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Key to the genera of Ericaceae subfamily Epacridoideae (formerly Epacridaceae) in Western Australia

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SHORT COMMUNICATION

The last key to include all Western Australian genera in the former Epacridaceae (now Ericaceae, subfamily Epacridoideae) appeared in *How to know Western Australian Wildflowers Part IIIB* (Blackall & Grieve 1981). Since then there has been much research done (e.g. Powell *et al.* 1997; Taaffe *et al.* 2001; Quinn *et al.* 2003) into higher relationships within the subfamily, aimed at producing a robust, phylogenetically-based generic classification. A recent landmark publication on the molecular phylogeny of the *Styphelia* Sm.–*Astroloma* R.Br. clade of tribe *Stypheliae* Bartl. (Puente-Lelièvre *et al.* 2016), and its taxonomic implications, has in large part brought this process to a conclusion. Its central finding that all members of this large clade should be treated as *Styphelia* has significant implications for the classification of the Western Australian epacrids.

The genus *Leucopogon* R.Br. is now more narrowly circumscribed so as to include only those species with terminal inflorescences and, in all but a few species, sterile anther tips. Those species with strictly axillary inflorescences and lacking sterile anther tips have been transferred to *Styphelia* together with all species previously in the genera *Astroloma* R.Br., *Coleanthera* Stschegl. and *Croninia* J.M.Powell. With the formalisation of these changes (Crayn *et al.* 2020) and no other significant modifications to the generic taxonomy expected, this is considered an appropriate time to present an updated key to subfamily Epacridoideae for Western Australia.

Key to Western Australian genera of Ericaeae subfamily Epacridoideae

All taxa belong to the tribe *Styphelieae* except where indicated by the following prefixes:
C = *Cosmelieae*; E = *Epacrideae*; O = *Oligarrheneae*; R = *Richeeae*

1. Ovules several to numerous per locule; fruit a capsule; leaves sheathing, or if not (*Lysinema*) then filaments free from corolla

2. Stems with annular leaf scars; corolla lobes white, broadly obovate, adaxial surface with a well-defined, medial ridge towards the base ..... (R) **Sphenotoma**

2: Stems without annular leaf scars; corolla lobes pink, red, blue or if white or cream, then not obovate, adaxial surface without well-defined medial ridge towards the base

3. Corolla red, glabrous throughout; filaments adnate to the corolla ..... (C) **Cosmelia**

3: Corolla usually pink, white, cream or blue but if red then lobes hairy; filaments free from corolla tube

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4. Leaves not sheathing; corolla white or cream, tube not fully connate below the lobes, partially split and 5-partite for some of its length..... (E) **Lysinema**

4: Leaves sheathing; corolla pink, white, cream, blue or red, tube fully connate below the lobes..... (C) **Andersonia**

1: Ovules 1 per locule; fruit a fleshy or ± dry drupe; leaves not sheathing, filaments always adnate to the corolla tube

5. Corolla tube conical towards the apex, the visible portion pink or purple, the lobes small, erect or slightly spreading; filaments flat or compressed; inflorescence axis terminating in a flower, no bud rudiment present..... **Conostephium**

5: Corolla tube never conical, other characters never in the above combination

6. Corolla lobes glabrous, papillose, or if partially hairy, the hairs short and inconspicuous (< 0.4 mm long), and restricted either to a central longitudinal band, an adaxial keel or a small basal or apical tuft; corolla sometimes not opening at anthesis

7. Stamens inserted in the lower half of the corolla tube

8. Corolla lobes uniformly flat throughout, with an abruptly narrowed, inflexed tip; hair tufts lacking at base of tube ..... (O) **Needhamiella**

8: Corolla lobes keeled adaxially in the upper half, without an inflexed tip; hair tufts alternating with stamens at base of tube ..... **Melichrus**

7: Stamens inserted at the top of the corolla tube

9. Corolla lobes 4; stamens 2 ..... (O) **Oligarrhena**

9: Corolla lobes 5; stamens 5

10. Corolla white, greenish-white or cream

11. Corolla lobes narrowly triangular, distinctly keeled and papillose adaxially in the upper half; reflexed tufts of hairs in the throat; ovary 3-locular ..... **Brachyloma stenolobum**

11: Corolla lobes ovate or triangular, adaxial surface ± flat, lacking a keel, glabrous or with an inconspicuous hair tuft towards the base; the throat glabrous; ovary 1- or 2-locular

12. Ovary 1-locular; leaf margins recurved or revolute, apex sharply mucronate ..... **Monotoca aristata**

12: Ovary 2-locular; leaves flat or adaxially concave, apex not mucronate

13. Leaves readily abscising from dried specimens, ± sessile, the base cuneate or attenuate; stigma prominently 2-lobed; nectary partite ..... (O) **Dielsiodoxa**

13: Leaves usually persistent on dried specimens, long-petiolate, the base cordate; stigma not lobed; nectary annular, lobed..... **Leucopogon extremus**

10: Corolla pink, red, purple or greenish flushed purple

14. Inflorescence terminal or both terminal and upper axillary, more than 2-flowered

15. Inflorescence ± pendulous; corolla not opening at anthesis; leaves linear with revolute margins, apex sharply mucronate..... **Lissanthe synandra**

15: Inflorescence erect; corolla opening fully at anthesis; leaves

ovate or narrowly ovate, margins not revolute, adaxially concave, apex not mucronate ..... **Leucopogon extremus**

14: Inflorescence strictly axillary, 1 or 2-flowered

16. Corolla tube > 10 mm long, with a glabrous throat, and with 5 hairy appendages close to the base; corolla lobes distinctly keeled towards the apex on adaxial surface, shortly and inconspicuously hairy about the keel ..... **Brachyloma baxteri**

16: Corolla tube < 5 mm long, with hair tufts, or hairy appendages in the throat but never close to the base; adaxial surface of corolla lobes ± flat

17. Corolla red or pink; lobes imbricate in bud ..... **Brachyloma**

17: Corolla deep purple; lobes valvate in bud ..... [1]**Acrotriche** sp. **Israelite Bay**

6: Corolla lobes manifestly hairy, hairs usually evenly distributed across the width of the lobes (concentrated towards the margins in *Styphelia quartzitica*), although sometimes restricted to a transverse subapical band (*Acrotriche*), usually much longer than 0.4 mm; corolla always open at anthesis

18. Inflorescence terminal, and usually also, upper-axillary

19. Leaves with revolute margins abutting the midvein and completely obscuring the abaxial surface, the apex often sharply mucronate; anthers lacking a sterile tip ..... **Lissanthe**

19: Leaf curvature variable, but if margins revolute then some portion (whether towards the apex or base) of the abaxial surface remaining visible, the apex although often acute, never sharply mucronate; anthers usually with a sterile tip ..... **Leucopogon**

18: Inflorescence not terminal, strictly axillary

20. Corolla green or yellow-green, sometimes suffused purple on the tube; lobes usually with hairs confined to a transverse, subapical band, occasionally with very sparse, long hairs scattered across the surface; tube densely hairy in the throat ..... **Acrotriche**

20: Corolla variously coloured, rarely green or yellow-green, but if so, then corolla hairs not distributed as above

21. Inflorescence axis terminating in a flower, no bud rudiment present (few *Styphelia spp*. but all *Stenanthera* have this combination)

22. Corolla white; fleshy appendages absent from base of corolla tube; leaf curvature variable ..... **Styphelia**

22: Corolla red; fleshy appendages present at base of corolla tube; leaf margins revolute ..... **Stenanthera**

21: Inflorescence axis extending above the uppermost floral node and terminating in a bud rudiment (most *Styphelia* spp. have this combination)

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[1]The phrase-named taxon *Acrotriche* sp. Israelite Bay was placed in its nominated genus as a matter of convenience at a time when its closer affinities were unknown. Unpublished molecular data (C. Puente-Lelièvre pers. comm.) now indicate that its closest relationships are with *Brachyloma* Sond. and *Melichrus* R.Br. but further research is needed to confirm its generic placement.

23. Corolla lobe hairs interspersed with numerous papillae ..... **Acrotriche dura**

23: Corolla lobe hairs not interspersed with papillae ..... **Styphelia**

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