

Melissa officinalis L. subsp. *officinalis*

Standardized Common Name: Lemon Balm

Other Common Names: Balm, Common Balm, Melissa

Family: Lamiaceae (Labiatae)

Parts in Commerce: Leaves or leaves and flowering tops

Identification:

Leaves

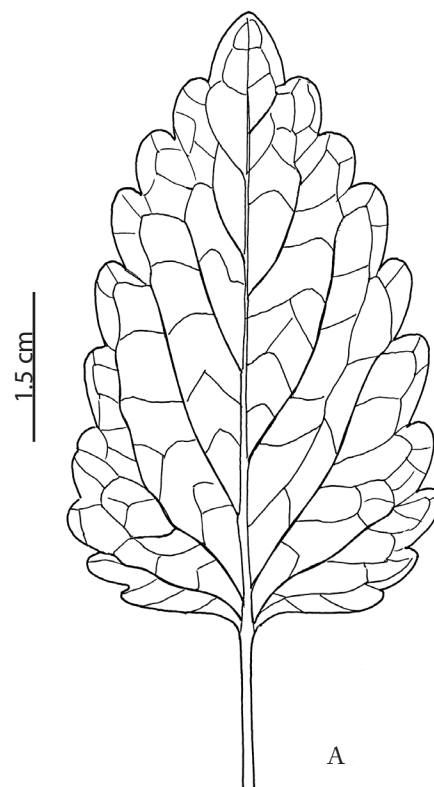
- Leaves ovate to rhomboid, up to 9 cm long, those on main stem long-petioled
- Leaves on upper lateral branches usually 1–2.5 cm long; petioles shorter, sometimes with narrow tapering wings formed by extension of leaf blade
- Leaf base usually cuneate to truncate, rarely rounded to shallowly cordate (in largest leaves only)
- Leaf margins crenate to serrate, the lower leaves often with deep ovate teeth, the smaller leaves usually with shallower serrate teeth
- Leaf blade sparsely pubescent especially below with short unicellular hairs and long multicellular hairs, the largest occasionally glabrous above; hairs white, commonly appressed, often borne more densely along veins beneath
- Underside of leaf with sparsely distributed, small, inconspicuous, yellowish glandular dots
- Venation prominent beneath, sometimes pale or reddish, pinnate, with several main pairs of secondary veins alternate, at acute angle to midrib, slightly curving, with few main tertiary veins; higher-order venation netted
- Odor lemony, sometimes resembling lemon verbena or formic acid
- Taste lemony, aromatic

Flowers

- Upper stem fragments slender but strongly quadrangular, with long internodes, frequently pubescent; hairs long, white, erect, sometimes visibly jointed
- Flowers borne in whorls in leaf axils
- Pedicel and calyx pubescent; lower part of calyx with long erect white hairs
- Calyx bilabiate, 7–9 mm long; upper lip with 3 shallow broad teeth, lower lip with 2 long acuminate teeth
- Corolla bilabiate, funnellform, 8–15 mm long,

yellow, turning white (especially when dried) or pinkish to lavender; lower lip 3-lobed, the middle lobe largest; upper lip variable in shape

- Anthers 4, of 2 lengths, the 2 longest not much longer than the corolla but sometimes slightly protruding from corolla mouth



2 mm

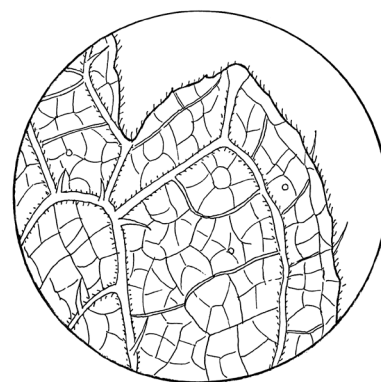


Figure 46: a–b, *Melissa officinalis* leaf and close-up of lower surface.

***Nepeta cataria* L.:** Though a number of cultivated medicinal labiates have similar leaves, most of these have no lemony odor or taste. An exception is *Nepeta cataria* [Catnip], also cultivated for human and feline consumption, of which var. *citriodora* (Becker) Balb. is lemon-scented. Intact material is distinguished by several features:

- Leaves deltoid to ovate or narrowly deltoid
- Leaf base truncate to shallowly cordate
- Marginal teeth often sharply serrate to dentate even on largest leaves
- Leaves, petioles and stems densely pubescent with very short soft white hairs, especially the lower surface, which also has numerous small glandular hairs; however, no very long hairs present
- Main venation conspicuous beneath, often branching basally to give the appearance that several of the large secondary veins arise almost palmately from the base; tertiary veins netted, none similarly conspicuous, only secondary veins readily visible to the naked eye
- Inflorescences, if present, spicate, the terminal one several cm long with numerous flowers; calyces densely pubescent with very short hairs, all calyx teeth long and narrow

Taxonomy: *M. officinalis* is the only species of its genus; it is found in most parts of Europe and has been naturalized in North America. Only subsp. *officinalis* is cultivated; the southern European and Russian subsp. *altissima* (Sibth. & Sm.) Arcangeli is described by Fernandes as smelling “fetid” and presumably is not used in commerce.

Description: Erect herb to 1 m tall; stem quadrangular, pubescent; branches opposite, ascending, the smaller heavily pubescent. Leaves opposite, separated by long internodes, ovate to rhomboid, those on main stem with long slender petioles and 2–9 cm long, those on side branches smaller and short-petioled; base cuneate to truncate or shallowly cordate in large leaves; apex broadly acute to obtuse; margin prominently crenate-serrate to crenate or serrate; both surfaces more or less pubescent, lower surface sparsely glandular-pubescent; venation pinnate, prominent below. Inflorescences verticillate, several-flowered in leaf axils. Calyx bilabiate, 7–9 mm long, pubescent, the upper lip with 3 shallow teeth, the lower lip with 2 elongated teeth; corolla bilabiate, funnelform, 8–15 mm long, pale yellow in bud, becoming white, pink or lavender; stamens 4, 2 longer, 2 shorter. Fruit 4 nutlets.

References:

Fernandes R. *Melissa*. In: Tutin TG, Heywood VH, Burges NA, et al., eds. *Flora Europaea*. Vol. 3. Cambridge: Cambridge University Press; 1972:162–163.

Mathew B. *Nepeta*. In: Tutin TG, Heywood VH, Burges NA, et al., eds. *Flora Europaea*. Vol. 3. Cambridge: Cambridge University Press; 1972:158–160.

Wichtl M, ed. *Herbal Drugs and Phytopharmaceuticals*, 3rd English ed. Stuttgart: medpharm Scientific Publishers and Boca Raton, FL: CRC Press; 2004:382–386.

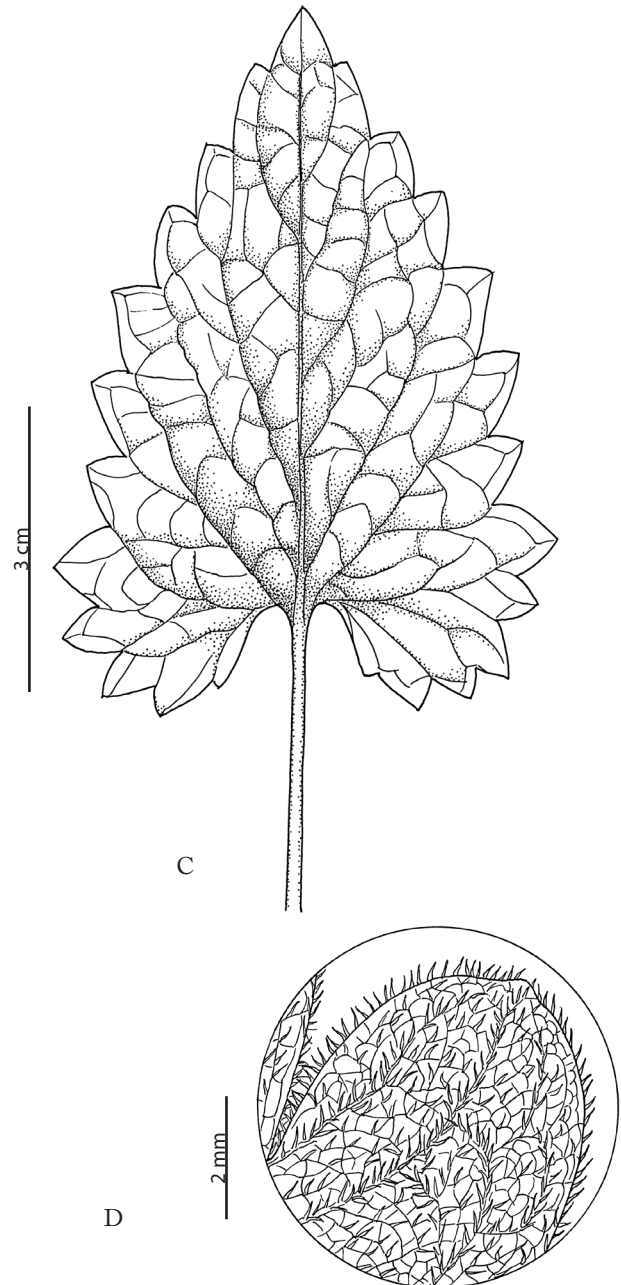


Figure 46: c–d, *Nepeta cataria* leaf and close-up of lower surface.