My first encounter with Clary Sage (Salvia sclarea) was a memorable one. I have been afflicted with reproductive issues since the onset of puberty. My online research, prior to aromatherapy school, lead me to this herbaceous oil. In my research, I saw that it shared a lot of the same constituents as Lavender (Lavandula angustifolia). For some reason, in my mind, I thought the aroma would be similar as well. I was taken aback from the smell. I found it too pungent. So I rarely used it.

But I refused to give up on this oil. I had read remarkable things about Clary Sage (Salvia sclarea) in my original certification class. And remarkable it is. It is so unique in its chemistry and its affinity to the female reproductive and endocrine systems. So when I completed the French Aromatherapy course and was trying to figure out the topic of my research paper, Clary Sage (Salvia sclarea) popped into my mind. What better time to sit down with this oil, let go of my own past pretenses, and get to know its beauty.

**The Botanical**

Clary Sage (Salvia sclarea) is a stunningly beautiful biennial (sometimes referred to as a short-lived perennial). Salvia sclarea reaches 3 to 4 ft. in height, with thick square stems that are covered in hairs. The leaves are approximately 1 ft. long at the base, while .5 ft. long higher on the plant. The upper leaf surface is rugose, looking like little saws, and covered with glandular hairs. The flowers are in verticils, with 2-6 flowers in each vertical. Colors range from pale mauve to lilac or white to pink with a pink
mark on the edge. The lilac or pale blue corolla is approximately 1 in with the lips held wide open. (Clebsch & Barner, 2003)

It is cultivated in Central Europe, England, Morocco, the United States, and Russia. It is also known as Clear Eye, See bright. Eyebright, Europe Sage and Clarywort. (Shutes & Skipper, 2016). It contains both peltate and capitate glands. This causes a chemical variation of the volatile oils found in the glands, even if it is the same plant and part. (Rhind, 2012).

It is a hardy plant that requires very little water and can survive in soil that is low in nutrients and rapidly drained. It is easily adaptable to changing temperatures below zero. It blooms in early summer and grows fast. It requires good exposure to full sunlight in for maximum growth. When the leaves turn brown, cutting the flowering stem a little can stimulate new growth. It is attractive to bees and sometimes used as a source for nectar or pollen. (Clary Salvia sclarea, Dec. 2016)

**Taxonomy**

Clay Sage (*Salvia sclarea*) belongs to the Lamiaceae family, also known as the Mint family. This family is large and aromatic in almost all parts. Other botanicals that are part of this family include: basil (*Ocimum basilicum*), mint (*Mentha*), rosemary (*Rosmarinus officinalis*), sage (*Salvia officinalis*), savory (*Satureja*), marjoram (*Origanum majorana*), oregano (*Origanum vulgare*), hyssop (*Hyssopus officinalis*), thyme (*Thymus vulgaris*), and lavender (*Lavandula*). Members of this family are widely know as culinary herbs.

**The Essential Oil**

The oil is extracted through steam distillation of the flowering tops and leaves. It is a pale yellow color with a light/medium consistency. It has an oil yield of .12-.15%.

The aroma is distinctive and complex. Andrea Butje calls it “sweet, light, warm, and herbal. Look for tobacco-like, tea-like, hay, woody/cedar and balsamic notes. The linalool contributes floral/woody notes and linalyl acetate is sweet, floral-fruit, and Bergamot-like” (Black & Butje, 2016) Jennifer Peace Rhind refers to it as “sweet, warm, herbal and tea-like”. (Rhind, 2012). Jade Shutes refers to it as “sweet, nutty, floral, and earthy”. (Shutes & Skipper, 2016) Aromaweb.com refers to it as “Bright, earthy, herbaceous, with a subtle fruity note.” (Robbins, 2016) It is a middle note and an “enhancer” oil when it comes to aesthetic blending. “Enhancers have a strong presence but not overpowering” (Rhind, 2012)
The absolute has a maximum dermal use level of .25% while the distilled oil does not have a maximum level. It has been noted though that the distilled oil may be adulterated with natural or synthetic mixtures containing linalool and linalyl acetate. (Tisserand & Young, 2014)

It is sometimes contraindicated in pregnancy (we will explore that later) and is also contraindicated when drinking alcohol or even driving according to some. But according to Jennifer Rhind, “there is absolutely no evidence to support these claims.” (Rhind, 2012)

It blends well with Lavender (Lavandula angustifolia) and Bergamot (Citrus bergamia), due to their shared constituents. Also blends well with Sweet Orange (Citrus sinensis), Ylang Ylang (Cananga odorata), Rose (Rosa otto), and Sandalwood (Santum album) for uplifting the spirit.

**The Hydrosol**

The Salvia sclarea hydrosol has a pH range of 5.5-5.7. It is slightly unstable with a shelf life ranging from less than 12 months to over two years. This may be due since the plant is affected by at least two years’ worth of weather. The safe range is 16-18 months, according to Suzanne Catty. (Catty, 2011)

It has been dubbed the “woman’s choice” water. It is useful in cramping, bloating, and moodiness associated with Pre-Menstrual Syndrome. It can help re-establish the menstrual cycle after stopping birth control when used in a three-week cycle. It can work synergistically with sage (Salvia officinalis) hydrosol for menopause (unless you are hypertensive). Catty suggests a three-week protocol of 50/50 combination of the two hydrosols to reduce hot flashes.

During labor, Catty suggests a hot compress with 250mm of clary hydrosol, 3 drops of Clary Sage(Salvia sclarea) essential oil, and three drops of Blue Tansy (Tanacetum annuum) applied to the lower back during contractions. If doing a water birth, add some Salvia sclarea hydrosol to the tub.

It has many topical and internal uses. It can be used as a toner for oily skin, due to its astringent qualities. Use it in a drink for those who are giving up alcohol to help soothe withdrawal symptoms. Combine it with Yarrow (Achillea millefolium) hydrosol topicaly or internally for a mild
anti-spasmodic effect to the body systems. Use it as a perfume for an uplifting and euphoric effect. (Catty, 2011)

**Chemical Family**

Clary Sage (*Salvia sclarea*) is predominately esters. Esters have an oxygen double bonded to a carbon that is bonded to another oxygen. They are formed through the reaction of alcohols with acids. Ester rich oils can degrade into alcohols and acids again, especially if left in humid storage conditions. Storage life is roughly 3 years when stored properly.

Constituents that are esters usually end is “-ate”. As for the name, first take the name of the alcohol, drop the –ol and add –yl. Then take the name of the acid, drop the –ic and add –ate. For example, linalool (an alcohol) and acetic acid (an acid) combine to become linalyl acetate. (Black & Butje, 2016)

According to the referential chart, esters are non-polar, lipophilic and dry molecules. They are Yin, which is cooling, anti-inflammatory, and relaxing. They are strongly electro-negative, which gives them their powerful anti-inflammatory activity.

Esters are known as balancing and soothing action on the sympathetic nervous system. They are uplifting. They are effective on skin rashes, can be analgesic (such as our friend Clary Sage), and good digestive aids. They are relatively safe oils as long as used properly, with the exception of oils that contain high percentages of methyl salicylate, such as Wintergreen (*Gaultheria procumbens*) and Birch (*Betula lenta*). This constituent can be highly toxic when ingested in children and is contraindicated for children. It should be avoided with those with GERD, on warfarin, those with skin conditions or individuals on salicylate-based medication. Robert Tisserand also cautions against its use in people afflicted ADHD, who are known to have salicylate sensitivities. (Tisserand & Young, 2014) Also, sabinyl acetate, found in *Juniperus sabina* is contraindicated in pregnancy and breast-feeding. (Black & Butje, 2016)

**Chemical Composition and Research**

*Salvia sclarea* is dominated by linalyl acetate. *Salvia sclarea* has the highest amount of this constituent out of all the essential oils, respectively. The French version tends to have a higher level of linalyl acetate with 49-74%. The Russian version is 45-62%. It is minimally skin reactive and nontoxic. (Tisserand & Young, 2014)
Linalyl acetate has antispasmodic properties, which is helpful in spasmodic cough and asthma. It can help alleviate the spasms of the chest and can help ease the tension and anxiety caused by an attack. In fact, *Salvia sclarea* is used in many asthma blends.

Linalool, which is another key constituent in Clary Sage (*Salvia sclarea*), is usually found along with linalyl acetate. In the French version it can range from 9-16% of Clary Sage’s composition. In the Russian version, it is more predominant at 10-20%. It presents an extremely low risk of skin sensitization and is not carcinogenic. It demonstrates “broad spectrum anticancer activity in cell lines” (Tisserand & Young, 2014). It produces enzyme inducing and sedative properties.

The two of these constituents teamed together can really pack a punch therapeutically. According to research, both linalyl acetate and linalool, show anti-inflammatory action against edema in rats. (Peana et al, 2002)

Linalyl acetate and linalool have also been found to be analgesic. A randomized, double blind clinical trial was conducted. Forty-eight outpatients were diagnosed with primary dysmenorrhea by a gynecologist. 24 patients were randomly assigned to an essential oil group and 24 patients to a synthetic fragrance group. Essential oils blended with Lavender (*Lavandula officinalis*), Clary Sage (*Salvia sclarea*) and Marjoram (*Origanum majorana*) in a 2:1:1 ratio was diluted in unscented cream at 3% concentration for the essential oil group. All outpatients used the cream daily to massage their lower abdomen from the end of the last menstruation continuing to the beginning of the next menstruation. The results showed that the patients in the essential oil group showed a significant decrease in cramping pain. (Ou et al, 2012)

A new study conducted in 2016 showed that Clary Sage (*Salvia sclarea*) and its two main constituents (linalyl acetate and linalool) “causes plasma membrane perturbations, which leads to cell apoptosis process of the eukaryotic human pathogen yeast Candida albicans.” (Blaskó, 2016) This anti-fungal action would be particularly helpful in vaginal thrush. Application could be 1 drops of Clary Sage(*Salvia sclarea*) and 1 drop of Lavender (*Lavandula angustifolia*), on a neutral tablet or in a teaspoon of honey. Posology would be 3-4 times a day for the first 2 days for phase 1. Then phase 2, would be 1-2 drops twice a day for 4-5 days. Phase 3 should include a return visit to the aromatherapist to further evaluate the situation. It is important to note that Clary Sage(*Salvia sclarea*) should not be used internally for more than 10 days.

Lavender (*Lavandula angustifolia*) and Bergamot (*Citrus bergamia*) both have high percentages of linalyl acetate and linalool as well. So what sets Clary Sage (*Salvia sclarea*) apart? It has a rare constituent called sclareol.
Though it is a low percentage of the distilled oil, up to 2%, it can give Clary Sage (*Salvia sclarea*) some of its core qualities according to Pierre Franchomme. The absolute has a much higher percentage of sclareol.

Sclareol is a heavy diterpene alcohol. It is rare in the fact that it has 20 carbons, while most essential oil constituents have 15 carbons or less. Reason being they are too heavy to be distilled. Sclareol’s molecule structure resembles oestradiol, which may give it its specialized properties.

Sclareol is said, when isolated, to have anti-inflammatory action. “The present study suggests that the anti-inflammatory mechanisms of 1 might be related to a decrease of inflammatory cytokines and an increase of antioxidant enzyme activity.” (Huang, 2012).

It is said to have anti-cancer effects in vitro. “Sclareol is a labdane-type diterpene that has demonstrated a significant cytotoxic activity against human leukemic cell lines.” (Dimas K, Papadaki M, Tsimpoulis C et al 2006). In this study, The isolated compound, 13-epi-sclareol (which is also found in Clary Sage) showed antiproliferative activity in breast and uterine cancers *in vitro* but was not toxic to normal cells. (Sashidhara, 2007). According to Robert Tisserand, “This suggests the possibility that sclareol might actually inhibit estrogen, and might after all have some capacity to interact with estrogen receptor sites.”

Sclareol is said to be oestrogenic, which causes Clary sage (*Salvia sclarea*) to be a woman’s warrior. We will explore *Salvia sclarea*’s affinity to the female reproductive system in the next section.

**Female Reproductive System**

We know that essential oil therapeutic uses cannot be determined singularly by looking at its isolated chemical constituents. While knowing what constituents are found in high percentages in the GC/MS testing, we can make an educated hypothesis of the oil’s actions. For example, oils high in d-limonene tend to be immune supportive. But there is a synergy that exists in a plant. All of these constituents work together to create a blueprint of the plant’s energy. We need to look at the essential oil in all of its entirety, in order to really get to know the oil.

Oestregenic means the ability to promote or mimic the action of female hormones. This is not be confused with estrogenic. According to Franchomme & Pénél (1990), clary sage oil (*Salvia sclarea*) is estrogen-like, due to its content of sclareol, which is said to be structurally similar to human estrogens.
Sometimes, even though there may not be scientific research to back it up, an essential oil can balance and harmonize a body system. This is the case of Clary Sage (*Salvia sclarea*) and its oestrogenic effects on the female reproductive system. Many women report that this amazing oil has affected their reproductive and endocrine systems in the following ways:

- **Affects the menstrual cycle**- It has been called an emmenagogue oil. It can bring on a heavy cycle and increased bleeding. This is why some people have advised it not be used during pregnancy. It can also promote menstruation and regulate irregular cycles. Those who suffer from infertility due to these issues have found Clary Sage (*Salvia sclarea*) to be regulating, therefore making it easier to become pregnant.

- **Helps with menstrual cramping**- due to the high percentage of linalyl acetate and its analgesic, anti-spasmodic and anti-inflammatory properties, this makes perfect sense. This claim does have research to back up, as discussed in the Chemical Composition and Research section. I have found success with a cramp blend of Clary Sage (*Salvia sclarea*), Roman Chamomile (*Chamaemelum nobile*), Bergamot (*Citrus bergamia*), Lavender (*Lavandula angustifolia*) and Ylang Ylang (*Cananga odorata*).

- **Helps with Pre-Menstrual Syndrome moodiness**- Clary Sage (*Salvia sclarea*) is anti-depressant, which we will be discussing later on. I have found the synergy of Clary Sage, Rose (*Rosa centifolia*), and Geranium (*Pelargonium graveolens*) to be very effective in this realm.

- **Has an aphrodisiac effect**- I like to combine Clary Sage (*Salvia sclarea*) with Ylang Ylang (*Cananga odorata*) to promote feelings of passion. What I personally find interesting is that I do not particularly care for each of these oils' aromas separately. But combine them, 75% Clary sage (*Salvia sclarea*) and 25% Ylang Ylang (because of its potent aroma) and the smell is irresistible. Also worth considering that is Clary Sage (*Salvia sclarea*) is extracted from flowers, which invoke feelings of love.

- **Hormone regulating**- the fact that Clary sage (*Salvia sclarea*) is full of esters might attribute to this effect. Esters have a regulating effect on the pituitary gland, which is the master of the endocrine system.

- **Helpful during childbirth**- Clary sage (*Salvia sclarea*) oil is a natural uterotonic, meaning it can improve and increase contractions of the uterus during labor. (Buckle, 2015) However, it can also act like a stress reliever during this process and can calm the nervous system. Clary Sage is a necessary oil during this beautiful process.

- **Helpful with menopause and its side effects**- Hot flashes (possible formula mentioned in the hydrosol section), anxiety, and harmonizing the hormones.
It’s easy to see why *Salvia sclarea* is the woman’s warrior. The contradictions for this oil can vary author to author. Even though it is not toxic, some claim not to use during pregnancy due to its emmenagogue-like effects. Yet on naha.org, this statement is stated: “According to Wildwood, A common myth in aromatherapy is that massage oils containing essential oils such as Clary sage, rose or even rosemary can cause a miscarriage and hence should be avoided throughout pregnancy. Authors such as Ron Guba, Kurt Schnaubelt, and Chrissie Wildwood have all pointed out that there have been ‘no recorded cases of miscarriage or birth defect resulting from aromatherapy massage using therapeutic applications of any essential oil.” (Tisserand and Balacs, 1995)

Please note that this statement is relevant for topical use. Clary Sage is not listed on the website as an oil to avoid while pregnant. However, I would avoid using it during pregnancy unless necessary, especially if you have a history or pre-term labor or early contractions.

**Energetics**

*Salvia sclarea* is synonymous with fighting feelings of depression. There was a study where they screened the anti-depressant effects in rats of the following essential oils: *Anthemis nobilis*, *Salvia sclarea*, *Rosmarinus officinalis* and *Lavandula angustifolia*. “Our findings indicate that clary oil could be developed as a therapeutic agent for patients with depression and that the antidepressant-like effect of clary oil is closely associated with modulation of the DAnergic pathway.” (Soel et al, 2010)

Clary Sage (*Salvia sclarea*) can help reduce anxiety and calm the mind. I like to add it into bath salts, especially when combined with other oils high in linalool and linalyl acetate, to sedate the central nervous system. The synergy of *Lavender* (*Lavandula angustifolia*), Ho Wood (*Cinnamomum camphora ct linalool*) and Bergamot Mint (*Mentha citrata*) with a touch of Neroli (*Citrus aurantium var. amara*) in a base of Cedarwood (*Cedrus atlantica*) brings about a very peaceful mind and body.

Clary Sage (*Salvia sclarea*) can also open the creative pathway to the mind and can unblock stagnant energy. It is an oil useful for our throat chakra (also known as the 5th chakra), which is involved with expression and communication. When the throat chakra is balanced, “the individual is able to express themselves and is true to their words and actions “(Rhind, 2012)

Clary Sage (*Salvia sclarea*) can be an ally for meditation. It promotes
introspectiveness. It asks you to look beyond what’s in front of you. It encourages you to dream, yet remain realistic. Perfect oil for the budding entrepreneur or aspiring college student.

**Conclusion**

Clary Sage (*Salvia sclarea*) is a unique oil that cannot and should not be ignored. Its affinity to the reproductive and endocrine systems make it invaluable to women. Its energetic qualities are all encompassing for those who need it. It's an oil you need to experience fully in order to appreciate its many wonders.

**References**


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