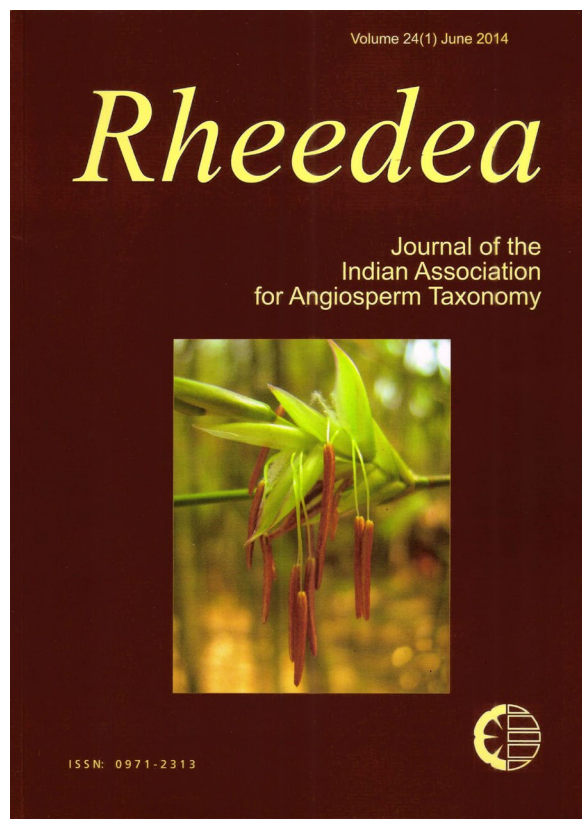




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Taxonomic identity, Rediscovery and Epitypification of *Barleria sepalosa* (Acanthaceae) from Northern Western Ghats, India

K.V.C. Gosavi*, A.D. Nalawade¹ and S.R. Yadav¹

Department of Botany, P. S. G. V. P. M's ASC College, Shahada, Nandurbar, Maharashtra, India.

¹Department of Botany, Shivaji University, Kolhapur – 416 004, Maharashtra, India.

*E-mail: kumarvinodgosavi@gmail.com

Abstract

Barleria sepalosa C.B. Clarke has been collected from Torana fort in Northern Western Ghats after lapse of 128 years. Detailed description and illustration have been provided and epitype is designated.

Keywords: *Barleria sepalosa*, Epitype, India, Maharashtra, Rediscovery, Taxonomic identity

Introduction

Genus *Barleria* L. comprises about 300 species distributed in Africa and Asia. It is represented by 32 species in India (Balkwill & Balkwill, 1997). However, a recent revision (Shendage & Yadav, 2010) on Indian *Barleria* has reported only 26 species.

During our plant exploration of Northern Western Ghats, some specimens of *Barleria* were collected from Torana fort in Pune district. After a perusal of relevant literature including image of the type (K) the authors confirmed its identity as *B. sepalosa* C.B. Clarke which was not collected after the type. It was described by C.B. Clarke in Flora of British India (1884). Cooke in Flora of the Presidency of Bombay (1906) mentioned "there is but one sheet in Herb. Kew with a ticket as above. It contains two pieces of the plant, one 10 inch the other 4 inch long, both upper portions of flowering branches furnished with bracteoles, calyx and capsules but no flowers" (Fig.3-scanned image of type). Shendage & Yadav (2010) synonymised the *B. sepalosa* under *B. lawii* due to single incomplete herbarium specimen (Fig.3) and lack of subsequent collections. The present paper provides an expanded description, illustrations and photographs of the species. An epitype has been designated for the *B. sepalosa*

Barleria sepalosa C.B. Clarke in Hook.f. Fl. Brit. India 4: 487.1884; Cooke, Fl. Pres. Bombay 2:463.1958 (Repr.); Karthikeyan *et al.*, Fl. Pl. India – Dicotyl. 1:6. 2009

Type: INDIA, **Concan**, Gibson 35 (holotype K!).
Epitype: INDIA, **Maharashtra**, Pune district, Torana, N 18°16'.825" E 073°37'.397", 27.11.2012, K.V.C. Gosavi 5995 (CAL! Selected here; Isoepitypi: BSI!, K!, SUK!) - designated here.

Perennial undershrubs; stems erect, up to 1.5 meter high, quadrangular when young, terete when mature, strigose, villous and glandular hairy. Leaves variable ovate to lanceolate, 6–14 × 1.6–8 cm, attenuate at base, acute to acuminate at apex, strigose above and densely on veins, lateral veins 5–12 pairs; reticulation prominent below. Petiole 3–15 mm long, villous. Flowers 1–3, in axillary cymes, often crowded at terminal portion of branches. Pedicels *c.* 2 mm long. Bracts linear-lanceolate, 10–16 × 2–4 mm, 3-nerved, strigose. Outer sepals equal to sub-equal, 3.5–4.5 × 2–2.5 cm, ovate, acute-acuminate at apex, occasionally 2-toothed, distantly serrate, ciliate at margin, strigose on both surfaces, 12–16 veined. Inner sepals linear-ovate, 12–18 × 2–4 mm, acute to acuminate at apex, villous intermixed with glandular trichomes on both sides. Corolla white, bi-lipped (4/1), 6–8 cm long, glandular pubescent outside; tube 3.3–5.5 cm long; lobes obovate-ovate, 1.5–2.5 × 1–2 cm. Fertile stamens 2, exerted; filaments 2.2–4 cm long, glandular pubescent at base; anthers *c.* 5 mm long, grey to black; staminodes 3, *c.* 1 cm long. Disc annular, white, covering *c.* 2/3 of ovary, sparsely hairy. Pollen grains tri-porate, reticulate, collumellae thicker than tectum. Ovary ovoid,

Fig. 1, 2

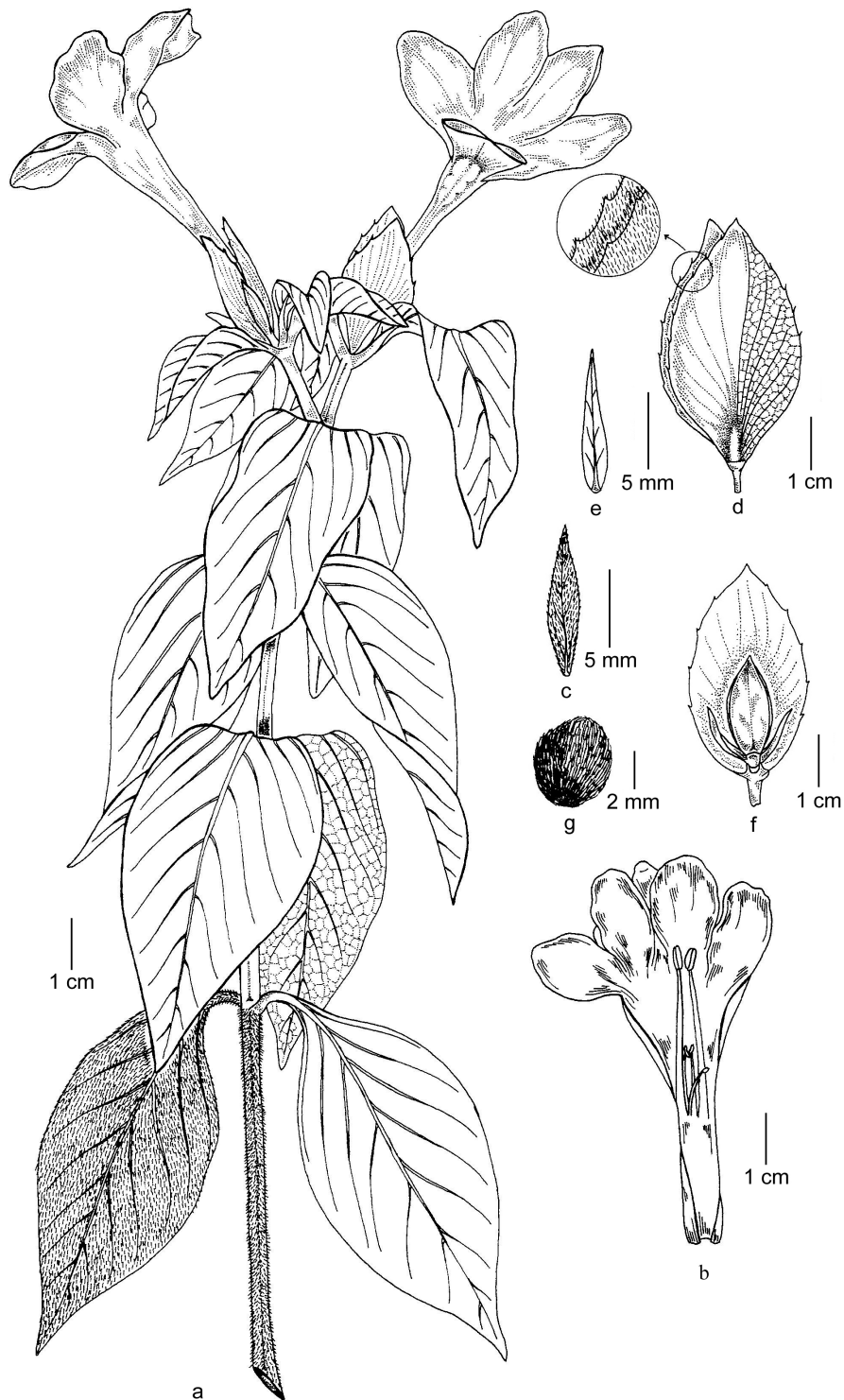


Fig. 1. *Barleria sepalosa* C.B. Clarke: **a.** Flowering twig; **b.** Corolla split opened; **c.** Bract; **d.** Outer sepals; **e.** Inner sepal; **f.** Capsule with calyx; **g.** Seed.

c. 5 mm long, glabrous; style terete, 4–6 cm long, glabrous; stigma 2-lobed. Capsules ellipsoid, 1.5–2.2 × 0.5–0.7 cm, compressed, glabrous. Seeds ovoid, oblongoid to subglobose, 5–7 × 5–7 mm,

truncate at base, clothed with brown-black silky hairs.

Flowering and Fruiting: October - December.

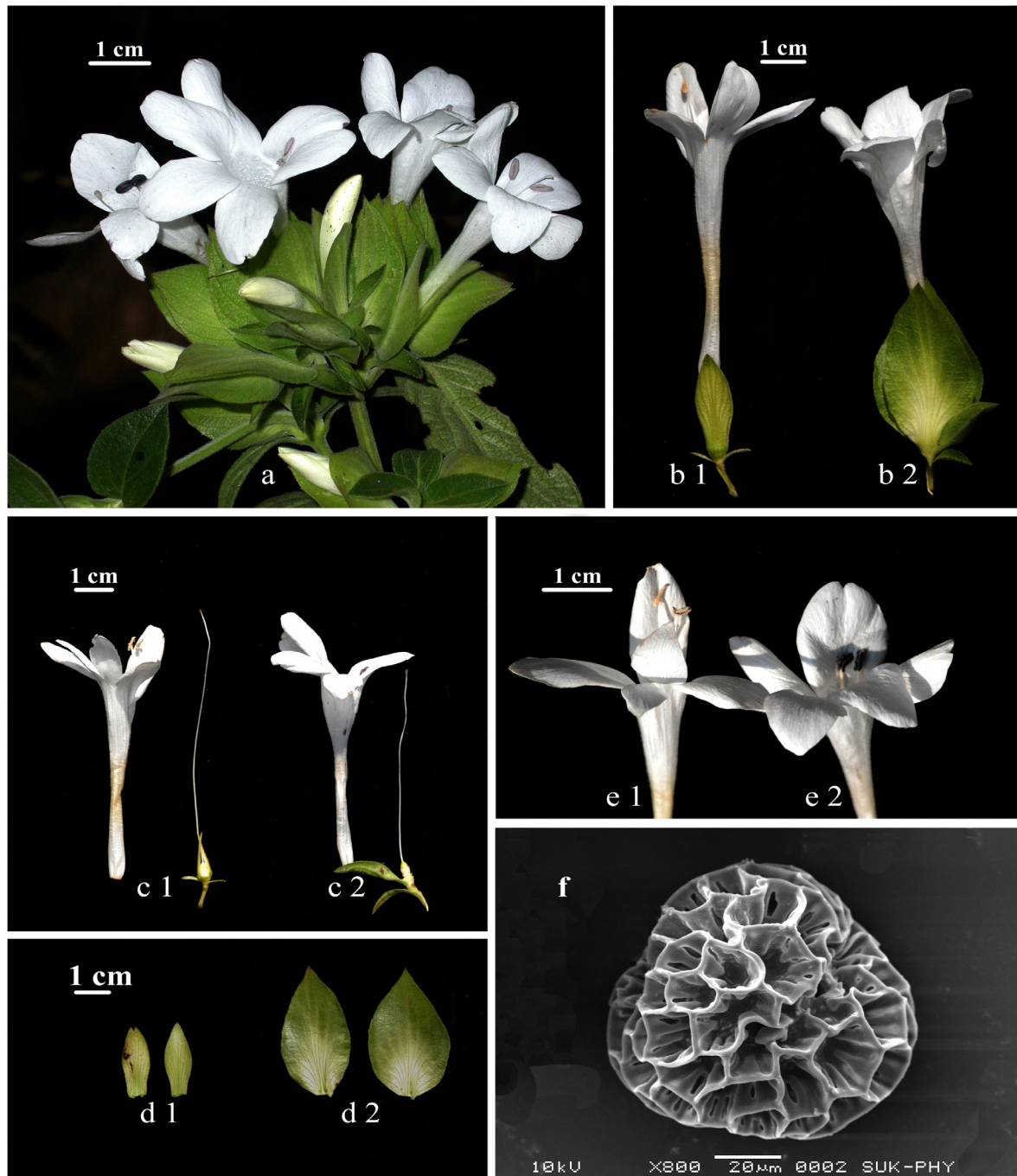


Fig. 2: a. Inflorescence of *B. sepalosa*; b₁, b₂. Flower of *B. lawii* and *B. sepalosa*; c₁, c₂. Corolla and gynoecium of *B. lawii* and *B. sepalosa* respectively; d₁, d₂. Outer sepals of *B. lawii* and *B. sepalosa*; e₁, e₂. Corolla lobes with anthers of *B. lawii* and *B. sepalosa*; f. SEM image of pollen grain of *B. sepalosa*.

Distribution: India (Maharashtra, Pune District, Torana; Concan).

Note: This species is found growing on exposed hill slopes at about 1200 m in at Torana fort in Northern Western Ghats in association with *Abutilon ranadei* Woodrow and Stapf., *Arthraxon*

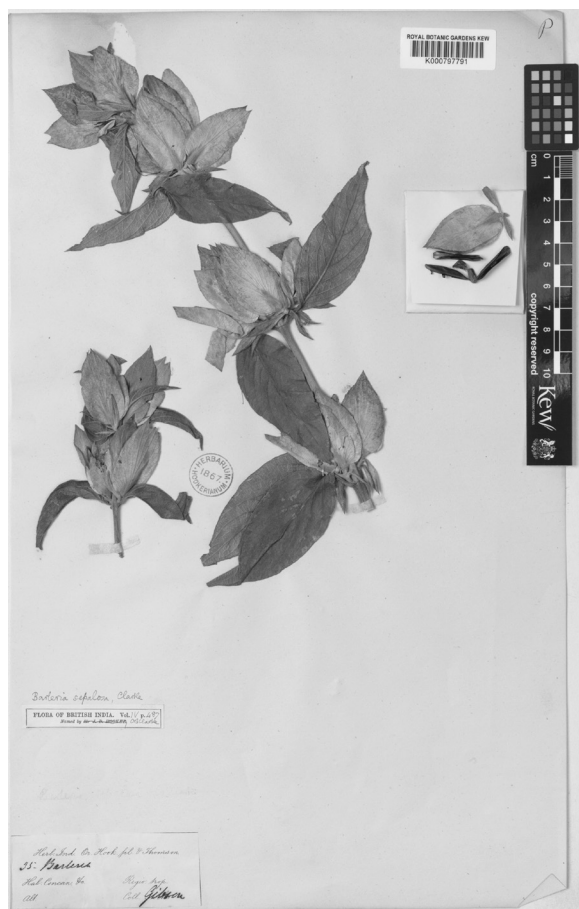
lanceolatus var. *meeboldii* (Stapf.) Welzen, *A. lanceolatus* var. *villosus* (C.E.C. Fisch.) Welzen, *Blepharis repens* Roth, *Dichanthium jainii* (Deshp. and Hemadri) Deshp., *Echinopus echinatus* Roxb., *Rhinacanthus nasutus* (L.) Kurz., *Strobilanthes callosus* Nees, *S. sessilis* Nees, *Swertia densifolia* (Griseb.) Knobl., *Trachyspermum roxburghianum* (DC.) H.

Table 1. Differences between the *Barleria sepalosa* C.B. Clarke and *B. lawii* T. Anderson

Characters	<i>Barleria sepalosa</i>	<i>Barleria lawii</i>
Leaf surface	Densely hairy	Sparsely hairy
Bracts	10–16 × 2–4 mm	5–13 × c. 2 mm
Outer sepals	3.5–4.5 × 2–2.5 cm, equal to sub-equal, ovate, 12–16 nerved	2–2.5 × 0.6–1, sub-equal, elliptic to lanceolate, 5–7 nerved
Outer sepals	Margin serrate	Margin entire
Inner sepals	Linear ovate, 12–18 × 2–4 mm	Linear lanceolate, 10–18 × 2–3 mm

Wolff., *Tricholepis amplexicaulis* C.B. Clarke and *Themeda quadrivalvis* (L.) Kuntze.

Threat category: This species is currently known only from a single locality with an area of occupancy less than 1 km² area, and the population consists of not more than 100 individuals. Hence the species qualifies to be assessed under Critically Endangered: CRB 1ab (i, ii) (IUCN, 2010) category.



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Fig. 3. Holotype of *Barleria sepalosa* C.B. Clarke.

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Literature Cited

- Balkwill, M.J. & K. Balkwill 1997.** Delimitation and infra-generic classification of *Barleria* (Acanthaceae). *Kew Bull.* **52** (3): 535-573.
- Cooke, T. 1906.** *The Flora of the Presidency of Bombay*. Vol. 2. Taylor & Francis, London.
- Clarke, C.B. 1884.** In Hook.f. *Flora of British India*. Vol. 4. L. Reeve and Co., London. pp. 487.
- IUCN 2010.** Standards and Petitions Subcommittee. Guidelines for Using the IUCN Red List Categories and Criteria, Version 8. Prepared by the Standards and Petitions Subcommittee in March 2010.
- Shendage, S.M. & S.R. Yadav 2010.** Revision of the genus *Barleria* (Acanthaceae) in India. *Rheedea*. **20** (2): 81-130.

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