



***Aphyllorchis montana* Rchb. f. (Orchidaceae), a new distributional record for Peninsular India**

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Abstract: An assessment has been made to identify the rare, endemic and threatened species in the Velliangiri hills of Southern Western Ghats, India. During field explorations, a rare species of terrestrial mycotrophic orchid was collected and is identified as *Aphyllorchis montana* Rchb. f. Its synonymy, description, range and phytogeographical details are given along with illustrations.

Keywords: *Aphyllorchis montana*, Velliangiri hills, Tamil Nadu.

Introduction

Aphyllorchis Blume is a leafless terrestrial orchid genus with total of 30-species known to exist in various parts of the world (1). Of which three species viz., *A. alpina* King & Pantl., *A. gollanii* Duthie and *A. montana* Rchb. f. have been reported from India. *Aphyllorchis montana* Rchb. f. is a terrestrial mycoheterotrophic orchid species (2) which grows in low and midland broadleaved forests of India, Sri Lanka, Malaysia, Borneo, the Philippines, southern Japan, southern China, Vietnam and Taiwan (3).

During field exploration of Velliangiri hills in the Southern Western Ghats of Tamil Nadu, a rare species of terrestrial orchid was collected. After critical examination, it was identified as *Aphyllorchis montana* Rchb. f. and the identification was confirmed by comparing the specimens deposited at Madras Herbarium (MH), Botanical Survey of India, Coimbatore. The species is categorized as a *data deficient* orchid of conservation concern in India and is enlisted in the RET plant list of India (4-6).

On an authentication of the specimen in the Madras Herbarium (MH), a collection of M.H. Lawson from Nilgiris (South India) and of C.A. Barber from Cadamonay, Mysore (South India), both of which have misidentified as *Pogonia carinata* Lindl. Are actually *Aphyllorchis prainii* Hook. f. Similarly a collections of E. Vajravelu from silent valley

(Kerala), A.N. Henry from Kanyakumari (Tamil Nadu) and S.R. Srinivasan from Ramanathapuram (Tamil Nadu), all of which have wrongly been identified as *A. prainii* Hook. f. The species *A. prainii* Hook. f. is very much allied to *A. montana* of Sikkim and Ceylon (which are possibly different species), differing in the winged claw of the lip (7).

Fischer (8) included this species as *A. prainii* Hook. f. based on his collections from Karianshola and Anamalais (South India). The species in question is actually *A. montana* Rchb. f. and he himself later treat it as such in his work (9). The species *A. montana* Rchb. f. was also reported by P.C. Radhakrishnan from Ramanathapuram (Tamil Nadu), G.R. Rao from Karnataka and A. Nageswara Rao from Andhra Pradesh. However, Sarkar (10) and Henry *et al.*, (11) recorded this taxon in their floras based on the earlier reports.

The present collection revealed that the species was recollected from the Coimbatore district after 1921 which forms its extending distribution. A short description of this species with diagram is given to facilitate the identification of this plant.

Taxonomic Treatments:

Aphyllorchis montana Reichb. f. in Linnaea 41: 57. 1876; Hook. f., Fl. Brit. India 6: 116. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: t. 349. 1898; C.E.C. Fischer in Gamble, Fl. Madras 3: 1019. 1957

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Fig.1A: Habit of *Aphyllorchis montana* Reichb. f.



Fig.1B: Enlarged view of Single Flower

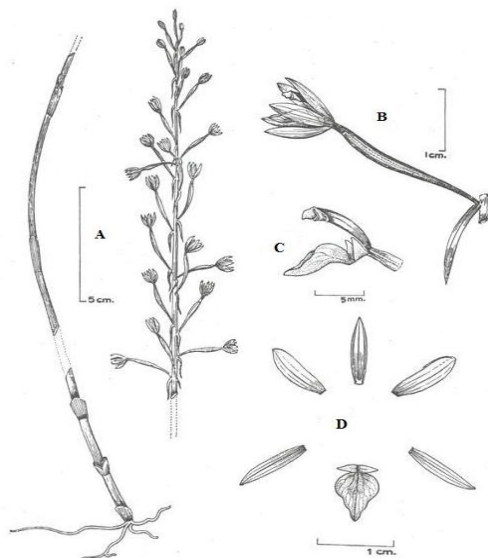


Fig.2: Morphological details of the *Aphyllorchis montana* Reichb. f. A.Habit; B.Flower with Bract; C. Column lip=Side view; D.Arrangement of Parianth

Mycotrophic, leafless, achlorophyllous, erect herb of 40 – 60cm long. Rhizome short, creeping; roots spreading, stout, tuberous, branched, 3-8cm long. Stem with many membranous sheaths; proximal sheaths tubular, 0.5–2cm; sterile bracts 1-1.5cm. Inflorescence terminal, in lax raceme, elongate, 20-30cm long. Bracts 1.3-1.5cm long, much shorter than pedicel and ovary, linear-lanceolate, acuminate, recurved. Flowers spreading, yellow with pinkish margin, pedicellate, bracteates, 3-3.5cm long. Sepals±1cm long, linear-oblong, acute, 3-nerved; dorsal one concave. Petals slightly shorter but broader than sepals, oblong, rounded at apex, 3-nerved. Lip shorter but broader than sepals and petals, ovate, concave, narrowed towards the obtuse apex; side lobes rounded; claw with 2 short, erect, parallel, triangular, acute wings facing towards the column. Column about 6mm long. Ovary with the short pedicel, 2.4cm long, slightly curved. Fruits not known.

Flowering & Fruiting: June – August.

Habitat: The species is found in grasslands and shola forests.

Occurrence: Rare in habitat at an altitude of 1600 m.

Distribution: Karnataka, Andhra Pradesh and Tamil Nadu. The distribution of this species in Karnataka and Andhra Pradesh based on the reports of G.R. Rao and A. Nageswara Rao respectively.

Specimen Examined: Tamil Nadu: Coimbatore district, Velliangiri hills, V. Aravindhan 8213 (23.06.2012); Ramanathapuram, S.R. Srinivasan 65990 (22.07.1980); Kanyakumari, A.N. Henry 100446 (03.08.1977); Ramanathapuram, P.C. Radhakrishnan 50720 (18.08.1967). Andhra Pradesh: A. Nageswara Rao (28.06.1986).

Notes: The possible causes for its rarity and the ecology and breeding system of non-chlorophyllous, non-leafy single erect orchid are not-known. However, terrestrial orchids are in need of species-specific fungi for seed germination and growth (12-13). The vegetative growth of the terrestrial mycoheterotrophic orchid is absolutely an underground mechanism; it is challenge to locate them in vegetative conditions (14).

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