment are both very effective. Siberian fir combines well here with other *respiratory restoratives* and *expectorants* such as Cypress, Scotch pine and Black spruce – tree aromatics all. In the case of a respiratory infection, it should be combined with oils much more active against microbes, such as Thyme, Tea tree and Niaouli.

On the other hand, Siberian fir is also uniquely a *bronchial relaxant*, finding good use in most **spasmodic bronchial conditions**. Its exceptionally high levels of the ester bornyl acetate is held to be active here. Moreover, Siberian fir can also be used as a *smooth and striated-muscle relaxant*, and with its additional *analgesic* and *anti-inflammatory* actions will serve other painful spasmodic conditions, particularly in the gut when delivered by gel cap. Topical preparations will put these actions applied to **rheumatic-arthritic conditions** in general.

When used as a psychological remedy by inhalation, this oil's fresh, pungent and balsamic-green notes confer the same strength and vitality on the register of the soul. Siberian fir is for the person who is chronically discouraged and lacks the will, motivation or stamina to persevere in the face of life's challenges. The timeless quality of endurance that this conifer oil embodies can also act as an ally in states of grief, burnout and nervous depression or breakdown. In time, Siberian fir will gently but firmly, insistently, awaken an inkling of inspiration, of a new vision, that can bring the individual to experience fresh confidence, positivity and motivation.

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# Spearmint



**Botanical sources:** The herb of *Mentha spicata* L. (Lamiaceae/Labiatae)

**Other names:** Menthe crépue (Fr), Grüne Minze (Ge), Menta romana (It), Menta verde (Sp)

**Appearance:** A mobile clear fluid with a sweet herbaceous and somewhat fresh-pungent odour

**Perfumery status:** A heart note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh herb in flower, usually in June and September

**1 kg oil yield from:** 50–100 kg of the semi-dried herb (a good yield)

**Production areas:** Northwest USA, China, South America, Japan

**Typical constituents:** Ketones (—)-carvone 58–70%, dihydrocarvone 1–2%, menthone 1–2%, pulegone • monoterpenols (incl. trans-thujanol-4 20%, menthol, linalool, borneol, dihydrocarveol, neodihydrocarveol, cis-7-transcarveol, perillic alcohol) • monoterpenes (incl. limonene 18%, myrcene 4%, alpha- and beta-pinene, camphene, alpha-phellandrene) • sesquiterpenes (incl. beta-caryophyllene 2%, beta-bourbonene 2%, alpha-elemene, farnesene) • esters (incl. dihydrocarvyl acetate,

cis- and trans-carvyl acetate) • oxide 1,8-cineole 1–3% • sesquiterpenols (incl. farnesol, elemol, cadinol) • octan-3-ol

**Chance of adulteration:** Rare because of its low cost, but occasionally with extra carvone

**Related oils:** Other oils also considered types of Spearmint oil include:

- **Moroccan spearmint** or **Nana mint** (*Mentha viridis* var. *nana*) from North Africa (Morocco), also cultivated and distilled in France and South Africa
- **Curly mint** (*Mentha spicata* var. *crispa*)
- **Scotch spearmint** or **Red mint** (*Mentha gracilis*)
- **Russian spearmint** (*Mentha verticellata*)

Moroccan spearmint is the only one of these available in any commercial quantities.

### Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with slight cumulative toxicity with prolonged usage

**Topical safety status:** Non skin-irritant, non-sensitizing

#### SPECIFIC SYMPTOMATOLOGY – All applications

**Emotional disposition, mood swings,** irritability, negative feelings, **emotional and mental confusion,** distraction, **lethargy especially in the morning,** poor appetite, **epigastric fullness and bloating right after eating,** scanty difficult urination, nasal congestion, cough with copious sputum

#### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulated conditions; mild stimulant in weak conditions

**Possible brain dynamics:** Reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with sweet, green, pungent notes

**Indicated psychological disorders:** Bipolar disorder, ADD

#### PROMOTES EMOTIONAL STABILITY AND RENEWAL

- Emotional confusion with conflict; distraction, mood swings, emotivity
- Feeling-sensing disconnection and conflict
- All pathogenic (stuck) emotions and distressed feelings in general

**MILDLY STIMULATES THE MIND AND PROMOTES ALERTNESS**

- Lethargy, drowsiness
- Mental confusion, disorientation, poor concentration

**PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, liniment***

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**Tropism:** Nervous, respiratory, digestive, urinary systems**Essential functional and diagnostic indications:** Decongests congestive/damp conditions

*mucoytic expectorant, mucosal restorative and mucostatic, anti-inflammatory:* congestive upper and lower respiratory conditions with discharges, incl. acute and chronic bronchitis, sinusitis, rhinitis, pharyngitis, laryngitis; esp. mucopurulent conditions

*biliary and gastric stimulant: choleric, cholagogue, carminative, aperitive:* biliary and gastric dyspepsia with epigastric bloating, appetite loss

*antiemetic:* nausea, vomiting, hiccups

*urinary anti-inflammatory, mild diuretic:* urinary infections (cystitis, urethritis), oliguria

*antipyretic:* fevers

*mild nervous sedative:* mild anxiety or insomnia; overstimulation, stress-related symptoms

*agalactic:* weaning from lactation

**Antimicrobial actions:**

*antibacterial:* bacterial infections, incl. with *H. Pylori*, *Staph. aureus*, *Salmonella ent.*, *E. coli*, esp. respiratory, urinary and gastrointestinal infections, dental caries

*antifungal:* fungal infections with *Candida* spp., *Aspergillus* spp., *Microsporium* spp., *Trichophyton* spp. incl. thrush, candidiasis, fungal skin conditions, incl. mycoses, tinea/ringworm

**SYNERGISTIC COMBINATIONS**

- Spearmint + Hyssop: *mucoytic expectorant* and *antibacterial* for acute or chronic bronchitis with copious sputum, esp. purulent; whooping cough
- Spearmint + Peppermint: *gastro-biliary stimulant* and *antiemetic* for acute upper digestive distress with bloating, appetite loss, vomiting

#### COMPLEMENTARY COMBINATIONS

- Spearmint + Green myrtle: *mucolytic and mucostatic expectorant* in acute and chronic bronchial congestion with mucopurulent sputum
- Spearmint + Mandarin/Petitgrain: *gastro-biliary stimulant* for upper digestive distress caused by mental or emotional stress
- Spearmint + Lemongrass: *antipyretic* and *nervous sedative* for fever with upper digestive disorders, esp. with stress, agitation
- Spearmint + Lavender: *antipyretic* and *relaxant* in fevers with irritability, agitation, insomnia, head colds
- Spearmint + Niaouli: *urinary antibacterial* in urinary infections
- Spearmint + Ginger: *antiemetic* for nausea and vomiting

**Note:** Moroccan spearmint (*Mentha viridis* var. *nana*) has very similar functions and indications to Spearmint, but in addition may have an *antiparasitic* action especially useful for skin parasites. It is also used topically for bruises, sprains and hemorrhage.

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Oily skin type

*vulnerary, antiseptic, analgesic, anti-inflammatory:* wounds, sores, scabs, scalds, burns, dermatitis

*skin regenerator(?):* scars

*capillary stimulant(?):* cold lifeless skin, sports massage

**Precautions:** Internal use of Spearmint oil is cautioned, but not contraindicated, in children and pregnant women because of the ketone carvone, which some consider moderately neurotoxic. Also use with caution on very sensitive skin.

#### Preparations:

- Diffusor: 2–4 drops in water
- Massage oil: 2–5% dilution in lotion or vegetable oil
- Liniment: 5–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Sweet, green, pungent

**Movement:** Circulating

**Warmth:** Cool

**Meridian tropism:** Liver, Lung, Bladder, Heart

**Five-Element affinity:** Wood, Metal

**Essential function:** To regulate the Qi, cool the exterior and harmonize the Shen

**1. Spreads Liver Qi, relaxes constraint and harmonizes the Shen**

- **Liver Qi constraint with Shen disharmony**, with irritability, mood swings, frustration, distraction, emotional behaviour:  
Mandarin/Bergamot/Blue tansy

**2. Activates the Qi, reduces stagnation, descends rebellious Qi and harmonizes the Stomach**

- **Liver-Stomach disharmony/Qi stagnation** with epigastric fullness, bloating, appetite loss, nausea, vomiting:  
Mandarin/Peppermint/May chang/Fennel
- **Stomach Qi rebellion** with nausea, hiccups, vomiting:  
Fennel/Cardamom/Ginger

**3. Cools and releases the exterior, dispels wind-heat, soothes the throat and stops discharge**

- **External wind-heat** with sore throat, fever, irritability, restlessness:  
Eucalyptus, blue-gum/Lavender/Niaouli
- **Wind-heat in the sinuses** with nasal congestion, thick mucopurulent discharges:  
Niaouli/Tea tree/Thyme ct. linalool
- **Heat at any stage of fevers:**  
Lavender/Euclyptus, blue-gum/Lemongrass

**4. Cools the Lung, resolves and expels phlegm, and relieves coughing; drains Bladder damp-heat**

- **Lung phlegm-heat/damp** with full cough, expectoration of thick fetid sputum:  
Green myrtle/Eucalyptus globulus/Tea tree/Zinziba

- **Bladder damp-heat** with scanty, difficult, painful or obstructed urination, dark urine, fever, irritability:

Lemon/Green myrtle/Thyme ct. thymol

#### REMARKS

Spearmint is an underrated essential oil in the therapeutic arena, despite – or perhaps because of – its ubiquitous use in the soap, toothpaste and soft drink industries. With its complex chemistry dominated by ketones and then monoterpenols, Spearmint goes well beyond the simple *carminative* action it is known for in herbal medicine. This aromatic remedy has much to offer for treating fevers and for damp, congestive conditions of the respiratory, hepatobiliary and urinary organs. Clearly, it stands on its own and is distinct in every way from its botanical relative Peppermint.

In the treatment of **fevers**, Spearmint is one of the few aromatic *antipyretic* agents, i.e. a cooling remedy that will control spiking fevers regardless of type or stage by gently lowering the temperature. Its *nerve sedative* action, although fairly mild, is especially useful for treating fevers of all kinds where irritability, restlessness or agitation is present. In fevers with upper digestive distress, including from food poisoning, Spearmint is an excellent choice. In fevers from a urinary infection, Spearmint again will bring its additional good *antibacterial*, *anti-inflammatory* and *diuretic* actions to its tropism for the urinary organs.

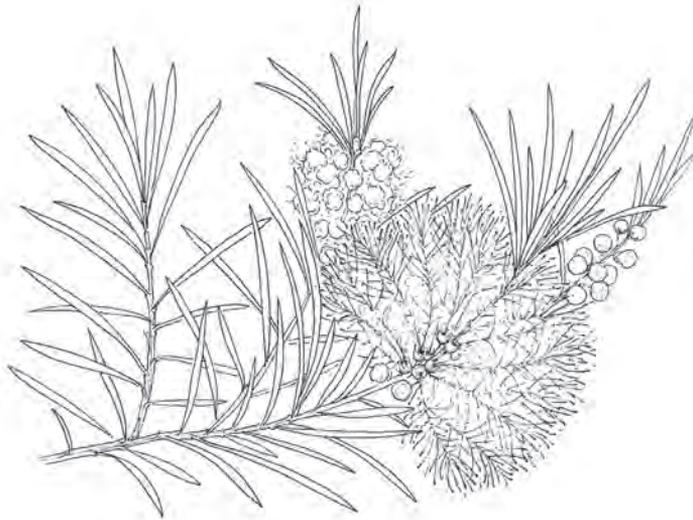
Spearmint's *mucostatic decongestant* effect on excessive mucus production is especially evident in the bronchial and sinus area. Courtesy of its ketones, Spearmint is called for when an **acute respiratory infection** produces thick, purulent sputum, whether by cough or from the nose. The oil will act not only as a *mucolytic expectorant*, but also as a *resolvent* one in reducing mucus overproduction at the source. It combines well with other aromatics in treating acute respiratory conditions with a congestive, hot presentation.

Well known as an aromatic digestive remedy, Spearmint acts as a *stimulant-decongestant* to the gallbladder and stomach, promoting bile flow and gastric secretions. In addressing **dyspeptic upper digestive congestion**, its main indications are fullness, bloating and nausea in the epigastric or hypochondrial region very soon after eating.

In terms of fragrance energetics, Spearmint is sweet, green, pungent and cool. As applied to the psyche, these qualities signal the potential for promoting emotional stability and renewal. By addressing the sensory-emotional dysregulation caused by deep limbic system hyperfunctioning, Spearmint can be helpful for those unable to let go of distressed feelings and negative emotions. Just as it can treat stagnation in the lungs and the upper digestion, so it can give one the energy to take a fresh look at stuck feelings, emotional conflicts and the like. In so doing, Spearmint by olfaction can help resolve emotional stagnation, reduce emotional confusion or ambivalence, and help the individual move forward in a more positive and conscious direction.

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# Tea Tree



**Botanical source:** The end-twigs and leaves of *Melaleuca alternifolia* (Maiden and Betche) Cheel (Myrtaceae – myrtle family)

**Other names:** Narrow-leaf paperbark; Tea-tree (Fr), Teebaum (Ge), Albero da tè (It), Arbol de te (Sp)

**Appearance:** A mobile clear to pale viridian liquid with a somewhat fresh-pungent, mildly sweet-lemony and slightly musty-rooty odour

**Perfumery status:** A head note of medium intensity and poor persistence (but hardly used as such)

**Production areas:** Western Australia, Indonesia

**Extraction:** Steam distillation of the leaves and twigs from October through June. Tea tree was first distilled in 1924.

**1 kg oil yield from:** 60 kg of leaves and twigs (a very good yield)

**Typical constituents:** Monoterpenols (incl. terpinen-4-ol 30–48%, alpha-terpineol 1–7%) • monoterpenes 25–40% (incl. alpha- and gamma-terpinene 6–28%, alpha- and beta-pinene 2–7%, p-cym-ene 1–8%, limonene, terpinolene, thujene, sabinene, myrcene)

- 1,8 cineole 5–15% • sesquiterpenes (incl. beta-caryophyllene, aromadendrene, cadinene, viridiflorine) • sesquiterpenols (incl. viridiflorol, globulol, cubenol)

**Chance of adulteration:** Moderate, possibly with the addition of the valuable terpinen-4-ol in oils of low-quality commercial production. Sometimes various cheaper *Melaleuca* oils (see below) are added to Tea tree oil to stretch the product (classic adulteration) or are simply blended together to create a reconstituted Tea tree oil.

**Related oils:** A kaleidoscope of Australian oils in the *Melaleuca* and *Leptospermum* genera represent the tea tree oils. These divide by aroma and chemical dominance.

### **1. Sweet tea tree oils with monoterpenols dominant**

This generally gives them a resorative and relaxant character therapeutically. They include:

- **Tea tree** or **Narrow-leaf paperbark** (*Melaleuca alternifolia*) (this oil profile) with its balance of monoterpenols and monoterpenes
- **Nerolina** (*Melaleuca quinquenervia* [Cav.] S.F. Blake ct. *nerolidol/linalool*) from northeast Australia with its floral sweet-citrus aroma because of its high content in linalool (30–50%) and E-nerolidol (30–60%)
- **Rosalina, Lavender tea tree** or **Swamp paperbark** (*Melaleuca ericifolia* Smith), from Tasmania and southeast Australia, with its softer, sweeter aroma than tea tree because of its high linalool content (35–55%)
- **Narrow-leaf tea tree, Sweet tea tree** or **Flaxleaf teat paperbark** (*Melaleuca linariifolia* Smith) from the east coast of Australia, with its mild fresh-pungent lemony-green notes
- **Madagascar niaouli** (*Melaleuca quinquenervia* [Cav.] S.F. Blake ct. *viridiflorol*) from Madagascar, sweeter and less fresh-camphoraceous than Tea tree because of its low cineole content

### **2. Fresh-camphoraceous tea tree oils with 1,8 cineole dominant**

This imparts them with a stimulant quality therapeutically, especially on the cerebral circulation. They include:

- **Cajeput** (*Melaleuca cajuputi* Powell) (see Cajeput oil profile), more fresh-camphoraceous from its higher cineole content, but also with fruity-sweet body notes
- **Niaouli** or **Broad-leaf paperbark/tea tree** (*Melaleuca quinquenervia* [Cav.] S.F. Blake ct. *cineole*), with its fresh-camphoraceous, somewhat sweet, lemony notes

### 3. Spicy-warm tea tree oils with the phenol eugenol dominant

This confers very warming, stimulating and somewhat toxic qualities. These include:

- **Weeping tea tree** (*Melaleuca leucadendra* L.) from northwest Australia, Solomon Islands and New Guinea. A type of broad-leaf paperbark, its 99% eugenol content ensures a clove-like aroma. It is confusingly sometimes also called Cajeput tree or Cajeput oil because it was and still is commonly confused with the Cajeput tree, with which it shares its habitat.
- **Black tea tree** or **White cloud tree** (*Melaleuca bracteata* F. Muell.) from North and northeast Australia, with its typical high eugenol (80%), clove-like aroma; moreover, four chemotypes of this species are reported (Webb 2000).

### 4. Fresh lemony tea tree oils with either citral or citronellal dominant

This produces very cooling and sedative effects. These include:

- **Lemon-scented tea tree** (*Leptospermum petersonii* F.M. Bailey) (syn. *L. flavescens* var. *citratum* Bail. and Wht.) from coastal west Australia, with its typical pungent-lemony topnotes from the very high levels of citral and citronellal.
- **Citronella tea tree** (*Leptospermum liversidgei* Baker and Smith) from coastal west Australia, with high levels of either citral (55–80%) or citronellal (44%), depending on chemotype, imparting either a more lemony or citronella-like fragrance, respectively (Webb 2000).
- **Broad-leaf tea tree/paperbark** (*Melaleuca viridiflora* Gaertner) from Northwest Australia and Papua New Guinea, which is rarely distilled, if at all.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Chronic mental and physical fatigue**, drowsiness, **confusion**, mild depression, poor concentration, reduced attention span, **distraction**, shallow breathing, **shortness of breath**, **chronic infections**, chronic digestive problems, hot spells, low fever, varicose veins

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Stimulant in weakness conditions

**Possible brain dynamics:** Increases basal ganglia functioning

**Fragrance category:** Top tone with pungent, sweet and lemony notes

**Indicated psychological disorders:** Mild ADD, minor depression

MILDLY STIMULATES THE MIND AND PROMOTES ALERTNESS

- Lethargy, drowsiness
- Mental confusion, disorientation, lack of concentration

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment*

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**Tropism:** Nervous, cardiovascular, digestive systems

**Essential functional and diagnostic indication:** Restores hypotonic/weak conditions and decongests congestive/damp conditions

**Primarily restorative:**

*nervous and cerebral restorative, antidepressant:* hypotonic (weak) conditions, incl. neurasthenia, cerebral deficiency with depression, debility, CFS

*immune restorative:* chronic immune deficiency with recurrent infections

*cardiotonic:* heart weakness (from chronic illness, old age)

*gastrointestinal restorative: tissue-regenerative, anti-inflammatory:* chronic intestinal inflammation and hyperpermeability, incl. with food sensitivities/allergies, incl. gluten sensitivity; peptic ulcer, ulcerative colitis, inflammatory bowel disease

*antihistamine, anti-allergic:* conditions of immediate allergy, incl. dermatitis, atopic asthma, urticaria, rhinitis, etc.

**Primarily decongestant:**

*venous and lymphatic decongestant, capillary stimulant, lymphatic stimulant:* venous congestion with varicose veins, haemorrhoids, aneurism, swollen glands

*metabolic and microbial detoxicant:* metabolic and microbial toxicosis in general, incl. intestinal dysbiosis

*febrifuge:* low-grade fevers of all kinds

*radioprotectant:* radiation exposure, incl. treatment burns (protective)

*antirheumatic, analgesic, detoxicant:* rheumatic and arthritic conditions; see also infections below

**Antimicrobial actions:**

***broad-spectrum anti-infective: antimicrobial, detoxicant, immunostimulant, anti-inflammatory:*** a large range of acute and chronic infections, simple or pyogenic, esp. ear-nose-throat, respiratory, gastrointestinal, urogenital, dermal

- ***strong antibacterial (broad-spectrum):*** bacterial infections both gram-positive and gram-negative, esp. with *Staph. aureus*, *Strep. pyogenes*, *E. coli*, *Proteus*, *Prop. cnes*, *Klebsiella*, *Salmonella*, *Listeria*, *Chlamydia* spp., incl. sinusitis, otitis, laryngitis, bronchitis, emphysema, whooping cough, lung TB; intestinal dysbiosis, gastroenteritis, dysentery, colitis; vaginitis with leucorrhoea; MRSA, microbial toxicosis, gingivitis, periodontitis, stomatitis, pyorrhoea, mastitis, abscesses, septicemia, chlamydiasis
- ***strong antiviral:*** flu, acute bronchitis, croup, pleurisy, pneumonia, viral enteritis and colitis, chickenpox, genital warts/HPV, HSV-1/mouth ulcers/cold sores, HNI
- ***antifungal:*** fungal infections with *Candida* spp., *Trichophyton* spp., *Malassezia* spp., *Aspergillus niger*; incl. intestinal dysbiosis, candidiasis, thrush, nail-bed infections, tinea/ringworm, athlete's foot, jock itch, chronic sinusitis

***antiparasitic, anthelmintic:*** intestinal parasites, incl. roundworms (*Ascaris*), hookworms (*Ankylostoma*), *Giardia lamblia*; skin parasites, incl. itch mite (*Sarcoptes scabiei*); vaginitis (*Trichomonas*)

**SYNERGISTIC COMBINATIONS**

- Tea tree + Palmarosa/Thyme ct. linalool: *nervous restorative* for neurasthenia with fatigue, during convalescence
- Tea tree + Cypress: *venous decongestant* for venous congestion with varicose veins, haemorrhoids
- Tea tree + Palmarosa/Thyme ct. linalool: *antifungal* for fungal infections
- Tea tree + Black spruce: *anthelmintic* for various intestinal parasites
- Tea tree + Palmarosa: *cardiac restorative* for chronic heart weakness
- Tea tree + Juniper berry: *detoxicant diuretic, analgesic, anti-inflammatory* in rheumatic and arthritic conditions with tired, aching muscles; in metabolic toxicosis in general
- Tea tree + Atlas cedarwood: *venous and lymphatic decongestant* for varicose veins, haemorrhoids, swollen glands

#### COMPLEMENTARY COMBINATIONS

- Tea tree + Niaouli: *broad anti-infective, immunostimulant* in a wide range of infections, bacterial, viral and fungal
- Tea tree + Ravintsara: *antiviral* for the onset of flu and cold, esp. with fatigue, chronic immune deficiency, neurasthenia
- Tea tree + Patchouli: *gastrointestinal restorative, anti-inflammatory, tissue restorative*: inflammatory bowel disease, intestinal hyperpermeability, peptic ulcer, ulcerative colitis
- Tea tree + Lemongrass: *venous and lymphatic decongestant, capillary stimulant, metabolic and microbial detoxicant* for venous and lymphatic and capillary congestion/stagnation; for all forms of toxicosis in general
- Tea tree + Rosemary: *cardiac restorative* for chronic heart weakness

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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##### **Skin care:** Oily skin

*antiseptic, detoxicant*: acne, boils, infected or wounds and abscesses with pus, dandruff, nappy rash, dermatitis

*antifungal*: athlete's foot, fungal skin infections (incl. ringworm), nail fungus

*antiviral*: verrucas, shingles, herpes, cold sores, warts

*antiparasitic*: scabies, mange, lice

*skin regenerative*: chronic skin conditions of most kinds, incl. diabetic gangrene; radiation burns

##### **Precautions:** None

##### **Preparations:**

- Diffusor: 3–4 drops in water
- Massage oil: 2–5% dilution in vegetable oil
- Liniment: 2–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Pungent, sweet

**Movement:** Rising

**Warmth:** Neutral to cool

**Meridian tropism:** Lung, Heart, Stomach, Kidney

**Five-Element association:** Metal

**Essential function:** To tonify the Qi and Yin, clear empty heat and strengthen the Shen

### 1. Tonifies the Qi, strengthens the Shen and relieves depression

- **Qi deficiency with Shen weakness**, with fatigue, lethargy, poor focus, depression:  
Rosemary/Grand fir/Frankincense
- **Heart and Lung Qi deficiency with Shen weakness**, with fatigue, discouragement, depression, grief, shallow breathing:  
Rosemary/Aniseed/Rose

### 2. Nourishes the Yin, clears empty heat and relieves debility

- **Yin deficiency with empty heat in late-stage fevers**, with chronic low or remittent afternoon or evening fever, debility, night sweats, five centres heat:  
Lavender/Rose/German camomile
- **Yin and Qi deficiency with heat in perimenopause**, with fatigue, hot flashes:  
Patchouli/Geranium/Vetiver
- **Lung Yin deficiency** with thirst, dry cough, shallow breathing, possible fever:  
Hyssop/Thyme ct. linalool/Cypress

### 3. Clears heat, dispels toxin and benefits the skin

- **Fire toxin** with boils, acne, swollen glands, pyoderma, inflammations (esp. in the mouth, gum, throat regions), abscesses, ulcers:  
Niaouli/Lemon/Myrrh
- **Wind-damp-heat in the skin** with red, painful eczema, itching:  
Lavender/German camomile/Blue tansy

#### 4. Cools and releases the exterior, dispels wind-heat and opens the sinuses; boosts the protective Qi

- **External wind-heat with Qi deficiency**, with fatigue, sore throat, sinus congestion, possible fever:  
Spearmint/Lavender/Black pepper

#### 5. Invigorates the Blood, reduces stagnation and relieves varicosis

- **Blood stagnation in the lower limbs** with varicose veins, tired legs, ankle edema:  
Geranium/Rosemary/Cypress

#### REMARKS

Tea tree is just one of many oils extracted from more than 30 native paperbark trees in Australia in the genera *Melaleuca* and *Leptospermum*. They are so-named because of the way their bark peels off in white, paper-thin shards. The paperbarks can be arranged botanically or, more fruitfully for the purpose of understanding their clinical applications, according to their aromatic and chemical dominance (see above). Perhaps surprisingly, the majority of *Melaleuca* oils in use actually belong to the sweet tea tree cluster high in monoterpenols. Only two *Melaleucas*, Cajeput and Niaouli, are actually fresh-camphoraceous with a high cineole content. Two other small *Melaleuca* groups are less used in essential oil therapeutics, the spicy-warm and lemony group.

The medicinal potential of the paperbarks was recognized from the start. Indigenous Bundjalung aborigines have apparently always used paperbark leaves to prepare steam inhalations for colds, coughs and fevers. They also crushed the leaves over injuries and skin infections in a mud poultice. It is likely that early settlers took up some of these preparations as well. The later name 'tea tree' was apparently given to the *Melaleuca alternifolia* species of paperbark by none other than Captain James Cook in 1770 after landing in Botany Bay, New South Wales. His expedition botanist, Sir Joseph Banks, also took specimens of this tree for his collection. Fast forward to the early 1920s, and we see chemist Arthur Penfold researching Tea tree oil's *antibacterial disinfectant* properties, then rated as 12 times the strength of carbolic acid and stronger than phenol. By the time of World War II, Tea tree oil was considered a safe and effective enough *antiseptic* to be included in army and navy first-aid kits for use in tropical areas. Today still, Tea tree's image is mainly that of a simple anti-infective agent – largely the aromatic remedy answer to antibiotics. However, this oil actually holds the promise of much greater clinical potential.

True, Tea tree is a much researched, strong *antimicrobial* oil that is invaluable for treating a wide range of **bacterial, viral, fungal and parasitic infections**, both topical and internal. It is one of the few oils that has tested active against both gram-

positive and gram-negative bacteria, for instance; and one that can be as useful for acute or local infections as for chronic ones when focally administered. Just like Echinacea and Calendula, Tea tree is definitely a very versatile, non-irritant, skin-safe *antimicrobial* remedy that can be used successfully in any number of preparation forms.

However, as with any other oil, we need to move from the particular and deductive to the general and inductive to see the big Tea tree picture. We need to place this particular *antimicrobial* action squarely in the larger context of its experientially known clinical functions and indications as a whole. In what type of terrain or underlying condition will Tea tree work best as an *antimicrobial*? And in what type of infection, acute or chronic, simple or pyogenic, will Tea tree really shine? These are clinical, not laboratory questions whose answers we can find only by understanding its general qualities.

Sticking to pharmacology, we know that the sweet, monoterpenol-dominant tea tree oils are essentially *restorative* in nature with a secondary *detoxicant* action. Tea tree with its content of about 50% alcohol with added monoterpenes and cineole also seems likely to be *restorative* rather than *stimulant* or *relaxant*. In general therapeutic terms this means that this is an important remedy for treating **weak conditions**. Tea tree clinically has shown to treat weakness of the nervous and immune systems, and the brain and heart. **Neurasthenia, mental/cerebral deficiencies** with depression, fatigue and chronic debility are its key indications here. For these it will pair up well in treatment with many another *restorative* monoterpenol-dominant oil. Most of today's **chronic immunodeficient conditions** will benefit here, especially if an infectious component is also present. Tea tree, then, is essentially for the individual who is run-down, exhausted, depressed and unable to shake off a **chronic or recurrent infection**. Tea tree will clearly work best when given internally in a terrain that has been functionally compromised over a long period of time and that has resulted in a functional stagnation on the fluid level with the resultant **accumulation of both metabolic and microbial toxins**.

As a terrain oil able to treat the whole condition (on both a tissue and holistic level), Tea tree comes into its own as an excellent *systemic restorative* that can bolster individual defenses, strengthen brain and nerve functioning and promote detoxification through venous, lymphatic and capillary stimulation. In Chinese medicine terms, we can begin to appreciate Tea tree as a pungent, sweet tonic to both the body's Qi and Yin, with potential for clearing heat if present. This profile reminds us somewhat of the Chinese herb Yu Zhu (*Polygonatum odoratum*).

Note that Tea tree is not fresh-pungent, cineoly enough to be *warming* and *stimulant* for treating cold conditions, unlike its companion *Melaleucas*, Cajeput and Niaouli. On the contrary, if anything, Tea tree also has much potential for cooling hot conditions, especially when these arise from weakness. The same monoterpenol compound that has shown to act as a key *antimicrobial*, terpinen-4-ol, is also largely responsible for Tea tree's important *anti-inflammatory* and *antipyretic* actions. Tea tree

will excel in patients with **chronic inflammation or low-grade fever** as part of their overall weak condition. This is especially true for conditions of **chronic intestinal inflammation**, regardless of their name. Any infection with a **low or recurrent afternoon or evening fever** calls for Tea tree, as with White willow bark (*Salix alba*).

Tea tree is one of several oils known for their ability to stimulate *tissue regeneration* and on this basis is much used for treating chronic skin conditions. When applied to the gut, this action will benefit **weak gut conditions** such as hyperpermeability and peptic ulcers, as well as inflammatory bowel conditions in general.

Using Tea tree in the context of psychology is challenging because of its widespread association with the treatment of infections. However, at the very least, the individual being treated for a physiological condition will potentially be able to benefit from the added olfactory-limbic exposure to its gently pungent, sweet aromatic fragrance. This would be mentally restorative by nature and absolutely congruent for the types of chronic weak conditions that indicate the use of Tea tree as a systemic remedy.

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# Thyme ct. Linalool



**Botanical source:** The herb of *Thymus vulgaris* L. ct. *linalool* (Lamiaceae/Labiatae – lipflower/mint family)

**Other names:** Garden/Common thyme, linalool chemotype; Thym a linalool (Fr) Thymian-linalool (Ge), Timo di linalool (It), Tomillo linalool (Sp)

**Appearance:** A mobile clear fluid with a moderate sweet-green-herbaceous odour with mild fresh overtones

**Perfumery status:** A heart note of medium intensity and poor persistence

**Extraction:** Steam distillation of the fresh herb in flower, usually during May

**1 kg oil yield from:** 100–150 kg of the fresh herb (a moderate yield)

**Production areas:** France, Spain, Hungary

**Typical constituents:** Monoterpenols (incl. linalool 60–80%, terpinen-4-ol, geraniol, terpineol) • esters (incl. linalyl/terpenyl/geranyle acetate) • oxides (incl. linalool oxide) • ketones (incl. camphor 2%) • sesquiterpenes caryophyllene and humulene • misc. monoterpenes, thymol, carvacrol, 1,8-cineole (all in very low percentages)

**Chance of adulteration:** Only moderate if the identity of this chemotype is firmly established with accompanying certificates of authenticity, GC analyses and so on. Otherwise, see the Remarks under Thyme ct. thymol.

**Related oils:** The thyme genus is extremely polymorphic, producing about 350 species and a variety of different chemical types and cultivars. As far as as *Thymus vulgaris* goes, the main chemotypes of essential oils encountered are the following:

### **1. Monoterpenol-dominant**

These three chemotypes of Thyme oil alone are non-irritant to the skin and so are more widely useful and versatile in practice than the other chemotypes.

- **Thyme ct. linalool** (*Thymus vulgaris* ct. *linalool*), with its sweet-green-herbaceous fragrance (this profile).
- **Thyme ct. geraniol** (*Thymus vulgaris* ct. *geraniol*), with its rosy-sweet fragrance, like a herbaceous Geranium oil, from its high geraniol content.
- **Thyme ct. thujanol** (*Thymus vulgaris* ct. *thujanol*), from the South of France, also with a sweeter fragrance from the high content in trans-thujanol-4.

### **2. Phenol-dominant**

These phenolic oils are highly irritant to the skin and mucosa. They are therefore used mainly for environmental and internal administration with appropriate delivery method:

- **Thyme ct. thymol** (*Thymus vulgaris* ct. *thymol*), with its more pungent-herbaceous aroma from the high content in the phenol thymol (<48%) and monoterpenes (<56%).
- **Moroccan thyme** (*Thymus satureioides* Cosson) from Northwest Africa (sometimes popularly known as Thyme ct. borneol) with its herbaceous, spicy, oregano-like aroma, the result of a unique combination of thymol and carvacrol (<18% combined) and the monoterpenol borneol (28–54%).

### **3. Monoterpene- and cineole-dominant**

- **Thyme ct. paracymene** (*Thymus vulgaris* ct. *paracymene*), high in the stimulating terpene para-cymene.
- **Thyme ct. cineole** (*Thymus vulgaris* ct. *cineole*), high in 1,8-cineole, with a marked fresh-camphor aroma.

Further, many other useful Thyme oils can be distilled from the prolific *Thymus* genus. The main ones currently distilled follow. Keep in mind, though that numerous cultivars of these species also exist:

- **Wild thyme** or **Mother of thyme** (*Thymus serpyllum* L.) from the Mediterranean and North Africa, with its deep sweet-green, herbaceous aroma.
- **Cretan, Capitata** or **Mediterranean thyme** (*Thymus capitatus* [L.] Hoffmanns. and Link) (syn. *Coridothymus capitatus* [L.] Rchb. f.), confusingly also called ‘Wild oregano,’ ‘Spanish oregano’ or ‘Headed savory.’ This thyme from the Eastern Mediterranean, especially Cyprus, contains high levels of carvacrol (usually 40–50%, but occasionally up to 74%), which ensure a spicy-warm-herbaceous, oregano-like fragrance.
- **Spiked thyme** (*Thymbra spicata* L.) from the eastern Mediterranean (Turkey, Greece), with an aroma very similar to Cretan thyme. This herb is still used locally to treat roundworms (*Ascaris*) and other intestinal parasites.
- **Mastic** or **Spanish thyme** (*Thymus mastichina* L.), Tomillo blanco in Spanish, often confusingly called ‘Spanish wild marjoram.’
- **Spanish sauce thyme** (*Thymus zygis* L.) (syn. *Thymus tenuifolius* Mill.), with its high levels of the monoterpene para-cymene.
- **Caraway thyme** (*Thymus herba-barona* Loisel.), with its characteristic caraway aroma from the high content in carvone.
- **Lemon thyme** (*Thymus x citriodorus* [Pers.] Schreb.), with its fresh lemony fragrance from the high content in citral. This is a garden hybrid of broad-leaf thyme, *Thymus pulegioides*, and garden thyme, *T. vulgaris*.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Emotional confusion**, moodiness, difficulty letting go of negative feelings, **lethargy**, **fatigue**, drowsiness, **mental confusion or disorientation**, listlessness, depression, **prone to infections**, **chronic digestive problems**, especially with indigestion and bloating; scanty or stopped periods

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Regulating in dysregulated conditions

**Possible brain dynamics:** Reduces deep limbic system hyperfunctioning

**Fragrance category:** Middle tone with green, sweet notes

**Indicated psychological disorders:** Bipolar disorder, ADD

PROMOTES EMOTIONAL STABILITY AND RENEWAL

- Emotional confusion with conflict; distraction, mood swings, emotivity
- Feeling/sensing disconnection and conflict
- All pathogenic (stuck) emotions and distressed feelings in general

PHYSIOLOGICAL – Nebulizer inhalation, gel cap, suppository, liniment

**Tropism:** Nervous, respiratory, digestive, reproductive, urinary systems

**Essential functional and diagnostic indication:** Restores hypotonic/weak conditions

*nervous, cerebral, adrenocortical and immune restorative, antidepressant:* hypotonic (weak) conditions with neurasthenia, chronic fatigue, mental fatigue, cognitive impairment, depression; adrenal fatigue or exhaustion, CFS, chronic immune deficiencies or infections

*antifungal microfloral restorative, detoxicant:* chronic intestinal dysbiosis, candidiasis

*gastrointestinal (digestive) restorative, anti-inflammatory:* chronic digestive conditions with dyspepsia and bloating, incl. hyperpermeability and inflammation, candidiasis, parasites, gastroenteritis

*respiratory restorative, anti-inflammatory, bronchodilator, antitussive:* respiratory conditions in general, esp. chronic; incl. bronchitis, asthma, TB; coughs

*detoxicant diuretic:* infections, post-antibiotic use, metabolic toxicosis, rheumatic conditions

*ophthalmic:* eye conditions

*mild antidiabetic*

*antioxidant*

**Antimicrobial actions:**

*broad-spectrum anti-infective: antimicrobial, detoxicant, immunostimulant, anti-inflammatory:* a wide range of infections, esp. chronic; esp. respiratory, gastrointestinal, urinary and genital:

- *strong antifungal:* fungal infections with *Candida* spp., incl. intestinal dysbiosis, candidiasis, fungal stomatitis, chronic sinusitis, cystitis, vaginitis
- *strong antibacterial:* bacterial infections, esp. gram-positive, esp. with *Staph. aureus*, *Strep. pneumoniae*, incl. sinusitis, pharyngitis, bronchitis, whooping

cough, lung TB; pneumonia, colitis, gastritis, microbial intestinal toxicosis, intestinal dysbiosis; urinary infections, incl. nephritis, kidney TB, cystitis, urethritis, vaginitis, salpingitis, metritis, prostatitis; dermatitis, psoriasis

- **antiviral:** esp. recurrent or chronic viral infections from immune or intestinal microflora deficiency, incl. viral enteritis, sinusitis, pharyngitis, bronchitis, pleurisy, prostatitis
- **anthelmintic, vermifuge:** intestinal parasites, incl. Taenia, Ascaris, Oxyuria

**Note:** The two other very similar chemotypes of Thyme oil that are also non irritating to the skin, being dominant in monoterpenols, are **Thyme ct. geraniol** (*Thymus vulgaris* ct. *geraniol*) and **Thyme ct. thujanol** (*Thymus vulgaris* ct. *thujanol*). The following clinical differentiations should be kept in mind:

- **Thyme ct. geraniol** can be used interchangeably with Thyme ct. linalool, having virtually the same constituents, qualities and functions except for a high geraniol content (60–80%) instead of the high linalool, and additional usage as a cardiac restorative for heart weakness.
- **Thyme ct. thujanol** (*Thymus vulgaris* ct. *thujanol*) is also similar to Thyme ct. linalool, except with a high thujanol content. This chemotype is an *arterial circulatory stimulant* with warming as well as tonifying actions in hypotonic (weak) and asthenic (cold) conditions. Like Thyme ct. linalool, Thyme ct. thujanol is also broadly *anti-infective* and *immunostimulant*, but is considered to have somewhat stronger *antibacterial* and *antiviral* actions, but a weaker *antifungal* action. It is used internally especially for viral and bacterial infections of the respiratory system (upper and lower) and the urogenital system (including cystitis, vaginitis, cervicitis, salpingitis, condyloma and urethritis).

#### SYNERGISTIC COMBINATIONS

- Thyme ct. linalool + Palmarosa: *antifungal and antibacterial digestive restorative* for intestinal dysbiosis, hyperpermeability, candidiasis; topical antiseptic for skin infections (in dilution)
- Thyme ct. linalool + Tea tree: *anti-infective* for most infections in general, esp. chronic infections; esp. in children; for lung TB
- Thyme ct. linalool + Tea tree: *nervous and immune restorative, anti-inflammatory* for chronic weakness or debility with chronic inflammation
- Thyme ct. linalool + Lavender: *nervous restorative, antidepressant and immunostimulant* for chronic neurasthenia with fatigue, depression, recurrent infections

#### COMPLEMENTARY COMBINATIONS

- Thyme ct. linalool + Ravintsara: *immune enhancing and stimulant, antiviral* for chronic or recurring viral infections
- Thyme ct. linalool + Niaouli: *anti-infective and anti-inflammatory* for prostatitis
- Thyme ct. linalool + Rosemary: *nervous, cerebral and adrenal restorative* for neurasthenia, fatigue, mental weakness, depression, adrenal fatigue or burnout
- Thyme ct. linalool + Patchouli: *gastrointestinal restorative and anti-inflammatory* for chronic intestinal dysbiosis, hyperpermeability and inflammation
- Thyme ct. linalool + Hyssop: *respiratory restorative, antitussive, bronchodilator, antimicrobial*: chronic bronchitis, emphysema
- Thyme ct. linalool + Atlas cedarwood: *anti-inflammatory, bronchodilator* for chronic asthma and bronchitis
- Thyme ct. linalool + Juniper berry: *detoxicant diuretic* for chronic metabolic toxicosis, rheumatic-arthritic conditions

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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##### **Skin care:**

*anti-infective, antiseptic*: skin infections of most types; dry or weeping eczema (dermatosis), psoriasis, acne, boils, abscesses, verrucas, infected wounds with pus

*antifungal*: nail fungus, athlete's foot, fungal skin and scalp infections

*analgesic*: insect bites, rheumatic aches and pains

**Precautions:** None

##### **Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 2–5% dilution in lotion or vegetable carrier oil
- Liniment: 5–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Sweet, green

**Movement:** Circulating

**Warmth:** Neutral

**Meridian tropism:** Lung, Spleen, Kidney

**Five-Element affinity:** Metal, Earth

**Essential function:** To tonify the Qi, resolve damp and harmonize the Shen

**1. Tonifies the Qi and harmonizes and strengthens the Shen**

- **Qi deficiency with Shen disharmony and weakness**, with physical and mental fatigue, debility, distraction, depression:

Rosemary/Saro/Tea tree

**2. Strengthens and moistens the Lung, and relieves coughing; Descends Lung Qi, relaxes the chest and relieves wheezing**

- **Lung Qi deficiency** with shallow breathing, chronic weak cough, grief:

Saro/Hyssop/Holy basil

- **Lung Yin deficiency** with weak breathing, chronic dry cough, chronic respiratory infection:

Tea tree/Palmarosa

- **Lung Qi accumulation** with wheezing, cough, chest distension:

Hyssop/Siberian fir/Blue tansy

**3. Strengthens the Spleen, resolves toxic-damp and regulates digestion**

- **Spleen Qi deficiency** with fatigue, weight loss, loose stool:

Rosemary/Palmarosa/Vetiver

- **Spleen toxic-damp**, with chronic indigestion, abdominal bloating, irregular mucousy stool, fatigue:

Patchouli/Niaouli/Sage

**REMARKS**

Thyme the medicinal plant belongs to a whole cluster of aromatic herbs in the lipflower (or 'mint') family whose use goes back several thousands of years in Middle Eastern and Mediterranean cultures, including the Egyptian, Sumerian and Greek. In Greek culture, the herb *thymon*, which means 'fumigation,' was one of the main plants used for fumigation in the context of energetic cleansing or smudging of people and places. With the development of traditional Greek medicine, Thyme became one of the iconic aromatics for restoring or tonification treatment, particularly of the lungs and nervous system. With the reinvention of steam distillation in the 13th century in central

Europe, various species of Thyme were made available to practitioners and public alike through the thriving apothecaries that then sprang up all over Europe. Thyme was undoubtedly one of the 12 herbs that Henry VIII had his personal pharmacist distill into a hydrosol for use in gifting bottles, as these were called. Personal gifting of aromatic waters in small glass vials was all the rage in Tudor times and were usually hydrosols or possibly a mix of hydrosol and essential oil.

It took the exploration of chemical plant types by biochemist Pierre Franchomme in the 1960s to define the various chemotypes of *Thymus vulgaris* actually in existence (see above). This definition was largely responsible for the way that Thyme was able to reinvent itself as an aromatic remedy possessing several chemotypical variations – all in addition to its polymorphism into over 350 species. These variations ultimately all polarize around the dominance of either monoterpenols or phenols, respectively displaying a relatively more yin, gentle character or a relatively more yang, aggressive one. The Thyme chemotype linalool is the yin type most commonly used in treatment; while the chemotype thymol is the most important yang type. Although both chemotypes share a common parentage, each has a quite different fragrance profile and is used rather differently in clinical practice.

Thyme ct. linalool is one of the few truly *restorative* essential oil remedies at the disposal of the modern practitioner. It is not primarily a *stimulant*, like its cousin Peppermint; nor mainly a *relaxant*, like its cousin Hyssop; nor mainly a *sedative*, like its cousin Clary sage. This Thyme stands squarely side-by-side with *restorative* herbal remedies such as Astragalus root, Elecampane root and Schisandra berry – all of which are also used to strengthen respiratory functions. Its densely rich, sweet-herbaceous bouquet, underpinned by generous amounts of alcohols, really says it all. Deeply restorative, gentle and comprehensive in its action, Thyme ct. linalool excels in the **long-term management of weak, atonic conditions**, particularly as they involve **weakness of the nervous, immune, respiratory and intestinal systems**. This is an aromatic for systemic and chronic fatigue and debility, regardless of the particular disorder involved. Key conditions for its use would be chronic weak lungs, chronic intestinal insufficiency with intestinal dysbiosis, compromised immunity with chronic infection, and impaired brain functions with cognitive impairment or depression.

In Chinese medicine terms, Thyme ct. linalool is an unequivocal Qi tonic. Working on Lung, Spleen and somewhat on Kidney Qi, the oil squarely addresses Qi deficiency that has progressed to damp in the Middle Warmer and dry phlegm in the Upper Warmer.

A secondary *relaxant* effect is evident on the bronchi, making Thyme ct. linalool very effective for all **asthmatic bronchial conditions** requiring *bronchodilation and reduction of inflammation*. A marked similarity with the remedy Hyssop is here evident, both in herbal tincture and essential oil form. Esters and sesquiterpenes are significantly found among its constituents. Thyme ct. linalool's hoary reputation as a cough remedy rests partly on these actions, partly on its additional *mucoytic* effect (note the camphor

content), and partly on its *bronchial restorative* action. True to form, it excels in treating chronic coughs, including dry unproductive coughs. These in Chinese medicine come under the syndromes Lung Qi accumulation and Lung phlegm dryness.

With significant absorption, Thyme ct. linalool also displays an excellent *anti-infective* action that can address a wide spectrum of fungal, bacterial and viral infections. This oil emerges in practice as one of the key aromatics for managing **chronic (not acute) infections**. As it includes relevant *anti-inflammatory* and *immunostimulant* actions, like Tea tree it can also help reduce **chronic types of inflammation**, which are very different from acute inflammations (for which the azulene-rich oils are relevant, for instance). It stands out in particular for treating various **chronic fungal infections**, like Palmarosa oil, especially when found in one of the four body systems of its tropism. Being additionally *antioxidant* and *diuretic*, Thyme ct. linalool exerts a gentle detoxicant effect on metabolic toxicosis in general – another mechanism by which it can help resolve chronic infections.

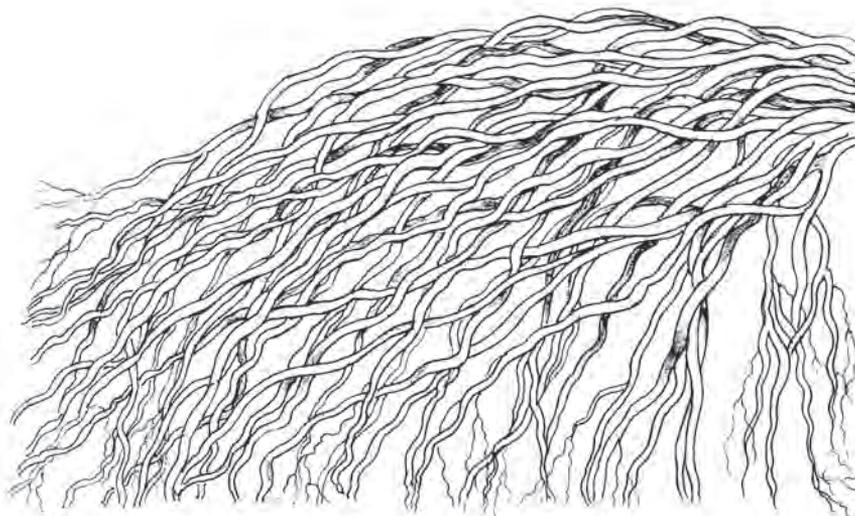
As a result of its multi-pronged actions, Thyme ct. linalool is one of the very few aromatic remedies able to address the basic pathological triad of immune deficiency, infection and toxicosis. These three basic pathogenic factors mutually promote each other in a downward spiral as chronic disease progresses. Thyme ct. linalool is not primarily useful for treating acute conditions. Instead, it is extremely valuable for its ability to potentially reverse lingering chronic conditions by addressing all three pillars of this vicious triad.

At the same time, Thyme ct. linalool has acquired a special reputation as an anti-infective for treating children's infections, according to Mailhebiau (1995). This stands to reason, given its superb gentleness, which also implies being tolerated at doses larger than with the aggressive phenolic oils, and with potentially longer courses of treatment. Both these factors also help to establish Thyme ct. linalool as a prime aromatic for chronic rather than acute conditions. Moreover in clinical experience, all relevant weak conditions found in children will actually benefit from its gentle breadth and depth of action, regardless of the method of administration employed.

Thyme ct. linalool's fragrance energy is intensely green-herbaceous and sweet, making this aromatic by inhalation a prime middle tone oil for calming hyperactive limbic system functioning. States of emotional instability involving conflict will respond best to its essentially regulating effect on emotional and mental processes. As dysregulation points to an energetic stagnation, Thyme ct. linalool from the energetic point of view helps resolve stagnant distressed feelings. By helping the transformation of chronic stuck emotions, this aromatic can play the role of a sweet, gentle and compassionate ally in liberating the psyche from the harshness of self-imposed demands and limitations. It can help us understand, at the visceral as well as emotional level, that it is possible to achieve our goals and ideals in a gentle, balanced and integrated way.

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# Vetiver



**Botanical source:** The root of *Vetiveria zizanioides* (L.) Nash ex Small (syn. *Andropogon muricatus* Retzius, *A. zizanioides* Urban, *Chrysopogon zizanioides* Roberty) (Poaceae/ Gramineae – grass family)

**Other names:** Khus-khus (Europe), Khus, Khas-khas (India), Akar wangi (Indonesian), Larasetu (Javanese), Nara wastu, Kusu kusu (Malay), Faek (Thai), Vétyver (Fr), Vetiver (Ge)

**Appearance:** A viscous dark amber or dark olive-brown fluid with a deep earthy-rooty and somewhat mossy-green and sweet-wood odour; sometimes oily, smoky or musky notes and overt green overtones are present (the green topnotes may result from using immature roots).

The aroma and colour of Vetiver oil varies considerably, depending on its source, the time of harvesting and the type and quality of extraction. The permutations among these various parameters are virtually endless.

**Perfumery status:** A base note of medium intensity and excellent persistence

**Extraction:** Steam distillation of the washed, dried and chopped roots, rhizomes and rootlets at various times throughout the year, depending on the location

**1 kg oil yield from:** 50 kg of roots (a fairly good yield)

**Production areas:** South India (native), Sri Lanka (native), West Java (native), Madagascar, Réunion, Comores, Haiti, China, Brazil. Brought to Madagascar in 1764, the vetiver plant was first distilled commercially in Réunion in 1888, which oil is still considered the finest today when available.

**Typical constituents:** Sesquiterpenols vetiverol 45–70%, bicyclovetiverol 12%, vetivenol, zizanol, furfurol • sesquiterpenes (incl. vetivene, tricyclovetivene, vetivazulene) • sesquiterpenoid esters (incl. vetivenyle acetate, esterified benzoic acid) • ketones (alpha- and beta-vetivones, kushimone) • vetivenic acid/palmitic/benzoic acid

**Chance of adulteration:** Moderate, with other oils such as Nutsedge (*Cyperus rotundus*) and with chemicals such as caryophyllene and its derivatives (epoxide and acetate) (Oyen and Dung 1999)

**Related oils:** From the botanical point of view, **Lemongrass**, **Palmarosa** and **Citronella**, all in the grass family – although the fragrance, chemistry and usage of all these is quite different

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non-skin irritant, non-sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

Anxiety, worry, **oversensitivity**, **insecurity**, **vulnerability**, disconnection, **spaciness**, poor perseverance, **listlessness**, **low vitality**, **chronic tiredness** alternating with **restlessness**, frequent infections, **weight loss**, scanty or stopped periods, long cycles, **PMS**, hot flashes, **hot spells with red complexion**, arthritic pain, swelling and stiffness; dry, weak or pale skin

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI function and indication:** Relaxant in overstimulation conditions

**Possible brain dynamics:** Reduces basal ganglia and cingulate system hyperfunctioning, resolves temporal lobes dysregulation

**Fragrance category:** Base tone with rooty and woody notes

**Indicated psychological disorders:** Anxiety states, ADD, OCD, dissociative disorder

STABILIZES THE MIND AND PROMOTES REALISM

- Mental-emotional instability, anxiety, fearfulness, agitation
- Disconnection, spaciness, oversensitivity, dissociation (hysteria)
- Euphoria, delusion, paranoia

PROMOTES COGNITIVE FLEXIBILITY AND EMOTIONAL SECURITY

- Worry, obsessions, compulsions
- Repetitive thinking, excessive thinking, inability to let go
- Insecurity, loss of safety, vulnerability

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, pessary, liniment*

**Tropism:** Neuroendocrine, digestive, reproductive, urinary, musculoskeletal, vascular systems

**Essential functional and diagnostic indication:** Restores, calms and cools hypotonic/weak, hypertonic/tense and sthenic/hot conditions

Primarily restorative:

*neuroendocrine restorative:* hypotonic (weak) conditions involving chronic neuro-hormonal deficiencies with fatigue, debility, burnout, incl. chronic neurasthenia, nervous breakdown, CFS; all with depression; from chronic stress, overwork, childbirth, disease

*immune restorative/enhancer:* immunodeficiency disorders with frequent or chronic infections

*female hormonal restorative/regulator:* atonic hormonal disorders from oestrogen or progesterone deficiency, incl. amenorrhoea, oligomenorrhoea, PMS, (peri) menopausal syndrome with hot flashes; low libido, impotence

*gastrointestinal (digestive) restorative: tissue-regenerative, anti-inflammatory, antifungal, detoxicant:* malabsorption syndrome with fatigue, weight loss; gut hyperpermeability; gluten sensitivity, peptic ulcer, ulcerative colitis, anaemia

*pancreatic restorative/regulator:* pancreatic weakness with hypo-/hyper-/dys-glycaemia

*connective tissue restorative and detoxicant, capillary stimulant:* connective tissue weakness with toxicosis, low immunity with frequent infections, chronic joint subluxations, varicose veins

*urinary restorative:* scanty or copious urination

**Primarily sedative and cooling:**

*nervous sedative, PNS stimulant:* insomnia, agitation, hysteria, delirium, PMS; premature ejaculation

*spasmolytic, anticonvulsant:* spasms, convulsions

*anti-inflammatory, analgesic:* painful inflammatory disorders, incl. arthritis and rheumatism with stiffness, fibromyalgia, coronaritis; muscle pains, migraine; autoimmune inflammations, allergic/hypersensitivity disorders(?)

*refrigerant, antipyretic:* fevers, hot flashes, sensation of heat in the head or upper body

*antifungal:* fungal infections with *Trichophyton* spp., *Microsporum* spp., *Candida neoformans*, incl. tinea/ringworm (many types)

**SYNERGISTIC COMBINATIONS**

- Vetiver + Patchouli: *gastrointestinal restorative, anti-inflammatory and antifungal* in chronic dysbiotic intestinal conditions with digestive symptoms, weight loss, food sensitivities

**COMPLEMENTARY COMBINATIONS**

- Vetiver + Clary sage/Rosemary ct. verbenone: *neuroendocrine restorative* for chronic neurasthenia with debility and tension, with chronic PMS, dysmenorrhoea, amenorrhoea
- Vetiver + Black spruce: *immune enhancer/restorative* in chronic immunodeficiency conditions with frequent or chronic infections, debility
- Vetiver + Scotch pine: *hormonal/reproductive restorative/regulator* for male and female hormonal deficiencies, e.g. impotence, amenorrhoea, low libido, infertility
- Vetiver + Fennel: *oestrogenic* in oestrogen-deficient PMS, dysmenorrhoea, amenorrhoea
- Vetiver + Geranium/Rose: *progesteronic* for progesterone-deficient PMS, dysmenorrhoea
- Vetiver + Geranium: *pancreatic restorative and blood sugar regulator* in chronic hyper- and hypoglycaemia
- Vetiver + Palmarosa: *gastrointestinal restorative* for malabsorption, weight loss, anaemia

- Vetiver + Juniper berry: *detoxicant* in chronic metabolic toxicosis conditions with low immunity, rheumatic disorders
- Vetiver + Blue tansy + Lemon-scented eucalyptus: *anti-inflammatory and analgesic* in acute arthritis, fibromyalgia
- Vetiver + Lemongrass: *refrigerant* for hot spells, hot flashes, fevers in general

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TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

**Skin care:** Dry, dehydrated and mature skin types

*deep nourishing and moisturizing (subcutical layer), emollient:* chronic dry, dehydrated, atrophic, irritated, thin or cracked skin; weak, slack or tired skin

*vulnerary, cell and tissue regenerative (cytophyllactic):* wrinkles, stretch marks during and after pregnancy, perineal tears; tissue trauma, incl. wounds, scrapes, bruises, cuts

*analgesic:* sprains, strains

*dermal anti-allergic:* eczema, atopic/allergic dermatitis, urticaria

*antiseptic, antiputrid, subastringent:* acne, dermatitis

**Note:** Vetiver can treat both dry and weak skin because it is deeply nourishing to the subcutical layer and so increases the adipose base.

**Precautions:** None

**Preparations:**

- Diffusor: 2–4 drops in water
- Massage oil: 2–5% dilution in vegetable oil
- Liniment: 5–10% dilution in vegetable carrier oil
- Gel cap: 2–3 drops with olive oil

### Chinese Medicine Functions and Indications

**Aroma energy:** Rooty, woody, green

**Movement:** Sinking, stabilizing

**Warmth:** Cool to cold

**Meridian tropism:** Liver, Kidney, Spleen, Heart, *Chong, Ren*

**Five-Element affinity:** Water, Wood, Earth

**Essential function:** To nourish the Blood, Yin and Essence, clear heat and calm the Shen

**1. Nourishes the Blood and Essence, tonifies *Chong* and *Ren Mai*, and regulates menstruation and menopause**

- **Blood deficiency** with scanty periods, amenorrhoea, irregular cycles, PMS, low libido:  
Geranium/Clary sage/Rose
- **Blood deficiency** with menopausal syndrome, with hot flashes, fatigue, irritability:  
Clary sage/Geranium/Rose
- ***Chong* and *Ren Mai* Essence deficiency** with vaginal dryness, loss of libido, impotence:  
Jasmine/Rose/Niaouli

**2. Nourishes the Yin, clears empty heat, settles the Heart and calms the Shen**

- **Yin deficiency with empty heat**, with hot spells, hot flashes, remittent or hectic fever, restlessness, irritability, night sweats:  
Lavender/Tea tree/Blue tansy
- **Heart and Kidney Yin deficiency with Shen agitation**, with restlessness, nervous tension, anxiety, fearfulness, insomnia, nightmares:  
Patchouli/Lavender/Spikenard

**3. Nourishes Liver Yin, descends the Yang and calms the Shen; extinguishes wind and relieves spasms**

- **Liver Yin deficiency with floating Yang and Shen agitation**, with restlessness, irritability, ringing ears, dizziness, palpitations:  
Blue tansy/Lavender/Spikenard
- **Liver Yin deficiency with internal wind**, with spasms, tremors, convulsions, low-grade fever:  
Marjoram/Roman camomile/Laurel

**4. Strengthens the Spleen and promotes weight-gain**

- **Spleen Qi deficiency** with chronic tiredness, poor appetite, weight loss, frequent infections:  
Patchouli/Palmarosa

## 5. Dispels wind-damp-heat, relaxes the tendons and relieves pain

- **Wind-damp-heat obstruction** with joint soreness, pain, stiffness, redness and swelling:

May chang/Blue tansy/Wintergreen

### REMARKS

Like lemongrass and palmarosa, vetiver with its thin, sharp long blades is a common tropical member of the grass family. It is often planted to control soil erosion on hillsides because of the stabilizing effect of its deeply sinking root tendrils. In India and Malaysia, the thin, wiry dried roots have been woven to make screens (*kushiks*), mats (*khus tattis*) and fans for many millennia. These represent a classic example of environmental fragrancing. As the hot, dry breeze enters the home through windows and verandahs, wetted screens of vetiver roots are installed to effectively cool, refresh and fragrance the interior. Vetiver fans in particular are understandably women's favourites from India to Java, being wielded as portable osmotherapeutic devices. Interestingly, in past centuries these popular cooling fans traveled with migrants from Java to Haiti in the Caribbean, and from there even on to Louisiana in the American South.

Vetiver the 'fragrant root' (*akar wangi*) yields one of the few essential oils distilled from roots rather than from herbs, seeds or flowers. It has reminded perfumers of damp earth, sliced raw potatoes and even damp, mildewy old furniture such as one finds in antique sales. This thick, viscous oil exudes a mysteriously complex mix of rooty, woody, mossy and fatty fragrance notes. In its heavy and obscure aroma we can sense the depth and power of roots and the earth in which they thrive. Vetiver oil is redolent with the vital and pristine earthiness of the tropical jungle.

Like remote jungle terrain, Vetiver possesses therapeutic potential that is still largely unexplored yet very rich in possibilities. Its aromatic qualities of rooty, woody and green exert strongly grounding, stabilizing, cooling, relaxing and desensitizing therapeutic effects that offer a variety of treatment options. With a certain amount of physiological absorption, Vetiver's grounding, stabilizing energy manifests as a deeply *restorative* action; while its secondary cooling, relaxant effect translates as a *nervous sedative* action. The oil's high content in sesquiterpene alcohols is absolutely congruent with both types of therapeutic actions, as it is also in Patchouli and Atlas cedarwood, for instance. The clinical Six Condition diagnosis can sum up both actions in asserting that Vetiver is essentially indicated for individuals that run **weak, tense and hot**.

Very few other remedies, aromatic or otherwise, exert the same depth of *restorative* action as Vetiver, repairing as it does the body's four core systems: the nervous, endocrine, gastrointestinal and immune. Working systemically on the neuroendocrine and immune systems, this is an aromatic for **chronic deficiencies** arising from long-term stressors. The oil is a classic for physical burnout resulting in debility with

resultant vulnerability. Its action is essentially anabolic, not catabolic, promoting as it does tissue repair and gain, and intestinal nutrient assimilation. Weight loss, chronic underweight, anorexia and malabsorption syndromes are helped in this connection through its *anastative* action.

Vetiver has also shown good results in women's **hormonal deficiencies**, with benefits to the weak types of PMS and menopausal syndrome. It seems to exert a bivalent *regulating* action on the hormonal secretions oestrogen and progesterone. Vetiver's general grounding and heat-clearing actions, working in concert with the hormonal effect, are especially useful for the management of hot flashes.

When taken internally, its tissue-regenerative action can proceed with long-term gut repair in conditions such as malabsorption, possibly including from intestinal hyperpermeability and its resultant food sensitivities. In this, Vetiver's action is similar to that of its botanical relative Palmarosa, also in the grass family. And like Palmarosa, Vetiver is a good *antifungal* for those presenting fungal gut dysbiosis. In a parallel action, as a *restorative* to the *connective tissue*, Vetiver is also an effective *detoxicant* where connective tissue slackness has led to **metabolic toxicosis, capillary-lymphatic stagnation and compromised immunity**. It is in regard to this connective tissue action that we can understand the oil's topical benefits for weak, loose or simply fatigued skin. Wrinkles and stretch marks after childbirth can also be prevented or reduced through its use.

As a *cooling, sedative* agent, Vetiver's action is both systemic and local. A classic aromatic refrigerant, it will bring any **heat** that rises down from the head and back into the body, regardless of whether a fever, hot spell or hot flash is involved. This is accompanied by a useful *nervous sedative* action. On a local level, Vetiver acts as a reliable *anti-inflammatory* and *analgesic* that may prove helpful especially in **chronic inflammatory conditions**, including those originating in allergic and autoimmune hypersensitivities. Here it is useful for topical as well as internal preparations, depending on the condition being treated.

In the broadest sense, Vetiver can help an individual become fully present or incarnated in the body. In helping one come down from the head into the body, it helps shift one's energies into the physical centre just below the navel, the *hara* or lower *dan tian*, also the centre of our instinct. It can allow us to feel our emotions literally at the gut level, embodied and whole. Vetiver, then, is for those times when we lose our connection to our physical instinct, becoming prone to mental and emotional instability, states of anxiety, racing mind, agitation and the like. States of disconnection, dissociation, delusion, etc. will also be helped in the same way.

At the same time, Vetiver can increase cognitive flexibility and so become a valuable ally in states of repetitive thinking, obsession and compulsion. Any neurotic behaviour that thrives on mental-emotional stress and tension can be potentially mellowed out and slowed down by connecting with one's physical centre. Vetiver's aphrodisiac reputation now makes more sense in this light. Because so many sexual disorders

arise from an anxious mind panicking under stress – premature ejaculation and loss of libido, to name but two common problems – Vetiver can be beneficial as it helps one simply stay with the sensuous aspects of lovemaking. Other performance anxieties and mental blocks can also be broken through in the same way.

As a root oil of the earth, Vetiver embodies the true materialism and sensuality that arises when we appreciate the physical world for what it actually is. It can reveal to us the awesome presence, beauty and mystery of the natural world in itself, pulling us away from valuing things as mere symbols for something else, such as status or prestige. In an ontological sense, Vetiver speaks of nothing less than spiritual immanence, i.e., the total presence of spirit in the material world. Spiritual immanence is a significant worldwide and historical characteristic of the type of consciousness found in cultures at the tribal stage of development. This particular type of awareness is something the world desperately needs at this critical time in our evolution.

Ultimately, Vetiver oil is about the gifts of mother earth to humankind. Like a mother's deep embrace of her child, Vetiver represents the nurture and self-empowerment given us freely by our Earth Mother, our planet Gaia. As she shows us her deepest mysteries, we can become more open to her beauty, feel the deep connection of all of life and come to realize on an instinctive level that her destiny and ours are really one.

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# Ylang Ylang No. 1 and Ylang Ylang Extra



**Botanical source:** The flower of *Cananga odorata* (Lam.) Hook. fil. and Thoms. forma *genuina* (Anonaceae – soursop or custard apple family)

**Other names:** Cananga, Flower of flowers, Perfume tree; Alang-ilang, Ilang-ilang (Filipino), Kenanga (Malay, Javanese), Kananga (Indonesian), Moso oi (Samoan), Ylang-ylang (Fr, Ge)

**Appearance:** A mobile pale yellow fluid with a strong, smooth floral-sweet odour with faint lemony overtones

**Perfumery status:** A heart note of very high intensity and moderate persistence

**Extraction:** Steam distillation of the fresh ylang ylang flowers obtained from plantation-grown trees (not the wild trees: see below); production takes place throughout most of the year, but especially during the rainy season (November–April).

Four fractions or grades of Ylang ylang oil are produced by fractionating or cutting off the distillation process according to these approximate distillation times:

- Ylang ylang extra: the first 1–1.5 hours of distillation
- Ylang ylang no. 1: the next 2–3 hours of distillation
- Ylang ylang no. 2: the next 3–5 hours of distillation
- Ylang ylang no. 3: the final 6–8 hours of distillation

A fifth type of oil, called Ylang ylang complete, is produced by mixing together the no. 1, 2 and 3 fractions. Increasingly, however, Ylang ylang complete oil is being offered that results from a single distillation of hours 2–5 or 2–7 approximately.

All grades of this oil are useful for perfumery, as this is the original reason for fractionating the distillation in the first place. However, from the clinical point of view, only the Ylang ylang extra and no. 1 fractions are sufficiently high enough in sesquiterpenes and esters to be of any real therapeutic value.

**1 kg oil yield from:** 40–80 kg of the fresh flowers (a good yield)

**Production areas:** The Comores, Northwest Madagascar, Réunion, South China. The first plantations for oil production were created in the Philippines in the 1860s, followed by expanded production on Réunion Island from 1892 onwards. In 1906 the ylang ylang tree was introduced to Nosy Bé and the Comores. These islands have since become by far the largest producers of Ylang ylang oil worldwide.

**Typical constituents:** Sesquiterpenes 44–65% (incl. farnesene and cadinene up to 17%, caryophyllene <22%, germacrene <25%, cadinene, humulene) • esters 15–48% (incl. geranyl acetate 5–10%, benzyl acetate 3–10%, benzyl benzoate <12%, methyl benzoate, methyl salicylate 1–10%, farnesyl acetate 1–7%) • monoterpenols (incl. linalool 11–30%, geraniol, nerol) • farnesol, benzyl alcohol • paracresyl methyl ether 15%

**Chance of adulteration:** Mild and usually at the source with the flowers of climbing ylang ylang (*Artabotrys uncinatus*), with their similar appearance but inferior fragrance (Oyen and Dung 1999). A simple practice that lowers the quality of Ylang ylang no. 1 and Ylang ylang extra is the admixture of the immediately lower grade. Larger-scale commercial adulteration is also practised, involving partial reconstitution with synthetic esters and monoterpenols.

**Related oils:** **Cananga oil** from *Cananga odorata* forma *macrophylla*, which are the wild, uncultivated ylang ylang trees. Cananga oil has a harsher floral fragrance with more woody-green notes and is mainly used in perfumery, soaps and cosmetic products.

## Therapeutic Functions and Indications

**Therapeutic status:** Mild remedy with no cumulative toxicity

**Topical safety status:** Non skin-irritant, mildly sensitizing

### SPECIFIC SYMPTOMATOLOGY – All applications

**Mood swings**, frustration, anger, **anxiety**, **nervous tension**, irritability, distraction, restlessness, insomnia, **transient joy with much talking and laughing**, fearfulness, **insecurity**, **low self-esteem**, **loss of sexual interest**, guilt, emotional coldness, **severe palpitations**, **chest oppression**, colicky abdominal pains

### PSYCHOLOGICAL – Aromatic diffusion, whole-body massage

**Essential PNEI functions and indications:** Regulating in dysregulation conditions; euphoric in acute overstimulation conditions; sensory integrating in sensory disintegration conditions

**Possible brain dynamics:** Reduces deep limbic system and cingulate gyrus hyper-functioning

**Fragrance category:** Middle tone with sweet and lemony notes

**Indicated psychological disorders:** Bipolar disorder, ADD, minor depression; addiction disorders, codependency; dissociative disorder, sensory integration disorder

### PROMOTES EMOTIONAL STABILITY

- Irritability, moodiness, frustration, anger, emotional instability
- Distraction, emotional confusion with conflict; increased negative/distressed feelings

### DISINHIBITS AND SENSUALIZES, AND ENHANCES SELF-ESTEEM

- Emotional, sensual and sexual inhibition; loss of libido with anxiety
- Insecurity, low self-esteem, self-loathing, guilt, fearfulness, timidity, isolation
- Sensing/feeling disconnection

### PROMOTES EUPHORIA AND OPTIMISM (ALL FOR SHORT-TERM USE IN ACUTE CONDITIONS)

- All acute emotions, incl. fear, anger, sorrow; apprehension, panic attack
- Emotional shock
- Acute depression, especially with anxiety or agitation
- Severe guilt, despair, self-destructiveness

PHYSIOLOGICAL – *Nebulizer inhalation, gel cap, suppository, liniment*

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**Tropism:** Neuroendocrine, reproductive, circulatory, digestive systems

**Essential functional and diagnostic indication:** Relaxes and balances tense and dysregulated conditions

**Primarily relaxant:**

*systemic nervous relaxant, SNS inhibitor, vagotonic:* a large variety of hypertonic (tense) conditions with nervous tension; acute stress-related conditions in general

*spasmolytic, analgesic:* a large range of acute spasmodic and pain conditions, of both smooth and striated muscles

- *nervous and cerebral sedative, hypnotic:* anxiety, agitation, PMS, insomnia
- *strong cardiovascular relaxant (vasodilator, hypotensive):* palpitations, tachycardia, precordial pain, arrhythmia, hypertension, hyperpnea, spasmodic angina pectoris
- *respiratory relaxant (bronchodilator, bronchospasmolytic):* asthma, all nervous or spasmodic coughs
- *gastrointestinal relaxant:* colic, cramps, spasmodic IBS
- *neuromuscular relaxant:* muscle cramps and spasms, gynaecological spasms  
anticonvulsant (also preventively): seizures

**Primarily regulating and restorative:**

*sexual restorative (aphrodisiac):* low or loss of libido, impotence; esp. with anxiety, fear or depression

*pituitary-gonadal (hormonal) regulator:* irregular cycles, menorrhagia, PMS, menopausal syndrome

*mild antidiabetic, hypoglycaemiant:* diabetes

*antipyretic:* malaria, typhoid and other fevers

*anti-fungal:* mild fungal infections, esp. with *Candida*, *Aspergillus* and others

**SYNERGISTIC COMBINATIONS**

- Ylang ylang no. 1 + Lavender: *nervous relaxant, spasmolytic and hypotensive* in stress-related conditions with anxiety, insomnia, tachycardia, hypertension
- Ylang ylang no. 1 + Blue tansy: *neurocardiac relaxant and sedative* in stress-related conditions with severe tension, mood swings, insomnia, anxiety

- Ylang ylang no. 1 + Spikenard: *cerebral and cardiovascular relaxant* for severe anxiety, insomnia, hypertension, tachycardia, neurogenic angina
- Ylang ylang no. 1 + Clary sage: *female hormonal regulator and systemic relaxant* for many hormonal imbalances with systemic tension, esp. with PMS, menopausal syndrome, loss of libido; also *anticonvulsant* for seizures in tense conditions

#### COMPLEMENTARY COMBINATIONS

- Ylang ylang no. 1 + Petitgrain: *nervous sedative and systemic relaxant* in all stress-related conditions with tension, mood swings, anxiety, insomnia, palpitations and all neurogenic digestive symptoms
- Ylang ylang no. 1 + Marjoram: *vagotonic spasmolytic* for acute spasmodic conditions in general, esp. cardiovascular, respiratory and digestive
- Ylang ylang no. 1 + Neroli: *cardiovascular relaxant and hypotensive* for severe tachycardia, cardiac spasms, neurogenic angina with precordial pain; hypertension
- Ylang ylang no. 1 + Peppermint/Roman camomile: *analgesic spasmolytic* for painful spasmodic digestive conditions, incl. colic, cramps, IBS

#### TOPICAL – *Compress, liniment, lotion and other cosmetic preparations*

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**Skin care:** Combination, dry and oily skin types

*skin protectant:* dull, rough or damaged skin

*skin decongestant, antiseborrhoeic:* oily, congested skin and scalp; acne, seborrhoea (incl. dandruff)

**Hair and scalp care:**

*hair restorative:* dry, dull lifeless hair, split ends, dry scalp (strengthens and glosses hair and nails)

*hair-growth stimulant:* hair loss, alopecia

**Precautions:** Avoid using Ylang ylang no. 1 or Extra on sensitive, inflamed or injured skin, incl. dermatitis. During the first trimester of pregnancy, use with great caution or avoid internally as this oil is a hormonal modulator. Caution with excessive inhalation of Ylang ylang no. 1, as it has been known to cause nausea and headache.

**Preparations:**

- Diffusor: 1–2 drops in water
- Massage oil: 2–5% dilution in vegetable oil
- Liniment: 5–10% dilution in vegetable carrier oil
- Gel cap: 1–2 drops with olive oil

**Chinese Medicine Functions and Indications****Aroma energy:** Sweet**Movement:** Circulating**Warmth:** Neutral**Meridian tropism:** Liver, Heart, Kidney**Five-Element affinity:** Wood, Water, Fire**Essential function:** To regulate the Qi and harmonize the Shen**1. Spreads Liver Qi, regulates Heart Qi, relaxes constraint and harmonizes the Shen**

- **Liver Qi constraint** with moodiness, anxiety, worry, low libido, impotence:  
Bergamot/Marjoram
- **Liver and Heart Qi constraint with Shen disharmony** with tension, restlessness, insomnia, irritability, depression with anxiety, palpitations, low libido:  
Bergamot/Mandarin/Lavender/Jasmine sambac
- **Heart Qi stagnation** with severe palpitations, precordial oppression, anxiety, insomnia:  
Lavender/Neroli/Spikenard
- **Liver/Spleen disharmony** with moodiness, irritability, abdominal pains and colic, irregular stool:  
Peppermint/Mandarin/Roman camomile

**2. Glosses the Shen and suspends emotions**

- **Shock, acute trauma, acute emotions:**  
Rose/Jasmine sambac/Lavender/Atlas cedarwood
- **Depression** in general (symptom relief for all types of depression):  
Clary sage/Jasmine/Neroli/Rose

### 3. Nourishes Liver and Heart Blood, and strengthens the Shen

- **Heart Blood deficiency with Shen weakness** with chronic anxiety, anxiety with depression:  
Palmarosa/Coriander/Clary sage
- **Liver Blood deficiency with Shen weakness** with depression, pessimism, insecurity, guilt feelings, shyness, low libido:  
Geranium/Neroli/Rose

#### REMARKS

The tropical ylang-ylang tree in the soursop family acquired its name from the Filipino Ilang-ilang in its country of origin. The name refers to the wind-borne fluttering of its slim viridian-yellow flowers, although the literal translation would be ‘flower of flowers.’ In the islands where they are cultivated, amidst the cerulean waters of the South Indian Ocean, one is spellbound as cool sea breezes waft and mingle with the warm, humid tropical air of the land. The bracing scent of ocean brine intertwines with the light, lilting fragrance of ylang ylang flowers, both swaying lazily in the clear sky in a gentle haze of euphoria.

Although a fairly recent addition to the aromatic palette of essential oil therapists, the flowers have been used for centuries throughout the many islands of the Philippines, Indonesia and the Indian Ocean for skin and hair care, for medicine and as offerings to the gods. They are traditionally infused in coconut oil in much the same way as the Tahitian gardenia flowers are infused to make Monoi Tiare Tahiti oil. Ylang-ylang flowers have always symbolized love and well-balanced emotions.

In the early years of the Victorian era, the 1830s, an infused oil of these flowers in coconut or palm oil was imported to England from Indonesia and sold as Macassar Oil after the town of Makassar on Sulawesi Island. It was successfully promoted for grooming and styling hair and became highly popular with the gentlemen in particular – so popular, in fact, that an antimacassar doily had to be developed to protect the back of upholstered chairs from the trail of unsightly oil stains that it left behind. It is reasonable to suppose, however, that this Ylang ylang flower infusion also enjoyed such approbium as much because of its sensuous, perfumy aroma as because of any hair conditioning properties it may have possessed. We can only imagine the effect that this heady, voluptuous fragrance, redolent of refined sensuality, wafting freely through Victorian drawing rooms, must have had on prudish, straight-laced Victorian society of the day.

It is no surprise, then, that French perfumers soon eagerly sought to incorporate Ylang ylang oil into their natural perfumes. Presented publicly for the first time at the Paris World Exhibition of 1878, this exquisite fragrance upstaged all other colonial essential oils and soon took the world of perfumery by storm. By the turn of the century, Ylang ylang had no rival as a floral heart note except for Neroli itself. The

blessed tree was now under well-pruned cultivation in many French-held Mascarene islands of the Indian Ocean, notably in La Réunion and Nosy Bé.

Today, the essential oil of the ylang ylang tree is popularly renowned for its aphrodisiac qualities. However, it is now known to exert specific therapeutic actions, when used by deep inhalation or internally, that go far beyond this general effect.

The therapeutic properties of Ylang ylang oil were originally explored and reported by the French chemists Garnier and Rechler on Réunion island in the early 1900s. These hinge around a twin *relaxing* and *regulating* action that is systemic and profound in effect. Targeting the entire nervous, circulatory and muscular system, the oil is a *deep systemic relaxant* for treating **tense conditions** in their acute phase or that present symptoms of severe nervous tension, anxiety, spasms and pain. In Chinese medicine terms, these would be conditions of constrained Qi. While calming brain functions and enhancing parasympathetic activity, the remedy relaxes both smooth and striated muscles equally. It is one of the best for treating **tense-type cardiovascular conditions** such as palpitations, tachycardia, spasmodic angina and tense-type hypertension, like Sichuan lovage root, Chuan Xiong (*Ligusticum wallichii*).

Ylang ylang also exerts a *regulating* action on these organs secondary to its *relaxant* effect, particularly through its regulating action on the pituitary gland. Conditions of **hormonal imbalance** involving **pituitary dysregulation** are most likely to respond here. This oil is likely to succeed most in women whose systemic tension has over time created HPG imbalance with its retinue of possible menstrual and premenstrual symptoms.

When this aromatic remedy is inhaled to influence the limbic system, it seems that it helps reduce hyperfunctioning of the deep limbic system and cingulate gyrus. The result is first, a disinhibiting and sensualizing effect on our emotions, senses and self-image. As this corresponds to the physiological *relaxant* effect, on the psychological level Ylang ylang will address those issues of insecurity, guilt and anxiety that lead to **loss of libido**. The net result can indeed be *aphrodisiac*, but not necessarily in those with chronic buttoned-up emotions and unresolved distressed feelings.

Along with this effect, Ylang ylang can induce a state of euphoria and optimism combined that is virtually unique. In distinction to its perfume and recreational uses therefore, its clinical applications are **acute intense emotions, emotional shock** and in general any **intense negative feelings**, including anger, hatred, deep despair and self-destructiveness. Ultimately, this oil exerts a good *stabilizing* effect on moods and emotions, especially for distressed feelings in general. It is particularly useful for those with emotional instability and chronic unresolved anger.

In dealing deftly with intense emotions, Ylang ylang bestows a relaxing, softening, harmonizing and lightening grace over the energetic Heart – a function that is expressed in Chinese medicine as ‘nourishing Heart Blood.’ Its ability to transform dark negativity into lightness and positivity is perhaps unique. In opening us to the lightness of being, Ylang ylang is clearly a remedy for the soul as much as for the body. It deserves more exploration as such than it has received so far.

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# Glossary of Terms

**Note:** cross-references to other glossary terms are set in *italics*

**adaptogenic:** enhances adaptation response to stress

**ADD:** attention deficit disorder

**ADHD:** attention deficit hyperactivity disorder

**AIDS:** acquired immune deficiency syndrome

**alterative:** promotes systemic changes

**analeptic:** revives from shock or poisoning

**analgesic:** relieves pain internally

**anaesthetic:** deadens local sensation or pain

**anhidrotic:** reduces or stops sweating

**anodyne:** relieves pain

**antacid:** reduces gastric acid

**anthelmintic:** treats intestinal worms/parasites

**antiabortive:** prevents miscarriage

**antiageing:** slows ageing

**antiallergic:** treats allergies or hypersensitivities

**antiarthritic:** treats arthritis

**antiasthmatic:** treats asthma

**antibacterial:** inhibits bacteria

**anticatarrhal:** reduces catarrh (excessive mucus production)

**anticoagulant:** reduces blood clotting

**anticonvulsant:** treats convulsions

**antidepressant:** treats depression

**antidiarrhoeal:** treats diarrhoea

**antidyskratic:** rebalances the fluids in the presence of a fluids dyskrasia (disharmony)

**antiemetic:** treats vomiting

**antienuretic:** treats enuresis (involuntary urination)

**antifungal:** inhibits fungus

**antigenic:** reduces antibody production

**anti-infective:** treats infection

**anti-inflammatory:** reduces inflammation

**antileucorrhoeal:** treats leucorrhoea

**antilipemic:** lowers blood lipid levels in the presence of hyperlipemia

**antilithic:** prevents or dissolves and flushes out stones

**antimicrobial:** inhibits microbes

**antineoplastic:** treats neoplasm or cancer

**antioxidant:** reduces oxidation

**antiparasitic:** inhibits or reduces parasites

**antipruritic:** relieves skin itching

**antipyretic:** reduces fever by lowering temperature

**antirheumatic:** treats rheumatism

**antisecretory:** reduces secretions

**antiseptic:** topically prevents or reduces infection or putrefaction

**antitumoral:** treats tumours

**antitussive:** relieves coughing

**antiviral:** inhibits viruses

**aperitive:** stimulates the appetite

**aphrodisiac:** promotes sexuality

**asthenic:** lacking stimulation; also known as 'cold'

**astriiction:** a tightening effect

**astrigent:** astricts or tightens tissue to reduce or stop a secretion

**atonic:** lacking tone or strength; also known as 'weak'

**BPH:** benign prostate hyperplasia

**bronchodilant:** dilates the bronchi

**cardiac:** relating to the heart

**carminative:** relieves intestinal flatus

**CFS:** chronic fatigue syndrome

**cholagogue:** promotes bile flow

**choloretic:** enhances bile quality and quantity

**catrisant:** promotes tissue repair; the same as *vulnerary*

**CNS:** central nervous system

**CO2:** supercritical carbon dioxide (extract)

**CTS:** carpal tunnel syndrome

**coagulant:** promotes blood clotting

**cold:** one of the six pathogenic factors and diagnostic conditions of functional and energetic medicine; synonymous with hyposthenia

**congestion:** a pathological condition involving pathological stagnation of one of the fluids, i.e. blood, mucous, phlegm, interstitial or other fluid

**constraint:** a pathological condition involving mental or emotional, and therefore nervous, tension

**contraceptive:** prevents conception

**counterirritant:** irritates to cause *derivation*

**CT:** chemotype or chemical type

**damp:** one of the six pathogenic factors and diagnostic conditions of functional and energetic medicine; synonymous with congestion

**decongestant:** relieves fluid or blood congestion

**deficiency:** a pathological condition presenting a functional or structural insufficiency or weakness

**demulcent:** soothes and moistens the mucous membrane

**depressant:** reducing mental/cerebral functions

**derivation:** a therapeutic technique that uses *counterirritation* to draw blood away from an area of disease to another body part, usually through the methods of cupping or bloodletting, or the topical use of *rubefacient*, *vesicant* or *pustulant* remedies

**dermal:** relating to the skin

**dermatropic:** having a tropism for the skin

**detergent:** cleans and disinfects wounds

**detumescent:** reduces swelling

**detoxicant:** resolves and clears toxin(s)

**DHEA:** dehydroepiandrosterone, an adrenocortical hormone

**diaphoretic:** promotes sweating

**diathesis:** an individual tendency or predisposition for disharmony inherent in an individual's natural condition (*physis* in Greek medicine)

**digestant:** promotes digestion

**discutient:** resolves tumours

**dissolvent:** promotes solution (dissolving) of hard deposits, tissues or exudates

**diuretic:** promotes increased urination

**draining diuretic:** relieves fluid congestion (edema) and increases urination

**dryness, dry:** one of the six pathogenic factors and diagnostic conditions of functional and energetic medicine

**dysregulation:** a condition of dysfunction involving aspects of both hyper- and hypo-functioning

**effective qualities:** qualitative aspects of the nature of any substance—mineral, herbal, animal or human; applied to remedies, they consist of taste, warmth and moisture; they are effective since they produce physiological therapeutic effects (see four qualities below).

**eliminant:** promotes elimination through an excretory channel

**emetic:** causes vomiting

**emmenagogue:** promotes menstrual discharge

**emollient:** soothes and moistens the skin

**excess:** a pathological condition presenting a redundancy of function or substance

**expectorant:** promotes coughing up of sputum

**febrifuge:** reduces fever

**fetal relaxant:** relaxing/calming to the fetus and therefore reducing abnormal fetal movement

**FM:** fibromyalgia

**four qualities:** energetic, dynamic effective qualities used in traditional medical systems to describe substances and processes such as remedies (pharmacognosy) and pathological conditions (pathology); hot/cold, dry/damp are the four basic qualities

**free radical inhibitor:** reduces free radicals

**GABA:** gamma-aminobutyric acid

**GC:** gas chromatography

**galactagogue:** produces milk flow

**ground:** the place where disease occurs, whether the whole person, constitution or particular tissue; also known as 'terrain'

**heat, hot:** one of the six pathogenic factors and diagnostic conditions of functional and energetic medicine; synonymous with hypersthenia

**haemogenic:** builds blood (cells)

**haemolytic:** destroys blood (cells)

**haemostatic:** stops bleeding

**HIV:** human immunodeficiency virus

**HPA:** hypothalamus-pituitary-adrenal

**HPG:** hypothalamus-pituitary-gonadal

**HPV:** human papilloma virus

**HSV:** herpes simplex virus

**hydragogue:** expels water through the bowels

**hydrogenic:** retains fluids

**hypersthenic:** having excessive stimulation; also known as 'hot'

**hypertensive:** increases blood pressure

**hypertonic:** having excessive tone or strength; also known as 'tense'

**hypnotic:** calming the mind

**hypoglycaemiant:** lowers blood sugar levels

**hypotensive:** reduces blood pressure

**IBS:** irritable bowel syndrome

**immune restorative:** boosts immune potential

**immune potential:** the potential of the immune system for effective response to pathogen

**immune regulator:** regulates immunity in hypersensitivity (i.e. allergic and autoimmune) disorders

**immunostimulant:** stimulates immune functions

**interferon inducer:** produces interferon

**laxative:** promotes gentle bowel movement

- lenitive:** reduces irritation
- leukocytogenic:** increases white blood cells
- LHRH:** luteinizing-hormone releasing hormone
- litholythic:** dissolves stones
- lymphatic:** relating to lymphatic flow
- lymphocyte stimulant:** increases T-lymphocytes and lymphocyte transformation rate
- ml:** millilitre
- mucogenic:** promotes mucus production
- mucolytic:** reduces sputum production
- mucostatic:** stops mucus/catarrhal discharge
- mucus:** mucosal fluid
- nervine:** relating to the nervous system
- nutritive:** promotes nutrition or provides nourishment
- oestrogenic:** promotes the secretion of oestrogen hormones
- optitropic:** having a tropism for the eyes and vision
- oxytocic:** promotes labour contractions by releasing oxytocin hormone
- parasiticide:** kills parasites
- parturient:** promotes labour
- pattern of disharmony:** a syndrome, consisting of a complex of specific signs and symptoms
- PCOS:** polycystic ovarian syndrome
- phagocyte stimulant:** enhances phagocyte functions
- pharmacognosy:** the study of the nature of remedies
- pharmacology:** the study of the physiological effects of remedies
- phenomenology:** the study of empirically observed phenomena
- PMS:** premenstrual syndrome
- PNEI:** psycho-neuro-endocrine-immune
- PNS:** parasympathetic nervous system
- progesteronic:** promotes the secretion of progesterone
- puerperal:** relating to childbirth
- purgative:** promotes copious bowel movement
- pustulant:** causes pustules
- Qi:** the Chinese medicine term for bioenergy or vital energy
- rash-promoting:** promoting eruptions in eruptive fever
- refrigerant:** promotes a cooling down and clears heat
- regulator:** promotes normal functioning
- relaxant:** promotes relaxation
- resolvent:** resolves a state of toxicosis
- resorbant:** promotes catabolic resorption
- restorative:** promotes restoration and strength
- rubefacient:** causes hyperemia with skin reddening
- secretory:** promotes secretions
- sedative:** reduces activity or function
- simple:** a single remedy
- SNS:** sympathetic nervous system
- spasmolytic:** reduces spasm or cramp
- spermicidal:** kills sperm
- stages of adaptation:** the theory of the three stages of adaptation to stressors, being the alarm, resistance and exhaustion stages; also known as the general adaptation syndrome
- stages of disease:** the theory of the four stages of disease according to vital activity; illness begins in the acute stage and progresses to the subacute, chronic and degenerative

**stagnation:** a pathological condition denoting a slowing down of normal processes and buildup of injurious or toxic substances (e.g. mucus, sputum, endotoxins, fatty and mineral deposits, etc.)

**stimulant:** increases activity or function

**structive:** producing substance and form; the opposite/complementary of active

**styptic:** stops bleeding through topical application

**syndrome:** a specific complex of signs and symptoms presenting a symptom picture; synonymous with 'pattern of disharmony'

**TB:** tuberculosis

**tension, tense:** one of the six pathogenic factors and diagnostic conditions of functional and energetic medicine; synonymous with hypertonicity, *hypertonic*

**teratogenic:** injures the fetus

**toxicosis:** (also 'toxemia' and 'autotoxicosis'); a pathological condition involving the accumulation of endogenous or exogenous toxins

**toxins:** injurious (pathological) substances generated internally or from the environment

**tri dosas:** the three fundamental energies in Ayurvedic (Indian) medicine

**trophorestorative:** nourishes and builds tissue

**tropism:** the property of a remedy of having an affinity or bias for treating certain organs, systems, tissues or body parts

**UV:** ultraviolet

**vasoconstrictor:** constricts blood vessels

**vasodilator:** dilates blood vessels

**vermicide:** kills intestinal parasites

**vermifuge:** expels intestinal parasites

**vesicant:** causes watery blisters

**vulnerary:** treats wounds by promoting tissue healing

**weakness, weak:** one of the six pathogenic factors and diagnostic conditions of functional and energetic medicine; synonymous with hypotonicity, hypotonic

# Common Name Cross Index

- African bluegrass *Cymbopogon validus*  
 Agarwood *Aquilaria agallocha*  
 Ajowan *Trachyspermum ammi*  
 Aleppo pine *Pinus halepensis*  
 Ambrette *Hibiscus abelmoschus*  
 Amyris *Amyris ellipticum*  
 Angelica root *Angelica officinalis*  
 Aniseed *Pimpinella anisum*  
 Armoise *Artemisia herba-alba*  
 Aromatic ravensara *Ravensara aromatica*  
 Asafoetida *Ferula foetida*  
 Atlas cedarwood *Cedrus atlantica*
- Balsam fir *Abies balsamea*  
 Basil  
   African *Ocimum gratissimum*  
   bush *Ocimum basilicum* var. *minium*  
     *ct. eugenol*  
   camphor *Ocimum canum*  
   hoary *Ocimum canum* *ct. linalool*  
   holy *Ocimum sanctum*  
   large-leaf *Ocimum basilicum*  
   sweet *Ocimum basilicum* *ct. linalool*  
   tree *Ocimum gratissimum*  
   tropical *Ocimum basilicum* *ct. methychavicol*  
 Bay laurel *Laurus nobilis*  
 Bay rum *Pimenta racemosa*  
 Benzoin *Syrax benzoin*  
 Bergamot *Citrus x bergamia*  
 Bisabol myrrh *Opopanax chironium*  
 Bitter fennel *Foeniculum vulgare* *subsp. vulgare*  
 Black pine *Pinus nigrum*  
 Black sage *Salvia mellifera*  
 Black seed *Nigella sativa*  
 Black spruce *Picea mariana*  
 Black pepper *Piper nigrum*  
 Black tea tree *Melaleuca bracteata*  
 Blackcurrant *Ribes nigrum*  
 Blue cypress *Callitris intratropica*  
 Blue mountain sage *Salvia stenophella*  
 Blue tansy *Tanacetum annuum*  
 Blue-gum eucalyptus *Eucalyptus globulus*  
 Blue-leaf mallee *Eucalyptus polybractea*  
 Brazil clove *Dicypellium caryophyllatum*  
 Broad-leaf eucalyptus *Eucalyptus dives*  
 Broad-leaf tea tree *Melaleuca viridiflora*  
 Buddha wood *Eremophila mitchelli*  
 Bush basil *Ocimum basilicum* var. *minium*  
   *ct. eugenol*
- Cacao *Theobroma cacao*  
 Cade juniper *Juniperus oxycedrus*  
 Caesarweed *Urena lobata*  
 Cajeput *Melaleuca cajuputi*  
 Calamus *Acorus calamus*  
 Camomile,  
   German *Matricaria recutita*  
   Moroccan wild *Ormenis mixta*  
   Roman *Anthemis nobilis*  
 Camphor *Cinnamomum camphora*  
 Camphor basil *Ocimum canum*  
 Cananga *Cananga odorata*  
 Cape camomile *Eriocephalus punctulatus*  
 Cape may *Coleonema album*  
 Cape snowbush *Eriocephalus africanus*  
 Caraway *Carum carvi*  
 Caraway thyme *Thymus herna-barona*  
 Cardamom *Elettaria cardamomum*  
 Carrot seed *Daucus carota*  
 Cassia bark/leaf *Cinnamomum cassia*  
 Cedarwood  
   Atlas *Cedrus atlantica*  
   Himalaya *Cedrus deodora*  
   Japan *Cryptomeria japonica*  
   Texas *Juniperus mexicana*  
   Virginia *Juniperus virginiana*  
 Celery seed *Apium graveolens*  
 Champaca *Michelia champaca*  
 China spikenard *Nardostachys chinensis*  
 Cinnamon *Cinnamomum zeylanicum*  
 Cistus *Cistus ladaniferus*  
 Citronella,  
   Ceylon *Cymbopogon nardus*  
   Java *Cymbopogon winterianus*  
 Citronella tea tree *Leptospermum liversidgei*  
 Clary sage *Salvia sclarea*  
 Clementine *Citrus reticulata*  
 Clove bud *Eugenia caryophyllata*  
 Clove cassia *Dicypellium caryophyllatum*  
 Combava *Citrus bystrix*  
 Compact oregano *Origanum compactum*  
 Copaiba *Copaifera reticulata*  
 Coriander *Coriandrum sativum*  
 Cretan oregano *Origanum onites*  
 Cretan thyme *Thymus capitatus*  
 Cubeb berry *Piper cubeba*  
 Cumin *Cuminum cyminum*  
 Curry leaf *Murraya koenigii*  
 Cypress *Cupressus sempervirens*  
 Cypress  
   Japan *Cupressus obtusa*
- Madagascar *Cupressus lusitanica*  
 Mediterranean *Cupressus sempervirens*
- Dalmatia lavender *Lavandula x hybrida*  
 Damask rose *Rosa damascena*  
 Dang gui *Angelica sinensis*  
 Dill seed *Anethum graveolens*  
 Douglas fir *Abies douglasii*
- Elemi *Canarium commune*  
 Emerald cypress *Callitris columellaris*  
 Eucalyptus *Eucalyptus* spp.  
   blue-gum *Eucalyptus globulus*  
   blue-leaf mallee *Eucalyptus polybractea*  
   broad-leaf *Eucalyptus dives*  
   forest red gum *Eucalyptus tereticornis*  
   green mallee *Eucalyptus viridis*  
   grey peppermint *Eucalyptus radiata*  
     var. *phellandra*  
   gully gum *Eucalyptus smithii*  
   lemon *Corymbia/Eucalyptus citriodora*  
   lemon-scented ironbark *Eucalyptus staigeriana*  
   narrow-leaf *Eucalyptus radiata*  
   peppermint *Eucalyptus piperita*  
   river red gum *Eucalyptus camaldulensis*  
   wooly-butt *Eucalyptus macarthurii*
- Female helichrysum *Helichrysum gymnocephalum*  
 Fennel *Foeniculum vulgare*  
 Fennel  
   bitter *Foeniculum vulgare* *subsp. vulgare*  
   sweet *Foeniculum vulgare*  
 Fieldmint *Mentha arvensis*  
 Fir, balsam *Abies balsamea*  
   Douglas *Abies douglasii*  
   grand *Abies grandis*  
   Nordmann's *Abies nordmanniana*  
   Siberian *Abies sibirica*  
   silver *Abies alba*  
 Forest red gum *Eucalyptus tereticornis*  
 Fragonia *Agonis fragrans*  
 Frangipani *Plumeria* spp.  
 Frankincense *Boswellia sacra*  
 Frankincense  
   Indian *Boswellia serrata*
- Galangal *Alpinia officinarum*  
 Galbanum *Ferula galbaniflua*

- Geranium *Pelargonium* cv. group *Rosat*  
German chamomile *Matricaria recutita*  
Ginger *Zingiber officinalis*  
Gingergrass *Cymbopogon martini* var. *sofia*  
Goldenrod *Solidago canadensis*  
Grand fir *Abies grandis*  
Grapefruit *Citrus x paradisi*  
Greek oregano *Origanum heracleoticum*  
Greek sage *Salvia fruticosa*  
Green mallee *Eucalyptus viridis*  
Grey peppermint eucalyptus *Eucalyptus radiata* var. *phellandra*  
Guaiaicum *Bulnesia sarmienti*  
Guggul *Boswellia serrata*  
Gully gum *Eucalyptus smithii*  
Gurjun balsam *Dipterocarpus spp.*
- Havoza *Ravensara aromatica*  
Hazomboay *Oliganthus pseudocentauropsis*  
Helichrysum *Helichrysum angustifolium*  
Helichrysum  
    female *Helichrysum gymnocephalum*  
    fragrant *Helichrysum odoratissimum*  
    Italian *Helichrysum angustifolium*  
    male *Helichrysum bracteiferum*  
    splendid *Helichrysum splendidum*  
Hemlock spruce *Tsuga canadensis*  
Himalaya cedarwood *Cedrus deodora*  
Hiba *Thujopsis dolabrata*  
Hinoki *Chamaecyparis obtusa*  
Hoary basil *Ocimum canum* ct. *linalool*  
Ho wood *Cinnamomum camphora* ct. *linalool*  
Holy basil *Ocimum sanctum*  
Hemlock spruce *Tsuga canadensis*  
    Hummingbird sage *Salvia spathacea*  
Hyssop *Hyssopus officinalis*
- Iary *Psidia altissima*  
Indian frankincense *Boswellia serrata*  
Indian spikenard *Nardostachys jatamansi*  
Indian valerian *Valeriana wallichii*  
Inula *Inula graveolens*
- Jack pine *Pinus divaricata*  
Jasmine *Jasminum grandiflorum*  
Jasmine sambac *Jasminum sambac*  
Jatamansi *Nardostachys jatamansi*  
Juniper berry *Juniperus communis*  
Juniper  
    cade *Juniperus oxycedrus*  
    mountain *Juniperus communis* var. *montana*  
    Nepal *Juniperus squamata*  
    Phoenicia *Juniperus phoenicea*  
    savin *Juniperus sabina*
- Katrafay *Cedrelopsis grevei*  
Khella *Ammi visnaga*
- Lantana *Lantana camara*  
Large-leaf basil *Ocimum basilicum*  
Laricio pine *Pinus laricio*  
Laurel *Laurus nobilis*  
Lavender *Lavandula angustifolia*
- Lavender  
    Dalmatia *Lavandula x hybrida*  
    Spanish *Lavandula stoechas*  
    spike *Lavandula latifolia*  
    true *Lavandula angustifolia*  
Lavender oregano *Origanum dubium* ct. *linalool*  
Lavender sage *Salvia lavandulifolia*  
Lavender tea tree *Melaleuca ericifolia*  
Lavandin *Lavandula x fragrans*  
Ledum *Ledum groenlandicum*  
Lemon *Citrus limonum*  
Lemon eucalyptus *Corymbia/Eucalyptus citriodora*  
Lemon myrtle *Backhousia citriodora*  
Lemon tea tree *Leptospermum petersonii*  
Lemon thyme *Thymus x citriodorus*  
Lemon verbena *Lippia citriodora*  
Lemon-scented ironbark *Eucalyptus staigeriana*  
Lemon tea tree *Leptospermum petersonii*  
Lemongrass *Cymbopogon citratus*  
Lemongrass  
    East India *Cymbopogon flexuosus*  
    Jammu *Cymbopogon pendulus*  
    West Indies *Cymbopogon citratus*  
Lime *Citrus aurantifolia*  
Lime  
    leech *Citrus hystrix*  
    Persian *Citrus latifolia*  
Longoza *Hedychium coronarium*  
Lotus *Nelumbo nucifera*  
Lovage *Levisticum officinale*
- Mace *Myristica fragrans*  
Madagascar cypress *Cupressus lusitanica*  
Madagascar niaouli *Melaleuca quinquenervia* ct. *viridiflorol*  
Magnolia bud *Magnolia spp.*  
Male helichrysum *Helichrysum bracteiferum*  
Mandarin *Citrus reticulata*  
Massoia *Cryprocaria massoia*  
Mastic *Pistacia lentiscus*  
Mastic thyme *Thymus mastichina*  
May chang *Litsea cubeba*  
Marjoram *Origanum maiorana*  
May rose *Rosa gallica*  
Melissa *Melissa officinalis*  
Monarda *Monarda fistulosa*  
Morocco oregano *Origanum virens*  
Morocco thyme *Thymus satureioides*  
Morocco wild chamomile *Ormenis mixta*  
Mountain juniper *Juniperus communis* var. *montana*  
Mountain pine *Pinus mugo*  
Myrrh *Commiphora myrrha*  
Myrtle *Myrtus communis*
- Narrow-leaf eucalyptus *Eucalyptus radiata*  
Narrow-leaf paperbark *Melaleuca alternifolia*  
Narrow-leaf tea tree *Melaleuca linariifolia*  
Neem *Azadirachta indica*  
Nepal juniper *Juniperus squamata*  
Neroli *Citrus aurantium* subsp. *amara*
- Nerolina *Melaleuca quinquenervia* ct. *nerolidol/linalool*  
Niaouli *Melaleuca quinquenervia* ct. *cineole*  
Niaouli  
    Madagascar *Melaleuca quinquenervia* ct. *viridiflorol*  
Nordman's fir *Abies nordmanniana*  
Northern white cedar *Thuja occidentalis*  
Norway spruce *Picea abies*  
Nutmeg *Myristica fragrans*  
Nutsedge *Cyperus rotundus*
- Oakmoss *Evernia prunastri*  
Oleander *Nerium oleander*  
Opopanax *Opopanax chironium*  
Orange  
    bitter *Citrus aurantium* var. *amara*  
    sweet *Citrus aurantium*  
Oregano *Origanum spp.*  
Oregano  
    common *Origanum vulgare*  
    compact *Origanum compactum*  
    Creta *Origanum onites*  
    Greek *Origanum heracleoticum*  
    Lavender *Origanum dubium* ct. *linalool*  
    Morocco *Origanum virens*  
    wavering *Origanum dubium*  
Osmanthus *Osmanthus fragrans*
- Palmarosa *Cymbopogon martini* var. *motia*  
Parsley seed *Petroselinum sativum*  
Patchouli *Pogostemon cablin*  
Patchouli  
    China *Microtoena insuavis*  
    Java *Pogostemon heyneanus*  
Pepper  
    black *Piper nigrum*  
    cubeb *Piper cubeba*  
    green *Piper nigrum*  
    Peruvian *Schinus molle*  
Peppermint *Mentha x piperita*  
Peppermint eucalyptus *Eucalyptus piperita*  
Peru balsam *Myroxylon pereirae*  
Peru pepper *Schinus molle*  
Petitgrain bigarade *Citrus aurantium*  
Phoenicia juniper *Juniperus phoenicea*  
Pimenta *Pimenta racemosa*  
Pine  
    Aleppo *Pinus halepensis*  
    black *Pinus nigrum*  
    Jack *Pinus divaricata*  
    laricio *Pinus laricio*  
    mountain *Pinus mugo*  
    Scotch *Pinus sylvestris*  
    sea *Pinus pinaster*  
    Swiss *Pinus cembra*  
    white *Pinus strobus*  
Plai *Zingiber cassumunar*
- Rambazina *Helichrysum gymnocephalum*  
Ravensara *Ravensara aromatica*  
Ravintsara *Cinnamomum camphora* ct. *cineole*  
Red spruce *Picea rubens*  
River red gum *Eucalyptus camaldulensis*  
Roman chamomile *Anthemis nobilis*  
Rosalina *Melaleuca ericifolia*

- Rose  
 Damask *Rosa damascena*  
 May *Rosa centifolia*  
 musk *Rosa moschata*  
 white *Rosa damascena* var. *alba*
- Rose geranium *Pelargonium* cv. group *Rosat*  
 Rosemary *Rosmarinus officinalis*  
 Rosewood *Aniba roseodora*
- Sage *Salvia officinalis*  
 Sage  
 black *Salvia mellifera*  
 blue mountain *Salvia stenophylla*  
 garden *Salvia officinalis*  
 Greek *Salvia fruticosa*  
 hummingbird *Salvia spathacea*  
 Lavender *Salvia lavandulifolia*  
 Spanish *Salvia lavandulifolia*  
 white *Salvia apiana*
- Sandalwood  
 Australian *Santalum spicatum*  
 Hawaiian *Santalum ellipticum*  
 Indian *Santalum album*  
 New Guinea *Santalum mcgregorii*  
 New Caledonia *Santalum austrocaledonicum*
- Sanna *Hedychium spicatum*  
 Saro *Cinnamosma fragrans*  
 Savin juniper *Juniperus sabina*  
 Scotch pine *Pinus sylvestris*  
 Sea pine *Pinus pinaster*  
 Siam wood *Fokienia hodginsii*  
 Siberian fir *Abies sibirica*  
 Silver fir *Abies alba*  
 Sitka spruce *Abies sitchensis*  
 Smith's gum *Eucalyptus smithii*  
 Spanish lavender *Lavandula stoechas*  
 Spanish sage *Salvia lavandulifolia*  
 Spanish sauce thyme *Thymus zygis*  
 Spanish thyme *Thymus mastichina*  
 Spearmint *Mentha spicata*  
 Spearmint  
 curly *Mentha spicata* var. *crispa*  
 Moroccan *Mentha viridis* var. *nana*  
 Russian *Mentha verticellata*
- Scotch *Mentha gracilis*  
 Spike lavender *Lavandula latifolia*  
 Spiked gingerlily *Hedychium spicatum*  
 Spiked thyme *Thymus spicata*  
 Spikenard  
 China *Nardostachys chinensis*  
 Nepal *Nardostachys jatamansi*
- Spruce, black *Picea mariana*  
 hemlock *Tsuga canadensis*  
 Norway *Picea abies*  
 red *Picea rubens*  
 sitka *Picea sitchensis*  
 white *Picea glauca*
- Star anise *Illicium verum*  
 Styrax *Liquidambar styraciflua*  
 Sugi *Cryptomeria japonica*  
 Sweet basil *Ocimum basilicum* ct. *linalool*  
 Sweet fennel *Foeniculum vulgare*  
 Sweet orange *Citrus sinensis*  
 Swiss pine *Pinus cembra*
- Tagette *Tagetes glandulifera*  
 Tangerine *Citrus x tangerina*  
 Tarragon *Artemisia dracunculoides*  
 Tea tree *Melaleuca alternifolia*  
 Tea tree  
 black *Melaleuca bracteata*  
 broad-leaf *Melaleuca viridiflora*  
 citronella *Leptospermum liversidgei*  
 lavender *Melaleuca ericifolia*  
 lemon *Leptospermum petersonii*  
 narrow-leaf *Melaleuca linariifolia*  
 weeping *Melaleuca leucadendra*
- Texas cedarwood *Juniperus mexicana*  
 Thyme *Thymus vulgaris*  
 Thyme  
 caraway *Thymus berna-barona*  
 Cretan *Thymus capitatus*  
 lemon *Thymus x citriodorus*  
 mastic *Thymus mastichina*  
 Moroccan *Thymus satureioides*  
 Spanish *Thymus mastichina*  
 Spanish sauce *Thymus zygis*  
 spiked *Thymus spicata*  
 wild *Thymus serpyllum*
- Tree basil *Ocimum gratissimum*  
 Tropical basil *Ocimum basilicum* ct. *linalool*  
 Tuberose *Polygonatum tuberosum*  
 Tulsi *Ocimum sanctum*  
 Turmeric *Curcuma longa*
- Valerian *Valeriana* spp.  
 Vanilla *Vanilla planifolia*  
 Vetiver *Vetiveria zizanioides*  
 Virginia cedarwood *Juniperus virginiana*
- Weeping tea tree *Melaleuca leucadendra*  
 Winter savoury *Satureia montana*  
 Wintergreen *Gaultheria procumbens*  
 White camphor *Cinnamomum camphora*  
 White cypress *Cupressus lusitanica*  
 White ginger lily *Hedychium coronarium*  
 White pine *Pinus strobus*  
 White sage *Salvia apiana*  
 White spruce *Picea glauca*  
 Wild thyme *Thymus serpyllum*  
 Winter savory *Satureia montana*  
 Woolly-butt eucalyptus *Eucalyptus macarthurii*
- Yarrow *Achillea millefolium*  
 Yellow ginger *Hedychium flavescens*  
 Ylang ylang *Cananga odorata* forma *genuina*  
 Yuzu *Citrus junos*
- Zinziba *Lippia javanica*  
 Zdravetz *Geranium macrorrhizum*  
 Zedoary *Curcuma zedoaria*

# Index

- Abulcasis 29  
Ackerman, D. 97, 107  
acute toxicity 86  
adaptogenic effect 143, 147  
admixture, lack of 78  
adulteration 70–1, 111–12  
    *see also individual essential oils*  
al-Jawbari 29  
al-Razi 29  
alchemy  
    alchemists 29, 113, 235, 318  
    spagyric preparation techniques  
        of 34  
    Western 28–32  
alcohol distillation 30  
alterative effect 132, 220–1, 224, 239  
Amen, D. 104, 114  
analeptic effect 291, 299  
analgesic actions 47, 68, 90, 118–19,  
    151–2, 154, 163  
anhydrotic effect 166, 168, 187–8,  
    247, 267  
anthelmintic action 137, 144–5, 159,  
    247, 306, 338  
anti-infective action 31, 46–8, 58–9,  
    68, 88, 116  
anti-inflammatory action 46–8, 177–80  
antiallergic effect 154, 195–6, 209,  
    211–12  
antibacterial agents 45–6, 66–7,  
    116–17  
anticoagulant action 211–12, 215, 230,  
    239–40  
anticonvulsant effect 167, 259, 356,  
    365–6  
antidepressant effect 166, 230, 275,  
    300, 337, 347–8  
antiemetic effect 158, 160, 203, 230,  
    254, 282–3  
antifungal action 283, 291–2, 314–15,  
    330  
antilipemic effect 167, 211, 313  
antilithic effect 220, 239–40, 260  
antimicrobial actions 45–6, 116–17  
    *see also individual essential oils*  
antioxidant effect 177, 186, 199, 203,  
    238, 352  
antiparasitic effect 160, 180, 231, 251,  
    331, 338–9  
antipruritic effect 89, 132, 138, 213,  
    221  
antipyretic action 120, 177, 179, 342,  
    356, 365  
antirheumatic effect 158–9, 202,  
    219–20, 239–40  
antiseptic action 31, 46, 48, 339, 341,  
    348–9  
antitumoral effect 187, 196, 199, 247,  
    251, 271  
antitussive action 177, 182, 211–12,  
    323–4  
antiviral effect 116, 118, 137–8, 159,  
    178  
aperitives 239, 267, 306, 330  
aphrodisiac effect 202–3, 206, 259,  
    360–1, 365, 369  
appearance/description 106  
    *see also individual essential oils*  
Arcier, M. 93  
Arctander, S. 19, 107, 111  
Arnould-Taylor, W.E. 94  
aroma energy 122  
    *see also individual essential oils*  
aromatherapy  
    'French medical' 93, 98–9  
    and herbal medicine 99–100  
    holistic/'British style' 43, 93–4, 97,  
    100–2  
    terminology 24, 95–6  
    true 18, 64  
aromatic waters *see* hydrosols  
aromatica *see* Materia Aromatica  
asthenic conditions 66, 68, 158, 202,  
    219, 231  
astringent agents 46, 132, 166, 171,  
    239–40  
Atlas cedarwood 133–4  
    chemical constituents  
        chance of adulteration 129  
        related oils 130  
        typical constituents 129  
    Chinese medicine functions and  
        indications  
        aroma energy 132  
        essential function 133  
        Five-Element affinity 133  
        meridian tropism 133  
        movement 132  
        warmth 133  
complementary combinations 131–2  
identifying information  
    appearance/description 129  
    botanical source 129  
    other names 129  
    perfumery status 129  
physiological functions and uses  
    essential functional and  
        diagnostic indication 131  
        tropism 131  
    plant source and essential oil  
        production  
        1 kg oil yield from 129  
        extraction 129  
        production areas 129  
    psychological functions and uses  
        brain dynamics 130  
        fragrance category 130  
        indicated psychological disorders  
            130  
        PNEI function and indication  
            130  
    specific symptomatology 130  
    synergistic combinations 131  
    therapeutic functions and indications  
        therapeutic status 130  
        topical safety status 130  
    topical functions and uses  
        hair and scalp care 132  
        precautions 132  
        preparations 132  
        skin care 132  
atonic conditions 307, 313, 316, 351,  
    355  
Australia 52–3  
Ayurvedic medicine  
    classical materia medica 26, 68  
    combining single remedies to create  
        formulas 117  
    diagnostic paradigms in 115  
    and energetic medicine 16, 20,  
        100, 102  
    herbal remedies on acupoints 102  
    increased use of 122  
    from Indian subcontinent 52  
    and paradigm of Vitalism 22, 98  
    slow process of transmission to  
        West 94  
    use of Ginger 206  
    use of Patchouli 285

- Banks, J. 341  
 base note oils 46–7, 109  
 Belaiche, P. 43  
 Bensouilah, J. 86, 88  
 Berendes, J. 28, 36  
 Bergamot 139–40  
   chemical constituents  
     chance of adulteration 136  
     related oils 136  
     typical constituents 136  
 Chinese medicine functions and indications  
   aroma energy 138  
   essential function 138–9  
   Five-Element affinity 138  
   meridian tropism 138  
   movement 138  
   warmth 138  
 complementary combinations 137–8  
 identifying information  
   appearance/description 135  
   botanical source 135  
   other names 135  
   perfumery status 135  
 physiological functions and uses  
   antimicrobial actions 137  
   essential functional and diagnostic indication 137  
   tropism 137  
 plant source and essential oil production  
   1 kg oil yield from 135  
   extraction 135  
   production areas 135  
 psychological functions and uses 136–7  
   brain dynamics 136  
   fragrance category 136  
   indicated psychological disorders 136  
   PNEI function and indication 136  
   specific symptomatology 136  
   synergistic combinations 137  
   therapeutic functions and indications  
     therapeutic status 136  
     topical safety status 136  
 topical functions and uses  
   precautions 138  
   preparations 138  
   skin care 138  
 Bergzabern, J. Von 23, 33  
 Besson, J. 34  
 bioactive essential oils  
   clinical criteria for  
     biological identity 65–9  
     integrity of extraction process 78–9  
     integrity of source material 76–8  
     purity 69–76  
   clinical definitions  
     features of 63–5  
     need for 62–3  
   current commercial context,  
     challenge of 80–1  
 biological identity  
   botanical specificity 66  
   chemotype 67–8  
   as clinical definition of bioactive  
     essential oil 65–6  
   genus and species 66–7  
   geographical specificity 68–9  
   plant part specificity 68  
 Black spruce 147–8  
   chemical constituents  
     chance of adulteration 142  
     related oils 142  
     typical constituents 141–2  
 Chinese medicine functions and indications  
   aroma energy 145  
   essential function 146–7  
   Five-Element affinity 146  
   meridian tropism 145  
   movement 145  
   warmth 145  
 complementary combinations 144–5  
 identifying information  
   appearance/description 141  
   botanical source 141  
   other names 141  
   perfumery status 141  
 physiological functions and uses  
   antimicrobial actions 144  
   essential functional and diagnostic indication 143–4  
   tropism 143  
 plant source and essential oil production  
   1 kg oil yield from 141  
   extraction 141  
   production areas 141  
 psychological functions and uses 142–3  
   brain dynamics 142  
   fragrance category 142  
   indicated psychological disorders 142  
   PNEI function and indication 142  
   specific symptomatology 142  
   synergistic combinations 144  
   therapeutic functions and indications  
     therapeutic status 142  
     topical safety status 142  
 topical functions and uses  
   precautions 145  
   preparations 145  
   skin care 145  
 Blue tansy 154–5  
   chemical constituents  
     chance of adulteration 150  
     related oils 150  
     typical constituents 149–50  
 Chinese medicine functions and indications  
   aroma energy 153  
   essential function 153–4  
   Five-Element affinity 153  
   meridian tropism 153  
   movement 153  
   warmth 153  
 complementary combinations 152  
 identifying information  
   appearance/description 149  
   botanical source 149  
   other names 149  
   perfumery status 149  
   physiological functions and uses  
     essential functional and diagnostic indication 151  
     tropism 151  
   plant source and essential oil production  
     1 kg oil yield from 149  
     extraction 149  
     production area 149  
   psychological functions and uses  
     150–1  
     brain dynamics 150  
     fragrance category 150  
     indicated psychological disorders 150  
     PNEI function and indication 150  
     specific symptomatology 150  
     synergistic combinations 152  
     therapeutic functions and indications  
       therapeutic status 150  
     topical safety status 150  
   topical functions and uses  
     precautions 152  
     preparations 152  
     skin care 152  
 Boinet, Prof. 31  
 Bonaparte, N. 38–41, 285  
 Borsarello, J. 102  
 botanical source 55, 106  
   *see also individual essential oils*  
 botanical specificity 66, 68  
 Boullard, B. 209  
 brain dynamics 114  
   *see also individual essential oils*  
 British Holistic Aromatherapy 43, 93–4, 97, 100–2  
 Broadhurst, C.L. 191  
 bronchodilant action 119  
 Brunschwygk, H. 34  
 Buck, P. 86, 88  
 Buckle, J. 62, 103, 235  
 Burfield, T. 136  
 Cadéac, M.M. 42, 62  
 Cajeput 162–3  
   chemical constituents  
     chance of adulteration 157  
     related oils 157  
     typical constituents 157  
 Chinese medicine functions and indications  
   aroma energy 160  
   essential function 160–1  
   Five-Element affinity 160  
   meridian tropism 160  
   movement 160  
   warmth 160  
 complementary combinations 159–60  
 identifying information  
   appearance/description 156  
   botanical source 156  
   other names 156  
   perfumery status 156  
   physiological functions and uses  
     antimicrobial actions 159

- essential functional and diagnostic indication 158–9  
tropism 158  
plant source and essential oil production  
1 kg oil yield from 156  
extraction 156  
production areas 156–7  
psychological functions and uses  
brain dynamics 158  
fragrance category 158  
indicated psychological disorders 158  
PNEI function and indication 158  
specific symptomatology 157  
synergistic combinations 159  
therapeutic functions and indications  
therapeutic status 157  
topical safety status 157  
topical functions and uses  
precautions 160  
preparations 160  
skin care 160  
cardiac restoratives 230, 247, 274–5, 313  
carminative action 33, 137–8, 202–4, 230, 256  
Cayola, R. 42, 103  
certification, organic 78  
Chabènes, Dr. 93  
Chamberland, M. 42  
Charas, M. 34  
chemical constituents  
chance of adulteration 111–12  
related oils 112  
typical constituents 111  
*see also individual essential oils*  
chemotypes 67–8, 314–15  
China 53  
Chinese medicine  
alchemists 28  
classical materia medica 26, 68  
combining single remedies to create formulas 117  
diagnostic paradigms in 115  
and energetic medicine 16, 21, 100, 102, 114  
essential oil treatment based on 102–3  
Five-Element Acupuncture 101, 102  
fragrance quality of oils 19  
functions and indications 122  
aroma energy 122  
and combinations 124–5  
essential function 124  
Five-Element affinity 123  
meridian tropism 123  
movement 122–3  
warmth 123  
herbal descriptions 17  
ingestion 108  
and Maury 42, 94  
and paradigm of Vitalism 22, 94, 98  
perspective 21  
slow process of transmission to West 94  
cholagogue effect 137–8, 230, 254, 291–2, 330  
choleric effect 203, 215, 291–2, 313, 315  
Clary sage 170–2  
chemical constituents  
chance of adulteration 165  
related oils 165  
typical constituents 164–5  
Chinese medicine functions and indications  
aroma energy 168  
essential function 168–9  
Five-Element affinity 168  
meridian tropism 168  
movement 168  
warmth 168  
complementary combinations 167–8  
identifying information  
appearance/description 164  
botanical source 164  
other names 164  
perfumery status 164  
physiological functions and uses  
essential functional and diagnostic indication 166–7  
tropism 166  
plant source and essential oil production  
1 kg oil yield from 164  
extraction 164  
production areas 164  
psychological functions and uses  
165–6  
brain dynamics 165  
fragrance category 165  
indicated psychological disorders 165  
PNEI function and indication 165  
specific symptomatology 165  
synergistic combinations 167  
therapeutic functions and indications  
therapeutic status 165  
topical safety status 165  
topical functions and uses  
precautions 168  
preparations 168  
skin care 168  
Classen, C. 97  
classical addition 73–5  
classification of essential oils 53–61  
Clavel, L. 42  
clearing heat 120, 124, 154, 198–9, 233–4, 236, 242, 248–50, 262, 269–71  
*see also* heat, hot conditions  
clinical definitions  
features of 63–5  
need for 62–3  
CNS (central nervous system) 115  
CO<sub>2</sub> (supercritical carbon dioxide) extract 200  
cold conditions 55, 103, 123, 146–7, 161, 319  
cold separation 31  
colour 107  
combinations 117  
in Chinese medicine 124–5  
complementary 119–20  
synergistic 118–19  
commercial context 80–1  
complementary combinations 119–20  
*see also individual essential oils*  
constraint 139, 153, 169, 189, 197, 213, 234, 250, 255, 261, 269, 308, 332, 367  
Cook, Captain James 341  
Coolhaes, C. 34–5  
Cordus, V. 33–5, 235  
counterirritant ointment 33  
CT (chemotype/chemical type) 67–8, 314–15  
Culpeper, N. 33, 35  
cultivated crops 78  
cumulative toxicity 85–6  
damp conditions 55, 103, 131, 133, 146–7, 171, 182, 205–6  
Dariot, C. 31, 34  
de Morant, S. 42, 102  
de Villeneuve, A. 30  
decongestant effect 220, 239, 247, 267, 323, 337  
degradation 70  
Della Porta, G. 34, 235  
depth 77  
dermal *see* skin  
detergent action 260, 292  
detoxicant action 47, 132, 159, 179, 186–7, 191, 220–1  
detumescent effect 196  
DHEA (dehydroepiandrosterone) 191  
D'Hervicourt, L. 93  
diagnostic indication 115  
*see also individual essential oils*  
dissolvent action 220–1  
distillation  
current global practices 50–3  
history of 28–40, 45  
integrity of process 78–9  
and rectified oils 75  
diuretic action 220, 222–4, 302, 333  
Dodd, G.H. 100, 103  
draining diuretic 221  
dryness, dry conditions 181, 214, 301, 352  
Du Chesne, J. 29  
Dugan, H. 32, 97  
Duke, J.A. 191  
Dung, N.X. 157, 280, 354, 363  
Dunghison, R. 35  
Duraffourd, C. 43, 93  
dysregulation conditions 130, 136, 140, 147, 150, 191, 194, 213  
Eckman, P. 101  
effective qualities 17, 236  
Ellingwood, F. 16, 23  
emmenagogue 170, 202, 204, 206, 230, 315, 319  
emollients 89, 120, 276–7, 283, 357

- energetic medicine  
 constrained or stagnant Qi condition 256  
 'damp' in 243, 286  
 modality of essential oil therapy 95  
 perspective 18, 21  
 practice forms 16  
 systems 102–3  
 Western herbal medicine rooted in concepts of 16
- essential function 115, 124  
*see also individual essential oils*
- essential oil medicine  
 from fragrance material, to 44–8  
 and herbal medicine 42–4
- essential oil therapy  
 as aromatic experiment 96–7  
 confusion of different approaches to 92  
 contemporary 94–6  
 origins of modern 93–4  
 untangling modalities of 97–8  
 British Holistic Aromatherapy 100–2  
 differentiating paradigms 98–9  
 energetic medicine systems 102–3  
 herbal medicine and French medical aromatherapy 99–100  
 psychotherapy and soul healing 103–5
- essential oils  
 associations between fragrance and mental-emotional action 18–19  
 classification, from integrated perspective 53–61  
 differentiation of functions 18  
 falling in love with 15  
 first discovery of antimicrobial actions 22  
 high potential for new 'medical breakthroughs' 22  
 main perspectives on 21  
 practitioner role in imbalance and illness 20  
 preparation, differentiating from tincture/water preparation 19
- profile  
 chemical constituents and adulteration issues 111–12  
 Chinese medicine functions, indications and combinations 122–5  
 identifying information 106–10  
 physiological functions and uses 114–17  
 plant source and essential oil production 110–11  
 precautions 121  
 preparations 121–2  
 psychological functions and uses 113–14  
 specific symptomatology 112–13  
 synergistic and complementary combinations 117–20
- therapeutic functions and indications 112  
 topical functions and uses 120  
 quality and safety issues 20, 82–91, 121  
 research and experience 15–16  
 researching language of fragrance 19  
 sources of 49–50  
 Australia and Indonesia 52–3  
 China and Vietnam 53  
 Europe and Middle East 51  
 India, Sri Lanka and Nepal 52  
 Madagascar and India Ocean Islands 51–2  
 Mediterranean 50–1  
 North America 53  
 South Africa 52  
*see also bioactive essential oils;*  
 Materia Aromatica
- Eucalyptus, blue gum 182–3  
 chemical constituents  
 chance of adulteration 174  
 related oils 175–6  
 typical constituents 174  
 Chinese medicine functions and indications  
 aroma energy 181  
 essential function 181–2  
 Five-Element affinity 181  
 meridian tropism 181  
 movement 181  
 warmth 181  
 complementary combinations 180  
 identifying information  
 appearance/description 173  
 botanical source 173  
 other names 173  
 perfumery status 173  
 physiological functions and uses  
 antimicrobial actions 178–9  
 essential functional and diagnostic indication 177  
 tropism 177  
 plant source and essential oil production  
 1 kg oil yield from 173  
 extraction 173  
 production areas 173  
 psychological functions and uses  
 brain dynamics 177  
 fragrance category 177  
 indicated psychological disorders 177  
 PNEI function and indication 177  
 specific symptomatology 176  
 synergistic combinations 179–80  
 therapeutic functions and indications  
 therapeutic status 176  
 topical safety status 176  
 topical functions and uses  
 precautions 180  
 preparations 180  
 skin care 180
- Europe 51  
 expectorants 46, 66–7, 116, 144–5, 177, 179  
 extraction from oils 75–6  
 extraction process  
 distillation as early choice of 28  
 integrity, as clinical definition of bioactive essential oil 65, 78–9  
 as part of production 110  
*see also individual essential oils*
- falsification, industrial 70–1  
 Faure, P. 17, 104  
 febrifuge effect 137, 337  
 Federici, C.T. 135  
 Felter, H.W. 23, 35, 160, 180  
 Feminis, G.P. 38  
 Fischer-Rizzi, S. 104  
 Five-Element affinity 123  
*see also individual essential oils*  
 Floyer, J. 17, 55
- Eucalyptus, narrow-leaf 182–3  
 chemical constituents  
 chance of adulteration 175  
 related oils 175–6  
 typical constituents 175  
 Chinese medicine functions and indications  
 aroma energy 181  
 essential function 181–2  
 Five-Element affinity 181  
 meridian tropism 181  
 movement 181  
 warmth 181  
 complementary combinations 180  
 identifying information  
 appearance/description 174  
 botanical source 174  
 other names 174  
 perfumery status 174  
 physiological functions and uses  
 antimicrobial actions 178–9  
 essential functional and diagnostic indication 177  
 tropism 177  
 plant source and essential oil production  
 1 kg oil yield from 174  
 extraction 174  
 production areas 175  
 psychological functions and uses  
 brain dynamics 177  
 fragrance category 177  
 indicated psychological disorders 177  
 PNEI function and indication 177  
 specific symptomatology 176  
 synergistic combinations 179–80  
 therapeutic functions and indications  
 therapeutic status 176  
 topical safety status 176  
 topical functions and uses  
 precautions 180  
 preparations 180  
 skin care 180

- Flückiger, F. 37, 41–2  
 Forbes, R.J. 29, 31, 36  
 Foster, S. 197, 288  
 fragrance category 114  
   *see also individual essential oils*  
 fragrance intensity 109–10  
 fragrance note 108–9  
 fragrance persistence 110  
 Franchomme, P. 62, 93, 147, 326, 351  
 French medical aromatherapy 93, 98–100  
 Fyfe, J. 16
- Galen 16, 84, 262  
 Galenic medicine 16, 23, 29, 36  
 Gatefossé, H. 24  
 Gatefossé, R.M. 45, 93, 235  
 Gatti, G. 42, 103  
 GC (gas chromatography) 64, 72–3, 76, 80
- general therapeutic status 84–5  
   medium-strength essential oil remedies 85–6  
   mild essential oil remedies 85  
   strong essential oil remedies 86  
 genus and species 66–7
- Geranium 190–2  
   chemical constituents  
     chance of adulteration 185  
     related oils 185  
     typical constituents 185  
   Chinese medicine functions and indications  
     aroma energy 189  
     essential function 189–90  
     Five-Element affinity 189  
     meridian tropism 189  
     movement 189  
     warmth 189  
   complementary combinations 187–8  
   identifying information  
     appearance/description 184  
     botanical source 184  
     other names 184  
     perfumery status 184  
   physiological functions and uses  
     antimicrobial actions 187  
     essential functional and diagnostic indication 186–7  
     tropism 186  
   plant source and essential oil  
     production  
       1 kg oil yield from 185  
     extraction 185  
     production areas 185  
   psychological functions and uses 185–6  
     brain dynamics 186  
     fragrance category 186  
     indicated psychological disorders 186  
     PNEI function and indication 185  
   specific symptomatology 185  
   synergistic combinations 187  
   therapeutic functions and indications  
     therapeutic status 185  
     topical safety status 185
- topical functions and uses  
   precautions 188  
   preparations 189  
   skin care 188
- Gerard, J. 16, 33  
 German camomile 198–9  
   chemical constituents  
     chance of adulteration 194  
     related oils 194  
     typical constituents 193–4  
   Chinese medicine functions and indications  
     aroma energy 197  
     essential function 197–8  
     Five-Element affinity 197  
     meridian tropism 197  
     movement 197  
     warmth 197  
   complementary combinations 196  
   identifying information  
     appearance/description 193  
     botanical source 193  
     other names 193  
     perfumery status 193  
   physiological functions and uses  
     essential functional and diagnostic indication 195–6  
     tropism 195  
   plant source and essential oil  
     production  
       1 kg oil yield from 193  
     extraction 193  
     production areas 193  
   psychological functions and uses 194–5  
     brain dynamics 194  
     fragrance category 194  
     indicated psychological disorders 195  
     PNEI function and indication 194  
   specific symptomatology 194  
   synergistic combinations 196  
   therapeutic functions and indications  
     therapeutic status 194  
     topical safety status 194  
   topical functions and uses  
     precautions 197  
     preparations 197  
     skin care 196–7
- Gesner, C. 31, 34  
 Gildemeister, E. 42–3, 93  
 Ginger 206–7  
   chemical constituents  
     chance of adulteration 201  
     related oils 201  
     typical constituents 201  
   Chinese medicine functions and indications  
     aroma energy 204  
     essential function 205–6  
     Five-Element affinity 205  
     meridian tropism 205  
     movement 204  
     warmth 204  
   complementary combinations 204  
   identifying information  
     appearance/description 200  
     botanical source 200
- other names 200  
 perfumery status 200  
 physiological functions and uses  
   antimicrobial actions 203  
   essential functional and diagnostic indication 202–3  
   tropism 202  
 plant source and essential oil  
   production  
     1 kg oil yield from 200  
   extraction 200  
   production areas 201  
 psychological functions and uses  
   brain dynamics 202  
   fragrance category 202  
   indicated psychological disorders 202  
   PNEI function and indication 202  
   specific symptomatology 201–2  
   synergistic combinations 203  
   therapeutic functions and indications  
     therapeutic status 201  
     topical safety status 201  
   topical functions and uses  
     precautions 204  
     preparations 204
- Girault, M. 116  
 Glauber, J. 31, 36  
 Greche, H. 150  
 Greek medicine  
   Baghdad, as centre of 29  
   Clary sage's long history in 170  
   German camomile origins in 198  
   and growth of spagyric medicine 28  
   herbal medicine's roots in 16–17, 22, 27, 48, 99  
   Juniper berry as remedy from 223  
   Peppermint's long history in 294  
   periods when out of favour 35–6, 41, 101  
   practice of herbal pharmacy 16–17  
   Renaissance witnessing revival of 32  
   and Salerno medical school 30  
   use of Marjoram 262  
   use of Thyme 350
- grounding effect 286, 359–60
- haemostatic action 187–8  
 Hahnemann, S. 34, 113  
 Harris, B. 117, 191, 236, 271, 295  
 Harris, R. 236, 271, 295  
 head note oils 109  
 heart note oils 109  
   *see also individual essential oils:*  
     identifying information,  
     perfumery status
- heat, hot conditions 25, 103, 153–4, 181–2, 214, 261, 263, 271, 294  
   *see also clearing heat*
- Helichrysum 215–16  
   chemical constituents  
     chance of adulteration 209  
     related oils 209  
     typical constituents 208  
   Chinese medicine functions and indications  
     aroma energy 213  
     essential function 213–14

- Helichrysum cont.*  
 Five-Element affinity 213  
 meridian tropism 213  
 movement 213  
 warmth 213  
 complementary combinations 212  
 identifying information  
 appearance/description 208  
 botanical source 208  
 other names 208  
 perfumery status 208  
 physiological functions and uses  
 antimicrobial actions 212  
 essential functional and  
 diagnostic indication 211  
 tropism 210  
 plant source and essential oil  
 production  
 1 kg oil yield from 208  
 extraction 208  
 production areas 208  
 psychological functions and uses  
 brain dynamics 210  
 fragrance category 210  
 indicated psychological disorders  
 210  
 PNEI function and indication  
 210  
 specific symptomatology 210  
 synergistic combinations 212  
 therapeutic functions and indications  
 therapeutic status 209  
 topical safety status 209  
 topical functions and uses  
 precautions 213  
 preparations 213  
 skin care 212–13
- Henry VIII 32, 351  
 herbal medicine 42–4, 99–100  
*see also* Western herbal medicine  
 herbal pharmacy  
 and distillation 32–5  
 and perfumery 37  
 herbal tinctures 30, 38  
 high yield oils 110  
 Hippocrates 84  
 Hoblyn, R.D. 35  
 Hoffmann, F. 42, 93  
 Holmes, P. 23, 86, 100–3, 113  
 Howes, D. 97  
 HPG (hypothalamus-pituitary-gonadal)  
 imbalance 369  
 hydrosols  
 aromatic plants yielding 23  
 characteristics of materia aromatica  
 of 25  
 history of 29–35, 37–8  
 as important early preparation form  
 17, 27, 29  
 increasing in popularity 97  
 King Henry VIII's use of 32  
 and Miriam the Jewess 29  
 period when out of favour 36  
 personal gifting of 351  
 vulnerability to temperature  
 fluctuations 70  
 hypersthenic conditions 198–9  
 hypertensive action 291, 295, 313,  
 315, 320  
 hypertonic conditions 198–9, 282  
 hypnotic effect 151, 167, 171, 195,  
 211, 259, 309  
 hypoglycaemic effect 177, 220–1,  
 239, 365  
 hypotensive effect 259, 274, 320
- Ibn al-Baitar 16, 29–30  
 identifying information  
 appearance 106  
 botanical source 106  
 colour 107  
 mobility 106–7  
 odour 107–10  
 other names 106  
 immune regulator 203–4  
 immune restorative effect 143–4, 337,  
 347–8, 355  
 immunostimulant action 67, 144, 159,  
 178, 182, 203, 207, 247, 299,  
 338  
 India 52  
 India Ocean Islands 51–2  
 Indonesia 52–3  
 industrial falsification 70–1  
 interferon inducer 203  
 isolate addition 72–3
- Jing, Z.Z. 84  
 Jourdan, A.-J.-L. 23, 35, 93  
 Juliani, H. 297  
 Juniper berry 223–4  
 chemical constituents  
 chance of adulteration 218  
 related oils 218  
 typical constituents 217–18  
 Chinese medicine functions and  
 indications  
 aroma energy 222  
 essential function 222–3  
 Five-Element affinity 222  
 meridian tropism 222  
 movement 222  
 warmth 222  
 complementary combinations 221  
 identifying information  
 appearance/description 217  
 botanical source 217  
 other names 217  
 perfumery status 217  
 physiological functions and uses  
 essential functional and  
 diagnostic indication 219–21  
 tropism 219  
 plant source and essential oil  
 production  
 1 kg oil yield from 217  
 extraction 217  
 production areas 217  
 psychological functions and uses  
 brain dynamics 219  
 fragrance category 219  
 indicated psychological disorders  
 219  
 PNEI function and indication  
 219  
 specific symptomatology 219  
 synergistic combinations 221  
 therapeutic functions and indications  
 therapeutic status 218  
 topical safety status 218  
 topical functions and uses  
 hair and scalp care 221–2  
 precautions 222  
 preparations 222  
 skin care 221
- Kettenkoffen, P. 45  
 King, J. 16, 35, 113, 160  
 Kirk-Smith, M. 103
- Labilladière, J. 45, 182  
 Lapraz, J.C. 93  
 Lavender 235–6  
 chemical constituents  
 botanical differentiations 226–7  
 chance of adulteration 226  
 related oils 227–8  
 typical constituents 226  
 Chinese medicine functions and  
 indications  
 aroma energy 233  
 essential function 233–4  
 Five-Element affinity 233  
 meridian tropism 233  
 movement 233  
 warmth 233  
 complementary combinations 232  
 identifying information  
 appearance/description 225  
 botanical source 225  
 other names 225  
 perfumery status 225  
 physiological functions and uses  
 essential functional and  
 diagnostic indication 229–30  
 lavender differentiations 231–2  
 tropism 229  
 plant source and essential oil  
 production  
 1 kg oil yield from 225  
 extraction 225  
 production areas 225  
 psychological functions and uses  
 antimicrobial actions 231  
 brain dynamics 229  
 fragrance category 229  
 indicated psychological disorders  
 229  
 PNEI function and indication  
 229  
 specific symptomatology 229  
 synergistic combinations 232  
 therapeutic functions and indications  
 therapeutic status 228  
 topical safety status 229  
 topical functions and uses  
 precautions 233  
 preparations 233  
 skin care 233
- Lavier, J. 101–2  
 Lavoisier, A. 36  
 laxative effect 254  
 Le Guéner, A. 97

- Lémery, N. 35
- Lemon 242–3  
 chemical constituents  
 chance of adulteration 238  
 related oils 238  
 typical constituents 237  
 Chinese medicine functions and indications  
 aroma energy 241  
 essential function 241–2  
 Five-Element affinity 241  
 meridian tropism 241  
 movement 241  
 warmth 241  
 complementary combinations 240  
 identifying information  
 appearance/description 237  
 botanical source 237  
 other names 237  
 perfumery status 237  
 physiological functions and uses  
 antimicrobial actions 240  
 essential functional and diagnostic indication 239–40  
 tropism 239  
 plant source and essential oil  
 production  
 1 kg oil yield from 237  
 extraction 237  
 production areas 237  
 psychological functions and uses  
 238–9  
 brain dynamics 238  
 fragrance category 238  
 indicated psychological disorders 238  
 PNEI function and indication 238  
 specific symptomatology 238  
 synergistic combinations 240  
 therapeutic functions and indications  
 therapeutic status 238  
 topical safety status 238  
 topical functions and uses  
 hair and scalp care 241  
 precautions 241  
 preparations 241  
 skin care 240–1
- Lemongrass 250–1  
 chemical constituents  
 chance of adulteration 245  
 related oils 245  
 typical constituents 245  
 Chinese medicine functions and indications  
 aroma energy 249  
 essential function 249–50  
 Five-Element affinity 249  
 meridian tropism 249  
 movement 249  
 warmth 249  
 complementary combinations 248  
 identifying information  
 appearance/description 244  
 botanical source 244  
 other names 244  
 perfumery status 244  
 physiological functions and uses  
 antimicrobial actions 247  
 essential functional and diagnostic indication 246–7  
 lemongrass variants 247–8  
 tropism 246  
 plant source and essential oil  
 production  
 1 kg oil yield from 244  
 extraction 244  
 production areas 245  
 psychological functions and uses  
 brain dynamics 246  
 fragrance category 246  
 indicated psychological disorders 246  
 PNEI function and indication 246  
 specific symptomatology 245  
 synergistic combinations 248  
 therapeutic functions and indications  
 therapeutic status 245  
 topical safety status 245  
 topical functions and uses  
 precautions 249  
 preparations 249  
 skin care 248–9
- Libavius, A. 34  
 Liébaut, J. 34  
 Lis-Balchin, M. 101, 136, 165, 218, 226, 238, 281, 307, 312  
 Liu Wan-Su 101  
 Lloyd, J.U. 160  
 Lonicer, A. 23, 33–4  
 low yield oils 111  
 Lowe, R. 157  
 Lull, R. 30–1  
 Lyle, T.J. 16  
 lymphatic decongestant 131–2, 187, 191, 243, 247–8, 267–8, 299, 337–9  
 lymphatic stimulant 131, 239–40, 249, 299–300, 337, 342
- Madagascar 51–2  
 Magnus, A. 30  
 Mailhebiau, P. 43, 352  
 Mandarin 256  
 chemical constituents  
 chance of adulteration 253  
 related oils 253  
 typical constituents 253  
 Chinese medicine functions and indications  
 aroma energy 255  
 essential function 255–6  
 Five-Element affinity 255  
 meridian tropism 255  
 movement 255  
 warmth 255  
 complementary combinations 254–5  
 identifying information  
 appearance/description 252  
 botanical source 252  
 other names 252  
 perfumery status 252  
 physiological functions and uses  
 essential functional and diagnostic indication 254  
 tropism 254  
 plant source and essential oil  
 production  
 1 kg oil yield from 252  
 extraction 252  
 production areas 252  
 psychological functions and uses  
 253–4  
 brain dynamics 253  
 fragrance category 253  
 indicated psychological disorders 253  
 PNEI function and indication 253  
 specific symptomatology 253  
 synergistic combinations 254  
 therapeutic functions and indications  
 therapeutic status 253  
 topical safety status 253  
 topical functions and uses  
 precautions 255  
 preparations 255  
 skin care 255
- Marjoram 262–4  
 chemical constituents  
 chance of adulteration 258  
 related oils 258  
 typical constituents 257–8  
 Chinese medicine functions and indications  
 aroma energy 261  
 essential function 261–2  
 Five-Element affinity 261  
 meridian tropism 261  
 movement 261  
 warmth 261  
 complementary combinations 260  
 identifying information  
 appearance/description 257  
 botanical source 257  
 other names 257  
 perfumery status 257  
 physiological functions and uses  
 antimicrobial actions 260  
 essential functional and diagnostic indication 259–60  
 tropism 259  
 plant source and essential oil  
 production  
 1 kg oil yield from 257  
 extraction 257  
 production areas 257  
 psychological functions and uses  
 258–9  
 brain dynamics 258  
 fragrance category 258  
 indicated psychological disorders 258  
 PNEI function and indication 258  
 specific symptomatology 258  
 synergistic combinations 260  
 therapeutic functions and indications  
 therapeutic status 258  
 topical safety status 258

- Marjoram *cont.*  
 topical functions and uses  
 precautions 261  
 preparations 261  
 skin care 260–1
- Materia Aromatica  
 as attempt to differentiate essential  
 oil preparation from tincture/  
 water preparation 19  
 characteristics of 25–7  
 geographic diversity of 49–53  
 influences on 27  
 essential oil medicine and herbal  
 medicine 42–4  
 from fragrance material to  
 essential oil remedy 44–8  
 herbal pharmacy and distillation  
 32–5  
 pharmacy, distillation and natural  
 perfumery 35–42  
 Western alchemy, distillation and  
 spagyric medicine 28–32  
 as materia medica of aromatic  
 remedies 22  
 as rich tapestry of therapeutic  
 potential 105  
 two perspectives on 23–5  
 Valnet's contribution to 93  
*see also* essential oils
- Mattioli, P. 16, 33
- Mauray, M. 42–3, 93–4, 101–2
- May chang 270–1  
 chemical constituents  
 chance of adulteration 266  
 related oils 266  
 typical constituents 265
- Chinese medicine functions and  
 indications  
 aroma energy 269  
 essential function 269–70  
 Five-Element affinity 269  
 meridian tropism 269  
 movement 269  
 warmth 269
- complementary combinations 268
- identifying information  
 appearance/description 265  
 botanical source 265  
 other names 265  
 perfumery status 265
- physiological functions and uses  
 antimicrobial actions 268  
 essential functional and  
 diagnostic indication 267  
 tropism 267
- plant source and essential oil  
 production  
 1 kg oil yield from 265  
 extraction 265  
 production areas 265
- psychological functions and uses  
 266–7  
 brain dynamics 266  
 fragrance category 266  
 indicated psychological disorders  
 266  
 PNEI function and indication  
 266
- specific symptomatology 266
- synergistic combinations 268
- therapeutic functions and indications  
 therapeutic status 266  
 topical safety status 266
- topical functions and uses  
 precautions 269  
 preparations 269  
 skin care 268–9
- McIntosh, S. 104
- medicine 40–2
- Mediterranean 50–1, 58–60
- meridian tropism 123  
*see also individual essential oils*
- Mesue the Younger 29
- Meunier, A. 42, 62
- Middle East  
 aromatic spices imported from 29,  
 206  
 Chinese merchant exchanges 29  
 essential oil production 51, 58  
 importance of fragrance in 104  
 Unani medicine practised in 16, 27  
 use of Rosemary 318  
 use of Thyme 350
- Miles, E. 102
- Minderer, R. 35
- Miriam the Jewess 29
- mobility 106–7
- Mojay, G. 102, 190, 243
- Morris, E.T. 30, 38, 104
- movement 122–3  
*see also individual essential oils*
- mucolytic action 46, 144, 177–80, 220,  
 330–3
- mucostatic action 131–2, 134, 330–1,  
 333
- mucus 286, 333
- Napoleon Bonaparte 38–41, 285
- natural alteration 69–70
- nature-identical addition 71–2
- Nepal 52
- neurasthenic conditions 263, 310
- North America 53
- Odoul, M. 102
- odour 107  
 fragrance note, intensity and  
 persistence 108–11  
 perfumery status 108
- oestrogenic action 166–7, 170, 271,  
 356
- oil distillation 30, 38, 39
- oil yield 110–11
- organic certification 78
- organic chemistry 40–2
- other names 106  
*see also individual essential oils*
- Oyen, L.P.A. 157, 280, 354, 363
- Palmarosa 277–8  
 chemical constituents  
 chance of adulteration 273  
 related oils 273  
 typical constituents 272
- Chinese medicine functions and  
 indications  
 aroma energy 276–7  
 Five-Element affinity 276  
 meridian tropism 276  
 movement 276  
 warmth 276
- complementary combinations 275
- identifying information  
 appearance/description 272  
 botanical source 272  
 other names 272  
 perfumery status 272
- physiological functions and uses  
 antimicrobial actions 274–5  
 essential functional and  
 diagnostic indication 274  
 tropism 274
- plant source and essential oil  
 production  
 1 kg oil yield from 272  
 extraction 272  
 production areas 272
- psychological functions and uses  
 brain dynamics 273  
 fragrance category 273  
 indicated psychological disorders  
 273  
 PNEI function and indication  
 273
- specific symptomatology 273
- synergistic combinations 275
- therapeutic functions and indications  
 therapeutic status 273  
 topical safety status 273
- topical functions and uses  
 precautions 276  
 preparations 276  
 skin care 276
- Paracelsus 30, 113
- parturient action 171, 230
- Patchouli 285–7  
 chemical constituents  
 chance of adulteration 280–1  
 related oils 281  
 typical constituents 280
- Chinese medicine functions and  
 indications  
 aroma energy 284  
 essential function 284–5  
 Five-Element affinity 284  
 meridian tropism 284  
 movement 284  
 warmth 284
- complementary combinations 283
- identifying information  
 appearance/description 279  
 botanical source 279  
 other names 279  
 perfumery status 279
- physiological functions and uses  
 antimicrobial actions 282–3  
 essential functional and  
 diagnostic indication 282  
 tropism 282
- plant source and essential oil  
 production  
 1 kg oil yield from 280  
 extraction 280  
 production areas 280

- psychological functions and uses  
281–2  
brain dynamics 281  
fragrance category 281  
indicated psychological disorders  
281  
PNEI function and indication  
281  
specific symptomatology 281  
synergistic combinations 283  
therapeutic functions and indications  
therapeutic status 281  
topical safety status 281  
topical functions and uses  
precautions 284  
preparations 284  
skin care 283
- pattern of disharmony 20  
Penfold, A. 341  
Penoel, D. 43, 62, 93, 147, 326  
Peppermint 294–5  
chemical constituents  
chance of adulteration 289  
related oils 289  
typical constituents 289  
Chinese medicine functions and  
indications  
aroma energy 293  
essential function 293–4  
Five-Element affinity 293  
meridian tropism 293  
movement 293  
warmth 293  
complementary combinations 292  
identifying information  
appearance/description 288  
botanical source 288  
other names 288  
perfumery status 288  
physiological functions and uses  
antimicrobial actions 291  
essential functional and  
diagnostic indication 290–1  
tropism 290  
plant source and essential oil  
production  
production  
1 kg oil yield from 288  
extraction 288  
production areas 288  
psychological functions and uses  
brain dynamics 290  
fragrance category 290  
indicated psychological disorders  
290  
PNEI function and indication  
290  
specific symptomatology 290  
synergistic combinations 292  
therapeutic functions and indications  
therapeutic status 290  
topical safety status 290  
topical functions and uses  
precautions 292  
preparations 293  
skin care 292
- perfumery  
aromatic extracts as original source  
17–18  
and distillation 38–40  
essential oils  
status of 108  
*see also individual essential oils*  
utilization of 80–1  
fragrance materials 44–8, 70  
fragrance note, intensity and  
persistence 108–10  
history of 37–8, 42  
rebirth of natural 97  
simulated oils 76  
pharmacognosy 41–2, 44–5, 63–4,  
98–9, 101  
pharmacological precautions 121  
pharmacology 17, 19, 42, 45, 84, 86,  
92–3, 98–101, 154, 342  
pharmacopeias 23–4, 33–5  
pharmacy 35–6, 40–2  
phenomenology 41  
physiological functions and uses  
114–15  
antimicrobial actions 116–17  
essential functional and diagnostic  
indication 115  
tropism 115  
*see also individual essential oils*  
plant collection and harvesting 78  
plant part specificity 68  
plant source and essential oil production  
1 kg oil yield from 110–11  
extraction 110  
production areas 111  
*see also individual essential oils*  
PNEI (psycho-neuro-endocrine-  
immune), function and indication  
114  
*see also individual essential oils*  
PNS (parasympathetic nervous system)  
inhibitor 166  
stimulant 356  
Pollard, T. 102, 140  
Pomet, P. 34  
precautions 121  
preparations 121–2  
Price, L. 62  
Price, S. 62, 94  
Priest, A.R. 16  
Priest, L.W. 16  
production areas 111  
*see also individual essential oils*  
progesteronic effect 167, 356  
psychological disorders, indicated 114  
*see also individual essential oils*  
psychological functions and uses  
113–14  
*see also individual essential oils*  
psychotherapy 103–5  
purity  
addition to oil  
classical addition 73–5  
isolate addition 72–3  
nature-identical/synthetic 71–2  
as clinical definition of bioactive  
essential oil 69–70  
extraction from oil 75–6
- industrial falsification or adulteration  
70–1  
natural alteration or degradation 70  
simulation/reconstitution of oil 76
- Qi 70, 72, 123–4  
*see also individual essential oils*  
Quincy, J. 23
- Ravintsara 302–3  
chemical constituents  
chance of adulteration 297  
related oils 297–8  
typical constituents 296  
Chinese medicine functions and  
indications  
aroma energy 301  
essential function 301–2  
Five-Element affinity 301  
meridian tropism 301  
movement 301  
warmth 301  
complementary combinations 300  
identifying information  
appearance/description 296  
botanical source 296  
other names 296  
perfumery status 296  
physiological functions and uses  
antimicrobial actions 299  
essential functional and  
diagnostic indication 299  
tropism 298  
plant source and essential oil  
production  
1 kg oil yield from 296  
extraction 296  
production areas 296  
psychological functions and uses  
brain dynamics 298  
fragrance category 298  
indicated psychological disorders  
298  
PNEI function and indication  
298  
specific symptomatology 298  
synergistic combinations 299–300  
therapeutic functions and indications  
therapeutic status 298  
topical safety status 298  
topical functions and uses  
precautions 300  
preparations 300  
skin care 300  
reconstitution of oils 76  
rectified oils 75–6, 218, 221  
refrigerants 154, 246–7, 267, 356–7,  
360  
regulators 100  
relaxants 25, 100  
solvents 333  
restoratives 25, 46–8  
Rhind, J.P. 64, 93, 96, 101, 105  
Robiquet, P.-J. 39  
Rolet, M.A. 31

- Roman camomile 309–10  
 chemical constituents  
 chance of adulteration 305  
 related oils 305  
 typical constituents 304–5  
 Chinese medicine functions and indications  
 aroma energy 308  
 essential function 308–9  
 Five-Element affinity 308  
 meridian tropism 308  
 movement 308  
 warmth 308  
 complementary combinations 307  
 identifying information  
 appearance/description 304  
 botanical source 304  
 other names 304  
 perfumery status 304  
 physiological functions and uses  
 essential functional and diagnostic indication 306  
 tropism 306  
 plant source and essential oil  
 production  
 1 kg oil yield from 304  
 extraction 304  
 production areas 304  
 psychological functions and uses  
 305–6  
 brain dynamics 305  
 fragrance category 305  
 indicated psychological disorders 305  
 PNEI function and indication 305  
 specific symptomatology 305  
 synergistic combinations 307  
 therapeutic functions and indications  
 therapeutic status 305  
 topical safety status 305  
 topical functions and uses  
 precautions 307  
 preparations 308  
 skin care 307
- Rosemary ct. cineole and ct. camphor 318–20  
 chemical constituents  
 chance of adulteration 312  
 related oils 312  
 typical constituents 312  
 Chinese medicine functions and indications  
 indications  
 aroma energy 316  
 essential function 316–18  
 Five-Element affinity 316  
 meridian tropism 316  
 movement 316  
 warmth 316  
 complementary combinations 315  
 identifying information  
 appearance/description 311  
 botanical source 311  
 other names 311  
 perfumery status 311  
 physiological functions and uses  
 essential functional and diagnostic indication 313–15  
 tropism 313  
 plant source and essential oil  
 production  
 1 kg oil yield from 311  
 extraction 311  
 production areas 312  
 psychological functions and uses  
 312–13  
 brain dynamics 312  
 fragrance category 313  
 indicated psychological disorders 313  
 PNEI function and indication 312  
 specific symptomatology 312  
 synergistic combinations 315  
 therapeutic functions and indications  
 therapeutic status 312  
 topical safety status 312  
 topical functions and uses  
 hair and scalp care 316  
 precautions 316  
 preparations 316  
 skin care 316
- Rovesti, P. 17, 97, 104  
 rubefacients 138, 145, 160, 180, 203–4, 316, 324  
 Rubeus, H. 34  
 Rumford, B.G. von 31, 36, 39  
 Rupeccissa 30  
 Ryff, W.H. 16, 23, 33–4  
 Ryman, D. 93
- safety of essential oils  
 creating positive context 82–3  
 general therapeutic status 84–6  
 from therapeutic perspective 83–4  
 topical safety status 86–91
- Saladini, D. 34  
 Salmon, W. 23, 33, 35  
 Savalle, P. 39  
 Schnaubelt, K. 71  
 Schroeder, J. 33–4, 36  
 Scudder, J. 113  
 sedatives 25, 131, 195–6, 254, 356, 359–60, 365–6
- Serafino, A. 182  
 Sheldrake, R. 98  
 Shen 123–4  
*see also individual essential oils*
- Siberian fir 326–7  
 chemical constituents  
 chance of adulteration 322  
 related oils 322  
 typical constituents 321–2  
 Chinese medicine functions and indications  
 indications  
 aroma energy 325  
 essential function 325–6  
 Five-Element affinity 325  
 meridian tropism 325  
 movement 325  
 warmth 325  
 complementary combinations 324  
 identifying information  
 appearance/description 321  
 botanical source 321  
 other names 321  
 perfumery status 321  
 physiological functions and uses  
 essential functional and diagnostic indication 323–4  
 tropism 323  
 plant source and essential oil  
 production  
 1 kg oil yield from 321  
 extraction 321  
 production areas 321  
 psychological functions and uses  
 322–3  
 brain dynamics 322  
 fragrance category 323  
 indicated psychological disorders 323  
 PNEI function and indication 322  
 specific symptomatology 322  
 synergistic combinations 324  
 therapeutic functions and indications  
 therapeutic status 322  
 topical safety status 322  
 topical functions and uses  
 precautions 325  
 preparations 325  
 skin care 324  
 simulation of oils 76  
 Six Conditions model 115, 309  
 skin  
 grapefruit oil 121  
 irritation 87  
 mild irritants 87  
 moderate irritants 87–8  
 strong irritants 88  
 photosensitization 90  
 mild, moderate and strong photosensitizers 91  
 non-photosensitizing oils 91  
 sensitization 88–9  
 mild sensitizers 89  
 moderate sensitizers 89–90  
 strong sensitizers 90  
 topical functions and uses 120  
*see also individual essential oils*  
 smoothness 77  
 SNS (sympathetic nervous system)  
 inhibitors 254, 256, 259–60, 365  
 soul healing 103–5  
 source material integrity  
 aromatic properties of oil with therapeutic potential 77  
 as clinical definition of bioactive essential oil 76–7  
 criteria for 77–8  
 South Africa 52  
 Southwell, I. 157  
 spagyric medicine 27–8, 30–1, 34, 36, 113  
 spasmolytic action 23, 25, 47, 118, 137–8  
 Spearmint 333  
 chemical constituents  
 chance of adulteration 329  
 related oils 329  
 typical constituents 328–9  
 Chinese medicine functions and indications  
 indications  
 aroma energy 332  
 essential function 332–3

- Five-Element affinity 332  
 meridian tropism 332  
 movement 332  
 warmth 332  
 complementary combinations 331  
 identifying information  
 appearance/description 328  
 botanical source 328  
 other names 328  
 perfumery status 328  
 physiological functions and uses  
 antimicrobial actions 330  
 essential functional and  
 diagnostic indication 330  
 tropism 330  
 plant source and essential oil  
 production  
 1 kg oil yield from 328  
 extraction 328  
 production areas 328  
 psychological functions and uses  
 329–30  
 brain dynamics 329  
 fragrance category 329  
 indicated psychological disorders  
 329  
 PNEI function and indication  
 329  
 specific symptomatology 329  
 synergistic combinations 330  
 therapeutic functions and indications  
 therapeutic status 329  
 topical safety status 329  
 topical functions and uses  
 precautions 331  
 preparations 331  
 skin care 331  
 species and genus 66–7  
 Spielman, J.R. 34  
 Sri Lanka 52  
 stagnation  
 blood 161, 169, 190–1, 214, 242  
 lymph 240, 249, 268  
 mental-emotional 224, 320, 333  
 Qi 139, 197, 214, 223, 234, 242  
 steam distillation 31  
 stimulants 25, 100  
 styptic action 188, 310  
 subtlety 77  
 Sylvius, J. 36  
 symptomatology, specific 112–13  
*see also individual essential oils*  
 syndrome 20  
 synergistic combinations 118–19  
*see also individual essential oils*  
 Synnott, A. 97  
 synthetic addition 71–2
- Tea Tree 341–3  
 chemical constituents  
 chance of adulteration 335  
 related oils 335–6  
 typical constituents 334  
 Chinese medicine functions and  
 indications  
 aroma energy 339  
 essential function 340–1  
 Five-Element affinity 340  
 meridian tropism 340  
 movement 339  
 warmth 340  
 complementary combinations 339  
 identifying information  
 appearance/description 334  
 botanical source 334  
 other names 334  
 perfumery status 334  
 physiological functions and uses  
 antimicrobial actions 338  
 essential functional and  
 diagnostic indication 337  
 tropism 337  
 plant source and essential oil  
 production  
 1 kg oil yield from 334  
 extraction 334  
 production areas 334  
 psychological functions and uses  
 336–7  
 brain dynamics 337  
 fragrance category 337  
 indicated psychological disorders  
 337  
 PNEI function and indication  
 336  
 specific symptomatology 336  
 synergistic combinations 338  
 therapeutic functions and indications  
 therapeutic status 336  
 topical safety status 336  
 topical functions and uses  
 precautions 339  
 preparations 339  
 skin care 339
- temperate biomes 56–7  
 teratogenic action 203  
 therapeutic functions and indications  
 112  
*see also individual essential oils*  
 therapeutic potential  
 aromatic properties of oil with 77  
 confusion surrounding 18  
 Materia Aromatica as rich tapestry  
 of 105  
 Maury's inspiration 93  
 relationship with oil quality 76  
 therapeutic precautions 121  
 Thyme ct. linalool 350–2  
 chemical constituents  
 chance of adulteration 345  
 related oils 345–6  
 typical constituents 344  
 Chinese medicine functions and  
 indications  
 aroma energy 349  
 essential function 350  
 Five-Element affinity 350  
 meridian tropism 350  
 movement 349  
 warmth 350  
 complementary combinations 349  
 identifying information  
 appearance/description 344  
 botanical source 344  
 other names 344  
 perfumery status 344  
 physiological functions and uses  
 antimicrobial actions 347–8  
 essential functional and  
 diagnostic indication 347  
 tropism 347  
 plant source and essential oil  
 production  
 1 kg oil yield from 344  
 extraction 344  
 production areas 344  
 psychological functions and uses  
 346–7  
 brain dynamics 346  
 fragrance category 346  
 indicated psychological disorders  
 346  
 PNEI function and indication  
 346  
 specific symptomatology 346  
 synergistic combinations 348  
 therapeutic functions and indications  
 therapeutic status 346  
 topical safety status 346  
 topical functions and uses  
 precautions 349  
 preparations 349  
 skin care 349  
 Tisserand, R. 86, 88, 94, 100–1, 103  
 topical functions and uses 120  
 topical safety status 86–91  
*see also individual essential oils*  
 Torii, S. 103  
 toxicity  
 oil remedies with acute 86  
 oil remedies with no chronic  
 cumulative 85  
 oil remedies with some cumulative  
 85–6
- toxicosis  
 bacterial 196  
 chronic headaches from 210  
 kidney 188  
 liver 199, 203  
 liver congestion with 196  
 metabolic 132, 179, 186–8, 211–  
 12, 220–1, 224, 239, 243  
 microbial 203, 220, 239, 243  
 systemic 230  
 tropical and subtropical biomes 61  
 tropism 115  
*see also individual essential oils*
- Unani tibb *see* Greek medicine  
 UV (ultraviolet) light 90, 121
- Valnet, J. 25, 42–6, 93  
 Van Helmont, J.B. 34  
 Van Toller, S. 100, 103  
 vasodilators 154, 211–12, 246, 274,  
 365  
 Verdier, H. 15  
 vermifuge action 137, 178, 306, 348  
 Vetiver 359–61  
 chemical constituents  
 chance of adulteration 354  
 related oils 354  
 typical constituents 354

- Vetiver *cont.*  
 Chinese medicine functions and indications  
 aroma energy 357  
 essential function 357–9  
 Five-Element affinity 357  
 meridian tropism 357  
 movement 357  
 warmth 357  
 complementary combinations 356–7  
 identifying information  
 appearance/description 353  
 botanical source 353  
 other names 353  
 perfumery status 353  
 physiological functions and uses  
 essential functional and  
 diagnostic indication 355–6  
 tropism 355  
 plant source and essential oil  
 production  
 1 kg oil yield from 353  
 extraction 353  
 production areas 354  
 psychological functions and uses  
 354–5  
 brain dynamics 354  
 fragrance category 354  
 indicated psychological disorders  
 354  
 PNEI function and indication  
 354  
 specific symptomatology 354  
 synergistic combinations 356  
 therapeutic functions and indications  
 therapeutic status 354  
 topical safety status 354  
 topical functions and uses  
 precautions 357  
 preparations 357  
 skin care 357
- Viaud, H. 65  
 Vietnam 53  
 vitalism  
 approach based on Chinese or  
 Ayurvedic medicine 94  
 and Blue tansy oil 154  
 British Holistic Aromatherapy, as  
 return to 101  
 and Eucalyptus 182  
 heritages of 16  
 language of 17  
 and materialism, debate between 41  
 Maury rooted in 42, 94, 101  
 paradigm of 22, 98–9  
 and Rosemary 319  
 sense-connected approach 55  
 therapeutics based on functional 20  
 vulnerary effect 276, 283, 300, 331
- warmth 123  
*see also individual essential oils*  
 weakness, weak 25, 47, 55, 131, 137,  
 143, 146–7
- Webb, M. 336  
 Weiss, R.F. 84, 184  
 Western culture  
 external world-explorative impulse  
 of 294  
 intersubjective space of 98  
 Lavender as polycrest aromatic  
 remedy in 235  
 major sources of stagnation in 295  
 and paradigm of Western science  
 98–9  
 postmodern thinking in 93  
 role of scent in 107  
 Rosemary's ubiquitous use  
 throughout 318–19  
 and sense of smell 97  
 Western health-care, critical state of 96  
 Western herbal medicine  
 alchemy, distillation and spagyric  
 medicine 28–32, 34  
 in Chinese medicine 103  
 connections between vitalistic  
 heritages of medicines 16  
 discovery of antimicrobial actions of  
 essential oils 22  
 early absorption of plant remedies  
 from overseas 26–7  
 German camomile as iconic remedy  
 in 198  
 inclusion in Western science  
 paradigm 98  
 landmark text in 55  
 link between herb fragrance and  
 function 17  
 link between herb fragrance and  
 mental-emotional action  
 18–19  
 Mandarin peel used in 256  
 Materia Aromatica as extension of  
 23–4, 27, 48  
 origins of essential oil therapy 93  
 Peppermint oil, widely used in 294  
 perfumery 17–18  
 researching history of 16  
 Rosemary's glowing reputation  
 in 318  
 unable to make use of own research  
 on essential oils 42  
 Valerian root as remedy in 263  
 Valnet's influence 43–4  
 vitalistic language used by  
 practitioners 17  
 and Western allopathic medicine 99  
 Western materia medica 16, 103  
 Western medicine  
 allopathic 22, 41–2, 93–5, 99  
 integration of Chinese, Ayurvedic  
 and Greek medicine 94  
 Western perfumery, golden age of 97  
 Western science paradigm 98–9  
 White, J. 45  
 Williams, D. 80  
 Worsley, J.R. 101
- yield 110–11  
*see also individual essential oils*  
 Ylang ylang No. 1 and Ylang ylang  
 extra 368–70  
 chemical constituents  
 chance of adulteration 363  
 related oils 363  
 typical constituents 363  
 Chinese medicine functions and  
 indications  
 aroma energy 367  
 essential function 367–8  
 Five-Element affinity 367  
 meridian tropism 367  
 movement 367  
 warmth 367  
 complementary combinations 366  
 identifying information  
 appearance/description 362  
 botanical source 362  
 other names 362  
 perfumery status 362  
 physiological functions and uses  
 essential functional and  
 diagnostic indication 365  
 tropism 365  
 plant source and essential oil  
 production  
 1 kg oil yield from 363  
 extraction 362–3  
 production areas 363  
 psychological functions and uses  
 364–5  
 brain dynamics 364  
 fragrance category 364  
 indicated psychological disorders  
 364  
 PNEI function and indication  
 364  
 specific symptomatology 364  
 synergistic combinations 365–6  
 therapeutic functions and indications  
 therapeutic status 364  
 topical safety status 364  
 topical functions and uses  
 hair and scalp care 366  
 precautions 366  
 preparations 367  
 skin care 366
- Young, R. 86, 88  
 Zeise, H. 39

# Essential Oils Index

Note: Page numbers are given in **bold** for major mentions of essential oils.

- African bluegrass (*Cymbopogon validus*) 52, 61, 245  
 Ajowan (*Trachyspermum ammi*) 258  
 Ambrette (*Hibiscus abelmoschus*) 110  
 Amyris (*Amyris ellipticum*) 60, 74  
 Angelica root (*Angelica officinalis*) 33, 56–7, 68, 91, 205, 221, 234, 262, 284, 315  
 Aniseed (*Pimpinella anisum*) 33, 57, 340  
 Armoise (*Artemisia herba-alba*) 150  
 Aromatic ravensara (*Ravensara aromatica*) 297–8, 302  
 Asafoetida (*Ferula foetida*) 33, 61  
 Atlas cedarwood (*Cedrus atlantica*) 45, 50, 89, 110, **129–34**, 152, 161, 182, 190, 222, 242, 248, 283, 286, 338, 349, 359, 367  
 Balsam fir (*Abies balsamea*) 53, 56, 87, 107, 109, 322  
 Basil (*Ocimum* spp.) 33, 43, 67, 109, 146, 153, 161, 197–8, 250, 255, 268, 270, 293, 301–2, 309, 317, 324, 326  
 Basil  
 bush (*Ocimum basilicum* var. *minium* ct. *eugenol*) 58  
 hoary (*Ocimum canum* ct. *linalool*) 58  
 holy (*Ocimum sanctum*) 52, 58, 350  
 large-leaf (*Ocimum basilicum*) 58  
 sweet (*Ocimum basilicum* ct. *linalool*) 50, 58  
 tree (*Ocimum gratissimum*) 58  
 tropical (*Ocimum basilicum* ct. *methyl chavicol*) 52, 58, 87, 139, 180–1, 213, 234, 292  
 Bay rum (*Pimenta racemosa*) 47, 59, 68, 88, 90, 106, 161, 205  
 Benzoin (*Styrax benzoin*) 90, 109  
 Bergamot (*Citrus x bergamia*) 18–19, 37–40, 46, 49–50, 58, 60, 70, 75, 89–91, 107, 109–11, **135–40**, 155, 165, 213, 234–5, 254–6, 292, 308, 324, 332, 367  
 Bitter fennel (*Foeniculum vulgare* subsp. *vulgare*) 57, 89  
 Bitter orange (*Citrus aurantium* var. *amara*) 91, 135–6, 139  
 Black pepper (*Piper nigrum*) 29, 37, 51–2, 61, 73, 89, 109, 161, 181, 205–6, 222–3, 250, 283, 302, 326, 341, 369  
 Black pine (*Pinus nigrum*) 56  
 Black sage (*Salvia mellifera*) 58  
 Black seed (*Nigella sativa*) 60, 86  
 Black spruce (*Picea mariana*) 53, 56, 87, 89, 118, **141–8**, 181, 205, 301, 324, 326–7, 338, 356  
 Black tea tree (*Melaleuca bracteata*) 59, 336  
 Blue cypress (*Callitris intratropica*) 48, 53, 56, 107, 198  
 Blue-gum eucalyptus (*Eucalyptus globulus*) 52, 59, 66–7, 159, **173–83**, 214, 250, 264, 270, 332  
 Blue-leaf mallee (*Eucalyptus polybractea*) 52, 59, 175, 178  
 Blue mountain sage (*Salvia stenophella*) 52  
 Blue tansy (*Tanacetum annuum*) 48, 50, 56, 89, 107, 109, 111, 117, 119–20, 139, **149–55**, 169, 181, 194, 196–9, 212–14, 234, 250, 255, 260–2, 269–71, 275, 283, 292–3, 300, 305, 307–9, 332, 340, 350, 357–9, 366  
 Broad-leaf eucalyptus (*Eucalyptus dives*) 176, 179  
 Broad-leaf tea tree (*Melaleuca viridiflora*) 335–6  
 Buddha wood (*Eremophila mitchelli*) 48, 53  
 Bush basil (*Ocimum basilicum* var. *minium* ct. *eugenol*) 58  
 Cacao (*Theobroma cacao*) 109  
 Cade juniper (*Juniperus oxycedrus*) 56, 218, 221  
 Caesarweed (*Urena lobata*) 74, 280  
 Cajeput (*Melaleuca cajuputi*) 43, 48, 53, 59, 89, 109, **156–63**, 183, 204–5, 223, 248, 297–8, 300, 302, 315, 317, 319, 335–6, 341–2  
 Calamus (*Acorus calamus*) 31  
 Camomile  
 Cape (*Eriocephalus punctulatus*) 48, 52, 305, 310  
 German (*Matricaria recutita*) 28, 33, 56, 74, 89, 107, 109, 117, 131, 150, 152, 154, **193–9**, 223, 250, 260–1, 268–9, 293, 305, 309, 340  
 Moroccan wild (*Ormenis mixta*) 50, 56, 194, 305  
 Roman (*Anthemis nobilis*) 28, 33, 51, 56, 74, 85, 109, 150, 153, 167, 169, 194, 196–9, 214, 232, 260–2, 292–3, **304–10**, 324, 358, 366–7  
 Camphor (*Cinnamomum camphora*) 31, 43, 53, 59, 74, 85, 157, 297  
 Cananga (*Cananga odorata*) 362–3  
 Cape camomile (*Eriocephalus punctulatus*) 48, 52, 305, 310  
 Cape may (*Coleonema album*) 52  
 Cape snowbush (*Eriocephalus africanus*) 52, 305, 310  
 Caraway (*Carum carvi*) 33, 57  
 Caraway thyme (*Thymus hernabarona*) 58, 346  
 Cardamom (*Elettaria cardamomum*) 29, 37, 52, 61, 109, 161, 201, 205, 250, 294, 301, 317, 332  
 Carrot seed (*Daucus carota*) 261  
 Cassia bark/leaf (*Cinnamomum cassia*) 43, 53, 59, 88, 90  
 Cedarwood  
 Atlas (*Cedrus atlantica*) 45, 50, 89, 110, **129–34**, 152, 161, 182, 190, 222, 242, 248, 283, 286, 338, 349, 359, 367  
 Himalaya (*Cedrus deodora*) 52, 56, 74, 130  
 Texas (*Juniperus mexicana*) 218  
 Virginia (*Juniperus virginiana*) 56, 218  
 Celery seed (*Apium graveolens*) 91

- Champaca (*Michelia champaca*) 25, 39, 46, 52, 61, 70, 107  
 Cinnamon (*Cinnamomum zeylanicum*) 29, 33, 52–3, 59, 61, 68, 88, 90, 106, 109, 117, 146  
 Cistus (*Cistus ladaniferus*) 50, 60, 106, 109–10  
 Citronella (*Cymbopogon* spp.) 43, 47, 53, 59, 61, 74, 76, 90, 273, 354  
 Citronella  
   Ceylon (*Cymbopogon nardus*) 52, 245, 248  
   Java (*Cymbopogon winterianus*) 245, 248  
 Citronella tea tree (*Leptospermum liversidgei*) 59, 336  
 Clary sage (*Salvia sclarea*) 18, 25, 37, 39, 50–1, 58, 72, 107, 109–10, 113, 115, 118, 131, 133, 145, 159, 164–72, 187–9, 197–8, 212, 232–4, 260, 262–3, 275, 295, 300, 307–9, 351, 356, 358, 366–8  
 Clementine (*Citrus reticulata*) 60, 253  
 Clove bud (*Eugenia caryophyllata*) 33, 52, 88, 90, 111, 205  
 Combava (*Citrus hystrix*) 60, 238  
 Compact oregano (*Origanum compactum*) 58  
 Copaiba (*Copaifera reticulata*) 46, 61, 74, 281  
 Coriander (*Coriandrum sativum*) 33, 57, 68, 368  
 Cretan oregano (*Origanum onites*) 58  
 Cretan thyme (*Thymus capitatus*) 58, 346  
 Cubeb berry (*Piper cubeba*) 29, 61, 281  
 Cumin (*Cuminum cyminum*) 57  
 Cypress (*Cupressus sempervirens*) 51, 56, 68, 72, 87, 89, 124, 132–3, 146, 167, 169, 181, 188, 190, 214, 217–18, 260–1, 263, 285, 301–2, 317, 324, 326–7, 338, 340–1  
 Cypress  
   Madagascar (*Cupressus lusitanica*) 51, 56  
   Mediterranean (*Cupressus sempervirens*) 56  
 Dalmatia lavender (*Lavandula x hybrida*) 58, 228  
 Damask rose (*Rosa damascena*) 50–1, 60  
 Dang gui (*Angelica sinensis*) 27, 53  
 Dill seed (*Anethum graveolens*) 33, 57  
 Douglas fir (*Abies douglasii*) 55–6, 87, 322  
 Elemi (*Canarium commune*) 33, 61  
 Emerald cypress (*Callitris columellaris*) 48, 53, 56  
 Eucalyptus (*Eucalyptus* spp.)  
   blue-gum (*Eucalyptus globulus*) 52, 59, 66–7, 159, 173–83, 214, 234, 250, 270, 332  
   blue-leaf mallee (*Eucalyptus polybractea*) 52, 59, 175, 178  
   broad-leaf (*Eucalyptus dives*) 176, 179  
   forest red gum (*Eucalyptus tereticornis*) 59, 176  
   green mallee (*Eucalyptus viridis*) 59, 175  
   grey peppermint (*Eucalyptus radiata* var. *phellandra*) 59, 176  
   gully gum (*Eucalyptus smithii*) 52, 59, 175, 178  
   lemon (*Corymbia/Eucalyptus citriodora*) 52, 59, 88, 154, 176, 179, 181, 198, 214, 234, 241, 248, 250, 257, 268, 270, 301, 309  
   lemon-scented ironbark (*Eucalyptus staigeriana*) 52, 59, 176, 179  
   narrow-leaf (*Eucalyptus radiata*) 52, 59, 67, 161–2, 174–83, 325  
   peppermint (*Eucalyptus piperita*) 59, 174, 176  
   river red gum (*Eucalyptus camaldulensis*) 52, 59, 67, 175, 178  
   woolly-butt (*Eucalyptus macarthurii*) 59, 175  
 Female helichrysum (*Helichrysum gymnocephalum*) 51, 56, 209  
 Fennel (*Foeniculum vulgare*) 33, 50–1, 110, 124, 139, 161, 169–70, 188–9, 205, 214, 221–3, 232, 234, 242, 255–6, 261, 268, 292–3, 315, 317, 324–6, 332, 356  
 Fennel  
   bitter (*Foeniculum vulgare* subsp. *vulgare*) 57, 89  
   sweet (*Foeniculum vulgare*) 57, 89  
 Fieldmint (*Mentha arvensis*) 43, 289  
 Fir (*Abies* spp.) 51, 89, 142  
   balsam (*Abies balsamea*) 53, 56, 87, 107, 109, 322  
   Douglas (*Abies douglasii*) 55–6, 87, 322  
   grand (*Abies grandis*) 56, 87, 109, 111, 146, 161, 181, 205, 301–2, 317, 322, 340  
   Nordmann's (*Abies nordmanniana*) 56, 87, 322  
   Siberian (*Abies sibirica*) 25, 56, 87, 147, 152–3, 214, 223, 301, 321–7, 350  
   silver (*Abies alba*) 56, 87, 133, 146, 221, 322  
 Forest red gum (*Eucalyptus tereticornis*) 59, 176  
 Fragonia (*Agonis fragrans*) 48  
 Frangipani (*Plumeria* spp.) 52  
 Frankincense (*Boswellia sacra*) 33, 36, 51, 61, 89, 107, 109, 117, 124, 146–7, 161, 181, 205, 214, 223, 268, 275, 301–2, 315, 318, 325–6, 340  
 Galangal (*Alpinia officinarum*) 52, 201  
 Galbanum (*Ferula galbaniflua*) 33, 61, 109  
 Geranium (*Pelargonium* cv. group *Rosat*) 19, 38–9, 44–6, 50–3, 61, 72–4, 77, 80, 85, 109–10, 113, 120, 133, 145–6, 167, 169, 171, 184–92, 199, 216, 221–2, 232, 240, 248, 275, 277–8, 283, 285, 302, 315, 340–1, 345, 356, 358, 368  
 German camomile (*Matricaria recutita*) 28, 33, 56, 74, 89, 107, 109, 117, 131, 150, 152, 154, 193–9, 223, 250, 260–1, 268–9, 293, 305, 309, 340  
 Ginger (*Zingiber officinalis*) 52–3, 61, 90, 109, 139, 147, 161–2, 200–7, 223, 283, 294, 301, 317–18, 331–2  
 Gingergrass (*Cymbopogon martini* var. *sofia*) 52, 61, 245, 247, 273, 277  
 Grand fir (*Abies grandis*) 56, 87, 109, 111, 146, 161, 181, 205, 301–2, 317, 322, 340  
 Grapefruit (*Citrus x paradisi*) 52, 60, 70, 74–5, 87, 91, 109–11, 121, 132, 139, 189–90, 214, 222, 238, 242, 253, 255  
 Greek oregano (*Origanum heracleoticum*) 58  
 Greek sage (*Salvia fruticosa*) 58  
 Green mallee (*Eucalyptus viridis*) 59, 175  
 Grey peppermint eucalyptus (*Eucalyptus radiata* var. *phellandra*) 59, 176  
 Gully gum (*Eucalyptus smithii*) 52, 59, 175, 178  
 Gurjun balsam (*Dipterocarpus* spp.) 74, 280  
 Havozo (*Ravensara aromatica*) 297  
 Hazomboay (*Oliganthus pseudoceutauropsis*) 48, 51  
 Helichrysum (*Helichrysum angustifolium*) 28, 50–1, 56, 89, 106, 109–11, 119–20, 132, 152–4, 188–9, 194, 198–9, 208–16, 221, 223, 240, 262, 264, 293, 302, 305, 308–9  
 Helichrysum  
   female (*Helichrysum gymnocephalum*) 51, 56, 209  
   male (*Helichrysum bracteiferum*) 51, 56, 209  
 Hemlock spruce (*Tsuga canadensis*) 53, 55–6, 87, 142  
 Himalaya cedarwood (*Cedrus deodora*) 52, 56, 74, 130  
 Hinoki (*Chamaecyparis obtusa*) 56, 218  
 Ho wood (*Cinnamomum camphora* ct. *linalool*) 68, 74, 89, 136  
 Hoary basil (*Ocimum canum* ct. *linalool*) 58  
 Holy basil (*Ocimum sanctum*) 52, 58, 350  
 Hummingbird sage (*Salvia spathacea*) 58  
 Hyssop (*Hyssopus officinalis*) 50, 58, 85, 110, 121, 124, 153, 161, 212, 214, 221, 240, 262, 325–6, 330, 340, 349–51

- Iary (*Psidia altissima*) 48, 51  
 Indian spikenard (*Nardostachys jatamansi*) 52  
 Indian valerian (*Valeriana wallichii*) 52
- Jack pine (*Pinus divaricata*) 56  
 Jasmine (*Jasminum grandiflorum*) 18, 25, 37–9, 44, 46, 50, 52, 61, 67, 70, 78, 80, 107, 109, 181, 358, 367  
 Jasmine sambac (*Jasminum sambac*) 52, 61, 67, 109, 139, 255, 367  
 Jatamansi (*Nardostachys jatamansi*) 52  
 Juniper 33, 89, 106  
   cade (*Juniperus oxycedrus*) 56, 218, 221  
   mountain (*Juniperus communis* var. *montana*) 56, 218, 220  
   Nepal (*Juniperus squamata*) 56, 218  
   Phoenicia (*Juniperus phoenicea*) 56, 218  
   savin (*Juniperus sabinia*) 218  
 Juniper berry (*Juniperus communis*) 25, 28–9, 51–2, 56, 68, 72, 87, 106, 132–3, 146–7, 161, 188, 190, 204–6, 217–24, 240, 248, 302, 317–18, 326, 338, 349, 357
- Katrafay (*Cedrelopsis grevei*) 48, 51  
 Khella (*Ammi visnaga*) 50, 57
- Lantana (*Lantana camara*) 48  
 Large-leaf basil (*Ocimum basilicum*) 58  
 Lavender (*Lavandula angustifolia*) 18, 23, 33, 37–40, 49–51, 53, 58, 66, 68–9, 72–5, 80, 85–6, 89–90, 109–11, 118–20, 124, 137, 152–4, 157, 165, 167, 169, 171, 180–1, 189, 196–8, 212–15, 223, 225–36, 250, 254–5, 260, 262–3, 268, 270, 275–8, 292–3, 300–1, 307–9, 317, 324, 331–2, 340–1, 348, 358, 365, 367  
 Lavender  
   Dalmatia (*Lavandula x hybrida*) 58, 228  
   Spanish (*Lavandula stoechas*) 58, 228, 231  
   spike (*Lavandula latifolia*) 28, 50, 58, 66, 214, 225, 228, 231, 235, 268, 300, 315  
   true (*Lavandula angustifolia*) 58, 66, 225, 228  
 Lavender oregano (*Origanum dubium* ct. *linalool*) 58, 228  
 Lavender sage (*Salvia lavandulifolia*) 58, 228  
 Lavender tea tree (*Melaleuca ericifolia*) 52, 59, 228, 335  
 Lavandin (*Lavandula x fragrans*) 50, 58, 66, 228, 231–2  
 Lemon (*Citrus limonum*) 29, 33, 37, 50, 52, 60, 70, 74–6, 87, 91, 109, 136, 139, 182, 188, 196, 212, 214, 221, 234, 237–43, 250, 253, 270, 292, 315, 325, 333, 340
- Lemon eucalyptus (*Corymbia/Eucalyptus citriodora*) 52, 59, 88, 154, 176, 179, 181, 198, 214, 234, 241, 248, 250, 268, 270, 301, 309, 357  
 Lemon myrtle (*Backhousia citriodora*) 88, 90  
 Lemon-scented ironbark (*Eucalyptus staigeriana*) 52, 59, 176, 179  
 Lemon tea tree (*Leptospermum petersonii*) 52, 59, 88, 90, 336  
 Lemon thyme (*Thymus x citriodorus*) 58, 346  
 Lemon verbena (*Lippia citriodora*) 60, 90, 271  
 Lemongrass (*Cymbopogon citratus*) 44, 47, 52–3, 55, 61, 74, 76, 88, 90, 109–10, 120, 137, 153, 180, 196–7, 232, 234, 240, 242, 244–51, 266, 268, 270–1, 273, 275, 277, 284, 295, 300, 331–2, 339, 354, 357, 359  
 Lemongrass  
   East India (*Cymbopogon flexuosus*) 244  
   Jammu (*Cymbopogon pendulus*) 244  
   West Indies (*Cymbopogon citratus*) 244  
 Lime (*Citrus aurantifolia*) 52, 60, 70, 89, 91, 109, 136, 238, 253, 262, 284  
 Lime  
   leech (*Citrus hystrix*) 238  
   Persian (*Citrus latifolia*) 238  
 Longoza (*Hedychium coronarium*) 51  
 Lotus (*Nelumbo nucifera*) 52  
 Lovage (*Levisticum officinale*) 33, 68, 369
- Mace (*Myristica fragrans*) 61  
 Madagascar cypress (*Cupressus lusitanica*) 51, 56  
 Madagascar niaouli (*Melaleuca quinquenervia* ct. *viridiflorol*) 59, 335  
 Magnolia bud (*Magnolia* spp.) 53  
 Male helichrysum (*Helichrysum bracteiferum*) 51, 56, 209  
 Mandarin (*Citrus reticulata*) 47, 50, 52, 60, 70, 89, 91, 109, 136–7, 139, 152–3, 189, 197, 213, 234, 242, 252–6, 261, 308, 331–2, 367  
 Marjoram (*Origanum maiorana*) 23, 50, 52, 58, 109, 118–19, 139, 153, 169, 171, 197, 213–14, 224, 232–3, 248, 250, 255, 257–64, 270, 292, 295, 307–9, 324, 358, 366–7  
 Mastic (*Pistacia lentiscus*) 50  
 Mastic thyme (*Thymus mastichina*) 58, 346  
 May chang (*Litsea cubeba*) 44, 47, 53, 59, 75–6, 88, 90, 109–10, 139, 196, 232, 234, 240, 242, 245, 248, 250, 256, 262, 265–71, 284, 293, 326, 332, 359  
 May rose (*Rosa gallica*) 60
- Melissa (*Melissa officinalis*) 33, 47, 53, 58, 70, 76, 88, 90, 111, 232, 242, 250, 262, 266, 270  
 Monarda (*Monarda fistulosa*) 58  
 Morocco oregano (*Origanum virens*) 58  
 Morocco thyme (*Thymus satureioides*) 345  
 Morocco wild camomile (*Ormenis mixta*) 50, 56, 194, 305  
 Mountain juniper (*Juniperus communis* var. *montana*) 56, 218, 220  
 Mountain pine (*Pinus mugo*) 56  
 Myrrh (*Commiphora myrrha*) 33, 36, 50–1, 61, 107, 110, 145–6, 284, 340  
 Myrtle (*Myrtus communis*) 33, 50, 59, 111, 131, 133, 145, 168, 180–1, 188, 190, 204, 212, 222, 234, 300–1, 317, 331–3
- Narrow-leaf eucalyptus (*Eucalyptus radiata*) 52, 59, 67, 161–2, 174–83, 325  
 Narrow-leaf paperbark (*Melaleuca alternifolia*) see Tea tree (*Melaleuca alternifolia*)  
 Narrow-leaf tea tree (*Melaleuca linariifolia*) 59, 335  
 Nepal juniper (*Juniperus squamata*) 56, 218  
 Neroli (*Citrus aurantium* subsp. *amara*) 33, 37–8, 45, 50, 60, 70, 72–3, 80, 109, 111, 153, 169, 198, 214, 260, 262, 270, 276, 284, 300, 366–9  
 Nerolina (*Melaleuca quinquenervia* ct. *nerolidol/linalool*) 48, 52, 59, 335  
 Niaouli (*Melaleuca quinquenervia* ct. *cineole*) 43, 51, 59, 89–90, 109, 116, 118–19, 133, 138, 144, 146, 157, 159, 162, 169, 179–81, 190, 204–5, 213–14, 222, 234, 240, 275, 277, 284, 292, 294, 297–302, 319, 327, 331–2, 335, 339–42, 349–50, 358  
 Niaouli, Madagascar (*Melaleuca quinquenervia* ct. *viridiflorol*) 59, 335  
 Nordmann's fir (*Abies nordmanniana*) 56, 87, 322  
 Northern white cedar (*Thuja occidentalis*) 218  
 Norway spruce (*Picea abies*) 56, 142  
 Nutmeg (*Myristica fragrans*) 29, 33, 37, 43, 52, 61, 109, 146, 161, 205–6, 223, 234, 262, 276, 315, 317, 319  
 Nutsedge (*Cyperus rotundus*) 57, 354

- Oakmoss (*Evernia prunastri*) 109  
 Oleander (*Nerium oleander*) 52  
 Orange 18, 29, 33, 60, 73, 76, 89, 253  
   bitter (*Citrus aurantium var. amara*) 91, 135–6, 139  
   sweet (*Citrus aurantium*) 47, 52, 74–5, 91, 110, 136, 253  
 Oregano (*Origanum* spp.) 33, 50–1, 58, 88, 90, 117, 258  
 Oregano  
   compact (*Origanum compactum*) 58  
   Cretan (*Origanum onites*) 58  
   Greek (*Origanum heracleoticum*) 58  
   Lavender (*Origanum dubium ct. linalool*) 58, 228  
   Morocco (*Origanum virens*) 58  
   wavering (*Origanum dubium*) 58  
 Osmanthus (*Osmanthus fragrans*) 25, 52–3, 61  
 Palmarosa (*Cymbopogon martini var. motia*) 44, 46, 51–2, 55, 61, 85, 88–9, 106–7, 109–11, 116, 120, 167, 187, 189–90, 196, 221, 232, 242, 245, 247, 272–8, 283–4, 300, 338, 348, 350, 353, 354, 356, 358–60, 368  
 Parsley seed (*Petroselinum sativum*) 33, 57  
 Patchouli (*Pogostemon cablin*) 39–40, 46–7, 53, 58, 74–5, 89, 106–7, 109–11, 120, 131, 133, 152–3, 161, 169, 188–90, 198, 203, 214, 222, 233, 240, 242, 262, 275, 277, 279–87, 294, 339–40, 349–50, 356, 358–9  
 Patchouli  
   China (*Microtoena insuavis*) 74, 280  
   Java (*Pogostemon heyneanus*) 74, 280–1  
 Pepper  
   black (*Piper nigrum*) 29, 37, 51–2, 61, 73, 89, 109, 161, 181, 205–6, 222–3, 250, 269, 283, 302, 326, 341  
   cubeb (*Piper cubeba*) 29, 61, 281  
 Peppermint (*Mentha x piperita*) 23, 33, 39, 49, 51, 53, 58, 73, 87, 90, 106, 109, 118, 138–9, 153, 160–1, 197, 205, 214, 234, 241–2, 250, 256, 261, 269, 288–95, 300–1, 307–8, 315, 317, 319, 326, 330, 332–3, 351, 366–7  
 Peppermint eucalyptus (*Eucalyptus piperita*) 59, 174, 176  
 Peru balsam (*Myroxylon pereiara*) 44, 46, 90, 109  
 Petitgrain bigarade (*Citrus aurantium*) 60, 73, 109, 153, 167, 189, 197, 233–4, 248, 250, 254, 261, 269, 283, 295, 308, 331, 366  
 Phoenicia juniper (*Juniperus phoenicea*) 56, 218  
 Pimenta (*Pimenta racemosa*) 47, 59, 68, 88, 90, 106, 161, 205  
 Pine (*Pinus* spp.) 28, 51, 55–6, 89, 146  
   black (*Pinus nigrum*) 56  
   Jack (*Pinus divaricata*) 56  
   mountain (*Pinus mugo*) 56  
   Scotch (*Pinus sylvestris*) 25, 53, 56, 118, 144, 147, 181, 205, 214, 240, 301, 324, 327, 356  
   sea (*Pinus pinaster*) 56  
   Swiss (*Pinus cembra*) 56  
   white (*Pinus strobus*) 53, 56  
 Plai (*Zingiber cassumunar*) 48, 61, 201, 203  
 Rambazina (*Helichrysum gymnocephalum*) 51, 56, 209  
 Ravensara (*Ravensara aromatica*) 297–8, 302  
 Ravintsara (*Cinnamomum camphora ct. cineole*) 51, 59, 67, 109, 116, 118, 146, 159, 161–2, 179, 183, 241, 293–4, 296–303, 315, 317, 325, 339, 349  
 Red spruce (*Picea rubens*) 56, 142  
 River red gum (*Eucalyptus camaldulensis*) 52, 59, 67, 175, 178  
 Roman chamomile (*Anthemis nobilis*) 28, 33, 51, 56, 74, 85, 109, 150, 153, 167, 169, 194, 196–9, 214, 232, 260–2, 292–3, 304–10, 324, 358, 366–7  
 Rosalina (*Melaleuca ericifolia*) 52, 59, 228, 335  
 Rose (*Rosa* spp.) 18, 25, 37–9, 46, 49, 51–2, 60, 70, 72, 74, 78, 80, 86, 107, 109–11, 167, 181, 189, 234, 250, 270, 277, 284, 340, 356, 358, 367–8  
 Rose  
   Damask (*Rosa damascena*) 50–1, 60  
   May (*Rosa centifolia*) 60  
   musk (*Rosa moschata*) 60  
 Rose geranium (*Pelargonium* cv.group *Rosat*) 19, 38–9, 44–6, 50–3, 61, 72–4, 77, 80, 85, 109–10, 113, 120, 133, 145–6, 167, 169, 171, 184–92, 199, 216, 221–2, 232, 240, 248, 275, 277–8, 283, 285, 302, 315, 340–1, 345, 356, 358, 368  
 Rosemary (*Rosmarinus officinalis*) 18, 23, 28, 33, 37–8, 49–50, 58, 73–4, 85, 133, 138, 145–6, 157, 159, 161, 169, 181, 183, 188, 190, 204–5, 212, 221, 223, 234, 240–2, 262, 277, 285, 292–5, 300–2, 311–20, 324–6, 339–41, 349–50, 356  
 Rosewood (*Aniba roseodora*) 59, 68, 89, 226  
 Sage (*Salvia officinalis*) 23, 31, 51, 85, 110, 146, 152, 161, 165, 167–9, 181, 188, 190, 214, 231, 262, 277, 284, 292, 301, 308, 317–18, 350  
 Sage  
   black (*Salvia mellifera*) 58  
   blue mountain (*Salvia stenophylla*) 52  
   Greek (*Salvia fruticosa*) 58  
   hummingbird (*Salvia spathacea*) 58  
   Lavender (*Salvia lavandulifolia*) 58, 228  
   Spanish (*Salvia lavandulifolia*) 50, 74, 312  
   white (*Salvia apiana*) 58  
 Sandalwood 29, 52–3, 61, 70, 74, 107, 109–10, 133, 286  
   Australian (*Santalum spicatum*) 61, 74  
   Hawaiian (*Santalum ellipticum*) 61  
   Indian (*Santalum album*) 53, 61, 74  
   New Caledonia (*Santalum austrocaledonicum*) 61  
   New Guinea (*Santalum mcgregorii*) 61  
 Sanna (*Hedychium spicatum*) 201  
 Saro (*Cinnamosma fragrans*) 48, 51, 59, 109, 116, 183, 293, 297, 299, 302, 317, 350  
 Savin juniper (*Juniperus sabina*) 218  
 Scotch pine (*Pinus sylvestris*) 25, 53, 56, 118, 144, 147, 181, 205, 214, 240, 301, 324, 327, 356  
 Sea pine (*Pinus pinaster*) 56  
 Siam wood (*Fokienia hodginsii*) 48, 53, 56  
 Siberian fir (*Abies sibirica*) 25, 56, 87, 147, 152–3, 214, 223, 301, 321–7, 350  
 Silver fir (*Abies alba*) 56, 87, 133, 146, 221, 322  
 Sitka spruce (*Abies sitchensis*) 56, 142  
 Smith's gum (*Eucalyptus smithii*) 52, 59, 175, 178  
 Spanish lavender (*Lavandula stoechas*) 58, 228, 231  
 Spanish sage (*Salvia lavandulifolia*) 50, 74, 312  
 Spanish sauce thyme (*Thymus zygis*) 58, 346  
 Spanish thyme (*Thymus mastichina*) 58, 346  
 Spearmint (*Mentha spicata*) 33, 50, 53, 58, 85, 109, 116, 131, 133, 139, 180–2, 234, 256, 260, 269, 288–9, 328–33, 341  
 Spearmint  
   curly (*Mentha spicata var. crispa*) 329  
   Moroccan (*Mentha viridis var. nana*) 329, 331  
   Russian (*Mentha verticellata*) 329  
   Scotch (*Mentha gracilis*) 329  
 Spike lavender (*Lavandula latifolia*) 28, 50, 58, 66, 214, 225, 228, 231, 235, 268, 300, 315  
 Spiked gingerlily (*Hedychium spicatum*) 201  
 Spiked thyme (*Thymus spicata*) 58, 346  
 Spikenard spp. 52, 107, 109–10, 214, 270, 284, 308, 358, 366–7  
 Spruce 51, 55–6, 67, 73, 78, 87, 89  
   black (*Picea mariana*) 53, 56, 87, 89, 118, 141–8, 181, 205, 301, 324, 326–7, 338, 356  
   hemlock (*Tsuga canadensis*) 53, 55–6, 87, 142  
   Norway (*Picea abies*) 56, 142  
   red (*Picea rubens*) 56, 142

- sitka (*Picea sitchensis*) 56, 142  
 white (*Picea glauca*) 56, 142, 144  
 Star anise (*Illicium verum*) 43, 47, 53  
 Sweet basil (*Ocimum basilicum* *ct. linalool*) 50, 58  
 Sweet fennel (*Foeniculum vulgare*) 57, 89  
 Sweet orange (*Citrus sinensis*) 47, 52, 74–5, 91, 110, 136, 253  
 Swiss pine (*Pinus cembra*) 56
- Tagette (*Tagetes glandulifera*) 91  
 Tangerine (*Citrus x tangerina*) 60, 91, 253  
 Tarragon (*Artemisia dracunculus*) 50, 56, 87  
 Tea tree (*Melaleuca alternifolia*) 46, 48, 52–3, 59, 67, 85, 88–9, 107, 110–11, 116–19, 132, 154, 162, 169, 182–3, 198, 213, 222, 234, 248, 258, 275, 277, 283–4, 300–1, 315, 317, 327, 332, **334–43**, 348, 350, 352, 358  
 Tea tree  
   black (*Melaleuca bracteata*) 59, 336  
   broad-leaf (*Melaleuca viridiflora*) 335–6  
   citronella (*Leptospermum liversidgei*) 59, 336  
   lavender (*Melaleuca ericifolia*) 52, 59, 228, 335  
   lemon (*Leptospermum petersonii*) 52, 59, 88, 90, 336  
   narrow-leaf (*Melaleuca linariifolia*) 59, 335  
   weeping (*Melaleuca leucadendra*) 59, 156, 336  
 Texas cedarwood (*Juniperus mexicana*) 218
- Thyme (*Thymus vulgaris*) 23, 50–1, 58, 67, 76, 85, 88–90, 116–18, 159, 161, 181–2, 204, 214, 221–2, 242, 258, 275, 277, 284, 315, 327, 332–3, 338, 340, **344–52**  
 Thyme  
   caraway (*Thymus herna-barona*) 58, 346  
   Cretan (*Thymus capitatus*) 58, 346  
   lemon (*Thymus x citriodorus*) 58, 346  
   mastic (*Thymus mastichina*) 58, 346  
   Moroccan (*Thymus saturoioides*) 345  
   Spanish sauce (*Thymus zygis*) 58, 346  
   Spanish (*Thymus mastichina*) 58, 346  
   spiked (*Thymus spicata*) 58, 346  
   wild (*Thymus serpyllum*) 58, 346  
 Tree basil (*Ocimum gratissimum*) 58  
 Tropical basil (*Ocimum basilicum* *ct. methyl chavicol*) 52, 58, 87, 139, 180–1, 213, 234, 292  
 Tuberose (*Polianthes tuberosa*) 25, 39, 46, 52, 61, 70, 107  
 Tulsi (*Ocimum sanctum*) 52, 58, 350  
 Turmeric (*Curcuma longa*) 52, 61, 201, 203
- Valerian (*Valeriana* spp.) 52, 57, 263  
 Vanilla (*Vanilla planifolia*) 52  
 Vetiver (*Vetiveria zizanioides*) 44, 46–7, 51–3, 55, 61, 69, 72, 89, 107, 109–10, 133, 144–6, 153–4, 169, 189, 198, 204, 213–14, 233, 262, 275, 284–5, 309, 340, 350, **353–61**  
 Virginia cedarwood (*Juniperus virginiana*) 56, 218
- Weeping tea tree (*Melaleuca leucadendra*) 59, 156, 336  
 White camphor (*Cinnamomum camphora*) 31, 43, 53, 59, 74, 85, 157, 297  
 White cypress (*Cupressus lusitanica*) 51, 56  
 White ginger lily (*Hedychium coronarium*) 51  
 White pine (*Pinus strobus*) 53, 56  
 White sage (*Salvia apiana*) 58  
 White spruce (*Picea glauca*) 56, 142, 144  
 Wild thyme (*Thymus serpyllum*) 58, 346  
 Winter savoury (*Satureia montana*) 33, 50–1, 58, 88, 317  
 Wintergreen (*Gaultheria procumbens*) 57, 88–9, 154, 182, 198, 309, 359  
 Woolly-butt eucalyptus (*Eucalyptus macarthurii*) 59, 175
- Yarrow (*Achillea millefolium*) 28, 56, 74, 107, 109, 150, 191, 194, 198, 305, 309  
 Yellow ginger (*Hedychium flavescens*) 201  
 Ylang ylang (*Cananga odorata* *forma genuina*) 19, 39–40, 43–5, 51–2, 61, 74, 79–80, 106, 109, 139, 153–4, 169, 197, 212, 234, 250, 255, 260–2, 268, 270, 302, 362–70  
 Yuzu (*Citrus junos*) 48, 60, 91
- Zdravetz (*Geranium macrorrhizum*) 60–1  
 Zinziba (*Lippia javanica*) 48, 52, 332

