



Bulbophyllum tremulum Wight (Orchidaceae): a new report for Eastern Ghats

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ABSTRACT

An orchid *Bulbophyllum tremulum* Wight has been collected from Sirumalai hills of Southern Eastern Ghats of Tamil Nadu for the first time. This species was earlier known to occur only in Western Ghats. Hence, the present collection of this species is being reported here as a new record for Eastern Ghats.

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Keywords

Bulbophyllum tremulum,
Eastern Ghats,
Sirumalai hills,
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Introduction

Bulbophyllum Thouars is a palaeotropical genus with about 900 species [1]. In India, it is represented by 100 species and 6 varieties [2]. During botanical survey conducted in the semi evergreen forests of Sirumalai hills, Southern Eastern Ghats, an interesting orchid was collected. After critical study based on relevant literature [3-6], it has been identified and confirmed as *Bulbophyllum tremulum* Wight. Hitherto none of the published works pertaining to the flora of Eastern Ghats has reported this species [7-23]. Hence, the present collection from Sirumalai hills forms an addition to the orchidaceae of Eastern Ghats.

Materials and methods

Sirumalai hills of Southern Eastern Ghats were explored periodically over a period of four years from 2006 -2009, covering various seasons. All the specimens were processed and mounted following standard methods [24-25]. The collected orchids were identified taxonomically with the help of relevant literature. Their identification was later confirmed by matching specimens with previously authenticated specimens available at Botanical Survey of India (BSI), Southern Circle, Coimbatore. All collections are deposited in Ashoka Trust for Research in Ecology and the Environment (ATREE) Herbarium, Bangalore.

A brief description and other related data are given here for easy identification of the taxa in the field.

Bulbophyllum tremulum Wight, Ic. Pl. Ind. Or. 5(1): 20. t. 1749. 1841; Hook. f., Fl. Brit. India 5: 763. 1890; Fischer in Gamble, Fl. Pres. Madras 1418(992). 1928; Saldanha, Fl. Hassan Dist., 816. 1976; Abraham & Vatsala, Introd. Orchids 331. 1981; Ahmedu. & M. P. Nayar, Endem. Pl. Indian Region, 244. 1986; Joseph, Orch. Nilgiris 125, 1987; Manilal, Fl. Silent Valley 271. 1988; Ramach. & V.J. Nair, Fl. Cannanore Dist. 448. 1988; Joseph & Ansari in A. N. Henry & al., Fl. Tamil Nadu Ser. 1. Anal. 3: 6. 1989; Keshav. & Yogan., Fl. Coorg 438. 1990; Vajr., Fl. Palghat Dist. 469. 1990; M. Mohanan & Henry, Fl. Thiruvanthapuram 450. 1994; Sasidh. & Sivar., Fl. Pl. Thrissur For. 435. 1996; Sathish & Manilal, Orchid Memories 171. 2004; Anil Kumar & al., Fl. Pathanamthitta 479.

2005; Murugesan & Balasubramaniam in J. Sci. Trans. Environ. Technov 1(4): 190. 2008.

Creeping epiphytic herbs, up to 12 cm high; pseudobulbs at intervals, ovoid-conical to subglobose, 0.5-1.7 x 0.6-1.5 cm, depressed, rigid. Leaves single in each pseudobulbs, oblong-lanceolate or elliptic-oblong, 4-7 x 1.5-2 cm, obtuse-acute at apex. Flowers purplish, in lax racemes, 7.5-15 cm long, arising from the base of the pseudobulbs, much longer than the leaf. Sepals subequal, dorsal sepal ovate-oblong, laterals narrow, lanceolate, ciliate. Petals scaly, 0.3 cm long, fringed with ciliate hairs. Lip linear-oblong, fringed with long acicular hairs. Capsule 1.8-2 cm long, ellipsoid with persistent perianth lobes.

Phenology: Flowering: March-April Fruiting: April-August
Specimens Examined: Eastern Ghats: Tamil Nadu: Dindigul District: Nerkuthu sholai, Sirumalai hills, 1150m, 15-4-2009, R. Kottaimuthu 30400 & Ponnuruki sholai, Sirumalai hills, 1200m, 10-3-2010. R. Kottaimuthu 30678.

Biotic association: This endemic, epiphytic orchid is very rare and only 12 individuals were recorded in the semievergreen forests of Sirumalai hills, Southern Eastern Ghats. It is growing epiphytically on *Persea macrantha* (Nees) Kosterm., *Nothopegia beddomei* Gamble, *Canarium strictum* Roxb., *Elaeocarpus tuberculatus* Roxb. and *Olea paniculata* R. Br. Other associated epiphytes are *Peperomia tetraphylla* (Forst.f.) Hook. & Arn., *Peperomia dindigulensis* Miq., *Diplocentrum recurvum* Lindl., *Dendrobium macrostachyum* Lindl., *Nephrolepis auriculata* (L.) Trimen, *Microsorium punctatum* (L.) Copel and *Pyrrisia lanceolata* Farewel are some of the epiphytes grow along with *Bulbophyllum*.

Notes: *Bulbophyllum tremulum* Wight is endemic to South India [26-29]. This species hitherto reported only from the Western Ghats of Karnataka [30-33] Kerala [34-40] and Tamil Nadu [41-42]. It can be easily distinguished from the other species of *Bulbophyllum* in having peculiarly shaped lip with its rows of acicular hairs, villous sepals and densely ciliate petals. The flowers emit rotten meat smell is very characteristic.

Results and discussion

Eastern Ghats harbours 190 species of orchids under 54 genera. In Eastern Ghats, the genus *Bulbophyllum* Thouars is represented by 10 species viz., *B. careyanum* (Hook.) Spreng., *B. carniflorum* Reichb. f., *B. crassipes* Hook. f., *B. guttulatum* (Hook. f.) Balakr., *B. macraei* (Lindl.) Reichb. f., *B. panigrahanum* Misra, *B. polyrhizum* Lindl., *B. sterile* (Lam.) Suresh, *B. triste* Reichb. f., and *B. umbellatum* Lindl. The addition of the present taxon increases the representative species of the genus to 11 in Eastern Ghats.

Orchids being a specialized group of plants, exploit a variety of niches ranging from dark humid under storey, litter laden rocky crevices, mass covered water dripping rocks and trunks of trees, etc., with diverse vegetative morphology and floral structure. However, the versatile adaptability to a specific environment can be a reason for their restricted distribution and in turn can lead to their extermination if the habitat is modified [43]. Data on demography of endemic species in the country will be useful for understanding the behavioural ecology of the species and framing the strategy for conservation [44], because species endemic to small geographic ranges are more prone to extinction than those with broad ranges [45]. Since this species is endemic and habitat –specific, it is phytogeographically important and deserves further conservation actions.

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