

OCCURRENCE OF *RHODODENDRON ARBOREUM* SM. SUBSP. *DELAVAYI* (FRANCH.)  
D.F. CHAMB. VAR. *DELAVAYI* (FAMILY: ERICACEAE) IN DARJEELING HILLS, WEST BENGAL, INDIA<sup>1</sup>

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## Introduction

*Rhododendron arboreum* Sm. subsp. *delavayi* (Franch.) D.F. Chamb. var. *delavayi* was first described by Franchet (1886) as a species, *Rhododendron delavayi* Franch, based on its collection in April 1883, from Yunnan Province, China, by the French missionary and plant collector, M. l'Abbe Delavay. Chamberlain (1982) revised the taxonomy and treated *R. delavayi* as a subspecies under *R. arboreum* Sm. due to its close similarities with the latter species. Subsp. *delavayi* has two existing Indian varieties, namely, var. *delavayi* and var. *peramoenum*. Of these, var. *delavayi* is reported to occur in Arunachal Pradesh, Meghalaya, Manipur, Mizoram, and Nagaland, while var. *peramoenum* occurs only in Arunachal Pradesh.

*Rhododendron arboreum delavayi* var. *delavayi* was reported from Nagaland and Mizoram (Bhattacharyya and Sanjappa 2014); Ghosh and Mallick (2014) and Mallick (2020) mention subsp. *delavayi* var. *delavayi* from Singalila National Park, Darjeeling, without providing collection number, field description, specific localities, plant images, submission voucher and other specimens, or any other details, but no authentic report has been published on its occurrence in West Bengal. Therefore, the present report from two localities, namely Bikhe Bhanjyang-Sandakphu and Sandakphu-Gurdum trek routes under the Singalila National Park of Darjeeling Himalaya, is the first authentic new addition to the Ericoid flora of West Bengal.

**Taxonomy:** *Rhododendron arboreum* Sm. subsp. *delavayi* (Franch.) D.F. Chamb. var. *delavayi*, Notes Roy. Bot. Gard. Edinb 37: 328. 1979 & 39(2): 331. 1982. *R. delavayi* Franch., Bull. Soc. Bot. France 33: 231. 1886. Type: China, Yunnan, in monte calcareo Houangli-pin, 2,500 m, *Delavay* 292 and 887 (iso. K, Cibachrome images, K000769486! and K000769485!).

**Vernacular Name:** *Lali Guras – jato visesa rato rangat* (Nepalese of Bikhe Bhanjyang, Kalipokhri and Gurdum).

Erect robust treelet to medium-sized tree up to 5 m tall. Stems profusely branched, glabrous to subglabrous; twigs usually tomentose (seen in live specimens); vegetative buds ovoid to conical, greenish (immature) to brown (mature).

Leaves alternate to subalternate, coriaceous; lamina usually lanceolate to oblong-lanceolate, occasionally elliptic-lanceolate, 10 (-7)–13 (-14) × 2.5–3.5 cm, entire with slightly revolute or undulated at margin, cuneate at base, usually acute to rarely blunt acute or rounded at apex, glabrous, glossy green, reticulate, and slightly rugose adaxially (above), while unistrate, pale white, fawn to light brown spongy tomentum abaxially (beneath); venation brochidodromous with 13–21 pairs of secondary veins, conspicuous on both surfaces; petioles stout, 15–22 mm long, tomentose beneath. Inflorescence in terminal clusters, spherical umbellate, 8–18-flowered, dense; peduncle 10–12 mm long, densely rufous-tomentose; perulate. Flowers 45–58 mm long including pedicels; pedicels 5–8 mm long, densely white tomentose; bracts 1, basal, ovate, brown, *c.* 6 mm long, tomentose outside; bracteoles 2, linear, pale brown, *c.* 12 mm long, densely tomentose on outside. Calyx lobes 5, basally connate, greenish-white, persistent in fruits, broadly ovate-triangular, *c.* 1 × 1.5 mm, glabrous. Corolla deep crimson to carmine with blackish flecks on the tubular part inside as well as on the basal nectar pouches, tubulo-campanulate, 5-lobed, 40–50 mm long; tube 32–38 mm long, glabrous; lobes 8–12 mm long, emarginate at apex, glabrous, spreading. Stamens 10, unequal; filaments 18–33 mm long, slender, white, glabrous, basally dilated; anther lobes 2–3 mm long, dark brown, smooth. Ovary conical, *c.* 7 mm long, 10-celled, densely white tomentose; style *c.* 32 mm long, glabrous, light purple, slightly deflexed; stigma capitate. Fruit (*S. Panda* 144, MAC) capsule with persistent style and withered calyx, oblong-cylindrical, 14–22 mm long, woody, beset with rusty tomentum, slightly curved towards apex, greenish.

**Distribution:** INDIA: Arunachal Pradesh, Meghalaya, Nagaland, Manipur, Mizoram, and West Bengal. EXTRALIMITAL: Bhutan, China, Myanmar, Thailand, and Vietnam.

**Habitat:** Grows in discontinuous patches along rocky slopes in association with *Rhododendron barbatum*, *R. cinnabarinum*, and *R. arboreum* subsp. *cinnamomeum* at altitudes ranging from 3,218 to 3,388 m.

**Flowering:** April–May. **Fruiting:** Late September to late December (peak mid-October to mid-November).

**Specimens examined:** West Bengal: Darjeeling District, 1 km from Bikhe Bhanjyang towards Sandakphu, 27° 05.453' N and 88° 00.463' E, 3,218 m, 18.v.2019, S. Panda 191 (fl, Maulana Azad College Kolkata Herbarium-MAC); Darjeeling district, 2 km from Sandakphu towards Gurdum, 27° 06.416' N and 88° 00.387' E, 3,388 m, 19.v.2019, S. Panda 204 (fl, MAC); 1 km from Bikhe Bhanjyang toward Sandakphu, 27° 05.453' N and 88° 00.463' E, 3,218 m, 19.ix.2019, S. Panda 244 (fr, MAC).

**Ethnomedicinal uses:** The corollas of *R. arboreum* subsp. *delavayi* var. *delavayi* are used to make rhododendron wine. Red corollas are traditionally used to make a flavouring agent. First hand indigenous traditional knowledge documented on May 18, 2019 at Bikhe Bhanjyang by the local Nepalese.

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