



109 APOCYNACEAE ¹

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Trees (not in Tasmania), shrubs, lianes, herbs or herbaceous climbers. Latex present, most commonly white, sometimes clear, yellowish or reddish. Leaves alternate, opposite or in whorls of 3, simple, usually entire; stipules usually absent, or small and caducous, sometimes enlarged or forming a small ochrea (not in Tasmania); lamina entire, pinnately-veined. Inflorescence usually a panicle, or flowers solitary. Flowers bisexual, bracteate, bracteolate, regular, (4)5-merous. Perianth with distinct calyx and corolla. Calyx gamosepalous. Corolla gamopetalous, funnel- or salver-shaped, regular, contorted or valvate, with or without a corona. Stamens 5, opposite the sepals, alternating with corolla lobes; anthers cohering or connivent, or separate, adnate. Carpels 2, or 3–5. Ovary (1-)2-locular, with 2, 4, 6 or 25–50 ovules per locule. Fruit a capsule or a berry, when a capsule dehiscent or indehiscent, or a schizocarp with mericarps composed of follicles. Seed conspicuously hairy, with or without a coma.

A family of c. 400 genera and over 4,500 species in 5 subfamilies and c. 25 tribes, with a worldwide distribution but predominantly pantropical, not in polar regions; 45 genera and approximately 185 species in Australia; 4 genera and 4 species in Tasmania. Apocynaceae is in the Gentianales, with the Gentianaceae, Loganiaceae, Gelsemiaceae and Rubiaceae, and now also includes the Asclepidaceae (Nazar *et al.* 2013). Apocynaceae includes many ornamentals (*Hoya*, *Plumeria*, *Vinca*, *Nerium*), some of which have become naturalised after escaping cultivation (Richardson *et al.* 2011). It also includes many poisonous (*Vincetoxicum*, *Cerbera*, *Nerium*) and medicinal genera (*Calotropis*, *Hoodia*), and those with psychoactive substances (*Tabernanthe*, *Malouetia*) (Endress *et al.*, 2018).

Synonymy: Asclepidaceae Borkh., *Bot. Wörterb.* 1: 31 (1797). Plumeriaceae Horan., *Prim. Lin. Syst. Nat.* 70 (1834).

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

1	Flowers axillary, solitary, blue (rarely white), >20 mm diameter	4	<i>Vinca</i>
1	Flowers in axillary or terminal cymes or umbels, white, cream or yellow, < 20 mm diameter	2	
2	Vigorous, woody climbers; fruit a leathery capsule	3	<i>Parsonsia</i>
2	Shrubs; fruit a drupe or follicle	3	
3	Leaves elliptical to obovate, apex rounded; corona absent; fruit a drupe	1	<i>Alyxia</i>
3	Leaves linear-lanceolate, apex acuminate; corolla with a pronounced corona; fruit a follicle	2	<i>Gomphocarpus</i>

1 ALYXIA

Alyxia Banks ex R.Br., *nom. cons.*, *Prodr. Fl. Nov. Holland.* 469 (1810).

Shrubs or lianes (not in Tasmania), or small trees (not in Tasmania) with milky latex, normally glabrous. Leaves in whorls of 3–6, or opposite pairs, petiolate, simple. Flowers few together in small cymes, axillary or terminal. Flowers sessile or shortly pedicellate. Calyx eglandular, sepals ovate. Corolla usually white,

1 This work can be cited as: de Salas MF (2023). Apocynaceae, **version 2023:1**. In MF de Salas (Ed.) *Flora of Tasmania Online*. 5 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/vascular-families/apocynaceae/>

2 Tasmanian Herbarium, Tasmanian Museum & Art Gallery, PO Box 5058, UTAS LPO, Sandy Bay, TAS 7005, Australia.

salver-shaped; tube cylindrical, hairy inside; lobes broad, spreading, contorted and not inflexed in bud; corona absent. Stamens included in the corolla tube, filaments short, glabrous; anthers with short apical appendages. Carpels 2, free but joined at the style; ovules 2–6 per carpel; styles 1; stigmas 1, capitate. Fruit a single or paired drupe, ovoid or oblong, one-seeded, or 2–5-seeded and moniliform.

A genus of 106 species in the Himalayas, China, SE Asia, Australia, New Caledonia and some Pacific Islands. Fifteen species in Australia, one in Tasmania. *Alyxia* species have been used in herbalism as dysentery remedies and, in Hawaii, in the manufacture of lei (garlands).

Key references: Forster (1992, 1996).

1 *Alyxia buxifolia* R.Br., *Prodr. Fl. Nov. Holland.* 470 (1810).

Sea box

Illustrations: Curtis, *The Student's Flora of Tasmania* 3: 472, fig. 109 (1967); Harden & Williams, *Fl. New South Wales* 3: 516 (1992); Jeanes, *Fl. Victoria* 4: 323, fig. 63a (1996); Manning *et al.* (eds.), *A Guide to Flowers and Plants of Tasmania*, ed. 5: 155 (2019); Howells (ed.), *Tasmania's Natural Flora*, ed. 3: 23 (2021).

Rigid, much-branched spreading shrub, from wind-pruned and almost prostrate to 2 m tall. Branchlets ridged by decurrent leaf bases, leaf-scars prominent, persistent. Leaves opposite, sometimes in whorls of 3; stipules minute, membranous, margin ciliate; petiole 1–5 mm long; lamina broad-elliptic to obovate or narrowly obovate, (8–)15–30(–45) mm long, (2–)7–15(–25) mm wide, thick, coriaceous, base cuneate, margins recurved, minutely papillose, apex rounded, mucronate, rarely obtuse, truncate or emarginate; adaxial surface glossy dark green; abaxial surface paler, glabrous; midrib prominent on both surfaces, lateral veins indistinct. Inflorescence of up to 4–8 scented flowers; bracts and bracteoles small, membranous, margin ciliate; pedicels 1–3 mm long. Sepals broadly triangular, 1(–2) mm long, somewhat keeled, margin ciliate. Corolla tube orange, 6–9 mm long, inflated in the distal half, constricted below the lobes; lobes 3–5 mm long, white or cream, twisted. Stamens with short filaments, joined in the distal part of the corolla tube; anthers triangular. Carpels joined at the apex by a simple style; ovaries surrounded by a dense ring of long hairs. Fruit 1 or 2 ovoid to orbicular, 5–8 mm long orange drupes, ± translucent, normally 1-seeded. Flowering Sep.–Mar.

Tas. (FLI, KIN, TNS, TSE, TWE); also WA, SA, Vic., NSW. Found mostly on coastal dunes and cliffs in the northern half of Tasmania, at or near sea level. Recognisable for its tough glossy dark leaves, pale twisted flowers and orange fruit.

2 * GOMPHOCARPUS

Gomphocarpus R.Br., *Asclepiadeae* 26–27 (1810).

Erect, perennial herbs or shrubs with white latex, often with indumentum. Leaves in opposite pairs, occasionally subopposite or in whorls of 3, petiolate or sessile, simple. Flowers in loose umbels beside upper leaf axils, long-pedunculate, pedicellate, nodding. Sepals 5, small, narrow. Corolla pink, cream, or green and cream, rotate; lobes longer than the tube, valvate in bud or nearly so; corona 5-lobed, fleshy, erect, elongated, laterally compressed, saccate in upper part with 2 or 4 teeth on inner side. Anthers organised into pollinia, these pendant, compressed, 2 per anther. Carpels 2, free; ovary 2-locular with 30–50 ovules per locule; styles 2, partially joined at the head; stigmas 1, conical-globose. Fruit a follicle, dehiscent, 1-locular. Seed with a pronounced coma at the micropyle end.

A genus of approximately 50 species native in Africa. Three species naturalised in Australia, one in Tasmania. *Gomphocarpus* was formerly included within the family Asclepidaceae.

Key references: Goyder & Nicholas (2001).

1 * *Gomphocarpus fruticosus* (L.) W.T.Aiton subsp. *fruticosus*, *Hort. Kew.*, ed. 2 [W.T.Aiton] 2: 80 (1811).

Narrow-leaved cotton bush, Swan plant

Synonymy: *Asclepias fruticosa* L., *Sp. Pl.* 1: 216 (1753).

Illustrations: Harden & Williams, *Fl. New South Wales* 3: 527 (1992); Jeanes, *Fl. Victoria* 4: 331, fig. 64c (1996); Richardson *et al.*, *Weeds of the South-East, an Identification Guide for Australia*, ed. 2: 133 (2011).

Erect shrub to 2 m tall. Stems few, finely pubescent when young, glabrescent with age. Leaves opposite, rarely subopposite, linear to narrow-lanceolate, (4–)6–10(–12) cm long, 5–15 mm wide; petiole (1–)3–8 mm long; lamina soft, glabrous, veins indistinct, base attenuate, margins thickened, apex acuminate to mucronate; adaxial surface glossy, pale green; abaxial surface dull, paler. Inflorescence of 3–10 flowers; peduncles 2–4 cm long. Pedicels scabrous, 10–20 mm long, erect at anthesis but deflexed in fruit. Sepals pubescent, narrowly ovate to lanceolate, 3–5 mm long, fused at the base. Corolla white or cream; lobes ovate, 6–7 mm long, margin ciliate; corona lobes incurved, white or cream, sometimes suffused pink at the base. Follicles balloon-like, ovoid, slightly falcate, erect at maturity, 4–7 cm long, 2–3.5 cm diameter, covered with soft spines to 1 cm long. Seeds, dark brown to black, lachrymiform, flattened, c. 6 mm long × 3 mm wide; coma to 30 mm long. Flowering Sep.–Mar., fruiting Feb.–Dec.

Tas., naturalised (FLI, TSE); also naturalised in WA, SA, Vic., NSW, Qld. Native to South Africa, also naturalised in New Zealand, Asia, North America and Europe. Escaped from cultivation as a garden ornamental. Known populations are all at or near sea level. *Gomphocarpus fruticosus* is the main food plant for the monarch butterfly (*Danaus plexippus*) in Tasmania.

3 PARSONSIA

Parsonsia R.Br., *nom. cons.*, *Asclepiadeae* 53–54 (1810).

Synonymy: *Lyonsia* R.Br., *Asclepiadeae* 55 (1810).

Woody lianes, or scrambling shrubs, with clear, colourless, or pale yellow, occasionally milky latex. Leaves opposite, petiolate, simple, sometimes juvenile leaves differing significantly from adult. Flowers in cymes or panicles, pedicellate. Calyx frequently minutely glandular inside near the base; lobes markedly longer than tube. Corolla white, cream, yellow, or green, pink, orange, red or brown (not in Tasmania), 5(4)-merous; lobes as long to much longer than tube, contorted or valvate in the bud; corona absent. Stamens becoming partially to fully exerted; filaments inserted midway down corolla tube, filiform, glabrous. Anthers connivent around style head, with basal appendages. Carpels 2–5; ovary 2-locular, with 2–50 ovules per locule; styles 1; stigmas 1, capitate or clavate. Fruit a capsule, valvular. Seeds with a pronounced coma at the micropyle end.

A genus of c. 130 species in SE Asia, Australasia and Melanesia. Thirty-seven species in Australia, one in Tasmania.

Key references: Williams (1996).

1 *Parsonsia brownii* (Britten) Pichon, *Notul. Syst.* (Paris) 14: 10 (1950).

Twining silkpod

Lyonsia brownii Britten, *J. Bot.* 45: 236 (1907). *Lyonsia straminea* sensu Rodway, *Tasman. Fl.* 129, non R.Br., *Prodr. Fl. Nov. Holland.* 466 (1810); *Parsonsia straminea* sensu Curtis, *The Student's Flora of Tasmania* 3: 473 (1967), non F.Muell, *Fragm.* (Mueller) 6(45): 129 (1868).

Illustrations: Harden & Williams, *Fl. New South Wales* 3: 524 (1992); Jeanes, *Fl. Victoria* 4: 323, fig. 63c (1996); Howells (ed.), *Tasmania's Natural Flora*, ed. 3: 23 (2021).

Liane, climbing 10–14 m up or higher. Branches up to 5 cm diameter, pendulous, rooting when in contact with the ground. Leaves opposite; petiole (3–)8–15 mm long; lamina narrow-lanceolate to broadly ovate-lanceolate, (3–)5–10(–15) cm long, (0.5–)1–3(–5) cm wide, base cuneate, rarely rounded, margins flat, apex acute to acuminate; adaxial surface dark green, glossy; abaxial surface paler, with prominent venation.

Inflorescence a many-flowered axillary panicle (cyme). Pedicel 4–10 mm long. Sepals triangular, pubescent, 2–3 mm long, fused at the base; corolla greenish-yellow; tube c. 2 mm long; lobes pubescent near the inner base, lanceolate, 2–4 mm long, apex recurved, acute. Staminal filaments c. 1 mm long; anthers slightly exerted. Capsule fusiform, 5–10 cm long, pubescent. Seed tan-brown, flattened, lanceolate, 6–9 mm long, 2–3 mm wide, comose; coma 15–25 mm long. Flowering Nov.–Feb.(–May).

Tas. (BEL, FLI, KIN, TNM, TNS, TSE, TSR, TWE); also Vic., NSW. A tall vine of low and middle-elevation wet forest and rainforest, to 500 m elevation. Easily recognisable by its coriaceous, lanceolate, opposite leaves and umbellate inflorescences with tiny yellow flowers.

4 * VINCA

Vinca L., *Sp.Pl.* 1: 209 (1753).

Trailing or erect perennial herbs or dwarf shrubs with white latex. Leaves opposite, petiolate, simple, entire. Flowers solitary, axillary, pedicellate. Calyx lobes erect, linear, much longer than the tube. Corolla salver- or funnel-shaped, white to blue; lobes about the same length as the tube, sinistorse in bud; corona a shallow rim at the mouth of the corolla tube. Stamens remaining included; filaments inserted mid-way down corolla tube; anthers connivent around style head. Carpels 2; ovary 2-locular, with 2–6 ovules per locule; styles 1; stigmas 1. Fruit a schizocarp, 2–8-seeded; mericarps follicular. Seeds not conspicuously hairy, wingless.

A genus of 7 species from Europe and Africa. One (possibly 2) species in Australia, one in Tasmania. *Vinca major* and *V. minor* are popular ornamentals, commonly used as ground-cover plantings. Several chemotherapy agents used to treat cancer, such as vincristine, vinblastine and vincamine have been isolated from *Vinca* species.

1 * *Vinca major* L., *Sp. Pl.* 2: 209 (1753).

Periwinkle

Illustrations: Harden & Williams, *Fl. New South Wales* 3: 518 (1992); Jeanes, *Fl. Victoria* 4: 323, fig. 63d (1996); Richardson *et al.*, *Weeds of the South-East, an Identification Guide for Australia*, ed. 2: 135 (2011).

Trailing evergreen perennial to 60 cm tall. Stems wiry, tough and flexible, ascending. Leaves opposite, broadly ovate, 2–8 cm long, 1.5–5 cm wide; petiole 5–12 mm long; lamina glossy, base truncate, margins ciliate, apex acute; adaxial and abaxial surfaces glabrous. Pedicels 2–5 cm long, erect. Sepals linear, 12–16 mm long, margin ciliate. Corolla blue; tube 13–18 mm long; lobes broadly ovate, 15–20 mm long, spreading. Follicles paired, tapering, beaked, 2–5 cm long. Seeds (not normally produced in Tas) dark brown, 1–4 per follicle, surface longitudinally wrinkled. Flowering Sep.–Dec.

Tas. (BEL, FLI, KIN, TNS, TSE, TSR, TWE); also naturalised in WA, SA, Vic., NSW, Qld, New Zealand, Asia, North America. Native to southern Europe and north Africa and the Himalayas. Easily recognised by its showy blue-purple flowers, vigorous trailing habit and tough, wiry stems. Widely planted as an ornamental, it has become invasive in the vicinity of established gardens and in waste places, smothering other species and forming pure stands. In Tasmania it has been found naturalising to c. 300 m elevation.

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NOTE: Web addresses can and do change: a list of current web addresses is maintained in the web version of this treatment on the *Flora of Tasmania Online* website at <https://flora.tmag.tas.gov.au/>

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