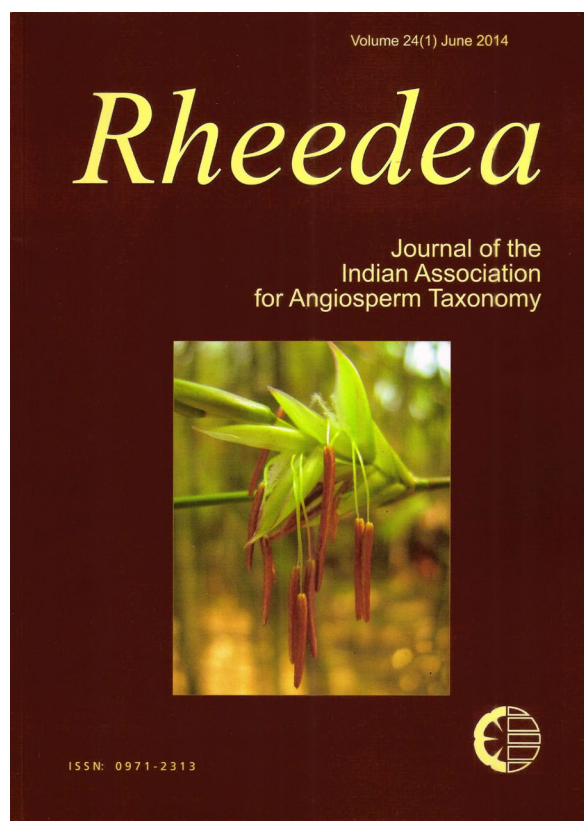




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Primula lacerata (Primulaceae) - a rare species and addition to the flora of India from East Himalayan Region

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Abstract

Primula lacerata W. W. Smith is reported first time for India from Arunachal Pradesh. A detailed description, illustration and photographs are provided for easy identification of the species.

Keywords: Arunachal Pradesh, India, New Record, Primulaceae, *Primula lacerata*

Introduction

The genus *Primula* L. is one of the major dominant angiospermic herbaceous genera in Primulaceae of the temperate and alpine regions of Northern Hemisphere. It includes 38 sections and 430 species worldwide (Richards, 2003). The *Primulas* bloom mostly during the spring. *Primula* species are mostly perennial or annual herbs with simple leaves arranged in a basal rosette with beautiful flowers. The maximum diversity (300 species) of *Primula* species has been reported from China (Hu & Kelso, 1996). Other countries, those are rich in *Primula* species are Siberia (13 spp.) (Richards, 2003), Pakistan (23 spp.) (Nasir, 1984) and Bhutan (71 spp.) (Grierson & Long, 1999). The Indian Himalayan region is also rich in *Primula* diversity. The first systematic account of Indian *Primulas* was provided by Hooker (1882) where he recorded 43 species. Presently the occurrence of about 113 taxa are known from the Himalayan region of India (Hooker, 1882; Ghosh, 1981; Chowdhery, 1984; Basak, 2001; Giri *et al.*, 2008). As the Eastern Himalaya represent the maximum diversity of Indian *Primulas*, a study was undertaken by the authors to find out the diversity and distribution of the genus in Arunachal Pradesh. During the assessment, the authors collected about 35 species of *Primula* from various temperate and alpine vegetation of the study area. Many important findings have been made including some new records to the state flora and rare known species (Bawri *et al.*, 2013). A rare species, *Primula lacerata* W.W. Smith collected from Talley Valley Wildlife

Sanctuary in Lower Subansiri District was not known to occur in India. It is an endemic species of Eastern Himalaya and was reported previously only from N.W. frontier of Burma (Type locality), S. E. Tibet (Richards, 2003; Smith, 1923) and Yunnan region of China (Hu & Kelso, 1996). Hence, the present collection of the species from Arunachal Pradesh is representing its extended distribution to the Indian part of the Eastern Himalaya and forms a new record for the flora of India. The identity has been confirmed through consultation of protologue description and image of type specimen. The complete description, taxonomic status along with other relevant notes, illustration and photographs are provided to facilitate the easy recognition of this species in the field **Fig.1,2.**

Primula lacerata W.W.Smith, Notes Roy. Bot. Gard. Edinburgh 14: 45. 1923; R.E. Cooper in J.L. Mowat, J. Scott. Rock. Gard. Club 121. 1954; Hu & Kelso in Wu & Raven, Fl. China.15: 99-189. 1996; Richards, Pri. 157. 2003.

Type: N.W. Burma (Between Shingrup Chet and Akhyang), April 1920, R. Farrer 1512, (E00024669, E)

Perennial herbs, efarinose. Leaves in a rosette; lamina ovate-rounded to sub-orbicular, 2–6 × 2–5 cm, obscurely crenulate, rounded to obtuse, base cordate, glabrous, both surfaces glaucescent, lateral veins 4–6 pairs; petiole 1–7.5 cm long, puberulous.

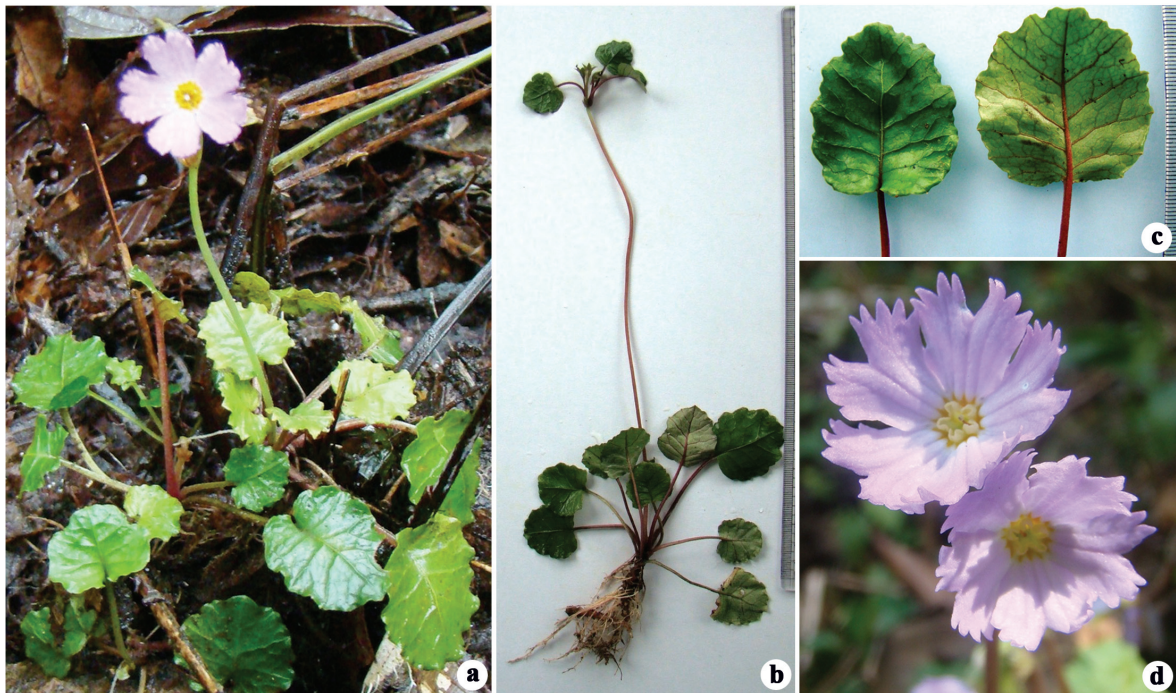


Fig. 1. *Primula lacerata* W.W.Smith: **a.** Habit; **b.** Entire plant; **c.** Leaf adaxial and abaxial surface; **d.** Flowers

Scapes 8–30 cm long, puberulous; umbel 1, 2–5 flowered; bracts lanceolate, 3–7 mm long, axils with small petiolate leaves at fruiting. Flowers heterostylous. Pedicel 0.5–1.5 cm long, elongated to 3 cm in fruit, pubescent. Calyx campanulate to tubular-campanulate, 6–7 mm long, puberulent, parted to \pm middle, 5-veined; lobes ovate, acute to obtuse. Corolla blue to bright pink; tube 1–1.3 cm long, limb 1.5–2.5 cm wide; lobes obovate, apex 2-cleft; lobules lacerate. Pin flowers: stamens at middle of corolla tube; style 5–7 mm long, exserted. Thrum flowers: stamens toward apex of corolla tube; style ca. 2–3 mm. Capsule included in calyx and disintegrated at maturity.

Flowering and Fruiting: March – June

Habitat: Found to grow in dense humid forests along stream sides at an elevation of around 1800 m along with the associated species like *Paris polyphylla* Sm., *Fragaria nubicola* (Hook. f.) Lindl. ex Lacaita, *Hydrocotyle himalaica* P. K. Mukh. and *Impatiens* spp.

Specimen examined: INDIA, **Arunachal Pradesh**, Lower Subansiri District, Talley WLS, Pange, 1800 m, 25.03.2013, A. Bawri, 30 (NERIST).

Distribution: Myanmar (N.W. Frontier), S.E. Tibet,

China (Yunnan) and India (Arunachal Pradesh)

Note: The field investigation revealed that the occurrence of the species is very rare and the population is confined to only one locality with very few individuals. Explorations in the past three years could not locate the species from any other area. As this is restricted to a riparian habitat, the population faces extinction due to natural calamities such as heavy flood and soil erosion. Hence warrants urgent and specific conservation measures.

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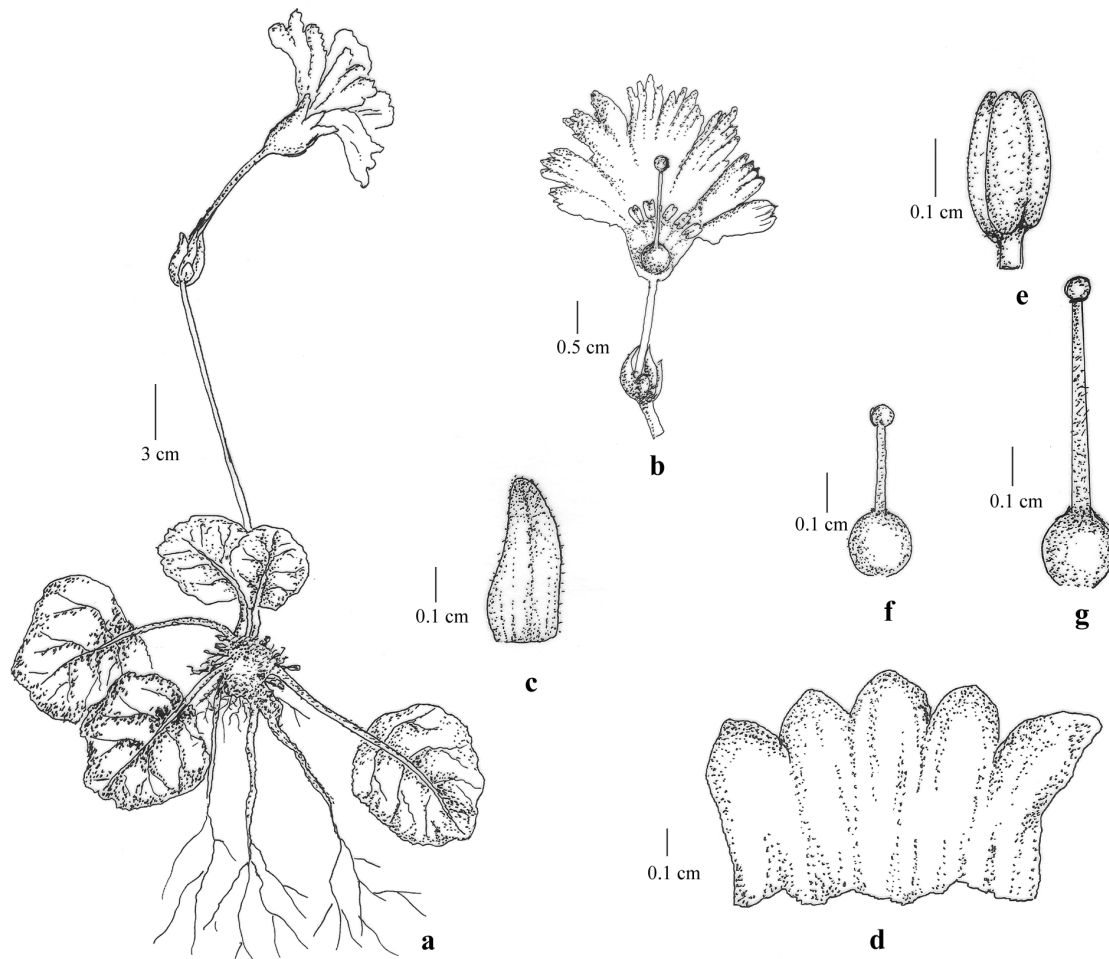


Fig. 2. *Primula lacerata* W.W.Smith: **a.** Habit; **b.** Flower; **c.** Bract; **d.** Calyx; **e.** Stamen; **f.** Pistil (Thrum form); **g.** Pistil (Pin form)

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