



## 5 LAURACEAE <sup>1</sup>

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Trees or shrubs, usually aromatic and evergreen (not in Tas.), or rarely (only *Cassytha*) almost leafless parasites; usually bisexual, sometimes dioecious (not in Tas.). Leaves usually alternate, exstipulate, reduced to scales (*Cassytha*), or (not in Tas.) simple and entire, petiolate, often glandular-punctate. Inflorescence axillary, cymose, racemose, umbellate or spicate or rarely flowers solitary. Flowers bisexual or unisexual, usually small, greenish or white, usually (2)3(4)-merous. Perianth herbaceous, petaloid or fleshy, segments free (in *Cassytha*) or partly united, usually 6 in 2 whorls of 3. Stamens (2)3–12(–20, not in Tas.) in 3–4 whorls, most commonly 9 in 3 whorls, innermost whorl often reduced to staminodes, the filaments often with a pair of lateral nectariferous glands; anthers 2 or 4-celled, opening by valves from below; in pistillate flowers stamens reduced to staminodes. Carpels 1, superior; ovary unilocular; ovule solitary, pendulous; style terminal; stigma usually small. Fruit baccate (berry like and soft) or rarely dry and indehiscent, sessile (*Cassytha*) or often on a bare receptacle a berry or drupe, often enclosed in the persistent and enlarged fleshy receptacle. Seed without endosperm.

A family of about 43 genera and 3000 species, mainly in tropical south-east Asia and tropical South America, but also Europe and Africa. 8 genera (0 endemic) and 136 species (112–115 endemic) in Australia. Lauraceae are placed in the Laurales near Hernandiaceae (pantropical) and Monimiaceae (mostly tropical, especially Australasia).

Trees of economic importance include the Greenheart, *Nectandra rodiaei* Schomb (S America), the timber of which is extremely durable in salt water. Many species yield fragrant wood used by cabinet-makers. Essential oils, spices, flavourings or food are obtained from the following: Camphor, by distillation of the wood of *Cinnamomum camphora* (L.) Nees & Eberm.; Cinnamon, from the bark of sucker-shoots of *Cinnamomum zeylanicum* Nees; Sassafras (North American), from the bark of *Sassafras officinale* Nees; Avocado (*Persea americana* Mill.); Sweet Bay Laurel (*Laurus nobilis* L.), an ornamental small tree which is often cultivated, the leaves are bitter and aromatic and are used for flavouring and they were the ancient symbol of victory. The last species often persists in abandoned gardens.

Synonymy: Cassythaceae, Perseaceae.

Key reference: Cussan *et al.* (2007).

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

### 1 CASSYTHA

*Cassytha* L., *Sp. Pl.* 1: 35 (1753).

Perennial parasitic plants, partly autotrophic; stems filiform or wiry, twining, attached to stems of host plants by means of small elliptic haustoria. Leaves reduced to minute scales, spirally arranged. Inflorescence pedunculate or sessile, a panicle spike or raceme which are elongated or reduced to close heads. Flowers small, each subtended by a bract and two bracteoles, bisexual. Receptacle perigynous and, after flowering, enlarging and surrounding the fruit. Perianth-segments 6, in 2 whorls, the outer ones smaller than the inner, persistent in the fruiting stage. Stamens and staminodes 12, in 4 whorls of 3; outer whorl (opposite the outer perianth-segments)

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with introrse anthers; second whorl (opposite the inner perianth-segments) similar to 1<sup>st</sup> whorl or rarely reduced to staminodes; inner whorl (opposite the outer one) with extrorse anthers and with filaments biglandular at the base; a fourth whorl of 3 glandular staminodes opposite the second whorl of stamens. Carpel solitary, erect; ovary superior, unilocular with outer skin and hard, sometimes bone-like endocarp, completely enclosed in the enlarged and ± succulent receptacle which is crowned by the persistent perianth. Seeds with large/hard cotyledons, becoming inseparable as the seed matures.

A genus of 23 species, mainly in Australia (19 species, 16 endemic), but also in tropical Asia and America, southern and tropical Africa (3 endemic), New Zealand, and New Guinea. Species parasitise a wide variety of flowering plants (eg. Casuarinaceae, Ericaceae [includes Epacridaceae], Fabaceae [including Mimosaceae], Myrtaceae, Proteaceae, Restionaceae, Rutaceae). The genus resembles *Cuscuta* (Dodder, Convolvulaceae) which differs in having flowers that are 5-merous (verses 3-merous).

Key references: Weber (1981, 2007).

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|--|-------------------------|
| 1. Plant glabrous  | 2                       |
| 1: Plant pubescent   | 3                       |
| 2. Flowers and fruits sessile; fruit without a thickened apical rim                                      | <b>1 C. glabella</b>    |
| 2: Flowers and fruit shortly pedicellate, apex of fruiting receptacle having a prominently thickened rim | <b>2 C. pedicellosa</b> |
| 3. Pubescence on perianth white or golden; fruit 5–6 mm in diameter, densely pubescent                   | <b>3 C. pubescens</b>   |
| 3: Pubescence on perianth reddish, drying black; fruit 7–10 mm in diameter, glabrescent                  | <b>4 C. melantha</b>    |

**1 *Cassytha glabella*** R.Br., *Prodr. Fl. Nov. Holl.* 404 (1810)

*Dodder-laurel*

*Cassytha micrantha* Meisn., *Prod. (DC.)* 15: 256 (1864), *p.p.* *Cassytha microcephala* Meisn., *Prod. (DC.)* 15: 253 (1864), *p.p.*

*Illustration*: Corrick & Fuhrer, *Wildflowers of Victoria* 126, fig. 444 (2000).

Glabrous perennial; stems filiform, green or yellow, 0.4–0.6(–1) mm wide, scrambling over vegetation up to 1 m high. Inflorescence pedunculate, (2–)4–6(–10)-flowered, a congested head or crowded spike; peduncles (4–)8–15 mm long, c. 0.5 mm wide; bracts basal; flowers sessile or rarely with pedicel. Flowers white or yellowish, 1.3–2 mm long, 1–2 mm diam. Fruit green or honey coloured, drying yellow-green to reddish, ovoid to fusiform, 4.5–8 mm long, 2.3–2.8 mm wide, often with ± prominent longitudinal ribs. Flowers & fruits throughout year.

Tas. (BEL, FLI, KIN, TNM, TNS, TSE, TSR, TWE); also WA, SA, Qld, NSW, Vic. Widespread, most commonly on coastal heath, on sedges and shrubs, most lowland regions, sea level to c. 250 m altitude. The species has 4 recognised forms: 2 in Tasmania. The other two forms, f. *bicallosa* J.Z.Weber and f. *casuarinae* (Nees) J.Z.Weber, are both endemic to south-western Western Australia.

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|--|-----------------------|
| 1. Fruit ovoid; floral bract and bracteoles spreading almost horizontally                              | <b>1a f. glabella</b> |
| 1: Fruits fusiform to ellipsoid; floral bract and bracteoles erect/clasping the base of the receptacle | <b>1b f. dispar</b>   |

**1a *Cassytha glabella*** R.Br. f. **glabella**

*Dodder-laurel*

*Illustrations*: Weber, *J. Adelaide Bot. Gard.* 3: 208, fig. 4 (1981), reproduced in *Fl. Australia* 2: 120 (2007).

Fruit yellow-green to orange-red, drying green, ovoid to subglobular, 4.5–5.5 mm long, 3(–3.7) mm wide when dry, longitudinal ribs obscure. Stone ovoid, 3–3.5 mm long.

Tas. (BEL, FLI, KIN, TNM, TNS, TSE, TSR, TWE); also WA, Qld, NSW, Vic. Found in all coastal regions.

**1b *Cassytha glabella* f. *dispar*** (Schltdl.) J.Z.Weber, *J. Adelaide Bot. Gard.* 3(3): 209 (1981) *Dodder-laurel*

*Cassytha dispar* Schltdl., *Linnaea* 20: 578 (1847).

*Illustration:* Weber, *J. Adelaide Bot. Gard.* 3: 209, fig. 5 (1981).

Fruit pale yellowish-green to orange-red, mature fruit golden-yellow to brown, fusiform to narrow-ovoid, 5–7 mm long, 2–2.5 mm wide, longitudinal ribs fairly prominent. Stone narrow-ovoid, 2.5–3.5 mm long.

Tas. (FLI, TNM, TSE); also WA, SA, NSW, Vic.

**2 *Cassytha pedicellosa*** J.Z.Weber, *J. Adelaide Bot. Gard.* 3(3): 214 (1981) *Dodder-laurel*

*Illustration:* Weber, *J. Adelaide Bot. Gard.* 3: 219, fig. 9 (1981).

Glabrous perennial; stems drying golden-red to brown, filiform, 0.3–0.7 mm wide. Inflorescence 3–5-flowered in a loose cluster, pedunculate; peduncle 8–20 mm long, c. 0.4 mm thick; bracts basal, clasping the pedicel; pedicel c. 1 mm long, 0.3–0.5 mm thick. Flowers c. 1 mm long, c. 1 mm wide. Fruit ovoid, 4.2–4.5 mm long, 2.5–3 mm wide, dark brown with reddish striation, apex with a conspicuously thickened circular rim. Stone ovoid, c. 2.5 mm long, 2.3 mm wide. Flowering time uncertain [material collected in Oct.].

Tas. (FLI, KIN, TSE); endemic. Poorly collected species known only from three collections from near coastal sandy areas: one in the Derwent Valley (East Coast), one from Musselroe Bay (in the North East) and a third from King Island. In these collections *C. pedicellosa* was entangled with *C. glabella*. The species is cryptic which may be why few collections have been made.

**3 *Cassytha pubescens*** R.Br., *Prodr. Fl. Nov. Holl.* 404 (1810) *Dodder-laurel, Devil's Twine, Downy Dodder-laurel*

*Cassytha pubescens* Schltdl., *Linnaea* 20: 577 (1847), *nom. illeg., non* R.Br. (1810). *Cassytha piligera* Schltdl., *Linnaea* 21: 446 (1848). *Cassytha pubescens* var. *fasciculata* Meisn., *Prodr. (DC.)* 15: 255 (1864). *Cassytha pubescens* var. *macrostachya* F.Muell., *Fragm.* 5: 167 (1866), *nom. nud.* *Cassytha rugulosa* Meisn., *Prodr. (DC.)* 15: 255 (1864). *Cassytha tasmanica* Meisn., *Prodr. (DC.)* 15: 252 (1864). *Cassytha tepperiana* C.F.Ludw. ex Tepper, *Bot. Centralbl.* 49(51): 5 (1888) [as *C. tepperana*].

*Illustrations:* Weber, *J. Adelaide Bot. Gard.* 3: 223, fig. 12 (1981); Corrick & Fuhrer, *Wildflowers of Victoria* 126, fig. 445 (2000); Gilfedder *et al.*, *The Nature of the Midlands* 140 (2003); Richardson *et al.*, *Weeds of the South-East, an Identification Guide for Australia* 303 (2006).

Perennial, young stems and inflorescences pubescent; stems 0.5–1.5(–3) mm wide, scrambling over undergrowth and trees to a height of c. 3 m. Inflorescences solitary or occasionally in pairs, 2–15-flowered, a loose or congested head; peduncle 3–30 mm long; bracts inserted at different levels; flowers sessile or shortly pedicellate. Flowers 1–3 mm long, 1–2 mm diam., pubescence white or golden. Ovary glabrous to pubescent. Fruit globose to obovoid, (6–)7–8(–9) mm long, (4–)5–6 mm wide, green to reddish, drying black, pubescent, the indumentum mixed white and red. Stone globose to obovoid, c. 4.5 mm long. Flowering usually Nov.–Apr.(–Aug.); fruiting usually Mar.–Apr.

Tas. (BEL, FLI, KIN, TNS, TSE, TSR, TWE); also SA, Qld, NSW, Vic., New Zealand. A widespread species that is most commonly seen in coastal shrubberies but also inland up to 300 m alt. The species is sometimes considered to be weedy in nature.

**4 *Cassytha melantha*** R.Br., *Prodr. Fl. Nov. Holl.* 404 (1810)

Dodder-laurel

*Illustration:* Weber, *J. Adelaide Bot. Gard.* 3: 247, fig. 21 (1981).

Perennial; stems green to reddish-green, drying black, (0.9–)1.3–2(–4) mm diam., young shoots pubescent, glabrescent with age, forming tangled masses over shrubs and trees to a height of c. 9 m. Inflorescence a spike or globular head elongating in the fruiting stage, (1–)6–9(–13)-flowered, indumentum of white and red retrorse hairs; peduncle (8–)20–30(–95) mm long, 0.8–1.5 mm wide, covered with white and red, short retrorse hairs; bracts whorled; flowers sessile to subsessile. Flowers (2–)2.4–2.6(–3) mm long, (1.3–)1.5–1.7(–2) mm diam. Ovary glabrous. Receptacle green, drying black, densely pubescent, glabrescent, with reddish-black retrorse hairs, 10–12(–15) mm in diameter, fleshy, shrinking on drying. Stone black, globular, c. 0.5 mm diam. Flowering Jun.–Oct.(–Dec.); fruiting usually Sept.–Dec.

Tas. (BEL, FLI, KIN, TNM, TNS, TSE); also WA, SA, NSW, Vic. Parasitic on trees and shrubs, most commonly in coastal areas but also inland, up to c. 320 m alt.

## REFERENCES

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