





## *Darwinia chantiae* (Myrtaceae), a new species from Western Australia

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### Abstract

The new species *Darwinia chantiae* K.R.Thiele & R.W.Davis (Myrtaceae: Chamelaucieae: Chamelauciinae), endemic in southwest Western Australia where it is restricted to a small area between Morawa and Mullewa in the northern Avon Wheatbelt, is described, illustrated, and compared with the related *D. sphaerica* R.W.Davis & Rye and *D. purpurea* (Endl.) Benth.

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### Taxonomy

#### *Darwinia chantiae* K.R.Thiele & R.W.Davis, *sp. nov.*

Type: 2 km S along Wubin-Mullewa Road from junction of Freeman Road WA, 2 Oct. 2018, R. Davis & T. Hammer RD12925 (holo: PERTH 8171068; iso: CANB, NSW).

*Darwinia* sp. Morawa (C.A. Gardner 2662), Western Australian Herbarium.

Low, dense, much-branched, sprawling to ± prostrate shrubs to 0.3(–0.4) m × 1.5(–2) m; stems glabrous, whitish-corky and irregularly ribbed below each leaf base when young, with pale grey, papery bark when older. Leaves alternate, usually rather crowded towards the ends of the branchlets, bluish-silvery; petioles 0.3–0.5 mm long, poorly defined; blades ± linear to nar-

rowly obovate, 2–3.5 mm long, 0.5–1.1 mm wide, concolorous; oil glands prominent, dark, flattened, 5–10 each side of the midrib and often in an irregular line; margins very narrowly scarious and minutely denticulate; apex often slightly thickened and cucullate, obtuse to subacute. Inflorescences ± hemispherical, crowded at the ends of short branchlets, held ± erect (not nodding), 8–11 mm diam., c. 25–40-flowered; axis depressed-ovoid, not continuing growth after flowering; inner involucral bracts 2.5–4(–5) mm long, broadly ovate, obtuse and with a slightly thickened-cucullate apex, keeled, green with red flushes distally, with broad yellowish or whitish, minutely fimbriate margins at the base; peduncles to 1.2 mm long; bracteoles 3–4 mm long, acute, persistent, translucent, with a fimbriate-winged keel. Flowers 5-merous, 2.5–3.5 mm diam., strongly honey-scented; hypanthium 2.5–3 mm long, the adnate part 1.8–2.3 mm long, with numerous trans-

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verse rows of short, curved, entire to lobed or bifid scales or teeth, the free part 0.5–0.8 mm long, without teeth but minutely papillate, inflated, slightly constricted beneath the perianth; sepals 0.2–0.4 mm long, inserted at the same level as the petals and stamens, broadly oblong to almost semicircular, apically toothed; petals spreading-incurved, ovate or broadly ovate, 1–1.5 mm long, entire, dull crimson; stamens 10, the filaments united for c. half their length to the staminodes, the free filaments 0.3–0.5 mm long; anthers 0.2–0.3 mm long, dark purplish brown to reddish black; staminodes 10, 0.5–1.5 mm long, filiform; ovary 2-ovulate; style 3.5–5 mm long, gently curved, dull crimson; stigma punctiform; substigmatic hairs 0.1–0.15 mm long, in a cylindrical belt 0.3–0.5 mm long. Diaspores as for the hypanthium in size, shape and ornamentation.

**Other specimens examined (all PERTH):** Near Pindar (1346849, 1355961, 1355988, 1355996, 1356046, 4106970, 7440073); Between Mullewa and Morawa (1356011, 1356038, 8524610); SE of Mullewa (1355953); Canna (1356054); Tardun (8591253); Near Wilroy (4107012, 9358595).

**Diagnostic features.** Distinguished from other members of the genus by the alternate leaves, many-flowered, hemispherical, dark crimson inflorescences that are clustered at the ends of branches and held  $\pm$  erect, and numerous transverse rows of entire to lobed or bifid teeth or scales on the adnate part of the hypanthium.

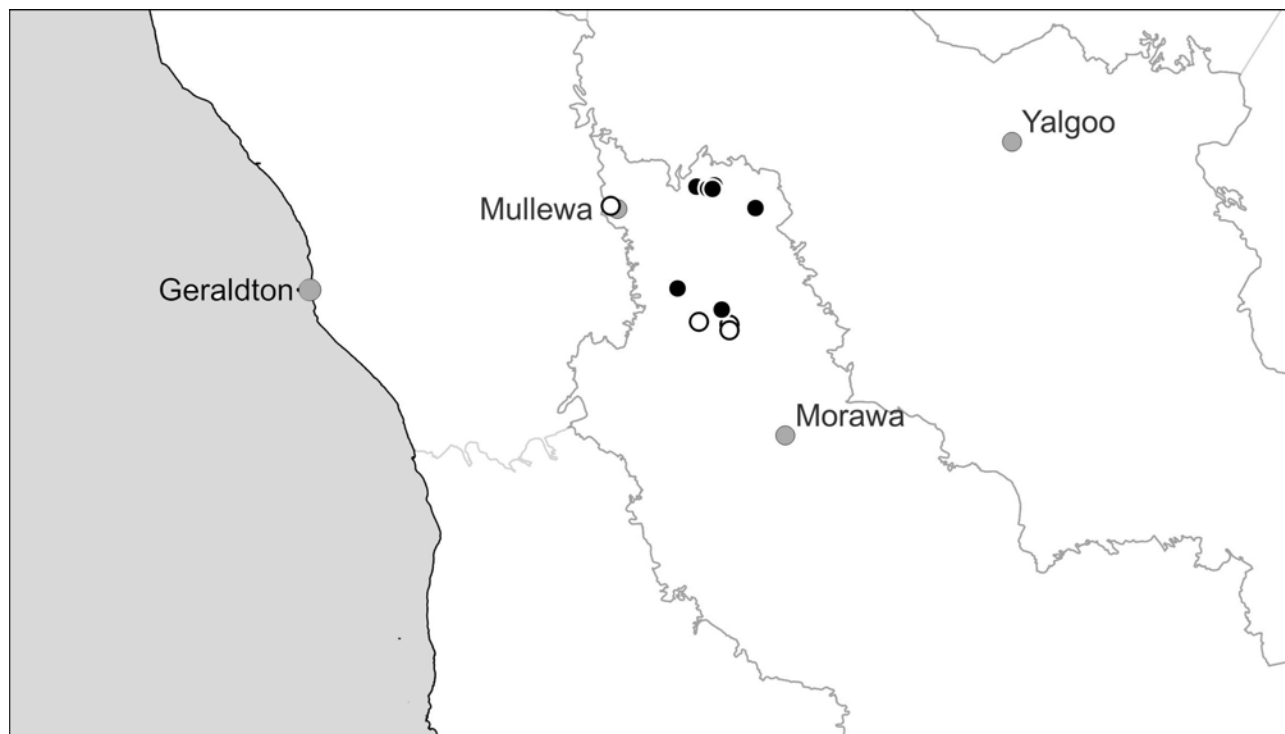
**Phenology.** Flowers August–October, with a peak in September.

**Distribution & habitat.** Occurs between Morawa and Mullewa and near Pindar in the far north of the Avon Wheatbelt IBRA bioregion, in open *Eucalyptus loxophleba* woodlands and tall *Allocasuarina campestris* shrublands, with *A. acutivalvis*, *Acacia acuminata*, *Cryptandra nola*, *Eremophila clarkei*, *Hibbertia hypericoides*, *Melaleuca coroncarpa*, *M. longistaminea*, *M. nematophylla*, and *Philotheca brucei*, on red to yellow sandy clay-loams over granite.

**Conservation status.** Currently listed in Western Australia as a Priority Three species, under the name *Darwinia* sp. Morawa (C.A. Gardner 2662).

**Etymology.** Named in honour of Alanna Chant, Flora Conservation Officer with the Department of Biodiversity, Conservation and Attractions (DBCA) based in Geraldton, for her very significant contributions to growing our knowledge of, and ensuring the conservation of, the flora of the Midwest region of Western Australia, and her much-appreciated mentoring of members of the Geraldton Regional Herbarium and of staff at DBCA.

**Notes.** *Darwinia chantiae* and *D. sphaerica* R.W.Davis & Rye are morphologically close and are sister species in an unpublished molecular phylogeny of *Darwinia* (M. Barrett, pers. comm.), where they belong to a clade that also includes *D. acerosa* W.Fitzg., *D. masonii* C.A.Gardner, and *D. purpurea* (Endl.) Benth., and the phrase-named species *D. sp.* Chiddarcooping (S.D. Hopper 6944), *D. sp.* Corrigin (T. Erickson TEE 308) and *D. sp.* Kirkalocka (M. Crowhurst 296). All these species share broadly similar inflorescences, with flowers well-exposed in heads surrounded by numerous relatively small involucre bracts,



Distribution of *Darwinia chantiae* in Western Australia. Open circles are imprecise or doubtful locations; filled circles are confirmed as accurate,



*Darwinia chantiae*. Photo: Rob Davis.

and hypanthia ornamented with numerous transverse rows of lobed teeth or scales. Members of this clade, including *D. chantiae*, will be transferred to the reinstated genus *Genetyllis* DC. once molecular phylogenies of the Chamelauciinae are completed (M. Barrett pers. comm.).

Davis & Rye (2020) discussed the differences between *D. chantiae* (as *D. sp. Morawa*) and *D. sphaerica* when they described the latter. *Darwinia sphaerica* has  $\pm$  spherical inflorescences, white petals and styles, pale green to brown anthers, and petals inserted distinctly above the sepals, while *D. chantiae* has hemispherical inflorescences with deep red petals and styles and dark purplish brown to reddish black anthers, and petals and sepals inserted at the same level. The involucral bracts in *D. chantiae* are also more prominent and are clearly visible when viewed from above (obscured from above in *D. sphaerica*).

*Darwinia sphaerica* occurs within the geographic range of *D. chantiae*, where it is currently known from a single location on the skirt of a granite outcrop in the vicinity of Canna. *Darwinia chantiae* has also been recorded at Canna, but the collections are old and have imprecise locations. Field observations suggest that the two species do not co-occur.

*Darwinia purpurea* has dark crimson flowers like those of *D. chantiae*, but the inflorescences are larger (to 25 mm diam.) and are flattened-discoid, borne singly at

the ends of downcurved branches, and have a distinct involucre of large (to 8 mm long), crimson bracts, while *D. chantiae* has hemispherical inflorescences to 10 mm diam. that are crowded and  $\pm$  erect at the ends of short branches and are subtended by greenish bracts to 4 mm long.

*Darwinia chantiae* was included in a key to members of its clade by Davis & Rye (2020), under the name *D. sp. Morawa*.

### Disclosures

The authors have no conflicts of interest to declare.

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### References

Davis RW & Rye BL (2020). Life on the rocks: *Darwinia sphaerica* (Myrtaceae: Chamelaucieae), a new species currently known from one granite outcrop. *Nuytsia* 31: 233–237.



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