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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 10^0 7' – 10^0 18' N latitude and 77^0 55' – 78^0 12' E longitude and covers an area of 317 km^2 . The altitude from foot hill to the highest Mullupanrimalai 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 25^0 C to 28^0 C and 15^0 C to 10^0 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 < 1cm wide----------Aerides ringens

6b. Flowers > 1cm wide----------7

7a. Lateral lobes of lip small----------Acampe praemorsa

7a. Lateral lobes of lip large----------8

8a. Leaves ovate, less than 9cm long----------Vanda spathulata

8b. Leaves linear, 10-20cm 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 0.5cm long----------Luisia zeylanica

12a. Dorsal sepal 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 subrerranean 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 subrerranean tubers-----25

19a. Leaves grass like and plaited----------Eulophia epidendraea

19b. Leaves not as above----------20

20a. Petlas 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).

Epipogeum 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 Phillippines.

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 Puliyampallam.

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 Srumalai 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 Puliyampallam.

Distribution: India, Ceylon and Thailand.

Vanda testacea (Lindley) Reichb. f.

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

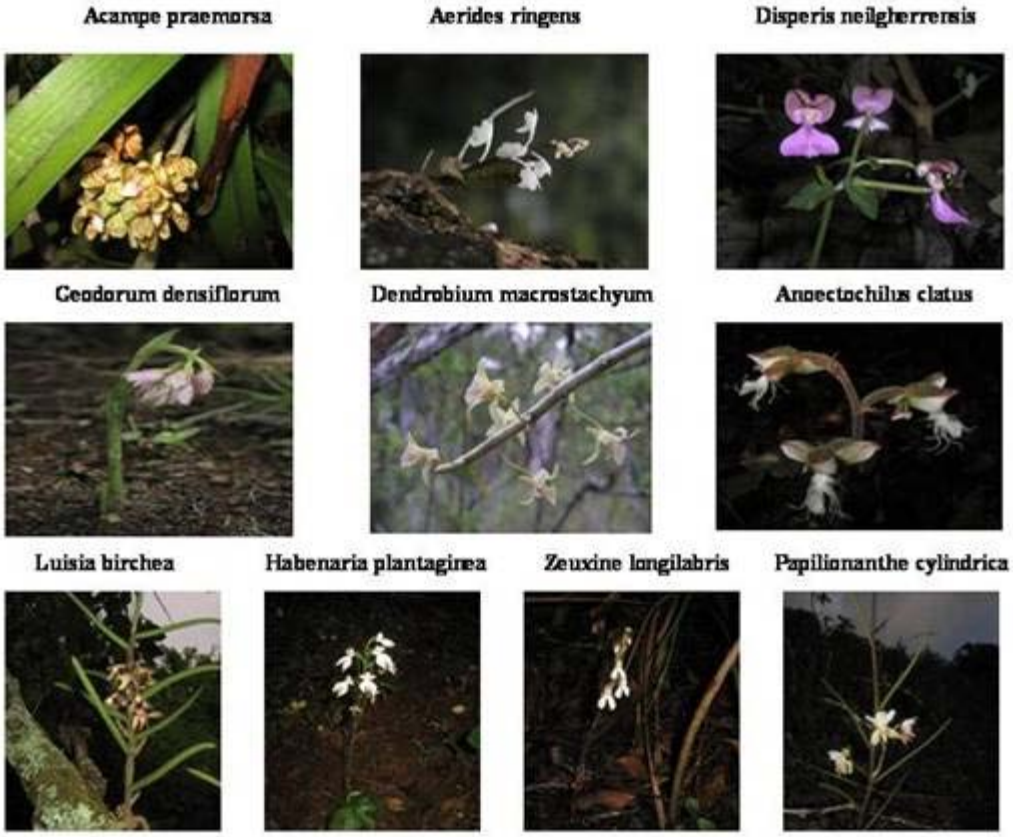
Distribution: India and Ceylon.

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.



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Bibliography

Abraham, A. and Vatsala, P. 1981. *Introduction to Orchids with Illustration and Descriptions of 150 South Indian Orchids.* Tropical Botanical Garden and Research Institute, Thiruvananthapuram, India.

Gamble, J. S. and Fischer, C. E. C. 1997. *Flora of Presidency of Madras* Reprinted Edition, Volume-III, Bishen Singh Mahendra Pal Singh, Dehra Dun.

Ganesan, R. Orchids of Kalakad-Mundanthurai Tiger Reserve, Southern Western Ghats, India. In: K. S. Manilal and C. S. Sathish Kumar (eds.). *Orchid Memories- A tribute to Gunnar Seidenfaden*. Mentor Books and Indian Association for Angiosperm Taxonomy(IAAT), Calicut, India: pp 85-91.

Joseph, J. 1987. *Orchids of Nilgiris*. Botanical Survey of India, Calcutta, India.

Karuppusamy, S., Rajasekaran, K. M. and R. Kumuthakalavalli. 1999. Orchids of Sirumalai Hills. *J. Swamy Bot*. 16: 73-74.

Matthew, K. M. 1991. *An excursion Flora of Central Tamil Nadu, India*. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

Meher-Homji, V. M. 1973. A Phytosociological study of the *Albizia amara* community of India. *Phytocoenologia* 1(1): 114-129.

Pallithanam, J. M. 2001. *A Pocket Flora of the Sirumalai Hills, South India.* The Rapinat Herbarium, St. Joseph's College, Tiruchirapalli.