

Jamesbrittenia bergae (Scrophulariaceae), a distinctive new species from Limpopo, South Africa

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ABSTRACT

Jamesbrittenia bergae P.Lemmer is a new species from the Farm Brakvallei near Thabazimbi in Limpopo [Northern Province]. Large, medium-textured, bright scarlet flowers with yellow throats are borne singly in upper leaf axils; the flowering branches, although terminal, do not form elongated racemes; leaves are greyish green, coarsely serrated. It grows in full sun on ferricrete outcrops.

INTRODUCTION

This distinctive new species was discovered by Mr A.S. Berga, nurseryman and keen indigenous plant grower, on the Farm Brakvallei near Thabazimbi in February 2002 (Figure 1). Photographs and specimens were taken for identification purposes. Literature studies and specimens examined at the C.E. Moss and Bolus herbaria pointed us to the genus *Jamesbrittenia*. The use of the *Jamesbrittenia* key in *The Manuleae. A tribe of Scrophulariaceae* (Hilliard 1994), however, could not aid identification.

A pressed flowering specimen of one of the plants grown from seed collected in the field, was sent for comment to Dr O.M. Hilliard, Royal Botanic Garden, Edinburgh, who is the authority on the taxonomy of the genus. She replied that the plant was unknown to her, but that it might be a hybrid, provided that possible parents occurred in the area. A thorough search at the original locality, however, revealed only *Jamesbrittenia burkeana* (Benth.) Hilliard. In view of the lack of putative parents and the fact that seeds of the plants germinated prolifically with the progeny exactly resembling the original plants, I maintain that this is, indeed, a new species.

***Jamesbrittenia bergae* P.Lemmer, sp. nov.**, species distincta statim floribus pro ratione magnis, splendide coccineis recognita; fortasse *J. accrescenti* (Hiern) Hilliard affinis, sed ab illa colore dissimile florum, tubo corollae 12–18 mm longo (non 18–25 mm longo ut in *J. accrescente*), textura loborum corollae media, apicibus plerumque retusis margineque non colore dilutiori (textura *J. accrescentis* crassa, marginibus pallidis tenuisque, apicibus \pm rotundatis), ovario glabro (in *J. accrescente* minute glanduloso-puberulo), capsulis 4–7 mm \times 2–3 mm (non 7–10 mm \times 3.5–4.5 mm ut in *J. accrescente*), et distributione geographico (in ditione Thabazimbi, non montibus Zoutpansberg dictis vel terra alta provinciae Mpumalanga dictae), distinguitur.

TYPE.—Limpopo, 2427 (Thabazimbi): Farm Brakvallei, southern foothills of Berg van Winde, on ferricrete out-

crops, southern aspect, 1 060 m, (–CB), S.E. Strauss 808 (PRE, holo.!, E!, PRU!).

Multistemmed shrublet up to 200 mm high, with perennial rootstock; stems \pm erect or spreading; most parts strongly and pleasantly herb-scented when crushed; plants very floriferous. *Leaves* alternate, occasionally opposite towards base of stems, spreading, greyish green; lamina elliptic to obovate, (5–)8–15(–25) \times (3–)6–10(–15) mm, tapering towards base, apex \pm obtuse, margin coarsely serrate to irregularly lobed, both surfaces with glandular-hispid hairs, \pm 0.3 mm long, and with evenly distributed, glistening glands, veins impressed above, raised below; petiole $\frac{1}{4}$ – $\frac{1}{3}$ total leaf length. *Flowers* solitary in upper leaf axils, terminal flowers being the youngest. *Pedicels* usually 10–20 mm long. *Calyx* divided almost to base; tube 0.5–1.0 mm long; lobes 5.5–8.0 \times 0.8–1.5 mm, oblong, apex subacute to rounded, densely covered with glandular hairs \pm 0.3 mm long and with scattered glistening glands. *Corolla*: tube 12–18 \times 0.8–1.2 mm, measured midway between base and limb, but \pm cylindrical, abruptly expanding and geniculate near apex, with multicellular glandular hairs, 0.7–1.0 mm long, and scattered glistening cells (Figures 2A; 3); well-bearded on outside of expanded part; mouth rounded, limb nearly regular, 16.5–25.0 mm across lateral lobes; lobes spreading, broadly ovate, 8.2–11.5 \times 8–11 mm, base cuneate, apex distinctly retuse, rarely \pm rounded, outside with few glandular hairs and scattered glistening glands, especially towards base, inside glabrous; lobes medium-textured, brilliant scarlet above, dull whitish below, without a thin-textured, pale margin; throat 3–4 mm diam., bright yellow, with transverse, V-shaped band of hairs on inside not extending onto base of anterior lip. *Stamens*: posticous filaments \pm 0.7 mm long, posticous anthers \pm 0.8 mm long; anticous filaments \pm 1.2 mm long, anticous anthers \pm 1.2 mm long; all filaments distally slightly bearded with clavate hairs; anthers included. *Ovary* 2–3 \times 0.8–1.5 mm, glabrous; style 10–15 mm long; stigma \pm 1 mm long, appearing simple, though minutely bifid, included; nectary not distinct, apparently comprising sterile basal $\frac{1}{4}$ portion of ovary, no nectar secretion observed. *Capsules* 4–7 \times 2–3 mm, slightly shorter, as long as, or just protruding from persistent calyx lobes, glabrous (Figure 2B). *Seeds* \pm elliptic to unevenly shaped (Figure 2C), \pm 0.5 mm long, grey-

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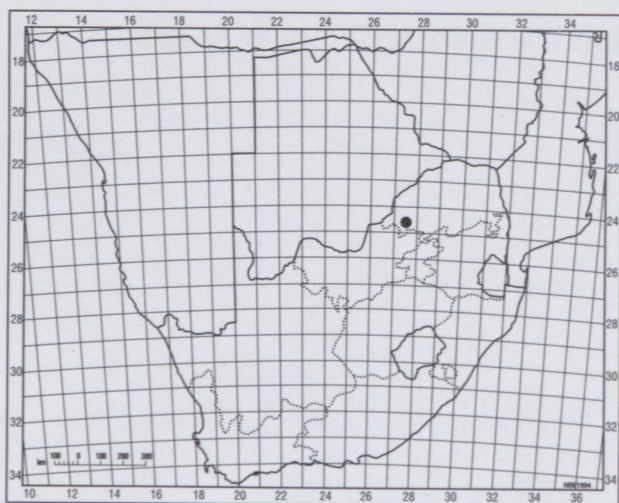


FIGURE 1.—Distribution of *Jamesbrittenia bergae* P.Lemmer in Limpopo [Northern Province].

brown; testa with polygonal cells clearly visible, arranged in \pm longitudinal rows, outer periclinal walls collapsed inwards forming a shallow pit, radial walls smooth (Group 1a *sensu* Hilliard 1994: 85).

The glandular pubescence and the medium-textured corolla lobes are reminiscent of *Jamesbrittenia candida* Hilliard, the habit and general vegetative morphology of *J. accrescens* (Hiern) Hilliard and the flower shape with their arrangement towards tips of stems of *J. grandiflora* (Galpin) Hilliard and *J. macrantha* (Codd) Hilliard. In *J. bergae*, however, the flowering branches, although terminal, do not form racemes with leaves degenerating into bracts. The flower colour is a brilliant scarlet, not white or mauve as in *J. grandiflora* and *J. macrantha*, nor varying from green through yellow, orange-brown, maroon to dark brown as in *J. accrescens*. In the most recent comprehensive key to the species of *Jamesbrittenia* (Hilliard 1994), *J. bergae* keys out as *J. accrescens*. The new species is easily distinguished from the latter by its different floral colour, medium-textured corolla limb (the limb is thick-textured in the case of *J. accrescens*), shorter corolla tube (that of *J. accrescens* being 18–25 mm long and thicker), corolla lobes with the apices usually retuse (not \pm rounded as in *J. accrescens*) and the margin

without a thin-textured, pale, marginal zone (that of *J. accrescens* having a thin, cream to greenish yellow margin). Furthermore, the ovary and capsule of *J. bergae* are glabrous, whereas those of *J. accrescens* are minutely glandular-puberulous. The capsules of *J. bergae* are smaller ($4\text{--}7 \times 2\text{--}3$ mm) than those of *J. accrescens*, which are $7\text{--}10 \times 3.5\text{--}4.5$ mm. *J. bergae*, in addition, has a different habitat and geographical distribution than *J. accrescens*, which is known to grow in rocky places in scrub, often on margins of patches of forest, from the Zoutpansberg eastwards to the eastern highlands of Mpumalanga.

Distribution and ecology: although often locally abundant, *J. bergae* appears to be a rare species, known only from the type locality at present. The plants grow in full sun in crevices on ferricrete outcrops with a southern aspect, in the southern foothills of the 'Berg van Winde' near Thabazimbi, Limpopo [Northern Province] (Figure 1). The altitude varies from 1 056 m to 1 106 m. The area receives an average of 550 mm of summer rain per annum. The vegetation type is Mixed Bushveld (Low & Rebelo 1996).

Herbs and grasses associated with *J. bergae* include *Aristida congesta* subsp. *barbicollis*, *Elionurus muticus*, *Evolvulus alsinoides*, *Merremia tridentata* subsp. *angustifolia* var. *angustifolia* and *Tephrosia longipes* subsp. *longipes* var. *longipes*. Trees and shrubs growing in the vicinity of the new species are *Combretum molle*, *Diplorhynchus condylocarpon*, *Englerophytum magalis-montanum*, *Faurea saligna*, *Ozoroa paniculosa* var. *paniculosa*, *Spirostachys africana*, *Strychnos madagascariensis*, and *Ziziphus mucronata* subsp. *mucronata*. The species referred to were recorded in summer after an average rainy season.

Additional material examined

LIMPOPO.—2427 (Thabazimbi): Farm Brakvallei, southern foothills of Berg van Winde, (–CB), S.E. Strauss 803, 809, 811, 816, 819 (PRE), S.E. Strauss 812 (E).

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REFERENCES

- HILLIARD, O.M. 1994. *The Manuleae. A tribe of Scrophulariaceae*. Edinburgh University Press, Edinburgh.
- LOW, A.B. & REBELO, A.G. 1996. *Vegetation of South Africa, Lesotho and Swaziland*. Department of Environmental Affairs and Tourism, Pretoria.

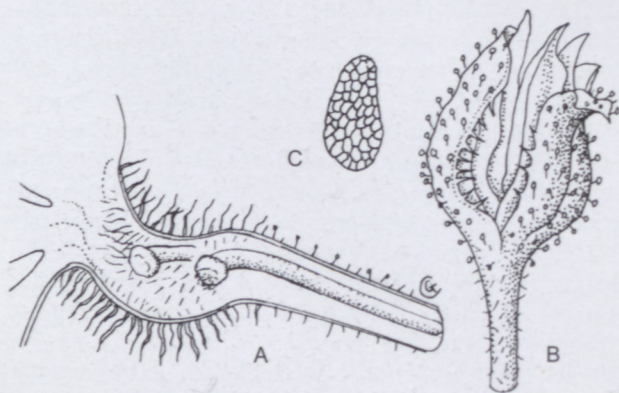


FIGURE 2.—A, 1/5 corolla tube showing position of stamens, $\times 3$; B, ripe fruit capsule, $\times 5$; C, seed, $\times 20$.



FIGURE 3.—*Jamesbrittenia bergae*. Artist: G. Condy. Specimen cultivated from seed collected in the wild.