

## EPIPHYTIC ORCHID FLORA OF CHIRANG RESERVE FOREST

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A survey work on the epiphytic Orchids of Chirang Reserve Forest under Haltugaon Forest Division of Kokrajhar district of Assam, has been done during the period of 1999 to 2002 and 42 species within 22 genera have been recorded. They have been identified and are arranged according to Dressler and Dodson's system of classification. During the present survey 12 species viz. *Bulbophyllum cauliflorum* Hk. f. *Dendrobium jenkinsii* Wall. Ex. Lindl., *Dendrobium mannii* Ridl., *Dendrobium transparens* Wall., etc. were collected for the first time from this reserve forest.

**Keywords :** Epiphytic orchid flora; Forest.

### Introduction

Orchids are one of the most fascinating and beautiful of all flowers. They exhibit a wide range of floral diversity in form, size, colour and texture beyond imagination. Orchids constitute an order of royalty in the world of ornamental plants and are of immense horticultural importance and play a very useful role to balance the forest ecosystem<sup>1</sup>.

Like other important orchid growing countries, India is blessed with a wealth of orchid flora. While an exact estimate of the total wealth in the country awaits botanical explorations in several virgin forests, the occurrence of 1,141 species in 166 genera representing all the major orchid tribe<sup>2</sup> and about 1,300 species are estimated to occur in this country<sup>3-4</sup>. Majority of Indian orchids (about 700 species) are found in phytogeographically interesting N-E region. Based on phytogeographical evidences, India is considered primary/secondary centre of origin for orchids<sup>5</sup>.

The state of Assam is situated at the foothills of Himalaya in the North Eastern region of India, which is famous for its rich natural resources. The area possesses extensive forest covers, both evergreen and semi-evergreen deciduous type due to high temperature, high rainfall and humidity. And as such, has become an ideal home-land for the growth of various types of Orchid species.

Like the rest of the districts of Assam, Kokrajhar district of Lower Assam is also covered with large, extensive forest covers. The district possesses a geographical area of about 3498 sq. Km. with a population of 930808 [according to 2001 census]. Like the other forest areas of Assam, this forest area is also rich with various types of both epiphytic and terrestrial orchids. But except a few,<sup>6-7</sup> no such taxonomical works on orchids have been done in this area.

Chirang reserve forest is situated within the geographical limits of 26° 28' to 28° 55' North latitude

and 90° 13' to 90° 27' East longitudes. The tract is bounded by International boundary line all along the foothills of Bhutan to the North, the Bhur river to the East, Haltugaon revenue area to the South and Saralbhanga river draining into Gaurang river to the West. The total area covered by the Chirang reserve forest is about 59, 245. 124 acres.

The major part of the Chirang reserve forest [Northern part] is situated within the Sub- Himalayan alluvial tract of a typical formation known as 'Bhabar' whereas Southern part falls within a typical formation known as Terrain. Basically this is a tropical semi-evergreen or deciduous forest with annual rainfall over 250 cm. But in a few blocks of the reserve forest evergreen type of forest cover is also found. The temperature throughout the whole year ranges from 12 to 35° C. Due to very high dampness and temperature, the Chirang reserve forest possesses a luxuriant growth of dense forest cover and also becomes an ideal place for the growth of various types of Orchid species.

### Materials and Methods

Extensive field trips were made in different parts of the reserve forest to collect orchid species for herbarium specimen. Live specimens were collected and photographs were taken in flowering condition in natural habitat.

*Enumeration of the species* - The orchid species so far recorded in Chirang Reserve Forest are arranged on the basis of Dressler and Dodson's<sup>8</sup> system of classification.

They are as follows:

*Family: Orchidaceae*

*Sub family I: Cypripedioideae* - characterised by the presence of two or three fertile anthers and absence of rostellum.

*Sub family II : Orchidoideae* - characterised by the presence of single fertile anther; anther and stigma connected by a terminal rostellum.

*Tribe V: Epidendreae* - anther terminal and operculate.

*Sub tribe I: Liperidinae*

A. GENUS: *Liparis* L. C. Rich.



**Fig.1.** *Acampe rigida* (Buch. Ham.) Hunt.



**Fig.2.** *Dendrobium jenkinsii* Wall. Ex. Lindl.



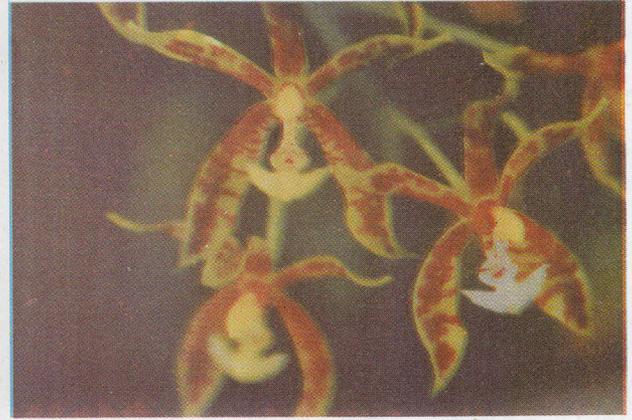
**Fig.3.** *Papilionanthe teres* [Roxb.] Schler. [*Vanda teres* Lindl.]



**Fig.4.** *Smitinandia micrantha* [Lindl.] Holtt.



**Fig.5.** *Eria pumila*



**Fig.6.** *Phalaenopsis mannii* Reichb. F.



**Fig.7.** *Eria pubiscens* [Hk.] Lindl. [*E. flava* Lindl.]



**Fig.8.** *Eria bractescens*



**Fig.9.** *Gastrochilus inconspicuus* [Hk. f.] Seid; [*Luisia inconspicua* Hk. f.]



**Fig.10.** *Dendrobium fimbriatum* Hook var. *oculatum*.



**Fig.11.** *Dendrobium mannii* Ridl.



**Fig.12.** *Eria acervata* Lindl.

- Species (1) *Liparis longipes* Lindl.  
Flowering period: August- November.  
Collected from: Ultapani.

B. GENUS: *Oberonia* Lindl.

- Species (2) *Oberonia iridifolia* Lindl.  
Flowering period: September - December.  
Collected from: Chirang
- (3) *Oberonia myriantha* Lindl.  
Flowering period: June -September.  
Collected from: Chirang
- (4) *Oberonia orbicularis* Hk . F.

Sub Tribe II: *Coelogyntinae*

C. GENUS: *Pholidota* Lindl.

- Species (5) *Pholidota imbricata* [Roxb.]Lindl.  
Flowering period: May-August.  
Collected from: Ultapani.

Sub tribe III: *Epidendrinae*

D. GENUS: *Eria* Lindl.

- Species (6) *Eria acervata* Lindl.  
Flowering period: June - July.  
Collected from: Ultapani.
- (7) *Eria bractescens* Lindl.  
Flowering period: Nov. to Feb.  
Collected from: Jharbari.
- (8) *Eria pubescens* [Hk.] Lindl, [*E. flava* Lindl.]  
Flowering period: April.  
Collected from: Jharbari , Ultapani .
- (9) *Eria pumila* (Griff.) Lindl.  
Flowering period: August.  
Collected from: Ultapani.
- (10) *Eria stricta* Lindl.  
Flowering period: November -February.  
Collected from: Ultapani

Sub tribe IV: *Cryptodiinae*

F. GENUS: *Geodorum* Jacks.

- Species (11) *Geodorum densiflorum* [Lamk] Schltr.; [*G dilatatum* R. Br.]  
Flowering period: April.  
Collected from: Jharbari.

Sub tribe V: *Dendrobinae*

G. GENUS: *Bulbophyllum* Thou.

- Species (12) *Bulbophyllum careyanum* Hk. Spreng.  
Flowering period: October -December.  
Collected from: Bishmuri, Ultapani.
- (13) *Bulbophyllum cauliflorum* Hk. f.  
Flowering period: July.  
Collected from: Ultapani.

H. GENUS: *Dendrobium* Sw.

- Species (14) *Dendrobium anceps* Sw.  
Flowering period: April - May.  
Collected from: Jharbari, Ultapani .

- (15) *Dendrobium aphyllum* (Roxb.) C.E.C. Fisher [*Lindorum aphyllum* Roxb; *D. pierardi* Roxb.]

Flowering period: April - May.  
Collected from: Ultapani.

- (16) *Dendrobium fimbriatum* Hook var. *oculatum*.  
Flowering period: March -May.  
Collected from: Jharbari, Ultapani.

- (17) *Dendrobium lituiflorum* Lindl.  
Flowering period: February - April.  
Collected from: Bishmuri.

- (18) *Dendrobium jenkinsii* Wall. Ex. Lindl.  
Flowering period: April - May.  
Collected from: Jharbari, Ultapani.

- (19) *Dendrobium moschatum* Buch. -Ham. [*D. Calceolaria* Carey ex.Hk.]

Flowering period: May -July.  
Collected from: Jharbari, Ultapani.

- (20) *Dendrobium manii* Ridl.  
Flowering period: September-October.  
Collected from: Jharbari.

- (21) *Dendrobium transparens* Wall.  
Flowering period: May.  
Collected from: Jharbari.

I. GENUS: *Flickingeria* Hawkes.

- Species (22) *Flickingeria fugax* [Rechb. f.] Seid.; [*Dendrobium macraei* Lindl.; Gen. and Sp. Orch.; *Ephemerantha macraei* (Lindl.) Hunt and Summerh.]  
Flowering period: May-July.  
Collected from: Ultapani.

Sub tribe VI: *Cymbidinae*

J. GENUS: *Cymbidium* Sw.

- Species (23) *Cymbidium aloifolium* [L.] Sw.  
Flowering period: May - June  
Collected from: Ultapani, Jharbari.

Sub tribe VII: *Sarcanthinae*

K. GENUS: *Acampe* Lindl.

- Species (24) *Acampe multiflorum* Lindl. [*Vanda multiflora* Lindl, *Saccolabium longifolium* Lindl.]  
Flowering period: April-May.  
Collected from: Jharbari.

- (25) *Acampe papillosa* Lindl. [*Saccolabium papillosum* Lindl; *Gastro chilus papillosus* (Lindl.) Lindl. ]  
Flowering period: September -November.  
Collected from: Bishmuri, Ultapani.

- (26) *Acampe rigida* (Buch. Ham.) Hunt.  
Flowering period : April - May  
Collected from : Jharbari

L. GENUS: *Aerides* Lour

- Species (27) *Aerides fieldingii* B. S. Williams  
Flowering period: May-June.  
Collected from: Jharbari.
- (28) *Aerides longicornu* Hook. f.

Flowering period: September -October.

Collected from: Jharbari

(29) *Aerides multiflorum* Roxb.

Flowering period: June -July.

Collected from: Bishmuri, Jharbari.

(30): *Aerides odoratum* Lour.

Flowering period: June-July.

Collected from: Bishmuri, Ultapani.

M. GENUS: *Ascocentrum* Schltr.

Species (31) *Ascocentrum ampullaceum* [Lindl.] Schltr.

[*Aerides ampullaceum* Roxb.]

Flowering period: March-May.

Collected from: Jharbari.

N. GENUS: *Chiloschista* Lindl.

Species (32) *Chiloschista lunifera* [Reichb. f.]

J.J.Sm., [*Sarchochillus Luniferus* (Reichb. f.) Bth. ex. Hk. f.]

Flowering period: January -April.

Collected from: Chirang.

O. GENUS: *Gastrochilus* D. Don.

Species (33) *Gastrochilus inconspicuum* [Hook. f.] Seid.

[*Luisia inconspicua* Hk. f.]

Flowering period: May-July.

Collected from: Bishmuri, Jharbari.

P. GENUS: *Luisia* Gaud.

Species (34) *Luisia brachystachys* Bl; [*L. indivisa* King and Pantl.]

Flowering period: September-October.

Collected from: Bishmuri.

(35) *Luisia zeylanica* Lindl. [*L. teretifolia* Gaud.]

Flowering period: May.

Collected from: Chirang.

Q. GENUS: *Micropera* Lindl.

Species (36) *Micropera rostrata* [Roxb.] Balak.;

[*Camarotis purpurea* Lindl.]

Flowering period: May.

Collected from: Ultapani .

R. GENUS: *Papilionanthe* Schltr.

Species (37) *Papilionanthe teres* [Roxb.] Schltr. [*Vanda teres* Lindl.]

Flowering period: March-April.

Collected from: Bishmuri, Ultapani.

S. GENUS: *Pteroceras* Hasak.

Species (38) *Pteroceras suaveolens* [Rerb.] Holtt.;

[*Sarcochilus suaveolens* [Rerb.] Hk. f.]

Flowering period: April-May.

Collected from: Ultapani.

T. GENUS: *Phalaenopsis* Bl.

Species (39) *Phalaenopsis mannii* Reichb. f.

Flowering period: April-May.

Collected from: Chirang.

U. GENUS: *Rhynchostylis* Bl.

Species (40) *Rhynchostylis retusa* Bl.

Flowering period: April-July.

Collected from: Jharbari, Ultapani.

V. GENUS: *Robiquetia* Gaud.

Species (41) *Robiquetia paniculata* [Lindl.]

Flowering period: September- December.

Collected from: Chirang.

W. GENUS: *Smitinandia* Holtt.

Species (42) *Smitinandia micrantha* [Lindl] Holtt;

[*Cleisostoma micranthum* King and Pantl.]

Flowering period: May- August.

Collected from: Ultapani

### Discussion

The present survey work led to collection and identification of 42 species within 22 genera .Of the genera studied, *Dendrobium* possesses the highest number of 8 species followed by *Eria* with 5 species, *Aerides* with 4 species and *Oberonia* with 3 species. Some more epiphytic orchids might have been present. In the present survey the species collected for the first time are--

(1) *Acampe rigida* (Buch. Ham.) Hunt., (2) *Bulbophyllum cauliflorum* Hk. f., (3) *Dendrobium jenkinsii* Wall. Ex. Lindl., (4) *Dendrobium mannii* Ridl., (5) *Dendrobium transparens* Wall., (6) *Eria bractescence* (7) *Eria pumila*, (8) *Aerides fieldingii* B. S. Williams., (9) *Gastrochilus inconspicuum*, [Hk. f.] Seid; [*Luisia inconspicua* Hk. f.], (10) *Micropera rostrata* [Roxb.] Balak., (11) *Phalaenopsis mannii* Reichb. f., (12) *Smitinandia micrantha* [Lindl.] Holtt.

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