

Viscum album L.

Standardized Common Name: European Mistletoe

Other Common Names: All-heal, Mistletoe

Family: Viscaceae or Loranthaceae

Parts in Commerce: Leafy shoots, usually collected before fruits have developed, sometimes with fruits

Identification:

Stems

- Stems dichotomously branching; internodes up to 8(–10) cm long and 4(–7) mm thick, round or slightly flattened in cross-section
- Brittle, easily breaking at nodes
- Surface glabrous, longitudinally striated, yellowish green to dark green
- In cross-section, stem has thin darker cortex, whitish inner portion

Leaves

- Leaf attachment opposite or rarely whorled
- Leaves (2–)3.5–6(–8) cm long and 1–2(–3) cm broad, obovate to oblong or oblanceolate (longest and proportionally narrowest in subsp. *abietis*)
- Apex broader than base, obtuse to rounded
- Base tapering to short petiole
- Margins entire
- Blade thick and leathery, hairless, yellowish green to dark green
- Primary venation of 3(–7) parallel veins; if main veins >3, usually with 3 more prominent than the others; veins more visible on underside, especially in older leaves
- Odor faint, peculiar
- Taste bitter, peculiar

Flowers and fruits

- Inflorescences unisexual, few-flowered; flowers of both sexes tiny and inconspicuous
- Male flowers 2–3(–4) mm across, with 4 petals, numerous anthers completely sunken into petals; pollen shedding from pores on petals
- Female flowers 1–1.5 mm across
- Fruit a berry, 6–10 mm long, round or somewhat pear-shaped, containing mucilaginous substance in mesocarp and 1 pseudoseed (rarely 2)
- Fruit white (yellowish in subsp. *austriacum*); unripe fruits green
- Taste of berries somewhat sweet and bitter

The three European subspecies may be distinguished by a combination of the following characters:

	subsp. <i>alba</i>	subsp. <i>abietis</i>	subsp. <i>austriacum</i>
Host plants	Hardwoods	Firs (<i>Abies</i>)	Pines (<i>Pinus</i>) and larches (<i>Larix</i>).
Leaf shape	Obovate to oblong, length usually <3X breadth, but highly variable	Obovate to oblong, length <3X breadth	Lanceolate, length 4–6X breadth
Leaf and stem color	Yellowish green to dark green	Yellowish green to dark green	Yellowish green
Mature fruit shape	Nearly round	Pear-shaped	Nearly round

	subsp. <i>alba</i>	subsp. <i>abietis</i>	subsp. <i>austriacum</i>
Mature fruit color	Shiny white	Milky white	Yellow with fine stripes
Formation of mucilaginous threads when outer layer of fruit pulled away	Highly viscid, forming long threads	Lacking threads	Lacking threads

***Phoradendron leucarpum* (Raf.) Reveal & M. C. Johnst.:**

Viscum album, which almost never occurs in North America, must not be confused with American Mistletoe, *P. leucarpum* (also known as *P. serotinum* (Raf.) M. C. Johnst.), which is commercially valuable in its own right. Features of *P. leucarpum* that distinguish it from *V. album* include:

- Stems slender, woody, <3 mm thick, with internodes 1.5–3.5(–5) cm long, glabrous or nearly so
- Leaves 1.5–4(–5) cm long, broadly obovate to nearly round, with parallel veins from base similar to *V. album*

- Leaves sessile or with petioles 2–4 mm long, bases tapering to almost truncate
- Both male and female inflorescences short, jointed spikes of 2 or more segments, each segment bearing several to numerous tiny flowers sunken into the rachis
- Flowers of both sexes with 3(–5) calyx lobes
- Anthers 3(–5), sessile, borne at base of calyx lobes

The fruits of *P. leucarpum* (which are white, round, and 4–6 mm in diameter, and form viscin threads) are commonly thought to be much more toxic than the leaves; although this belief has been proven to be exaggerated, fruits should be excluded from commercial material.

Adulterants: “Mistletoe” may refer to a variety of parasitic plants in Viscaceae and the related family Loranthaceae. The only other European species that might be confused with *V. album* is *Loranthus europaeus* Jacq., which has brown stems, typically pinnate leaf venation, yellow fruits, and male flowers with calyx teeth and with stamens that are not sunk into the petals.

Teucrium chamaedrys L. (Germander), which belongs to the mint family, is said by one source to have been substituted for mistletoe. Germander is a non-parasitic subshrub with hairy, somewhat quadrangular stems and leaves that are <2 cm long, broadly ovate, usually hairy on the underside and often with toothed margins. Its flowers are purple and 1–1.5 cm long; the corolla is hairy and bilaterally symmetrical, with the upper lip missing. This plant should not readily be mistaken for mistletoe.

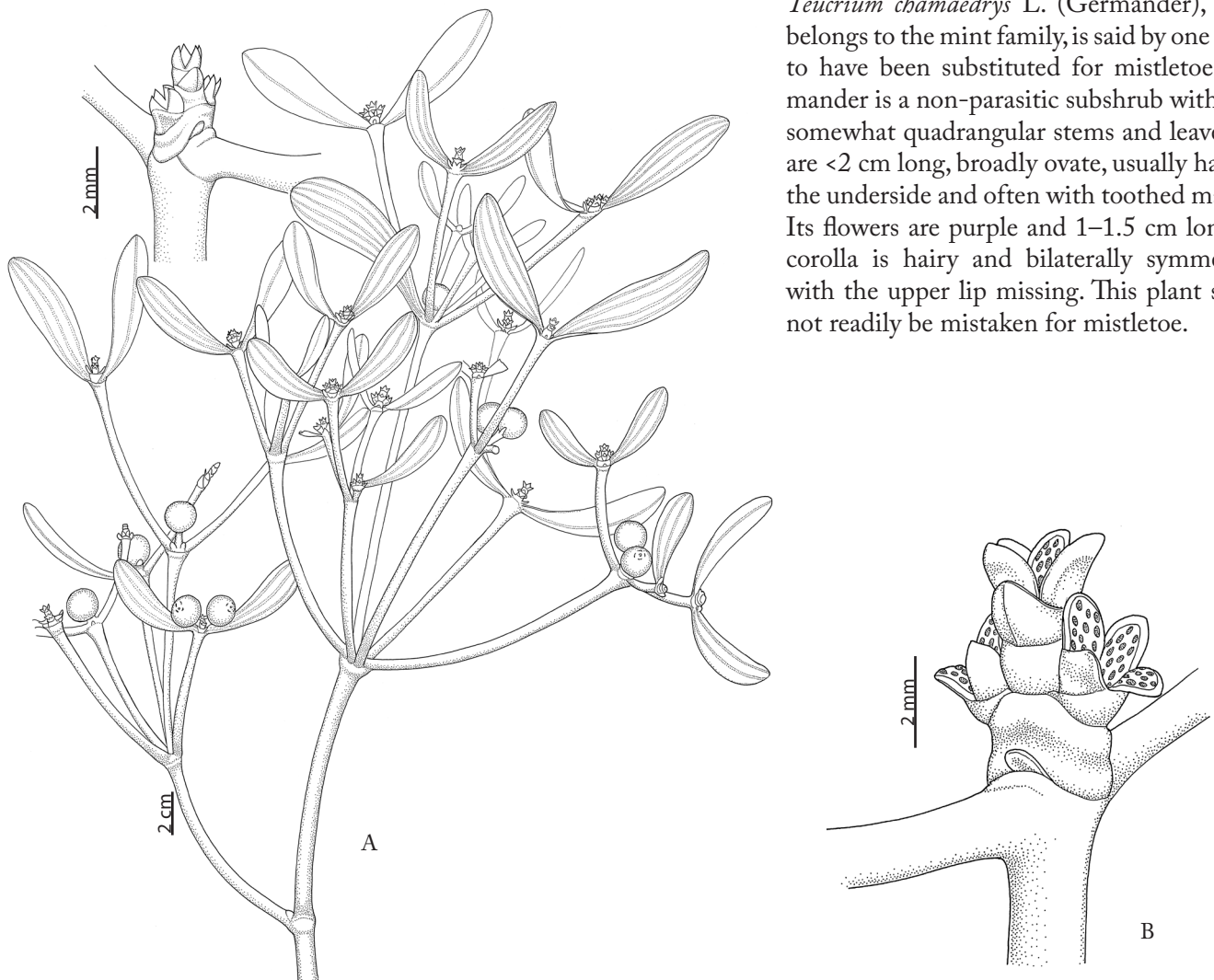


Figure 82: a–b, *Viscum album* subsp. *alba* habit with female inflorescence and male inflorescence.

Taxonomy: This genus includes about 100 species, most found in Africa, Madagascar, and Asia. It is notable for parasitism. *Viscum album* occurs from Europe to West Asia, and is the more common of two European species. Subspecies are distinguished by host preference. *Viscum album* subsp. *album*, which is often incorrectly called subsp. *platyspermum* Kell., grows on flowering, hardwood trees and is the subspecies most commonly harvested. *Viscum album* subsp. *abietis* (Wiesb.) Abrom. and *V. album* subsp. *austriacum* (Wiesb.) Vollmann grow on coniferous trees; these two subspecies were formerly segregated as *V. laxum* Boiss. & Reuter. A yellow- or red-fruited Japanese variety, var. *coloratum* (Kom.) Ohwi, also exists. Chemical composition may be influenced by the host plant.

Description: Parasitic evergreen perennial, rootless and attached to woody plants with tendrils that grow into the tissue of the host plant (haustoria). Stems dichotomously branching, the whole plant forming a spherical shape; internodes to 8(–10) cm long, dark or yellowish green; buds covered by 2 bud scales, new shoots sometimes subtended by 2 complementary shoots arising from axillae of bud scales. Leaves opposite or occasionally whorled, (2–)3.5–6(–8) cm long and 1–2(–3) cm broad (or narrower in subsp. *austriacum*), obovate to oblong or narrowly lanceolate, coriaceous, yellowish green; base tapering; apex rounded; margins entire; venation parallel with 3–7 main veins. Plants dioecious. Inflorescences terminal, short-peduncled, 1–few-flowered, the flowers small and sessile. Male flowers without calyx, 4-petaled, <4 mm in diameter; anthers numerous, embedded in the thickened petals and shedding pollen from pores. Female flowers ca. 1 mm in diameter, with calyx of 4 minuscule teeth, 4-petaled; ovary inferior, lacking distinct ovules. Fruit a berry, usually white, sometimes yellow or rarely red, 6–10 mm long, spherical to pear-shaped, containing 1 pseudoseed (rarely 2), each pseudoseed containing 1–3 embryos, surrounded by a sticky viscous layer.

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