

YPHIMA AVANTA MOORE (LEPIDOPTERA : SATYRIDAE) - A NEW ADDITION TO THE BUTTERFLY FAUNA OF ACHANAKMAR-AMARKANTAK BIOSPHERE RESERVE

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Abstract: Achanakmar-Amarkantak Biosphere Reserve (A-A BR) is the 14th Biosphere Reserve of the country. It is an interstate biosphere comprises major part of Bilaspur district of Chhattisgarh and with part Anuppur and Dindori districts of Madhya Pradesh states. The Biosphere Reserve is a paradise of faunal and floral diversity. Recent survey made during the rainy season in Amarkantak range under Anuppur Forest Division of Madhya Pradesh, the buffer zone of Achanakmar-Amarkantak Biosphere Reserve revealed the occurrence of 12 species of butterflies (six species belong to family Nymphalidae, two species belong to family Pieridae, one species belongs to family Danaidae, Erycinidae, Hesperidae and Satyridae). Among the butterflies collected, *Ypthima avanta* Moore (Lepidoptera : Satyridae) is a new addition to the insect faunal composition of butterflies in Achanakmar-Amarkantak Biosphere Reserve.

INTRODUCTION

The Achanakmar-Amarkantak Biosphere Reserve (A-A BR) is designated as the 14th National Biosphere Reserve by Government of India on 30th March 2005. It lies between the parallels of latitude 22° 15' to 20° 58' North and longitude 81° 25' N to 82° 5' East. The total geographical area of BR is 3835.51 km² (Anon., 2007). The core area of the Biosphere Reserve is 551.55 km², falls in Chhattisgarh state. It is surrounded by buffer and transition zone area of 3283.96 km², out of which 2058.98 km² falls in Bilaspur and Marwahi Forest Divisions of Chhattisgarh and 1,224.98 km² in Dindori and Anuppur Forest Divisions of Madhya Pradesh. Its topography is varied from Rice fields in Bilaspur and Anuppur district and Wheat fields in Dindori district to the hills of Maikal ranges of Satpura. The topography, in combination with perennial streams and valleys has created micro-climatic conditions in the area to provide diverse environmental conditions, encouraging luxuriant growth for several species of thallophytes, bryophytes, pteridophytes (ferns), gymnosperms, angiosperms and many species of wild fauna of economic importance (Anon., 2010). The A-A BR is very rich with high density of flora and fauna. It comprises of 1527 species of

identified flora, 324 species of identified fauna and many more undescribed floral and faunal taxa. Plant species like the Lichen *Caloplaca amarkantakana* (Teloschistaceae), Fern *Isoetes bilaspurensis* (Isoetaceae) and an angiosperm *Bothrichloa grahamii* (Poaceae) are endemic to this region. Twenty eight threatened species of flora and 55 threatened species of fauna belonging to various groups have been identified and observed to different threat categories regionally as well as globally as per IUCN criteria ver.2001. The A-A BR has typical monsoon climate with distinct three seasons, viz. summer-from March to June, rainy-from July to October and winter-from November to February. The relative humidity is fairly high in dense sal forest throughout the year (Anon., 2008).

The faunal resources of A-A BR are very rich and varied. It comprises of 324 species of identified fauna (Anon., 2010), out of which 114 species belong to invertebrate (Anon., 2008). Among the invertebrates, 5 species belong to Chilopoda (Khanna, 2006), 84 species belong to Lepidoptera (49 butterflies and 35 moths) (Gupta and Mondal, 2005; Chandra *et al.*, 2006; Roychoudhury *et al.*, 2007; Singh and Chandra, 2008), 24 species belong to Coleoptera (Roychoudhury *et al.*, 2004; Joshi *et al.*, 2006;

Anon., 2008) and only one species belongs to Orthoptera (Chandra and Gupta, 2005). Recently, Joshi *et al.* (2008) have added two species of moths and two species of beetles in the faunal composition of A-A BR. Apart from these, nothing is known about the existence of other species of insects in A-A BR. The present report is a new addition in this regard.

MATERIALS AND METHODS

During the recent survey (2010-2011) conducted in the rainy season (August-September) in Amarkantak range under Anuppur Forest Division of Madhya Pradesh, the buffer zone of A-A BR, butterflies were collected through sweeping method. The collected butterflies were killed, oven dried, studied morphologically and systematically to identify them with the help of literature available (Marshal and De Niceville, 1883; De Niceville, 1886; Evans, 1932; Talbot, 1939, 1947; Wynter-Blyth, 1957; Antram, 1986) and determined specimens preserved for reference collection at Forest Entomology Division of this Institute.

RESULTS AND DISCUSSION

The present survey revealed that 12 species of butterflies (6 species belong to family Nymphalidae, 2 species belong to family Pieridae

and one species belongs to family Danaidae, Erycinidae, Hesperiiidae and Satyridae) found to occur during the rainy season of the year at Amarkantak range (Table -1). Out of 12 species of butterflies collected, 11 species have already reported earlier to occur in core zone of A-A BR (Singh and Chandra, 2008). The published information on status of these butterflies reveals that six species are common (C), four species are very common (VC), one species is least concern (LC) and one species is not rare (NR).

Among the butterflies collected, *Ypthima avanta* Moore (Lepidoptera : Satyridae : Satyrinae), is a new record to A-A BR. In regard to the genus *Ypthima* Hubner, that includes many species of small, brown butterflies with rings in their wings and shows weak, bouncing flight (Marshal and De Niceville, 1883; Talbot, 1947). They are found in grassy places and flutter about close to the ground (Wynter-Blyth, 1957).

Y. avanta is commonly known as the jewel fourring (Moore, 1874; Evans, 1932; Wynter-Blyth, 1957). The diagnostic features of adult butterflies are upperside dark brown, with an indistinct bipupilled ocellus on the forewing and two subanal ocelli on the hindwing, underside grey, numerous covered with dark brown narrow striae and crossed with three brown fasciae, the

Table -1: Occurrence of butterflies during the rainy season in buffer zone of Achanakmar-Amarkantak biosphere reserve

Sr. No.	Name of Species	Family	Status	Accession No.
1	<i>Abisara echerius</i> (Stoll)	Erycinidae	C	419
2	<i>Badamia exclamationis</i> (Fabr.)	Hesperiiidae	C	160
3	<i>Catopsilia crocale</i> (Cramer)	Pieridae	VC	38
4	<i>Catopsilia pyranthe pyranthe</i> (L.)	Pieridae	VC	346
5	<i>Danaus genutia</i> (Cramer)	Nymphalidae	VC	295
6	<i>Euploea core</i> (Cramer)	Danaidae	VC	15
7	<i>Hypolimnas bolina</i> (L.)	Nymphalidae	C	386
8	<i>Hypolimnas misippus</i> (L.)	Nymphalidae	LC	154
9	<i>Melanitis leda ismene</i> (Cramer)	Satyridae	C	382
10	<i>Phalantha phalantha</i> (Drury)	Nymphalidae	C	45
11	<i>Precis lemonias lemonias</i> (L.)	Nymphalidae	C	52
12	<i>Ypthima avanta</i> Moore*	Satyridae	NR	422

*New record. C=Common. VC=Very common. LC=Least concern. NR=Not rare.
Locality of collection = Amarkantak Range under Anuppur Forest Division, M.P.

subbasal one being indistinct, forewing with a bright oval ocellus bipupilled with silver and hindwing with seven small prominent silver-pupilled ocelli, the upper third minute, the two anal geminated (Moore, 1874).

Wing expanse of this butterfly found to be varied between 32-34 mm. Earlier, it has been recorded that wing expanse of *Y. avanta* ranges from 30-48 mm, depending on the seasons (Moore, 1874; Marshal and De Niceville, 1883; Evans, 1932; Talbot, 1947; Wynter-Blyth, 1957). The habitat of this butterfly has been recorded to be Kashmir by Moore (1874), Western Himalayas by Marshal and De Niceville (1883), South India and Sri Lanka by Evans (1932), Mussorie by Peile (1937, quoted from Talbot, 1947), Kashmir to Sikkin by Talbot (1947) and Peninsular India to Madhya Pradesh, Himalayas as far West as Kashmir and East as Assam by Wynter-Blyth (1957). Recently, Tiple (2011) has reported the occurrence of this butterfly from Vidarbha region of Maharashtra. The status of *Y. avanta* is not rare as mentioned by Evans (1932) and Wynter-Blyth (1957).

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