

Enumeration of Orchids of Sirumalai Hills (Eastern Ghats), Tamil Nadu, India

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Abstract

This paper presents a preliminary enumeration of 25 species of Orchids in 17 genera from Sirumalai, Tamil Nadu, India.

Key Words: Orchids, Sirumalai Hills, Tamil Nadu.

Introduction

The Eastern Ghats, one of the richest floristic and phytogeographical regions of India, form a discontinuous range of mountains extending over 1750 km between the rivers of Mahanadi and Vaigai along the Eastern Coast of India across the states of Orissa, Andhra Pradesh and Tamil Nadu. 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 (Ganesan, 2004). Hitherto, 190 species of orchids under 54 genera were reported from Eastern Ghats alone (Reddy *et al.*, 2006). The enumeration of orchids in Sirumalai Hills (Karuppusamy *et al.*, 1999; Pallithanam, 2001) is not satisfactory. Above all there is genuine need to update the knowledge about the orchid wealth of Sirumalai. In order to fill this lacuna, the present work was undertaken with the view to get an overall floristic picture of orchids of Sirumalai Hills.

Materials and Methods

The Sirumalai Hills (“small hills”) part of Eastern Ghats (Pullaiah and Rao, 2002) is situated 6.5 km south of Dindigul District and lies between 10⁰ 7' – 10⁰ 18' N latitude and 77⁰ 55' – 78⁰ 12' E longitude and covers an area of 317 km². The altitude from foot hill to the highest Mullupanimalai ranges from 200 to 1379m. Geographically, the Sirumalai is an archaean formation. The gneissic rocks are referred to as charnockite and consist of mica, feldspar and quartz. The annual mean temperature of this area varies during summer and winter from 25⁰ C to 28⁰ C and 15⁰ C to 10⁰ C. The rainfall regime is a tropical dissymmetric type with the bulk of rain received during the retreating monsoon period (October – December) due to depression and cyclones (Meher-Homji, 1973). The vegetation of Sirumalai ranges from tropical thorn forest to mixed deciduous forest, dry evergreen forest, moist deciduous riparian forest and semi-evergreen forest (Champion and Seth, 2005).

The present work was undertaken in various places of the Sirumalai Hills between January 2006 and

December 2007. The collected plants were identified taxonomically with the help of various floras (Abraham and Vatsala, 1981; Gamble and Fischer, 1997; Joseph, 1987; Matthew, 1991; Pallithanam, 2001). 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. An artificial key is given for easy identification and further collection of orchids from Sirumalai. The enumeration follows alphabetical order of the binomials followed by voucher specimen numbers and distribution.

Key to the Orchids of Sirumalai Hills

- 1a. Epiphytic plants-----2
- 1b. Terrestrial plants-----13
- 2a. Plants with pseudobulbs-----3
- 2b. Plants without pseudobulbs-----4
- 3a. Flowers borne in leafless pseudobulbs; lip ciliate--- --*Dendrobium macrostachyum*
- 3b. Flowers borne in leafy stems; lip entire-----*Cymbidium aloifolium*
- 4a. Leaves dorsiventral-----5
- 4b. Leaves terete-----10
- 5a. Lip 2-spurred-----*Diplocentrum recurvum*
- 5b. Lip 1-spurred-----6
- 6a. Flowers < 1 cm wide-----*Aerides ringens*
- 6b. Flowers > 1 cm wide-----7
- 7a. Lateral lobes of lip small-----*Acampe praemorsa*
- 7a. Lateral lobes of lip large-----8
- 8a. Leaves ovate, less than 9 cm long-----*Vanda spathulata*
- 8b. Leaves linear, 10-20 cm long-----9
- 9a. Flowers yellow-----*Vanda testacea*
- 9b. Flowers violetish or pink-----*Vanda tessellata*
- 10a. Lip not spurred-----11
- 10b. Lip spurred-----*Papilionanthe cylindrica*
- 11a. Dorsal sepal up to 0.5 cm long-----*Luisia zeylanica*

- 12a. Dorsalsepal up to 1.2cm long-----Luisia birchea
- 13a. Leaves solitary-----Chrysoglossum maculatum
- 13b. Leaves two or more-----14
- 14a. Lip not spurred-----15
- 14b. Lip spurred-----17
- 15a. Plants with pseudobulbs or subterranean tubers -----16
- 15b. Plants without pseudobulbs or subterranean tubers----Tropidia angulosa
- 16a. Flowers solitary-----Disperis neilgherrensis
- 16b. Flowers many in compact racemes-----Geodorum densiflorum
- 17a. Plant a saprophyte-----Epipogium roseum
- 17b. Plants other than saprophyte-----18
- 18a. Plants with pseudobulbs or subterranean tubers-----19
- 18b. Plants without pseudobulbs or subterranean tubers----25
- 19a. Leaves grasslike and plaited-----Eulophia epidendrea
- 19b. Leaves not as above-----20
- 20a. Petals bipartite-----21
- 20b. Petals not bipartite-----22
- 21a. Inflorescence of 2-4 flowers-----Habenaria rariflora
- 21b. Inflorescence of several flowers-----Habenaria multicaudata
- 22a. Leaves radical, adpressed to ground-----23
- 22b. Leaves cauline, not adpressed to ground-----24
- 23a. Lip much longer than sepals-----Habenaria plantaginea
- 23b. Lip not longer than sepals-----Habenaria roxburghii
- 24a. Ovary long beaked. Lip longer than lateral sepals-----Habenaria longicorniculata
- 24b. Ovary sessile. Lip not longer than lateral sepals-----Habenaria decipiens
- 25a. Lip with fringed flanges-----Anoectochilus elatus
- 25b. Lip without fringed flanges-----Zeuxine longilabris

Systematic Enumeration

Acampe praemorsa (Roxb.) Blatter & Mccann

Specimens Examined: *RKM-40033*, Occasional, on way to Puliyampallam.

Distribution: South India (Tamil Nadu, Kerala, Goa and Karnataka) and Ceylon.

Aerides ringens (Lindley) C. Fischer

Specimens Examined: *RKM-40068*, Occasional in Nerkuthusholai and Punsholai.

Distribution: South India (Tamil Nadu and Kerala) and Ceylon.

Anoectochilus elatus Lindley

Specimens Examined: *RKM-40205*, Very rare in Kannadisholai.

Distribution: South India (Tamil Nadu and Kerala).

Chrysoglossum maculatum (Thwaites) Hook. f.

Specimens Examined: *RKM-40218*, Rare in Thumbisholai.

Distribution: South India (Tamil Nadu and Kerala) and Ceylon.

Cymbidium aloifolium (L.) Sw.

Specimens Examined: *RKM-40069*, Occasional in Nerkuthusholai.

Distribution: India, China, Ceylon and Indonesia.

Dendrobium macrostachyum Lindley

Specimens Examined: *RKM-40086*, Very rare, on way to Mullupanrimalai.

Distribution: South India (Tamil Nadu, Kerala, Karnataka and Maharashtra), Himalaya and Ceylon.

Diplocentrum recurvum Lindley

Specimens Examined: *RKM-40059*, Common, on way to Kannadisholai from Sirumalai Puthur.

Distribution: South India (Tamil Nadu, Kerala and Karnataka).

Disperis neilgherrensis Wight

Specimens Examined: *RKM-40051*, *40060*, Rare in Kannadisholai.

Distribution: South India (Tamil Nadu, Kerala and Karnataka).

Epipogon roseum (D. Don) Lindl.

Specimens Examined: *RKM-40095*, Very rare in Kannadisholai.

Distribution: South India (Tamil Nadu, Kerala and Karnataka), Himalaya, Nepal and Malaysia.

Eulophia epidendraea (J. Koenig) Schltr.

Specimens Examined: *RKM-40195*, Occasional, on way to Nadukandamalai.

Distribution: South India (Tamil Nadu, Kerala and Maharashtra) and Ceylon.

Geodorum densiflorum (Lam.) Schltr.

Specimens Examined: *RKM-40053*, Rare, on way to Kurangupallam.

Distribution: India, Ceylon and Phillipines.

Habenaria decipiens Wight

Specimens Examined: *RKM-40173*, *40179*, Occasional, on way to Madagamalai.

Distribution: South India (Tamil Nadu).

Habenaria longicorniculata J. Graham

Specimens Examined: *RKM-40159*, *40166*, Occasional, on way to Madagamalai.

Distribution: South India (Tamil Nadu, Kerala, Karnataka and Maharashtra).

Habenaria multicaudata L. J. Sedgwick

Specimens Examined: *RKM-40177*, Rare, on way to Madagamalai.

Distribution: South India (Tamil Nadu, Kerala, Karnataka and Maharashtra).

Habenaria plantaginea Lindley

Specimens Examined: *RKM-40222*, Occasional, on way to Puliampallam.

Distribution: South India (Tamil Nadu, Kerala, Goa, Karnataka and Maharashtra), Himalayas and Ceylon.

Habenaria rariflora A. Rich

Specimens Examined: *RKM-40133*, *40137*, Rare in Vellimalai.

Distribution: South India (Tamil Nadu, Kerala, Karnataka and Maharashtra).

Habenaria roxburghii (Pers.) R. Br.

Specimens Examined: *RKM-40102*, Rare, on way to Thavasimadai.

Distribution: South India (Tamil Nadu, Kerala and Karnataka).

Luisea birchea Blume

Specimens Examined: *RKM-40040*, Common, on way to KannadiSholai from Sirumalai Puthur.

Distribution: South India (Tamil Nadu, Kerala, Karnataka and Maharashtra) and Ceylon.

Luisea zeylanica Lindley

Specimens Examined: *RKM-40083*, *40088*, Rare, on way to Thumbisholai.

Distribution: South India (Tamil Nadu, Kerala and Maharashtra), Ceylon and Nepal.

Papilionanthe cylindrica (Lindl.) Seidenf.

Specimens Examined: *RKM-40037*, Occasional, on way to Thumbisholai from Vellimalai

Distribution: South India (Tamil Nadu, Kerala and Karnataka), Himalaya, Ceylon and Nepal.

Tropidia angulosa (Lindley) Blume

Specimens Examined: *RKM-40119*, *40121*, Very rare, along the edges of Thumbisholai.

Distribution: India, Malaysia and Indonesia.

Vanda spathulata (L.) Sprengel

Specimens Examined: *RKM-40162*; Occasional, on way to Madagamalai.

Distribution: South India (Tamil Nadu, Kerala, Karnataka and Maharashtra) and Ceylon.

Vanda tessellata (Roxb.) Hook. ex Don

Specimens Examined: *RKM-40012*, *40020*, Occasional, on way to Punsholai from Puliampallam.

Distribution: India, Ceylon and Thailand.

Vanda testacea (Lindley) Reichb. f.

Specimens Examined: *RKM-40024*, Common, on way to Vellimalai from Sirumalai Puthur.

Distribution: India and Ceylon.

Zeuxine longilabris (Lindley) Benth ex Hook. f.

Specimens Examined: *RKM-40029*, Very rare, only 10 individuals are seen in Kannadisholai.

Distribution: South India (Tamil Nadu, Kerala and Karnataka), Himalaya, Ceylon and South East Asia.

Plate 1. Orchids of Sirumalai, Tamil Nadu, India.

Acanthe praemorsa



Aerides ringens



Disperis neilgherrens



Geodorum densiflorum



Dendrobium macrostachyum



Anectochilus clatus



Luisia birchea



Habenaria plantaginea



Zeuxine longilabris



Papilionanthe cylindrica



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