



## 74 PICRODENDRACEAE <sup>1</sup>

Miguel F de Salas <sup>2</sup>

Monoecious or dioecious trees, shrubs or subshrubs. Leaves alternate, opposite or verticillate, simple to palmate, margin entire or dentate; stipules small, caducous, or absent. Inflorescence axillary, spicate, racemose or paniculate. Flowers pedicellate, regular, unisexual. Sepals 3–8, imbricate, free. Petals absent. Stamens 3–30, filaments free or connate. Ovary superior, (2–)3(–5)-locular, (1–)2 ovules per locule; styles undivided, rarely bifid. Fruit a capsule, rarely a drupe. Seeds 1 or 2 per locule, normally carunculate.

A family of 24 genera and 96 species, mostly in the tropics, in Central and South America, Africa, south-east Asia and Australasia. Nine genera and 41 species in Australia, two genera and four species in Tasmania. Picrodendraceae are in the Malpighiales, as a sister family to the Phyllanthaceae, in a clade that also contains the Linaceae, Ixonanthaceae, Peraceae, Rafflesiaceae and Euphorbiaceae.

Synonymy: Micrantheaceae, Pseudanthaceae.

Key references: Halford & Henderson (2003); Webster (1994, 2014).

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

1. Leaves in groups of 3; margin somewhat thickened, concolorous with lamina

1 *Micranthemum*

1: Leaves single; margin thickened, much paler than lamina

2 *Pseudanthus*

### 1 MICRANTHEUM

*Micranthemum* Desf., *Mém. Mus. Hist. Nat.* 4: 253 (1818).

Synonymy: *Micranthea* F.Muell., *Victoria - Parliamentary Papers- Votes and Proceedings of the Legislative Assembly* 11 (1853) *orth. var. Caletia* Baill., *Étude Euphorb.* 553, t. 26 (1858) *p.p. Allenia* Ewart., *Proc. Roy. Soc. Victoria* 22: 7 (1909). *Micranthemum* subgenus *Allenia* (Ewart) Pax & K.Hoffm., *Nat. Pflanzenfam.*, ed. 2 [Engler & Prantl] 19c: 224 (1931) *nom. illeg.*

Monoecious shrubs. Stems erect, much branched; branchlets glabrous or pubescent. Leaves pseudo-3-foliolate; stipules as large as lamina; lamina coriaceous, margins entire. Flowers solitary or in small clusters in upper leaf axils, bracteate. Male flowers pedicellate. Calyx of 4–6 tepals, in 2 whorls, inner ones often larger. Stamens 3 or 4 (not in Tas) 6(–9); anthers 2-celled, dehiscing longitudinally. Female flowers sessile or subsessile. Perianth as in male flowers. Ovary (2–)3-locular, 2 ovules per locule; styles 2 or 3, simple, stigma along inner face. Fruit a capsule, ovoid to cylindrical-ellipsoid, 2- or 3-celled, 3-lobed. Seeds 2 per cell, or 1 by abortion, obloid, smooth, carunculate.

A genus of four species, endemic to Australia. Two species in Tasmania, of which one (*M. serpentinum*) is endemic.

Webster (2014) contends that *Micranthemum* is pseudo-trifoliolate with the stipules being as long as (and identical to) the leaves. This is in contrast to Grüning (1913) and Jeanes (1999) who consider the leaves to be

1 This work can be cited as: de Salas MF (2020). Picrodendraceae, **version 2020:1**. 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/treatments/picrodendraceae/>

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

in ternate clusters. Although this treatment follows Webster (2014), minute, caducous appendages that might be stipules are evident in both *M. hexandrum* and *M. serpentinum*.

- |  |                         |
|--|-------------------------|
| 1. Leaf apex acute, margin glabrous. Male flowers on pedicels 2.5–7 mm long.   | 1 <i>M. hexandrum</i>   |
| 1: Leaf apex obtuse, rounded or truncate, margin scabridulous, rarely glabrous. Male flowers on pedicels to 1.7 mm long. | 2 <i>M. serpentinum</i> |

**1 *Micrantheum hexandrum*** Hook.f., *London J. Bot.* 6: 283 (1847) [as '*Micranthemum hexandrum*']

*River tridentbush*

*Micranthea hexandra* F.Muell., *Victoria - Parliamentary Papers - Votes and Proceedings of the Legislative Assembly* 11 (1853) *orth. var.*; *Caletia micrantheoides* Baill., *Étude Euphorb.* 554 t.26 (1858) *nom. illeg., nom. superfl.*; *C. hexandra* (Hook.f.) Müll.Arg. *Prodr.* [A. P. de Candolle] 15(2): 194 (1866).

*Illustrations*: Harden, *Fl. New South Wales* 1: 402 (1990). Orchard, *Aspects of Tasmanian Botany* 63, fig. 3 (1991). Jeanes, *Fl. Victoria* 4: 73, fig. 11a (1999). Manning *et al.*, *A Guide to Flowers & Plants of Tasmania*, ed. 5, 107 (2019).

Erect shrub to 3 m tall. Stems erect, branched freely; branchlets densely but shortly hispid. Leaves in 3s at alternate nodes; petiole glabrous, c. 0.8 mm long; lamina linear to narrowly oblanceolate, flat, or slightly concave above, slightly discoloured, (3–)6–16(–22) mm long, (1.0–)1.5–2.5(–3.5) mm wide, glabrous, adaxial surface with midrib obscure, abaxial surface slightly paler with midrib slightly raised, base tapering gradually into petiole, margins flat, slightly thickened, glabrous, apex acute with a short dark apiculum. Flowers unisexual, mostly male, solitary or in small clusters of 2–3; bracts minute, dark blackish brown, narrowly triangular. Male flowers pedicellate; pedicel (2.5–)4–7 mm long; tepals 6, spreading, creamy white, in two whorls, outer 3 narrowly ovate, (0.8–)1.3–1.7 mm long, c. 1 mm wide, hooded, inner 3 obovate to orbicular, 2.0–2.5(–3) mm long, flat with margin reflexed and minutely fimbriate; stamens 6(–9), filaments entire 1.3–2.3 mm long, anthers dorsifixed, c. 0.7 mm long. Female flowers pedicellate; pedicels 1–3 mm long; tepals 6, creamy white, outer 3 ovate, c. (2.0–)2.5–3.0 mm long, (0.8–)1.1–1.3 mm wide, hooded, inner 3 narrowly ovate, 3.1–3.5(–4.0) mm long, 1.7–2.3(–3.0) mm wide, apex rounded; ovary 3-lobed, glabrous, green, c. 1 mm long, 3-locular, each locule with 2 ovules; styles 3, flattened, c. 1 mm long, apices spreading. Fruit an ovoid capsule, glabrous, 5–8 mm long, 4.5–6.0 mm wide, perianth and styles persistent. Seed cylindrical, 3.5–4.0 mm long, 1.3–1.5 mm wide, light reddish brown, glossy, caruncle short, cream. Flowering Sep.–Nov.

Tas. (TNS, TNM, BEL, FUR, TSE). Also Vic., NSW, Qld. Common in open and closed shrubberies in sclerophyll forest, usually in riparian corridors on the east coast and northeast, generally at low elevation. There is an unusually high-elevation, but otherwise morphologically indistinguishable population on Mt Arthur (NE of Launceston) at approximately 1,000 m elevation.

**2 *Micrantheum serpentinum*** Orchard, *Aspects of Tasmanian Botany* 60 (1991) *Western tridentbush*

*Illustrations*: Orchard, *Aspects of Tasmanian Botany* 60, fig. 1 (1991). Whiting *et al.*, *Tasmania's Natural Flora* 159 (2004).

Small to medium erect shrubs or subshrubs 1–2(–3) m tall. Stems ascending, branched freely; branchlets densely but shortly hispid. Leaves in 3s at alternate nodes; petiole glabrous or with a few hispid hairs abaxially, 0.2–0.5 m long; lamina oblong or obovate to narrowly oblong or narrowly obovate, concavo-convex or flat, slightly discoloured, (2.5–)4–9 mm long, 1.5–3.3 mm wide, surfaces glabrous or a few hispid hairs occasionally extending proximally onto abaxial midrib, adaxial surface glossy, midrib obscure, abaxial surface paler, subglossy, midrib usually apparent, base obtuse or tapering, margin flat or rarely slightly recurved, slightly thickened, distally scabridulous, rarely glabrous, apex rounded or obtuse or truncate or rarely retuse, mucronulate, the small dark mucro somewhat recurved. Flowers unisexual, with more male than female flowers, solitary or rarely in small clusters, in axils of upper leaves; bracts dark reddish brown, short, triangular. Male flowers pedicellate; pedicel 1.0–1.7 mm long; tepals 6, spreading, yellow suffused with red, in two whorls of 3, outer ones ovate, 0.7–1.2 mm long, 0.7–0.8 mm wide, hooded, inner ones broadly obovate to ± orbicular, (1.5–)1.8–2.3(–2.6) mm long, 1.2–1.7 mm wide, flat with margins reflexed; stamens 6, filaments entire, c. 1.3 mm long, anthers dorsifixed, c. 0.6 mm long. Female flowers shortly pedicellate, pedicels c. 0.5

mm long; tepals 6, erect, outer ones greenish yellow, turning reddish apically, oblong, 1.4–1.7 mm long, 0.7–1.0 mm wide, hooded, acute, inner ones greenish yellow, oblong, (1.5–)1.8–2.1 mm long, (0.5–)0.8–1.1 mm wide, apex rounded, spreading; ovary globose-trigonal, glabrous, green, c. 1 mm long, 3-locular, each locule with 2 ovules; styles 3, flattened. Fruit an ovoid capsule, glabrous, 2.8–3.8 mm long (excluding styles), clasping perianth styles persistent, styles 2.3–2.7 mm wide. Seed oblong to suborbicular, c. 2 mm long, 1.3–1.5 mm wide, creamy-brown, glossy; caruncle short, paler. Flowering Sep.–Nov., fruiting Jan.

Tas. (TWE) Endemic. Common to abundant, but confined to small areas of serpentinite geology on the west coast in heathland, rocky hillside shrubberies and roadsides. Easily distinguished from *M. hexandrum* by its glossy elliptical to obovate leaves with an obtuse apex (rather than matte, oblanceolate to narrowly oblanceolate leaves with an acute to acuminate apex).

## 2 PSEUDANTHUS

*Pseudanthus* Spreng., *Syst. Veg.* ed. 16 [Sprengel] 4(2): *Cur. Post.* 22, 25. (1827).

Synonymy: *Caletia* Baill., *Étude Euphorb.* 553, t. 26 (1858) *p.p.*

Monoecious shrubs. Stems erect, ascending, decumbent, procumbent or prostrate, much branched; branchlets glabrous or pubescent. Leaves alternate, opposite or decussate, shortly petiolate, simple; stipules minute, persistent; lamina coriaceous, margins entire, thickened. Flowers solitary or rarely in clusters of 2–3, in upper leaf axils, bracteate. Male flowers shortly pedicellate. Tepals (5–)6, in 2 whorls. Stamens (3–5–)6, in 2 whorls; filaments free, erect, stout, outer ones shorter; anthers 2-celled, dorsifixed. Female flowers sessile or shortly pedicellate. Tepals (4–)6, in 2 whorls. Ovary (2–)3-locular, (1–)2 ovules per locule; styles (2–)3, stout, persistent. Fruit a capsule, ovoid to cylindrical-ellipsoid, 1-seeded by abortion, opening into 3 bivalved segments. Seeds smooth, carunculate.

An Australian genus of nine species, two species in Tasmania.

Key references: Halford & Henderson (2003).

- |  |                              |
|--|------------------------------|
| 1. Tepals pink to red, broad, ovate to obovate or broadly oblong. Locules with 2 ovules                          | 1 <i>P. divaricatissimus</i> |
| 1: Tepals creamy-white, narrowly-oblong to oblong or lanceolate or narrowly obovate. Locules with a single ovule | 2 <i>P. ovalifolius</i>      |

**1 *Pseudanthus divaricatissimus* (Müll.Arg.) Benth., *Fl. Austral.* 6: 60 (1873)** *Redflower pseudanthus*

*Caletia divaricatissima* Müll.Arg., *Linnaea* 32: 79 (1863). *Caletia divaricatissima* var. *genuina* Müll.Arg., *Flora* 47(31), *nom. inval.*: 486 (1864); *Pseudanthus divaricatissimus* var. *genuinus* (Müll.Arg.) Grüning, *Pflanzenr.* (Engler) 58: 30 (1913), *nom. inval.*

*Illustrations*: Harden, *Fl. New South Wales* 1: 403 (1990).

Procumbent to prostrate spreading shrubs. Stems branching freely; branchlets glabrous. Leaves opposite and decussate, or crowded and appearing distichous, or alternate; stipules triangular, 0.5–0.8 mm long, maroon-brown becoming gray or translucent with age, margins fimbriate, decurrent along the stem, decurrent margins glabrous to scabridulous, apex acuminate with a pale ciliate tip; petiole 0.25–0.5 mm long; lamina narrowly elliptical to elliptical or ovate, slightly concavo-convex, (2–)3–5(–6.5) mm long, (1.2–)1.5–2.2 mm wide, surfaces glabrous, adaxial surface glossy, drying with transverse wrinkles, midrib obscure, abaxial surface drying smooth, midrib slightly raised, base rounded, margins flat or slightly recurved, thickened, paler than lamina, scabridulous, apex rounded to obtuse or acute, tip recurved. Flowers solitary in axils of upper leaves, sometimes appearing clustered from reduction of internodes and subtending leaves; bracts similar to stipules, dark reddish brown, ovate, 0.4–0.5 mm long, margin and adaxial surface pubescent with crinkled hairs. Male flowers pedicellate; pedicels 0.7–1.2 mm long; tepals 6, dark pink to red, ± flat, ovate to obovate, 0.8–1.5 mm long, 0.5–0.8 mm wide, spreading, margins entire, apex rounded or obtuse. Stamens 6, filaments entire, free; anthers 0.3–0.4 mm long. Female flowers sessile or pedicellate; pedicellate flowers with pedicel up to 1 mm long; tepals 6, pink to red, ovate to broadly oblong, 1.2–1.5 mm long, 0.6–0.9 mm wide, adaxial surface distally pubescent, abaxial surface glabrous, margins hispid to minutely fimbriate,

apex acute to obtuse or rounded. Ovary trigonal-globose, glabrous, green, 0.3–0.6 mm diameter, trilocular, each locule with two ovules; styles 0.5–0.9 mm long, erect, stigmas short, recurved. Fruit sessile or shortly pedicellate; tepals persistent; capsule ovoid, 4.0–4.5 mm long, 2.3–2.8 mm wide, glabrous. Seed broadly ovoid to subglobose, 2.4–2.8 mm long, 2.1–2.4 mm wide, testa glossy, pale tan to dark brown; caruncle well-developed, conical, approximately 0.5 mm long and 1.1 mm wide, paler than the testa. Flowering and fruiting through the year, peak flowering in spring.

Tas. (TSE); also NSW, Vic. Rare, local on heathland and heathy woodland on the east coast near Coles Bay. Easily distinguished from *P. ovalifolius* by its pink to red flowers with short wide tepals, relatively longer leaves with a recurved apex, and bi-ovular locules (magnification required).

**2 *Pseudanthus ovalifolius*** F.Muell., *Trans. & Proc. Philos. Inst. Victoria* 2: 66 (1857) *Roundleaf pseudanthus*  
*Caletia ovalifolia* (F.Muell.) Müll.Arg., *Linnaea* 34: 55 (1865).

*Illustrations*: Harden, *Fl. New South Wales* 1: 404 (1990). Jeanes, *Fl. Victoria* 4: 73, fig. 11d (1999).

Compact procumbent shrubs to 30 cm tall. Branches ascending to erect, glabrous. Leaves subopposite, decussate or sometimes alternate; stipules broadly triangular to broadly ovate, 0.5–1.0 mm long, dark brown becoming translucent gray, margins erose to fimbriate, decurrent along stem, decurrent margins hispidulous, apex acute, obtuse, sometimes acuminate, tip a dark glandular hair; petiole 0.2–0.4 mm long; lamina oblong-elliptic, narrowly elliptic or almost orbicular, concavo-convex, (1.5–)2–4.5(–5.5) mm long, 1–2 mm wide, surfaces glabrous but occasionally papillose to hispid hairs on abaxial midrib, adaxial surface glossy, drying with transverse wrinkles, midrib obscure, abaxial surface drying smooth, midrib slightly raised, base rounded to cordate, margins flat, thickened, conspicuously paler than lamina, minutely papillose, apex obtuse to rounded, occasionally minutely mucronate, tip straight or slightly recurved. Flowers solitary in axils of upper leaves, sometimes appearing clustered through reduction of subtending leaves and internodes; bracts similar to stipules, dark brown, ovate, 1.0–1.5 mm long, margin and adaxial surface pubescent, apex entire or 3-toothed. Male flowers pedicellate; pedicels 0.5–1.2 mm long; tepals 6, creamy white, keeled, narrowly-oblong to oblong or narrowly obovate, 1.3–2.5 mm long, 0.5–0.8 mm wide, spreading, margins entire, apex rounded to obtuse. Stamens 6, filaments entire, free; anthers 0.3–0.4 mm long. Female flowers sessile; tepals 6, pink to reddish brown at the base, grading to creamy-white distally, lanceolate to narrowly obovate, slightly keeled, 1.1–2.2 mm long, 0.2–0.5 mm wide, glabrous on both surfaces, margins erose or irregularly toothed, apex acute to acuminate. Ovary trigonal-globose, glabrous, green, 0.7–1.2 mm diameter, trilocular, each locule with a single ovule; styles 1.2–2.3 mm long, erect, stigmas long, spreading. Fruit sessile; tepals persistent; capsule ovoid, 3.5–4.0 mm long, 1.9–2.2 mm wide, glabrous. Seed ovoid, 2.5–2.8 mm long, 1.5–1.7 mm wide, testa glossy, tan to brown; caruncle well-developed, ± pyramidal, approximately 0.6 mm long and wide, paler than the testa. Flowering and fruiting through the year, peak flowering in spring.

Tas. (FUR); also NSW, Vic. Rare, found on heathland and heathy woodland on the Furneaux Islands. Can be distinguished from *P. divaricatissimus* by its creamy-white flowers with long tepals, broader, often orbicular leaves, and uni-ovular locules (magnification required).

## REFERENCES

- APC (Australian Plant Census) <https://biodiversity.org.au/nsl/services/apc>  
APNI (Australian Plant Name Index) <https://biodiversity.org.au/nsl/services/apni>  
AVH (Australia's Virtual Herbarium) (Council of Heads of Australasian Herbaria) <http://avh.chah.org.au/>  
Halford DA, Henderson RJF (2003) Studies in Euphorbiaceae A.L.Juss. sens. lat. 5. A revision of *Pseudanthus* Sieber ex Spreng. and *Stachystemon* Planch. (Oldfieldioideae Kohler & Webster, Caletieae Müll.Arg.). *Austrobaileya* 6 497–532.  
IPNI (International Plant Name Index) <http://www.ipni.org> or <http://www.us.ipni.org>

NVA (Natural Values Atlas) (Department of Primary Industries and Water: Hobart)

<https://www.naturalvaluesatlas.tas.gov.au/>

Webster GL (1994) Synopsis of the genera and suprageneric taxa of Euphorbiaceae. *Ann. Missouri Bot. Gard.* **81** 33–144.

Webster GL (2014) Euphorbiaceae. In K Kubitzki (Ed) *The Families and Genera of Vascular Plants: XI -- Eudicots -- Malpighiales*. pp. 51–216. (Springer-Verlag: Berlin)

**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/>

## INDEX

<b>A</b>	
<i>Allenia</i> .....	1
<b>C</b>	
<i>Caletia</i> .....	1, 3
<i>Caletia divaricatissima</i> .....	3
<i>Caletia divaricatissima</i> var. <i>genuina</i> .....	3
<i>Caletia hexandra</i> .....	2
<i>Caletia micrantheoides</i> .....	2
<i>Caletia ovalifolia</i> .....	4
<b>E</b>	
Euphorbiaceae.....	1
<b>I</b>	
Ixonanthaceae.....	1
<b>L</b>	
Linaceae.....	1
<b>M</b>	
Malpighiales.....	1
<i>Micranthea</i> .....	1
<i>Micranthea hexandra</i> .....	2
Micrantheaceae.....	1
<i>Micrantheum</i> .....	1
<i>Micrantheum hexandrum</i> .....	2, 3
<i>Micrantheum serpentinum</i> .....	1, 2
<i>Micrantheum</i> subgenus <i>Allenia</i> .....	1
<b>P</b>	
Peraceae.....	1
Phyllanthaceae.....	1
Picrodendraceae.....	1
Pseudanthaceae.....	1
<i>Pseudanthus</i> .....	3
<i>Pseudanthus divaricatissimus</i> .....	3, 4
<i>Pseudanthus divaricatissimus</i> var. <i>genuinus</i> .....	3
<i>Pseudanthus ovalifolius</i> .....	4
<b>R</b>	
Rafflesiaceae.....	1
Redflower pseudanthus.....	3
River tridentbush.....	2
Roundleaf pseudanthus.....	4
<b>W</b>	
Western tridentbush.....	2