

Butterflies (Lepidoptera—Rhopalocera) of the Achanakmar-Amarkantak Biosphere Reserve, in Chhattisgarh and Madhya Pradesh, with a synopsis of the recorded butterfly fauna of the eastern Central Highlands in India

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Abstract. During the course of this study, 104 species of butterflies, belonging to 69 genera in 6 families were recorded, of which as many as 55 species are new records from the Achanakmar-Amarkantak Biosphere Reserve straddling the Chhattisgarh-Madhya Pradesh States. A further 133 species are also included that have been recorded from the surrounding eastern Central Highlands biogeographical sub-area, making a total of 237 species. Most butterflies documented are Nymphalidae (40 species), with 16 new records. Some 27 Lycaenidae species were recorded, with 20 new records. A total of 15 Hesperidae species were found, of which 8 were new records. In Pieridae there were 13 species, with 8 new records; and of Papilionidae 8 species, with 4 new records. Among these 104 species, 38 (or about 37%) were abundant in the reserve, 32 (31%) species were common, 6 (6%) were occasional, 22 (21%) were uncommon, and 6 (6%) were rare. All in all, it became apparent that the Achanakmar-Amarkantak Biosphere Reserve holds a rich biodiversity, not just to be conserved and protected, but also for studies on research in butterfly biology (and taxonomy), and of other taxa as well, by future students.

Introduction

The Achanakmar-Amarkantak Biosphere Reserve is named after the Achanakmar forest village (Bilaspur district, Chhattisgarh) and Amarkantak (edge of Shahdol district, Madhya Pradesh), a holy place for Hindus, from which area the Narmada, Johilla and Son rivers emerge. Achanakmar-Amarkantak was declared as a Biosphere Reserve (BR) in 2005 by the Government of India. It lies between 22° 15' to 20° 58' N lat. and 81° 25' N to 82° 5' E long., and spreads south to north along the Maikala Hill Range in northern Chhattisgarh and eastern Madhya Pradesh. The Maikala range is wedge shaped, meeting at a point near Amarakantak and Bhamangarh. It falls in the eastern Central Highlands biogeographical sub-area of Maikala Range—Chhota Nagpur in the Peninsular India—Ceylon area of the Indian subregion (see Ghorpadé, 2001). This sub-area includes easternmost Madhya Pradesh, northern and eastern Vidarbha (Maharashtra) and northern Chhattisgarh, besides Jharkhand, Orissa and the Andhra Circars. It is mainly Tropical Dry Deciduous Forest in the Sal Zone with *Shorea robusta*, *Syzygium operculatum*, *Toona ciliata*, *Symplocos spicata*, *S. racemosa*, *Dillenia pentagyna* and *Adina cordifolia* as the important tree species here (Legris & Meher-Homji, 1977; Gadgil & Meher-Homji, 1982). Legris & Meher-Homji (1977) wrote a useful paper on the phytogeographic outlines of the hill ranges of peninsular India, which indicated the floral composition of the present study area quite well. They wrote : "The Satpura range runs almost parallel to the Vindhya between the Narmada and the Tapti [rivers]. It is composed mainly of traps but in the east, the Gondwana formations are conspicuous. In its central part, the range widens out with the Mahadeo hills in the north and the Gawilgarh in the south. The highest point is near Pachmarhi (1350 m) in the Mahadeo hills. The Maikala plateau forms the east part of the Satpura ; it is bordered on the east by the Maikala range, which perhaps marks the site of an ancient shore line. Whereas only a small part of the Satpura lies below 500 m, several peaks are above 1000 m." (p. 10)

“The Mahadeo, the Maikala, the Chota Nagpur . . . Ghats are characterised by the presence and the prominence of the Sal (*Shorea robusta*) . . . The western most limit of Sal is reached in the hills of the Mahadeo range, the southern most limit is the area south of Jagdalpur in Bastar district . . . The broad rainfall range within this sal tract is 1400-2000 mm with a dry season of 5 to 7 months. Mean temperature of the coldest month lies between 15-20°C and occasionally even less than 15. The following species are generally more common in the Sal type than in the Teak type ; in the understorey, *Cleistanthus collinus*, in the undergrowth *Moghania* spp. and *Phoenix acaulis*, and the climber *Combretum decandrum*.” (p. 16)

Forsyth (1871) is a classic on the natural history of the Central Highlands (Satpuras and Vindhyas). Saxena (1970, 1971) published on the flora of Amarkantak and Pachmarhi. The flora of Madhya Pradesh and Chhattisgarh were reviewed, with bibliographies, by Misra (1956), Sebastine & Balakrishnan (1963), Raghavan (1977), Sen Gupta (1977), and Verma (1977). Hewetson (1956, 1981) gave good summaries of the physiography and vegetation of erstwhile Madhya Pradesh. D' Abreu (1920, 1923, 1931, 1935) wrote good faunistic papers when he was Curator at the Nagpur Museum. Mahabale & Karnik (1958), Gaussen et al. (1970) and Gadgil & Meher-Homji (1982) are other useful works on the Satpura flora and environment.

The present biosphere reserve encompasses a variety of ecosystems like sal forest, mixed forest, degraded forest as well as agro-forestry plantations. Its total geographical area is 3835.51 sq. km, while the core area is 551.55 sq. km., in the Chhattisgarh State. It is surrounded by a buffer and transition zone area of 3283.96 sq. km., out of which 2058.98 sq. km. fall in the Bilaspur and Marwahi forest divisions of Chhattisgarh and 1,224.98 sq. km are in the Dindori and Anuppur forest divisions in the Mandla and Shahdol districts of Madhya Pradesh State (Joshi et al., 2010). Bhamangarh (1127m) is the highest peak here, with another hill peak of 1057m to its south.

This Reserve has a typical monsoon climate, with three distinctly defined seasons including a short post-monsoon season. The summer season begins from April and lasts up to the middle of June. The monsoons (rains) commence from the middle of June and continue until the end of September. The post-monsoon season is in the month of October. The winter or cold season begins from November and lasts up to March. The mean daily maximum temperatures range from 24° to 39° C, and mean daily minimum temperatures range from 10° to 25° C, depending on the season. A few rainshowers occur, generally, in every season, and throughout the year. The annual rainfall is from 1322.0 to 1624.3 mm. The relative humidity is fairly high due to the lush sal forest vegetation at higher elevations and there are frequent rain showers between June and October. The rainfall decreases to its lowest of 12.98 mm in December.

Insects comprise the majority of earth's diversity of animal species (see e.g., May, 1992). Healthy biological communities depend on insects as pollinators, seed dispersers, herbivores, predators, parasitoids, and also as prey, in Nature's balance. Within ecological communities, insects comprise a large proportion of the biomass, and are critical conduits of energy through the natural system (Battist, 1988). Their role in any ecosystem functioning optimally serves to facilitate soil aeration and drainage, as well as litter decomposition and nutrient cycling (Bowman, 1993). For these and other myriad reasons, they are critical components of the smooth functioning of any ecosystem.

Among insects, butterflies are a beautiful group and have great aesthetic value, which makes them very attractive to humans. They are also a very important unit of any ecosystem due to their inter-relationship with plant diversity. Butterflies were thought to be important for plant pollination as they visit different flowers for nectar, but this is debatable and minor (see Subba Reddi & Meera Bai, 1984, 1986), when compared with functions of major pollinator groups like bees and true flies. Butterflies are, however, good indicators of environmental change as they are directly affected by habitat modification and loss, atmospheric temperature and weather conditions (Kunte, 2000; Tiple et al., 2006).

Butterflies have been studied systematically since the early 18th century and about 19,238 species are documented worldwide (Heppner, 1998). Shields (1989) had given a world total of 17,280 species, and Gaonkar (1996) mentioned 16,823 world species. These figures are not uniform or settled because of continuous additions of new butterfly species and the ongoing debates between taxonomists over the status of species and races, based on ongoing research.

The Indian subregion hosts about 1,504 species of butterflies (Tiple, 2011), of which peninsular India has 351 and the Western Ghats 334 species. Moore & Swinhoe (1890-1913), in their classic *Lepidoptera Indica* had treated and illustrated 1,974 species (this was before

the subspecies concept was introduced) in 589 genera. Evans (1932: 23) had tabled 1,466 species and 2,384 Indian taxa in all (including races) placed in 312 genera. However, Varshney (2006) had estimated 1,641 species (394 genera) in the Indian region. Gaonkar (1996) had given 1,501 species for India, 330 for the Western Ghats and 241 for Sri Lanka, with subtotals for each family. He wrote : “Butterflies are probably better known and studied than any other fauna, except perhaps, birds. But unlike bird diversity, which is dependent on migrations from the north, butterflies are restricted. . . A unique feature of the Western Ghats is that, an area with rich butterfly diversity is also an area that is rich in all other faunal and floral diversity.”

In Central India, the butterfly species diversity reported by D'Abreu (1931) totalled 177 species occurring in the erstwhile Central Provinces, which has now been divided into Madhya Pradesh, Vidarbha (Maharashtra) and Chhattisgarh. D'Abreu (1920) also listed some Lepidoptera caught and eaten by bird species in the Central Provinces. Chandra et al. (2007) compiled species recorded in Madhya Pradesh and Chhattisgarh, totalling 174 species in 100 genera. See also Tiple (2011) for a comprehensive account of butterflies from the Vidharba area in eastern Maharashtra, which was part of the Central Provinces of the British Indian Empire. In the Central Highlands biogeographical area, the butterfly species diversity was reported earliest by Forsayeth (1884), Swinhoe (1886), Betham (1890-1892), Witt (1909), and D'Abreu (1931), documenting a total of 177 species occurring in the erstwhile Central Provinces and Central India of the British 'Raj.' J.A. Betham's (1890-92) “The Butterflies of the Central Provinces” (in 6 parts, 56 pp.) is a very readable account published 120 years ago, documenting 148 species then. D'Abreu (1931: 1) wrote: “Recently, Mr. N.J. Porter, I.C.S., drew up a manuscript list of the Central Provinces Butterflies and gave me a copy which has been very useful to me in compiling the present list which includes 177 species.” D'Abreu also included “details of the material preserved in the study collections of the Nagpur Museum.” Mentioning the Central Provinces, Evans (1932: 33) had written : “An excellent list by Betham appeared in vols. V and VI [of *JBNHS*; final part 6 in Vol. VII, 1892]. I spent from 1904-1911 at Jabalpur and found the vicinity of the temples on the Nerbudda [Narbada] road a good collecting ground. At Pachmarhi the best places were Jumbo Deep, Dhupgarh and Waters Meet.”

Gaonkar (*in prep.*, with needed alterations by KG) wrote: “Madhya Pradesh was known in earlier literature as the Central Provinces. It was the heart of India, and the country's largest state. It also had the largest cover of forests, estimated to be about 1,35,164 sq.km., which is about 30% of the total area, and also includes a number of the largest Sanctuaries and National Parks in the country. In the north of the state there is the southernmost part of the Ganga plains, in the central plateau the Satpura and Vindhya Ranges stretch from west to east. The butterfly fauna of the area was worked by Betham (1890-1892), and recently the fauna of Bastar has been updated (though inadequately) by Gupta & Shukla (1987). Evans (1932) included most of the information known until then and had collected for several years in the Central Provinces himself.”

Subsequent books and FAUNA volumes included several species from Madhya Pradesh and Chhattisgarh (Evans, 1932; Talbot, 1939, 1947; Wynter-Blyth, 1957). In the recent past, some studies of butterflies from a few districts and conservation areas of Vidarbha, Madhya Pradesh and Chhattisgarh, were published by Singh (1977), Gupta & Shukla (1987), Pandharipande (1990), Chaudhury (1995), Chandra et al. (2000a,b; 2002), Singh & Chandra (2002), Palot & Soniya (2003), Kasambe & Wadatkar (2004), Sharma & Radhakrishnan (2004, 2005, 2006), Siddiqui & Singh (2004), Singh (2004), Chandra (2006), Singh & Chandra (2006), Chandra et al. (2007), Sharma (2008), Wadatkar (2008), Tiple (2009), Tiple & Khurad (2009a,b), and Wadatkar & Kasambe (2009). All of these together listed 174 species of butterflies belonging to 100 genera and eight families. In this paper we have made an exhaustive search for records of Central Indian butterflies and list a total of 233 known species from these highlands so far.

Singh and Chandra (2006) had found just 49 species of butterflies [Hesperiidae (7 spp.), Papilionidae (4), Pieridae (6), Riodinidae (1), Lycaenidae (7), and Nymphalidae (24)] from the Achanakmar-Amarkantak Biosphere Reserve in June-July 2004. The present study was an attempt to re-examine the species diversity of butterflies in this protected area, and to record their status and occurrence here, which resulted in the finding of 104 species in all (with 55 new records) as are detailed in the annotated Checklist below. A further 133 species known from the surrounding eastern Central Highlands sub-area are also listed, which need to be searched for and confirmed in the Achanakmar-Amarkantak Biosphere Reserve, through exhaustive future surveys, together with the sampling of voucher specimens to confirm or revise correct identities, based also on genitalia and gene sequencing studies. Gaonkar (*in*

prep.) wrote : “Biological classification and systematics are fundamental . . . to understand and document the biodiversity, whether locally, regionally, or universally.”

Material and Methods

Butterflies were surveyed by one of us (ADT) in different regions of the Achanakmar-Amarkantak Biosphere Reserve, from 2008 to 2010, along the reserve forest area, the buffer zone (Lormi Range, Kota Range, Khudia Range, Belgehana Range, Khodri Range, Marwahi Range, Gorela Range, Lamni Range), the core zone (Lamni Range, Achanakmar Range, Game Range), and the lakes, dams and rivers during the monsoon and post monsoon seasons. Identification of the butterflies observed or sampled was mostly made directly in the field. If IDs were doubtful or difficult by sight alone, specimens were collected with handnets, placed in plastic bottles and carried to the laboratory for further identification with the help of field guides (Wynter-Blyth, 1957; Haribal, 2002; Kunte, 2000). Most scientific names used in the present study are as given by Ghorpadé & Kunte (2010), who updated Varshney (1983), Wynter-Blyth (1957) and Evans (1932). The status of butterflies found in this biosphere reserve are documented in five categories of occurrence, on the basis of the number of sightings by me of each species in the field : Abundant (> 100 sightings), Common (50–100 sightings), Occasional (15–50 sightings), Uncommon (2–15 sightings), and Rare (< 2 sightings).

Results

During the course of this study, 104 species of butterflies belonging to 6 families were recorded, of which 55 are new records for the Achanakmar-Amarkantak Biosphere Reserve, after Singh & Chandra (2006). Most butterflies belonged to the Nymphalidae (40 species) with 16 new records, viz., *Ariadne (ariadne) indica*, *A. merione*, *Byblia ilithyia*, *Polyura agrarius*, *Acraea violae*, *Euthalia (aconthea) meridionalis*, *Vanessa cardui*, *Lethe (rohria) neelgheriensis*, *Melanitis (phedima) varaha*, *Mycalesis (perseus) tabitha*, *M. visala*, *Orsotriaena (medus) mandata*, *Ypthima (asterope) mahratta*, *Y. (baldus) madrasa*, *Y. huebneri*, and *Y. inica*. Some 27 Lycaenidae species were recorded with these 20 new records : *Amblypodia (anita) dina*, *Anthene lycaenina*, *Azanus (jesous) gamra*, *Caleta decidia*, *Catochrysops strabo*, *Chilades lajus*, *C. pandava*, *C. parrhasius*, *Freyeria putli*, *Jamides bochus*, *J. celeno*, *Lampides boeticus*, *Prosotas (dubiosa) indica*, *P. (nora) ardates*, *Spindasis ictis*, *S. schistacea*, *Tarucus nara*, *Zizeeria karsandra*, *Zizina (otis) indica*, and *Zizula hylax*. A total of 15 Hesperidae species were recorded with 8 new records, *Borbo bevani*, *B. cinnara*, *Celaenorrhinus leucocera*, *Coladenia (indrani) indra*, *Hasora chromus*, *Pelopidas mathias*, *Telicota bambusae*, and *T. colon*. In Pieridae 13 species with 8 new records, i.e., *Appias libythea*, *Cepora (nerissa) phryne*, *Colotis danae*, *C. etrida*, *Delias eucharis*, *Eurema (blanda) silhetana*, *E. (brigitta) rubella*, and *Leptosia nina*. And in Papilionidae 8 species with the following 4 new records : *Graphium (agamemnon) menides*, *Pachliopta aristolochiae*, *P.*

Families	Genera	species (+possible ?)	New	Abund.	Comm.	Occas.	Uncomm.	Rare	
Hesperiidae	13	15	(17-34)	8	4	8	1	2	0
Papilionidae	3	8	(0-6)	4	2	2	0	3	1
Pieridae	8	13	(5-16)	8	6	3	2	2	0
Riodinidae	1	1	-	0	1	0	0	0	0
Lycaenidae	20	27	(22-44)	20	9	8	1	8	1
Nymphalidae	24	40	(7-33)	16	16	11	2	7	4
[Bibliidae	2	3	-	3	0	1	1	1	0
Charaxinae	2	2	(0-3)	1	0	0	0	1	1
Cyrestinae	0	0	(1-1)	-	-	-	-	-	-
Danainae	4	4	(1-4)	0	4	0	0	0	0
Heliconiinae	2	2	(1-2)	1	1	1	0	0	0
Limenitidinae	5	8	(2-7)	1	3	2	1	1	1
Nymphalinae	3	9	(1-1)	1	6	2	0	0	1
Satyrinae	6	12	(1-15)	9	2	5	0	4	1]
Rhopalocera	69	104	(51 – 133)	56	38	32	6	22	6

hector, *Papilio polymnestor*. A total of 133 other species that are known from the Central Highlands area are also listed below, in roman and not boldface italics (as for A-A spp.), to mention species that may also be flying in the Achanakmar-Amarkantak Biosphere Reserve.

Among these 104 species, about 37 % [38 spp. - *Borbo cinnara*, *Caltoris kumara*, *Hasora chromus*, *Telicota bambusae*, *Papilio demoleus*, *Papilo (polytes) romulus*, *Catopsilia pomona*, *C. pyranthe*, *Cepora (nerissa) phryne*, *Delias eucharis*, *Eurema (brigitta) rubella*, *Eurema hecabe*, *Abisara (echeirus) suffusa*, *Arhopala amantes*, *A. atrax*, *Catochrysops strabo*, *Chilades lajus*, *Freyeria putli*, *Jamides celeno*, *Prosotas (nora) ardates*, *Spindasis vulcanus*, *Zizina (otis) indica*, *Danaus chrysippus*, *D. genutia*, *Euploea core*, *Tirumala (limniace) leopardus*, *Phalanta phalantha*, *Moduza undifragus*, *Neptis varmona*, *Symphaedra nais*, *Hypolimnas misippus*, *Junonia almana*, *J. atlites*, *J. iphita*, *J. (orithya) swinhoei*, *J. lemonias*, *Melanitis leda*, *Ypthima (baldus) madrasa*] were found to be abundant, 31% [32 - *Badamia exclamantis*, *Baoris farri*, *Caprona (ransonnettii) potiphera*, *Celaenorrhinus leucocera*, *Pelopidas mathias*, *Suastus gremius*, *Telicota colon*, *Udaspes folus*, *Graphium nomius*, *Pachliopta aristolochiae*, *Belenois aurata*, *Colotis danae*, *Eurema laeta*, *Caleta decidia*, *Castalius rosimon*, *Chilades pandava*, *Euchrysops cnejus*, *Lampides boeticus*, *Leptotes plinius*, *Spindasis schistacea*, *Zizula hylax*, *Ariadne (ariadne) indica*, *Acraea violae*, *Athyma perius*, *Neptis columella*, *Hypolimnas bolina*, *Junonia hierta*, *Mycalesis (mineus) polydecta*, *M. (perseus) tabitha*, *M. visala*, *Ypthima (asterope) mahratta*, *Y. huebneri*] were common, 6% [6 - *Spialia galba*, *Colotis etrida*, *Leptosia nina*, *Rapala iarbus*, *Ariadne merione*, *Neptis jumbah*] were occasional, 21% [22 - *Borbo bevani*, *Coladenia (indrani) indra*, *Graphium (agamemnon) menides*, *Pachliopta hector*, *Papilio polymnestor*, *Appias libythea*, *Eurema (blanda) silhetana*, *Amblypodia (anita) dina*, *Azanus (jesous) gamra*, *Chilades parrhasius*, *Jamides bochus*, *Prosotas (dubiosa) indica*, *Spindasis ictis*, *Zizeeria karsandra*, *Byblia ilithyia*, *Charaxes solon*, *Athyma (selenophora) kanara*, *Neptis jumbah*, *Lethe (rohria) neelgheriensis*, *Melanitis (phedima) varaha*, *Orsotriaena (medus) mandata*, *Ypthima inica*] were uncommon, and 6% [6 - *Papilio clytia*, *Anthene lycaenina*, *Polyura agraria*, *Euthalia (aconthea) meridionalis*, *Vanessa cardui*, *Heteropsis (lepcha) bethami*] were rare.

The following 31 species listed need taxonomic studies to confirm their species identities in the Central Highlands, as well as determine conspecificity with either peninsular Indian species or with Himalayan or NE. Indian (= 'Assam') ones. Many presumed widely distributed species (chiefly rarer ones), considered pan-Indian, are perhaps two or three distinct, allopatric species, especially when the range is punctuated with distribution gaps in unsuitable plains or cultivated habitats. The few actually peregrine, abundant species, like *Danaus chrysippus*, *Euploea core*, *Catopsilia pomona*, *C. pyranthe*, *Eurema hecabe*, *Catochrysops strabo*, *Junonia lemonias*, *J. almana*, *Melanitis leda*, and others (vide supra) are able to maintain a genetically vigorous and stable population pan-India. But rarer and smaller species with restrictive habitat choices (moist deciduous, semi-evergreen, evergreen forests, sholals, with their endemic plant species) which themselves are fragmented and isolated as 'ecological islands' on the Western Ghats, Eastern Droogs, Central Highlands, 'Assam,' and the Himalayas, have pockets of separated, isolated populations which have been allopatric over a long period of time and have probably speciated as distinct, minutely diagnostic species which are loosely termed 'races' or 'subspecies' by confused taxonomists not in touch with the "pattern and process" of life in the Indian subcontinent, and working mainly with dead material in museums, mostly single type specimens or a limited series sampled (mainly by the British and other foreign explorers) by 'accident, chance' in frequently visited habitats like hill stations and other spots well connected by roads. The central Indian highlands have not been surveyed well, like the Western Ghats and the Himalayas and 'Assam' areas are, and here lies a huge field of study for field biologists and taxonomists to uncover little known and unknown species and their life-cycles. This preliminary survey, of a still largely undisturbed protected area, offers an example of a little known fauna existing on these still poorly surveyed highlands.

SPECIES WHOSE IDENTITIES REMAIN DOUBTFUL AND NEED CONFIRMATION :

HESPERIIDAE

Erionota thrax Linnaeus: PALM REDEYE

Gangara thyrsis Fabricius : GIANT REDEYE

Notocrypta feisthamelii Boisduval : SPOTTED DEMON

Potanthus maesoides Butler : LESSER DART

PAPILIONIDAE*Pachliopta pandiyana* Moore : MALABAR ROSE*Papilio protenor* Cramer : SPANGLEPIERIDAE*Colotis (fausta) fulvia* Wallace : LARGE SALMON ARAB*Pieris (canidia) canis* Evans : INDIAN CABBAGE WHITELYCAENIDAE*Catapaecilma (major) callone* Frühstorfer : BROWN TINSEL*Deudorix epijarbas* Moore : CORNELIAN*Nacaduba pavana* Horsfield : SMALL 4-LINEBLUE*Neopithecops (zalmora) dharmia* Moore : QUAKER*Pithecops hylax* Fabricius : FOREST QUAKER*Rapala (varuna) lazulina* Moore : INDIGO FLASH*Rathinda amor* Fabricius : MONKEYPUZZLE*Spindasis (lohita) lazularia* Moore : LONG-BANDED SILVERLINE*Tarucus alteratus* Moore : RUSTY PIERROT*Tarucus (balkanica) nigra* Bethune-Baker : MEDITERRANEAN PIERROTNYMPHALIDAE*Charaxes marmax* Wiedemann : YELLOW RAJAH*Cyrestis (thyodamas) indica* Evans : STREAKED MAP*Tirumala (septentrionis) dravidarum* Frühstorfer : DARK BLUE TIGER*Athyma (nefe) inara* Doubleday : COLOUR SERGEANT*Heteropsis (lepcha) bethami* Moore : BETHAM'S BUSHBROWN*Heteropsis malsara* Moore : WHITELINE BUSHBROWN*Lethe confusa* Aurivillius : BANDED TREEBROWN*Melanitis (phedima) bethami* de Nicéville : BETHAM'S EVENING BROWN*Melanitis (zitenius) kalinga* Moore : GREAT EVENING BROWN*Mycalesis (lepcha) bethami* (Moore) : BETHAM'S BUSHBROWN*Mycalesis mercea* Evans : PACHMARHI BUSHBROWN*Ypthima (lisandra) striata* Hampson : JEWEL FOUR-RING*Ypthima tabella* Marshall : BABY FIVE-RING

The observed and identified species, and their status in the Achanakmar-Amarkantak Biosphere Reserve at different sites, are given in the Checklist below. Among the 104 butterflies recorded, 7 species come under the protection category of the Indian Wild Life (Protection) Act 1972 (Tiple, 2011; Gupta & Mondal, 2005), i.e., *Pachliopta hector*, *Appias libythea*, *Euploea core*, *Hypolimnas misippus*, *Euchrysops cnejus*, *Lampides boeticus*, and *Baoris farri*. However, this very unscientifically prepared list includes species that are not really "threatened," but common where their host plants flourish, and hence has been ignored by us in this paper. The uncommon and rare species encountered in this reserve during this present study would be better markers of threatened status in this area. The Achanakmar-Amarkantak Biosphere Reserve butterfly diversity is increased here from 49 (Singh & Chandra, 2006) to 104 species. A further 133 species recorded from all of the Central Highlands area have been also given in the list below and should be looked for here by field biologists and naturalists in future for possible occurrence.

Among the 104 species of butterflies, eight, viz., *Catopsilia pomona*, *Danaus chrysippus*, *Euploea core*, *Eurema hecabe*, *Freyeria putli*, *Junonia lemonias*, *Papilio demoleus*, *Tirumala leopardus* were found active throughout the year (January–December), whereas the remaining 96 species were observed only after June–July and until the beginning of summer (April–May), the flight period mostly coinciding with seasons of rainfall. This increasing species abundance, from the beginning of the monsoon (June–August) until early winter (October–November) and then the decline in species numbers from late winter (January – February) up to the end of summer (May) has also been reported by Tiple et al. (2007) and Tiple and Khurad (2009a) in similar climatic conditions in this area of the Central Highlands of India. They further found that most species were noticeably absent in disturbed and human impacted sites (gardens, plantations, grasslands) and there was no occurrence of the uncommon and rare species in even moderately disturbed areas, compared to species in undisturbed wilderness areas. In the Achanakmar-Amarkantak Biosphere Reserve, the buffer zone is regularly disturbed and human impacted, which may be the reason for an overall reduction of uncommon and rare species in these areas, when compared to the core, undisturbed sites of the reserve.

In the present study, the seasonal occurrence of butterfly species was high from monsoon (warm/wet season) to early winter (cool/wet season) but declined thereafter from early summer (dry/hot season) from March to June. The cause of this decline could be non-availability of flower nectar and larval host plant species, the scarcity of available water, and trimming of grasslands by humans (Tiple and Khurad, 2009a). In particular, attention should be paid to the seasonal availability of special resources for the uncommon and rare butterfly species in this reserve forest area. All in all, the Achanakmar-Amakantak Biosphere Reserve provides rich ground not just for conservation, but also for research in butterfly biology by future students (Tiple et al., 2010), as well as on other fauna.

Annotated list of Butterflies from Achanakmar-Amakantak BR

One of us (ADT) has done all survey, sampling and documentation of the butterflies Achanakmar-Amakantak, while the other (KG) is responsible for the checking and updating of identifications and for a comprehensive literature review and its incorporation into the manuscript. In the checklist below, all author names are given without parentheses, since this is not a strictly taxonomic paper and reference sources (books and papers) to such data are presented synoptically after each listed species names for such data. Taxa are named to subspecies/race (trinomially) where relevant and are updated to current nomenclature. But there remains much more work to be done in researching 'lumped' taxa, which Drs Gaonkar, Kunte and Ghorpadé are each presently engaged in. Varshney (2011) is currently publishing a serial list of described Indian subspecies with their ranges. So, in this paper, 'old species' names are placed in roman italics (in parentheses), for recognition. The list is in alphabetical order of genera and species for convenience of reference, but families are given in currently understood phylogenetic order, from basal to derived. However, the Nymphalidae are listed also by their currently recognized subfamilies (Wahlberg et al., 2009) alphabetically, for convenience. Each species' flight period in the Achanakmar-Amakantak reserve is given by months, and the observed status of each indicated as follows : Abundant (> 100 sightings), Common (51–100 sightings), Occasional (16–50 sightings), Uncommon (2–15 sightings), and Rare (< 2 sightings). New records (55) from this reserve, after Singh & Chandra (2006), are asterisked (*).

Acronyms used are for species citations in the following 11 books or papers of reference : B = Betham (1890-1892), D = D'Abreu (1931), GS = Gupta & Shukla (1987), C = Chandra et al. (2007), T = Tiple (2011); IK = Kehimkar (2008), WB = Wynter-Blyth (1957), HE = Evans (1932), besides TL = Larsen (1987-1988) and HG = Gaonkar (1996), by volume+page or serial numbers. See References of these cited works at the end for more details, and for data on taxonomy, distribution, immature stages, food, life-cycle, and flowers visited by butterflies. Singh & Chandra (2006) found 49 spp. in the Achanakmar—Amakantak biosphere reserve during June-July 2004. The 104 species so far confirmed from the Achanakmar—Amakantak biosphere reserve (A-A BR), along with 133 others retrieved from available published literature as having been recorded from the eastern Central Highlands biogeographical sub-area, bounded by the rivers Godavari, Wainganga, Son, Subarnarekha, and the Bay of Bengal, total 237 butterfly species.

Family HESPERIIDAE [15 species + 34 possible ?]

[*Ampittia dioscorides* Fabricius : BUSH HOPPER— B 7: 427, D 35, T 145; IK 96, 109, WB 477, HE 360, TL 254, HG 279. Betham listed it as *A. maro* Fabricius from C.P. Tiple listed it from Nagpur and Amravati ex D'Abreu (1931) and Wadatkar & Kasambe (2009)]

[*Arnetta vindhiana* Moore : VINDHYAN BOB—B 7: 427, D 36, C 160, T 147; IK 88, 108, WB 472, HE 363, TL 268, HG 294. Betham listed it as *Isoteinon vindhiana* Moore (= *nilgiriana* Moore). D'Abreu wrote "The type specimen was taken at Jubbulpore [= Jabalpur] and others at Pachmarhi (Betham)." Chandra et al. list it from "Indore" vide Wynter-Blyth (1957) which is incorrect, as Wynter-Blyth mentioned "Mhow" not Indore ! Tiple listed it from Amravati ex Wadatkar & Kasambe (2009)]

Badamia exclamationis Fabricius : BROWN AWL—B 7: 425, D 32, C 150, T 137; IK 65, 103, WB 470, HE 321, TL 235, HG 257. D'Abreu listed

it as “Common throughout the Provinces [*sic* !],” specimens from Nagpur. Chandra et al. list it from MP and CG. Tiple found it at Nagpur, Amravati and Chandrapur. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Tiple found it common in A-A BR, from July to November.

***Baoris farri* Moore** : PAINTBRUSH SWIFT—B 7: 426, D 38, C 171, T 157; IK 86, 107, WB 484, HE 411, TL 296; HG 327. Betham listed it as *Baoris oceia* Hewitson. D’Abreu listed it as “*Baoris ferri* [*sic* !]” recorded from C.P. by Betham. Chandra et al. listed it from Central India and Bilaspur district in CG. Tiple found it at Nagpur. Singh & Chandra (2006) list it (as “*Caltoris farr*”) common at Achanakmar WLS in June-July. Common in A-A, September to December.

[*Bibasis sena* Moore : ORANGE-TAIL AWL—B 7: 425, D 32, C 148 ; IK 63, 102, WB 469, HE 320, TL 231, HG 252 . Betham took it at Pachmarhi, which D’Abreu also cited. Chandra et al. list it from Hoshangabad district in MP]

****Borbo bevani* Moore** : BEVAN’S SWIFT—B 7: 426, C 173, T 158; IK 83, 106, WB 486, HE 418, TL 290, HG 319. Betham listed it as *Parnara bevani* Moore (see below). D’Abreu listed it as *Caltoris bevani* from Central Provinces (Betham), Jubbulpore (Swinhoe), and Nimar (Witt). Chandra et al. listed it from MP and CG. Tiple found it at Nagpur. Uncommon in A-A, August to November.

****Borbo cinnara* Wallace** : RICE SWIFT—D 39, C 172, T 159; IK 82, 106, WB 486, HE 418, TL 289, HG 318. D’Abreu listed it as “*Caltoris colaca*, Moore” stating “Captain W.H. Evans records it as very common at Jubbulpore after the rains. Col. Bingham to whom these specimens were sent identified them as *C. bevani*.” Chandra et al. listed it as *Borbo cinnara* Walker from MP. Tiple listed it as common all over Vidarbha. Abundant in A-A, June to December.

[*Caltoris canaraica* Moore : KANARA SWIFT—T 165; WB 484, HE 413, TL 298; HG 329. Tiple found it at Nagpur, which is doubtful for this southern Western Ghats species, and this needs taxonomic confirmation by studying voucher specimens, if available]

***Caltoris kumara* Moore** : BLANK SWIFT—(B 7: 426 ?), D 39, C 165, T 166; IK 86, 107, WB 484, HE 414, TL 297, HG 328. Betham’s *Parnara plebeia* de Nicéville is probably a misidentification and that could be *kumara*? D’Abreu also cited Betham. Chandra et al. list it from Bastar and Bilaspur districts of CG as unpublished data. Tiple found it at Nagpur and Chandrapur. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Abundant in A-A, August to December.

[*Caprona (agama) pelias* Frühstorfer : SPOTTED ANGLE—B 7: 428, D 34; IK 75, 105, HE 346, HG 274. Betham listed it as *Abaratha syrictus* Felder. D’Abreu listed it as “*Abaratha strichtus* Felder,” recorded from C.P. by Betham]

***Caprona (ransonnetii) potiphera* Hewitson** : GOLDEN ANGLE—B 7: 428, D 34, C 158, T 143; IK 76, 105, WB 465, HE 345, TL 249, HG 272. Betham listed it as *Abaratha ransonnetii* Felder. D’Abreu listed the same as recorded from the C.P. by Betham. Chandra et al. listed it as *Odontoptilum ransonnetii* (R. Felder) from MP and CG. Tiple listed it as *C. ransonnetii* (C. & R. Felder) from Nagpur. Singh & Chandra

(2006) list it (as “*ransonnetti*”) common at Achanakmar WLS in June-July. Common in A-A, October to November.

[*Celaenorrhinus ambareesa* Moore : MALABAR SPOTTED FLAT—B 7: 429, D 33, C 151, T 139; IK 68, 103, WB 460, HE 324, TL 238, HG 260. D’Abreu listed it from Pachmarhi (Porter). Chandra et al. list it from MP. Tiple listed it as *C. pulomaya* Moore from Pench NP]

**Celaenorrhinus leucocera* Kollar : YELLOW SPOTTED FLAT—B 7: 429, D 33, C 152, T 138; IK 68, 103, WB 459, HE 326, TL 237, HG 259. D’Abreu gave “Highlands of Central Provinces (Betham).” Chandra et al. list it from MP and CG. Tiple listed it from Nagpur and Amravati vide D’Abreu (1931) and Wadatkar & Kasambe (2009). Common in A-A, August to September.

**Coladenia (indrani) indra* Evans : TRICOLOUR PIED FLAT—B 7: 428, D 34, C 153, T 141; IK 72, 104, WB 463, HE 341, TL 244, HG 267. Betham listed it as *C. tissa* Moore, “found common in Jabalpur after the rains.” D’Abreu listed it as *C. indrani* Moore from Seoni (Porter) and common at Jabalpur (Betham). Chandra et al. list *C. indrani* (Moore) from Nimar district in MP. Tiple listed it as *Coladenia indrani* (Moore) from Nagpur vide Sharma & Radhakrishnan (2004). Uncommon in A-A, September to October.

[*Erionota thrax* Linnaeus : PALM REDEYE—D 36; WB 474, HE 373, HG 303. D’Abreu wrote: “Very probably found in the Provinces but not yet definitely recorded”]

[*Gangara thyrsis* Fabricius : GIANT REDEYE—D 36; IK 91, 109, WB 473, HE 372, TL 275, HG 302. D’Abreu wrote : “Probably found locally but not definitely recorded yet”]

[*Gerosis bhagava* Moore : SCARCE YELLOW-BREASTED FLAT—B 7: 428, D 33, C 156; IK 72, 104, HE 340, TL 242, HG 265. Betham listed it as *Satarupa bhagava* Moore, found by him at Pachmarhi. D’Abreu wrote: “Recorded from Pachmarhi by Betham.” Chandra et al. list it from Hoshangabad district in MP]

[*Hasora badra* Moore : MOORE’S AWL—T 134; IK 64, 103, WB 468, HE 314, TL 234, HG 255. Tiple listed it from Amravati vide Sharma & Radhakrishnan (2005)]

**Hasora chromus* Cramer : BLUE BANDED AWL—B 7: 426, D 32, C 147, T 133; IK 63, 102, WB 467, HE 316, TL 232, HG 253. [= *alexis* Fabricius]. Betham listed it as *Parata chromus* Cramer and *P. alexis* Fabricius. D’Abreu listed it as “*Parata alexis*, Fabr.” from Seoni (Porter) and a male taken at Nagpur. Chandra et al. list it from MP and CG. Tiple found it at Nagpur, Chandrapur and Amravati. Abundant in A-A, August to December.

[*Hasora taminatus* Hübner : WHITE-BANDED AWL—D 32, T 135; IK 64, 102, WB 468, HE 316, TL 233, HG 254. D’Abreu listed it as *Parata butleri* Aurivillius recorded from the Central Provinces by Betham, but erroneously ? Tiple found it at Nagpur]

[*Hasora (vitta) indica* Evans : PLAIN BANDED AWL—D 32; IK 65, 103, WB 468, HE 315, HG 256. D’Abreu listed it as *Hasora chabrona*, Plotz from Nagpur (Porter), and Raipur where two females were taken in July 1888. Tiple listed *Hasora vitta* (Butler) from Nagpur citing D’Abreu (1931)]

- [*Iambrix (salsala) luteipalpus* Plotz : CHESTNUT BOB—B 7: 429, D 35; T 148; IK 93, WB 492, HE 364, TL 262, HG 287. Betham listed it as *Astictopterus salsala* Moore and Tiple listed *Iambrix salsala* (Moore) from Nagpur and Amravati vide D'Abreu (1931) and Wadatkar & Kasambe (2009)]
- [*Matapa aria* Moore : MALAY REDEYE—B 7: 426, D 36, C 174, T 150; IK 91, 109, WB 473, HE 374, TL 276, HG 304. Betham found it at Pachmarhi, and D'Abreu cited him. Chandra et al. list it from MP. Tiple listed it from Chandrapur vide Sharma & Radhakrishnan (2006)]
- [*Notocrypta curvifascia* C. & R. Felder : RESTRICTED DEMON—B 7: 428, D 37; IK 94, 109, WB 489, HE 372, TL 265; HG 290. Betham listed it as *N. restricta* Moore which was cited by D'Abreu]
- [*Notocrypta feisthamelii* Boisduval : SPOTTED DEMON—D 37; IK 95, WB 489, HE 371. D'Abreu stated "Recorded from Jubbulpore (Betham)," which is doubtful for this Himalayan species and this needs taxonomic confirmation by studying voucher specimens, if available]
- [*Oriens goloides* Moore : ORANGE-BANDED DARTLET—T 153; IK 79, 106, WB 479, HE 400, TL 280, HG 308. Tiple found it at Nagpur, Amravati and Chandrapur]
- [*Parnara bada* Moore : STRAIGHT SWIFT—B 7: 426, D 39, C 170, T 164; IK 82, WB 486, HE 417, TL 288, HG 316. Betham listed it as *Parnara guttata* Bremer and Grey; D'Abreu cited Betham's record from C.P.; Chandra et al. list it as *P. naso bada* (Moore) from Central India; and Tiple as *P. naso* (Bremer & Grey) from Nagpur]
- [*Pelopidas assamensis* Wood-Mason & de Nicéville : GREAT SWIFT—C 164; IK 84, 107, WB 485, HE 416, TL 294, HG 324. Chandra et al. list it from MP vide Wynter-Blyth (1957)]
- [*Pelopidas (conjuncta) narooa* Moore : CONJOINED SWIFT—T 160; IK 84, 107, WB 485, HE 416, TL 294, HG 323. Tiple listed it as *P. conjuncta* (Herrich-Schaffer) from Nagpur]
- **Pelopidas mathias* Fabricius : SMALL BRANDED SWIFT—B 7: 426, D 39, C 163, T 161; IK 83, 106, WB 486, HE 417, TL 293, HG 322. Betham listed it as *Chapra mathias* Fabricius. D'Abreu listed *Chapra mathias* as common throughout the Provinces, with specimens from Nagpur and Chanda. Chandra et al. list it from MP and CG. Tiple found it at Nagpur and Amravati. Common in A-A, August to November.**
- [*Pelopidas subochracea* Moore : LARGE BRANDED SWIFT—D 39, T 162; IK 85, 107, WB 485, HE 417, TL 292, HG 321. D'Abreu listed it as *Chapra sinensis* Mabille, "found rarely at Jubbulpore during and after the rains (Evans)." Tiple found it at Nagpur and Chandrapur]
- [*Polytremis lubricans* Herrich-Schäffer : CONTIGUOUS SWIFT—T 163; IK 85, 107, WB 485, HE 415, TL 295; HG 326. Tiple found it at Nagpur]
- [*Potanthus cato* Evans : INDIAN DART—B 7: 427; WB 479, HE 402. Betham listed a *Padraona dara* Kollar, which could be either this or *pseudomaesa* Moore, q.v.]
- [*Potanthus (confucius) diana* Evans : CHINESE DART—C 168; WB 480, HE 403, TL 283, HG 311. Chandra et al. list it as *Potanthus confucius* Felder from MP vide Ghosh & Chaudhury (1997)]
- [*Potanthus maesoides* Butler : LESSER DART—D 38; HE 401. D'Abreu erroneously stated that Betham listed it from the Central Provinces]

- [*Potanthus palmarum* Moore : PLAIN PALM DART—B 7: 427; HE 406. Betham listed it as *Padraona palmarum* Moore which may have been misidentified?]
- [*Potanthus pseudomaesa* Moore : SOUTHERN DART—B 7: 427, D 38, C 169, T 154; WB 479, HE 402. Betham probably listed it as “*Padraona dara* Kollar”; or could be *cato* Evans (vide supra, q.v.). D’Abreu also cited Betham. Chandra et al. list it from Central India vide Evans (1932). Tiple found it at Ramtek near Nagpur]
- [*Pseudocoladenia dan* Fabricius : FULVOUS PIED FLAT—T 140; IK 72, 104, WB 463, HE 340, TL243, HG 266. Tiple found it at Nagpur]
- [*Sarangesa dasahara* Moore : MOORE’S SMALL FLAT—D 34, C 155; IK 71, 104, WB 464, HE 342, TL (245), HG 268. D’Abreu quotes Evans as this being common at Pachmarhi after the rains. Chandra et al. list it from Umaria district in MP]
- [*Sarangesa (purendra) pandra* Evans : SPOTTED SMALL FLAT—B 7: 427, D 34, C 154, T 142; IK 71, 104, WB 464, HE 342, TL 246, HG 269. Betham listed it as *S. purendra* Moore. D’Abreu quotes Betham’s C.P. record. Chandra et al. list it from Umaria district in MP. Tiple listed it as *S. purendra* Moore from Amravati vide Wadatkar & Kasambe (2009)]
- [*Sarangesa sati* de Nicéville : TINY FLAT—B 7: 427, D 34; WB 464, HE 342. D’Abreu cites its record from C.P. by Betham. After Betham there have been no records. It ranges from Cutch to the Central Provinces (Evans, 1932)]
- Spialia galba* Fabricius :** INDIAN GRIZZLED SKIPPER—B 7: 429, D 35, GS 54, C 159, T 144; IK 69, 104, WB 466, HE 347, TL 252, HG 276. Betham listed it as *Hespera galba* Fabricius. D’Abreu listed the same as “Common throughout the Provinces” with Nagpur specimens. Gupta & Shukla took it at Kankar on 2.i.1979 in Bastar. Chandra et al. list it from MP and CG. Tiple listed it as common all over Vidarbha. Singh & Chandra (2006) list it (as “*galaba*” [*sic* !]) common at Achanakmar WLS in June-July. Occasional in A-A, October to January.
- Suastus gremius* Fabricius :** INDIAN PALM BOB—B 7: 427, D 35, C 166, T 149; IK 88, 108, WB 471, HE 365, TL 269, HG 295. D’Abreu mentions specimens from Jabulpore and Pachmarhi. He also listed it as “*Suastus robsoni* [*sic* !], de Niceville, A single specimen taken by Capt. W.H. Evans at Jabulpore in 1906. He is of opinion that this species will eventually prove to be merely a casual aberration of *S. gremius*.” Chandra et al. list it from MP and CG. Tiple found it at Nagpur, Amravati, Chandrapur and Buldana. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Common in A-A, August to November.
- [*Tagiades japetus* Cramer : FLASHY SNOW FLAT—B 7: 428, D 33, C 157; IK 74, 105, WB 461, HE 334, TL 240, HG 262. [= *atticus* Fabricius, *obscurus* Mabilie, *obscurus* Mabilie, *distans* Moore ?] Butler listed it as *T. ravi* Moore. D’Abreu listed it as *T. atticus* “recorded from the central Provinces by Betham.” Chandra et al. listed it as *T. japetus atticus* (Fabricius) from MP vide Wynter-Blyth (1957)]
- [*Taractrocera ceramas* Hewitson : TAMIL GRASS DART—T 151; IK 78, 106, WB 475, HE 397, TL 278, HG 306. Tiple found it at Nagpur]
- [*Taractrocera maeivius* Fabricius : LOCAL GRASS DART—B 7: 427, D 35, C 167, T 152; IK 79, 106, WB 475, HE 397, TL 277, HG 305. D’Abreu cites record

from C.P. by Betham and mentions specimens from Nagpur. Chandra et al. list it from MP vide Ghosh & Chaudhary (1997). Tiple found it at Nagpur]

- **Telicota bambusae* Moore : DARK PALM DART—B 7: 427, D 38, C 162, T 155; IK 80, 106, WB 478, HE 405, TL 287, HG 315. D'Abreu listed it from Seoni (Porter). Chandra et al. list it as *T. ancilla bambusae* from MP and CG. Tiple listed it as *T. ancilla* (Herrich-Schäffer) from Nagpur and Chandrapur. Evans named it as *Astycus pythias bambusae* Moore. Abundant in A-A, September to December.
- **Telicota colon* Fabricius : PALE PALM DART— B 7: 427, D 38, T 156; IK 81, WB 478, HE 405, TL 286, HG 314. Betham listed it as *T. augias* Linnaeus. D'Abreu listed the same from Seoni, and male specimens from Nagpur, Jagdalpur (Bastar) and Sambalpur. Tiple found it at Nagpur. Common in A-A, August to November.
- Udaspes folus* Cramer : GRASS DEMON—B 7: 428, D 37, C 161, T 146; IK 96, 109, WB 490, HE 370; TL 266, HG 292. D' Abreu listed it from Khandwa and Pachmarhi. "Chandra et al. list it from MP and CG. Tiple found it at Nagpur, Amravati and Chandrapur. Singh & Chandra (2006) list it abundant at Achanakmar WLS in June-July. Common in A-A, August to November.

Family PAPILIONIDAE [8 species + 6 possible ?]

- **Graphium (agememnon) menides* Frühstorfer : TAILED JAY—D 15, C 1, T 1; IK 120, 148, WB 404, HE 56, TL 17, HG 7. D'Abreu listed it as "*Papilio agagememnon*, Linn." from Bastar, the Pench Valley, Nimar district, and probably throughout the Province but nowhere common." Chandra et al. listed *Graphium agagememnon* (Linn.) from MP and CG. Tiple listed *G. agagememnon* (Linnaeus) as common all over Vidarbha. Uncommon in A-A, July to September.
- [*Graphium (antiphates) naira* Moore : FIVE-BAR SWORDTAIL—D 15, T 8; IK 121, 148, WB 400, HE 54, TL 19, HG 9. [= *alcibiades* Fabricius ?] D'Abreu listed it as *Papilio antiphates*, Cramer Race *alcibiades* Fabr., based on specimens "from Bastar presented by Mr. W.A. Tucker." Tiple found it at Nagpur]
- [*Graphium (doston) eleius* Frühstorfer : DRAVIDIAN JAY—D 15, T 2; IK 120, 147, WB 402, HE 55, FBI 66b, TL 16, HG 6. D'Abreu listed this as "*Papilio eurypylus*, Linn, Race *Jason*, Linn. The Great Jay," a misidentification, from Bastar. Tiple found *Graphium doston* (C. & R. Felder) in Nagpur and Amravati]
- Graphium nomius* Esper : SPOT SWORDTAIL—B 6: 330, D 15, C 3, T 3; IK 121, 148, WB 398, HE 54, TL 18, HG 8. Betham listed it as *Papilio nomius* Esper, and found it at Singanama at the foot of the Pachmarhi Ghat. D'Abreu listed it as *Papilio nomius*, Esper being "Common in the Satpura Plateau districts, in the Pench Valley and Bastar," and mentioned specimens from Betul, Bastar and the Pench Valley (Nagpur district). Chandra et al. listed *Pathysa nomius nomius* (Esper) from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it

uncommon at Achanakmar WLS in June-July. Common in A-A, May to July.

[*Graphium (sarpedon) teredon* C. & R. Felder : TAILLESS BLUEBOTTLE—D 15, C 2, T 4; IK 118, 147, WB 401, HE 55, TL 15, HG 5. D'Abreu wrote that "*Papilio sarpedon*, Linn." was "Observed at Nagpur and also found in the Bastar State" from which latter he had specimens in the museum. Chandra et al. list *Graphium sarpedon* (Linnaeus) from MP, and Tiple found it at Nagpur and Amravati]

**Pachliopta aristolochiae* Fabricius : WHITESPOTTED ROSE—B 6: 330, D 14, C 9, T 5; IK 141, 157, WB 375, HE 44, TL 3, HG 3. Betham listed it as a *Papilio*. D'Abreu listed this as "Common probably throughout the Province," and specimens from Nagpur. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Common in A-A, July to December.

**Pachliopta hector* Linnaeus : CRIMSON ROSE—B 6: 330, D 14, C 10, T 6; IK 142, 157, WB 375, HE 44, TL 4, HG 4. Betham listed it as *Papilio hector* Linnaeus. D'Abreu listed it from Nagpur in August and September, and from Nimar in November. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Uncommon in A-A, August to January.

[*Pachliopta pandiyana* Moore : MALABAR ROSE—T 7; IK 141, 157, WB 374, HE 44, TL 2, HG 2. Tiple cited Chandrakar et al. (2007) who supposedly found this Western Ghats species at Amravati and Melghat, which records require confirmation as to correct identity, if voucher specimens are available]

Papilio clytia Linnaeus : DANAID MIME—B 6: 328, D 15, C 8, T 9; IK 126, 150, WB 381, HE 47, TL 5, HG 10. Betham listed it as *Papilio dissimilis* Linnaeus and *P. panope* Linnaeus. D'Abreu listed it from Pachmarhi, Nagpur and Bastar, with specimens from the latter area. Chandra et al. list *Chilasa clytia* from MP and CG. Tiple lists it at Nagpur, and Pench NP vide Sharma & Radhakrishnan (2004). Singh & Chandra (2006) list it (as "*Chilasa*") common at Achanakmar WLS in June-July. Rare in A-A, September.

[*Papilio crino* Fabricius : BANDED PEACOCK—B 6: 327, D 15, C 4, T 13; IK 136, 156, WB 389, HE 50, TL 13, HG 19. Betham listed it as *P. crino* Cramer, taken in Bastar. D'Abreu listed it from Nagpur (specimens) and Bastar. Chandra et al. listed it from CG. Tiple found it at Nagpur]

Papilio demoleus Linnaeus : LIME SWALLOWTAIL—B 6: 328, D 14, GS 3, C 5, T 10; IK 133, 154, WB 395, HE 52, TL 6, HG 11. Betham listed it as *P. erithonius* Cramer. D'Abreu listed it as "Common throughout the Province," and specimens from Nagpur. Gupta & Shukla took specimens from several locales in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it common at Achanakmar, Amarkantak and Tilaidabra in June-July. Abundant in A-A, January to December (all year).

**Papilio polymnestor* Cramer : BLUE MORMON—B 6: 325, GS 3, C 6, T 11; IK 130, 152, WB 383, HE 48, TL 11, HG 16. Betham found it at Kalahandi and in Sambalpur and Bastar districts. Gupta & Shukla caught two specimens in Konta (Bastar), mentioned incorrectly as a new record from this area.

Chandra et al. lists it from MP and CG. Tiple found it at Nagpur, Chandrapur and Tadoba NP. Uncommon in A-A, October.

[*Papilio protenor* Cramer : SPANGLE—T (2011: 1475); IK 132, 153, WB 386, HE 49. Tiple (2011: 1475) cited Chandrakar et al. (2007) who found it at Amravati and Melghat, and questioned the identification. This is undoubtedly incorrect and probably a misidentification for a species of *Pachliopta* of which it is probably a mimic (see Wynter-Blyth, p. 386). Chandrakar et al.'s specimen therefore requires confirmation as to correct identity, if voucher specimens are available]

Papilio (polytes) romulus Cramer : BLACK MORMON—B 6: 329, D 14, C 7, T 12; IK 127, 150, WB 392, HE 52, TL 10, HG 15. Betham listed it as *P. polytes* and *P. pammon*. D'Abreu noted *P. polytes* as being "Common throughout the Province," and listed its form *cyrus* from Raipur and forms *polytes* and *romulus* from Nagpur. Chandra et al. list it from MP and CG. Tiple found *P. polytes* Linnaeus common all over Vidarbha. Singh & Chandra (2006) list it abundant at Achanakmar and Amarkantak WLS in June-July. Abundant in A-A, July to February.

Family PIERIDAE [13 species + 16 possible ?]

[*Appias (albina) swinhoei* Moore : SOUTHERN ALBATROSS—D 18, C 18, T 15; IK 176, 193, WB 429, HE 74, TL 30, HG 39. D'Abreu states that it is "Recorded from the Province by Betham." Chandra et al. list *Appias albina* Boisduval [*sic!*] from Umaria in MP. Tiple found *Appias albina* (Boisduval) it at Nagpur and Amravati. See also Yata et al. (2010) for taxonomy]

[*Appias (indra) shiva* Swinhoe : CHOCOLATE ALBATROSS—C 19; IK 176, 193, WB 427, HE 73, TL 27, HG 36. Chandra et al. list *A. indra* Moore from Umaria in MP]

**Appias libythea* Fabricius : STRIPED ALBATROSS—B 6: 322, D 17, C 16, 20, T 16; IK 174, 193, WB 427, HE 73, TL 28, HG 37. Betham listed it as *Catophaga paulina* Cramer and found it at "Saugor" [= Sagar], and Chandra et al. cite this from MP. D'Abreu wrote "Recorded as fairly common in the Nimar district (Witt), also taken in Saugor by Col. Jermyn." Tiple found it at Nagpur. Uncommon in A-A, December.

[*Appias (lyncida) latifasciata* Moore : CHOCOLATE ALBATROSS—GS 8, C 17; IK 175, 193, WB 428, HE 74, TL 29, HG 38. Gupta & Shukla list it from Konta in Bastar. Chandra et al. list it from Bastar and Dantewara in CG]

Belenois aurota Fabricius : PIONEER—B 6: 322, D 17, C 12, T 14; IK 188, 198, WB 425, HE 71, TL 26, HG 35. Betham listed it as *Belenois mesentina*, very common in parts of the Central Provinces. D'Abreu listed it as *Anaphaeis mesentina*, Cramer as "Common throughout the Province," and specimens from Nagpur. Chandra et al. list it from MP and CG. Tiple listed it as *Anaphaeis aurota* (Fabricius), common all over Vidarbha. Singh & Chandra (2006) list it (as "*Anapheis*") common at Achanakmar WLS in June-July. Common in A-A, September to January.

Catopsilia pomona Fabricius : LEMON EMIGRANT—B 6: 319, 320, D 18, GS 10, C 33, T 17; IK 164, 190, WB 446, HE 75, TL 42, HG 20. [= *crocale* Cramer]. Betham listed it as *Catopsilia catilla* Cramer and

C. crocale Cramer. D'Abreu listed "*Catopsilia crocale*, Cramer" as common throughout the Province with specimens from Nagpur in the museum. Gupta & Shukla listed it from Jagdalpur, Bailadila and Kanker in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as "*crocale*, *pomona*") abundant at Achanakmar and Lamni in June-July. Abundant in A-A, January to December (all year).

Catopsilia pyranthe Linnaeus : MOTTLED EMIGRANT—B 6: 321, D 18, GS 10, 11, C 34, T 18; IK 164, 190, WB 447, HE 75, TL 43, HG 21. [= *minna* Herbst, *gnoma* Fabricius; *florella* Fabricius is African and not Indian]. Betham listed it as *C. pyranthe* Linnaeus and *gnoma* Fabricius. D'Abreu listed it as common throughout the Province, with specimens from Pachmarhi and Nagpur. Gupta & Shukla list it as *C. p. pyranthe* and *C. florella gnoma* (F.) from several locations in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidharba. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Abundant in A-A, June to December.

**Cepora (nerissa) phryne* Fabricius : FIELD GULL—B 6: 322, D 17, GS 8, C 13, T 19; IK 182, 195, WB 421, HE 72, TL 24, HG 33. Evans (1932) gives *Huphina nerissa evagete* Cramer from "Ceylon, S. India—Central Provinces and Bengal," and *H. n. phryne* F. from "Sikkim—Assam." Betham listed it as *Huphina phryne* Fabricius. D'Abreu listed "*Huphina nerissa*, Fabr., var. *phryne* Fabr." as "common in most parts of the Province" and specimens from Nagpur. Gupta & Shukla took it at Jagdalpur, Konta and Kanker in Bastar. Chandra et al. list *C. n. phryne* from MP and CG. Tiple listed it as *Cepora nerissa* (Fabricius) and found it common all over Vidarbha. Abundant in A-A, June to February.

[*Colotis amata* Fabricius : SMALL SALMON ARAB—D 19, C 25, T 20; IK 168, 191, WB 438, HE 82, TL 32, HG 41. Taxonomy of *Colotis calais* Cramer, *C. modesta* Butler and *C. amata* requires study. D'Abreu listed it from Nimar (Burhanpur), Nagpur (specimens in April), and Hoshangabad. Chandra et al. list it from MP. Tiple listed it as *Colotis amata* (Butler) from Nagpur and Buldana]

**Colotis danae* Fabricius : CRIMSON TIP—B 6: 324, D 20, C 26, T 21; IK 169, 191, WB 441, HE 83, TL 35, HG 44. Betham listed it as *Callosune danæ* Fabricius, and found it common at Nagpur. D'Abreu listed it as "Common in the Nimar and Nagpur districts and also found at Pachmarhi." Chandra et al. list it from MP. Tiple found it at Nagpur, Amravati and Buldana. Common in A-A, November to February.

**Colotis etrida* Boisduval : SMALL ORANGE TIP—B 6: 325, D 20, C 27, T 22; IK 169, 191, WB 440, HE 83, TL 33, HG 42. Betham listed it as "*105. Callosune* (Sp.?)" taken at Burhanpur. D'Abreu listed it from Ramtek (Nagpur) and Chandgarh (Nimar district). Chandra et al. list it from MP. Tiple found it at Nagpur, Amravati and Buldana. Occasional, December to February.

[*Colotis eucharis* Fabricius : PLAIN ORANGE TIP—B 6: 325, 28, D 20, T 23; IK 170, 191, WB 441, HE 83, TL 34, HG 43. Betham listed it as "*106. Callosune* (Sp.?)", taken at Hoshangabad, Singanama and Kesla. D'Abreu

listed it in the "Central Provinces from Jubbulpore southwards." Chandra et al. list it from MP and CG. Tiple listed it from Buldana vide Sharma (2008)]

[*Colotis (fausta) fulvia* Wallace : LARGE SALMON ARAB—B 6: 325, C 29, T 24; IK 170, 191, WB 440, HE 83, TL 36, HG 45. Taxonomy needs detailed study as Evans (1932) gives *Colotis fausta* Oliver from "Bombay—Baluchistan. Central India—Punjab," and *C. f. fulvia* from "Ceylon—S. India." However, Wynter-Blyth (1957) lists *C. f. faustina* Felder from "Sind, central India, and Punjab to Karwar," *C. f. fulvia* from "Peninsular India and Ceylon," and *fausta* from "Baluchistan and NW. Frontier." Betham listed it as "107. *Callosune* (Sp.?), taken at Burhanpur. Chandra et al. list the nominate race from MP and CG. Tiple listed it as *Colotis fausta* (Oliver) from Buldana vide Sharma (2008)]

[*Colotis vestalis* Butler : WHITE ARAB—D 20, C 25; IK 171, 191, WB 439, HE 82, HG 47. D'Abreu gives this as fairly common at Burhanpur, Nimar district (Witt). Chandra et al. list the nominate *vestalis* from MP vide Wynter-Blyth (1957)]

**Delias eucharis* Drury : INDIAN JEZEBEL—B 6: 323, D 16, GS 6, C 14, T 25; IK 187, 198, WB 420, HE 69, TL 20, HG 29. D'Abreu wrote it was "Common throughout the Province" and mentioned specimens from Nagpur and Raipur. Gupta & Shukla took it in several spots in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Abundant in A-A, September to February.

[*Delias (hyparete) ethire* Doherty : PAINTED JEZEBEL—B 6: 324, D 17, GS 6, C 15, T 26; IK 187, 198, WB 421, HE 69, TL (20). Betham listed it as *Delias indica* Wallace. D'Abreu gives "*Delias hierta*, Hubner. Race *ethire*, Doherty" in the "extreme east of the Province (Betham)." Gupta & Shukla took it at several spots in Bastar. Chandra et al. list it from Bastar and Dantewara in CG. Tiple found it in the Bhamaragad forest near Gadchiroli]

[*Eurema (andersoni) ormistoni* Watkins : ONE-SPOT GRASS YELLOW—C 38, T 27; IK (160), WB 454, HE 78, TL 48, HG 27. Taxonomy unresolved; could it be *E. shimai* Yata & Gaonkar? Evans (1932) lists *ormistoni* from Ceylon and S. India, and *andersoni* from Sikkim—S. Burma. Chandra et al. list it as *Terias andersoni* Moore from MP. Tiple listed it as *E. andersonii* [sic !] (Moore) from Nagpur]

**Eurema (blanda) silhetana* Wallace : THREE-SPOT GRASS YELLOW—D 19, T 28; IK 160, 189, WB 453, HE 78, TL 47, HG 25. D'Abreu listed it as *Terias silhetana* Wallace from central India. Tiple listed it as *Eurema blanda* from Nagpur, Amravati and Chandrapur. Uncommon in A-A, July to October.

**Eurema (brigitta) rubella* Wallace : RED-LINE GRASS YELLOW—B 6: 319, D 19, GS 13, C 37, T 29; IK 161, 189, WB 450, HE 77, TL 44, HG 22. Evans (1932) listed *rubella* as a synonym of *Terias libythea* F. Betham listed it as *Terias rubella* Wallace. D'Abreu listed it as *Terias libythea*, Fabr. with specimens from Nagpur and Singhora. Gupta & Shukla list it from some localities in Bastar. Chandra et al. list it as *Terias brigitta rubella* (Wallace) from MP and CG. Tiple listed it as *Eurema brigitta* (Cramer) and found it common all over Vidarbha. Abundant in A-A, July to December.

Eurema hecabe Linnaeus : TWO-SPOT GRASS YELLOW—B 6: 318, 319, D 19, GS 12, C 35, T 30; IK 161, 189, WB 453, HE 78, TL 46, HG 24. Evans (1932) lists *Terias hecabe simulata* Moore from “Ceylon, South India, C.P.,” *T. h. fimbriata* Wallace from “Punjab—Chitral—Kumaon,” and *T. h. hecabe* from “Bengal—Sikkim—Burma, Andamans.” Betham listed it as *Terias hecabe* Linnaeus and *Terias aesiopae* Ménériés, as “the commonest of Indian butterflies.” D’Abreu listed it as a *Terias*, and “Common throughout the Province” with specimens from Nagpur, Raipur and Bastar, “and one melanic specimen taken at Korai in the Seoni district.” Gupta & Shukla list it from many localities in Bastar as *E. h. simulata* (Moore). Chandra et al. list it as *Terias hecabe simulata* (Moore) from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as “*hecabe simulata*” abundant at Achanakmar—Amarkantak BR in June-July. Abundant in A-A, January to December (all year).

Eurema laeta Boisduval : SPOTLESS GRASS YELLOW—B 6: 319, D 18, GS 14, C 36, T 31; IK 162, 189, WB 452, HE 77, TL 45, HG 23. Betham listed it as *Terias laeta* Boisduval. D’Abreu also listed this, as well as “*Terias venata*, Moore” being “common in elevated tracts, Pachmarhi, Nimar, Nagpur, etc.,” with specimens from Nagpur and Pachmarhi. Gupta & Shukla list it from some localities in Bastar. Chandra et al. list it as *Terias laeta laeta* (Boisduval) from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Common in A-A, August to December.

[*Gandaca harina* Horsfield : TREE YELLOW—B 6: 319; IK 162, 189, WB 450, HE 76. Betham listed it as *Terias harina* Horsfield, taken at Kalahandi]

[*Hebomoia (glaucippe) australis* Butler : GREAT ORANGE TIP—D 20, C 24, T 32; IK 172, 192, WB 442, HE 83, TL 39, HG 52. D’Abreu listed it as *Hebomoia glaucippe* Linn. From Bastar State. He also adds an interesting note about Himalayan forms found in Bastar and we reproduce him as follows : “I enter this butterfly on a statement made to me by Mr. W.A. Tucker that he had taken them in the Bastar State. He made over the specimens to me but they had no labels affixed and along with them were some Himalayan forms. One would expect to find the southern form of this butterfly (*Race australis*) in Bastar but the specimens agree with typical Himalayan ones. A parallel case is presented in the distribution of the grackles or talking mynas [= *Gracula* spp.]. The species found in Bastar being similar to that found in the Himalayan terai and different to the south Indian form.” Chandra et al. listed the nominate form from Hoshangabad in MP. Tiple listed it as *Hebomoia glaucippe* (Linnaeus) from Amravati and Melghat vide Sharma & Radhakrishnan (2005) and Wadatkar & Kasambe (2009)]

[*Ixias marianne* Cramer : WHITE ORANGE TIP—B 324, D 17, C 22, T 33; IK 171, 192, WB 436, HE 81, TL 37, HG 48. D’Abreu listed it from Hoshangabad, Nimar and Nagpur (specimens). Chandra et al. list it from MP. Tiple found it at Nagpur, Amravati and Chandrapur]

[*Ixias (pyrene) sesia* Fabricius : YELLOW ORANGE TIP—B 6: 324, D 17, C 23, T 34; IK 172, 192, WB 437, HE 81, TL 38, HG 49. Evans (1932) gave *Ixias pyrene frequens* Butler from “S. India—Bengal.” Betham listed it as *Ixias pyrene* Linnaeus. D’Abreu listed “*Ixias pyrene*, Linn.” from

Hoshangabad. Chandra et al. list it from MP. Tiple found this at Nagpur and Amravati]

**Leptosia nina* Fabricius : PSYCHE—B 6: 318, D 16, C 21, T 35; IK 188, 198, WB 414, HE 65, FBI 95, TL 21, E 80, HG 30. Betham listed it as *Nichitonia xiphia* Fabricius. D'Abreu gave "*Leptosia xiphia*, Fabr." from C.P. vide Betham and Nimar district (Witt). Chandra et al. list it from MP and CG. Tiple listed it from Buldana vide Sharma (2008). Occasional in A-A, November to February.

[*Pareronia ceylanica* C. & R. Felder : DARK WANDERER—C 32; IK 173, 192, WB 443, HE 84, TL 41, HG 51. Chandra et al. listed it from Mandsaur and Ujjain in MP]

[*Pareronia hippia* Fabricius : INDIAN WANDERER—B 6: 323, D 20, GS 5, C 31, T 36; IK 174, 192, WB 444, HE 84, TL 40, HG 50. Betham listed it as *Nepheronia gaea* Felder. D'Abreu listed it from Harsud, Raipur and Nagpur (February to April). Gupta & Shukla took *Valeria valeria hippia* at Jagdalpur and Kanker in Bastar. Chandra et al. listed it as *Pareronia valeria hippie* [sic!] (Fabricius) from MP and CG. Tiple listed it as *Pareronia valeria* (Cramer) from Nagpur, Amravati, Chandrapur and Buldana]

[*Pieris (canidia) canis* Evans : INDIAN CABBAGE WHITE—GS 7, C 11, T (2011: 1475); IK 179, 194, WB 433, HE 67, TL 23, HG 32. Gupta & Shukla took a specimen of *P. c. indica* Evans at Kondagaon in Bastar. Chandra et al. list *P.c. indica* from Panna (Siddiqui & Singh, 2004) and Bastar (Gupta & Shukla, 1987). Tiple (2011: 1475) cited Sharma & Radhakrishnan (2004) who supposedly found *Pieris canidia* (Sparman) at Nagpur and the PENCH NP, and questioned the identification. But these records could be correct as this normally high elevation, cold habitat species has been found on the lower plains in winter at Bangalore, etc., its larvae feeding on cultivated cruciferous crops. Therefore, here it requires confirmation as to correct identity, if voucher specimens from these central Indian locations are available]

Family RIODINIDAE [1 species]

Abisara (echerius) suffusa Moore : PLUM JUDY—B 5: 286, D 13, GS 40, C 98, T 87; IK 277, 296, WB 243, HE 197, TL 140, HG 149. Betham listed it as *Abisara suffusa* Moore. D'Abreu listed it as *Abisara echerius*, Stoll being "common throughout the Province in jungly tracts," and specimens from Pachmarhi and Nagpur. Gupta & Shukla list it from Bhairamgarh, Kondagaon, Paramveda, Farasgaon, and Bandapara in Bastar. Tiple found *Abisara echerius* (Stoll) at Nagpur and Amravati. Singh & Chandra (2006) list it (as *echerius*) common at Achanakmar WLS in June-July. Abundant in A-A, August to December.

Family LYCAENIDAE [27 species + 44 possible ?]

[*Acytolepis lilacea* Hampson : HAMPSON'S HEDGE BLUE—C 125; WB 274, HE 221, TL 63, HG 168. Chandra et al. list it from Hoshangabad district in MP citing Betham (1891), but incorrectly !

[*Acytolepis (puspa) gisca* Frühstorfer : HORSFIELD'S HEDGE BLUE—B 6: 177, D 22, C 126, T 97; IK 269, 295, WB 274, HE 221, TL 62, HG 167. Betham listed it as *Cyaniris puspa* Horsfield and found it uncommon in Pachmarhi and Sambalpur district. D'Abreu listed it as *Cyaniris puspa* from Pachmarhi, and

specimens taken at “Tamia, 3,700’ in the Chhindwara district. Chandra et al. list it as *Acytolepis puspa* Horsfield from Hoshangabad district vide Betham (1891). Tiple listed it as *Acytolepis puspa* (Horsfield) from Nagpur and Amravati]

**Amblypodia (anita) dina* Frühstorfer : PURPLE LEAF BLUE—B 6: 180, D 28, C 138, T 122; IK 221, 286, WB 317, HE 255, TL 104, HG 212. Betham listed it as *A. naradoides* Moore, found only in Chhattisgarh. D’Abreu listed *A. anita* Hewitson as “Recorded from the Central Provinces by Betham. I obtained a single [female] specimen at Ratanpur in the Bilaspur district.” Chandra et al. list it as *A. anita* (Hewitson) from MP. Tiple listed it as *A. anita* (Hewitson) from Nagpur. Uncommon in A-A, September and October.

[*Anthene emolus* Godart : ROUNDED CILIATE BLUE—T 109; IK 249, 291, WB 290, HE 235, TL 93, HG 200. Tiple found it at Nagpur]

**Anthene lycaenina* C. & R. Felder : POINTED CILIATE BLUE—T 110; IK 249, 291, WB 291, HE 236, TL 94, HG 201. Tiple found it at Nagpur. Rare in A-A, August and September.

Arhopala amantes Hewitson : LARGE OAKBLUE—B 6: 180, D 28, C 135, T 123; IK 212, 282, WB 321, HE 264, TL 97, HG 203. Betham found it at Raipur, Jabalpur and Sambalpur. D’Abreu listed it from the Satpura Plateau and from several ♂♂ and 1♀ from Bastar State. Chandra et al. list it as a *Narathura* from MP and CG. Tiple found it at Nagpur, Amravati and Chandrapur. Singh & Chandra (2006) list it (as “*Narathura (Eumolpus) amantes*” common at Achanakmar WLS in June-July. Abundant in A-A, August to February.

Arhopala atrax Hewitson : INDIAN OAKBLUE—B 6: 181, D 28, C 136; IK 216, 285, WB 322, HE 263, HG 206. Betham found it at Pachmarhi. D’Abreu listed it as “Dark Brokenband Oakblue” from Pachmarhi and “a single old ♀ specimen . . . obtained in Bastar in 1888.” Chandra et al. list it as *Narathura atrax* Hewitson from MP and CG. Singh & Chandra (2006) list it (as “*Narathura (Atrax) atrax*”) common at Achanakmar WLS in June-July. Abundant in A-A, September to February.

[*Arhopala pseudocentaurus* Doubleday : CENTAUR OAKBLUE—C 137, T 124; IK 212, 283, WB 322, HE 263, TL 96, HG 202. [= *Arhopala (centaurus) pirama* Moore ?] Chandra et al. list it as *Narathura pseudocentaurus* (Doubleday) from Bastar in CG as their unpublished data. Tiple listed it as *Arhopala pseudocentaurus* (Doubleday) at Amravati vide Wadatkar & Kasambe (2009)]

**Azanus (jesous) gamra* Lederer : SCRUB BABUL BLUE—D 23, T 93; IK 264, 294, WB 267, HE 217, TL 59, HG 163. D’Abreu listed it from “Central Provinces (Bingham), one taken at Khandwa (Witt).” Tiple listed it as *Azanus jesous* (Guérin-Ménéville) from Nagpur and Amravati. Uncommon in A-A, August and September.

[*Azanus ubaldus* Cramer : BRIGHT BABUL BLUE—D 23, C 122, T 94; IK 263, 294, WB 267, HE 217, TL 58, HG 161. D’Abreu listed it from Nimar. Chandra et al. list it

as *Azanus ubaldus* Stoll from Indore in MP. Tiple found "*Azanus ubaldus* (Stoll)" at Nagpur and Buldana]

[*Azanus uranus* Butler : DULL BABUL BLUE—D 23, C 123, T 95; IK 264, 294, WB 267, HE 217, TL (300), HG 162. D'Abreu listed it from "Central India (Bingham)." Chandra et al. list it from "Central India" vide Evans (1932), citing him erroneously ! Tiple found it at Nagpur]

**Caleta decidia* Hewitson : ANGLED PIERROT—B 6: 179, GS 45, D 26, C 103; IK 250, 291, WB 259, HE 214, TL 52, HG 153. Betham listed it as *Castalius decidea* Hewitson. D'Abreu listed the same from Pachmarhi and Bastar. Gupta & Shukla list "*Castalius caleta decidea*" from Konta in Bastar. Chandra et al. list it from Bastar and Dantewara districts in CG. *C. caleta* Hewitson is extralimital. Common, August to December.

Castalius rosimon Fabricius : WOODLAND PIERROT—B 6: 179, GS 44, D 26, C 110, T 89; IK 251, 291, WB 259, HE 214, TL 51, HG 152. D'Abreu listed it from Seoni and mentioned specimens from Mandla, Nagpur, and Chanda. Gupta & Shukla took several specimens at many localities in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Common in A-A, August to December.

[*Catapaecilma (major) callone* Frühstorfer : BROWN TINSEL—D 29; IK 240, 290, WB 351, HE 292, TL 111, HG 221. D'Abreu listed it as "*C. elegans*, Druce" from "a single male from Pharasgaon (2,000') Bastar State" No further records, this needs confirmation]

**Catochrysops strabo* Fabricius : BLUE FORGET-ME-NOT—B 6: 179, D 25, GS 52, C 107, T 111; IK 259, WB 289, HE 236, TL 77, HG 182. D'Abreu wrote "Common throughout the Province," and mentioned specimens from Nagpur and Lamta (Balaghat district). Gupta & Shukla took it at Jagdalpur, Konta, and Bailadila in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Abundant in A-A, June to February.

[*Celastrina lavendularis* Moore : PLAIN HEDGE BLUE—C 124, T 98; IK 272, 295, WB 278, HE 224, TL 65, HG 170. Evans (1932) gives *C. lavendularis* from "Ceylon," *C. l. placida* de Nicéville from "Sikkim—Burma" and *C. l. limbata* Moore from "S. India—Bengal." Chandra et al. list *C. l. puspā* (Moore) from MP vide Wynter-Blyth (1957), again citing him incorrectly ! Tiple found it at Nagpur and Chandrapur]

**Chilades lajus* Stoll : LIME BLUE—B 6: 176, D 23, C 128, T 99; IK 275, WB 284, HE 233, TL 72, HG 177. [= '*lajus*' auct.] Betham listed it as *Chilades lajus* Cramer. D'Abreu listed the same from "Nimar district, Khandwa (Porter), Mandwa, Burhanpur (Witt)." Chandra et al. list it as *C. lajus lajus* (Cramer) from Umaria district in MP. Tiple found *Chilades lajus* (Stoll) common all over Vidarbha. Abundant in A-A, July to December.

**Chilades pandava* Horsfield : PLAINS CUPID—B 6: 179, D 25, GS 47, C 130, T 100; IK 274, WB 288, HE 235, TL 74, HG 179. Betham listed it as *Catochrysops pandava* Horsfield. D'Abreu listed the same as "Common in the Nimar district." Gupta & Shukla took "*Euchrysops pandava*" at Kondagaon and Keskal in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Common in A-A, June to September.

**Chilades parrhasius* Fabricius : SMALL CUPID—C 129, T 101; IK 274, WB 287, HE 235, TL 73, HG 178. Evans (1932) gives this as *contracta* Butler. Chandra et al. list it from Indore, vide Evans (1932) citing him incorrectly ! Tiple listed it as *Chilades parrhasius* (Butler) from Nagpur and Amravati. Uncommon in A-A, August and September.

[*Chliaria othona* Hewitson : ORCHID TIT—D 30 ?, C 144; IK 233, 289, WB 353, HE 293, TL 127, HG 237. D'Abreu listed *Hypolycaena erylus*, Godart, noting that it was "A widespread Indian species not yet identified from the Central Provinces." Chandra et al. list *C. othona* from Bastar in CG, vide Wynter-Blyth (1957), citing him incorrectly !]

[*Curetis bulis* Doubleday & Hewitson : BRIGHT SUNBEAM—B 6: 181, D 27; IK 204, HE 253. Betham listed it from Pachmarhi and Sambalpur (see next, *dentata*). D'Abreu listed vars *angulata* Moore and *dentata* Moore (see below) from Pachmarhi. Chandra et al. listed it as *C. bulis* Westwood from MP and CG. Taxonomy needs study; this could be *dentata*. q.v.]

[*Curetis dentata* Moore : ANGLED SUNBEAM—B 6: 181, D 27, C 100; IK 205, HE 254, TL 138, HG 248. Evans (1932: 254) gave it as *Curetis acuta dentata* from Pachmarhi. Betham listed it as *Curetis bulis* Doubleday & Hewitson from Pachmarhi and Sambalpur. D'Abreu listed *C. bulis* Doubleday var. *dentata* Moore from Pachmarhi. Chandra et al. list it from Hoshangabad and Panna districts in MP]

[*Curetis thetis* Drury : INDIAN SUNBEAM—B 6: 181, D 27, C 101; IK 204, 282, WB 313, HE 252, TL 137, HG 247. Betham listed it as *Curetis thetis* Fabricius. D'Abreu listed it from Satpura plateau and Nimar. Chandra et al. list it from Hoshangabad district in MP.]

[*Deudorix epijarbas* Moore : CORNELIAN—D 29; IK 235, 289, WB 356, HE 294, TL 129, HG 239. D'Abreu listed it as *Duedorix* [sic !] *epijarbas*, Moore, a "Common Indian species" breeding on Pomegranate. Curiously there are no further published records from the Central Highlands! Needs confirmation]

Euchrysops cnejus Fabricius : GRAM BLUE—B 6: 177, 9, D 25, GS 47, C 127, T 108; IK 268, WB 287, HE 234, TL 76, HG 181. Betham listed it as *Catochrysops cnejus* Fabricius. D'Abreu listed the same as "Extremely common at all seasons in all parts of the Province," with specimens from Nagpur and Kanpa (Chanda district). Gupta & Shukla listed it from many places in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as "*Euchrysops phasius* Evans" [misspellings ?] common at Achanakmar WLS in June-July. Common in A-A, July to November.

[*Everes (lacturnus) syntala* Cantlie : INDIAN CUPID— B 6: 178, D 24, C 119, T 96 (2011: 1475); IK 266, 294, WB 270, HE 219, TL 60, HG 164. Betham listed it as *Everes argiades* Pallas. D'Abreu listed it as "*Everes argiades*, Pallas" from throughout the Province and specimens from Nagpur. Tiple (2011: 1475) cited D'Abreu (1931) who listed *Everes argiades* (Pallas) from the Central Provinces, but noted that "This is probably misidentified, since *E. argiades* is a Himalayan taxon. It was probably *E. lacturnus* that D'Abreu [sic!] recorded." Chandra et al. list it from Umariya district MP. Tiple listed *Everes lacturnus* (Godart) from Nagpur]

**Freyeria putli* Kollar : TINY GRASS JEWEL—D 23, C 131, T 102; IK 262, WB 284, HE 233, TL 75, HG 180. D'Abreu listed it as "*Chilades trochilus*, Freyer var.

putli, Kollar” from Nimar, Nagpur (specimens) and probably throughout the Province. Chandra et al. list it as *F. trochilus putli* (Kollar) from Umaria district in MP. Tiple listed it as *Chilades putli* Kollar from Nagpur. Abundant in A-A, January to December (all year)

[*Freyeria trochylus* Freyer : BRIGHT GRASS JEWEL—B 6: 177, T 103; IK 262, WB 284, HE 233, TL 75, HG 180. Betham listed it as *Chilades trochilus* Freyer. Tiple listed *Chilades trochylus* Freyer as common in all of Vidharba]

[*Ionolyce (helicon) viola* Moore : POINTED LINEBLUE—T 116; IK 257, 293, WB 297, HE 241, TL 88, HG 194. Tiple found *Ionolyce helicon* (C. & R. Felder) at Nagpur]

[*Iraota (timoleon) arsaces* Frühstorfer : SILVER-STREAK BLUE—B 6: 180, D 28, C 139; IK 222, 286, WB 316, HE 254, TL 103, HG 211. Evans listed it from Central Provinces. Betham listed it as *Iraota macenas* Fabricius from Pachmarhi. D'Abreu listed *I. timoleon* Stoll from Pachmarhi. Chandra et al. list the nominate *timoleon* (Stoll) from MP and CG]

[*Jamides (alecto) euryaces* Frühstorfer : METALLIC CERULEAN— B 6: 178, C 106, T 113; IK 258, WB 293, HE 238, TL 81, HG 187. Betham listed it as *Lampides elpis* Godart. Chandra et al. list it as *J. alecto* Felder from Bastar district in CG. Tiple listed it as *Jamides alecto* (C. & R. Felder) from Nagpur]

**Jamides bochus* Cramer : DARK CERULEAN—B 6: 178, D 24, C 104, T 114; IK 257, WB 293, HE 237, TL 79, HG 185. D'Abreu gave “Nagpur, Bastar State, Nimar district” and specimens from Nagpur and Jagdalpur. Tiple listed it as *Jamides bochus* (Stoll) from Nagpur and Chandrapur. Chandra et al. list it from Nimar district in MP. Uncommon in A-A, August and September.

**Jamides celeno* Cramer : INDIAN CERULEAN—B 6: 179, D 25, GS 51, T 115; IK 258, WB 292, HE 237, TL 80, HG 186. Betham listed it as *Lampides aelianus* Fabricius. D'Abreu listed it as *Lampides celeno* from Nagpur and Bastar State, and a ♂ specimen from Banoor in Bastar. Gupta & Shukla took *J. c. aelianus* at Jagdalpur, Bhairamgarh and Kondagaon in Bastar. Chandra et al. list it as *J. c. aelianus* (Fabricius) from MP and CG. Tiple found it common all over Vidarbha. Abundant in A-A, September to December.

**Lampides boeticus* Linnaeus : PEA BLUE—B 6: 179, D 26, GS 53, C 108, T 112; IK 260, WB 289, HE 236, TL 78, HG 184. Betham listed it as *Polyommatus boeticus* Linnaeus. D'Abreu gave the same, as “Meadow Blue” from throughout the Province. Gupta & Shukla found it at Jagdalpur, Gidam, Bailadila and Kanker in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Common in A-A, August to December.

Leptotes plinius Fabricius : ZEBRA BLUE—B 6: 179, D 25, GS 43, C 109, T 92; IK 252, 292, WB 266, HE 217, TL 57, HG 160. Betham listed it as *Tarucus plinius* Fabricius. D'Abreu listed the same “The Blue Pierrot” from “Central India (Bingham), Burhanpur, Nimar district (Witt).” Gupta & Shukla took a single “*Syntarucus plinius* (Fabricius)” from Bailadila, 23.xii.1978, in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as “*Syntarucus plinius*”) common at Achanakmar WLS in June-July. Common in A-A, July to November.

- [*Loxura atymnus* Cramer : YAMFLY—B 6: 182, D 30, GS 42, C 140; IK 223, 286, WB 329, HE 274, TL 112, HG 222. Evans listed *L. a. continentalis* Frühstorfer from Central India. D'Abreu listed it as "Common throughout India, but not yet identified from Central India." Gupta & Shukla list it as "*Loxuaa* [sic!] *atymnus continentalis* Fruhstorfer" from Keskal in Bastar. Chandra et al. list the same from MP and CG]
- [*Nacaduba (beroe) gythion* Frühstorfer : OPAQUE 6-LINEBLUE—T 117; IK 254, 293, WB 297, HE 242, TL 86, HG 192. Tiple found *N. beroe* (C. & R. Felder) at Nagpur]
- [*Nacaduba pavana* Horsfield : SMALL 4-LINEBLUE—D 24; HE 241. D'Abreu wrote : "Recorded from Burhanpur (Nimar district) by Witt, where it is scarce, and identified by Mr. Lefroy. If this identification is correct it is far to the westward of the range of the species. Have since taken a specimen in the Bastar State." One specimen from Banoor in Bastar in the Nagpur Museum. Requires study to confirm occurrence here of this Himalayan species]
- [*Nacaduba (kurava) canaraica* Toxopeus : TRANSPARENT 6-LINEBLUE—T 118; IK 254, 293, WB 297, HE 242, TL 84, HG 190. Tiple found *N. kurava* (Moore) at Nagpur]
- [*Neopithecops (zalmora) dharma* Moore : QUAKER—D 21; IK 267, 294, WB 267, HE 218, TL 66, HG 171. D'Abreu listed it only as "*Neopithecops zalmora*, Butler. The Quaker" without any notes; perhaps not printed, omitted, by oversight (?). Needs confirmation]
- [*Petrelaea dana* de Nicéville : DINGY LINEBLUE—T 119; IK 252, 292, WB 298, HE 244, TL 92, HG 198. Tiple found it at Nagpur]
- [*Pithecops hylax* Fabricius : FOREST QUAKER—C 121; IK 267, (294), WB (268), HE 218. Chandra et al. list it as *Pithecops corvus* Frühstorfer from Bastar (in CG) as unpublished data. Tiple found it at Nagpur. Taxonomy needs to be studied using voucher specimens, if any, for confirmation]
- [*Pratapa deva* Moore : WHITE ROYAL—C 141; IK 226, 287, WB 339, HE 280, TL 120, HG 230. Evans (1932) lists it from the Central Provinces. Chandra et al. list it from MP vide Gupta (1997) and Wynter-Blyth (1957)]
- **Prosotas (dubiosa) indica* Evans : TAIL-LESS LINEBLUE—T 120; IK 256, 293, WB 298, HE 243, TL 90, HG 196. Tiple found it at Nagpur. Tiple found *Prosotas dubiosa* Evans at Nagpur. Uncommon in A-A, June to August.**
- **Prosotas (nora) ardates* Moore : TAILED LINEBLUE—B 6: 178, D 24, T 121; IK 255, 293, WB 298, HE 243, TL 89, HG 195. Betham listed it as *Nacaduba ardates* Moore, as did D'Abreu who gave "Mandwa, Nimar district (Witt)." Tiple found *P. nora* (C. Felder) common all over Vidarbha. Abundant in A-A, June to February.**
- [*Prosotas (noreia) hampsoni* de Nicéville : WHITE-TIPPED LINEBLUE—C 102; IK 256, 293, WB 298, HE 243, TL 91, HG 197. Chandra et al. list it as *Prosotas noreia* Felder]
- [*Pseudozizeeria (maha) ossa* Swinhoe : PALE GRASS BLUE—B 6: 177, D 22, GS 49, C 117, T 106; IK 262, WB 284, HE 234, TL 68, HG 173. Betham listed it as *Zizera maha* Kollar, very common at Pachmarhi and Jabalpur, but not found in Chhattisgarh. D'Abreu listed this binomen from Pachmarhi and Nimar district (Witt). Gupta & Shukla took it at Bailadila on 23.xii.1978 in Bastar. Chandra et al. list it as *P. maha* (Kollar) from MP]

and CG. Tiple found *P. maha* (Kollar) at Nagpur, Amravati, Chandrapur and Buldana]

***Rapala iarbus* Fabricius**: INDIAN RED FLASH—B 6: 183, D 29, C 146, T 131; IK 237, WB 362, HE 299, TL 133, HG 243. [= *melampus* Cramer; ‘*jarbas, iarbas*’ auct.] Betham listed it as *Rapala melampus* Cramer and found it everywhere in the Central Provinces. D’Abreu listed the same as “Common in the Nimar and Nagpur districts” and three specimens from Nagpur. Chandra et al. list it from MP and CG. Tiple found it at Nagpur and Amravati. Singh & Chandra (2006) list it (as “*iarbus sorya* Koller”) common at Achanakmar WLS in June-July. Occasional in A-A, August to February.

[*Rapala (manea) schistacea* Moore : SLATE FLASH—B 6: 183, D 29, C 147, T 132; IK 238, WB 361, HE 298, TL 135, HG 245. Evans (1932) listed it from Central India. Betham listed it as *Rapala schistacea* Moore, taken at Kalahandi. D’Abreu listed the same as recorded from the C.P. by Betham. Chandra et al. list it from Bastar vide Chandra (2006). Tiple listed it as *Rapala manea* (Hewitson) from Nagpur and Amravati]

[*Rapala (varuna) lazulina* Moore : INDIGO FLASH—D 29; IK 238, WB 361, HE 298, TL 136, HG 246. D’Abreu listed *Rapala varuna* Horsfield as “Not definitely recorded but probably found in Central Provinces.” No further records, needs confirmation]

[*Rathinda amor* Fabricius : MONKEYPUZZLE—D 29; IK 224, 286, WB 349, HE 291, TL 114, HG 224. D’Abreu wrote: “Not definitely recorded from the Central Provinces but occurs in Central and south India and also in Orissa and Bombay” No further records, needs confirmation]

[*Spindasis elima* Moore : MOORE’S SHOT SILVERLINE—B 6: 182, C 134, T 126; IK 243, 290, WB 333, HE 277, TL 108, HG 216. Betham listed it as *Aphnaeus trifurcata* Moore. Chandra et al. list it from Umaria district in MP. Tiple found it in Nagpur]

****Spindasis ictis* Hewitson**: HEWITSON’S SHOT SILVERLINE—D 30, C 133, T 127; IK 242, 290, WB 332, HE 277, TL 107, HG 215. D’Abreu wrote of *Aphnaeus ictis*: “A common species throughout India not yet identified from Central Provinces.” Chandra et al. list it from MP. Tiple found it at Nagpur and Buldana. Uncommon in A-A, September.

[*Spindasis (lohita) lazularia* Moore : LONG-BANDED SILVERLINE—D 30; IK 240, 290, WB 333, HE 278, TL 110, HG 218. D’Abreu listed *Aphnaeus lohita* Horsfield as “Common throughout India, not yet identified from Central Provinces.” Needs confirmation]

****Spindasis schistacea* Moore**: PLUMBEOUS SILVERLINE—T 128; IK 242, 290, WB 332, HE 276, TL 106, HG 214. Tiple found it at Nagpur. Common in A-A, July to November.

***Spindasis vulcanus* Fabricius**: INDIAN SILVERLINE—B 6: 182, D 30, C 132, T 129; IK 241, 290, WB 332, HE 276, TL 105, HG 213. Betham listed it as *Aphnaeus vulcanus* Fabricius. D’Abreu listed it from Khandwa and Nagpur (a ♀ specimen). Chandra et al. list it from MP and CG. Tiple found it at Nagpur and Amravati. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Abundant in A-A, June to December.

[*Surendra (quercetorum) biplagiata* Butler : INDIAN ACACIA BLUE—D 28, T125; IK 220, 285, WB 328, HE 273, TL 101, HG 209. D’Abreu listed it as *S. quercetorum*, Moore based on a single specimen from Pachmarhi taken in March. Tiple listed it as *S.*

quercetorum (Moore) from Chandrapur vide Sharma & Radhakrishnan (2006)]

- [*Tajuria cippus* Fabricius : PEACOCK ROYAL— B 6: 182, D 30, C 142; IK 228, 288, WB 344, HE 285, TL 122, HG 231. Betham listed it as *Tajuria longinus* Fabricius. D'Abreu mentions "A male from Bastar taken in July 1888." Chandra et al. list it from MP and CG]
- [*Tajuria jehana* Moore : PLAINS BLUE ROYAL—B 6: 182, D 30, GS 42, C 143; IK 227, WB 343, HE 284, TL 123, HG 233. D'Abreu stated: "Widespread but not common, has been recorded from Jubbulpore (Swinhoe), Nimar district (Witt) and from the Central Provinces by Betham." Gupta & Shukla took it at Benur in Bastar on 27.xii.1978. Chandra et al. list it from MP and CG]
- [*Talicauda nyseus* Guérin-Ménéville : RED PIERROT—D 23, C 120, T 88; IK 266, 294, WB 257, HE 214, TL 95, HG 199. D'Abreu gave "Central India (Bingham)." Chandra et al. list it from Umaria district MP. Tiple found it at Nagpur]
- [*Tarucus alteratus* Moore : RUSTY PIERROT—WB 263, HE 216. Evans and Wynter-Blyth gave Central India. This has not been listed by any others since; needs confirmation]
- [*Tarucus ananda* de Nicéville : DARK PIERROT—B 6: 179, T 90; IK 260, 294, WB 262, HE 215, TL 54, HG 155. Betham listed it as *Tarucus theophrastus* Fabricius. Tiple found it at Nagpur and Amravati]
- [*Tarucus (balkanica) nigra* Bethune-Baker : MEDITERRANEAN PIERROT—C 111; WB 264, HE 217, HG 158. Evans and Wynter-Blyth gave Central India. Chandra et al. list it from MP vide Gupta (1997). His record needs confirmation through study of voucher specimen(s), if available]
- [*Tarucus callinara* Butler : SPOTTED PIERROT—GS 46, C 111; WB 263, HE 216, TL 56, HG 157. Gupta & Shukla took a specimen at Gidam in Bastar on 22.xii.1978. Chandra et al. list it from Bastar and Dantewara districts in CG]
- [*Tarucus indica* Evans : POINTED PIERROT—D 25, C 112; IK 261, 294, WB 264, HE 216, HG 159. D'Abreu listed it as "*Tarucus theophrastus*, Fabr. The Rusty Pierrot" [*sic*!] as "Extremely common throughout the province," and specimens from Nagpur and Betul. Chandra et al. list it from Bastar district in CG]
- **Tarucus nara* Kollar : STRIPED PIERROT—C 112, T 91; IK 260, 293, WB 264, HE 216, TL 55, HG 156. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Uncommon in A-A, June to October.**
- [*Virachola isocrates* Fabricius : GUAVA BLUE—B 6: 183, D 30, C 145, T 130; IK 233, 289, WB 357, HE 295, TL 130, HG 240. D'Abreu listed it from Khandwa (Porter) and Bastar State, and he took a female at Jagdalpur. Chandra et al. list it from MP. Tiple found it at Nagpur]
- [*Zesius chrysomallus* Hübner : RED SPOT—B 6: 181; IK 221, WB 335, HE 279, TL 117, HG 227. Betham found it only at Sambalpur]
- **Zizeeria karsandra* Moore : DARK GRASS BLUE—B 6: 178, D 22, GS 50, C 115, T 104; IK 261, WB 285, HE 234, TL 69, HG 174. Betham listed it as *Zizera lysimon* Hübner. D'Abreu listed it as *Zizera lysimon* Hubner, being "Fairly common at Khandwa and Burhanpur Witt)." Gupta & Shukla list it from a few places in Bastar. Chandra et al. list it as *Z. knysna karsandra* (Moore) from MP and CG. Tiple found it common all over Vidarbha. Uncommon in A-A, August to November.**
- **Zizina (otis) indica* Murray : LESSER GRASS BLUE—B 6: 178, D 22, GS 48, C 116, T 105; IK 263, WB 285, HE 234, TL 70, HG 175. [= *decreta* Butler].**

Evans (1932) listed it as *Zizeeria otis decreta* Butler from Central India. Betham listed it as *Zizera otis* Fabricius. D'Abreu listed the same from throughout the province and specimens from Nagpur and Chanda districts. Gupta & Shukla found it at many places in Bastar. Chandra et al. list it as *Z. o. sangra* (Moore) from MP and CG. Tiple found *Zizina otis* (Fabricius) common all over Vidarbha. Abundant in A-A, June to December.

**Zizula hylax* Fabricius : TINY GRASS BLUE—B 6: 177, D 22, GS 50, C 118, T 107; IK 263, WB 285, HE 234, TL 71, HG 176. Betham listed it as *Zizera gaika* Trimen. D'Abreu listed the same from "Throughout the Province" and specimens from Nagpur. Gupta & Shukla list it from a few places in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Common in A-A, July to November.

Family NYMPHALIDAE [40 species + 33 possible ?]

Subfamily BIBLIDINAE

**Ariadne (ariadne) indica* Linnaeus : ANGLED PLAINS CASTOR—B 5: 160, D 13, T 83; IK 393, WB 231, HE 191, TL 178, HG 120. Betham listed it as *Ergolis ariadne* Linnaeus. D'Abreu as the same taken from Nagpur in August and March. Tiple found *A. ariadne* (Linnaeus) common all over Vidarbha. Common in A-A, July to September.

**Ariadne merione* Cramer : ROUNDED HILL CASTOR—B 5: 160, D 13, GS 28, C 64, T 84; IK 394, WB 232, HE 191, TL 179, HG 121. Betham listed it as *Ergolis merione* Cramer. D'Abreu listed it as the same, from Jagdalpur in Bastar and one specimen from Sambalpur, taken on 16 December 1887. Gupta & Shukla took it at Jagdalpur in Bastar. Chandra et al. listed in from MP and CG. Tiple found it common all over Vidarbha. Occasional in A-A, August to October.

**Byblia ilithyia* Drury : JOKER—B 5: 161, D 12, C 65, T 85; IK 394, WB 231, HE 190, TL 177, HG 119. Betham found it in Hoshangabad district. D'Abreu listed it from Nimar and Nagpur. Chandra et al. listed in from Nimar district in MP. Tiple found it at Nagpur, Amravati and Chandrapur. Uncommon in A-A, August to September.

Subfamily CHARAXINAE

[*Charaxes marmax* Wiedemann : YELLOW RAJAH—T (2011: 1475); IK 314, 417, WB 146, HE 142. Tiple & Khurad (2009a) listed a "*Charaxes marmax* Westwood," from Nagpur, which is a certain misidentification, and could probably be *Charaxes bernardus* Kollar? Needs study and confirmation]

[*Charaxes (psaphon) imna* Butler : TAWNY RAJAH—B 5: 285, D 9, C 95, T 59; IK 313, 417, WB 144, HE 141, TL 225, HG 86. [= *bernardus* Kollar]. Betham listed it as *Charaxes imna* Butler. D'Abreu listed it as "*Charaxes psaphon*, Westw. Race *imna* Rothsch. and Jord." from Seoni, Mandla, Nagpur and Bhandara districts. Chandra et al. listed it as *C. bernardus* Fabricius from MP and CG. Tiple listed it as *Charaxes psaphon* Westwood, from Nagpur and Amravati]

Charaxes solon Fabricius : BLACK RAJAH—B 5: 285, D 9, C 96, T 60; IK 314, WB 146, HE 142, TL 226, HG (87). Betham listed it as *Charaxes fabius*

Fabricius. D'Abreu listed it as *fabius* from Seoni, Pachmarhi, Nagpur and Bastar districts. Chandra et al. listed in from MP and CG. Tiple found it at Nagpur, Amravati and Chandrapur. Singh & Chandra (2006) list it (as "*fabius cerynthus* Fruhstorfer") common at Achanakmar WLS in June-July. Uncommon in A-A, August to September.

****Polyura agrarius* Swinhoe** : ANOMALOUS NAWAB—D 9, T 62; IK 311, WB 148, HE 143, TL 222/223, HG 84. D'Abreu listed it as "*Eulepis athamas* Drury, var. *agrarius* from the Satpura Plateau, Nimar and Nagpur. Tiple listed it as *Polyura agraria* Swinhoe from Nagpur. Rare in A-A, November.

[*Polyura athamas* Drury : YELLOW NAWAB—B 5: 285, C 94, T 61; IK 310, 416, WB 148, HE 143, TL 222, HG 83. Betham listed it as *Charaxes athamas* Drury. Chandra et al. listed in from MP and CG. Tiple found it at Nagpur, Amravati, Chandrapur and Buldana]

Subfamily CYRESTINAE

[*Cyrestis (thyodamas) indica* Evans : STREAKED MAP—D 11; IK 391, WB 198, HE 172, TL 199, HG 122. D'Abreu credits Atkinson reporting it from the "Hills of Central India." Interesting that no one else mentions this butterfly from the Central Highlands. The taxonomy needs to be studied using voucher specimens, if any, from central India, from where even Evans does not mention any of the four races he keys out from our subcontinent. However, *Cyrestis cocles* Fabricius, the Marbled Map, is known from Orissa and Jharkhand and could possibly be what Atkinson documented ? Needs study and confirmation]

Subfamily DANAINAE

***Danaus chrysippus* Linnaeus** : PLAIN TIGER—B 5: 153, D 3, GS 16, C 39, T 37; IK 302, 413, WB 69, HE 88, TL 149, HG 143. Betham listed it as *Danais chrysippus* Linnaeus, from Betul and Jabalpur, with varieties *alcippus* Cramer and *dorippus* Klug. D'Abreu listed it as "Common throughout the year in all parts of the Province," with specimens from Nagpur taken from February to August in the museum there. Also vars *alcippus* and *dorippus* from Khandwa, Betul, Jabalpur and Nagpur. Gupta & Shukla took it at several spots in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it abundant at Achanakmar WLS in June-July. Abundant in A-A, January to December (all year).

***Danaus genutia* Cramer** : STRIPED TIGER—B 5: 155, D 3, GS 17, C 40, T 38; IK 301, 413, WB 69, HE 88, TL 142, HG 144. Betham listed it as *Danais genutia* Cramer. D'Abreu listed it as *Danais plexippus* Linn., as "Common throughout the Province," with specimens from Nagpur in the museum there. Gupta & Shukla list it from Jagdalpur and Narainpur in Bastar, Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it abundant at Achanakmar and Lamni in June-July. Abundant in A-A, September to February.

***Euploea core* Cramer** : INDIAN BLACK CROW—B 5: 155, D 4, GS 15, C 42, T 42; IK 308, WB 72, HE 90, TL 148, HG 145. D'Abreu noted it "Common throughout the Province" and mentioned specimens from Nagpur in February and August, and from Bastar in September. Gupta &

Shukla list it from some localities in Bastar. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it abundant at Achanakmar WLS in June-July. Abundant in A-A, January to December (all year).

[*Euploea (klugii) kollari* C & R Felder : BROWN KING CROW—B 5: 155, T 43; IK 307, 415, WB 73, HE 92, TL 150, HG 147. Betham listed it as *Euploea linnaei* Moore from Jagdalpur. Tiple listed it as *Euploea klugii* Moore from Nagpur]

[*Euploea (mulciber) kalinga* Doherty : STRIPED BLUE CROW—D 4, C 43; IK 306, 414, WB 75, HE 89. D'Abreu lists specimens from Jagdalpur in Bastar. Chandra et al. list it from Bastar in CG]

[*Parantica aglea* Stoll : PALE GLASSY TIGER—B 5: 153, D 4, T 39; IK 303, 413, WB 65, HE 86, TL 145, HG 139. Betham listed it as *Danais melanoides* Moore and *D. aglea* Cramer from Jagdalpur. D'Abreu listed a single specimen taken in Bastar State. Tiple found it at Nagpur and Amravati]

***Tirumala (limniace) leopardus* Butler** : PALE BLUE TIGER—B 5: 153, D 4, GS 17, C 41, T 40; IK 300, WB 67, HE 87, TL 143, HG 141. Betham listed it as *Danais limniace* Cramer. D'Abreu listed this again as “Common throughout the Province” and noted museum specimens, from Nagpur, taken in February, June and July. Gupta & Shukla list it from Jagdalpur and Bailadila in Bastar. Chandra et al. list it as *T. l. leopardus* (Butler) from MP and CG. Tiple found *Tirumala limniace* (Cramer) common all over Vidarbha. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Abundant in A-A, January to December (all year).

[*Tirumala (septentrionis) dravidarum* Frühstorfer : DARK BLUE TIGER—D 4, T 41; IK 301, WB 68, HE 87, TL 144; HG (142). D'Abreu listed specimens from Bastar State. Tiple listed it as *Tirumala septentrionis* (Butler) from Nagpur, Amravati and Buldana. Needs confirmation]

Subfamily HELICONIINAE

****Acraea violae* Fabricius** : TAWNY COSTER—B 5: 160, D 13, GS 18, C 97, T 86; IK 355, WB 235, HE 192, TL 227, HG 88. Betham listed it as *Telchinia violae* Fabricius. D'Abreu listed this as “Common in dry districts” and specimens from Nagpur. Gupta & Shukla took it at some spots in Bastar. Chandra et al. listed it as “*Acraea terpsicore* (Linn) [sic!]” from MP and CG. Tiple found it common all over Vidarbha. Common in A-A, June to December.

[*Argynnis hyperbius* Johanssen : INDIAN FRITILLARY—B 5: 283, C 66; IK 358, 432, WB 220, HE 184, TL 182, HG 95. Betham listed it as *Argynnis niphe* Linnaeus. Chandra et al. listed in from MP and CG]

[*Phalanta (alcippe) mercea* Evans : SMALL LEOPARD—C 68; IK 363, 433, WB 225, HE 187, TL (308), HG 93. Chandra et al. listed it from Bastar and Dantewara in CG]

***Phalanta phalantha* Drury** : LARGE LEOPARD—B 5: 161, D 12, GS 30, C 67, T 82; IK 364, 433, WB 224, HE 187, TL 181, HG 92. Betham listed it as *Atella phalantha* Drury. D'Abreu listed it as “*Atella phalantha*, common throughout the Province” and specimens from Nagpur and Pachmarhi.” Gupta & Shukla

took it at many places in Bastar. Chandra et al. listed it from MP (and CG ?). Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Abundant in A-A, June to February.

Subfamily LIMENTIDINAE

[*Athyma (nefte) inara* Doubleday : COLOUR SERGEANT—c 85; IK 372, 436, WB 184, HE 162, TL 208, HG 107. Taxonomy of Central Highlands species needs study. Chandra et al. listed it from Bastar in CG but this needs confirmation]

Athyma perius Linnaeus : INDIAN SERGEANT— B 5: 283, D 10, GS 31, C 88, T 70; IK 368, 434, WB 187, HE 164, TL 211, HG 110. D'Abreu listed it from the Satpura Plateau. Gupta & Shukla listed *Pantoporia perius* (L.) from Jagdalpur, Saragi Paul Forest, Konta and Benur in Bastar. Chandra et al. listed in from MP and CG. Tiple found it at Nagpur and Amravati. Singh & Chandra (2006) list it as common at Achanakmar WLS in June-July. Common in A-A, August to November.

[*Athyma (ranga) karwara* Frühstorfer : BLACKVEIN SERGEANT—C 86; IK 369, 435, WB 186, HE 163, TL 210, HG 109. Chandra et al. listed it from Bastar in CG. Taxonomy of Central Highlands species needs study]

Athyma (selenophora) kanara Evans : STAFF SERGEANT—D 10, C 87, T 71; IK 370, 435, WB 185, HE 162, TL 209, HG 108. Need confirmation of taxonomy, whether southern *kanara* Evans, Himalayan *selenophora* Kollar, or distinct and unnamed? D'Abreu listed it as *Pantoporia selenophora*, Kollar from Bastar. Chandra et al. listed in from MP and CG. Tiple listed it from Amravati *vide* Wadatkar & Kasambe (2009). Singh & Chandra (2006) list it (as "*selenophora* (Koller)") common at Achanakmar WLS in June-July. Uncommon in A-A, August and September, but needs confirmation of identity.

[*Euthalia (lubentina) arasada* Frühstorfer : GAUDY BARON—B 5: 284, D 9, C 93, T 64; IK 383, WB 168, HE 155, TL 217, HG 116. Betham listed it as *Euthalia lubentina* Cramer, and Chandra et al. listed the same from MP and CG, and D'Abreu mentioned the same "Recorded from the Province by Betham and observed by the author at Pachmarhi and in Bastar." Tiple listed it as *E. lubentina* (Cramer) from Nagpur and Pench NP *vide* Sharma & Radhakrishnan (2004).

**Euthalia (aconthea) meridionalis* Frühstorfer : BROWN BARON—B 5: 284, D 9, GS 39, C 92, T 63; IK 382, WB 167, HE 154, TL 216, HG 115. Betham listed it as *Euthalia garuda* Moore. D'Abreu listed the same from the Satpura Plateau, Nagpur and Bastar, with ♀ specimens from Nagpur (October) and ♂♂ from Jagdalpur (February). Gupta & Shukla list "*E. garuda anagama* Fruhstorfer" from Jagdalpur and Kanker in Bastar. Chandra et al. listed it as *E. a. garuda* (Moore) from MP and CG. Tiple found *E. aconthea* (Cramer) at Nagpur, Amravati, Buldana,

and Chandrapur. Rare in A-A, January and February.

Moduza (procris) undifragus Frühstorfer : COMMANDER—B 5: 283, D 10, C 89, T 69; IK 366, WB 180, HE 160, TL 212, HG 111. Betham listed it as *Limenitis procris* Cramer. D'Abreu listed *Moduza procris* from Nagpur and “the rice tracts.” Chandra et al. listed *Moduza procris* (Cramer) from MP and CG. Tiple listed it as *Moduza procris* (Cramer) from Nagpur, Amravati, Buldana and Chandrapur. Singh & Chandra (2006) list it (as *procris*) common at Achanakmar WLS in June-July. Abundant in A-A, August to December.

Neptis columella Cramer : SHORT-BANDED SAILER—B 5: 281, D 10, C 83, T 72; IK 379, WB 190, HE 164, TL 206, HG 104. Need confirmation of taxonomy, whether southern *nilgirica* Moore or Himalayan *ophiana* Moore, or distinct and unnamed? Betham listed it as *Neptis ophiana* Moore. D'Abreu listed it from Seoni and Nagpur. Chandra et al. listed it as *Phaedyma columella* (Cramer) from MP and CG. Tiple found it at Nagpur. Singh & Chandra (2006) list it (as “*Phaedyma columella*”) common at Achanakmar WLS in June-July. Common in A-A, October to December.

Neptis (hylas) varmona Moore : INDIAN SAILER—B 5: 280, D 10, GS 36, C 79, T 73; IK 375, 436, WB 190, HE 166, TL 201, HG 99. Betham listed it as *Neptis varmona* Moore (= *kumarupa* Moore, *eurymene* Butler, *swinhoei* Butler). D'Abreu listed it as *Neptis eurynome* Westwood from throughout the Province, and specimens from Bastar, Pachmarhi, Nagpur and Seoni. Gupta & Shukla listed *N. h. astola* Moore from several spots in Bastar. Chandra et al. listed the same from MP and CG. Tiple found *Neptis hylas* (Linnaeus) common all over Vidarbha. Taxonomy of Central Highlands species needs study. Singh & Chandra (2006) list it (as *hylas*) common at Achanakmar WLS in June-July. Abundant in A-A, September to November.

Neptis jumbah Moore : CHESTNUT-STREAKED SAILER—B 5: 281, D 10, C 80, T 74; IK 374, 436, WB 190, HE 165, TL 200, HG 98. D'Abreu quotes Betham's record from the Province. Chandra et al. listed it from MP and CG. Tiple found it at Nagpur. Singh & Chandra (2006) list it as common at Achanakmar WLS in June-July. Occasional in A-A, October and November.

[*Neptis (nandina) hampsoni* Moore : CLEAR SAILER—B 5: 281, D 10, C 81; WB 191, HE 167, TL 203, HG (101). Betham listed it as *Neptis nandina* Moore. D'Abreu listed it as “*Neptis soma*, Moore. Race *hampsoni*, Moore” (see next species also) obtained at Pachmarhi. Chandra et al. listed it from MP]

[*Neptis soma* Moore : SULLIED SAILER—B 5: 281, D 10, C 81; WB 191, HE 167, TL 203, HG (101). Betham listed it as *Neptis nandina* Moore. D'Abreu listed it as “*Neptis soma*, Moore. Race *hampsoni*, Moore” (see above species also) obtained at Pachmarhi by Captain Graham. Chandra et al. listed it from MP. Taxonomy of Central Highlands species needs study]

[*Pantoporia hordonia* Stoll : GROUND LASCAR—B 5: 280, D 11, GS 37, C 84 ; IK 372, WB 196, HE 172, TL 207, HG 105. Betham listed it as *Neptis hordonia* Stoll (= *plagiosa* Moore). D'Abreu listed it as *Rahinda hordonia*, Stoll

from Bastar State. Gupta & Shukla list *Neptis h. hordonia* from Konta in Bastar. Chandra et al. listed it from CG]

Symphaedra nais Forster : BARONET—B 5: 284, D 9, GS 38, C 91, T 65; IK 383, WB 173, HE 157, TL 219, HG 117. D'Abreu found *Euthalia nais* "Common in all jungle areas" and listed specimens from Pachmarhi, Chhindwara, Mandla and Nagpur. Gupta & Shukla list *Euthalia nais* from many localities in Bastar. Chandra et al. list it from MP and CG. Tiple found it at Nagpur, Amravati, Buldana and Chandrapur. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Abundant, August to December.

Tanaecia (lepidea) miyana Butler : GREY COUNT—B 5: 284, D 9, GS 38, C 90, T 66; IK 386, 439, WB 163, HE 150, TL 214, HG 113. Betham listed it as *Euthalia lepidea* Butler from Kalahandi. D'Abreu listed it as "*Euthalia lepidea*, Butler," specimens from Karli in Bastar State where it is common in some parts. Gupta & Chandra list *Euthalia l. lepidea* from Gidam and Bhairamgarh in Bastar. Chandra et al. list it as *Tanaecia lepidea* (Butler) from MP and CG. Tiple listed it from Bhamaragad forest and Gadchiroli (ex newspaper article).

Subfamily NYMPHALINAE

Hypolimnas bolina Linnaeus : GREAT EGGFLY—B 5: 281, D 12, GS 29, C 77, T 67; IK 409, WB 201, HE 174, TL 196, HG 134. D'Abreu mentioned it as "Common throughout the Province" and specimens from Nagpur and Jabalpur. Gupta & Shukla took it at Narainpur in Bastar. Chandra et al. listed in from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Common in A-A, November to February.

Hypolimnas misippus Linnaeus : DANAID EGGFLY—B 5: 282, D 12, GS 28, C 78, T 68; IK 410, WB 202, HE 173, TL 195, HG 135. D'Abreu listed it as "Common throughout the Province" and specimens from Nagpur and Pachmarhi, of two forms. Gupta & Shukla took it at Konta, Bailadila and Narainpur in Bastar. Chandra et al. listed in from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it common at Achanakmar WLS in June-July. Abundant in A-A, June to January.

Junonia almana Linnaeus : PEACOCK PANSY—B 5: 279; D 11, GS 35, C 72, T 76; IK 408, 444, WB 207, HE 176, TL 189, HG 128. Betham listed it also as *Junonia asterie* Linnaeus. D'Abreu listed it "in moist tracts throughout the Provinces" and specimens from Nagpur. Gupta & Shukla took *Precis a. almana* at Bhairamgarh, Gidam and Kanker in Bastar. Chandra et al. listed it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as "*Precis almana*") common at Achanakmar WLS in June-July. Abundant in A-A, June to December.

Junonia atlites Linnaeus : GREY PANSY—B 5: 279, D 11, GS 34, C 71, T 77; IK 408, WB 208, HE 176, TL 190, HG 129. D'Abreu listed it from "Chiefly in the rice tracts and Nagpur" and specimens from Nagpur and Balaghat. Gupta & Shukla list it, as a *Precis*, from some Bastar locations. Chandra et al. listed it from MP and CG. Tiple found

it common all over Vidarbha. Singh & Chandra (2006) list it (as "*Precis atlites*") common at Achanakmar WLS in June-July. Abundant in A-A, August to December.

Junonia hierta Fabricius : YELLOW PANSY—B 5: 280, D 11, GS 33, C 73, T 78; IK 407, 444, WB 206, HE 176, TL 186, HG 125. D'Abreu listed it as "Found throughout the Province in open grassy jungle" and specimens from Pachmarhi and Nagpur. Gupta & Shukla list *Pieris h. hierta* from Jagdalpur. Chandra et al. list it from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as "*Precis*") common at Achanakmar WLS in June-July. Common in A-A, August to November.

Junonia iphita Cramer : CHOCOLATE PANSY—B 5: 161, D 11, GS 32, C 70, T 79; IK 408, WB 208, HE 177, TL 191, HG 130. Betham listed it as *Precis iphita* Cramer, found "in three or four places in the Central Provinces." D'Abreu listed it from the "Satpura Plateau and Nagpur in forested areas" and specimens from Pachmarhi and Seoni. Gupta & Shukla listed "*Precis iphita pluviatilis* Fruhstorfer" from many localities in Bastar. Chandra et al. list it from MP and CG. Tiple found *J. iphita* (Cramer) common all over Vidarbha. Singh & Chandra (2006) list it (as "*Precis*") common at Achanakmar WLS in June-July. Abundant in A-A, June to November.

Junonia lemonias Linnaeus : LEMON PANSY—B 5: 279, D 11, GS 34, C 75, T 80; IK 409, WB 207, HE 176, TL 188, HG 127. D'Abreu listed it as "Very common throughout the Province" and specimens from Nagpur. Gupta & Shukla list *Precis lemonias vaisya* from many locales in Bastar. Chandra et al. listed *J. l. vaisya* (Fruhstorfer) from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as "*Precis*") common at Achanakmar and Chhapparwa in June-July. Abundant in A-A, January to December (all year).

Junonia (orithya) swinhoi Butler : BLUE PANSY—B 5: 280, D 11, GS 33, C 74, T 81; IK 407, WB 206, HE 176, TL 187, HG 126. Betham listed it as *Junonia orithya* Linnaeus. D'Abreu listed it as "Common throughout the Province in hot bare localities" and specimens from Nagpur. D'Abreu listed it as "Very common throughout the Province" and specimens from Nagpur. Gupta & Shukla list this as a *Precis* from some spots in Bastar. Chandra et al. list it from MP and CG. Tiple found *Junonia orithya* (Linnaeus) common all over Vidarbha. Singh & Chandra (2006) list it (as "*Precis*") common at Achanakmar WLS in June-July. Abundant in A-A, August to February.

[*Kallima (inachus) huegeli* Kollar : ORANGE OAKLEAF—B 5: 284, D 12, C 76; IK 411, 445, WB 203, HE 175. Betham listed it as *Kallima inachis* Boisduval found at Pachmarhi. D'Abreu listed it as being "common at Pachmarhi, found also in the Bastar State," with specimens. Chandra et al. listed it from MP and CG]

**Vanessa cardui* Linnaeus : PAINTED LADY—B 5: 284, D 12, GS 27, C 69, T 75; IK 403, WB 210, HE 177, TL 192, HG 131. Betham listed it as *Pyrameis cardui* Linnaeus. D'Abreu listed it as "*Venessa [sic !] cardui*, throughout the Provinces" and specimens from Nagpur, Raipur and Pachmarhi. Gupta & Shukla list *Cynthia cardui* from Jagdalpur and Kondagaon in Bastar. Chandra et al. list it from

MP and CG. Tiple found *Cynthia cardui* (Linnaeus) common all over Vidarbha. Rare in A-A, May to July.

Subfamily SATYRINAE

[*Elymnias caudata* Butler : TAILED PALMFLY—B 5: 160, D 7, GS 22, C 48; IK 337, 427, WB 126, HE 128, TL 154, HG 58. Betham listed it as *Elymnias undularis* Drury. D'Abreu quoted Betham listing it from C.P. Gupta & Shukla took "*E. hypermnestra undularis* (Drury)" at Konta in Bastar, and Chandra et al. list the same from Bastar and Dantewara in CG]

***Heteropsis (lepcha) bethami* Moore** : BETHAM'S BUSHBROWN—IK 344, WB 90, HE 101, (TL 161, HG 72). See also under *Mycalesis* below, vide infra, q.v. "*Mycalesis*" *davisoni* is only known from the Anaimalai and Palni Hills. The Achanakmar-Amarkantak population should be *bethami* Moore. Singh & Chandra (2006) list it (as "*lepcha davisoni*") common at Achanakmar WLS in June-July. Rare in A-A, August and September.

[*Heteropsis malsara* Moore : WHITELINE BUSHBROWN—B 5: 157, D 5, T (2011: 1475); IK 344, 428, WB 89, HE 101. Betham listed it but was not sure; certain misidentification, probably for *Mycalesis visala* q.v., vide infra. Similarly, D'Abreu listed it as "*Mycalesis malsara*, Moore var. *bethami*, Moore" from Pachmarhi, but this again could be misidentified, vide infra. Tiple (2011: 1475) listed it from Nagpur and Amravati Melghat, based on D'Abreu (1931), Tiple & Khurad (2009a) and Wadatkar & Kasambe (2009), but this again seems misidentified, for *visala*? Needs confirmation]

[*Lethe confusa* Aurivillius : BANDED TREEBROWN—T (2011: 1475); IK 325, WB 93, HE 105, HG 59. Tiple listed it from Nagpur and Melghat based on Chandrakar et al. (2007) and Wadatkar & Kasambe (2009) but this is certainly erroneous and could be a misidentification for *L. europa*? Needs confirmation of identity]

[*Lethe (drypetis) todara* Hewitson : TAMIL TREEBROWN—C 50; IK 325, 422, WB 93, HE 105, TL 156, HG 60. Chandra et al. list *L. drypetis* Hewitson from Bastar and Bilaspur in CG]

[*Lethe europa* Fabricius : BAMBOO TREEBROWN—B 5: 157, D 6, C 50, T 44; IK 324, 422, WB 92, HE 105, TL 155, HG 59. D'Abreu listed specimens from Nagpur taken in March, October and November, and from Raipur in February. Chandra et al. list the nominate race from MP and CG. Tiple found it at Nagpur and Amravati]

****Lethe (rohria) neelgheriensis* Guérin-Méneville** : INDIAN TREEBROWN—B 5: 158, D 6, C 49, T 45; IK 324, 422, WB 93, HE 105, TL 157, HG 61. Betham listed it as *Lethe neelgheriensis* Guérin. D'Abreu listed "*race nilgirensis*" [sic!] from Satpuras and based on a ♀ taken at Nagpur in March, and a ♂ caught "in February at Pharasgaon, in Bastar State." Chandra et al. list *L. rohria* (Fabricius) from MP and CG. Tiple found it at Nagpur and Amravati. Uncommon in A-A, August to November.

***Melanitis leda* Linnaeus** : FAMILIAR EVENING BROWN—B 5: 158, D 7, GS 23, C 44, T 51; IK 322, 421, WB 122, HE 125, FBI 405, TL 151, HG 55. Betham noted it as "the rains form of *M. ismene*, Cramer." D'Abreu listed it as *ismene*, specimens from Mandla, Pachmarhi, Nagpur and Bastar. Gupta & Shukla found *M. l. ismene* (Cramer) in many

places in Bastar, and Chandra et al. list the same from MP and CG. Tiple found it common all over Vidarbha. Singh & Chandra (2006) list it (as "*Ieda ismene*") abundant at Achanakmar WLS in June-July. Abundant in A-A, June to February.

[*Melanitis (phedima) bethami* de Nicéville : BETHAM'S EVENING BROWN—B 5: 159, C 45, T 52; IK 323, 421, WB 123, HE 126 . Betham listed it as *Melanitis bethami* de Niceville (Proc. Zool. Soc., London, 1887: 451-453) from Pachmarhi. Chandra et al. list it from Balaghat and Hoshangabad in MP. See also under next species. Tiple found *M. phedima* (Cramer) at Nagpur and Amravati. These need to be identified as *bethami* or *varaha* based on voucher specimens, if available]

**Melanitis (phedima) varaha* Moore : DARK EVENING BROWN—C 46, T 51; IK 323, 421, WB 123, HE 126, TL 153, HG 57. Chandra et al. list it incorrectly from "Hoshangabad (Larsen, 1988)" when Larsen writes under *varaha* that the distribution covers "Pachmarhi (in a rather special subspecies where the forewing apex is broadly yellow)," referring actually to *bethami* de Niceville ! Tiple found *M. phedima* (Cramer) at Nagpur and Amravati. Uncommon in A-A, July to November.

[*Melanitis (zitenius) kalinga* Moore : GREAT EVENING BROWN—B 7: 429, D 7, GS 23, C 47, T 53; IK 323, 421, WB 123, HE 126. Need confirmation of taxonomy, whether *gokala* Moore or *kalinga* Moore. Betham received a specimen of *Melanitis zitenius* from Bastar. D'Abreu listed specimens from Karli in Bastar. Gupta & Shukla as well as Chandra et al. list the extralimital nominate race from Bastar and Dantewara in CG, erroneously, when they should have meant *kalinga* Moore ! Tiple found it at Nagpur]

[*Mycalesis (lepcha) bethami* (Moore) : BETHAM'S BUSHBROWN—D 7, C 53; IK (344), WB 90, HE 101. D'Abreu listed it as "*Melanitis bethami*, de Niceville. The Pachmarhi Evening Brown" from Pachmarhi. Chandra et al. list it from Hoshangabad district in MP and Bilaspur district in CG. Wynter-Blyth (1957: 90) explains the diagnostics of supposed "subspecies" lumped under *lepcha* Moore, but which are certainly good, distinct, allopatric species, vide Ghorpadé. This is more correctly a *Heteropsis*, q.v., vide supra. Needs confirmation]

[*Mycalesis mercea* Evans : PACHMARHI BUSHBROWN—D 5, C 52; WB 87, HE 99, TL (161). D'Abreu misidentified it as *perseoides* Moore, of which several specimens, caught by Capt. W.H. Evans from Pachmarhi in October, were in the Nagpur Museum. Chandra et al. list it as *M. igilia mercea* Evans from Hoshangabad [District] in MP. *M. mercea* and *M. igilia* Fruhstorfer are allopatric, and with distinct diagnostic characters (see Evans 1932: 99, key) and hence need to be treated as separate species, vide Ghorpadé. Needs study and confirmation]

Mycalesis (mineus) polyducta Cramer : DARK-BRAND BUSHBROWN—B 5: 157, D 5, C 54, T 46; IK 340, 428, WB 85, HE 98, TL 160, HG 64. Betham listed it as *M. mineus* Linnaeus, as a rains form of *visala* Moore and *indistans* Moore. D'Abreu noted specimens from Nagpur, Seoni and Chhindwara districts. Tiple found *Mycalesis mineus* (Linnaeus) common all over Vidarbha and Chandra et al. listed it from MP and CG. Singh & Chandra (2006) list it (as

mineus) abundant at Achanakmar WLS in June-July. Common in A-A, August to February.

**Mycalesis (perseus) tabitha* Fabricius : INDIAN BUSHBROWN—(B 5: 156 ?), D 5, GS 20, C 55, T 47; IK 340, 428, WB 85, HE (98), TL 159, HG 63. Betham listed it as *blasius* Fabricius. D'Abreu noted it common at Pachmarhi. Gupta & Shukla found it in many places in Bastar. Chandra et al. list it as *M. perseus* [sic!] *tabitha* (Fabricius) from MP and CG. Tiple found *M. perseus* (Fabricius) common all over Vidarbha. Common in A-A, June to December.

[*Mycalesis subdita* Moore : TAMIL BUSHBROWN—T 48; WB 86, HE 99, FBI 252c, TL 161, HG 65. Tiple found it at Nagpur and Amravati]

**Mycalesis visala* Moore : LONG-BRAND BUSHBROWN—(B 5: 157 ?), D 5, GS 21, C 56, T 49; IK 341, 428, WB 86, HE 99 (101), TL 163, HG 67. Betham's *malsara* Moore [= *rudis* Moore; vide supra, q.v.], which is a *Heteropsis*, is probably this species ? D'Abreu noted one specimen from from Pachmarhi in the Nagpur Museum. Gupta & Shukla list it from several places in Bastar. Chandra et al. list it from MP and CG. Tiple found it at Nagpur. Common in A-A, August to October.

**Orsotriaena (medus) mandata* Moore : MEDUS BROWN [or 'NIGGER']—B 5: 156, D 5, GS 25, C 57, T 50; WB 120, HE 123, FBI 393b, TL 167, HG 73. Betham listed it as *Mycalesis medus* Fabricius (= Moore). D'Abreu listed it as *O. "meda, Fabr., Nigger Bushbrown"* with specimens from Nagpur. Gupta & Shukla list *O. medus medus* from some localities in Bastar. Chandra et al. list the nominate race (?) from Bastar and Dantewara districts in CG; wrongly printed in the MP column ! Tiple found *Orsotriaena medus* Fabricius at Nagpur. Uncommon in A-A, October.

**Ypthima (asterope) mahratta* Moore : REGULAR THREE-RING—B 5: 158, D 7, C 58, T 54; IK 351, 430, WB 115, HE 120, TL 170, HG 75. Betham listed it as *Y. asterope* Klug, D'Abreu listed it from Chhindwara, Seoni, Nimar and Nagpur. Chandra et al. list it from MP and Tiple found this at Nagpur, Amravati, Buldana and Chandrapur. Common in A-A, July to September.

[*Ypthima (avanta) singala* R. Felder : JEWEL FOUR-RING—B 5: 158, D 7, T 57; WB 117, HE 121, TL (172), HG 78. Betham listed it as *Y. singala* Felder. D'Abreu listed it as taken at Nagpur by Betham, and at Jabalpur by Evans. Tiple listed it from Nagpur, vide D'Abreu (1931)]

**Ypthima (baldus) madrasa* Evans : HINDOSTAN FIVE-RING—(B 5: 158 ?), T 58; IK 352, 430, WB 117, HE 122, FBI 385b, TL 173, HG 79. Betham's *philomela* Johanssen [= *marshalli* Butler] is probably this species, q.v. Tiple found *Y. baldus* (Fabricius) at Nagpur and Chandrapur. Abundant in A-A, August to December.

[*Ypthima (baldus) satpura* Evans : SATPURA FIVE-RING—D 6, C 60; WB (117), HE 122. D'Abreu listed it as *Y. "baldus, Fabr, Race Satpura,*

Evans” from Pachmarhi and specimens from Nagpur. Chandra et al. list it from Hoshangabad and Umaria districts in MP. *Ypthima baldus* is obviously another lumped species and *satpura* is probably distinct, vide Ghorpadé]

[*Ypthima ceylonica* Hewitson : WHITE FOUR-RING—C 61; IK 352, 430, WB 115, HE 121, TL 170, HG 76. Chandra et al. list it from MP and CG]

**Ypthima huebneri* Kirby : HÜBNER'S FOUR-RING—D 7, C 59, GS 24, T 56; IK 353, 430, WB 116, HE 121, FBI 380b, TL 171, HG 77. D'Abreu listed it from Pachmarhi. Gupta & Shukla list *Y. ceylonica huebneri* from Bastar. Chandra et al. list it from MP and CG. Tiple found it at Nagpur, Amravati, Buldana and Chandrapur. Common in A-A, August to December.

**Ypthima inica* Hewitson : LESSER THREE-RING—B 5: 158, D 7, C 62, T 55; WB 115, HE 120. Betham listed it also as *Y. ariaspas* Moore. D'Abreu listed it as “*indica*” from Nimar. Chandra et al. list it from Hoshangabad district in MP. Tiple found it at Nagpur. Uncommon in A-A, July to February.

[*Ypthima (lisandra) striata* Hampson : JEWEL FOUR-RING—C 63; HE 121, TL 172, HG 78. Chandra et al. list it from MP. Also placed in *avanta* Moore, but *striata* is probably a distinct species, as Hampson had described it from the Nilgiris. The taxonomy of the Central Highlands population needs to be studied and identity confirmed]

[*Ypthima tabella* Marshall : BABY FIVE-RING—B 5: 158; WB 117, HE 121, FBI 383a, TL 175, HG 80. Betham listed it as *Ypthima philomela* Johanssen, which is probably a misidentification for *baldus*, or *huebneri*? q.v.]

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