

Tasmannia lanceolata



Nick Fitzgerald

FAMILY: Winteraceae

BOTANICAL NAME: *Tasmannia lanceolata*

COMMON NAME: mountain pepper

CONSERVATION SIGNIFICANCE:
Primitive

Description

Mountain pepper is a tall evergreen shrub to small tree of up to 10 m high. There are separate male and female plants (dioecious). The trunk is straight, with many branches arising at acute angles. The distinctive reddish branchlets are thick and hairless, with dark brown, smooth outer bark with rough ridges running down from the base of each leaf. The under bark is also dark brown and very thin.

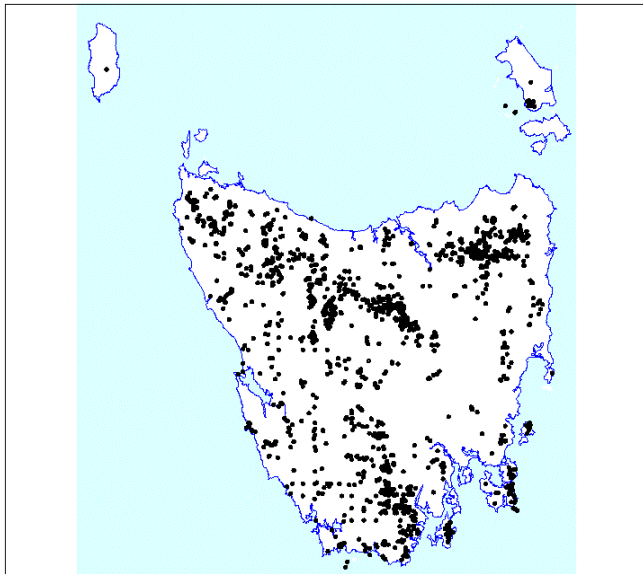
The leaves are alternate and attached by a very small (2–4 mm), thick, red leaf stalk without small leaf like outgrowths (stipules) at its base. The thick, narrow leaves are lance-shaped with smooth edges and a pointed tip, and taper gradually at the leaf base. The leaves are smooth and satiny on both sides, hairless, bright green above and slightly paler beneath, and covered with numerous fine dots that are the oil glands. It is these oil glands that produce the aromatic smell when the leaf is crushed, and the hot taste when chewed.

The flowers are small, yellowy or creamy white. Each flower arises from the axil of a bud scale, forming bunches of eight to ten flowers that look like a small terminal umbel. The flowers are 1–2 cm in diameter and supported by short stalks (5–15 mm). There are two to three outer leaf-like petals (sepals), 5 mm long, which are joined and quickly shed after the bud splits open. The four to eight strap-shaped inner petals are 5–7 mm long. There are 20–25 stamens in the male flowers (which are noticeably larger than the female flowers) and one carpel in the female flowers. The fruit is berry-like, about the size of a pea (5–8 mm in diameter), shiny, dark red, turning black when ripe, and contains numerous (10–18) seeds.

Confusing species

None in Tasmania.

Distribution and Habitat



Distribution of *Tasmannia lanceolata* in Tasmania 2004 data.

Mountain pepper occurs in Victoria, New South Wales and Tasmania. In Tasmania, it occurs from sea level to alpine regions over an altitudinal range of 300–1400 m. It prefers cool wet habitats afforded by places such as high mountain gullies and is particularly widespread in mountainous areas. It occurs in cool temperate rainforest and wet tall open forest (sometimes in drier forests), and is also found in subalpine woodland, subalpine sclerophyll forest and coniferous shrubberies.

Ecology

Mountain pepper is a fairly hardy species, surviving cold winters and tolerating temperatures down to about -15°C . However, it can be prone to damage in very cold winters. It can survive on rocky, exposed, windy, sites but prefers more sheltered sites.

Mountain pepper grows best in fertile, moist, well-drained, lime-free soils but can tolerate clay soils. It will grow in sunny or shady positions but prefers semi-shade.

Since mountain pepper has separate male and female plants, both sexes must be present for fruit/seed production to occur. Mountain pepper is reported to flower for a fairly extended period from September to January, which probably reflects the broad altitudinal range it occupies. Fruit is reported to ripen from March to April. The berries are eaten by native birds such as currawongs.

All parts of the mountain pepper plant are very aromatic and pungent and the wood is very soft due to the unusual structure of the conducting tissue in the stem.

Mountain pepper is resistant to honey fungus but susceptible to *Phytophthora cinnamomi*.

Potential for Cultivation

Mountain pepper can be easily grown from seed or cuttings. When propagating cuttings it is helpful to first determine the sex of plants the cuttings are taken from. The best cuttings are 10–15 cm long taken from half-ripe wood with a heel of older wood during March or April. It is reported that approximately 60% take, but rooting can take up to 12 months.

Seed is best sown as soon as it is ripe as its viability degrades rapidly. Seed stored at room temperature will remain viable for only 1 year. The flesh needs to be removed from the seeds before storing and/or sowing.

Mountain pepper is a well-established garden plant and good for windbreaks; however, it is best known for its culinary use as a food garnish and the medicinal properties of its essential oil.

The leathery leaves of mountain pepper contain hot-tasting compounds (polygodials) which, together with many of the aromatic compounds found in the essential oil, result in an unusual fragrant, spicy flavour. The berries initially have a sweet taste, which is closely followed by an intense pungency (which does not last), giving way to a sensation of numbness. The leaves and berries are currently used in Australia to add a spicy bush food flavour to many foods. They are used to flavour curries, cheeses, wines, salad dressings and some boutique alcoholic beverages and as a substitute for black pepper.

Research on this species has revealed that the polygodials present in mountain pepper have unique anti-microbial and antifungal properties. It is thought that mountain pepper may have economic potential as a herbal medicine, as it is closely related to a South American species used for preparing a rare herbal remedy. Mountain pepper also has powerful piscicidal (fish poisoning) effects. Extracts from species closely related to mountain pepper have been used by Nepalese fish farmers for removing feral fish in their ponds, since the extracts degrade rapidly after having the desired effect.

Since the late 1980s, there has been a lot of interest from both local and international markets in mountain pepper due to its unique character and 'natural' status. Semi-commercial quantities of extract are currently provided to Japan, and used as a flavouring and fragrance and added to products such as wasabi paste. Attempts to increase the market demand for mountain pepper products, however, are hindered by the uncertainty as to whether the supply can meet increasing demand in the short- and medium-term and the variable quality of the product harvested. This is because most of the plant material is currently harvested from natural stands. There is a need to bring this species into commercial cultivation to resolve these issues and to avoid any over-harvesting of native stands in the future.

Information Sources

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