

Mentha ×piperita L.

Standardized Common Name: Peppermint

Family: Lamiaceae (Labiatae)

Parts in Commerce: Leaves, sometimes with flowering tops

Identification:

Leaves and stems

- Stem fragments quadrangular, light green to purple (stems over a certain size, usually 1 mm or 3 mm in diameter, are limited to a minimal quantity according to most specifications)
- Stems hairless or with very sparse pubescence (rarely, wild European populations are hairy)
- Leaf blade (1–)2–7(–9) cm long, lanceolate to ovate-oblong, green or purplish
- Always petiolate; petioles 4–15 mm long (shorter on smallest leaves), glabrous or slightly pubescent
- Base rounded to cuneate or very shallowly cordate, sometimes asymmetrical
- Apex acute to narrowly acute
- Margins serrate; teeth sharp, shallow, often somewhat uneven, not at all bent outward
- Venation pinnate, often purple-tinged beneath
- Round yellowish glands numerous on lower surface
- Non-glandular hairs very sparse, occurring mostly along veins on lower surface (except in rare wild European populations)
- Dried leaves brittle and often crumpled
- Odor characteristic, aromatic
- Taste characteristic, pungent, producing a cool sensation

Flowering tops

- Terminal spike, 3–7 cm long, formed of closely spaced verticillate whorls of flowers; gap between lowermost two whorls usually larger
- Bracts narrow, leaflike, longer than flowers
- Calyx ca. 3 mm long, campanulate, with 5 ciliate-margined lobes, green to purple, bearing glands
- Corolla 3.0–3.5(–4.0) mm long, 4-lobed, tubular-campanulate, slightly bilabiate, pink to purple
- Stamens 4
- Nutlets 4 per flower, 0.5–0.7 mm long

Adulterants: Chinese Mint (aka Japanese or Brazilian peppermint, *M. canadensis* L.) has recently appeared as an adulterant of *M. ×piperita*. It is referred to as *M. arvensis* L. var. *piperascens* Malinv. ex Holmes in some literature, but *M. canadensis* has been shown to be a distinct species, probably an ancient hybrid of the European *M. arvensis* and *M. lon-*

gifolia (L.) L. The Asian variety contains menthol and has a taste similar to that of peppermint; North American *M. canadensis* is chemically distinct and does not contain significant menthol. Wichtl suggests that Asian *M. canadensis* is most easily identified by its lack of menthofuran in TLC analyses, as it is morphologically very similar to *M. ×piperita*. The best means of distinguishing sterile material is that the stem angles of *M. arvensis* are pubescent, sometimes densely, and the remainder of the stem may also be pubescent. The leaves are sometimes broadly ovate or elliptical, and the upper surfaces may bear soft weak pubescence. Leaf teeth may be blunt and few in number, although in Asian material they are usually similar to those of *M. ×piperita*. Flowers are borne in separated whorls instead of a spike. The corolla is slightly pubescent inside, and is sometimes white.

Spearmint (*M. spicata*) is a formerly reported adulterant that lacks menthol and therefore does not have the strongly cooling taste of genuine peppermint. The leaves and stems are sometimes pubescent.

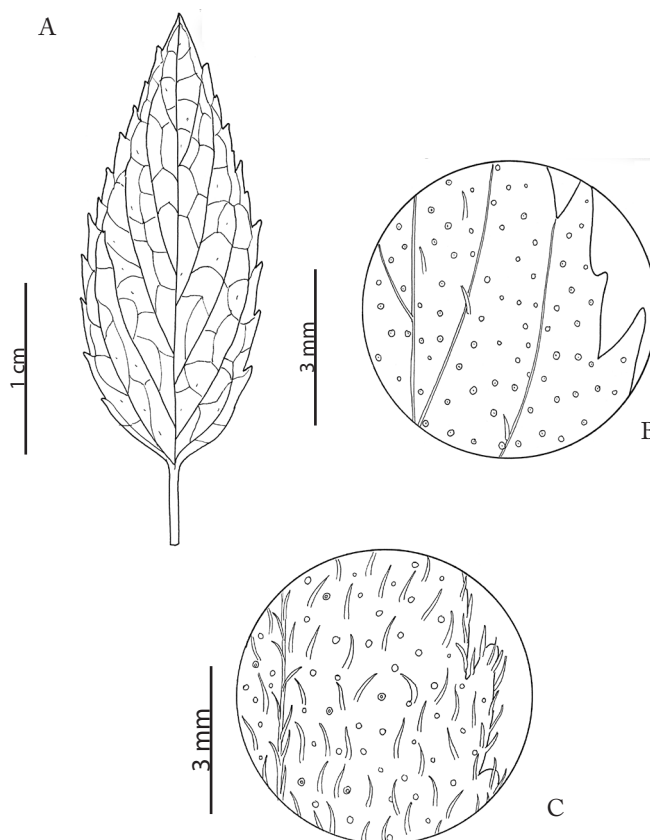


Figure 47: a–b, *Mentha ×piperita* leaf and close-up of lower surface; c, *M. canadensis* close-up of lower surface of leaf.

Taxonomy: The genus *Mentha* includes about two dozen species of aromatic herbs. Its taxonomy is complicated by frequent hybridization in section *Mentha* and the existence of numerous cultivated forms. Most hybrids are sterile or nearly so and are propagated vegetatively. *M. ×piperita* is a sterile hybrid of *M. aquatica* L. (Water Mint) and *M. spicata* L. (Spearmint, itself of probable hybrid origin.) Several peppermint cultivars have distinctive chemical content and flavor. Lemon mint, also called Orange or Bergamot mint, is usually treated as a peppermint hybrid or as a separate species (*M. citrata* Ehrh.), but most such plants are probably referable to *M. aquatica*.

Description: Perennial herb, 30–100 cm high, with aerial stems arising from creeping rhizomes, erect or partially trailing and sometimes rooting at nodes. Stems quadrangular, branching, purplish, usually glabrous or nearly so, rarely tomentose. Leaves opposite, petiolate, 1–9 cm long, lanceolate to lanceolate-oblong, ovate-oblong or rarely ovate; base rounded to cuneate or subcordate; apex acute; margins serrate. Inflorescence a terminal spike formed of closely spaced verticillasters, the lowermost whorl or whorls usually separate; bracts 4–7 mm long. Calyx ca. 3 mm long, 5-toothed, bearing glands; teeth narrowly triangular with ciliate margins. Corolla pink to lavender or purple, 3–3.5(–4.0) mm long, weakly bilabiate, 4-lobed. Stamens 4, all of similar length. Ovary 4-lobed; style divided in two at apex,

protruding from corolla. Fruit 4 nutlets, 0.5–0.7 mm long, not viable.

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