



72 CUNONIACEAE ¹

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Shrubs, trees or stranglers (not in Tas.). Leaves usually opposite or whorled, rarely spiral (not in Tas.); stipules present, rarely absent; lamina simple, trifoliolate or pinnate, margins often with gland tipped teeth. Inflorescence usually terminal, sometimes cauliflorous, a panicle, raceme or head, or flowers solitary in axils. Flowers bisexual, rarely unisexual and plant dioecious, actinomorphic. Sepals 3–4(–10), free or somewhat fused at base or at tip. Petals equal in number to and usually smaller than sepals, sometimes absent or quite showy. Stamens mostly twice as many as sepals or many or few and opposite sepals; anthers opening via vertical slits. Ovary superior or semi-inferior, 2–5-locular; ovules 2-many per locule. Fruit a capsule, rarely nut-like or a drupe or follicle. Seeds small, commonly winged or hairy, endosperm usually present.

A family of 27 genera and about 300 species found mainly in the southern hemisphere. Australia is a major centre of diversity of the family with 16 genera and about 30 species. Other centres of diversity include New Guinea and New Caledonia. The tropical and widespread genus *Weinmannia* L. has 150–160 species, half of which are in the Americas (Bradford *et al.* 2004). Cunoniaceae has a complex and interesting taxonomic history. Cunoniaceae are considered to be part of the Oxalidales near Elaeocarpaceae (mainly tropical), Brunelliaceae (Mexico to S America), Cephalotaceae (Pitcher Plant; SW WA), Connaraceae (pantropical) and Oxalidaceae (tropical & temperate regions) (APG 1998; Bradford & Barnes 2001; Fishbein *et al.* 2001; APG II 2003; Bradford *et al.* 2004; Culham 2007).

Various genera that are now considered to be part of Cunoniaceae, eg. *Bauera* (see below), *Eucryphia* (see below), *Davidsonia* F.Muell. (Qld, NSW), have in the past been placed in their own families or in other families (Moody & Hufford 2000; Bradford *et al.* 2004; Culham 2007). *Bauera*, for example, has been included in both Saxifragaceae and Baueraceae. Other genera that were once considered to be part of Cunoniaceae have now been removed from the family; eg. *Aphanopetalum* Endl. (2 spp., WA, Qld, NSW, Vic.) is now placed in its own family, Aphanopetalaceae, in a different order, Saxifragales (see Brummitt 2007).

The family is classified into 6 or 7 tribes (Bradford & Barnes 2001; Bradford *et al.* 2004; Culham 2007). Of the Tasmanian genera only *Anodopetalum* is classified into a tribe, that being Schizomerieae, which also includes 3 other genera from the Australian region and South Africa. The other two Tasmanian genera, *Bauera* and *Eucryphia*, are not yet incorporated into a formal classification of the family and are placed in the 'Basal Grade' or the 'Unplaced 'Core Cunon' Clade' genera (Bradford & Barnes 2001; Bradford *et al.* 2004; Culham 2007).

A number of genera around the world, including *Eucryphia*, are used for timber, while others, again including *Eucryphia*, are important in the production of honey in a number of countries (see Bradford *et al.* 2004).

Synonymy: Baueraceae, Callicomaceae, Davidsoniaceae, Eucryphiaceae, Spiraeanthemaceae.

Key references: Bradfords *et al.* (2004); Culham (2007).

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

1 This work can be cited as: Duretto MF (2009). Cunoniaceae, **version 2019:1**. In MF de Salas (Ed.) *Flora of Tasmania Online*. 6 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/treatments/cunoniaceae/>

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

1. Leaves sessile, appearing, with leaf-like stipules, as a whorl of six leaves 2 **Bauera**
 1: Leaves petiolate, simple or unifoliolate, in pairs, stipules much smaller than leaves 2
2. Leaf margin serrated; flowers inconspicuous; petals 2.5–3.0 mm long, shorter than sepals, narrow 1 **Anodopetalum**
 2: Leaf margin entire; flowers showy; petals 7–18 mm long, longer than sepals, orbicular 3 **Eucryphia**

1 ANODOPETALUM

Anodopetalum A.Cunn. ex Endl., *Gen. Pl. [Endlicher]* 11: 818 (1839).

Woody tree or shrub. Leaves unifoliolate, evergreen; stipules small, deciduous. Flowers solitary or in groups of 2 or 3, axillary, 4(5)-merous. Sepals larger than petals, joined at base. Petals slender, apically notched. Anthers with a prominent horn. Disc (nectary) annular. Fruit capsular, fleshy.

A monotypic genus endemic to Tasmania. Barnes and Rozefelds (2000) discuss the comparative morphology of the genus.

1 *Anodopetalum biglandulosum* (A.Cunn. ex Hook.) Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1(2): 148 (1856)
Horizontal

Weinmannia biglandulosa A.Cunn. ex Hook, *Hooker's Icon. Pl.* 4: t. 301 (1841). *Anodopetalum glandulosum* A.Cunn. ex Baill., *Hist. Pl. (Baillon)* 3: 378 (1871), *nom. illeg.* [misspelling of *A. biglandulosum*].

Illustrations: Stones & Curtis, *The Endemic Flora of Tasmania* 1: t. 12, No. 19 (1967); Curtis & Morris, *The Student's Flora of Tasmania* 1, rev. edn: 179, fig. 42a (1975); Cameron, *A Guide to Flowers and Plants of Tasmania*, 3rd edn, 43, pl. 74 (2000); Whiting et al., *Tasmania's Natural Flora* 99 (2004); Simmons et al., *A Guide to Flowers and Plants of Tasmania*, 4th edn, 45 (2008).

Slender tree to 6(–15) m high or bushy shrub in exposed situations; trunk usually bends over to the horizontal position and sends up vertical branches which in turn bend over, the intertangled trunks and branches can make a platform several metres above the ground and forms a dense impenetrable thicket/scrub. Leaves opposite, shortly petiolate, unifoliolate, narrow-elliptical, 2–6 cm long, 0.8–2.3 cm wide, glabrous, margin coarsely serrate; serrations blunt, gland-tipped. Sepals pale greenish-yellow to cream, 4–6 mm long, 2–3 mm wide. Petals pale greenish-yellow to cream, linear-lanceolate, 2.5–3.0 mm long, 0.5–1.0 mm wide, smaller than sepals. Stamens 8; filaments inserted on the outer margin of disc; anthers versatile, the connective prolonged to form an appendage as long or longer than the anther. Disc thick, glandular. Carpels 2, fused, superior; ovary bilocular; ovules few, pendulous; styles free, divergent. Fruit usually 1-seeded. Flowering Oct.–Mar.; fruiting (Jan.?)Feb.–Mar.(Apr.?)

Tas. (KIN, TCH, TNS, TSE, TSR, TWE); endemic. Found in high rainfall areas in the south and west of the island of Tasmania. Locally abundant in the understorey in mixed rainforest, usually under *Nothofagus cunninghamii* (Hook.) Oerst.; often making pure stands in gullies. Also occurring in alpine heath. Fruiting material is decidedly underrepresented in herbarium collections.

2 BAUERA

Bauera Banks ex Andrews, *Bot. Repos.* 3: t. 198 (1801).

Scrambling shrubs. Leaves opposite, simple, evergreen, sessile, stipules leaf like, leaves and stipules together appearing to be a whorl of 6 sessile leaves or 2 sessile trifoliolate leaves. Flowers bisexual, solitary in axils, sessile or pedicellate, 4–10-merous. Sepals shortly united at base. Petals free, exceeding sepals. Stamens 4-many, free. Disk thick, nectiferous. Carpels 2, joined; ovary superior or semi-inferior, 2-locular; ovules few to many per locule; styles 2, free. Fruit a loculicidal capsule or apparently indehiscent and nut-like. Seeds horizontally arranged in the locules.

An genus of 3–4 species endemic to eastern Australia. Dickinson and Ritishauser (1990) looked at leaf and stipule development in Cunoniaceae and consider what has been called the 'lateral leaflets' in *Bauera* [if the leaves are considered trifoliolate] are in fact modified stipules.

1 Bauera rubioides Andrews, *Bot. Repos.* 3: t.198 (1801)*Bauera*, Wiry *Bauera*

Bauera rubiifolia Salisb., *Ann. Bot.* [König & Sims], 1: 514 (1805), *nom. illeg.* [as *B. rubiaefolia*]. *Bauera humilis* Link, *Enum. Hort. Berol. Alt.* 2: 78 (1822); *B. rubioides* var. *humilis* (Link) Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1(2): 149 (1856). *Bauera rubioides* var. α Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1(2): 149 (1856), *autonyme*. *Bauera rubioides* var. *depressa* Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1(2): 149 (1856), *nom. inval.* *Bauera microphylla* sensu J.D.Hooker, *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1(2): 149 (1856), *non* Sieber ex DC. (1830, *nom. illeg.*, *non* D.Don (1830); *B. rubioides* var. *microphylla* (Sieb. ex DC.) Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1(2): 149 (1856). *Bauera rubioides* var. *alba* Guilf., *Australian Plants suitable for gardens, parks, timber reserves, etc* 70 (1911).

Illustrations: Curtis & Morris, *The Student's Flora of Tasmania* 1, rev. edn: 179, fig. 42b (1975); Morley & Toelken (Eds), *Flowering Plants in Australia* 143, fig. 89e (1983); Everett, *Fl. New South Wales* 1: 522; 533, pl. 30 (1990); Walsh, *Fl. Victoria* 3: 525, 108b (1996); Cameron, *A Guide to Flowers and Plants of Tasmania*, 3rd edn, 69, pl. 156 (2000); Corrick & Fuhrer, *Wildflowers of Victoria* 60, fig. 212 (2000); Woolmore et al., *King Island Flora* 41 (2002); Whiting et al., *Tasmania's Natural Flora* 100 (2004); Simmons et al., *A Guide to Flowers and Plants of Tasmania*, 4th edn, 91 (2008).

Scrambling, wiry or tangled shrub to 3(–6 in wetter areas, West Coast) m tall; young stems pubescent. Leaflets (& stipules) narrowly elliptic, 3–15 mm long, 1.5–5.0 mm wide, variable pilose, margin crenate to serrate, rarely entire. Flowers on narrow, hirsute pedicels 1–3 cm long. Sepals 5–9, 3–6 mm long, narrowly lanceolate or elliptic, usually toothed. Petals 5–9, pink or white, 5–10 mm long, obovate, spreading. Stamens c. 20–50, about as long as sepals. Ovary superior; styles spreading, slightly shorter than stamens. Capsule bilobed, 2–3 mm long, 4–5 mm wide. Seeds ellipsoid, c. 1.5–2.0 mm long, colliculate, c. 8–12 per capsule. Flowering mainly Aug.–Mar.; fruiting mainly Dec.–Apr.

Tas. (all regions except MIS); also SA, Qld?, NSW, Vic. A widespread species that can be abundant and locally dominant from sea level to over 1000 m in a wide variety of communities; often dominating the understorey. An extremely variable species over its entire range. Interestingly, flowers are often white in Tasmania while elsewhere they are usually pink. Hooker (1856) adopted a broad concept of *Bauera* and suggested that there is probably only one species in the genus. Under *B. rubioides* he included both *B. microphylla* Sieber ex DC. (= *B. microphylla* D.Don; NSW) and *B. sessiliflora* F.Muell. (Vic.) which are considered to be distinct.

3 EUCRYPHIA

Eucryphia Cav., *Icon. (Cavanilles)* 4: 48 (1798).

Synonymy: *Carpodontos* Labill., *Voy. Rech. Pérouse* 2: 16, t. 18 (1800).

Tall shrubs or trees. Leaf and flower buds resinous. Leaves opposite; stipules small, fused; petioles short; lamina simple or pinnate (not in Tas.), evergreen or deciduous (not in Tas.). Flowers solitary or in small clusters in upper leaf axils, actinomorphic, bisexual, pedicellate. Flowers 4-merous. Sepals cohering at apex in a calyptra and falling as flower opens. Petals imbricate, showy, orbicular, spreading widely. Stamens many, in several whorls; filaments slender, shorter than petals. Ovary superior, of 4–14 fused locules; styles free. Fruit a capsule, woody or leathery, opening septicidally. Seeds few, winged.

A genus of 7 species: *Eucryphia wilkiei* B.Hyland (NE Qld), *E. jinksii* P.I.Forst. (SE Qld), *E. moorei* F.Muell. (NSW, Vic.), *E. lucida* and *E. milliganii* (both Tas.), and *E. cordifolia* Cav. and *E. glutinosa* Cav. (SW South America). Hybrids between the two Tasmanian species have been recorded. In a study investigating the relationships within the genus Taylor and Hill (1996) determined that the Australian species (*E. jinksii* was not in the study) formed a monophyletic group with the two Tasmanian species being sister species. This relationship is supported by flavonoid data (Wollenweber et al. 2000).

1. Leaves lanceolate-elliptical, apex blunt and rounded, 2.5–4.5 cm long; petals c. 18 mm across

1 *E. lucida*

1: Leaves ovate-elliptical, apex emarginate or retuse, 0.5–2.0 cm long; petals 7–11 mm long

2 *E. milliganii*

1 *Eucryphia lucida* (Labill.) Baill., *Hist. Pl. (Baillon)* 1: 401 (1871)*Leatherwood*

Carpodontos lucida Labill., *Voy. Rech. Pérouse* 2: 16, t. 18 (1800); *Eucryphia billardierei* Spach, *Hist. Nat. Veg. (Spach)* 5: 345 (1836), *nom. illeg.*; *E. billardieri* Benth., *Fl. Austral.* 2: 446 (1864), *orth. var.*

Illustrations: Stones & Curtis, *The Endemic Flora of Tasmania* 1: t. 20, No. 33 (1967); Curtis & Morris, *The Student's Flora of Tasmania* 1, rev. edn: 182, fig. 42 (1975); Cameron, *A Guide to Flowers and Plants of Tasmania*, 3rd edn, 39, pls 71–72 (2000); Whiting *et al.*, *Tasmania's Natural Flora* 156 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn, 47 (2008).

A tall shrub or tree, to 12(–30) m tall. Leaves simple, lanceolate-elliptical, 2.5–5.0 cm long, 6–21 mm wide, coriaceous, margin entire, apex blunt and rounded, adaxial surface dark and shining, abaxial surface white or glaucous. Flowers large, showy, perfumed, solitary in axils of upper leaves, pedicels to 1 cm long. Petals free, white, c. 18 mm across, orbicular. Flowering mainly Dec.–Apr. (Jun.); fruiting mainly Dec.–May (sometimes persisting to Oct.).

Tas. (KIN, TCH, TNS, TSE, TSR, TWE); endemic. A common species in rainforest and wet sclerophyll in high rainfall areas in the western half of the island of Tasmania, usually at lower altitudes to c. 800 m. This species is the source of nectar for Leatherwood honey.

2 *Eucryphia milliganii* Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1(1): 54 (1855)*Dwarf Leatherwood, Leatherwood*

Eucryphia billardierei Spach var. *milliganii* (Hook.f.) Benth., *Fl. Austral.* 2: 446 (1864) [as *E. billardieri* var. *Milligani*], *nom. illeg.* *Eucryphia lucida* var. *milliganii* H.F.Comber, *Field Notes of Tasmanian Plants collected by H.F.Comber 1929/30* 57 (1930). *Eucryphia lucida* var. *milliganii* (Hook.f.) Summerh., *Hand List of Trees and Shrubs cultivated in the Royal Botanic Gardens, Kew* edn 4, 118 (1934), *nom. illeg.*, *non* H.F.Comber (1930).

Illustrations: Stones & Curtis, *The Endemic Flora of Tasmania* 1: t. 20, No. 34 (1967); Morley & Toelken (Eds), *Flowering Plants in Australia* 138, fig. 85f (1983); Whiting *et al.*, *Tasmania's Natural Flora* 156 (2004).

A shrub, prostrate to erect, to 3 m tall. Leaves simple, ovate-elliptical, 5–20 mm long, 3–8 mm wide, coriaceous, margin entire, apex emarginate to retuse, adaxial surface dark and shining, abaxial surface white or glaucous. Flowers large, showy, perfumed, solitary in axils of upper leaves, pedicels to 1 cm long. Petals free, white, c. 7–11 mm across, orbicular. Flowering & fruiting mainly Dec.–Apr.

Tas. (TCH, TSR, TWE); endemic. Occurs in western and south-western Tasmania, in high rainfall alpine shrubbery and rainforest on mountain plateaux on quartzite, sandstone and dolerite; most commonly encountered above 800 m but in the extreme west can be found much lower. Found in more exposed areas than *E. lucida*. Barnes *et al.* (2000) investigated morphological variation of the species that resulted in the recognition of two subspecies. Specimens can be difficult to assign to these subspecies at times.

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| 1. Leaf lamina elliptic to oblong, flat, margins glabrous or sparsely pubescent, abaxial surface and midrib glabrous | 2a subsp. <i>milliganii</i> |
| 1: Leaf lamina ovate to elliptic, margins slightly recurved and densely pubescent, abaxial surface and midrib sparsely pubescent | 2b subsp. <i>pubescens</i> |

2a *Eucryphia milliganii* Hook.f. subsp. *milliganii**Dwarf Leatherwood, Leatherwood*

Illustrations: Barnes *et al.*, *Austral. J. Bot.* 48: 487, figs 16–19 (2000).

Description as per key.

Tas. (TCH, TSR, TWE); endemic. Occurs in western and south-western Tasmania, rarely south of 43°S. Found in high rainfall alpine shrubbery and rainforest on mountain plateaux usually above 800 m.

2b *Eucryphia milliganii* subsp. *pubescens* R.W.Barnes, G.J.Jord., R.S.Hill & C.J.McCoull, *Austral. J. Bot.* 48: 488 (2000)*Dwarf Leatherwood, Leatherwood*

Illustrations: Barnes *et al.*, *Austral. J. Bot.* 48: 487, figs 20–23 (2000).

Description as per key.

Tas. (TCH, TSR, TWE); endemic. Occurs in south-western Tasmania, usually south of 42°30'S. Found in high rainfall alpine shrubbery and rainforest over a wide range of altitudes.

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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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