

# PHYTOTHERAPY IN DERMATOLOGY

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Dermatology is one of the branches of medicine that can obtain the greatest benefit from the use of phytotherapeutic products.

Extracts of drugs of plant origin have always been used in therapy and cosmetics. The therapeutic stock of the dermatologist is poor in pharmacological resources which can mainly be summarized in glucocorticoids (corticosteroids) NSAIDs and multivitamins, therefore remedies offered by nature are well accepted. It must be recognized that phytotherapy cannot perform miracles and no serious dermatological pathology, including psoriasis or vitiligo, can be solved with phytotherapeutic products. However, with a correct clinical picture and rigorous and patient definition of the therapeutic records, it is possible to effectively cure (even if not to heal) various diseases.

## Notes on Physiopathology

The skin or cutis is an organ that covers the whole surface of the body like a membrane and continues with mucous at the natural orifices.

## Constituent parts

### Epidermis

Multi-stratified epithelium with labile elements (keratinocytes or epitheliocytes) which undergo a differentiated maturation with the production of keratin. Its

thickness can vary from 4 microns on the eyelids to 1.5 mm and more on the plantar area.

### Dermis

It is closely connected with the epidermis of which it forms the mechanical support and the substratum for metabolic exchange.

### Hypodermis

This is made up of structures of connective fibres from the dermis above which separate ovoid areas containing adipose tissue, the largest of which are called lobes and the smallest lobules. Each lobule is made up of a set of cells called adipocytes or adipose cells.

### Functions

sudoriparous  
sebiparous, or formation of the hydrolipid film  
keeping a suitable pH (5.0 – 5.5) with the function of acid-basic buffer  
keratogenetic  
absorption  
pigmentogenetic  
thermoregulation  
emunctory  
sensation  
active defence  
passive defence.

## Elementary morphological lesions of the skin

Macula: a flat circumscribed chromatic alteration of varying

shape, colour and size, which does not disappear with vitropressure.

Erythema: circumscribed or diffuse reddening due to active or passive hyperemia which appears with vitropressure.

Vesicle: a small subcorneal endoepithelial or subepidermal cavity containing serum.

Pustule: a small cavity with characteristics similar to that of the vesicle but containing pus.

Bulla: a large cavity in the epidermis or between the epidermis and the dermis containing serum, elevated compared to the cutaneous level. A bulla caused by burning is called a phlycten.

Pomphus: an ephemeral circumscribed and consistent reddish-pink or porcelain white edematous swelling, surrounded by an erythematous ring.

Papule: a small, persistent, solid and circumscribed swelling.

Nodule: a circumscribed infiltrated solid, persistent in the dermal areas (tubercle) or hypodermal (gumma).

Squama: a clinically appreciable agglomeration of corneal lamellae.

Crust: a concretion produced by dried serum, blood or pus.  
Squama-crust: a concretion produced by the incorporation of corneal lamellae in dried organic fluids.

Abrasion, erosion: loss of very superficial substance that heals without leaving a scar.

Ulceration: loss of deep substance that concerns the dermis as well as the epidermis and at times the hypodermis, which always leaves a scar.

Fissure: linear ulcer localized in particular in the areas where the cutis is subject to tension.

Cicatrix: replacement of a loss of dermal or dermal-hypodermal substance by newly-formed tissue poor in vessels, without elastic fibres and other cutaneous fibres.

Atrophy: a regressive phenomenon caused by the quantitative reduction of volume of all the structures which normally make up the skin.

The treatment of the skin, after a clear diagnosis (where possible) should always be etiological. However, this is not always possible either due to the difficulty of clinical description of lesions that are not clearly definable or due to the impossibility of recognizing the "primum movens" determining them. Phytotherapy places at our disposal various drugs with different types of activity:

Protective: they form a sort of film on the cutis.

Adsorbent: they encourage better hydration of the cutis, improving its trophism.

Emollient: they increase the softness and suppleness of the tissue on which they are applied.

Demulcent: they decongest the tissue.

Lenitive: they reduce the sensitivity of the tissue to which they are applied.

The drugs with these properties include: starch (from rice, corn, potato, manioc etc.); aloe vera (gel); pansy (mucilage); marshmallow; mauve.

## Local astringents

"Those substances which, applied to the cutis and mucous, through a strictly local action, have an anti-inflammatory effect, are said to be such. (...) They provoke coarctation and drying of the tissue concerned; the mucous become dry (due to the precipitation of proteins), with a reduction in exudation and secretion. In practice, they coagulate the superficial layer of the tissue, creating a protective layer; they coagulate the exudate, if present, forming a further protective layer, they slow down the exchanges between cells reducing cell permeability; they decrease the permeability of the capillaries and compress the arterioles, decreasing hyperemia, the formation of edemas, exudates and haemorrhagic phenomena. Astringents also reduce the excitability and conduction of the nerve fibres, reducing pain and lastly, they have a disinfecting action." (from Capasso F., Grandolini G., Fitofarmacia, Sprinter Verlag - 1999)

The drugs with these properties include: rhatany; witch hazel, oak, walnut.

## Cauterant

"All those drugs which, applied to the tissue, cause necrosis, limited to the area of application, are said to be cauterants. The cauterant provokes the denaturation and coagulation of the protein substances of the tissue concerned, then rapidly transforms the hyperaemic layer into necrosis and then into an eschar. The eschar subsequently falls off and leaves an ulcer that heals at a later stage (process of cicatrization). (...) They are used in therapy to aggress and

destroy warts, condylomas and small tumours, torpid bedsores, ulcerative mycoses, granulomatous formations of wounds." (from Capasso F., Grandolini G., Fitofarmacia, Sprinter Verlag - 1999)

The drugs with these properties include: podophyllum.

## Antisudoriparous

These are drugs which act by blocking the production of sweat either at nervous level (anticholinergics) or locally (astringents). The drugs with these properties include: belladonna; white agaric; sage.

## Antiseptics (disinfectants)

These are drugs with antiseptic properties in general or specifically anti-bacterial.

The drugs with these properties include: calendula; camomile; thyme; drugs containing essences.

## Anti-inflammatory

Partly a consequence of some of the activities shown above, there are however drugs with components that antagonize some of the specific effects of inflammation.

The drugs with these properties include: calendula; camomile; blackcurrant; willow; spirea ulmaria.

The pathologies taken into consideration as they can benefit from a phytotherapeutic and/or integrated approach are: Aene; Alopecia; Cellulite; Dermatitis and cutaneous phlogosis in general; Dermatopathies in children. However, before proceeding with this part of the study, the characteristics of the plant drugs most commonly used in dermatology should be examined. In this study, where contraindications and side effects are not shown, it is to be understood that there are not any "worthy of note".



Toxicity, where it is not shown, is to be understood as "not toxic at recommended doses".

#### *Agrimonia eupatoria*

Parts used: leaves, flowers

Description of drug: leaves with a grossly serrated edge and 2-3 cm. long, upper slightly hairy and green lamina, parts of stem covered in hairs and small compound fruit.

Main components: ursolic acid and other triterpenes, tannins (4-10% in the leaves), phytosterols, essential oil, flavonoids, organic acids, nicotinic acid, Vitamin K, vitamins of the B group.

Actions: astringent, haemostatic, cholagogue

Indications: diarrhoea, irritable colon, inflammatory intestinal diseases (astringent action), diverticulitis (haemostatic action), inflammations of the oral cavity (rinses); astringent action, dermatitis (packs): astringent action

Note: the drug may be interchangeable in use with other drugs containing tannins (alechemile, witch hazel, potentilla, rhatany). Forms of use: tincture, extracts. Posology (external use) decoction at 10% for packs to be repeated several times a day

#### *Aloe barbadensis*

Parts used: fresh juice from leaves

Description of drug: fresh juice from the secreting cells of the leaves, which forms a gel with a strong and characteristic odour.

Main components: barbaloin, aloin, polysaccharides.

Actions: lenitive, emollient, anti-irritating.

Indications: wounds, burns, erythemas.

Forms of use: fresh juice.

#### *Althaea officinalis L.*

Parts used: root, leaves and flowers.

Description of drug: pieces of root with the bark removed, almost cylindrical in shape (thickness between 0.5 and 2 cm), whitish in colour, with dark residual scars from the lateral roots, the concentric stratification of the bark can be recognized in cross-section. Slight odour, mucilaginous taste.

Main components: mucilage (5-10%), betain, asparagin, salts, starch, sugars, ferments.

Actions: emollient, lenitive, anti-inflammatory, protective, inhibits mucociliary activity, bhehic. Note: the infusion of altea is often used to deliver more active drugs in order to reduce their irritant action.

Traditional beneficial effects: to cure irritations of the skin and mucous.

Indications: respiratory irritations associated with sore throat, coughs, colds, influenza and bronchitis, irritation of the oral cavity (including for gargles), gastrointestinal irritations and inflammations. External use: abscesses and furuncles, useful in the case of inflamed sores.

Principal preparations: infusion, fluid extract, mother tincture, syrup.

Recommended doses: infusion at 5%, decoction (for enemas and gargles) at 2 - 10%, fluid extract: 1-4g/die, mother tincture: 2-6g/die, syrup at 2-5%: 1 teaspoon 3 times a day.

Warning: it may delay the absorption of some drugs.

Contraindications: ascertained individual hypersensitivity to the drug.

#### *Hamamelis virginiana L.*

Parts used: leaves and bark of young branches.

Description of drug: leaves or fragments of leaves, slender, coriaceous, dark green in colour on the upper side, grey-green on the lower side, with visible venation and fine down on the lower side. Odourless, but with a slightly bitter and astringent taste.

Main components: leaves: tannins (3-10%), flavonoids, essential oil (0.5%), choline, triterpenes, diterpenes. Bark: tannins, flavonoids, essential oil (0.5%), choline, triterpenes, diterpenes. Proven effects: anti-phlogistic, vasotonic, astringent, local haemostatic, emollient.

Traditional beneficial effects: colds and chills, menstrual pains, pulmonary the and wounds, depurative (in bathwater).

Indications: vasculopathies (phlebitis, varicose ulcers, haemorrhoids, varicose veins), arthritis in the lower limbs, metrorrhagies, menopause-related vascular disorders, slight cutaneous lesions, coadjutant in acute aspecific diarrhoea and in inflammation of the gums and oral mucous, hemoptysis.

Principal preparations: suppositories, dry extract, fluid extract, mother tincture. External use: aqueous extract, cream.

Recommended doses: dry extract 0.05-0.2 g, fluid extract 4-10 g/die, mother tincture: 2-5 g/die, cream (10% of fluid extract), suppositories (equal to 0.1-1 g of drug): 1-3 times a day.

Warning: do not use during pregnancy or while breast-feeding.

Contraindications: ascertained individual hypersensitivity to the drug.

Side effects: gastric irritation, hepatic damage, constipation, nausea, vomit and jaundice may appear in hypersensitive patients.

#### *Ananassa sativa L.*

Parts used: dried stem.

Principal components: bromelain, vitamins.

Proven effects: anti-inflammatory, anti-oedematogenic, digestive.

Indications: inflammatory processes, various kinds of edemas, cellulite, impurities of the face, dyspepsia.

Principal preparations: powder.

Recommended doses: 0.3-1.8 g/die.

Warnings and precautions: although this product is not toxic for the foetus, it is to be used under medical control during pregnancy, check the hemocoagulative parameters in haemophilic patients and with haemorrhagic diathesis and in patients in therapy with anticoagulants, the tablets are to be taken on an empty stomach.

Contraindications: ascertained individual hypersensitivity to the drug, serious hepatopathies and nephropathies, peptic ulcer.

Side effects: nausea, vomit, diarrhoea, rare phenomena of metrorrhagia and menorrhagia.

#### *Arnica montana L.*

Parts used: inflorescences, flowers.

Description of drug: dried composite inflorescences and golden yellow ligulate and tubular flowers. The grey-white colour of the drug is caused by the characteristic hairs of the pappus (which crown the upper tip of the ovary).

The receptacles and bracts of the involucre are also found

separately in the drug. Bitter taste.

Principal components: sesquiterpene lactones (0.2-0.8%), triterpene lactones, flavonoids (0.4-0.6%), essential oil (0.2-0.35%), polyacetylenes, organic acids, carotenoids, coumarins, polysaccharides.

Proven effects: spasmolytic, antihistamine, anti-nevralgic, anti-inflammatory, vulnerary, antagonizes the effects due to mechanic traumas, causes hyperemia and resolvent, anti-microbial, antimycotic, anti-phlogistic.

Traditional beneficial effects: useful against bronchial catarrh, light stimulant.

Indications: contusions with traumatism, serious effusions and ecchymoses, muscular pain, hematomas, distortions, compressions, edemas from fractures, muscular or joint disorders of a rheumatic nature, phlogosis of the oropharyngeal mucous, furunculosis or inflammations following insect bites, surface phlebitis.

Principal preparations: infusion, powder, fluid extract, mother tincture, ointment, oleolite, colutury.

Recommended doses: infusion 2%, powder: 0.25-0.50 g/die, fluid extract 0.25-0.50 g/die, mother tincture 0.5-2 g/die. External use: dry extract 1-2 g/dose in water or glycerin, infusion 2-4%, ointment 2.0-5% of fluid extract or 10-15% of oil, oleolite 20-25%.

Warnings and precautions: it must be taken orally with great care or avoided, do not place on areas of damaged skin.

Toxicity: for internal use and even at relatively low dosages, nervous shaking and spasms, it

irritates the gastro-intestinal tract.

Contraindications: ascertained individual hypersensitivity to the drug, during pregnancy and breast-feeding, in chronic disorders of the gastro-intestinal tract. Do not place on open sores.

Side effects: cutaneous and allergic reactions, edematous dermatitis with formation of vesicles, eczema, cutaneous necrosis, acute diarrhoea with watery stool, cardiac arrhythmia, myasthenia, nausea, vomit, sudden hypotension.

Symptoms of overdose: (g 60-80 of S.I.) gastro-enteritis and alteration of central and peripheral nervous system.

#### *Arctium Lappa L.*

Parts used: roots, leaves and fruit.

Principal components: lignans, sesquiterpenes, essential oil (0.06-0.18%), polyemins, guanidin-n-butyric acid, phenolic acids, inulin, sterols, fatty acids. Proven effects: diuretic, diaphoretic, cholagogue, choloretic, antibiotic (gram+), fungicide, detoxicant, tissue repairing, anti-mutagenic, hypoglycemizing.

Traditional beneficial effects: treatment of wounds, sores and dermatosis, diaphoretic, analgesic, treatment of venereal diseases, disorders of the gastro-intestinal tract, gout, rheumatism, depurative of the blood. External use: ichthyosis, psoriasis, impurities of the skin, in cutaneous diseases.

Indications: wet and purulent dermatoses (especially from staphylococci), seborrhoea, impetigo, acne, as a cutaneous and general drainer, in pre-diabetic type disorders, azotemia.



Principal preparations: infusion, dry extract, fluid extract, mother tincture.

Recommended doses: infusion 2%, dry extract 0.25-1 g/die, fluid extract 1-5 g/die, mother tincture 3-10 g/die.

*Calendula officinalis* L.

Parts used: Flowers and aerial parts, fruit.

Principal components: Flowers: glycosides, carotenoids, essential oil, mucilage (1.5%), phytosterols, flavonoids (1%), resins (3-4%). Plant: essential oil, flavonoids, calendulosides, triterpene alcohols, sterols, carotene, xanthophyll, bitter substances, tannins. Fruit: oil (16-26%) with calendulic acid (50-60%), lauric acid, myristic acid, palmitic acid, palmitoleic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, proteins, amino acids and carotenoids.

Proven effects: cicatrizing, anti-phlogistic, anti-bacterial, anti-mycotic, oestrogen-similar effect, virustatic, immuno-stimulant (calendulose B).

Traditional beneficial effects: circulatory stimulant, vulnerary, deobstructive, laxative, uterus tonic, anti-ulcer and gastrointestinal anti-inflammatory.

Indications: Internal use: oropharyngeal phlogosis, dysmenorrhea. External use: wounds with poor cicatrizing tendency, ulcerations, fissures, chapping and chilblains, burns, spermicide action, dry dermatoses, dry eczema tending towards fissures, lichen planus, folliculitis of the beard, neonatal candidiasis, cutaneous herpes, glandular inflammations, acne, pyodermitis, impetigo, blepharitis and conjunctivitis.

Principal preparations: infusion, glycolic extract, oil, cream (10%), talc, dry extract, fluid extract, mother tincture.

Recommended doses: infusion 5%, dry extract 0.25-0.50 g/die, fluid extract 1-2 g/die, mother tincture 5-10 g/die.

Contraindications: individual hypersensitivity to the composite.

Side effects: allergic reactions in sensitive subjects.

*Matricaria recutita* L.

Parts used: composite inflorescences.

Description of drug: composite inflorescences with yellow tubular flowers surrounded by a corona of ligulate white flowers.

Principal components: Essential oil 0.5-1.5% (with bisabolol, camazulene, etc.), flavonoids (with proazulene, apigenines), coumarins, phenolic acids, amines, polysaccharides.

Proven effects: anti-phlogistic, bacteriostatic and fungicide, anti-ulcer, spasmolytic, sedative, intestinal detoxicant and eutrophizing, cicatrizing, dermostimulant.

Indications: inflammations and spasms of the gastro-intestinal tract and respiratory system, sleep disorders, reduction of intestinal flora, pelvic pain.

Principal preparations: infusion, dry extract, fluid extract, mother tincture, essential oil, ointments and lenitive solutions.

Recommended doses: infusion 3-10%, dry extract 0.25-0.50 g/die, fluid extract 1-2.5 g/die, mother tincture 5-10 g/die, essential oil 4-9 gtt/die, ointments 5-10% of fluid extract, collyrium 3%.

Contraindications: individual hypersensitivity to asteraceae.

The essential oil is contraindicated during pregnancy and in children.

Side effects: allergic reactions in sensitive subjects.

Symptoms of overdose: nausea and insomnia.

*Centella asiatica* L.

Parts used: leaves

Description of drug: it consists of the entire dried plant without the roots.

Principal components: triterpene derivatives (asiaticosides).

Proven effects: vulnerary, accelerates tissue repair, reduces the cutaneous signs of psoriasis (cream or packs), stimulates peripheral circulation.

Traditional beneficial effects: treatment of leprosy, cutaneous affections, sedative.

Indications: prevaricose conditions, varices, orthostatic oedema, night cramps in the lower limbs, irritation in the lower limbs, wounds, burns, psoriasis, cellulite, decubital ulcers, coadjutant in hypotension.

Principal preparations: infusion, dry extract, fluid extract, mother tincture, cream.

Recommended doses: infusion 2-4%, dry extract 0.25 g/die, fluid extract 1.2 g/die, mother tincture 4-6 g/die, cream 20%.

Warnings and precautions: do not administer to children under the age of two.

Contraindications: ascertained individual hypersensitivity to the drug.

Side effects: exanthema, headaches.

*Eugenia Caryophyllus*

parts used: flower buds, leaves.

Description of drug: flower buds, 12-17 mm long, dark brown in colour, consisting of a long

hypanthium with 4 projecting cymes at the apex, there is a cupule at the top made up of four yellow-brown petals. Strong and aromatic scent. Pungent taste.

Principal components: Essential oil: eugenol, eugenilacetate, b-karyophyllene, epoxikaryophyllene,  $\alpha$ -ylangene, methyleugenol, chavicol, benzaldehyde, methyl salicylate, furfural, methylamylketone, tannins, flavonoids, chromones, lipids, phytosterols, triterpene acids, waxes, resins.

Actions (correlated with the essential oil): anaesthetic, anti-inflammatory, antiseptic.

Indications: inflammations of the oral cavity, dental caries, pharyngitis, cutaneous disinfection.

Side effects: in concentrated form the essence of cloves irritates the tissues.

*Echinacea angustifolia*

Parts used: roots and aerial parts.

Description of drug: small cylindrical pieces of root (4-20 mm thick), grey-brown in colour, surface rough or with strips, in cross-section yellowish woody body, covered by thin bark. Weak odour. Sweetish taste at first then pungent

Principal components: essential oil (0.1%), alkylamides, polyphenolic compounds (echinacosides), flavonoid glycosides, alkaloids, polyenes, sesquiterpenes, immunostimulant polysaccharides, glycoproteins, triterpenes, betaines, inulin.

Proven effects: anti-phlogistic, bacteriostatic, virustatic and mycostatic, aspecific immunostimulant, cicatrizing and reepithelizing.

Traditional beneficial effects: cutaneous wounds and pathologies, headaches, diaphoretic.

Indications: prophylaxis of influenza, acute and chronic infections of the respiratory and urinary systems, wounds, consequences of dermatological infections, insect bites, coadjutant in asthma.

Principal preparations: infusion (little used), dry extract, fluid extract, mother tincture.

Recommended doses: Infusion 2%, dry extract 0.25-0.5 g/die, fluid extract 1-2 g/die, mother tincture: 3-6 g/die.

Warnings and precautions: do not administer by parenteral route.

Contraindications: ascertained individual hypersensitivity to asteraceae, it must not be used in rapidly degenerating systemic diseases (tuberculosis, leukosis, collagenosis, multiple sclerosis, AIDS, etc.).

Side effects: pyrexia and shivering, nausea, vomit, allergic reactions in sensitive subjects.

*Hedera helix* L.

Parts used: leaves.

Principal components: saponins (2.5-6%), sesquiterpenes, flavonoids, polyphenols, polyacetylenes (falcarinol and 11,12-dehydro falcarinol), alkaloids (emetines), sterols.

Proven effects: expectorant, spasmolytic, revulsive, anti-inflammatory, vasoprotective, antiedematogenic, analgesic, antibacterial, anti-mycotic, anti-protozoarian, antihelmintic, virustatic.

Traditional beneficial effects: for splenic congestion, resolutive on sores and wounds.

Indications: phlogosis of the air pathways, symptomatic treatment of chronic bronchitis, mesenchymopathies, painful

genital syndromes, hyperalgie rheumatopathies.

Principal preparations: powder, dry extract, fluid extract, mother tincture.

Recommended doses: infusion: 0.3%, dry extract: 0.02-0.04 g/die, fluid extract: 0.3 g/die, mother tincture: 3 g/die.

Contraindications: ascertained individual hypersensitivity to the drug.

Side effects: for topical use phenomena of cutaneous sensitization have been reported.

Symptoms of overdose: cutaneous rash, tachycardia, mydriasis, hyperthermia, delirium, visual hallucinations, stupor and convulsions.

*Hypericum perforatum* L.

Parts used: aerial parts and floral tops.

Principal components: naphthodiantronic derivatives (hypericin 0.1-0.3%, etc.), flavonoids (hyperosides, rutosides), essential oil, prenilyfloroglucynolic derivatives (hyperphorin), catechin tannins, phlobaphenes, sterols, triterpenes.

Proven effects: anti-depressant, sedative, diuretic, cholecystokinetic, antibiotic, vulnerary, antiseptic, anti-inflammatory, tonic, reepithelizing and tissue-repairing, UV-screening, antispasmodic.

Traditional beneficial effects: anti-burns, cicatrizing, tonic, digestive.

Indications: Internal use: depression, neurovegetative dystonia, syndromes of dysthymia, sleep disorders, spasms, inflammations of the upper and lower respiratory tracts, dyspepsia, hypotension.

Oil in dyspepsia, External use: oil



for the treatment and post-treatment of linear wounds with irregular edges, first degree burns, sores.

Principal preparations: infusion, dry extract, fluid extract, mother tincture, oil and preparations for topical use.

Recommended doses: (Internal use) Infusion 1-2%, dry extract 0.25-1 g/die, fluid extract 2-4 g/die, mother tincture 4-6 g/die, (External use) oil 30%, cream. Warnings and precautions: avoid excessive exposure to sunlight or UV lamps. Use caution in association with psychoactive drugs, anorexia-inducing drugs, anti-histamines. Interactions are possible with alcohol, caffeine, tyramine, tryptophan. Use with caution in subjects affected by cerebral-cardiovascular and cephalalgia-related diseases.

Contraindications: hypertension, treatment with IMAO, during pregnancy and breast-feeding, ascertained individual hypersensitivity towards the drug.

Side effects: photosensitivity, especially in people with a fair complexion, hypertensive crises (if associated with amphetamines, tryptophan and tyrosine, anorexia-inducing pills, anti-asthmatics and nasal decongestants, coffee and chocolate), headaches, muscular tension in the neck, nausea, vomit, greasiness of skin.

#### *Glycyrrhiza glabra L.*

parts used: roots and stolons. Description of drug: the cut root is lemon yellow in colour, cubic-shaped, fibrous and can easily be split lengthways.

Principal components: glycyrrhizic acid, flavonoids, coumarins,

triterpenoids, essential oil.

Actions: expectorant, mucolytic, anti-coughing, spasmolytic, gastric protection, bacteriostatic, antiviral.

Indications: coughs (expectorant and anti-cough action), gastric ulcer, gastritis (anti-phlogistic, anti-acid action, protects gastric mucous, spasmolytic), inflammatory intestinal diseases (supporting action for anti-phlogistic and spasmolytic activity), cutaneous erythemas.

Contraindications: hypertension, cholestatic hepatopathies, hepatic cirrhosis, hypokaliemia, pregnancy.

Side effects: at high doses and prolonged use can have mineralocorticoid effects with hypertension, loss of potassium, etc.

#### *Malva sylvestris L.*

Parts used: leaves and flowers.

Description of drug: roundish leaves, palm-veined, divided into 3-7 lobes, with petioles and crenated-dentate edge, fine and hairy lamina. The cut drug contains pieces of leaf, mostly square, very shrivelled. Taste of mucilage.

Principal components: mucilage (<10%), tannins, anthocyanins (malvin and malvidin), flavonoid sulphates, amino acids, vitamins A,B,C, coumarin acids, chlorogenic, caffeinic.

Proven effects: bechic, stomachic, emollient, blandly laxative, external use: soothing and emollient.

Indications: irritations of the oropharyngeal mucous and of the skin, coughs, constipation (microclysmas).

Principal preparations: infusion, dry extract, fluid extract, mother tincture.

Recommended doses: infusion 4%, dry extract: 0.5-1 g/die, fluid extract: 2-5 g/die, mother tincture: 4-12 g/die.

Contraindications: ascertained individual hypersensitivity to the drug.

#### *Melissa officinalis L.*

Parts used: leaves and flowers.

Description of drug: slim and rough leaves, shrivelled, oval foliar lamina of up to 8 cm., serrated edge, dark green in colour, lighter on the lower blade, where the pinnate venation is visible together with a glandular type of speckling. Spicy-aromatic odour.

Principal components: essential oil (0.1-0.5%, containing citronellol, citral, mono and sesquiterpenes, etc.), polyphenolic acids (rosmarinic acid), flavonoids, triterpenes, polysaccharides, tannins.

Proven effects: anti-spasmodic, carminative, antiviral, antihistamine, sedative, antithyroidal, choleric, eupeptic, stomachic, tonic, antioxidant.

Traditional beneficial effects: calming and antispasmodic, emmenagogue, anti-hysterical, tonic.

Indications: anxiety, insomnia, headaches, tachycardia, cardiac neurosis, dizziness, gastrointestinal pain, dyspepsia, flatulence, coadjutant in nausea, anti-emetic, states of asthenia, pre-menstrual and menstrual syndromes, herpes simplex.

Principal preparations: infusion, essential oil, dry extract, fluid extract, mother tincture, M.G.

Recommended doses: infusion 3%, dry extract 0.5-1 g/die, fluid extract 1-5 g/die, mother tincture 3-6 g/die, essential oil 4-12 gtt/die.

Contraindications: ascertained

individual hypersensitivity to the drug, during pregnancy, in hypothyroidism. Experimental work has shown how the inhibitory action on the thyroid is the consequence of a reduction in the sensitivity of the gland to the TSH.

#### *Mentha piperita L.*

Parts used: leaves.

Description of drug: very friable slim oval or lanceolate leaves, lamina between 3 and 9 cm, serrated edge, brownish colour, lighter on the lower blade where the pinnate venation and, under a magnifying glass, the glandular hairs, can be seen. Intense odour.

Principal components: essential oil (1-4%, with menthol, menthone, menthofuran, menthylacetate, limonene, etc.), flavonoids, phenolic acids, triterpenes, tannins, azulenes, choline.

Proven effects: spasmolytic, choleric, anti-radical, carminative and eupeptic, antiseptic, mildly anaesthetic.

Traditional beneficial effects: digestive, against nausea, nervous stimulant and tonic.

Indications: spasms, intestinal pains and pains in the biliary tract, inappetence, bad digestion, flatulence and aerophagy, phlogosis of the upper respiratory tracts and headaches.

External use: myalgia, neuralgiform disorders, phlogosis of the upper respiratory tract (ointments), wounds, burns, scalds and herpes.

Principal preparations: infusion, fluid extract, mother tincture, essential oil.

Recommended doses: infusion 2-5 %, fluid extract 3-6 g/die, mother tincture 5-15 g/die, essential oil 6-12 gtt/die, creams

5-20% of essential oil, external use: S.I. infused at 5 %.

Warnings and precautions: do not apply mint-based creams on to the face and in particular on to the noses of children under the age of three.

Toxicity: At very high doses (which cannot be reached in infusion), it has an analeptic and then depressive effect on the central nervous system. In small children, the essence is not to be applied to the face, in particular in the nose area as if inhaled it can give rise to laryngospasms.

Contraindications: ascertained individual hypersensitivity to the drug, cholecystopathies.

Side effects: gastritis.

#### *Urtica dioica L.*

Parts used: plant, leaves and roots.

Principal components: flavonoids, lignans, pigments, amines, sterols, scopoletin, triterpenes, organic acids, silicates, nitrates, tannins, trace elements, vitamins, fructosans, lecithins.

Proven effects: diuretic, azoturic, astringent, anti-prostatic, anti-allergic.

Traditional beneficial effects: revulsive and rubefacient in arthropathies, diuretic, depurative, toning for the scalp, hemostatic, anti-anaemic.

Indications: hypertrophy of the prostate, coadjutant in arterial hypertension, states of azotemia, states of hyperuricemia, edemas, oliguric nephropathy, nephrolithiasis, cystitis, coadjutant in acute and chronic enteritis and in allergic rhinitis, pre-menstrual syndrome. External use: alopecia or fragility of the hair, coadjutant in the treatment of rheumatic disorders.

Principal preparations: infusion, decoction, dry extract, fluid extract, mother tincture.

Recommended doses: infusion 4-5%, decoction 4%, dry extract 0.5-2 g/die, fluid extract 4-10 g/die, mother tincture 5-12 g/die.

Warnings and precautions: do not administer in the case of edematous phenomena due to cardiac or renal insufficiency, take large quantities of liquids, in the case of prolonged treatment check the potassium levels. Contraindications: ascertained individual hypersensitivity to the drug.

Side effects: rarely, phenomena of sensitization.

#### *Ribes nigrum L.*

Parts used: leaves and fruit.

Principal components: essential oil, flavonoids, glycosides, tannins, diuretics, triterpenes, phenolic acids, bergenin, vitamin C.

Proven effects: anti-oxidant, anti-inflammatory, anti-allergic, diuretic, uricosuric, vitaminizing, astringent.

Traditional beneficial effects: antirheumatic, useful in nephrolithiasis (cataplasms).

Indications: rheumatic syndromes, allergies, coadjutant in hypotension and asthma, phlogosis of the respiratory system.

Principal preparations: infusion, fluid extract, mother tincture, M.G.

Recommended doses: infusion 5%, fluid extract 3-5 g/die, mother tincture. 6-8 g/die, M.G. 1-3 g/die.

Warnings and precautions: use with care in patients with hypertension.

Contraindications: ascertained individual hypersensitivity to the drug.



*Salvia officinalis* L.

Parts used: leaves.

Description of drug: shrivelled leaves, 3-10 cm long and up to 3 cm wide, oval or lanceolate. The upper blade is rough and greenish-grey and the lower one is whitish, both with abundant and fine hairs, venation is visible on the lower blade.

Principal components: Essential oil. (1-2.5%), diterpenes (salvin), flavonoids (1-3%), phenolic acids, depsides, tannins, triterpenes, sesquiterpenes.

Proven effects: it reduces secretion from the sudoriferous glands (block of sudation induced by pilocarpine), salivary and mammary glands, antiseptic, virustatic, mycostatic, astringent.

Traditional beneficial effects: antisudoriferous, oestrogen-similar, spasmolytic, cholecystokinetic, antioxidant, tonic, febrifuge, emmenagogue.

Indications: hyperhidrosis, infective pathologies of the oropharyngeal cavity, dyspepsia, dismenorrhea.

Principal preparations: infusion, dry extract, fluid extract, mother tincture, essential oil.

Recommended doses: infusion 3-5%, dry extract. 0.25-0.75 g/die, fluid extract 1-3 g/die, mother tincture 2-5 g/die, essential oil 2-6 gtt/die.

Contraindications: ascertained individual hypersensitivity to the drug, contraindicated during pregnancy, in haemorrhoids, in acute inflammations.

Side effects: if administered for long periods or in excessive doses over 15 g of leaves/dose, it may give convulsions of an

epileptic type due to the toxic action of the tujone, infusions may provoke inflammations of the lips and oral cavity.

*Thymus vulgaris* L.

Parts used: leaves and flowers.

Descriptions of drug: leaves without stems and dried flowers of two types of mother plants. Thymus vulgaris: small leaves (max. 1 cm), shrivelled, oval or lanceolate, with a complete edge, green on the upper side and grey-tomentous on the lower side.

Light violet flowers with visible calyxes. Aromatic odour and taste.

Principal components: essential oil 1-2.5% (thymol, carvacrol, etc.), tannins, triterpenes flavonoids.

proven effects: bronchial spasmolytic, expectorant, antibacterial, antiviral, antimycotic, balsamic.

External use: antirheumatic, revulsive, cicatrizing.

Indications: symptomatic in the affections of the upper and lower respiratory tract, whooping cough, intestinal disbiosis, digestive disorders. External use: phlogosis of the oral cavity, torpid wounds, rheumatic diseases.

Principal preparations: infusion, dry extract, fluid extract, mother tincture, essential oil.

Recommended doses: infusion 2-5%, dry extract 0.25-0.50 g/die, fluid extract 1-2 g/die mother tincture 3-4 g/die, essential oil 3-9 gtt/die.

Warnings and precautions: use with care in subjects with hypertyroidism.

Contraindications: enterocolitis, cardiac insufficiency, pre-

gnancy, ascertained individual hypersensitivity to the drug.

Side effects: visceral pain, temporary collapses, cheilitis and glossitis have been observed on rare occasions in subjects who have used toothpaste containing thymol and carvacrol.

Symptoms of overdose: nausea, vomit, bradycardia, asthenia, bradypnea, hypothermia.

*Viola tricolor* L.

Parts used: flowers, leaves.

Principal components: flavonoids (0.4%), phenolic acids, salicylates (0.06-0.3%), anthocyanosides, carotenoids, coumarins, triterpenes, sterols, mucilage (10%), vitamin C, tannins (2.4-4.5%).

Proven effects: antiseptic, mycostatic, anti-inflammatory, antiradical, protective action on vessels and connective tissue.

Traditional beneficial effects: antidyscrasia, antirheumatic, cardiac tonic, diuretic, depurative, anti-dermatosis, antiasthmatic, antieczema and antipso-riasis.

Indications: dermatosis (eczemas, impetigo, psoriasis, pityriasis, acne, milk crust, etc.).

Principal preparations: infusion, fluid extract, mother tincture, creams, lotions, gel.

Recommended doses: infusion 3-5%, fluid extract 1-3 g/die. External use: fluid extract 1:1 q.s., mother tincture 1:5 q.s., cream, lotions and gel with 10% of fluid extract.

Contraindications: ascertained individual hypersensitivity to the drug, irritative gastric and renal conditions.

Side effects: unpleasant odour of urine.