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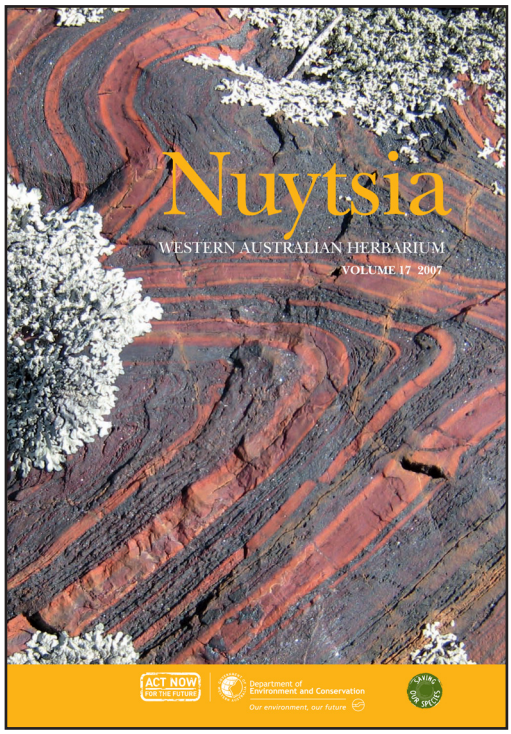

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Lasiopetalum ferraricollinum (Malvaceae *s. lat.*: Lasiopetaleae), a new species from the ironstone hills near Forrestania, Western Australia

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Abstract

Bennett, E.M. & Shepherd, K.A. *Lasiopetalum ferraricollinum* (Malvaceae *s. lat.*: Lasiopetaleae), a new species from the ironstone hills near Forrestania, Western Australia. *Nuytsia* 17: 67–72. *Lasiopetalum ferraricollinum* E.M.Benn. & K.A.Sheph. is a new species restricted to a number of ironstone outcrops in the Coolgardie (COO) and Mallee (MAL) IBRA regions. This species, while morphologically allied to *L. compactum* Paust, is characterised by recurved leaf margins, white to cream flowers and the presence of both scattered stellate hairs and glandular hairs on the outside of the calyx. A description, distribution map, and images of the new species are provided.

Introduction

Charles Gardner made the first collection of *Lasiopetalum ferraricollinum* E.M.Benn. & K.A.Sheph. in 1962 (*C.A. Gardner* 14013). Initially identified as *L. indutum* Steud., it was later included under *L. compactum* Paust (Paust 1974). Paust (*in sched.*) noted, however, that this collection and another (*P.G. Wilson* 7024), were atypical on account of their non-woolly calyces. While undertaking taxonomic research for the ongoing "Flora of Australia" revision of *Lasiopetalum* Sm., it became apparent that a number of more recent collections at the Western Australian Herbarium (PERTH) were this same taxon. Subsequent examination of fresh material collected in the field confirmed that it warranted recognition as a new species and the phrase name *Lasiopetalum* sp. Ironcaps (P.G. Wilson 7024) was applied.

This species is only known from five locations and is restricted to a narrow band of ironstone hills to the north and south of Forrestania. One of these populations is located near a gold mine. As this species is geographically restricted it was considered a priority to name and describe prior to the full revision of the genus.

Methods

This study is based on the examination of collections at PERTH and fresh material. Floral characters were scored from material stored in 70% ethanol or from rehydrated herbarium specimens. The species distribution categories are based on the Interim Biogeographic Regionalisation for Australia (IBRA) Version 5.1 as modified on FloraBase (Thackway & Cresswell 1995; Western Australian Herbarium

1998–; Environment Australia 2000). The distribution map was created using DIVA-GIS freeware Version 5.2.0.2 and is based on IBRA Version 6.1 (Department of the Environment and Water Resources 2007) with coordinates from collections lodged at PERTH.

Taxonomy

Lasiopetalum ferraricollinum E.M.Benn. & K.A.Sheph., *sp. nov*.

Folia anguste oblonga, discoloria; calyx albus vel cremeus, extus stellato-pilosus et glanduloso-pilosus; petala atro-rubra, extus glanduloso pilosa.

Typus: 3.8 km west along Carstairs Road from Forrestania Road, Western Australia,13 September 2000, *K. Kershaw & K. Kerrigan* 2252 (*holo*: PERTH 06506763; *iso*: K, MEL).

Lasiopetalum sp. Ironcaps (P.G. Wilson 7024), in G. Paczkowska & A.R. Chapman, West. Austral. Fl.: Descr. Cat. p. 544 (2000).

Upright *shrub* 0.25–1 m high, 0.25–1 m wide. *Stems* covered with dense ferruginous stellate hairs 0.5–0.7 mm diam., mature stems brown, glabrescent. *Stipules* absent. *Petioles* 5–20 mm long with tomentose ferruginous stellate hairs 0.4–0.6 mm diam. *Leaves* reflexed, narrowly ovate to oblong, 25–70 mm long, 5–15 mm wide, apex obtuse, margin recurved, discolourous; adaxial surface with scattered to dense white or ferruginous stellate hairs 0.3–0.4 mm diam., glabrescent; abaxial surface with tomentose ferruginous stellate hairs 0.2–0.3 mm diam., over white stellate hairs 0.3–0.5 mm diam. and turning grey with age; midrib depressed on upper surface, raised on lower surface. *Inflorescence* a compact dichasium of 5–9(–15) flowers. *Peduncles* 10–27 mm long, with tomentose ferruginous stellate hairs 0.4–0.5 mm diam. *Pedicels* 0.7–1 mm long. *Bract* 1, at base of pedicel, oblong, 1.4–3 mm long, 0.7–1.5 mm wide. *Bracteoles* 3, at base of calyx, oblong to narrowly ovate, sometimes fused at the base, the central slighty longer than the laterals, 2–6 mm long, 1.3–1.6 mm wide, outer surface with tomentose ferruginous stellate hairs 0.4–0.6 mm diam., inner surface with scattered stellate hairs 0.2–0.3 mm diam. and sessile glandular hairs. *Calyx* white to cream, almost divided to the base with the tube 1.3–1.5 mm long; lobes 5–6.5 mm long, 2–3 mm wide; outer surface with dense stellate hairs 0.7–2 mm diam. and scattered glandular hairs; inner surface with scattered stellate hairs at the apex and margin and scattered small glandular hairs at base. *Petals* present, 5, dark red, ovate to circular, 0.5–0.8 mm long, 0.6–0.7 mm wide, outer surface with glandular hairs, inner surface with scattered, marginal stellate hairs 0.4–0.5 mm diam. *Anthers* 5, red with a cream edge at the apex and base, 2–3 mm long, 0.7–1 mm wide. *Filaments* 1.5–2 mm long, glabrous or with scattered glandular hairs at the base. *Ovary* 3-celled, 2 mm long, 2 mm wide, with white stellate hairs. *Style* 2–4 mm long, glabrous. *Ovules* 2 per cell. *Fruits* and *seeds* not seen. (Figures 1; 2A, B)

Selected specimens examined. WESTERN AUSTRALIA: S side of Mount Holland, mid lower slope, 6 Sep. 1998, *F. Alcock s.n*. (PERTH); Bounty mine, N of Mount Holland, 7 Sep. 1994, *G. Barrett s.n*. (PERTH); 14 km N of Mount Madden, 28 Aug. 1962, *C.A. Gardner* 14013 (PERTH); *c*. 25m NE of South Ironcap Trig., 7 Sep. 1996, *N. Gibson & K. Brown* 3106 (PERTH); on ridge W of Forrestania – Southern Cross road *c*. 9.6 – 10 km N of Bounty Mine turnoff , 9 July 1998, *K. Kershaw s.n*. (PERTH); on ridge W of Forrestania – Southern Cross Road, 9.6 km N of Bounty Mine turnoff, 6 Sep. 1998, *K. Kershaw s.n*. (PERTH); summit and E slopes of South Ironcap, 13 Sep. 2000, *K. Kershaw & L. Kerrigan* KK 2247 (PERTH); 100 m W along Carstairs Road from the intersection with the Forrestania – Southern Cross

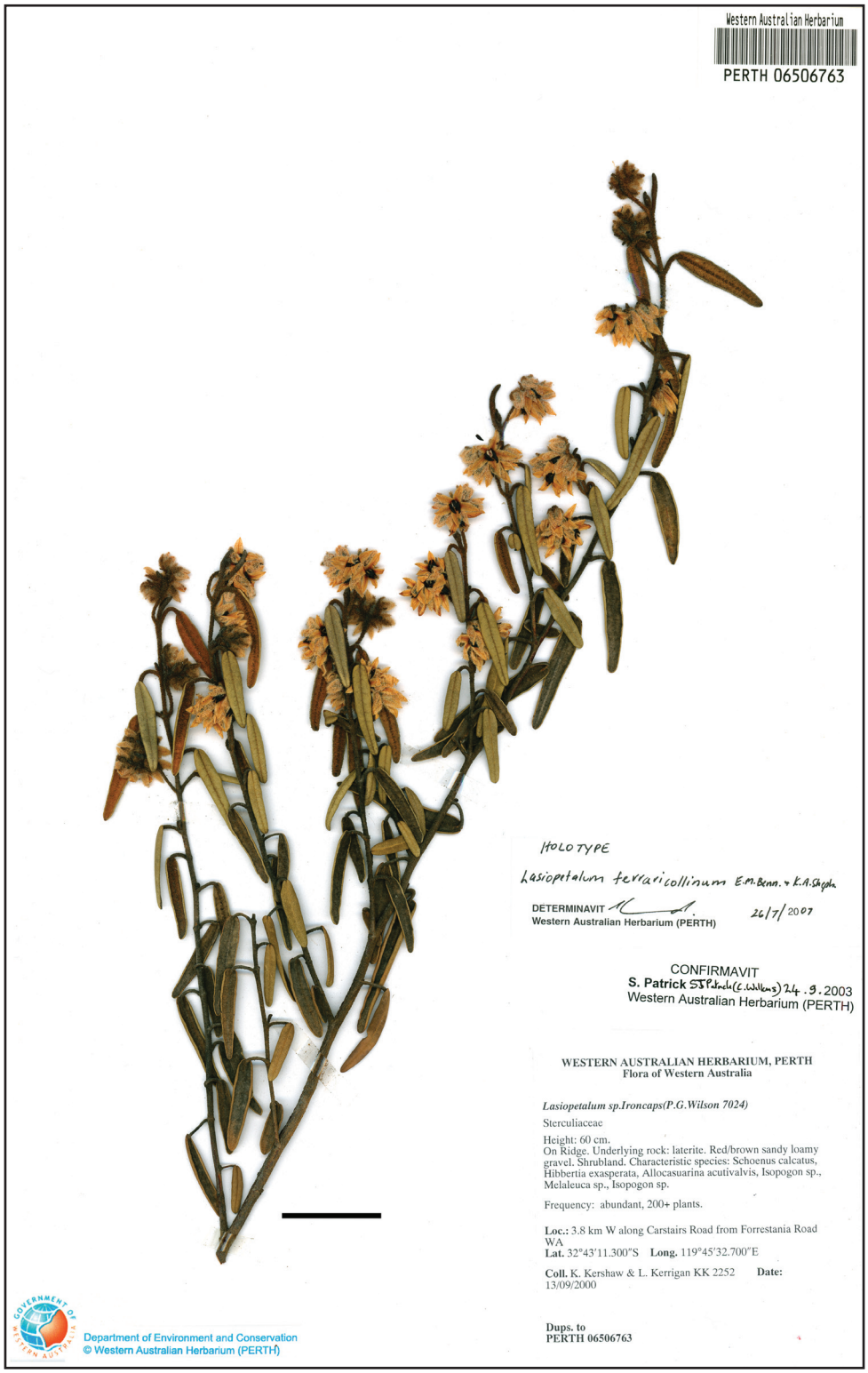

Figure 1. Holotype of *Lasiopetalum ferraricollinum* (*K. Kershaw & K. Kerigan* 2252), scale = 3cm.

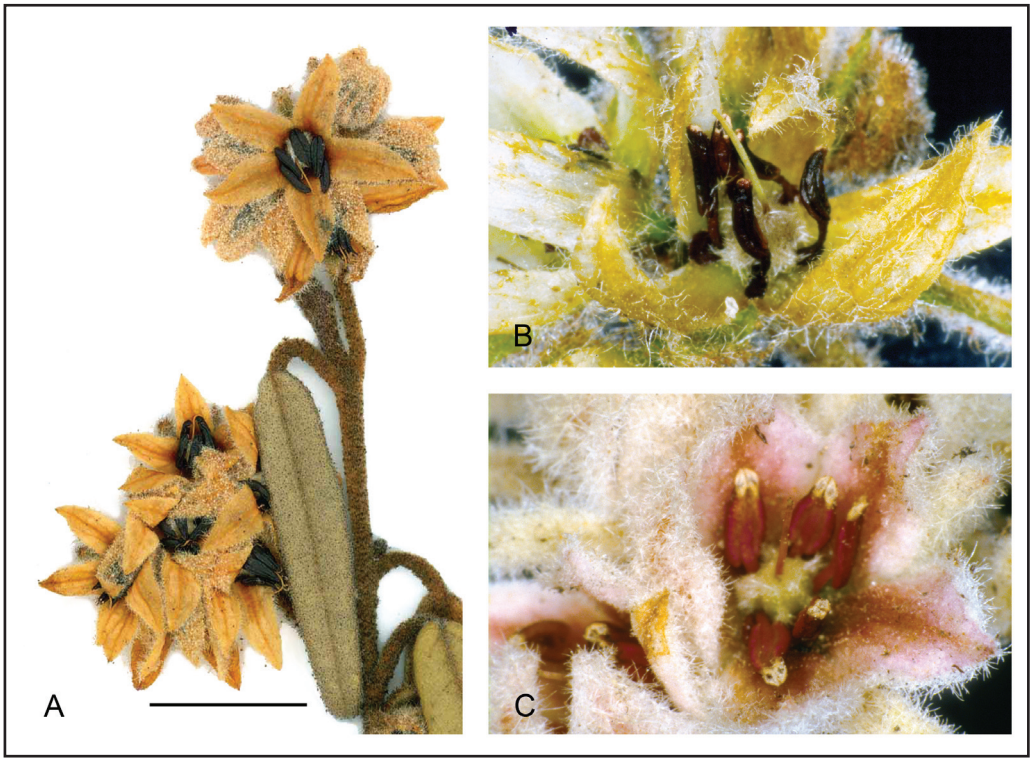

Figure 2. A – *Lasiopetalum ferraricollinum*, detail of the holotype (*K. Kershaw & K. Kerigan* 2252) showing the reflexed leaves and compact inflorescence, scale = 1 cm; B – *L. ferraricollinum* (*C.F. Wilkins* CW 1427) an open flower with scattered stellate and glandular hairs on the outside of the calyx; C – *L. compactum* (*C.F. Wilkins et al.* CW 408) an open flower with tomentose stellate hairs on the outside of the calyx.

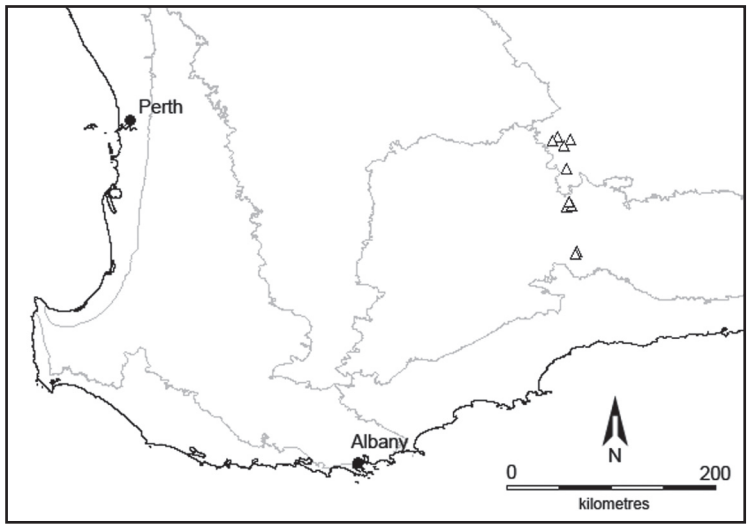

Figure 3. Distribution of *Lasiopetalum ferraricollinum* in southern Western Australia.

Road, 13 Sep. 2000, *K. Kershaw & L. Kerrigan* KK 2250 (PERTH); S of Lake Cronin crossroads, 30 Aug. 1986, *S. Patrick* SP 304 (PERTH); near Bounty Gold mine, Forrestania, *c*. 100 km E of Hyden, 9 Oct. 2002, *V. Yeomans* 4 (11400) (PERTH); South Ironcap summit, 7 Sep. 1999, *J.R. Wheeler* 3961 (PERTH); S side of Mt Holland, 6 Sep. 1998, *C.F. Wilkins, F. & G. Alcock, C. & P. Taylor, G. & M. Garth* CW 1398 (PERTH); 12.6 km S along Forrestania – Southern Cross Road near South Ironcap, 27 Oct. 1999, *C.F. Wilkins & J.A. Chappill* CW 1427 (PERTH); Baanga Hill, 16 km SE of Lake King township, 11 Aug. 1968, *P.G. Wilson* 7024 (PERTH).

Distribution and habitat. Known from the Coolgardie (COO) and Mallee (MAL) regions of the Eremaean and South-West Botanical Provinces respectively (Figure 3). This species occurs on ironstone and lateritic hills near Forrestania in sandy or sandy-loam gravels associated with Mallee Shrubland.

Phenology. This species flowers from August to October.

Conservation status. This species was previously listed as Priority One under the Department of Environment and Conservation's (DEC) Conservation Codes for Western Australian Flora but was removed from the list in 2001 following the discovery of large populations. While this species is relatively common in its habitat with populations ranging from upwards of 200 to 700 plants with an estimated 10,000 plants at one site; it is restricted to only a few ironstone outcrops in southern Western Australia. Moreover, one of these populations is located near a gold mine and therefore it may be under threat from mining activity.

Etymology. From the Latin (*ferrarius* – pertaining to iron; *collinus* – living on low hills), in reference to its occurrence on low ironstone hills.

Affinity. *Lasiopetalum ferraricollinum* is closely allied to *L. compactum* with which it shares the same inflorescence structure – a dense dichasium. It is readily distinguished by its distinctly recurved leaves and the inner surface of the calyx being white to cream, often with green colouration at the base. In contrast, *L. compactum* has spreading or slighly recurved leaves and a pink inner surface of the calyx. Both species have stellate hairs on the outer surface of the calyx, however, as Paust (*in sched*.) noted, these hairs are less dense in *L. ferraricollinum* (Figures 2B, C). Furthermore, *L. compactum* has only stellate hairs on the outside of the calyx whereas *L. ferraricollinum* also has scattered glandular hairs.

Notes. When fresh material of this plant is pressed it leaves an oily smudge mark on the surrounding paper, which can be observed to a lesser extent on the folders around individual specimens at PERTH.

Acknowledgements

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