



2 WINTERACEAE ¹

Dennis I Morris ²

Trees or shrubs, dioecious or polygamo-dioecious or bisexual; without vessels. Leaves exstipulate, alternate, in pseudo-whorls or subopposite (not in Australia), glabrous; lamina simple, entire, gland-dotted, aromatic. Inflorescences terminal or axillary, cymose or pseudo-umbellate, or flowers solitary and terminal. Flowers actinomorphic or slightly irregular, bisexual or unisexual; receptacle hypogynous but short. Sepals 2–4(–6), free or connate at the base or joined (calyptrate). Petals 0–many, when present in 1 or more whorls, free or outer ones connate. Stamens 3–numerous, free, inflated. Carpels 1–several, in a single whorl, free or partly connate, conduplicate and often unsealed with stigma decurrent along opposed margins to fully sealed with a terminal style and stigma; ovules 1–many, anatropous, descending or apotropous. Fruit apocarps, berry-like or follicles or a multilocular capsule or syncarp (not in Australia). Seeds with abundant, endosperm oily.

A family of 9 genera and about 130 species principally in the south-western Pacific, but also central and southern America and Madagascar. 2 genera and 11 species (all species endemic) in Australia. The Winteraceae are placed in the Cannellales which contains one other family, the Cannellaceae (Florida [USA] to SE S America, E Africa, Madagascar) (see Stevens 2007 and references cited therein).

Key references: Raleigh & Entwisle (1996); Guymer (2007).

External resources: accepted names with synonymy & distribution in Australia (APC); author & publication abbreviations (IPNI); mapping (AVH, NVA); nomenclature (APNI, IPNI).

1 TASMANNIA

Tasmannia R.Br., *Syst. Nat. (Candolle)* 1: 440 (1817).

Trees or shrubs, usually dioecious; glabrous or with hair-like papillae; twigs branching monopodially after flowering. Leaves alternate or pseudo-opposite (not in Australia), usually pseudo-whorled below resting bud, with a spicy/peppery scent and taste when crushed. Inflorescence pseudo-umbellate, the peduncles arising in axils of deciduous scales at the base of new shoots, the shoots not developing until after flowering. Flowers functionally unisexual. Sepals fused into a calyptra that splits irregularly into 2 or 3 lobes before falling. Petals usually cream or greenish-yellow, 0–9, 1-seriate, free. Stamens 6–c. 100 in male flowers, in 2–4 whorls; staminodes absent in female flowers. Carpels 1–11(–18), free; stigma extending over adaxial side and slightly over apex of carpel; ovules 2–c. 40; sterile carpels (0)1–5 in male flowers. Fruit apocarps, berry-like. Seeds 1–27, laterally flattened, curved, black.

A genus of about 50 species from Malesia to eastern Australia where 8 species are endemic.

1 *Tasmannia lanceolata* (Poir.) A.C.Sm., *Taxon* 18: 287 (1969)

Native Pepper, Mountain Pepper

Winterana lanceolata Poir., *Encyclo. (Lamarck)* 8: 1799 (1808) [as *Winterania*]; *Drimys lanceolata* (Poir.) Baill., *Hist. Pl. (Baillon)* 1: 159 (1868). *Tasmannia aromatica* R.Br., *Syst. Nat. (Candolle)* 1: 445 (1817); *Drimys aromatica* (R.Br.) F.Muell., *Pl. Victoria* 1: 20 (1862). *Drimys xerophila* var. β *aromatica* P.Parm., *Bull. Sci. France Belgique* 27: 226, 300 (1896) [as *D. aromatica* var. β on p. 300 only].

¹ This work can be cited as: Morris DI (2009) 2 Winteraceae, version 2009:1. In MF Duretto (Ed.) *Flora Tasmania Online*. 3 pp. (Tasmanian Herbarium, Tasmanian Museum & Art Gallery: Hobart). ISBN 978-1-921599-00-2 (PDF). www.tmag.tas.gov.au/floratasmania

² (deceased) formerly Tasmanian Herbarium, Tasmanian Museum & Art Gallery, Private Bag 4, Hobart, Tasmania 7001, Australia.

Illustrations: Curtis & Morris, *The Student's Flora of Tasmania* 1, rev. edn: 25, fig. 8 (1975), as *D. lanceolata*; Morley & Toelken (Eds), *Flowering Plants in Australia* 37, fig. 11a-c (1983), as *D. lanceolata*; Raleigh & Entwisle, *Fl. Victoria* 3: 24, fig. 1a; 84, pl. 1 (1996); Kirkpatrick, *Alpine Tasmania* 50, fig. 21b (1997); Harden, *Fl. New South Wales* 1, rev. edn: 126 (2000); Cameron, *A Guide to Flowers and Plants of Tasmania*, 3rd edn, 47, pl's 89–90 (2000); Woolmore *et al.*, *King Island Flora* 79 (2002); Gilfedder *et al.*, *The Nature of the Midlands* 133 (2003); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn, 66 (2008).

Dioecious shrub 0.2–5 m high; much branched, young stems and petioles crimson. Leaves elliptical, oblanceolate or at higher elevations almost obovate, 1.5–13 cm long, 0.5–4 cm wide, apex acute or obtuse, margins thickened, base tapering to a short petiole. Pedicels 5–15 mm long. Sepals c. 5 mm long, gland-dotted, caducous. Petals 2–8, white to cream, linear or oblanceolate, 4–10 mm long, about twice as long as the sepals. Male flowers: stamens 20–35; ovary rudimentary. Female flowers: carpel solitary; stigma sessile, extending down one side of the ovary. Fruit dark purple to black, berry-like, to 8 mm diam. Seeds many, black, shining, comma-shaped. Flowering Sep.-Nov.; fruiting Sep.-May.

Tas. (all regions except MIS); also NSW, Vic. Widespread and found in shrubberies, heath and open areas at higher elevations as well as in wet sclerophyll forest, along margins of and in open areas in rainforest, on creek banks, stable dunes and swales in the Tasmanian West. Alpine plants may have small (c. 15 mm long, 5 mm wide) and thick leaves.

REFERENCES

- APC (Australian Plant Census) <http://www.chah.gov.au/apc/about-APC.html>
 APNI (Australian Plant Name Index) <http://www.anbg.gov.au/cgi-bin/apni>
 AVH (Australia's Virtual Herbarium) (Council of Heads of Australasian Herbaria) <http://www.anbg.gov.au/avh.html>
 Guymer G (2007) Winteraceae. *Flora of Australia* **2** 1–10.
 IPNI (International Plant Name Index) <http://www.ipni.org/index.html> or <http://www.us.ipni.org/index.html>
 NVA (Natural Values Atlas) (Department of Primary Industries and Water: Hobart)
<http://www.dpiw.tas.gov.au/inter.nsf/WebPages/LJEM-6TV6TV?open>
 Raleigh RE, Entwisle TJ (1996) Winteraceae. *Flora of Victoria* **3** 21–23.
 Stevens PF (2007) Angiosperm Phylogeny Website. Version 7, May 2006.
<http://www.mobot.org/MOBOT/research/APweb>
 NOTE: Web addresses can and do change: a list of current web addresses will be maintained on the *Flora of Tasmania Online* website [www.tmag.tas.gov.au/floratasmania].

INDEX

C	P
Cannellaceae 1	Pepper 1
Cannellales 1	T
D	<i>Tasmannia</i> 1
<i>Drimys aromatica</i> 1	<i>Tasmannia aromatica</i> 1
<i>Drimys aromatica</i> var. β 1	<i>Tasmannia lanceolata</i> 1
<i>Drimys lanceolata</i> 1	W
<i>Drimys xerophila</i> var. β <i>aromatica</i> 1	Winteraceae 1
M	<i>Winterana lanceolata</i> 1
Mountain Pepper 1	<i>Winterania</i> 1
N	
Native Pepper 1	