

Eremophila rarissima (Scrophulariaceae), a new rarity from Western Australia

Bevan J. Buirchell^{1,2} and Andrew P. Brown¹

¹Western Australian Herbarium, Biodiversity and Conservation Science,
Department of Biodiversity, Conservation and Attractions,
Locked Bag 104, Bentley Delivery Centre, Western Australia 6983

²Corresponding author, email: bevanbuirchell@gmail.com

SHORT COMMUNICATION

Eremophila rarissima Buirchell & A.P.Br., *sp. nov.*

Type: Wongan Hills, Western Australia [precise locality withheld for conservation reasons], 15 February 2009, R.J. Dadd 14 (*holo*: PERTH 08239037).

Eremophila glabra subsp. Wongan Hills (M. Hislop 2079), Western Australian Herbarium, in *FloraBase*, <https://florabase.dpaw.wa.gov.au/> [accessed 9 February 2020].

Illustration. A.P. Brown & B.J. Buirchell, *A field guide to the Eremophilas of W. Austral.*, p. 136 (2011), as *E. glabra* R.Br. subsp. ‘Wongan Hills’.

A low growing, spreading, much-branched *shrub* 30–50 cm high, 75–100 cm wide. *Branches* grey, terete, old and new growth covered in short glandular hairs. *Leaves* green, alternate, porrect, lamina linear to oblanceolate, flattened, 10–20 mm long, 1–4 mm wide, with scattered short glandular hairs that are more prominent on the abaxial surface, margins dentate distally. *Flowers* 1 per leaf axil, upright, pedicellate; pedicel terete, 5–6 mm long, glandular-hairy. *Sepals* 5, imbricate, subequal, narrowly triangular, acute, 3.5–8 mm long, 1–1.5 mm wide, not enlarging after flowering; outer and inner surfaces green, glandular-hairy. *Corolla* zygomorphic, bilabiate, 11–22 mm long, outer and inner surfaces glandular-pubescent; lobes reddish pink, unspotted, unequal, recurved. *Stamens* 4, prominently exerted, paired and attached to the lateral portions of the tube; filaments mostly glabrous, with the odd, short, glandular hair; anthers glabrous. *Ovary* glabrous; *style* glabrous. (Figure 1)

Diagnostic features. *Eremophila rarissima* may be distinguished from all other members of *E. sect. Stenochilus* Benth. by the following combination of characters: a low growing habit; glandular hairs on the vegetative and reproductive parts; green, linear to oblanceolate leaves with a flattened lamina 10–20 × 1–4 mm; imbricate, subequal, narrowly triangular sepals; and a corolla that is reddish pink, zygomorphic and with prominently exerted stamens.



Figure 1. *Eremophila rarissima*. A – flowering plant *in situ* showing the low, spreading habit; B – flowering stem, showing the characteristic reddish pink and upright flowers. Photographs by B.J. Buirchell from the type locality.

Other specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] Sep. 1947, A. Ashby 127 (AD *n.v.*, PERTH); 1 Aug. 2000, M. Hislop 2079 (PERTH); 13 Sep. 1968, M.E. Phillips WA/68 913 (CANB *n.v.*, PERTH).

Distribution and habitat. Four collections of this species have been made, three north of Wongan Hills and one near Kulin some 300 km to the south-east. North of Wongan Hills it is found growing among *Acacia*, *Hakea preissii* and *Maireana* in grey loamy soil adjacent to saline flats and amongst open mallee shrubland with *Eucalyptus erythronema* and *Melaleuca marginata* in bare pale brown clayey loam. The collection from Kulin lacks habitat information.

Conservation status. Recently listed as Priority One under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–), under *E. glabra* subsp. Wongan Hills (M. Hislop 2079). This species is currently known from just one extant population, which is on a narrow, degraded road reserve.

Etymology. The epithet is derived from the Latin *rarissimus* (very rare) and is a reference to the species being known from just four collections (and only one extant population) from areas that have been intensively cleared for farming.

Affinities. *Eremophila rarissima* belongs to *E.* sect. *Stenochilus* and based on current morphological evidence has affinity to *E. viridissima* Chinnock and *E. subteretifolia* Chinnock (Table 1). It is similar to *E. viridissima* in having upright flowers, but these are reddish pink (vs yellow) with a smooth ovary (vs tuberculate). *Eremophila rarissima* also grows in grey loamy soils in shrublands rather than on red sandy rises around salt lakes like *E. viridissima*. *Eremophila rarissima* is found some 450 km west-south-west of where *E. viridissima* is located.

From *E. subteretifolia*, *E. rarissima* differs in having reddish pink flowers (vs orange-red) and linear to oblanceolate, flattened leaves (vs linear and subterete) with prominently dentate margins, especially towards the apex (vs entire or occasionally dentate distally). *Eremophila subteretifolia* grows on white sand over clay in open woodlands around salt lakes while *E. rarissima* is not associated with lake

margins and grows in grey loamy clays in open mallee shrublands. *Eremophila rarissima* is found some 150 km (Kulin collection) to 300 km north-west of *E. subteretifolia*.

When *E. rarissima* was given its phrase name it was included as a subspecies of *E. glabra* R.Br. because of its affinity to *E. glabra* subsp. *verrucosa* Chinnock. Chinnock (2019) elevated *E. glabra* subsp. *verrucosa* to species level as *E. viridissima*, thus removing the only subspecies of *E. glabra* that had glandular hairs on the leaves, stems, sepals and pedicels. As *E. rarissima* has these characters and has greater affinity to *E. viridissima* and *E. subteretifolia*, we considered it was misplaced as a subspecies of *E. glabra*.

Notes. Chinnock (2007) included a collection from Kulin under *E. glabra* subsp. *verrucosa* stating ‘Although I have included the collection from Kulin under this subspecies, the material lacked fruits and together with other differences this population may possibly represent another taxon’. We consider this collection to represent a southern population of *E. rarissima* on account of its flattened leaves, upright, reddish pink flowers and the glandular hairs on vegetative and reproductive parts. While we have searched around Kulin we have not been able to locate the collection site. We have also visited the site where M. Hislop collected *E. rarissima* in 2000 but were unable to locate any plants. The only extant population of *E. rarissima* is the one north of Wongan Hills, which comprises only eight plants.

The species does well in cultivation but is compromised in its natural habitat.

Table 1. A morphological comparison of *Eremophila rarissima*, *E. subteretifolia* and *E. viridissima*.

Character	<i>E. rarissima</i>	<i>E. subteretifolia</i>	<i>E. viridissima</i>
Height (m)	0.3–0.5 × 0.75–1.0	0.05–0.15 × 1.0–1.5	0.15–0.5 × 0.5–1.3
Stem hairs	glandular	glandular	absent, glandular or stellate
Leaf shape	linear to oblanceolate, flattened in T.S.	linear, flattened or subterete in T.S.	linear to oblanceolate, flattened in T.S.
Leaf hairs	glandular	absent or glandular	absent or stellate
Leaf margin	dentate distally	entire or occasionally dentate	irregularly toothed
Leaf dimensions (mm)	10–20 × 1–4	12–19 × 0.9–1.3	12–20 × 1.7–4.5
Pedicel hairs	glandular	glandular	glandular or absent
Pedicel length (mm)	5–6	2–6	4–7
Sepal shape	narrowly triangular	narrowly triangular to lanceolate	ovate-triangular to lanceolate
Sepal hairs	glandular	glandular	glandular or absent
Sepal dimensions (mm)	3.5–8 × 1–1.5	2.5–6 × 1–2	4–8 × 1.2–2.4
Corolla colour	reddish pink	orange red to yellow	yellow
Ovary surface	smooth	smooth	tuberculate

Acknowledgements

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References

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