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STUDY OF ORCHIDS DIVERSITY IN KOLLI HILLS, EASTERN GHATS, TAMIL NADU.

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ABSTRACT

The present paper deals with the diversity of orchids in kolli hills. In past years above 70 sps of Orchids distributed in kolli hills.(Karuppasamy et al., 2009). But currently 42 species are dominant over in this area. Among this habitats Epiphytic 52.38% of Orchids contributed higher percentage followedby Terrestrial 42.86% and Lithophytic 4.76%. Epiphytic Orchids are highly trophical and sub-trophical in distributed. Most of orchids like *Eris, bulbophyllum keitense* and *Habineria* are in extinct stage because of deforestation and utilization. In this stage conservation of Orchids is most important. The collected orchids are listed below according to their alphabetical order.

Keyword: Kolli hills, Orchids, distribution, deforestation, conservation.

1. INTRODUCTION

Orchid are the second largest group of flowering plant comprising about 788genera and 18,500 sps (Mabberley, 1997) they are distributed throughout the world, except the hot deserts and Antartica. In India they are represented by 190genera and 1300species. Based on their varying habits, Orchids are classified into Saprophytic, Terrestrials, Epiphytic and Lithophytic. The number of flowering plant taxa represented approximately in the Eastern Ghats to be about 3500.

While, it is generally accepted today that the conservation of all biodiversity should be the goal. Understanding the natural distribution of plants (floristic studies) is central to conserving biodiversity and managing ecosystems for long term viability and sustainability (Ali Mohammad Asadi, 2009).

In this prospective the study was conceived to understand the Orchid diversity of Kolli hills of Eastern Ghats.

2. MATERIALS AND METHODS

2.1. Study area

Kolli hills of Eastern Ghats lies in Namakkal district, tamilnadu is well known for its biological diversity. It has a total area of 490 km^2.kolli hills flanked Namakkal taluk on the South, and South West. Rasipuram on the North and North East, Attur taluk is on the north east and Trichy district in the east. The altitude ranges from 400-1400m rising to 1450m Kuzhivalavu.($11^0$10'-$11^0$27'N and $78^0$18'-$78^0$30' E.) the vegetation of Kolli hills is of mixed deciduous and evergreen types. The temperature ranges from 12^0C-25^0C and the annual rainfall from 1200 to 1400mm. Kolli hills is called as Chaturagiri or Square hills contain of high raising peaks and ravines slopes are quite steep forming several narrow and deep valleys and in some places rising abruptly from plains and generally steep near ridges. So that the edge of the plateau is sharply defined. Along the slopes and foot hills the soil is red sandy-loam with rich in limestone and elements. Many of the areas of the hill are under mining for bauxite.

Kolli hills drained by two rivers, Vasisthanadhi and Swetanadhi. Swetanadhi originates from kolli hills and drains the Northern side of Salem district. Vasisthanadhi is called as Pearer and originates from Aranuttmalai, turns eastwards and which is an irrigation resource to Attur taluk.

2.2. Field survey

Periodical field survey was conducted during the year 2011-2014 for collection of Orchids. Frequent field trips were made in all flowering seasons in those years. The study was based on field work and taxonomical examination of orchids.

3. RESULT AND DISCUSSION

In kolli hills, Orchids are beings to appear from 500m elevation onwards. Apart from climatic condition altitude play vital role for the distribution of Orchids. In the present study about 42 species belonging to 28 genus (Table 1) Orchids were collected and identified. During the course of survey maximum of Orchids were recorded in Kuzhivazhavu shola followed by Nachiyar kovil.

Table 1. Enumeration of Orchids in Kolli hills.

S.No.	Botanical name	Habitat	Types of vegetation	Floral period
1	*Acampe praemorsa* (Roxb.) Blatt.	Epiphyte	MD,SEG	Jan-Mar
2	*Acanthephippium bicolor* Lindl.	Terrestrial	Shola	Apr-June
3	*Arides ringens* (Lindl.)Fishcer	Epiphytic	EG, SEG	June-July
4	*Anoectochilus elatus* Lindl.	Terrestrial	EG, Shola	June-Sept
5	*Bulbophyllum kaitense* Reichb.f.	Epiphytic	SEG- MD	Sept
6	*Bulbophyllum neilgherrense* Wight	Epiphyte	EG-SEG	Feb-Mar
7	*Calanthe triplicata* (Willem) Ames	Terrestrial	EG,SEG,Shola	July-Sept
8	*Coelogyne breviscapa* Lindl.	Epiphytic	EG	Feb-Mar
9	*Coelgyne odorratissima*	Terrestrial	EG,Shola	Feb-Mar
10	*Chysoglossum maculatum* (Thw.) Hook.f.	Terrestrial	Shola	Feb-Mar, Dec-Jan
11	*Dendrobium aquem* Lindl.	Epiphytic	EG,SEG	Sept-Oct
12	*Dendrobium herbaceum* Lindl.	Epiphyte	EG	Mar-July
13	*Dendrobium heterocarpum* Well. ex Lindl	Epiphyte	EG,Shola	Apr-June
14	*Diplocentrum recurvum* Lindl.	Epiphyte	EG	May-June, July-Aug
15	*Disperis neilgherrensis* Wight.	Terrestria	Shila	Aug-Sept
16	*Eria pauciflora* Wight	Epiphyte	EG	Aug-Sept
17	*Eria polystachya* A.Rich	Terrestrial	Shola	Oct-Nov
18	*Eria reticosa* Wight	Epiphyte	EG	July-Aug
19	*Eulophia graminea* Lindl.	Terrestrial	MD	Sept-Oct
20	*Flickingeria nodosa* (Dalz.)Seidenf.	Epiphyte	MD	July-Sept
21	*Geodorum densiflorum* (Lam.)Schltr.	Terrestrial	DD,MD,SEG	Aug-Sept
22	*Habinaria longocorniculata* Graham	Terresrial	SEG,MD	Aug-Sept
23	*Habinaria longicornu* Lindl.	Terresrial	MD	Aug-Sept
24	*Habinaria rariflora* A.Rich	Terrestrial	EG,SEG	Aug-Sept
25	*Habinaria virusens*	Terrestrial	Grass lands	Aug-Sept
26	*Liparis walkeriae* Graham.	Terrestrial	EG	July-Aug
27	*Luisia birchea* Bl.	Epiphyte	EG	July-Aug
28	*Luisia zeylanica* Lindl.	Epiphyte	EG	May- July
29	*Malaxis rheedii* Sw.	Terrestrial	EG,SEG,MD	Aug-Sept
30	*Nervilia plicata* (Andr.) Schltr.	Terrestrial	EG,SEG	Aug-Sept
31	*Oberonia brunoniana* Wight.	Epiphyte	EG,SEG	Sept-Oct
32	*Oberonia denticulate* Wight.	Epiphyte	EG,SEG	July-oct
33	*Oberonia proudlockii* King & Prantl	Epiphyte	EG,SEG	May-Aug
34	*Oberonia santapaui* Kapadia.	Epiphyte	EG	July-oct
35	*Papillanthe subulta* (koeing) Garay	Epiphyte	EG	Mar-Apr
36	*Peristylus goodyeroids* (D.Don.) Lindl.	Terrestrial	SED,MD	Feb-Mar
37	*Polystachya concreta* (jacq.) Garay & Sweet	Epiphyte	EG,Shola	July-Aug
38	*Srihookera latifolia*	Epiphyte	EG,Shola	July-Aug
39	*Tropidia angulosa* (Lindl.) Bl	Terrestrial	EG,SEG	Aug-Sept
40	*Vanda spathulata* (L) Spreng.	Epiphyte	MD	June-Sept
41	*Vanda tessellata* (Roxb.) Hook. ex G.Don.	Epiphyte	DD	Sept-Oct
42	*Zexuine longilabris* (lindi.) Benth. ex Hook.f.	Terrestrial	Shola	May-Aug

EG - Ever Green, SEG - Semi Ever Green, MD - Moist Deciduous, DD - Dry Deciduous.

Among this habitats Epiphytic 52.38% of Orchids contributed higher percentage followed by Terrestrial 42.86% and Lithophytic 4.76 %.(Table 2). Epiphytic Orchids are highly trophical and sub-trophical in distributed.

Table 2. Habitat percentage.

S.No	Habitat	% of occurrence
1	Epiphytic	52.38
2	Lithophytic	4.76
3	Terrestrial	42.86

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