

***RHODODENDRON PSEUDOMADDENII* (ERICACEAE), A NEW SPECIES FROM INDIA**

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A new species, *Rhododendron pseudomaddenii* A.A.Mao & M.Bhaumik (Ericaceae), is described and illustrated from India.

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INTRODUCTION

Rhododendron L. is one of the largest genera in the Ericaceae, with a wide distribution in North America, Europe, Asia and Australia. Taxonomic treatments by Cullen (1980), Chamberlain (1982), Fang *et al.* (2005) and many others allow species to be identified with relative ease.

During a plant exploration tour in March 2009 to the Tale valley in Lower Subansiri district of Arunachal Pradesh, the first author spotted an interesting *Rhododendron* species in the vegetative state growing as an epiphyte in semi-evergreen forest, but could not identify it. The same *Rhododendron* species was found in the vegetative state by the authors in May 2011 between Tato and Mechukha in West Siang district of Arunachal Pradesh at c.1900 m growing on rocky hill-slopes. It was only in June 2012 that the second author collected the plant in flower and, to our surprise, it was a solitary-flowered *Rhododendron* species. It is widespread in West Siang district and characters such as the inflorescence and other floral parts are constant. After critical study of the literature (Hooker, 1849; Clarke, 1882; Cullen, 1980; Chamberlain, 1982; Long, 1991; Fang *et al.*, 2005; Sastry & Hajra, 2010) and consultation at several Indian herbaria (ARUN, ASSAM, BSD, BSHC, CAL, DD) it was found to be allied to *Rhododendron maddenii* Hook.f.

Rhododendron subsection *Maddenia* (Hutchinson) Sleumer comprises shrubs or small trees, usually epiphytic, with young growth lepidote and often loriform setose. The inflorescence is terminal, 1–6-flowered; calyx variable; corolla funnel campanulate; stamens 8–22, declinate; ovary 5–12-locular. The capsules are lepidote; seeds winged and finned (Cullen, 1980). There are c.36–45 species in this subsection, distributed in Eastern Himalaya, China, Myanmar, Thailand, Laos and Vietnam (Cullen, 1980; Fang *et al.*, 2005). *Rhododendron maddenii* Hook.f. is a complex and very

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variable species. Many species are epiphytic and straggly shrubs usually with white and/or pale pink or rarely yellow flowers; the white flowers are usually fragrant while the yellow ones have little or no scent. The inflorescence is 2–6-flowered, and a yellow blotch is present at the base of the corolla tube; the stamen number varies from 17 to 25.

The present collection from Arunachal Pradesh differs from *Rhododendron maddenii* by the solitary-flowered inflorescence, short pedicel, absence of a yellow blotch at the base of the corolla tube and stamens always 19. It is compared with *Rhododendron maddenii* in Table 1 and is here described and illustrated as a new species.

SPECIES DESCRIPTION

***Rhododendron pseudomaddenii* A.A.Mao & M.Bhaumik, sp. nov.**

Similar to *Rhododendron maddenii* Hook.f., but differing by the inflorescence single-flowered, pedicels shorter, up to 1–1.2 cm long and corolla smaller, 3–4.6 cm long, without yellow blotch at corolla base, and stamens always 19. – Type: Arunachal Pradesh, West Siang, Yourlung to Lamang, (28°40'267"N, 93°58'195"E), 3000 m, 15 vi 2012, *Bhaumik* 27782 (holo CAL; iso ARUN, ASSAM). **Figs 1, 2.**

Terrestrial, epiphytic or lithophytic shrubs, 0.4–1.5 m tall. *Stem* bark light brown to silvery, smooth not peeling off, 0.3–1.3 cm in diameter, laxly branched. *Leaves* congested towards apical part of the twig; blade coriaceous, elliptic, oblong-elliptic, elliptic-obovate, 4.5–10 × 2.5–4 cm, base cuneate, apex acute, margins recurved, adaxial surface glabrous, midvein sunken, abaxial surface dense scales; petiole terete, 0.6–1.2 cm, dense scales. *Inflorescence* bud conical, terminal single-flowered. *Flower* white to pinkish white, funnel campanulate, c.4.6 cm long, c.5.5 cm across; pedicels 1–1.2 cm long, terete, scales. *Calyx* 5-lobed; lobes semi-membranous, oblong, 3–6 mm long,

TABLE 1. A comparison between *Rhododendron pseudomaddenii* and *R. maddenii*

<i>Rhododendron pseudomaddenii</i>	<i>Rhododendron maddenii</i>
Terrestrial, epiphytic or lithophytic, shrubs, 0.4–1.5 m tall	Terrestrial, sometimes epiphytic, shrubs or small trees, 2–6 m tall
Petiole terete, 0.6–1.2 cm	Petiole grooved, 0.5–1 cm
Leaf blade elliptic, oblong-elliptic, elliptic-obovate, 4.5–10 × 2.5–4 cm	Leaf blade lanceolate, oblong-oblancheolate, or elliptic, 5–15 × 2.8–6 cm
Inflorescence single-flowered	Inflorescence 2–5-flowered
Pedicel 1–1.2 cm long	Pedicel 1.3–1.5 cm long
Calyx lobes 3–6 mm long, oblong, rounded	Calyx lobes 3–5(–12) mm long, orbicular or oblong
Corolla 3–4.6 cm long, without yellow blotch at base	Corolla 6–8.5 cm long, with yellow blotch at base
Stamens 19; filaments hirsute at base	Stamens 17–25, filaments glabrous or pubescent
Ovary 10-locular; style shortly exerted	Ovary 10–12-locular; style exerted
Immature capsule oblong-ovoid, c.6 × 4 mm	Capsule ovoid or ellipsoid, 10–35 × 10–15 mm

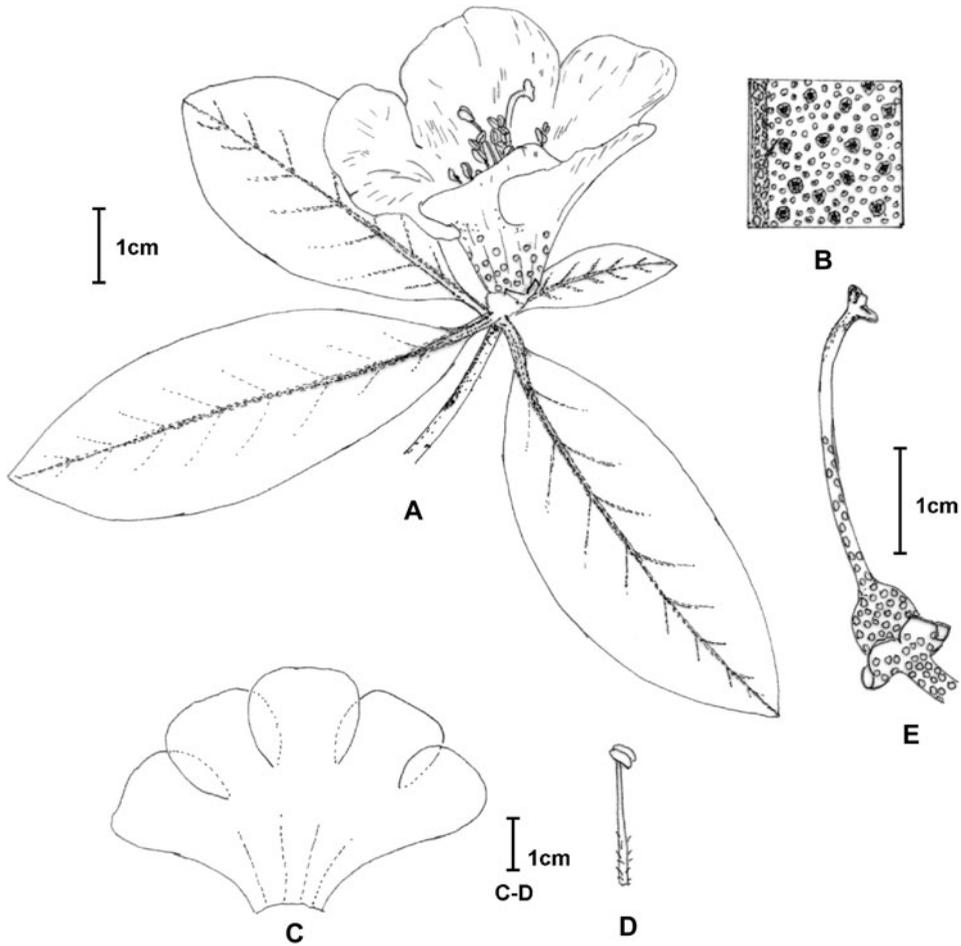


FIG. 1. *Rhododendron pseudomaddenii* A.A.Mao & M.Bhaumik. A, flowering twig; B, abaxial surface of leaf blade; C, corolla spread out; D, stamen; E, gynoecium with calyx and pedicel.

rounded, apiculate, outer surface covered with scales. *Corolla* 3–4.6 cm long, with peltate scales outside; lobes 5, imbricate, subglobose, c.2.2 × 2.5 cm, rounded at apex. *Stamens* 19, unequal, 1.5–3 cm long; filament 1.3–2.7 cm long, hirsute at base, anther lobes c.5 mm long, dorsifixed. *Ovary* oblong-ovoid, c.5 × 3 mm, truncate to rounded at apex, scaly; style c.3.2 cm long, recurved, shortly exerted from corolla, densely scaly at base, glabrous at apex; stigma discoid. Immature *capsule* oblong-ovoid, c.6 × 4 mm, scaly.

Specimens examined. INDIA. Arunachal Pradesh, West Siang, Yourlung–Lamang, 3000 m, 15 vi 2012, *Bhaumik* 27782 (ARUN); Yourlung–Lamang, 2600 m, 15 vi 2012, *Bhaumik* 27790 (ARUN); Mechukha, 1950 m, 1 ix 2012, *Bhaumik* 27928 (ARUN); Mechukha riverbank, 1900 m, 19 vi 2012, *Bhaumik* 27907 (ARUN); Tato–Mechukha, 1900 m, 12 v 2011, *A. A. Mao* 20343 (ARUN); Tato–Mechukha, 1900 m, 12 v 2011, *Bhaumik* 25774 (ARUN).



FIG. 2. *Rhododendron pseudomaddenii* A.A.Mao & M.Bhaumik.

Distribution. India (Arunachal Pradesh).

Habitat and ecology. The plant is found growing as an epiphyte or lithophyte in semi-dense temperate forest at an elevation of 1900–3000 m. It is associated with *Rhododendron arboreum* Sm., *R. leptocarpum* Nutt., *R. xanthostephanum* Merr., *R. arizeum* Balf.f. & Forrest, *Toxicodendron acuminatum* (DC.) C.Y.Wu & T.L.Ming, *Taxus wallichiana* Zucc., *Pinus roxburghii* Sarg., *Rubus cooperi* D.G.Long and other shrubby species. Flowering: June–August; fruiting: September–November.

Etymology. The specific epithet derives from its closeness to *Rhododendron maddenii* Hook.f.

IUCN conservation status. LC (IUCN, 2012). This species has been found in five different locations in West Siang district where 5–10 mature individuals were seen at each location, and there are a few plants in the Pange hills of Lower Subansiri district of Arunachal Pradesh.

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