ISSN: 0976-3031

International Journal of Recent Scientific Research

Impact factor: 5.114

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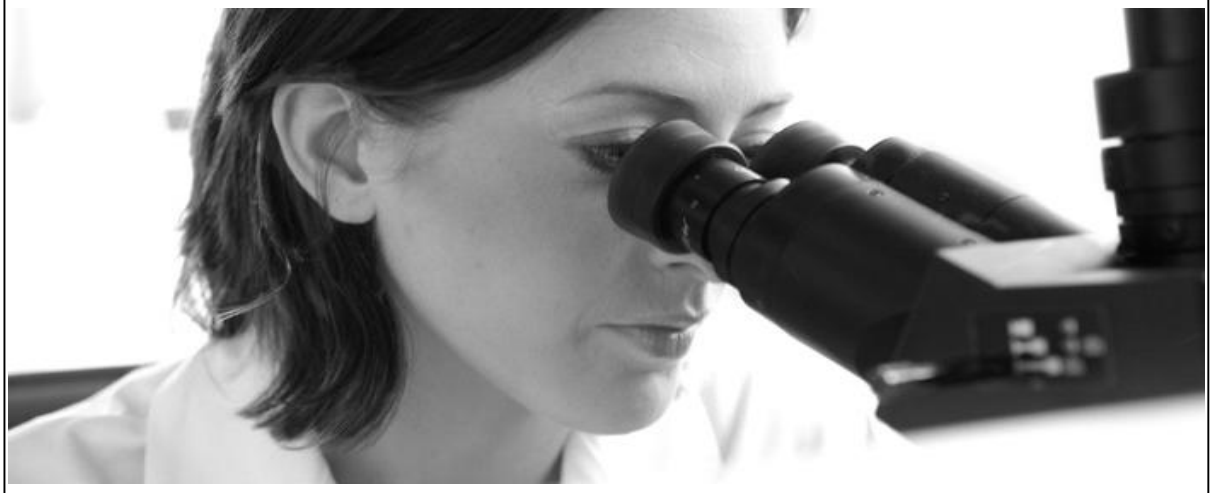

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Volume: 6 Issue: 10

THE PUBLICATION OF
INTERNATIONAL JOURNAL OF RECENT SCIENTIFIC RESEARCH
http://www.recentscientific.com
E-mail: recentscientific@gmail.com

ISSN: 0976-3031

Available Online at http://www.recentscientific.com

*International Journal of Recent Scientific Research*
*Vol. 6, Issue, 10, pp. 6858-6860, October, 2015*

*International Journal of Recent Scientific Research*

**RESEARCH ARTICLE**

# STUDY OF ORCHIDS DIVERSITY IN YERCAUD HILLS, EASTERN GHATS, TAMILNADU

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**ARTICLE INFO**

***Article History:***

Received 05th July, 2015
Received in revised form 08th August, 2015
Accepted 10th September, 2015
Published online 16st October, 2015

***Key words:***

Yercaud hill, Orchids, Distribution, Deforestation, Conservation

**ABSTRACT**

Survey of Orchids in Yercaud hills reveals that nearly 58 species of Orchids are present in this area. Majority of these are endemic to peninsular India with very few having distribution else were. The national Orchidorium present in Yercaud hills to conserve nearly 123 species (BSI-2007) of Orchids. Many of the Orchids are rare and threatened for reasons like over exploitation and habitat destruction. Among this habitat epiphytic 41 contribute higher distribution, followed by terrestrial 15 and Lithophytic 2 Orchids. Epiphytic Orchids are largely tropical and sub-tropical in distribution. Most of the Orchids 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 the alphabetical order.



## INTRODUCTION

Orchids is the most beautiful flowers comprise a unique group of plant, taxonomically, represent the most highly evaluated family among monocotyledons with 788genera and 18,500 species (Mabberley, 1998) is the second largest family of flowering plants in the World over, in India accounts for over a thousand species of epiphytic, terrestrial and saprophytic Orchids.

The Orchidaceae is a cosmopolitan family distributed throughout the World, barring a few isolated island and frozen continent of Antartica, and grows in almost all kinds of habitat except the aquatic and marine ecosystem. India is a country with high diver's climate and topography, totally 190 species of Orchids under 54 genera were recorded so far in Eastern Ghats (Gamble & Fischer, 1915), which leads to diversity in natural and biological resources.

Therefore, for management in order to conservation of this diversity, prevention from destruction of habitats determining the native and resistant species and endangered species and supporting them, recognition of medicinal plants for proper use of them, Orchids studies is necessary.

## MATERIALS AND METHODS

### *Study area*

Yercaud hills are located in the Eastern Ghats. The Yercaud hills is a part of Salem district, Tamil Nadu located between latitudes $11^0$42'58" to $11^0$56'26''N and longitudes $78^0$7'38'' to $78^0$22'9'' E and spreads to an area of about 383.41 square kilometers. While the surrounding plain grassland is at an elevation of 300 m to 1500 m above MSL, the highest peak being at 1524 meters. The annual rainfall varies from 1440 mm. The climate of Yercaud hills is moderate. Winters are fairly mild, starting in September and ending in December. During winter, the hills are covered in mist. Winters range from 12 °C to 24 °C, and summers from 16 °C to 30 °C. The study area falls in three rivers namely 1) Thirumanimutharu, 2) Sarabanga and 3) Vaniyar river basin. The flow in the river is seasonal and surface flow could be seen during peak monsoon seasons. The vegetation of Yercaud hills is of mixed deciduous and evergreen type. The Orchids begins to appear 500m elevation onwards. Apart from climatic condition altitude play vital role for the distribution of Orchids.

### *Field survey*

This field survey was conducted during the year 2013-2014 for collection of Orchids. Frequent field trips were made in all

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flowering seasons in those years. The study was based on field work and taxonomical examination of Orchids.

## RESULT AND DISCUSSION

**Table 1** Enumeration of Orchids in Yercaud hills

| S.no. | Botanical name | Habitat | Floral period |
|---|---|---|---|
| 1 | *Acampe praemorsa*. (Roxb.) Blatt & Mccann. | Epiphyte | Jan-Mar |
| 2 | *Acanthephippium bicolor*. Lindl | Epiphyte | Apr-June |
| 3 | *Aerides maculosum*. Lindl | Epiphyte | June-July |
| 4 | *Aerides ringens*. C.E.Fisher | Epiphyte | June-July |
| 5 | *Anoectochilus elatus*. Lindl. | Epiphyte | June-Sep |
| 6 | *Bulbophyllum fischeri*. Seidenf | Epiphyte | Mar-July |
| 7 | *Bulbophyllum kaitiense*. Reichb.f | Lithophyte | Sept |
| 8 | *Bulbophyllum neilgherrense*. Wight | Lithophyte | Feb-Mar |
| 9 | *Calanthe triplicata*. (Willem) Ames. | Terrestrial | July-Sep |
| 10 | *Chrysoglossum maculatum*.(Thw) Hook.f. | Terrestrial | Feb-Mar, Dec-Jan |
| 11 | *Coelogyne breviscapa*. Lindl | Epiphyte | Feb-Mar |
| 12 | *Coelogyne corymbosa*. Lindl | Epiphyte | Feb-Mar |
| 13 | *Cymbidium aloifolium*. (L) Sw | Epiphyte | Mar-Apr |
| 14 | *Cymbidium bicolor*. Lindl | Epiphyte | Mar-Apr |
| 15 | *Dendrobium aqueum*. Lindl. | Epiphyte | Sep-Oct |
| 16 | *Dendrobium bicameratum*. Lindl | Epiphyte | Mar-Dec |
| 17 | *Dendrobium chrysoloxum*. Lindl | Epiphyte | Mar-Dec |
| 18 | *Dendrobium fimbriatum*. W.J. Hook | Epiphyte | Mar-Dec |
| 19 | *Dendrobium herbaceum*. Lindl | Epiphyte | May-July |
| 20 | *Dendrobium ovatum*. L | Epiphyte | May-July |
| 21 | *Dendrobium wightii*. Balakr | Epiphyte | Apr-May |
| 22 | *Diplocentrum recurvum*. Lindl. | Epiphyte | May-June, July-Aug |
| 23 | *Disperis neilgherrensis*. Wight | Terrestrial | Aug-Sep |
| 24 | *Epidendrum radican*. Pav. Ex. Lindl | Epiphyte | Sep-Oct |
| 25 | *Eria nana*. A.Rich | Epiphyte | Sep-Oct |
| 26 | *Eria pauciflora*. Wight. | Epiphyte | Aug-Sep |
| 27 | *Eria polystachya*. A.Rich | Epiphyte | Oct-Nov |
| 28 | *Eulophia graminea*. Lindl | Terrestrial | Sep-Oct |
| 29 | *Eulophia nuda*. Lindl | Terrestrial | October |
| 30 | *Flickingeria nodosa*. (Dalz) Seidenf | Epiphyte | July-Sep |
| 31 | *Gastrochilus acaulis*. (Lindl) Kuntze | Epiphyte | June-July |
| 32 | *Geodorum densiflorum*. (Lam) Seidenf | Terrestrial | Aug-Sep |
| 33 | *Habenaria longicorniculata*. Graham | Terrestrial | Aug-Sep |
| 34 | *Habenaria longicornu*. Lindl | Terrestrial | Aug-Sep |
| 35 | *Habenaria plantaginea*. Lindl | Terrestrial | Aug-Sep |
| 36 | *Habenaria rariflora*. A.Rich | Terrestrial | Aug-Sep |
| 37 | *Liparis viridiflora*. (Bl) Lindl | Epiphyte | Aug-Sep |
| 38 | *Luisia abrahamii*. Vatsala | Epiphyte | July-Aug |
| 39 | *Luisia birchea*. Bl | Epiphyte | July-Aug |
| 40 | *Luisia tenuifolia*. Blume | Epiphyte | July-Aug |
| 41 | *Luisia zeylanica*. Lindl | Epiphyte | May-July |
| 42 | *Malaxis densiflora*.(A.Rich) kunts | Terrestrial | Aug-Sep |
| 43 | *Malaxis rheedii*. Sw | Terrestrial | Aug-Sep |
| 44 | *Nervilia plicata*. (Andr) Schltr | Terrestrial | Aug-Sep |
| 45 | *Oberonia brunoniana*. Wight | Epiphyte | Sep-Oct |
| 46 | *Oberonia denticulata*. Wight | Epiphyte | July-Oct |
| 47 | *Oberonia proudlockii*. King & Prantl | Epiphyte | May-Aug |
| 48 | *Oberonia santapaui*. Kapadia | Epiphyte | July-Oct |
| 49 | *Papilionanthe subulata*. (Koenig) Garay | Epiphyte | Mar-Apr |
| 50 | *Polystachya concreta*. (Jacq) Garay & Sweet | Epiphyte | July-Aug |
| 51 | *Rhynchostylis retusa*. (L) Bl | Epiphyte | Mar-Apr |
| 52 | *Stanhobea Wardii*.Lodd. ex Lindl | Terrestrial | Mar-Apr |
| 53 | *Taeniophyllum alwisii*. Lindl | Epiphyte | Feb-Mar |
| 54 | *Vanda parishii*.(Rchb.f) Schltr. | Epiphyte | June-Sep |
| 55 | *Vanda spathulata*. (L) Spreng | Epiphyte | June-Sep |
| 56 | *Vanda tessellata*. (Roxb) Hook. Ex | Epiphyte | Sep-Oct |
| 57 | *Vanda testacea*. (Lindl.) Reichb.f. | Epiphyte | Mar-Apr |
| 58 | *Zeuxine longilabris* (lindi.) Benth. ex Hook.f. | Terrestrial | May-Aug |

In the present preliminary studies have collected 58 species of Orchids (Table 3.1) including Epiphytic, Terrestrial, and Lithophytic orchids were collected and identified. The percent of Orchids is different habitats were represented in the form of table. Generally most of the Orchids were recorded during rainy seasons. This may be explained that the rainy season is an ideal one for growth and flowering of Orchids like *Coelogyne*, *Habenaria*, *Disperis*, and *Nervilia* etc. As far as orchids growing under different habitats may be varied. During the course of survey majority of the Orchids are occurring under Terrestrial habitat.

It was interestingly noted that the Epiphytic orchids are prefer some selective host namely mangifera indica, novel tree, phyrus, jackfruit tree, so that the conservation point of view the right host should be identified and conserved. Finally we concluded that more number of Orchids is occurring in Yercaud hills of Eastern Ghats.

**Table 2** Habitat percentage

| S.No | Habitat | % of occurrence |
|---|---|---|
| 1 | Epiphytic | 70.7 |
| 2 | Lithophytic | 25.9 |
| 3 | Terrestrial | 3.4 |

Among this habitats Epiphytic 70.7% of Orchids contributed higher percentage followed by Terrestrial 25.9% and Lithophytic 3.4%. (Table 3.2). Epiphytic Orchids are highly tropical and sub- tropical in distributed.

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**How to cite this article:**

Rajarajeshwari J and Nandakumar K.2015, Study of Orchids Diversity In Yercaud Hills, Eastern Ghats, Tamilnadu. *Int J Recent Sci Res,* 6(9), 6858-6860.

# International Journal of Recent Scientific Research

ISSN 0976-3031