# ENTOMO-FAUNA IN THE FORESTS OF BANGLADESH

## III. SATYRIDAE AND ACRAEIDAE : LEPIDOPTERA *

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## ABSTRACT

Butterflies of the families Satyridae and Acraeidae, collected from different forest areas of Bangladesh, have been identified. In Satyridae, there are ten species belonging to six genera. These include : *Mycalesis mystes, M. perseus, M.* sp., *Elymnias hypermnestra, Melanitis leda, Orsotrioena medus, Erebia nirmala, E. narasingha, Ypthima chenui and Y. philomela.* In Acraeidae, there is only one species, viz. *Acraea violae.* A taxonomic key has been developed for distinguishing the families, genera and species. The locality of collection of each species in different forest areas and its importance to forestry in Bangladesh have been noted.

## সারসংক্ষেপ

বাংলাদেশের বিভিন্ন বনাঞ্চল হতে সংগৃহীত স্যাটাইরিডি ও এক্রিইডি পরিবারভুক্ত বিভিন্ন প্রজাতির প্রজাপতি সনাক্ত করা হয়েছে। স্যাটাইরিডি পরিবারে ছয়টি গণে মোট ১০টি প্রজাতি বিদ্যমান। এগুলো হলো : *মাইকেলেসিস মিসটিস, মা. পারসিয়াস, মা. স্পিসিস, ইলিমনিয়াস হাইপার্মনেষ্ট্রা, মেলানেটিস লেডা, অরসেটোয়োনা মিডাস, ইরেবিয়া নির্মলা, ই. নরসিংহা, ইপথিমা চেনুই* এবং *ই. ফাইলোমেলা।* এক্রিইডি পরিবারে *এক্রিইয়া ভিওলি* নামে একটিমাত্র প্রজাতি আছে। উপরোক্ত পরিবার, গণ ও প্রজাতি পৃথকীকরণের জন্য একটি ছক তৈরী করা হয়েছে। প্রতিটি প্রজাতির সংগ্রহস্থানের নাম এবং বনাঞ্চলে এর গুরুত্ব সম্বন্ধে আলোকপাত করা হয়েছে।


## INTRODUCTION

Butterflies of the family Satyridae are shade loving insects and are found in undergrowth, long grass or dense evergreen forests. They fly in tumbling and an irregular way and drop after a short flight mimicking dead or decaying leaves casually blown down. The adults of both sexes are usually sombre coloured with their fore legs imperfectly developed and brush-like. The wings

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are normally scaled, without spotting but often contain one or more distinct eye-like spots called 'ocelli'. The cells of both wings are closed and the posteriormost vein of fore wings arising from the base (Ist anal vein) remains free. The most striking feature is that one or more veins of fore wings (except in *Melanitis*) are swollen at the base. The larvae are nocturnal and feed on monocotyledons specially Graminaceae and Palmaceae.

The members of the family Acraeidae, having the fore legs imperfectly developed in males, share some features in common with those of Satyridae such as fore wings with Ist anal vein free and closed cells on both wings with many crossveins. But unlike Satyridae, the wings are thinly scaled and spotted and no veins on fore wings are swollen at their bases. The adults frequent the flowers of all kinds in the forests. They are found near the ground producing weak, slow and flattering flight and move straight ahead. The wings never move far from the horizontal plane during flight. These butterflies can be easily caught between fingers when at rest. The imago can exude a yellow, somewhat acrid fluid with disagreeable odour.

Literature on the butterfly fauna in the forests of Bangladesh is very few. Chaudhry *et al.* (1966) and Chaudhry *et al.* (1970) surveyed the insect fauna of forests of Pakistan including some of the areas of the then East Pakistan, now Bangladesh. Ameen and Chowdhury (1968) listed only one species each of Satyrinae and Acraeinae under the family Nymphalidae occurring in Dhaka city and its suburbs. Choudhury and Zethner (1971) and Zethner and Choudhury (1971) recorded only four species of Satyrinae. It is, therefore, felt necessary to give an up-to-date information on the insect fauna available in the forests of Bangladesh. The present paper deals with the butterflies only of the families Satyridae and Acraeidae.

## MATERIALS AND METHODS

The insect specimens were collected from different forest areas of Bangladesh since July, 1969 by officers and staff of Forest Entomology Section, Bangladesh Forest Research Institute, Chittagong. Most of the specimens were collected by sweeping with insect net when adults were found at rest or on their wings. Some specimens were also reared up to adult stage in the laboratory from field-collected eggs, larvae and pupae. These were identified with the help of keys prepared by Talbot (1978a, 1978b). Symbolical notations of veins, as followed by Talbot (1978a) were used in the taxonomic key prepared.

## RESULTS AND DISCUSSIONS

A total of ten species covering six genera of the family Satyridae were identified. The Acraeidae family was represented by only one species. For distinguishing the insects by families, genera and species occuring in Bangladesh, a taxonomic key has been developed. The locality of collection of each species in different forest areas of Bangladesh and its importance to forestry have been noted.

### Key for Identification

A. Fore wings with one or more veins swollen at base (except in *Melanitis*). Wings normally scaled and not spotted .....Fam.Satyridae

a. Base of vein 1b greatly swollen. Eyes hairy .....*Mycalesis* Hubn.

a[1]. Hind wing underside with a series of ocelli. Upperside of hind wing in male with a hair-pencil on 1b .... *M. mystes* de Nicev.

$b^1$. Hind wing underside with a series of ocelli. Upperside of hind wing in male without a hair-pencil on 1b ..... .....*M. perseus* (Fabr.)

$c^1$. Hind wing underside without ocelli ..... *M.* Hubn. sp.

b. Base of vein 1b not swollen. Eyes glabrous

$a^1$. Hind wing with a precostal cell ..... .....*Elymnias hypermnestra* Linn.

$b^1$. Hind wing without a precostal cell

$a^2$. Fore wing without swollen veins ..... *Melanitis leda ismene* (Cram.)

$b^2$. Fore wing with one or two veins swollen at base

$a^3$. Fore wing with upper angle of cell strongly acute and anterior margin markedly longer than lower margin .... *Orsotrioena medus medus* (Fabr.)

$b^3$. Fore wing with anterior margin of cell not longer than lower margin (median)

$a^4$. Fore wing with 1dc excurved. Vein 10 from cell ... *Erebia* Dalm.

$a^5$. Hind wing underside with ocelli in area 2 ..... *E. nirmala* Moore

$b^5$. Hind wing both sides without any ocellus ..... *E. narasingha* (Moore)

$b^4$. Fore wing with 1dc straight or incurved. Vein 10 always from vein 7 ..... *Ypthima* Hubn.

$a^6$. Hind wing underside with three tornal ocelli in areas 1, 2 and 3 ..... *Y. chenui* (Guer.)

$b^6$. Hind wing underside with more than one apical ocelli, the one in area 5 always prominent ..... *Y. philomela tabella* Marshall

B. Fore wing without any vein swollen at base. Wings thinly scaled and spotted ..... Fam. Acraeidae

a. Hind wing with a black marginal border bearing a submarginal series of small tawny spots ..... *Acraea violae* (Fabr.)

## Distribution and importance

Family : Satyridae

1. *Mycalesis mystes* de Niceville

Locality of collections : Bangladesh Forest Research Institute (BFRI),

campus Inoni, Keochia and Khaskhali.

Importance : Not specifically known.

2. *Mycalesis perseus* (Fabricius)

Locality of collections : Kaptai, Hathazari (Chaudhry *et al.* 1966), Mohalla (Chaudhry *et al.* 1970), Lawachara, Ichamati, Inoni, Jalui and Pablakhali.

Importance : The larvae feed on grass and also on rice grown in valleys and hill slopes.

3. *Mycalesis* Hubner sp.

Locality of collections : Rajendrapur (Chaudhry *et al.* 1966), BFRI, Dhoom, Harbang, Hazarikhil, Inoni, Lalutia, Lawachara, Modhupur, Ukhia and Zalchatra.

Importance : Not known.

4. *Elymnias hypermnestra* (Linnaeus)

Locality of collections : Kaptai (Chaudhry *et al.* 1966), BFRI, Sunderbans and Ukhia.

Importance : Larvae feed, generally, on various species of palms (Talbot, 1978b).

5. *Melanitis leda ismene* (Cramer)

Locality of collections : Bankkhali, BFRI, Harbang, Hazarikhil, Kaptai, Mainimukh, Rajendrapur, Sitapahar (Chaudhry *et al.* 1966), Keochia, Lalutia, Lawachara and Teknaf.

They are often seen flying around the trunks of large shady trees.

Importance : The larvae feed on *Oryza* sp. and grass (Chaudhry *et al.* 1966).

6. *Orsotrioena medus medus* (Fabricius)

Locality of collections : Sitapahar (Chaudhry *et al.* 1966), Bhomariaghona, Kalachara, Lalutia, Lawachara, Publakhali, Sunderbans and Ukhia.

Importance : The larvae are found on rice plants in highly moist areas.

7. *Erebia nirmala* Moore

Locality of collections : Adampur, Baitarani, BFRI, Datmara, Harbang, Ichamati, Lawachara, Rangamati, Sreemai, Sunderbans, Thaingkhali and Ukhia.

Importance : The adult males frequent flowers specially of Compositae and the adult females rest mostly on grasses. The larvae feed on grasses.

8. *Erebia narasingha* (Moore)

Locality of collections : BFRI and Harbang.

Importance : Same as of SL. NO. 7.

9. *Ypthima chenui* (Guerin)

Locality of collections : Kaptai, Khashkhali, Lawachara and Sunderbans.

Importance : The larvae feed on grasses.

10. *Ypthima philomela tabella* Marshall

Locality of collections : Adampur, Ali Kadam, BFRI, Inoni, Lalutia, Lawachara, Publakhali, Thaingkhali and Ukhia.

Importance : The larvae feed on grasses.

Family : Acraeidae

1. *Acraea violae* (Fabricius)

Locality of collections : Mainimukh. Very rare species.

Importance : The larvae feed on wild passion flower. It was reared on *Hibiscus cannabinus* (Lefroy 1909). It defoliates *Vitex pinnata* (Beeson 1941).

Imms (1964), Lefroy (1909) and Beeson (1941) considered Satyridae and Acraeidae as sub-families of the family Nymphalidae largely because of having their fore legs imperfect in both sexes. According to Talbot (1978b), the true nymphalids can themselves be divided into sub-families and these are all more closely related to one another than is any one of them to the Satyridae or Acraeidae. Obviously, Talbot considered Satyridae and Acraeidae as two separate families and this view has also been followed in the present paper.

Chaudhry *et al.* (1966) and Chaudhry *et al.* (1970) listed 12 species of Satyridae occurring in the forests of Pakistan including 5 species of the then East Pakistan but they excluded the family Acraeidae from their list. In addition to the five species of Satyridae mentioned by them, five more species occuring in the forests of Bangladesh have been keyed and dealt with in the present paper. The species of Acraeidae listed by Ameen and Chowdhury (1968) as *Telchinia violae* Fabricius is synonymous with *Acraea violae* (Fabricius) since *Telchinia* Hubner is superseded by *Acraea* Fabricius (Talbot 1978b).

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