

Ylang Ylang

By Salvatore Battaglia



The spirit of ylang ylang usually fits that of the person naturally drawn to the oil. ... She is much like the title character Carmen from Georges Bizet's opera – fiery, temperamental, passionate and erotic. Although her emotions are deeply felt, she never loses her balance. Aware of her own fascinating radiance, she is capable of casting magic spells.

Fischer-Rizzi, author of the *Complete Aromatherapy Handbook* has perfectly described the person that is likely to be attracted to the scent of ylang ylang. The rich intoxicating floral aroma of ylang ylang has a deeply relaxing and calming quality, yet it can be so sensually arousing. It is no wonder that ylang ylang has become a favourite for both aromatherapists and perfumers.

BOTANICAL NAME

Cananga odorata
(Lam.) Hook.f. & Thomson

SYNONYMS

Cananga

FAMILY

Annonaceae



BOTANY AND ORIGINS

Ylang ylang originates from South East Asia, although it is now native in Burma, Malaysia, Papua New Guinea and other Pacific Islands. It was introduced to the tropical countries of Africa, Asia, the Caribbean and the French colonies of the Indian Ocean.¹

Ylang ylang essential oil is primarily produced in Indonesia and Madagascar, with smaller amounts from Reunion, Comoro Island and the Philippines.¹

Cananga is a fast growing, tall evergreen tree which grows up to 35m; however, under cultivation it is pruned to about 3m. The tree bears numerous, large, yellow-green, strongly scented flowers. It flowers all year-round, however, the main flower harvests are in the early dry season.¹

Two types of oil are produced from the flowers of *C. odorata*: cananga oil from forma *macrophylla* and ylang ylang oil from forma *genuina*. Cananga oil has a higher sesquiterpene content but is low in alcohols and esters; conversely, ylang ylang contains a proportion of alcohols and esters.¹

METHOD OF EXTRACTION

Ylang ylang essential oil is produced by steam and water distillation of the freshly picked flowers from *C. odorata*. Distillation is carried out in small stills since the flowers would suffer considerably by the weight and pressure of a heavy charge of flowers.²

Modern Madagascan distilleries produce four and often five fractions or grades of ylang ylang: extra, first, second and third. The quality and price decreases in the same order.¹

The fractions are usually separated by controlling the specific gravity of the distillate. By controlling the specific gravity of the distillate, producers make the interruptions at the moment when they feel that the oil can be classified

within one of these groups.¹

However, Arctander states that there are no standards for the physico-chemical properties of ylang ylang extra or any of the other grades. He claims it is usually left to the distillers' discretion to make the correct fractionation during the distillation.²

The extra is usually considered the most desirable grade and is accordingly the most expensive, even though it does usually amount to almost half the yield of the oil.²

Arctander states that most people are simply after a good 'extra' oil and a good 'third' oil and that there is no interest in the first- or second-grade oils.²

The four or five grades of ylang ylang are fractionated according to the following approximate distillation times and specific gravity:³

- Ylang ylang extra superior comes from the first half hour of distillation. Its specific gravity is > 0.965.
- Ylang ylang extra comes during the next hour of distillation. Its specific gravity is 0.955 – 0.965.
- Ylang ylang 1st grade is obtained during the third hour of distillation. Its specific gravity is 0.945 – 0.955.
- Ylang ylang 2nd grade is obtained between the fourth and sixth hour of distillation. Its specific gravity is 0.932 – 0.940.

- Ylang ylang 3rd grade is collected after the sixth hour of distillation and will often continue for up to sixteen hours. This is why it often has a burnt note. The specific gravity should be 0.905 – 0.910.

A ylang ylang complete oil is often available. The name suggests that the oil should be the natural distillate from the uninterrupted water and steam distillation of the *C. odorata* flowers; however, the complete is made by blending ylang ylang extra, grade 1 and grade 2 fractions.²

CHARACTERISTICS

The scent of ylang ylang has been described as complex. It is considered to be a combination of floral, spicy, balsamic, fruity, woody and medicinal notes.⁴

Ylang ylang extra is a pale yellow oil with a powerful floral and intensely sweet odour. The base note becomes more pleasant, softer and sweet.²

Ylang ylang complete is usually a yellowish, somewhat oily liquid with a powerful and intensely sweet, but soft balsamic floral odour with a floral woody undertone.²

Ylang ylang third grade is a yellowish oily liquid with a sweet-floral odour and balsamic-woody base note, with a tenacious and very sweet-balsamic undertone.²

CHEMICAL COMPOSITION

The chemical composition of the various grades of ylang ylang was reported as follows:¹

Constituent	Extra	1st grade	2nd grade	3rd grade
α-pinene	0.3%	0.1%	0.1%	0.1%
p-cresyl methyl ether	8.4%	3.1%	1.0%	0.4%
benzyl alcohol	0.5%	0.2%	-	-
p-cresol	0.1%	0.1%	-	-
methyl benzoate	4.0%	1.0%	0.3%	0.1%
linalool	10.3%	5.5%	3.2%	2.0%
benzyl acetate	12.6%	4.2%	1.2%	0.5%
α-terpineol	0.1%	-	-	-
methyl salicylate	0.1%	0.1%	-	-
geraniol	0.2%	0.2%	0.2%	-
linalyl acetate	0.2%	0.2%	0.2%	-
safrrole	0.3%	0.1%	0.1%	-
methyl anthranilate	0.1%	-	-	-
eugenol	0.2%	0.2%	0.4%	0.3%
geranyl acetate	4.0%	3.0%	2.2%	2.0%
isoeugenol	0.2%	0.4%	-	-
β-caryophyllene	6.8%	11.5%	12.8%	16.3%
α-caryophyllene	3.1%	4.2%	4.1%	8.8%
farnesene	18.0%	16.8%	17.0%	21.0%
δ-cadinene	8.9%	15.1%	20.4%	16.3%
γ-cadinene	2.0%	5.3%	7.0%	7.5%
nerolidol	0.5%	0.8%	0.5%	1.8%
(Z),(E)-farnesol	0.9%	1.7%	1.7%	1.4%
benzyl benzoate	4.3%	8.5%	9.7%	1.7%
benzyl salicylate	1.9%	1.2%	2.7%	1.7%

ADULTERATION

Adulteration of ylang ylang essential oil occurs frequently. The various fractions – extra, first, second or third – are often blended together. The blending of the fractions fortunately will not affect the purity of the oil as all are from the same botanical source. However, *Cananga odorata* (Lam.) Hook. F. Thomson forma *macrophylla*, commonly known as cananga oil is also used for adulteration. Blending is also done with linalyl acetate, benzyl acetate, synthetic geraniol from various sources, methyl benzoate, benzyl alcohol, methyl salicylate, bay leaf oil, cedarwood terpenes, lavandin residues and traces of synthetic ethyl vanillin.⁵

Arctander also states that it is not uncommon in Indonesia and the Philippines for the ylang ylang flowers to be contaminated with the flowers of *Artabotrys suaveolens*.²

The specific gravity was usually considered the most effective way to verify the grade of the ylang ylang. However, recently it was found that heating ylang ylang 3rd grade would increase its specific gravity from the low 0.900 to the mid 0.950 – essentially turning ylang ylang 3rd grade into ylang ylang extra. Hellivan states that this type of adulteration of heating ylang ylang 3rd grade and blending it with ylang ylang extra has created a crisis and damaged the integrity of the ylang ylang industry.³

HISTORY

The history of ylang ylang oil is very recent. Guenther explains that the somewhat unusual name ylang ylang comes from the vernacular ‘Alang-llang’, a term which describes the hanging or fluttering nature of the flowers in the slightest wind. Guenther states that the ylang ylang industry can be traced to a specific individual. Around 1860, a sailor named Albert Schwenger found himself stranded in Manila. Enchanted by the scent of the flowers, he conceived the idea of a field still on a wheel cart. With this still, he set out travelling the countryside distilling ylang ylang in small quantities.⁶

According to Weiss, the introduction of ylang ylang to Reunion is credited to a French expedition under Captain d’Etchevery in 1770, although the oil was not produced for another 100 years. By the end of the nineteenth century commercial plantations with about 200,000 trees were established. Large volumes of high-quality ylang ylang oil were produced between 1918 and 1928, but the world depression of the 1930s and competition from Madagascar caused a major decline of the Reunion ylang ylang plantations.¹

The cananga trees were introduced to Madagascar on the small island of Nossi-Be. The ylang ylang industry in Madagascar is credited to Rev. Raimbault. By 1950, eight large and many smaller distilleries were in operation. Cananga was introduced to the Comoros at the beginning of the twentieth century. By the early 1980s there were reported to be nearly a million trees.¹

TRADITIONAL MEDICINE

In Java and Vietnam, the dried flowers of *C. odorata* are used to treat malaria-like symptoms. The fresh flowers are pound into a paste and used for treating asthma. Traditional healers from Northern Mariana Islands use the flowers and bark to treat pneumonia and stomach ache.⁷

Mojay explains that the medicinal properties of ylang ylang were first identified at the beginning of the twentieth century by French chemists Garnier and Rechler. They discovered that the oil was effective against malaria, typhus and infections of the intestinal tract.⁸

FOOD, PERFUMERY AND FLAVOURING

Ylang ylang has long been considered one of the most important essential oils in perfumery. The higher grades are generally used in perfumes, while the lower grades are used for soaps and detergents.⁹

PHARMACOLOGY AND CLINICAL STUDIES

Many pharmacological studies involving ylang ylang essential oil have been published. A systemic review of these studies will not be attempted. Rather, I have chosen a selection of studies that support the traditional and clinical uses.

Antiepileptic activity

Ylang ylang oil was found to be one of the most popular choices from a range of essential oils used in a clinical trial to examine the effectiveness of essential oils to control epileptic seizures.

Three methods of using the essential oils were employed:

1. Hypnosis, where the patients were taught autohypnosis and once in the hypnotic state, were invited to smell their chosen oil.
2. Inhaling the essential oil from a pillow three times a week on going to bed, accompanied with six, twice weekly full body massages with the same essential oil.
3. A combination of the first two but without the bedtime inhalation of method two.

In all three methods, the patients were encouraged to smell the oil if a seizure was threatening or likely. The results of the study indicated that one-third of the patients that used aromatherapy massage and hypnosis were seizure-free after one year; many were seizure-free after two years, although there were relapses, particularly in the aromatherapy massage-only group. The hypnosis- only group was the least successful. The most successful group was the combination of aromatherapy massage and hypnosis. While this trial was not a properly controlled study, it does provide the basis for more studies to examine the potential role of aromatherapy for the management of epileptic seizures.¹⁰

Antimicrobial activity

Ylang ylang oil demonstrated relatively low antibacterial activity against *E. coli*. The oil also did not show any antimicrobial activity against *Malassezia furfur*, which is a fungal pathogen associated with seborrhoeic dermatitis. On the other hand, another study demonstrated that *C. odorata* oil with germacrene D (20%) and β-caryophyllene (17%) exhibited slight fungicidal activity against *Trichophyton mentagrophytes* using agar diffusion assay.⁷

Anxiolytic activity

A pilot study with 34 professionals from a nursing group participated in a study to examine the effect of ylang ylang oil applied by cutaneous application or inhalation on anxiety, self-esteem perception and physiological parameters such as blood pressure and body temperature. The study verified that ylang ylang oil significantly altered the self-esteem perception in the three groups; however, the study also concluded that there was no difference in the analysis between groups for anxiety or for physiological parameters.¹¹

An in vivo study examined the anxiolytic activity of ylang ylang oil by inhalation on mice. The study confirmed that ylang ylang essential oil had an anxiolytic effect. It was suggested that the major constituent benzyl benzoate might act on the 5-HTnergic and DANergic pathways.¹²

Hypotensive activity

Fifty-two human subjects were divided into three groups: an essential oil group, placebo group and a control group to examine the effects of aromatherapy on blood pressure and stress responses. A blend of lavender, ylang ylang and bergamot was used by inhalation method once a day for four weeks. To evaluate the effects, blood pressure and pulse, serum cortisol levels, catecholamine levels, subjective stress and state anxiety were measured before

and after the treatment in the three groups.¹³

The blood pressure, pulse, subjective stress, state anxiety and serum cortisol levels were significantly statistically different.

The results suggest that inhalation of essential oils can be considered an effective nursing intervention that reduces stress responses and serum cortisol as well as the blood pressure of clients with essential hypertension.¹³

Another study using 44 human participants divided into an experimental group and a control group also found that aromatherapy was effective in lowering systolic blood pressure and sympathetic nervous system activity. This time a blend of lemon, lavender and ylang ylang oils was prepared in a ratio of 2:2:1 and the blend was administered by inhalation.¹⁴

Another study investigated the effects of essential oil inhalation on the 24-hour ambulatory blood pressure and salivary cortisol level in 83 prehypertensive and hypertensive subjects. The experimental group were asked to inhale a blend of lavender, ylang ylang, sweet marjoram and neroli essential oils (20:15:10:2), whereas the placebo group inhaled an artificial fragrance. The daytime diastolic blood pressure of the experimental group presented with significant decreases in comparison with the measurements of the placebo and control group. There was no significant difference in night-time diastolic blood pressures.¹⁵

The daytime systolic blood pressures during the 24-hour ambulatory blood pressure measurement of the experimental group also presented with significant decreases in comparison to the placebo and control groups. The experimental group also displayed significant decreases in the concentration of salivary cortisol in comparison to the two other groups. It was suggested that essential oils have an immediate and continuous effect on the reduction of blood pressure and stress reduction.¹⁵

A study examined the effects of ylang ylang oil by inhalation on 29 healthy men who were randomly divided into 2 groups – ylang ylang group and control group – examined the effects of ylang ylang oil on blood pressure and heart rate. The results demonstrated that ylang ylang significantly decreased the systolic and diastolic blood pressure and reduced the heart rate. It was confirmed that this study

confirmed that ylang ylang oil inhibited the sympathetic nervous system, whereas it activated the parasympathetic nervous system.¹⁶

Sedative activity

The inhalation of ylang ylang oil significantly decreased both systolic and diastolic blood pressure and pulse rate, indicating that the inhalation of ylang ylang oil can decrease autonomic nervous system (ANS) arousal. The same study also demonstrated that the subjects felt more attentive and alert after inhaling ylang ylang. It was suggested that the effect of inhaling ylang ylang oil is characterised as ‘harmonisation’, which resulted in the uncoupling of physiological (reduced ANS arousal) and behavioural arousal process (increased behavioural activation).¹⁷

A study investigated the effects of ylang ylang oil on human physiological parameters and self-evaluation after transdermal absorption. Forty healthy human volunteers participated in the study. Ylang ylang oil caused a significant decrease in blood pressure and a significant increase in skin temperature. At a behavioural level, the subjects in the ylang ylang oil group rated themselves more calm and relaxed than the people in the control group.¹⁸

A study revealed that ylang ylang oil aroma acted significantly differently on the cognitive performance of a healthy group of human volunteers as compared to the control group and the peppermint group. The ylang ylang group experienced reduced alertness and increased calmness, but an absence in the enhancement of cognitive performance and also a longer processing speed.¹⁹

Properties

Antidepressant, antiseptic, aphrodisiac, hypotensive, nervine, sedative, tonic.^{20,21}

REPRODUCTIVE SYSTEM

Ylang ylang has proven beneficial for treating PMS, especially associated with extreme mood swings that occur just before the onset of menstruation. For this purpose, Fischer-Rizzi recommends blending ylang ylang with clary sage and neroli. This blend should be used in a bath, massage oil or in a vaporiser.²³

AROMATHERAPY USES

Circulatory system

Ylang ylang is recommended for treating palpitations and reducing high blood pressure.^{8,20,21,23}

Nervous system

Many studies have shown that ylang ylang essential oil has sedative, relaxing and harmonisation effects. This explains why ylang ylang oil is commonly used in aromatherapy to reduce blood pressure and stress.

Holmes explains that ylang ylang has both a relaxing and a regulating action. He refers to it as a “deep systemic relaxant” for treating tense conditions in their acute phase such as nervous tension, anxiety, spasms, while also calming brain functions and enhancing parasympathetic activity.²²

Holmes states that ylang ylang promotes emotional stability and can be used to reduce irritability, moodiness, frustration, anger and emotional instability. It is also recommended for acute depression, with anxiety or agitation and feelings of despair and self-destructiveness.²²

Ylang ylang is known for its ability to slow down over-rapid breathing and over-rapid heartbeat. These symptoms are usually associated with shock, anxiety and anger.^{20,21,24}

The oil is renowned as an antidepressant and is particularly beneficial for treating nervous depression, feelings of anger, rage and frustration.²³ Ylang ylang is commonly classified as an aphrodisiac. This is undoubtedly due to ylang ylang’s ability to reduce stress and anxiety, often associated with sexual inadequacy.^{8,21,24}

SKIN CARE

Ylang ylang oil is beneficial in softening and balancing the moisture in the skin. It is recommended in hair care to treat split ends.²³ It can be used in a shampoo base or massaged into the tips of the hair after shampooing with a base oil such as apricot kernel or jojoba.

Ylang ylang is recommended for both dry and oily skin and is reputed to have a balancing action on sebum production.^{20,21,24}

Energetics

Ylang ylang is *cooling*, clearing *heat* from the *Heart*, when severe nervous tension leads to palpitations, hypertension and tachycardia.⁸

According to the principles of TCM, ylang ylang regulates the *Qi* and harmonises the *Shen*. It also helps to spread the *Liver Qi*. Whenever the *Liver Qi* is constrained and we experience disharmony of the *Shen*, we may experience feelings of moodiness, anxiety, irritability, restlessness and insomnia.²²

Ylang ylang has an affinity with the Wood and Fire Elements.

Personality

Fischer-Rizzi best describes the ylang ylang personality:

*The spirit of ylang ylang usually fits the person naturally drawn to it. Upon inhaling ylang ylang with its heavy seductive, sweet aroma one can imagine a fiery, temperamental, passionate and erotic person with an awesome radiance and confidence never losing her balance. She would also dress in bright and colourful clothing and loves to wear jewellery.*²³

Therefore, ylang ylang is recommended for the woman who does not allow herself to live, who hides her femininity, dresses drably, and does not care what she looks like. She lacks self-confidence, may be extremely frustrated, and appears nervous, depressed and tense.²³

Fischer-Rizzi recommends using ylang ylang for men to become less harsh towards themselves and others. It allows them to get in touch with their feminine side and nurtures their understanding and intuition. Many men may find the rich floral scent of ylang ylang overwhelming. If this is the case, ylang ylang should be blended with sweet orange, bergamot or sandalwood.²³

The ylang ylang person is extremely passionate and feminine, charismatic, erotic and sensual. Neither male, or female, ylang ylang personalities are happy alone, flourishing best when they have an audience to applaud their achievements. They are described as having a fiery, passionate nature and would sacrifice everything for love. However, they fall in and out of love easily.²⁵

Worwood states that ylang ylang personalities prefer jobs that allow them to express the aesthetic side of life or in any profession that involves exciting physical pursuits. She also explains that they can easily make a mountain out of a molehill. If they do not have their own way, they will get upset and unleash their anger.²⁵

According to Myers-Briggs personality types, the ylang ylang personality is likely to be an ESFP. ESFPs are friendly, witty, charming and talkative. They value and nurture their relationships, give generously, without expecting anything in return.

They are spontaneous, playful and enjoy everything they do and see. People who share their sense of fun and adventure are their favourite companions. They turn everything into a fun-filled event. They enjoy good things in life – music, dance, food, drink and entertainment. They avoid being alone. They like working in a lively and stimulating atmosphere with friendly, energetic people. They can be good at dealing with the public. They like variety and frequent change of tasks or jobs. They are enthusiastic, high-spirited and have lots of energy.

Subtle

Ylang ylang helps to create a feeling of peace and dispels anger, which is often a hindrance to meditation, healing and all spiritual activities.²⁶

Keim Loughran & Bull explain that ylang ylang helps us to confidently deal with our fears and to recognise whether or not they are appropriate or useful.²⁷

Zeck explains that ylang ylang will allow you to transform your anger and become mindful of how you are affecting others. It promotes the capacity for growth and deepening of relationships.²⁸

Ylang ylang oil helps strength the sacral chakra by promoting sexuality and our creativity. It also supports the solar plexus chakra by promoting self-confidence and nurtures the heart chakra by promoting love.

BLENDING

Aromatherapy

To alleviate the symptoms of depression, consider blending ylang ylang oil with essential oils such as bergamot, frankincense, geranium, lavender, jasmine absolute, mandarin, neroli, rose absolute, sweet orange, patchouli or sandalwood.

For the relief of anxiety, frustration, irritability, nervous tension and stress, consider blending ylang ylang oil with essential oils such as bergamot, Atlas cedarwood, fragonia, frankincense, geranium, lemon, lavender, palmarosa, petitgrain, neroli, sweet orange, patchouli, rose absolute, rosemary or sandalwood.

As a cardiovascular relaxant or for reducing hypertension, consider blending ylang ylang oil with essential oils such as lavender, may chang, sweet marjoram or neroli.

Perfumery

Ylang ylang extra is mainly used in high-class perfumes of a floral and heavy oriental type. Arctander states that there would not be any floral type perfume where ylang ylang would not be used.²

Ylang ylang blends well with bergamot, resin oils such as benzoin, Peru balsam and opopanax, with spice oils such as cinnamon and clove and certainly complements other strong florals such as gardenia absolute, tuberose absolute and jasmine absolute. It also complements sweet citrus oils such as sweet orange and mandarin and blends perfectly with sandalwood oil.

HOW TO USE

Bath

Full body bath, foot bath

Topical

Compress, massage, ointment, skin care

Inhalation

Direct inhalation, diffuser, oil vaporiser

SAFETY

Ylang ylang oil is non-toxic, non-irritating and non-sensitising.

Excessive use may cause nausea or headaches.^{20,24}

Tisserand & Young state that there is a moderate risk of skin sensitisation and caution should be exercised on persons with hypersensitive, diseased or damaged skin and children under 2 years of age.²⁹

According to IFRA guidelines, the maximum dermal use level for ylang ylang is 0.8%. Tisserand & Young confirm that there is no clear consensus on which constituent is responsible for the risk of skin reactions. They suspect isoeugenol.²⁹

Opdyke states that when ylang ylang oil was tested at 10% dilution on 25 human volunteers, it was not irritating.³⁰

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