

SHORT COMMUNICATIONS

Rediscovery and reinstatement of *Hibbertia leptopus* (Dilleniaceae), an overlooked and apparently rare species from Western Australia

Hibbertia leptopus Benth. was described by Bentham in 1863 based on a specimen collected by James Drummond in Western Australia. It was accepted as a distinct though poorly known species by early authors (e.g. Gardner 1930–31), known only from the type specimen. In 1995, J.R. Wheeler reduced it to a synonym of *H. stellaris* Endl. on Western Australia's plant census, presumably on the basis of its close similarity to that species and the fact that no specimens clearly assignable to *H. leptopus* had been collected in over 150 years.

In 2009, my attention was drawn by M. Hislop at the Western Australian Herbarium to an unusual *Hibbertia* Andrews similar to but clearly different from *H. stellaris*. Examination of material at the Western Australian Herbarium revealed four matching specimens, all collected from a small area of the Western Australian wheatbelt near Calingiri and Goomalling. Subsequent examination of material at the National Herbarium of Victoria (MEL) showed that these specimens closely match the type of *H. leptopus*. With the benefit of the new specimens and field studies at several of the populations, it is clear that *H. leptopus* differs from *H. stellaris* in a number of significant features and should be reinstated. Given that it is poorly known and apparently rare, a description, notes and amendment to a key to *Hibbertia* in Western Australia are provided below, to facilitate further surveys and a better assessment of its conservation status and needs.

Taxonomy

Hibbertia leptopus Benth., *Fl. Austral.* 1: 41 (1863). *Type*: Swan River, Western Australia, *s. dat.*, J. Drummond n. 11 (*syn*: MEL 666876).

Erect shrubs to 0.5 m high, glabrous except for minute, white hairs in the leaf axils and on the margins of the leaf base. *Leaves* erect to spreading, somewhat fasciculate on short shoots, not petiolate, slightly expanded and stem-clasping at the base, linear to very narrowly obovate, (8–)10–15(–30) mm long, 0.5–1.5 mm wide, loosely to tightly folded (when tightly folded appearing terete with a prominent adaxial groove); apex obtuse. *Flowers* solitary, axillary; peduncles 6–13 mm long, slender; *bracts* 2, at the base of the peduncle (almost hidden by the base of the flower-subtending leaf), scarious, brown, ovate, 0.6–1.5 mm long, obtuse. *Sepals* thin-textured, green to reddish brown, 2.6–3.0 mm long, the midrib not prominent; outer sepals broadly acute; inner sepals broader, obtuse. *Petals* yellow, obovate, 3.5–4 mm long, deeply notched. *Stamens* (9–)11(–15), all around the carpels, some single, others in groups of 2 or 3; filaments *c.* 1 mm long; anthers globular to cuboid, *c.* 0.5 mm long and broad, dehiscing by broad slits. *Staminodes* absent. *Carpels* 3, globular, glabrous; styles spreading, *c.* 0.7 mm long. *Ovules* 1 per carpel. *Fruiting carpels* not seen.

Specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 5 Aug. 2008, *J.M. Collins* 475 (PERTH); Sep. 2007, *M. Hislop & M. Griffiths* WW 201-39 (PERTH); 28 July 2003, *F. Hort & J. Hort* 1970 (PERTH); 9 Aug. 2003, *F. Hort & J. Hort* 1971 (PERTH6639429); 22 Aug. 2009, *K.R. Thiele* 3767 (PERTH).

Distribution. Known only from three sites in the Avon Wheatbelt IBRA bioregion (Department of the Environment, Water, Heritage and the Arts 2008), from south-west of Calingiri to south-east of Goomalling. It occurs in an area known as the Victoria Plains, discovered in 1841 by an exploring party including James Drummond and his son Johnston, and traversed again by James and Johnston Drummond on a collecting trip in 1843 (Erickson 1969). All three sites are to the east of and disjunct from the area of distribution of *H. stellaris* (Figure 1).

Habitat. Known populations occur on light-textured sandy soils in open woodland with a heathy understorey. Associated species include *Eucalyptus rudis*, *Corymbia calophylla*, *Banksia grandis*, *B. prionotes*, *B. attenuata*, *Xylomelum angustifolium*, *Eremaea pauciflora*, *Hakea trifurcata*, *H. incrassata*, *Adenanthos drummondii* and *Mesomelaena preissii*.

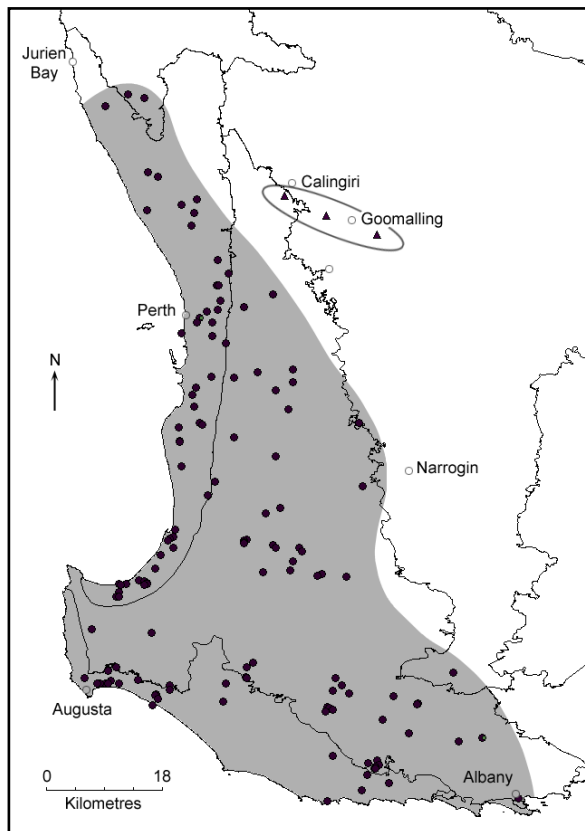


Figure 1. Distribution of *Hibbertia leptopus* (▲, distribution circled) and *H. stellaris* (●, distribution shaded) in the south-west of Western Australia. Boundaries of IBRA v. 6.1 regions are shown (Department of the Environment, Water, Heritage and the Arts, 2008).

Conservation status. To be listed as Priority Two under the Department of Environment and Conservation (DEC) Conservation Codes for Western Australian Flora (M. Smith, pers.comm.). Of the three known populations, one is in a nature reserve and two are in remnant woodland on private land. Most of the native vegetation in the area of occurrence has been cleared for agriculture, and few remnants exist. Further, all populations are small, ranging from 6–150 plants.

Etymology. The epithet presumably refers to the very slender pedicel of the flowers, a character shared with *H. stellaris*.

Notes. *Hibbertia leptopus* differs most noticeably from *H. stellaris*, a common and widespread species in the western part of the south-west of Western Australia, in having leaves which are folded along the midrib (Figure 2), when tightly so appearing like terete leaves with a prominent adaxial groove. By comparison, leaves of *H. stellaris* are always flat, appearing subterete when very narrow but without an adaxial groove. Both species are glabrous except for short, white hairs in the leaf axils (usually obscured by the sheathing leaf bases); in *H. leptopus* there is also a minute, white, ciliolate fringe on the sheathing leaf base which is lacking in *H. stellaris*.

Hibbertia stellaris usually grows in or around moist sandy flats and winter-wet swamps, often with restiads and sedges, although some collections from jarrah and marri woodland fringing moist flats are presumably on better-drained soils similar to those supporting *H. leptopus*. Flowers in southern populations of *H. stellaris* are often deep orange, while those of northern populations (including adjacent to the area of distribution of *H. leptopus*) are uniformly yellow-flowered.

Both species have (9–)11(–15) stamens around the three glabrous carpels, with usually three grouped (but free) stamens each alternating with two single stamens (i.e. a pattern of 3-1-3-1-3 stamens around the carpels), and short, almost globular anthers. They appear to be closely related.



Figure 2. *Hibbertia leptopus*. Left – fresh flower (PERTH8339562); right – flowering shoot from dried specimen (PERTH6639429). Arrows highlight the grooved (folded) adaxial leaf surface.

Key to taxa

The Key to Western Australian taxa of *Hibbertia* in Wheeler (2004) should be amended at couplet 56 as follows:

56. Flowers orange or yellow. Stamens 10–15. Leaves linear, 15–25 mm long

56a. Leaves flat or subterete, glabrous at the base **H. stellaris**

56a. Leaves folded, when narrow appearing to be terete with an adaxial groove, appressed-hairy at the base with a ciliate margin..... **H. leptopus**

56. Flowers yellow. Stamens very numerous. Leaves very narrowly elliptic, 40–70 mm long**H. glaberrima**

Acknowledgements

I thank Mike Hislop for first drawing my attention to this species, and the remarkable Fred and Jean Hort for again finding an important and rare species; in this case, they made the first collections of *Hibbertia leptopus* in the 160 years since it was first collected by James Drummond. I thank also Pina Milne and David Cantrill (National Herbarium of Victoria) for help in accessing the type specimen of *H. leptopus*, and Mike Hislop, Kelly Shepherd, Juliet Wege and Ryonen Butcher for helpful comments on the manuscript.

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