

Chamaemelum nobile (L.) All.**Roman Chamomile Flower***Flos Chamomillae romanae**Asteraceae*

Roman chamomile has been used since ancient times as a general herbal digestive and for its anti-inflammatory, febrifuge, and antispasmodic effects. Varieties of Roman chamomile that have predominantly pistillate ray florets are used in commerce. Because of the names and similar uses, Roman chamomile can be mixed with or substituted for German chamomile, *Matricaria recutita*. The two flowers can be readily distinguished from each other.

Capitulum: Ligulate, with ray florets only, or occasionally radiate, with predominantly ray and some disk florets; conical, solid, receptacle with paleae; phyllaries in two or three rows.

Phyllary: In the central region, along the midvein, the phyllaries consist of several cell layers, getting thinner toward the margin, with very broad scarious margins, only one cell thick, of thin-walled, colorless cells; epidermal cells are elongated; occasional anomocytic stomata, more numerous toward the base; uniseriate covering trichomes up to 900 μm long are abundant in the basal region; these consist of several short basal cells and one elongated, acute, striated terminal cell; sclerenchymatous cells are conspicuous at the base, taking the form of subepidermal fibers toward the midvein and exposed sclereids toward the margins.

Palea: Similar to phyllary, except that stomata are absent and covering trichomes less frequent.

Ray floret: Pistillate; white; corolla tube outer epidermis consists of thin-walled cells with cuticular striations and wavy anticlinal walls; short, biseriate, glandular trichomes are abundant; corolla tube inner epidermis of polygonal cells; ligule inner (adaxial) epidermis is papillose with cuticular striations; pappus is absent; small cluster crystals of calcium oxalate occur in the corolla tissue and are abundant in the style base and ovary.

Pollen: Occasional pollen grains from rare hermaphroditic disk florets are tricolporate and spheroidal, with a spiny exine.

Cypsela: When present, epidermis consists of thin-walled rectangular cells with abundant biseriate glandular trichomes; abaxial side of the cypsela (side opposite corolla tube opening) has large cells containing mucilage, arranged in rows; adaxial side of the cypsela has vascular bundles and pitted elongated sclereids in the mesocarp; seed testa epidermal cells have wavy radial walls.

Powder: Fragments of papillose epidermis with cuticular striations; epidermis with glandular trichomes; detached covering trichomes; small cluster crystals of calcium oxalate; sclereids; phyllaries with anomocytic stomata; paleae; occasional pollen grains and fragments of cypselae.

