

Flora of South Australia

5th Edition



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Government
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5th Edition | Edited by Jürgen Kellermann

PICRODENDRACEAE¹

T.M. Spokes² & J.Z. Weber³

Shrubs, much branched subshrubs (or trees); latex absent; monoecious (in S.A.) or dioecious; indumentum simple; stipules present or absent; leaves shortly petiolate, alternate, opposite or whorled, simple (in S.A.) or palmate, entire (in S.A.) or toothed. **Flowers** usually small, unisexual, axillary or subterminal, solitary or in few-flowered fascicles, sessile or shortly pedicellate, apetalous; sepals (2) 4–6 (10+); male flowers with 3, 4, 6 (9–40) stamens, often with a small lobed disc within the staminate whorl, interspersed between it, or stamens inserted in cavities of the disc (or disc absent); filaments free or variously united, anthers dorsifixed, basifixed or sessile, longitudinally dehiscent; female flowers 2- or 3-, rarely up to 5-celled, ovary superior with 2 ovules per cell, styles 2 or 3 (–5), variously united either basally or to half way, disc annular and shallowly lobed or absent. **Fruit** a capsule, dehiscent (in S.A.), rarely indehiscent; seeds 2 per locule or 1 per locule by abortion; caruncle present (in S.A.) or absent; endosperm usually copious.

A small pantropical family especially in the SW Pacific, extending N to the southern United States and S to southern Australia. The family contains 26 genera and c. 80 species worldwide, 9 genera and 34 species in Australia, 2 genera and 2 species in S.A. Picrodendraceae contains some species of economic use for timber (*Androstachys* Prain, *Piranbea* Baill.); Aboriginal Australians use the bitter bark of *Petalostigma* F.Muell. spp. (Quinine Bush) against fever and as pain relief (Heywood *et al.* 2007).

The taxonomic position of several genera previously placed in the Euphorbiaceae family has changed since the previous edition of the *Flora of South Australia*. (see notes under Euphorbiaceae family description) consequently the genera *Micrantheum* and *Pseudanthus* are now recognised as belonging to the family Picrodendraceae. The family varies from Euphorbiaceae *sens. strict.* in having 2 ovules per locule and echinate pollen.

References: Radcliffe-Smith (2001); Heywood *et al.* (2007); Mabberley (2008).

1. Leaves in half whorls of 3s, 4s or 5s at each node 1. **Micrantheum**
1: Leaves single at each node..... 2. **Pseudanthus**

1. MICRANTHEUM Desf.

Mém. Mus. Hist. Nat. 4: 253 (1818).

(Greek *mikros*, small; *anthos*, flower.)

Prepared by J.Z. Weber (updated by T.M. Spokes)

Allenia Ewart, *Proc. Roy. Soc. Victoria* 22: 7 (1909); *Caletia* Baill., *Étude Euphorb.* 553, t. 26 (1858).

Much branched heath-like shrubs or shrublets, monoecious; leaves alternate, in half-whorls of 2–5 leaflets, shortly petiolate, narrow, entire, coriaceous; stipules foliaceous, appearing as two further leaves per node, or absent (in S.A.).

¹ This work can be cited as: Spokes, T.M. & Weber, J.Z. (2011). Picrodendraceae (version 1). In: Kellermann, J. (ed.), *Flora of South Australia* (ed. 5). 5 pp. (State Herbarium of South Australia: Adelaide). www.flora.sa.gov.au/ed5

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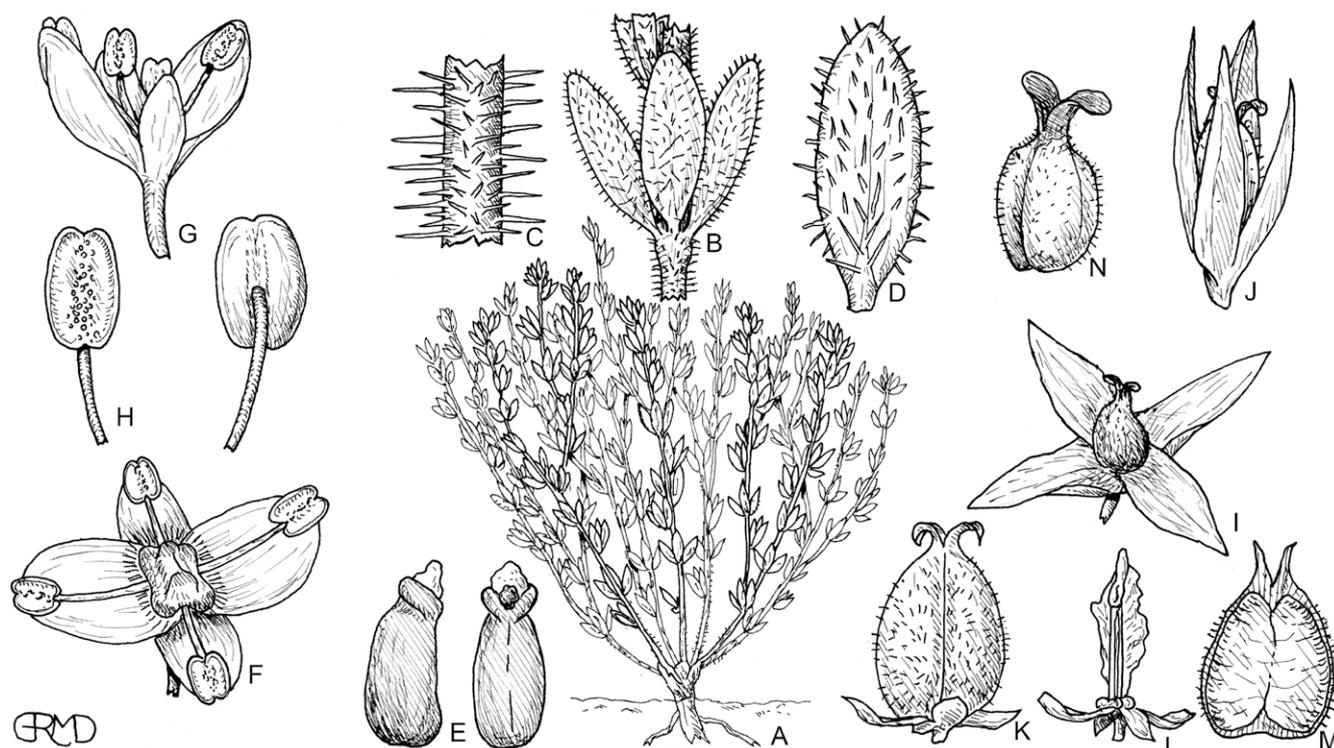


Fig. 1. *Micranthemum demissum*. A, habit; B, details of branch with leaves; C, stem; D, leaf; E, seeds; F, G, male flower; H, stamens; I, female flower; J, young fruit with remnant sepals; K, fruit; L, remnant flower, once fruit is shed; M, fruit, cross section; N, ovary. Illustration by G.R.M. Dashorst, from *Flora of South Australia* 2: 757, Fig. 404 (1986).

Flowers axillary, solitary or in small clusters in upper axils, sessile or shortly pedicellate; petals absent; calyx segments 4 or 6; male flowers 2-seriate, the inner segments usually larger, with 3 (4, 6 or 9) stamens opposite outer calyx segments or stamens opposite all calyx segments; anthers with 2 parallel cells, dehiscing longitudinally; disc central, flat or hemispherical 3-, 4- or 6-lobed; female flowers disc annular, shallowly lobed or absent, ovary 2 or 3-celled with 2 ovules in each cell; styles 2 (in S.A.) or 3, undivided, or more or less united at the base (in S.A.), stigmatic surface along the inner face. **Capsules** shallowly lobed, ovoid to ellipsoid, dehiscing into 2 or 3, bivalved cocci or 4–6 valves; seeds 2 per cell (or 1 by abortion), oblong, smooth; carunculate; endosperm present, embryo linear, straight, the cotyledons longer but not much broader than the radicle.

A genus of 4 species endemic to Australia occurring from the eastern parts of southern Qld to Vic., 1 species confined to Tas. and 1 species endemic to S.A.

1. ***Micranthemum demissum*** F.Muell., *Victorian Naturalist* 7: 67 (1890). — *Allenia blackiana* Ewart & B.Rees, *Proc. Roy. Soc. Victoria* 22: 8 (1909); *Allenia blackiana* var. *microphylla* Ewart, Jean White & B.Rees, *Proc. Roy. Soc. Victoria* 22: 8 (1909); *Micranthemum demissum* var. *microphyllum* (Ewart, Jean White & B.Rees) Grüning, *Pflanzenr.* 58: 25 (1913).

Dwarf dense shrubs 10–50 (–80) cm tall, the branches slender, with minute spreading hairs arising from a woody tap root; leaves shortly petiolate, arranged in 3s (rarely in 4s or 5s); lamina lanceolate to ovate, 3–8 (–14) × 1.5–3.5 mm, flat, smooth above, often with thickened margins below and a faint midrib, pubescent with stiff long and short white hairs all over or on the margins only, rarely glabrous. **Flowers** pink and/or cream; male flowers 1–3, axillary, 1.5–2.5 mm long, attenuated into a short distinct pedicel one-third or less of their length, rarely longer, calyx segments 4, the 2 outer ones ovate, smaller, 2 inner ones suborbicular, petaloid, at first imbricate, later rotate; stamens (3) 4, inserted at the base of the 4-lobed disc and opposite the segments, filaments free; female flowers sessile, single and/or scattered among the males, to 3 mm long; calyx segments 4, subequal, lanceolate; ovary 2-celled, tapering into 2 broad styles opposite the outer calyx segments. **Capsule** ovoid-tetragonous, reticulately wrinkled, 6–7 mm long, 2-celled, with 1 seed in each cell, yellowish-green or tinged red, glabrous to hairy; seed cylindrical, capitate, c. 3.5 × 1.5 mm, golden-brown, with a raised line down the inner face; caruncle subglobose, 0.5–1.2 mm wide. **Dwarf micranthemum. Fig. 1, Pl. 1.**

S.A.: SL, KI, EP. Endemic and restricted to S.A., found on various soil types commonly on sandy or lateritic soils in low heath, open scrub or woodland or in open areas recently burnt or along roadsides. Flowers: Flowering Apr.–Oct., but mainly Aug.–Sep.

The mainland specimens have almost glabrous leaves and capsules, while specimens from Kangaroo Island and some coastal specimens from the Fleurieu Peninsula have smaller leaves, with short spreading hairs like those on the capsule.

2. PSEUDANTHUS Sieber ex Spreng.

Syst. Veg. 4(2): *Cur. Post.* 22, 25 (1827).

(Greek *pseudēs*, false; *anthos*, flower; because in one species, *P. pimeleoides*, the small flowers clustered at the summit of the branchlets resemble one showy flower.)

Prepared by J.Z. Weber (updated by T.M. Spokes)

Chrysostemon Klotzsch in Lehm., *Pl. Preiss.* 2: 232 (1848); *Chorizotheca* Müll.Arg. *Linnaea* 32: 76 (1863).

Heath-like monoecious shrubs, glabrous to scabrous, pubescent or with sparse, long spreading hairs; leaves alternate or opposite, petiolate, coriaceous, margins entire or toothed, midrib prominent abaxially; stipules small, subulate or rarely with a broad base. **Flowers** in upper axils, solitary (rarely 2 or 3); calyx segments (4–) 6, petals absent, glands absent; males flowers often several together, shortly pedicellate; calyx segments petaloid, in 2 whorls, subequal; stamens 3, 5 or 6, filaments free or shortly united at the base, with a small disc; anthers dorsifixed with 2 separate cells dehiscing by longitudinal slits; female flowers usually solitary, sessile or shortly pedicellate; calyx segments (4–) 6 in 2 whorls unequal; disc absent; ovary 2- or 3-lobed, with diverging stigmatic lobes, (2) 3-celled, with (1) 2 ovules per cell; styles (2) 3, free or shortly connate. **Capsule** 1-celled, 1-seeded by abortion, separating into 3 bivalved segments at maturity; seeds ovoid to oblong, smooth; carunculate; endosperm copious, embryo linear, the cotyledons longer but scarcely broader than the radicle.

A genus of 9 species endemic to Australia, one species restricted to S.A.

References: Webster & Morley (1985); Halford & Henderson (2003).

1. **Pseudanthus micranthus** Benth., *Fl. Austral.* 6: 59 (1873). — *Phyllanthus tatei* F.Muell., *S. Sci. Rec.* 2: 55 (1882); *Micrantheum tatei* (F.Muell.) J.M.Black, *Fl. S. Austral.* 2: 356 (1924). — **Illustr.:** J.Z.Weber & J.Morley, *J. Adelaide Bot. Gard.* 7: 212 (1985).

Dwarf shrubs 10–20 cm high; branchlets arising from a woody tap root, minutely pubescent with short stiff thick hairs, often reddish; leaves alternate, glabrous, shortly petiolate, petioles c. 0.5 mm long; lamina orbicular or ovate, 2–6 × 1–2.5 mm, coriaceous, the midrib sometimes terminating in a fine mucro; stipules triangular to filiform, to 1 mm long, brown, often caducous. **Flowers** yellow with a reddish pink or reddish brown margin; male flowers in axils on terminal leafy shoots, several to many, 1–1.5 mm long, on pedicels one-third of their length; calyx segments 6, subequal, ovate, yellow with a red tint dorsally, first imbricate, later rotate; stamens (2) 3, filaments free basally, alternating with the lobes of the disc and joined near the apex to form a crown of red anthers; female flowers solitary, scattered among males, subsessile, 2.5–3.5 mm long; calyx of 3 lanceolate outer segments and 2 ovate inner segments; ovary 2 or 3-celled, each cell at first 2-ovulate; styles 2 or 3, divergent, undivided. **Capsule** sessile, smooth or slightly rugose, obliquely ovoid, 3–5.5 mm long, yellowish green becoming tinged red with age, 1-celled and 1-seeded by abortion; seed subglobular to ovoid, 2.5–3.5 × 2.5–3 mm, brown, smooth, shiny; carunculate. **Fringed pseudanthus. Fig. 2.**

S.A.: SL, .KI. Endemic to the southern Fleurieu



Fig. 2. *Pseudanthus micranthus*. A. habit; B. branch; C. male flower; D. female flower; E. fruit; F. seed. Drawing by G.R.M. Dashorst, from *Flora of South Australia* 2: 765, Fig. 409 (1986).

Peninsula and Kangaroo Island. Flowers: all year round.

Phyllanthus tatei F.Muell. was described from the Bundaleer Range in the Northern Lofty region, which falls far out of the usual distribution of the species; the location given is generally considered to be incorrect (Weber & Morley 1985).

(Rare status in S.A.)

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Pl. 1. *Micranthemum demissum*. **A**, shrubs in pink gum woodland, Cox Scrub Conservation Park, Fleurieu Peninsula; **B**, shrub, SE of Myponga, Fleurieu Pen.; **C**, flowering branchlets with pink buds; **D**, shoot with developing fruit and two female flowers above two male flowers. Photos A, B & C, P.J. Lang; D, P.J. Lang, DENR.