

An exploration of medicinal plants at Royal College of Physicians and The Barber-Surgeons' Physic Garden - their design, layout and history.

Introduction

This Merlin Trust funded research trip was undertaken to explore the physic and medicinal gardens of London. The research was intended to take place over three days at the Royal College of Physicians (RCP), Barber-Surgeons' Garden and Chelsea Physic Garden. Unfortunately, even though I had prior agreement to meet staff at Chelsea for a tour, the garden was closed on the weekend for a private function and I wasn't able to explore their plant collections. I did, however, spend more time at the other gardens, gathering information and photos on ninety-seven plant species.

I have written a small report on the primary features of both gardens, including layout and design, and written extensively researched profiles on ten plants found in both the RCP and Barber-Surgeons' Garden. I bought two books from the Royal College which helped immensely in understanding the scientific research of the institution on its collection. Particular praise must go to Dr Henry Oakley, a psychiatrist with a strong interest in medicinal plants, and Jane Knowles, head gardener at the Royal College of Physicians Garden, for sharing their extensive knowledge and passions for useful plants.

I must also thank Fiona Crumley, previous head gardener at Chelsea Physic Garden, for recommending these gardens and encouraging me to apply for this funding to broaden my knowledge and interest in medicinal plants. And, finally, I must thank the Merlin Trust trustees and their offer of funding so I could afford to travel to London and discover these gardens. Without this offer I would not have been able to pursue my research - which will continue as I work to deliver a relevant, 21st century, herb garden in my current role with the National Trust for Scotland.

One final point must be made, the photographs that were taken on this trip were wiped from my mobile phone so, unfortunately, the photos in the plant profiles have been taken from the internet.

Royal College of Physicians Garden

The Royal College of Physicians has a plant collection of more than 1100 plant species on a relatively small but well utilised site. Planting in the numerous raised beds around the car park, the front gardens of the terraced houses and the main garden area within the grounds of the RCP building, there is a vast collection of herbal and medicinal plants here. Plants are grouped together according to their native habitat and into categories such as, 'Classical World Bed', 'Oriental Bed', 'Southern Hemisphere Bed', 'Arid Zone' and 'European and Mediterranean Beds'.

The planting style appears to be random with plants selected because they are botanically interesting and proven through clinical research to have a medicinal or useful benefit. This makes narrowing down specific plant species for particular ailments difficult, especially considering the size of the collection. A researcher could spend months here, but as I only had three days, I took a relatively small sample of sixty plants.

Importantly, the collection is entirely labelled which makes identification much easier. The RCP has three labels - standard black, which relate taxonomic details; blue, which explain the history of physicians whose names are now attached to certain plant species; and peppermint green, which explain the clinically proven medicinal value of the plants and their usefulness in medicine today. A prime example is *Taxus baccata* and its use in the treatment of cancers of the ovary and breast (explained later in the profiles).

Plants recorded in the *Pharmacopoeia Londinensis* (PL) are showcased on site in small beds with their botanical name from 1618 on their label. All of these plants are sp. *officinalis*. The collection is divided into eight small beds each displaying the distinct parts of a plant: flowers, roots, fruit, leaves, seeds, bark and peels, and gums and resins.

Accessibility to beds isn't restricted but the site is complicated and for visitors without a map it would appear as if it is for private use only. Especially since road access is available for RCP staff, visitors and non-visitors. The beds aren't so easily identifiable as a native collection or specifically 'Oriental', for example. Even as a student of herbology I struggled to find the common theme without referring to a map.

The site utilises as much space as it possibly can to display its diverse collection of medicinal plants. It is well maintained, if a little cluttered, and a terrific resource for medicinal plant researchers and enthusiasts who can see native and exotic plant species up close.

The Barber-Surgeons' Garden

The Barber-Surgeons' garden is a small site tucked away in a sheltered location among the crumbling Roman ruins in central London. Access to the site is difficult as it is very well hidden amongst an underground car park, housing estate and small, public picnic lawn. However, this garden is well-managed and highly informative with a rich mix of medicinal plants, which would have been used traditionally in the treatment of wounds, burns and scars.

The garden has a collection of thirty-seven plant species which I have documented in the list below. Planting is ornamental, with a more formal design that allows visitors to walk around the perimeter and in amongst the beds to view the collection up close. There is a statement specimen *Laurus nobilis* underplanted with *Lavandula angustifolia* 'Hidcote' in the central bed with four surrounding beds separated with gravel paths. The beds have a brick edge which suits the surrounding estate and colour of the Roman fort walls.

The beds display many commonly known plants such as *Bellis perennis* and *Pulmonaria officinalis* growing alongside everyday culinary herbs such as, *Salvia officinalis*, *Rosmarinus officinalis* and *Melissa officinalis*. The use of Moroccan Sea Holly (*Eryngium variifolium*), Southernwood (*Artemisia abrotanum*) and Cotton Lavender (*Santolina chamaecyparissus*) adds a burst of silvery-green foliage interest whilst *Ajuga reptans* and *Galium odoratum* create an even mat covering around the border edges. The deep, dark leaves of bugle are particularly impressive.

Other plants in the beds include *Echinacea purpurea*, which stood in its early stage of senescence, whilst the *Hyssopus officinalis* was just coming into flower. The *Tanacetum parthenium* fits well with the bright purple flower heads contrasting the daisy-like flowers of Feverfew. There is careful consideration given to the planting at the site; specifically with height and colour. Although the collection is varied, its design feels very Mediterranean.

Conclusion

Overall, this research trip has expanded my knowledge of medicinal plants and allowed me to observe two vastly different planting styles. On one hand, the extensive, yet crowded, collection at the RCP is of great significant value to any visiting herbalist, botanist or horticulturalist. The combination of every day, ordinary plants, perhaps often considered weeds, are given prominence in this garden alongside the great medicinal plants that have helped build our current food and medicine systems.

On the other hand, the Barber-Surgeons' Garden is a modest tribute to the old physic and healing gardens herbalists would have relied upon in the 16th and 20th centuries, growing and using herbs for the treatment of wounds, burns and scars. Although small in size, the garden offers a strong range of interesting herbs that would have treated external skin problems and injuries.

It is encouraging to see greater clinical research in herbs taking place today. However, this means it is more important than ever that gardens like these continue to exist, not simply for their display value, but for their incredible educational potential.

THE ROYAL COLLEGE OF PHYSICIANS

Total Collection: **1100 plants**

Documented Total: **60 plants**

North America (14)

Mahonia nervosa (N. America) (Berberidaceae)
Lobelia siphilitica (E. N. America) (Campanulaceae)
Scutellaria lateriflora (N. America) (Lamiaceae)
Geranium maculatum (E. N. America) (Geraniaceae)
Podophyllum peltatum (E.N. America) (Berberidaceae)
Asclepias tuberosa (Northern America) (Apocynaceae)
Heuchera americana (East U.S.A.) (Saxifragaceae)

Geum rivale (N. America, Eurasia) (Roseaceae)
Arnica chamissonis (W. N. America) (Asteraceae)
Lindera benzoin (E. N. America) (Lauraceae)
Echinacea purpurea (C&E. U.S.A.) (Asteraceae)
Yucca flaccida (N. America) (Agavaceae)
Coreopsis tinctoria (C&E. U.S.A.) (Asteraceae)
Gaultheria procumbens (Ericaceae)

Europe (27)

Salvia nemorosa 'Caradonna' (Europe) (Lamiaceae)
Hepatica nobilis (Liverwort) (EU, Asia & Japan) (Ranunculaceae)
Galium Odoratum (Eurasia, Mediterranean) (Rubiaceae)
Ephedra distachya (EU to C. Asia) (Ephedraceae)
Veratrum nigrum (S. Europe to Asia) (Melanthiaceae)
Euphorbia amygaloides var. *robbiae* (Turkey) (Euphorbiaceae)
Pinus mugo (C. Europe, Balkan Peninsula) (Pinaceae)
Juniperus communis (N. Hemisphere) (Cupressaceae)
Digitalis lutea (W. And W. C. Europe to S. Italy and N. W. Africa) (Plantaginaceae)
Taxus baccata (Europe, W. Asia) (Taxaceae)
Achillea 'Summerwine' (Europe, Garden Origin) (Asteraceae)
Arundo donax (Eurasia) (Poaceae)
Rosmarinus officinalis Prostratus Group (Europe, Garden Origin) (Lamiaceae)
Ferula communis (Europe-Mediterranean specifically) (Apiaceae)
Vitex agnus-castus (Mediterranean to C. Asia) (Lamiaceae)
Hypericum olympicum (S. Europe, S. W. Asia) (Hyperaceae)

Artemisia pontica (C. E. Europe) (Asteraceae)
Artemisia alba (Mediterranean) (Asteraceae)
Geranium pratense ‘Black Beauty’ (Eurasia) (Geraniaceae)
Verbascum thapsus (Eurasia) (Scrophulariaceae)
Artemisia absinthium (Europe, N. Africa, Asia) (Asteraceae)
Eupatorium cannabinum (Eurasia) (Asteraceae)
Hyssopus officinalis (S. E Europe) (Lamiaceae)
Artemisia abrotanum (E., S., and SC. Europe) (Asteraceae)
Digitalis lanata (C & E. Europe, Turkey) (Plantaginaceae)
Cochlearia officinalis (NW. Europe, Alps) (Common Scurvygrass) (Brassicaceae)

Asia (9)

Origanum laevigatum ‘Hopleys’ (Asia Minor) (Lamiaceae)
Bergenia emeiensis (China) (Saxifragaceae)
Ephedra gerardiana (Himalaya, W. China) (Ephedraceae)
Ephedra sinica (China) (Ephedraceae)
Stachys byzantina (Temperate Asia) (Lamiaceae)
Camellia sinensis (China) (Theaceae)
Artemisia annua (Temperate Asia) (Asteraceae)
Platycodon grandiflorus (Temperate Asia) (Campanulaceae)
Hakonechloa macra (Japan) (Poaceae)
Betula utilis var. *jacquemontii* (Himalaya) (Betulaceae)

South America (2)

Tagetes erecta (Mexico, S. America) (Asteraceae)
Salvia divinorum (Mexico) (Diviner’s Sage) (Lamiaceae)

Oceania (1)

Dianella tasmanica (Australia) (Phormiaceae)

Africa (7)

Pelargonium cucullatum (South Africa - Cape Province) (Geraniaceae)
Aquilegia vulgaris ‘Ruby Port’ (N. Africa, Europe) (Ranunculaceae)
Hypericum perforatum (N. Africa, Eurasia) (Hyperaceae)
Agapanthus africanus (South Africa) (Agapanthaceae)
Hypoxis hemerocallidea (African Potato) (Southern Africa) (Hypoxidaceae)

Digitalis purpurea (N. Africa, Europe) (Plantaginaceae)

Ricinus communis (Probable origin in Africa) (Euphorbiaceae)

THE BARBER-SURGEONS PHYSIC GARDEN

Documented Total: **37 plants**

Lavandula angustifolia 'Hidcote' (Lavender) (Mediterranean) (Lamiaceae)

Laurus nobilis (Bay Laurel) (Mediterranean) (Lauraceae)

Galium odoratum (Sweet Woodruff) (Europe) (Rubiaceae)

Echinacea purpurea (Purple Coneflower) (N. America) (Asteraceae)

Asperula tinctoria (Dyer's Woodruff) (N&C. Europe) (Rubiaceae)

Stachys officinalis (Betony) (Europe) (Lamiaceae)

Rosmarinus officinalis (Rosemary) (Mediterranean) (Lamiaceae)

Iris pallida (Dalmatian Iris) (Croatia) (Iridaceae)

Prunella vulgaris (Selfheal) (Europe) (Lamiaceae)

Alchemilla vulgaris (Lady's Mantle) (Europe) (Rosaceae)

Salvia officinalis (Garden Sage) (Mediterranean) (Lamiaceae)

Sanguisorba officinalis (Great Burnet) (N. Europe) (Rosaceae)

Bellis perennis (Daisy) (Europe) (Asteraceae)

Teucrium chamaedrys (Wall Germander) (Mediterranean) (Lamiaceae)

Artemisia abrotanum (Southernwood) (Eurasia) (Asteraceae)

Clinopodium nepeta (Lesser Calamint) (Mediterranean) (Lamiaceae)

Convallaria majalis (Lily of the Valley) (Europe) (Asparagaceae)

Filipendula ulmaria (Meadowsweet) (Europe) (Rosaceae)

Ajuga reptans (Bugle) (Europe) (Lamiaceae)

Hylotelephium spectabile (Stonecrop) (China) (Crassulaceae)

Lilium candidum (Madonna Lily) (Middle East) (Liliaceae)

Euphorbia epithymoides (Cushion Spurge) (S. E. Europe) (Euphorbiaceae)

Rosa gallica var. *officinalis* (The Apothecary's Rose) (Asia) (Rosaceae)

Pulmonaria officinalis (Lungwort) (Europe) (Boraginaceae)

Melissa officinalis (Lemon Balm) (Mediterranean) (Lamiaceae)

Marrubium vulgare (Horehound) (Europe) (Lamiaceae)

Glycyrrhiza glabra (Liquorice) (S. Europe) (Fabaceae)

Santolina chamaecyparissus (Cotton Lavender) (W. & C. Mediterranean) (Asteraceae)

Saponaria officinalis (Soapwort) (Europe) (Caryophyllaceae)

Ruta graveolens (Rue) (Balkans) (Rutaceae)

Tanacetum parthenium (Feverfew) (Eurasia) (Asteraceae)

Taxus brevifolia (Pacific Yew) (N. W. U.S.A.) (Taxaceae)

Hyssopus officinalis (Hyssop) (S. Europe) (Lamiaceae)

Valeriana officinalis (Valerian) (Eurasia) (Caprifoliaceae)

Melilotus officinalis (Yellow Sweet Clover) (Eurasia) (Fabaceae)

Podophyllum peltatum (Mayapple) (Eastern U.S.A.) (Berberidaceae)

Eryngium variifolium (Moroccan Sea Holly) (Mediterranean) (Apiaceae)

Echinacea purpurea

Family: Asteraceae

Genus: *Echinacea*

Species: *purpurea*

Synonyms: Coneflower; Purple Coneflower

Habitat: Central and Eastern U.S.A.

Type: Perennial

Flowers/Foliage: Pink/Green

Flowering Period: June - September

Plant Size: Height - up to 1.5m Spread - 0.6m



The recognisable purple daisy-like flowers and prickly orange-brown centres have a honey fragrance. They have been used in herbal medicine for centuries, dating back to the Native American communities - the Choctaw chewed the roots and used it as a tincture to relieve cold symptoms; the Delaware used it in conjunction with *Rhus typhina* to treat venereal disease - and today it is still highly cultivated as an immuno-stimulant with many products available on the market.

Other species in the genus, *E. angustifolia* and *E. pallida*, widely regarded as a panacea, specifically in the treatment of skin conditions, colds and flus, snake and spider bites and toothache. These were more valued in N. American herbal medicine than *E. purpurea*.

Both the aerial parts and root have been and are currently used in herbal medicine - the roots traditionally being used to treat haemorrhoids and diphtheria, and even noted as an aphrodisiac. However, clinical trials have revealed the plant's most important use: its stimulation of the immune system and treatment of on-set coughs, colds and flus. Its preventative and treatment abilities extend to other upper-respiratory tract infections, including pharyngitis and tonsillitis.

‘The most important action of *Echinacea* is probably its ability to stimulate the immune system... by stimulation of phagocytes.’ (RCP)

It has been proven to have anti-viral, anti-bacterial and anti-oxidant effects which supports its use in healing wounds, burns and sores. Echinacin has been noted to ‘inhibit the formation of hyaluronidase by bacteria’ (Potter’s) which can localise infection and prevent it spreading.

Valeriana officinalis

Family: Valerianaceae (Caprifoliaceae)

Genus: *Valeriana*

Species: *officinalis*

Synonyms: Common Valerian; All-Heal

Habitat: Eurasia

Type: Annual; Perennial

Flowers/Foliage: White & Pink/Green

Flowering Period: January - August

Plant Size: Height - up to 1.5m Spread - 0.5m



Valerian has been in herbal medicine for 2000 years, primarily as a sedative to treat anxiety and sleeplessness, but also as a treatment for epilepsy (dating to back to the Medieval period). The plant is distinguishable by its unpleasant, nauseous odour and has a short rootstock about 2cm long and 1cm wide with several lateral root branches. The plant is best grown in containers and the roots should be harvested in Autumn.

This powerful plant has a sedative effect that reduces active or stimulating nerve signals therefore aiding sleep, reducing anxiety and having a hypnotic effect. It is currently approved by the European Medicines Agency (EMA) as ‘a traditional herbal medicine for mild anxiety and sleeplessness for up to four weeks’. (RCP) It has additional traditional uses in treating neuropathic pain, mania and migraine prevention. Herbalists today prescribe valerian as an anti-spasmodic to reduce muscular tension, gut spasms and menstrual cramps.

Valerian’s anti-epileptic properties have been utilised in Medieval Iranian medicine - using the essential oil of the plant to treat epilepsy - through to 16th century Europe where it was used to treat ‘hysterical passion’. At the turn of the 19th century it was considered the best anti-epileptic medicine on the continent.

Sodium valproate was synthesised in 1882 from valproic acid, which is an analogue of valeric acid found in Valerian. Today, the plant is being investigated as an alternative medication to benzo-diazepines, such as commonly prescribed diazepam.

Commercially, today valerian is sold as a sleep aid alongside other soporific herbs such as chamomile, lavender and hops. This can be found commonly in tea and tablet forms.

Taxus baccata

Family: Taxaceae

Genus: *Taxus*

Species: *baccata*

Synonyms: Common Yew; English Yew

Habitat: W, C & S Europe, N.W. Africa, N. Iran

Type: Evergreen

Flowers/Foliage: Green

Fruits: September - December

Plant Size: Height - 10m Spread - 6m



Conifer used in ornamental gardens as hedging or topiary. All parts of the plant are highly toxic, except the flesh of the fruit, due to toxic alkaloids present in low levels in the needles and a higher concentration in the seeds. However, it also plays an important role in modern day cancer research and treatment as it forms the basis of anti-cancer drugs, such as paclitaxel, containing a derivative of the plant's naturally occurring taxines.

The poisonous alkaloids are also present in the dried plant and consumption of the needles can cause severe toxicity and induce death. Farm animals are also susceptible to the toxicity, however, birds are not affected due to the way they ingest and digest the plant. In humans, the taxines cause cardiac damage, lower blood pressure, create blockades, which induce vomiting and confusion, and eventually lead to cardiac arrest.

Historically, herbalists have written about the many dangers of *T. baccata*. Dioscorides wrote that those who sit or sleep under the plant will die; but this was refuted by Gerard who ate the berries and slept under the tree and found no harmful effects. Lobel identified the plant's toxicity and wrote that the word 'toxic' is derived from the Latin 'Taxus'. It wasn't until the 19th century, however, that we discover the traditional medicinal properties of the plant, not simply its dangers. It was used as an alternative to *Digitalis*, as a sedative, anti-spasmodic and to induce menstruation in women.

Today, the taxanes have been synthesised to treat stomach, lung and breast tumours and to improve blood flow in coronary arteries and reduce the blockage of stents. Taxol 'stabilised intracellular microtubules, arrested mitosis and stopped cell proliferation' and from this we have synthesised paclitaxel and docetaxel which are used as anti-mitotics for ovarian and breast cancers. Taxol is also used to treat cancers of the stomach, lung and pancreas.

Melilotus officinalis

Family: Fabaceae

Genus: *Melilotus*

Species: *officinalis*

Synonyms: Melilot; Yellow Sweet Clover

Habitat: Europe to E. Asia (distributed in N. America)

Type: Annual; Biennial

Flowers/Foliage: Yellow/Green

Flowering Period: July - September

Plant Size: Height - 1m S - 0.7m



An aromatic biennial with yellow honey-scented flowers which was once used as a strewing herb. This plant's 2000 year old herbal and traditional uses are no longer relevant and its contemporary medicinal uses are very different today. It was used to relieve pain and spasms and treat sleep problems. Dried plant preparations were used to draw out toxins in the body and reduce swellings and it was once applied to varicose veins and haemorrhoids.

Its spasmolytic and carminative effects are historically documented but current research has found that it acts as an anti-coagulant which prevents blood clotting (this may however, affect the liver). If harvested when wet, the plant becomes mouldy and this process of fungal action converts the chemical dicoumarin to dicoumarol which is a vitamin K antagonist and therefore an anti-coagulant. Hence its importance in preventing blood clotting, thrombosis and embolism.

Interestingly, fresh melilot has no anti-coagulant properties.

There has also been interest in the plant's anti-inflammatory effects and vein problems. It has been noted to improve venous return and treat inflammatory conditions. Alongside this, preparations have been made to treat burn injuries hence its planting in the Barber-Surgeons' Garden which hold plants that can treat burns.

Hyssopus officinalis

Family: Lamiaceae

Genus: *Hyssopus*

Species: *officinalis*

Synonyms: Hyssop

Habitat: S. E. Europe, Middle East

Type: Perennial

Flowers/Foliage: Blue/Green

Flowering Period: July - September

Plant Size: Height - 0.5m Spread - 0.5m



An attractive, aromatic herb with blue-white flowers in Summer and Autumn and dark green, linear leaves. It is native to Southern Europe and is now widely cultivated all over the world. It has a bitter taste and a pleasant camphoraceous odour.

Traditionally used as an anti-septic in mouthwashes and eye drops for eye infections and to treat respiratory problems such as bronchitis, coughs and colds. The plant also contains ursolic acid which has shown to have anti-inflammatory activity in the body. Other properties of the plant include stimulating, carminative and sedative effects, and pectoral relief of afflictions of the respiratory tract.

Today, it is still used to treat gastrointestinal problems. Its essential oil, derived from the flowers, is anti-spasmodic and bacteriostatic thus stopping bacteria reproducing in the body. It contains thujone and phenol in its oil which help to explain its traditional uses as a stimulant and anti-septic.

Extracts of the plant have shown anti-HIV activity, in vitro. 'The poly-saccharide MAR-10 strongly inhibits replication of HIV-Type 1 in cultured peripheral blood mononucleocytes.' (Potter's Herbal)

Artemisia abrotanum

Family: Asteraceae

Genus: *Artemisia*

Species: *abrotanum*

Synonyms: Southernwood; Boy's Love



Habit: Indigenous to S. Europe (widely cultivated elsewhere)

Type: Annual; Perennial; Evergreen

Flowers/Foliage: Yellow/Silver-Green

Flowering Period: July - October

Plant Size: Height - 1m Spread - 1m

This highly scented, aromatic herb is a shrubby plant with silver-green foliage on wooden stems and yellow flowers in late Summer which has historically been used as a cure-all for many ailments and illnesses. It has a bitter taste and unique, pleasant, aromatic odour which is released when brushed past or rubbed to release the oil. It is easily propagated by taking semi-hardwood cuttings.

Traditionally, southernwood has been used to treat a plethora of ailments. It was used to reduce cramps, relieve urinary disorders and menstrual pain, as well as coughs and indigestion. It has been noted to improve the digestive process by strengthening the digestive system when taken internally, which also treats appetite loss.

Externally, it has been used to treat chilblains, swellings and abrasions. It has been a popular treatment of skin conditions, applied often as poultice to promote healing and stop bleeding. Used alongside rosemary, sage and nettle, it has been found to have anti-inflammatory and disinfectant effects (mainly against fungal diseases). However, it must be noted that today it has been found to cause allergic reactions and skin rashes for those with sensitivity to the plant and caution must be advised when handling.

It was considered a highly powerful, magical herb and was used as a protection to ward off evil. Even today, it is still used as an incense in Catholic churches. The dried herb is used in potpourris to fill a room with its fragrance and keep flies at bay. The plant's essential oil is a powerful insect repellent and can be used to keep moths away in cupboards and wardrobes.

Today, it is a proven anthelmintic and emmenagogue used to treat threadworms in children and induce menstruation. It also has muscle relaxing effects as a spasmolytic.

Melissa officinalis

Family: Lamiaceae

Genus: *Melissa*

Species: *officinalis*

Synonyms: Sweet-balm, Lemon Balm, Cure-all

Habit: UK, Europe, W. Asia, N. Africa

Type: Perennial

Flowers/Foliage: White/Green

Flowering Period: June - August

Plant Size: H - 1m S - 0.5m



Lemon balm is a well-known and researched medicinal plant. Many of its traditional uses have been backed up with clinical research today, proving its anti-viral, sedative, carminative and diaphoretic properties. It has highly fragrant foliage which is best harvested from the top 10cm of the plant in early morning, active pruning of the plant will encourage greater growth. The flowers are attractive to bees.

Historically, it has been noted to treat epilepsy, aid sleep, promote memory and treat stress. This can be backed up by evidence that the essential oil binds to receptors in the brain that are linked to reducing anxiety which, in turn, promotes relaxation and a reduction in stress.

Hot water extracts of lemon balm have anti-viral properties, hence its use as an herbal tea. This is due to the presence of rosmarinic acid and other polyphenolics. This backs up its traditional treatment of cold sores, where the plant's anti-viral properties become active.

The plant's sedative effects have been widely researched and proven to reduce insomnia and support nervous disorders. It is available dried or in commercial herbal teas - often mixed with other soporific herbs. Other research has found that aqueous extracts inhibit division of tumour cells and there is well-documented proof of balm's anti-thyroid and hormonal effects.

Filipendula ulmaria

Family: Rosaceae

Genus: *Filipendula*

Species: *ulmaria*

Synonyms: Meadowsweet, Queen of the Meadow

Habit: Found in the wild in Europe and Asia

Type: Perennial

Flowers/Foliage: Cream-White/Green

Flowering Period: July - August

Plant Size: H - 1m S - 0.3m



One of the most important anti-inflammatory plants because of its use in the development of aspirin. Today its anti-inflammatory properties are still recognised but it is more commonly used in the relief of digestive disorders and for its anti-ulcer effect.

Traditionally, it is thought that it was used as a flavouring for mead because of its highly fragrant honey-almond flower scent. The cream coloured flowers were dried to release even more of the fragrance and was then stewed to perfume rooms.

Culpeper wrote that 'it is under the dominion of Venus' and that its name 'Dropwort' was given because 'it gives ease to those who evacuate their water by drops'. However, there has been little evidence of this use in contemporary treatment of urinary conditions.

The plant's effects on the digestive tract are many, including as an antacid for the relief of gastric reflux and reducing the risk of stomach ulcers developing. It has been noted to relieve diarrhoea and its anti-inflammatory effects may assist in IBS.

Other than its stomachic benefits, meadow-sweet is an astringent, anti-rheumatic, anti-immunomodulating and anti-coagulant. Its tannins have been proven bactericidal, in vitro, against many bacteria and to inhibit the enzyme elastase. The anti-rheumatic and inflammatory properties are ascribed to the plant's salicylate content.

It is the salicylic acid compound which was isolated from meadow-sweet and white willow for the development of aspirin. The anti-inflammatory properties mean that the medication has since been used in the treatment of rheumatic joint and muscle conditions and in the reduction of fevers.

Salvia officinalis

Family: Lamiaceae

Genus: *Salvia*

Species: *officinalis*

Synonyms: Sage, Garden Sage, Red Sage

Habit: Native to Mediterranean

Type: Perennial

Flowers/Foliage: Blue/Grey-Green

Flowering Period: July - August

Plant Size: H - 0.5 - 1m S - 0.5 - 1m



Popularly used today as an aromatic culinary herb but its traditional uses reveal the extent to which the plant has been used in European herbal medicine. It was reputed for its anti-septic and anti-inflammatory properties, treating sore throats, inflammation of the mouth and gums, reducing sweating and acting as a carminative, all of which have been backed up by clinical research today.

The presence of rosmarinic acid (the anti-inflammatory compound) means sage can treat sore gums, mouth ulcers, pharyngitis and tonsillitis when used as a mouthwash or gargle. The oil of the plant is reputed to be anti-microbial and anti-spasmodic in animals and could therefore explain the improvement seen by researchers in people with digestive complaints.

There has been much current interest in *Salvia* sp. in improving memory and treating the symptoms of Alzheimers disease. Both *S. officinalis* and *S. officinalis* subsp. *lavandulifolia* have been found to improve learning and memory in patients with difficulties. The anti-inflammatory and anti-oxidant effects may improve nerve function and protect the nerve cells.

It is the flavonoids and phenolic acid derivatives that are the anti-oxidants present in the plant and which inhibit lipid peroxidation and scavenge free radicals.

Research is also looking into the plant's ability to reduce sweating, particularly for women who are experiencing the menopause.

Pulmonaria officinalis

Family: Boraginaceae

Genus: *Pulmonaria*

Species: *officinalis*

Synonyms: Pulmonaria, Lungwort

Habitat: Europe

Type: Perennial

Flowers/Foliage: Pink-Purple/Green-Spotted White

Flowering Period: March - April

Plant Size: H - up to 0.5m S - up to 0.5m



An evergreen perennial, native to Europe which thrives in shady spots. It is a well-documented plant by the herbalists of the past and one of the most identifiable plants in the Doctrine of Signatures because of its spotted green leaves which were believed to resemble a diseased lung.

Traditionally, its main use as an herbal plant was in the treatment of lung diseases, such as bronchitis and asthma. However, today the Royal College of Physicians states that 'Whatever our ancestors believed, it has no therapeutic effects in lung disorders.' The leaves of the plant do have a high mucilage content, backed up by scientific studies today, and this may have been effective in treating coughs and sore throats at the time.

Other ailments treated with the plant's leaves include; ulcerated lungs, spitting blood, shortness of breath and asthma. It is also mentioned in the relief of haemorrhoids and diarrhoea.

Potter's Herbal tells us that 'the mucilage consists of polysaccharides of galacturonic acid, arabinogalactans and rhamnogalactans' and would have been effective in reducing the symptoms of bronchitis, laryngitis and catarrh. The leaves were also applied topically to aid wound healing and the mucilage would have been fundamental to the soothing and healing process.

The plant is said to be an emollient and an expectorant hence its historical use in clearing the lungs and providing relief to sore throats.