

ROMAN CHAMOMILE MONOGRAPH

Chamaemelum nobile (L.) All.



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Roman chamomile

Chamaemelum nobile L. All.



BOTANICAL INFORMATION

Common names: Roman chamomile

Scientific name: *Chamaemelum nobile* (L.) All.

Synonyms: *Anthemis nobilis* L.

Botanical family: Asteraceae syn. Compositae

Conservation status: Least concern¹

Description: Roman chamomile is a low-growing evergreen perennial of the Asteraceae family native to North Africa and western Europe. *Chamaemelum nobile* was formerly classified by the Latin name *Anthemis nobilis*. *C. nobile* forms a spreading mat of aromatic foliage that grows 3-6" tall with decumbent stems spreading 12" wide. The flowers, yellow-centered with daisy-like white rays, bloom throughout the summer and into early fall. The foliage is tufted, creeping, and redolent of apples when bruised.²

Roman chamomile is greyish-green in color, with fine, thread-like leaves that give the whole plant a feathery appearance. Blooms are borne singly on long, erect stalks that droop when in bud. The fruit is small and dry, and as it matures it increases the conical appearance of the center of the flower. Roman chamomile thrives in dry, sandy soil in full sun to partial shade.³

Chamaemelum nobile was historically noted for its distinct apple scent. The Greeks named it “ground apple” -- kama (on the ground) and melon (apple); the Spanish called it *manzanilla*, meaning “little apple.” It was used in the Middle Ages as an aromatic strewing herb, and planted as ground cover on green walks in gardens. Chamomile thrives underfoot, a commonly known quality of the plant articulated in this verse by Maud Grieve’s “A Modern Herbal,”

Like a chamomile bed
The more it is trodden
The more it will spread

Ethnobotany: Chamomile was thought of as the “Plant’s Physician,” and sowed in gardens to heal sickly plants.⁴

C. nobile is one of the earliest documented botanicals used for medicinal purposes. In traditional medicine, it was used topically to treat wounds, irritations, and infections. Taken internally, it calmed the nerves, promoted sleep, and eased gastrointestinal upset.⁵

EXTRACTION INFORMATION

Country of origin:	Italy, France, United States, Hungary, Chile, Germany
Part of plant used:	Flowers
Extraction method:	Steam distillation
Essential oil yield:	0.6-2.4%
Color of oil:	Yellow to clear

AROMATIC CHEMISTRY

Twenty-eight to thirty-one unique components make up 98% of the essential oil of Roman chamomile. Core components include a mix of unique ester components with iso-butyl angelate (32.1-36%), 2-methylbutyl angelate (16.2-20.3%), iso-amyl-angelate (15.5 - 20.5%) and iso-butyl butyrate (5.1-6.2%). Other components include:

Monoterpenes (approximately 4%) α -pinene (1.2-10%), β -pinene (0.2-10%), α -terpene (0-10%), sabinene (0-10%), camphene (0-0.8%), myrcene (0-1.9%), γ -terpinene (0-0.5%), p-cymene (<0.5%)

Sesquiterpenes: β -selinene, sabinene (0-10%), α - and β -caryophyllene (0-10%), chamazulene, copaene (0-0.5%), β -copaene, δ -cadinene, bisabolene (up to 4.18%)

Ketones: pinocarpone (2 -13%)

Esters (upwards of 80%): **iso-butyl angelate** (32.1-38.5%), iso-butyl butyrate (5.1-6.2%), **iso-amyl-angelate** (15.5 - 20.5%), 2-butenyl angelate (7.9-8.4%), methyl isobutyrate (7-8%), methylbutyl angelate (13-20.3%), **2-methylbutyl angelate** (16.2-20.3%), isobutyl isobutyrate (5.3%), methyl 2-

methylbutyrate (1.9%), 2-methylbutyl-2-methylbutyrate (1.2%) and 2-methylbutyl acetate (1.2%) and more.^{6,7}

SAFETY INFORMATION

- **Cautions:** Despite reports of skin reactions and dermatitis from topical use of chamomile, the likelihood of chamomile preparations causing a contact allergy is low. However, people with known sensitivities to other members of the Asteraceae (Compositae) family (including ragweed, daisies, and chrysanthemums) may want to avoid topical application of chamomile or chamomile products.⁸
- If concerned, you may choose to perform a patch test on individuals prone to hypersensitivities, especially if they are sensitive to ragweed or other members of the Asteraceae (Compositae) family.

THERAPEUTIC ACTIONS

System	Action
Skin	antipruritic , vulnerary
Musculoskeletal	Analgesic ⁹
Digestive	digestive
Urinary	antidiuretic ¹⁰
Immune	febrifuge
Nervous/Emotion	anxiolytic, nervine, relaxant, sedative ¹¹
General	anti-inflammatory ¹² , antimicrobial, antispasmodic ¹³

SYSTEM AFFINITIES

Digestive, Skin, Nervous

BLENDING INFORMATION

Aroma description:	Sweet, fruity, apple-like, strong
Blending factor:	1 - 2
Notes:	Mid to top
Blends well with:	Ammi visnaga, Angelica root, carrot seed, clary sage, German chamomile, katrafay, lavender, sweet marjoram, mandarin, melissa, turmeric
Substitutions:	Lavender, sweet marjoram, melissa, German chamomile, cape chamomile

CORE INDICATIONS

General: Earache (place one to two drops of Roman chamomile and one to two drops of *Helichrysum italicum* just behind the ear before bed - can dilute 1:1 or 1:2 (vegetable oil: essential oil). Toothache, teething (best to use hydrosol or German chamomile tea). (C+++)

Digestive system: Indigestion, colic, stress-related digestive upset, hemorrhoids (sitz baths with *Chamaemelum nobile*, *Salvia sclarea*, and *Cupressus sempervirens*), intestinal parasites (oral), bloating, flatulence, digestive spasms. (C+++; I+++; O+++)

Musculoskeletal system: Spasms, cramps, plantar fasciitis, tendonitis, fibromyalgia, carpal tunnel syndrome, bursitis, restless leg syndrome. Relieves muscle tension. (C+++; I++; D+)

Nervous system: Insomnia; headache or migraine triggered by stress; hyperactivity in children. Particularly good for symptoms or conditions which manifest in response to stress. Nervous shock, stress, anxiety, insomnia. (I+++; C+++; D+++; O++)

Reproductive and Endocrine systems: Dysmenorrhea, PMS, irregular periods, sore breasts. Postpartum perineal healing (C+++; I+++; D++; Fb+)

Skin: Inflamed skin conditions: dermatitis, eczema, psoriasis, hives. Broken capillaries, acne, fungal infections, skin ulcers, slow-healing wounds, razor burn, itchy skin conditions. Abscesses (warm or hot compresses). (C+++)

Psyche/emotion: Use for an overactive mind, anger, sensitive people who feel misunderstood or badly hurt, frustration, agitation, nervous stress, hyperactivity in children, stress-related conditions, and anxiety. (I+++; D+++; O+)

Ayurveda: May be beneficial for pitta mental states in rajasic mode, presenting anger, recklessness, impulsiveness, and aggression. Energetically cooling. Use for imbalances of vata resulting in anxiety and nervousness.

CODES:

O - Oral	C - Cutaneous pathway (dermal/skin)
D - Diffusion	I - Inhalation
RS - Rectal suppository	Sp - Spritzer/Spray
VP - Vaginal pessary	SI - Steam inhalation
Sz - Sitz bath	FB - Foot bath

+++ - highly recommended, ++ - recommended, + - supportive

RESEARCH

Human Studies

- Massage with or without Roman chamomile essential oil **reduces anxiety** in cancer patients in a palliative care setting. Massage with Roman chamomile may **increase quality of life**.

In a small study designed to test the effects of massage alone or aromatherapy massage using Roman chamomile essential oil on cancer patients in a palliative care setting. Eighty-seven patients completed the study. Each patient was allocated to one of two groups and received three full body massages over 3 consecutive weeks. The Roman chamomile group received massage with sweet almond oil and Roman chamomile oil (dilution not specified), the control group received massage with sweet almond oil only. Although both massage and massage with Roman chamomile proved effective at reducing anxiety and increasing relaxation. One significant difference that occurred post test: patients in the Roman chamomile group had significantly better quality of life, with greater improvement in their physical and psychological symptoms than patients in the almond oil only group.¹⁴

In Vitro

- Roman chamomile (*Chamaemelum nobile*) essential oil exhibits **antimicrobial activity** against a wide range of bacteria and *Candida albicans*.¹⁵
- Roman chamomile (*Chamaemelum nobile*) essential oil exhibits **smooth muscle relaxant** activity.¹⁶
- Roman chamomile exhibits **sedative and anti-inflammatory activity**.¹⁷

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