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MONOGRAPH

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Abstract: The butterflies of the Kameng Protected Area Complex in western Arunachal Pradesh, India, covering the protected areas of Eaglenest Wildlife Sanctuary, Pakke Tiger Reserve and Sessa Orchid Wildlife Sanctuary were surveyed over a 5-year period (2009–2014). A total of 421 butterfly species were recorded during the survey, including two species new to India (*Gonepteryx amintha thibetana* and *Bhutaniitis ludlowi*) and several species rediscoveries and range extensions in the Eastern Himalaya, most notably *Arhopala belphoebe*, *Sovia separata magna*, *Aulocera saraswati vishnu*, *Calinaga aborica*, *Callerebia annada annada*, and *Callerebia scanda opima*. Here we provide an annotated checklist of butterflies of the Kameng Protected Area Complex, including historical records, distributions, abundance, habitats and other notes on these 421 species. An additional 42 species recorded in older literature or by other authors in recent times are also listed, taking the total number of species recorded in the landscape to 463.

Keywords: Biodiversity inventory, Eaglenest, eastern Himalaya, Kameng, Lepidoptera, Pakke, Sessa, species rediscoveries.

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Conflict of Interest: The authors declare no competing interests.

Author Details: SANJAY SONDHI, Founder Trustee, Titli Trust (www.titlitrust.org) is a naturalist with an interest in Lepidoptera, Herpetofauna and Avifauna. He supports conservation research and action and conservation education programs in the Himalaya. KRUSHNAMEGH KUNTE is a lepidopterist, an evolutionary biologist, and a faculty member at the National Centre for Biological Sciences, Tata Institute of Fundamental Research, Bengaluru. Visit his lab website, <http://biodiversitylab.org/>, for more information.

Author Contribution: SS carried out field surveys, collected and compiled data, photographed and identified species, conducted literature reviews and wrote the manuscript. KK assisted in species identification, contributed additional species records from earlier surveys, provided critical taxonomic information, and edited the manuscript.

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INTRODUCTION

The hill state of Arunachal Pradesh in northeastern India is situated at the junction of the Oriental and Palearctic biogeographic regions. The state is part of the Himalayan Biodiversity Hotspot, which stretches from northeastern Pakistan eastward up to the Dibang Valley in eastern Arunachal Pradesh through which the Brahmaputra River enters India (<http://www.cepf.net/resources/hotspots/Asia-Pacific/Pages/Himalaya.aspx>). The parts of Arunachal Pradesh further east of the river are in the Indo-Burmese Biodiversity Hotspot. Arunachal Pradesh has 80.39% of its land area forested (Forest Survey of India 2013) supporting unusually high species diversity and many prominent endemic species, making this a globally important biodiversity area.

The state of Arunachal Pradesh is the largest amongst the seven 'sister' states of northeastern India. Historically this area was called the North-East Frontier Agency (NEFA) and till 1972 it remained constitutionally a part of the state of Assam. In 1972, NEFA became the Union Territory of Arunachal Pradesh, and it became a full-fledged state in 1987. The state is bordered by the Indian states of Assam and Nagaland on its southern border, Bhutan on its western border, China on its northern border and Myanmar on its eastern border. Arunachal Pradesh has 26 major tribes, mostly inhabiting the hill forests of the state.

The Kameng Protected Area Complex (KPAC) is located in western Arunachal Pradesh and includes three protected areas that were the focus of the butterfly surveys reported in this paper: Pakke Tiger Reserve (862km²), Sessa Orchid Wildlife Sanctuary (100km²) and Eaglenest Wildlife Sanctuary (200km²), together covering an altitudinal range of 100m to 3,300m in East and West Kameng Districts. These three protected areas along with Nameri Tiger Reserve and Sonai Rupai Wildlife Sanctuary in Assam, and the reserved forests of Papum, Doimara, Amortola and Shergaon, make for nearly 3,500km² of contiguous forest. Bhutan is on the western border of KPAC with China on its northern border and Assam on its southern border.

The area's diverse and largely unexplored habitats have resulted in the discovery of many new species such as *Liocichla bugunorum* (Bugun Liocichla) (Athreya 2006a) and *Leptobrachium bompui* (Bompui Litter Frog) (Sondhi & Ohler 2011) and many rediscoveries such as *Mictopholis austeniana* (Dafla Hill Agama), *Japalura andersoniana* (Dafla Mountain Lizard), and *Dinodon gammiei* (Darjeeling False Wolf Snake) (Athreya 2006b).

In spite of its tremendous biodiversity importance, the

KPAC, and the western Arunachal Pradesh on the whole, have a sparse record of published butterfly inventories. Varshney (2008–2009) and our own literature searches have yielded very few published records from this area. The earliest published work on butterflies in the study area was the butterfly collection made by Capt. F.M. Bailey in 1913. Bailey's expedition began in May from the Dibang River (in what is currently eastern Arunachal Pradesh), moved westwards across the upper ranges of the Subansiri River and eventually travelled to Tawang and Sela Pass and into eastern Bhutan. Bailey reached the Sela Pass, Tawang District, and descended to Dirang, West Kameng District only in October, so his butterfly collection in our study area was limited to this month. Evans (1914) reported on this collection. Later, F.N. Betts collected butterflies from the Balipara Frontier Tract, east to Subansiri in western Arunachal Pradesh (Betts 1950). This collection covered what are currently the districts of Lower Subansiri, Papum Pare, East Kameng, West Kameng and Tawang in Arunachal Pradesh, and Sonitpur, Lakhimpur and Tinsukia bordering Assam. Betts reported 169 butterfly species but did not cover Hesperidae and Lycaenidae.

Arora & Mondal (1981) reported 32 species of Papilionidae of Arunachal Pradesh and surrounding areas based on butterfly collections between 1961 and 1974, housed at the Zoological Society of India (ZSI), Kolkata. Gupta & Shukla (1988) reported on the same collection covering Nymphalidae, Riodinidae and Lycaenidae, listing 123 species in these three families, and provided a checklist of 211 butterfly species for Arunachal Pradesh from the above three families but did not cite specific sources for this checklist.

In recent surveys in western Arunachal Pradesh, 165 butterfly species were reported primarily from Eaglenest and Pakke during the Eaglenest Biodiversity Project (Athreya 2006b). This checklist was the outcome of surveys conducted by R. Athreya and S. Kartikeyan at Pakke in 1995 and at Eaglenest in October 2004 (2 weeks) and May 2005 (1 week). Checklists of butterflies from Dihang Dibang Biosphere Reserve (Borang et al 2008) and Mishmi Hills (Gogoi 2013a) in eastern Arunachal Pradesh have also been published.

In this paper we provide an updated, annotated checklist of the butterflies of the KPAC. This includes 421 species that SS recorded in 103 days of field work. We also list an additional 42 species that were reported in previously published literature as well as recent records from outside the survey in the KPAC. This brings the known butterfly fauna of the Kameng Protected Area Complex to 463 species.

MATERIALS AND METHODS

The study area in the KPAC, western Arunachal Pradesh, India covered multiple sites in the protected areas of Eaglenest Wildlife Sanctuary, Sessa Orchid Wildlife Sanctuary and Pakke Tiger Reserve. Between 2009 and 2014, SS surveyed butterflies in the study area with Table 1 providing an overview of the study sites, which covered diverse habitats at a considerable elevational range, with their GPS coordinates and altitudes. These sites are also indicated in Figs. 1, 2, 3 and 4. Table 2 provides an overview of the survey efforts, which totaled 103 field days spread over the pre-monsoon, monsoon and post-monsoon seasons. The survey efforts over seasons were not uniform, as accessibility to many areas during the monsoons was difficult. While field work was conducted from the morning till late afternoon or evening, based on weather conditions, SS conducted populations counts of butterflies using the protocol established during previous butterfly surveys in northeastern India (Kunte et al. 2012). Briefly, this involved half-hour counts on already well-established trails, where every individual that was sighted and could be identified to species level was counted. These 30-minute counts were taken from the beginning to the end of field work every day, typically from 09:00hr to 13:00hr resulting in 3–4 hours of counts. Species were not counted on the return trails to avoid duplication. However, any additional species not recorded during the morning trails on the return count were included in

the population records. The species that were recorded outside the counts, but during the survey period are also included in the checklist. Species that needed careful examination were netted and examined for brands, tufts, markings and other key external characters that help determine species identification. SS did not collect specimens; hence the species diversity of some genera that can be reliably identified only by comparing male genitalia (e.g., *Potanthus*, many *Caltois*, and *Parnara*), may have been underestimated in the surveys.

Permission for this research was obtained from the Arunachal Pradesh Forest Department (permit letter no. CWL/G/13 (17)/06-07/12-14, dated 6 January 2010) and funding for this project was received from the Rufford Small Grants program (http://www.rufford.org/projects/sanjay_sondhi).

We identified butterflies using standard literature and web-based resources (Marshall & de Niceville 1882–1890, Bingham 1905–1907; Swinhoe 1912–13; Antram 1924; Evans 1927, 1932, 1949, 1957; Talbot 1939, 1947; Wynter-Blyth 1957; Cantlie, 1963; Eliot 1969; d’Abrera 1982, 1985, 1986; Smith 1989, 1994, 2006; Corbet et. al 1992; Haribal 1992; Kinyon 2004; Kehimkar 2008; Singh 2011; Ek-Amnuay 2012; Sondhi et al. 2013; Inayoshi 2014; Sondhi & Kunte 2014; Kunte et al. 2016; and a library of ca 25,000 reference images of museum specimens that KK has accumulated from his work in the Natural History Museum (London), Museum of Comparative Zoology (Harvard University, USA), and the McGuire Center for

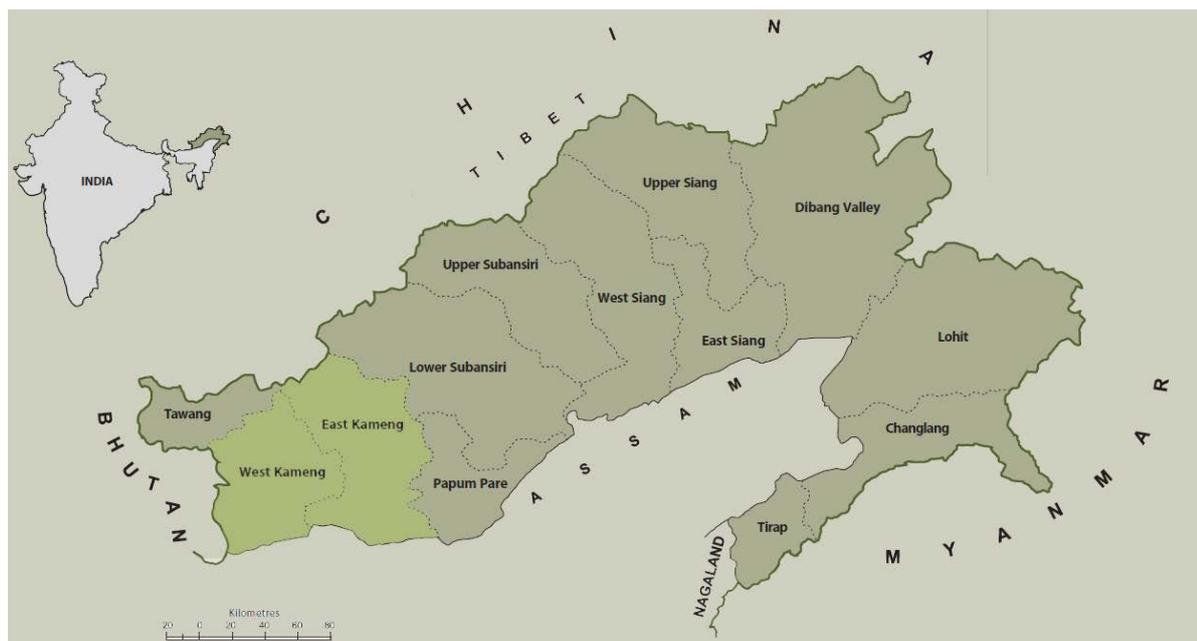


Figure 1. District map of Arunachal Pradesh, India

Table 1. Overview of study sites.

Study site	GPS coordinates	Altitude
Eaglenest Wildlife Sanctuary		
Bompu	27°03.974N & 92°24.372E	1,976m
Chackoo	27°06.117N & 92°24.752E	2,428m
Elephant Flat	27°05.457N & 92°35.397E	332m
Lama	27°09.422N & 92°27.645E	2,290m
Khellong	27°00.836N & 92°24.808E	770m
New Khellong	27°01.342N & 92°24.862E	1,270m
Ramaling village	27°10.099N & 92°27.609E	2,090m
Sessni	27°0474N & 92°4181E	1,233m
Sunderview	27°06.873N & 92°26.210E	2,465m
Tenga	27°12.615N & 92°28.066E	1,322m
Pakke Tiger Reserve		
Bhalukpong Ghat Anti Poaching Camp	27°01.051N & 92°38.459E	181m
Dinai Anti Poaching Camp Stream	27°01.849N & 92°39.666E	150m
Dhuna Nala Anti Poaching Camp	26°57.393N & 92°56.724E	247m
Khari	26°58.825N & 92°55.233E	148m
Langka Anti Poaching Camp	27°01.085N & 93°02.475E	220m
Majo Nala	26°57.270N & 92°59.545E	170m
NEC Road 6 km	27°02.268N & 93°02.180E	385m
Seijosa East Bank PWD IB	26°56.079N & 92°59.314E	115m
Seijosa West Bank Range Office	26°56.301N & 92°58.737E	120m
Sukhanala	26°57.112N & 92°59.180E	166m
Tipi Forest IB	27°02.249N & 92°36.366E	166m
Upper Dekorai Anti Poaching Camp	27°00.617N & 92°51.697E	177m
Pakke Kesang		
Lumta village, Pakke-Kesang	27°08.918N & 93°06.668E	1,021m
Keko basti, on Pakke-Kesang to Sochung road	27°09.675N & 93°10.896E	1,257m
Riloh trail start + 1km, Pakke-Kesang	27°10.170N & 93°12.833E	1,320m
Start of Pakke-Kesang-Seppa road	27°11.401N & 93°17.547E	1,432m
Sochung bridge, Pakke-Kesang	27°08.510N & 93°08.644E	1,094m
Tapo Yarlo summit, enroute to Lumta	27°08.857N & 93°07.947E	1,226m
Sessa Orchid Wildlife Sanctuary		
Sessa Orchid WS stream ~ 3 km inside WS	27°07.019N & 92 30.875E	1,506m
Sessa Main Bridge near Army Camp	27°06.366N & 92 31.509E	1187m
Sessa-Bhalukpong Road 29 km milestone	27°06.021N & 92 31.650E	1,100m
Sessa-Bhalukpong Road-28 km milestone	27°06.089N & 92 32.585E	980m

Lepidoptera and Biodiversity (University of Florida, Gainesville, USA). Scientific names used in this paper follow the references above and additional taxonomic references mentioned for species annotations as and when required below.

RESULTS AND DISCUSSION

Over the 103 days of field work, SS counted 8,476 individuals belonging to 421 butterfly species in six families, 24 subfamilies and 204 genera (Table 3). A detailed taxonomic breakdown of these species is given in Table 4. As elsewhere (e.g., Kunte et al. 2012), species abundance was highly skewed, with the species that are usually abundant in all forest patches in northeastern India being common in the study area as well (Fig. 5). However, *Orthomiella pontis*, normally an uncommon species, was surprisingly the second-most common species in this survey due to the localized mass emergence of this species at Eaglenest on 20 April 2012 (Fig. 5, and annotated checklist). Species richness and abundance also varied across the landscape with the number of days of field work in specific protected areas and seasons (Table 2) with Pakke recording the maximum number of species (335 species) during the survey period.

Although we recorded a very high number of butterfly species for the KPAC, the species accumulation curve (Fig. 6) was still climbing considerably, indicating that many more species remain to be recorded in this area. Of the 421 species recorded during the survey, 95 species (i.e., approx. 21% of the species total) are protected under various schedules of Wildlife (Protection) Act, 1972 (WPA). Of the additional 42 species recorded in older literature and outside the survey (Table 6), an additional 13 species are protected under various schedules of the WPA. The summary and the list of the Schedule-wise breakdown of these 108 species is given in Table 7 and 8. It should be noted that the WPA still uses many taxonomically outdated scientific names but Table 7 provides current, taxonomically valid names of these (sub)species.

As an outcome of the study, two species were added to the Indian butterfly fauna: *Gonepteryx amintha thibetana* (Sondhi & Roy 2013) and *Bhutanitis ludlowi* (Dutta et al. 2015) (Image 19: also see the annotated checklist below). Ranges of several species were also extended further west or east along the eastern Himalaya from their previously known ranges, especially for *Sovia separata magna*, *Thoressa hyrie*, *Mycalasis heri*, *Aulocera saraswati vishnu*, *Callerebia annada annada*, *Callerebia scanda opima*, and *Arhopala belphoebe* (Image 20). *Ypthima persimilis*, which



Figure 2. Map of Kameng Protected Area Complex, Arunachal Pradesh

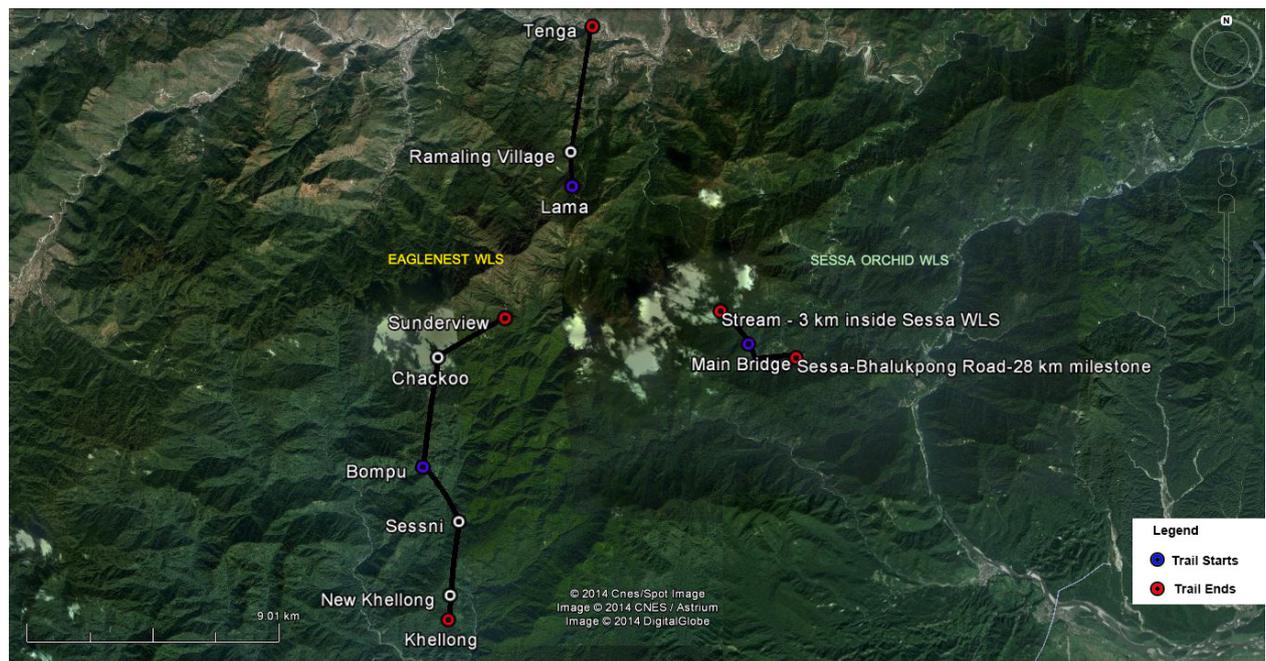


Figure 3. Indicative trails of sampling in Eaglenest and Sessa Orchid wildlife sanctuaries.

is only provisionally identified, could be a range extension, too. Many extremely rare species that have not been recorded in recent decades or which have been historically poorly recorded in India were also recorded during this survey; e.g., *Celaenorrhinus badia*, *Celaenorrhinus plagifera*, *Celaenorrhinus pyrha*, *Celaenorrhinus sumitra*,

Arhopala belphoebe, *Arhopala khamti*, *Chrysozephyrus assamica*, *Rapala refulgens*, *Monodontides musina musinoides* and *Dercas lycorias lycorias* (Image 20). Two species of skippers, *Baoris pagana* and *Pudicitia pholus* are first records for Arunachal Pradesh.

The rich floral and faunal diversity of this landscape has



Figure 4. Indicative trails of sampling in Pakke and Pakke-Kesang.

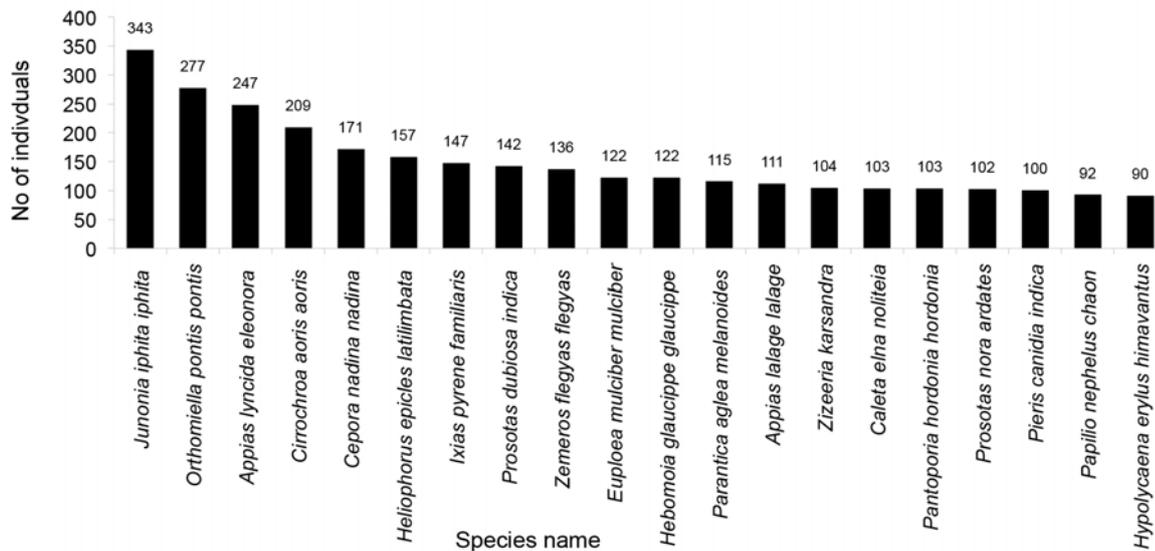


Figure 5. Frequency of occurrence of the most common butterfly species in the Kameng Protected Area Complex.

given birth to two community-based ecotourism ventures at Eaglenest and Pakke. The Bugun and Sherdukpen tribes supports ecotourism at Eaglenest while the Nyishis support it at Pakke. We hope that the results from this study will also promote butterfly tourism in the landscape, providing an additional financial incentive to the local communities to conserve their forests.

Despite the wealth of information generated about the

butterfly species in this poorly studied area, the species accumulation curve, as well as the numerous species recorded in the past in this landscape mean that surveys need to continue. The population data accumulated will provide a baseline for future studies and impacts of habitat destruction and climate change, which are ever-present threats in this landscape.

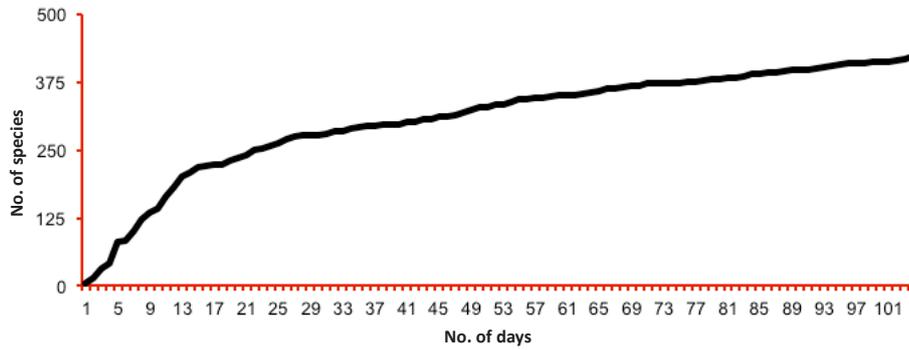


Figure 6. Species accumulation curve from 103 days of field work in the Kameng Protected Area Complex.

Table 2. Overview of survey effort and species recorded by protected area.

Protected area	Months surveyed	No of pre-monsoon days	No of monsoon days	No of post-monsoon days	Number of butterfly species recorded
Pakke Tiger Reserve	Mar, Apr, May, Jun, Jul, Aug, Sep, Oct	31	6	18	335
Eaglenest WS	Apr, May, Sep, Oct	17	10	9	183
Sessa Orchid WS	May, Sep, Oct	4	3	5	118
Total		52	19	32	421

Table 3. Detailed taxonomic overview of butterfly diversity from the KPAC survey.

Family	Number of subfamilies	Number of genera	Number of species
Hesperiidae	3 (12%)	43 (21%)	73 (17%)
Lycaenidae	5 (20%)	53 (26%)	90(21%)
Nymphalidae	12 (48%)	78 (38%)	175 (42%)
Papilionidae	2 (8%)	9 (5%)	37 (9%)
Pieridae	2 (8%)	17 (8%)	37 (9%)
Riodinidae	1 (4%)	4 (2%)	9 (2%)
Total	25 (100%)	204 (100%)	421 (100%)

Table 4. Subfamily-wise diversity of butterflies from the KPAC survey.

Family	Subfamily	Number of genera	Number of species
Hesperiidae	Coeliadinae	5	11
	Hesperiinae	31	42
	Pyrginae	7	20
Lycaenidae	Curetinae	1	2
	Lycaeninae	1	6
	Miletinae	4	4
	Polyommatainae	28	41
	Theclinae	19	37
Nymphalidae	Apaturinae	7	9
	Biblidinae	1	2
	Calinaginae	1	1
	Cyrestinae	2	2
	Charaxinae	1	6
	Danainae	4	14
	Heliconiinae	9	11
	Libytheinae	1	2
	Limenitidinae	17	47
	Nymphalinae	8	17
Pseudergolinae	4	4	
Satyrinae	23	60	
Papilionidae	Parnassiinae	1	2
	Papilioninae	8	35
Pieridae	Coliadinae	4	9
	Pierinae	13	28
Riodinidae	Nemeobiinae	4	9
Total (6)	25	204	421

An annotated checklist of butterflies of the Kameng Protected Area Complex, western Arunachal Pradesh, northeastern India, recorded during the survey

The following list is organized alphabetically by butterfly families, subfamilies, genera and species. English names are mentioned in parentheses. Alternative common names (ACN) of butterflies, which are still in use, are mentioned alongside. It is annotated with observations on the occurrence, habitats and habits, and other ecological as well as taxonomic information on these butterflies. Local status of species is based largely on the quantitative data gathered during the survey between 2009 and 2014, and was determined as follows: very rare: single individual sighted; rare: 2–5 individuals sighted; uncommon: 6–10 individuals sighted; common: 11–25 individuals sighted; locally common: 11–25 individuals

sighted, but at very specific localities; very common: more than 25 individuals sighted.

In the species notes, the seasons in which the species were recorded have been classified as during the pre-monsoon (March to mid-June), monsoon (mid-June to mid-September) and the post-monsoon (mid-September to December).

This follows the guidelines used for local status of species in our previous works (Sondhi & Kunte 2014; Sondhi et al. 2013). Images 1–18 illustrate most of the species recorded during the survey, barring those species that could not be photographed or some very common and readily identifiable butterflies. All the photographs were taken in the study area.

Family HesperIIDae, Subfamily Coeliadinae

1. *Badamia exclamationis* (Fabricius, 1775) (Brown Awl): Single individual recorded from Sukhanala at Pakke on 27 July 2014. Very rare in the survey area.

2. *Bibasis sena sena* (Moore, 1865) (Orange-tail Awl): Recorded from Bhalukpong Ghat, Khari and Sukhanala at Pakke in the pre- and post-monsoon seasons. Rare. This subspecies is legally protected under the Schedule II of WPA.

3. *Burara amara* (Moore, 1866) (Small Green Awlet): A single individual recorded from Seijosa West Bank, Pakke at dusk on 28 July 2014. Previously recorded by KK from Seijosa in May 2007. Rare.

4. *Burara gomata gomata* (Moore, 1866) (Pale Green Awlet): A record of a solitary individual on the Seppa Road at Pakke-Kesang on 20 September 2013 at an altitude of 1,431m. Very rare.

5. *Burara harisa harisa* (Moore, 1866) (Harisa Orange Awlet): A single individual recorded on 02 August 2014 at the Forest Inspection Bungalow at Tippi, Pakke. Previously recorded by KK from Seijosa in May 2007. Rare.

6. *Burara jaina jaina* (Moore, 1866) (Orange Awlet): Two records in October 2010 from Bhalukpong at Pakke. Rare.

7. *Burara oedipodea belesis* (Mabille, 1876) (Branded Orange Awlet): Two records from Bhalukpong Ghat and Langka at Pakke in October 2010. Both records were in the vicinity of the campsite kitchen early in the morning. Rare.

8. *Choaspes cf. benjaminii japonica* (Murray, 1875) (Indian Awlking): Recorded from Bhalukpong Ghat and Tipi at Pakke in the pre- and post-monsoon seasons. Single sighting at Sessni in Eaglenest in September 2011 at an altitude of 1,250m. All sightings along forest tracks. These records are tentative in absence of genitalia dissections or information about early stages. Uncommon.

9. *Hasora badra badra* (Moore, 1858) (Common Awl): Recorded from Bhalukpong Ghat, Khari and Langka at Pakke in the pre- and post-monsoon seasons. A single record from Sessa in October 2012 at an altitude of 1,150m. Smith (1994) states that it is recorded from the Terai up to 870m in central Himalaya, so this marginally extends its altitudinal range. Uncommon.

10. *Hasora chromus chromus* (Cramer, 1780) (Common Banded Awl): Recorded from Bhalukpong and Langka at Pakke, from Bompou, Lama and Sessni at Eaglenest and Sessa in the pre- and post-monsoon seasons up to an altitude of 1,900m. Seen in the vicinity of the camp kitchen at Bompou. Common. Reported by Athreya (2006b) from Pakke.

11. *Hasora vitta indica* Evans, 1932 (Plain Banded Awl): Recorded from Langka and Sukhanala at Pakke, Sessa and Bompou, Lama, Khellong and Sessni at Eaglenest in the pre- and post-monsoon seasons from the foothills up to 2,100m. Most sightings were during the day along shady forest tracks. Uncommon. Reported by Athreya (2006b) from Eaglenest. This subspecies is legally protected under the Schedule IV of WPA.

Family HesperIIDae, Subfamily HesperIIDae

12. *Aeromachus stigmata stigmata* (Moore, 1878) (Veined Scrub Hopper): Recorded from the Sochung-Lumta trail on 17 September 2013 and on the Pakke-Kesang-Seppa road on 20 September 2013 at altitudes between 1,040m and 1,400m. Rare.

13. *Astictopterus jama olivascens* Moore, 1878 (Forest Hopper): Recorded from Bhalukpong, Khari, Langka, Sukhanala and Tipi at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Seen commonly on shrubs along forest tracks. Common.

14. *Ochus subvittatus subradiatus* (Moore, 1878) (Tiger Hopper): Recorded from all locations at Pakke-Kesang between 17 and 19 September 2013 at altitudes between 1,000m and 1,400m. Abundant on the Sochung-Lumta trail with 28 individuals being recorded on a three-

hour count on 17 September 2013. Locally very common.

15. *Halpe porus* (Mabille, 1877) (Bi-spot Banded Ace; ACN: Moore's Ace): Recorded from Bhalukpong Ghat, Khari, and Upper Dekorai at Pakke in the pre- and post-monsoon seasons. Rare.

16. *Halpe cf. zola zola* Evans, 1937 (Zola Banded Ace): Recorded once from Sukhanala on 13 September 2013 at Pakke. The inner and outer edges of UNH discal band on this individual was not straight, therefore it was provisionally identified as *H. zola* following the key given by Evans (1949). However, *H. zola* and *H. zema* are best separated by examining male genitalia, so this is a tentative record. Very rare.

17. *Halpe* species # 1 (*Ace* sp.)

An Ace species was recorded at Eaglenest in September 2011. In the absence of specimens, these individuals could not be identified to the species level, though the description closely matched that of *Halpe molta*. Rare.

18. *Halpe* species # 2 (*Ace* sp.)

An Ace species was recorded from Sukhanala and Khari at Pakke in the pre- and post-monsoon seasons, but could not be identified in absence of specimens. Uncommon.

19. *Pithauria stramineipennis stramineipennis* Wood-Mason & de Nicéville, 1887 (Light Straw Ace): Recorded from the Bhalukpong Ghat-Dinai trail and Langka at Pakke in August and September. Attracted to rotting fish. All the records from Meghalaya (Sondhi et al. 2013) were pre-monsoon, so this record indicates that it is bi-voltine, and has a post-monsoon brood. Rare.

20. *Sebastonyma dolopia* (Hewitson, 1868) (Tufted Ace): Recorded from the Bhalukpong Ghat-Dinai trail, Khari and Sukhanala at Pakke in pre- and post-monsoon seasons. Uncommon.

21. *Sovia separata magna* Evans, 1932 (Chequered Ace): A single record of a male of this species on 20 September 2013 at Pakke-Kesang. The individual sat with its wings spread like a flat on the butterfly net, before taking to wing. Very rare. Evans (1949) listed the subspecies *separata* from Sikkim, while Smith (1994) mentioned it from Nepal, Sikkim and Bhutan. However, ssp. *separata* has obscure chequering of cilia, while ssp. *magna* has prominently chequered black and white cilia and extreme apex UPF is white-tipped in the male, as in the individual recorded at Pakke-Kesang. Evans (1949)

stated the distribution of ssp. *magna* as Naga Hills and Manipur; hence this represents a westwards extension of its known range.

22. *Thoressa cerata* (Hewitson, 1876) (Northern Spotted Ace): Two records from Bhalukpong (September 2011) and Sukhanala (April 2012) at Pakke. Rare.

23. *Thoressa hyrie* (de Nicéville, 1881) (Variable Ace; ACN: Chequered Ace): Recorded from Sessni, Eaglenest WS in April 2012. Attracted to rotting crab, and feeding at moist soil. Individuals recorded on 22, 23 and 25 April 2012 in the same area. Rare. This is the first record of this species from western Arunachal Pradesh, though it has been reported from the Mishmi Hills, central Arunachal Pradesh (Gogoi 2012). Evans (1949) records this species from Naga Hills, Manipur, Bhutan and southeastern Tibet, hence given the proximity of Eaglenest WS to Bhutan, its presence in western Arunachal Pradesh is not surprising.

24. *Cupitha purrea* (Moore, 1877) (Wax Dart): Recorded from the Bhalukpong Ghat-Dinai trail at Pakke in March 2011 and April 2014 and on the Seijosa-West Bank-Sukhanala trail on 23 October 2013 along the forest track. Rare.

25. *Oriens goloides* (Moore, 1881) (Smaller Dartlet; ACN: Indian Dartlet): Recorded from the Sukhanala trail at Pakke on 29 April 2013. Rare.

26. *Cephrenes acalle oceanic* (Mabille, 1904) (Plain Palm Dart): A single record from Khari at Pakke at a stream bank on 22 October 2013. Very rare.

27. *Potanthus* spp. (Dart spp.): *Potanthus* species seen from the foothills at Pakke, at medium altitudes in Sessa and up to 2,200m at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons. Species level identities could not be verified in the absence of specimens and these could well be multiple species. Common.

28. *Telicota bambusae bambusae* (Moore, 1878) (Dark Palm-Dart): Records from Bhalukpong Ghat-Dinai trail and Sukhanala at Pakke in pre- and post-monsoon seasons. Rare (possibly overlooked).

29. *Ancistroides nigrita diocles* (Moore, 1866) (Chocolate Demon): Records from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common. Reported by Athreya (2006b)



Image 1: 2. *Bibasis sena sena*; 3. *Burara amara*; 4. *Burara gomata gomata*; 5. *Burara harisa harisa*; 6. *Burara jaina jaina*; 7. *Burara oedipodea belesis*; 8. *Choaspes cf. benjaminii japonica*; 9. *Hasora badra badra*; 10. *Hasora chromus chromus*; 11. *Hasora vitta indica*; 12. *Aeromachus stigmata stigmata*; 13. *Astictopterus jama olivascens*; 14. *Ochus subvittatus subradiatus*; 15. *Halpe porus*; 16. *Halpe cf. zola zola*; 17. *Eaglenest Halpe* sp. # 1; 18. *Pakke Halpe* sp. # 2; 19. *Pithauria stramineipennis stramineipennis*; 20. *Sebastonyma dolopia*; 21. *Sovia separata magna*; 22. *Thoressa cerata*; 23. *Thoressa hyrie*; 24. *Cupitha purreea*; 25. *Oriens goloides*

from Eaglenest.

30. *Notocrypta curvifascia curvifascia* (Felder & Felder, 1862) (Restricted Demon): Records from the Bhalukpong Ghat-Dinai and Seijosa West Bank-Sukhanala trails at Pakke in March, July and October. A single record on the Bompou-Sessni trail in September 2011 at Eaglenest. Common in the foothills. Reported by Athreya (2006b) from Eaglenest and Pakke.

31. *Notocrypta feisthamelii alysos* (Moore, 1866) (Spotted Demon): Recorded from Bhalukpong Ghat, Langka and Seijosa West Bank-Sukhanala trail at Pakke, Pakke-Kesang, Sessa Orchid WS and from Bompou, Lama and Sessni at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons up to an altitude of 2,200m. Common. Reported by Athreya (2006b) from Eaglenest.

32. *Notocrypta paralysos asawa* Fruhstorfer, 1911 (Common Banded Demon): Recorded at all locations at Pakke in pre- and post-monsoon seasons. Very common.

33. *Udaspes folus* (Cramer, 1775) (Grass Demon): Recorded on the Khari and Sukhanala trails at Pakke and at Lumta, Pakke-Kesang in the monsoon and post-monsoon seasons. Common.

34. *Iambrix salsala salsala* (Moore, 1866) (Chestnut Bob): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common.

35. *Koruthaialos butleri* (de Nicéville, 1884) (Dark Velvet Bob): Recorded from Bhalukpong Ghat, Khari, Langka and Sukhanala at Pakke in pre- and post-monsoon seasons. Uncommon.

36. *Scobura tytleri* (Evans, 1914) (Conjoined Bush Bob; ACN: Tytler's Bush Bob): A single record at Sessa at 1,150 m on 13 Sep 2011. This species was identified by comparing the individual photographed with specimens in the Natural History Museum, London. The butterfly was seen basking on a banana leaf, four feet above the ground. It repeatedly and aggressively chased a *Pseudocoladenia dan fabia* (Fulvous Pied Flat) as well as other hesperiids that ventured close to it. Very rare.

37. *Scobura isota* (Swinhoe, 1893) (Khasi Forest Bob): A single record of a worn individual from Langka at Pakke on 13 April 2012. Very rare.

38. *Suada swerga swerga* (de Nicéville, 1884) (Indian Grass Bob): A single record from Langka at Pakke on 13 April 2012. Very rare.

39. *Hyarotis adrastus praba* (Moore, 1866) (Tree Flitter): Recorded from the Bhalukpong Ghat-Dinai trail and Sukhanala at Pakke in March, April and August. Rare. This subspecies is legally protected under the Schedule IV of the WPA. Reported by Athreya (2006b) from Pakke.

40. *Zographetus satwa* (de Nicéville, 1884) (Purple and Gold Flitter): Recorded from the Bhalukpong Ghat-Dinai trail, Langka, the Seijosa West Bank-Khari trail and Sukhanala at Pakke in the months of March and April. Smith (1994) states that this species flies in March and May, though post-monsoon records exist from other parts of NE India (Kunte et al. 2012), hence it is likely to be bi-voltine. Uncommon.

41. *Matapa aria* (Moore, 1866) (Common Branded Redeye; ACN: Common Redeye): Recorded from Khari and Langka in pre- and post-monsoon seasons at Pakke. Rare.

42. *Matapa druna* (Moore, 1866) (Grey-branded Redeye ACN: Dark-brand Redeye): A single individual, identified using de Jong (1983), was recorded at a bamboo clump from Elephant Flat on 21 October 2012. Very rare.

43. *Pudicitia pholus* (de Nicéville, 1889) (Spotted Redeye): A single female was seen feeding on flower nectar on the Pakke-Kesang to Seppa road on 20 September 2013. The same was seen by Alka Vaidya and SS, but only photographed by the former. This very rare species is known from Sikkim, Khasi Hills (Meghalaya), Darjeeling (Paschimbanga) and Bhutan (Swinhoe, 1912–1913). Evans (1949) also states that it is recorded in Assam (which included Arunachal Pradesh), Sikkim and Naga Hills. Smith (1994) does not record it in Nepal. There are few recent records of this species in literature from Arunachal Pradesh. Very rare.

44. *Iton semamora semamora* (Moore, 1866) (Common Wight): Recorded from Khari and Sukhanala in pre- and post-monsoon seasons. Rare, but local; individuals spotted at the same location at Sukhanala in October 2012 and April 2013.

45. *Baoris farri* (Moore, 1878) (Complete Paint-brush Swift ACN: Paintbrush Swift, Farr's Swift): Recorded from Khari and Sukhanala at Pakke and from Lumta at



Image 2: 26. *Cephrenes acalle oceanica*; 27. *Potanthus* sp.; 28. *Telicota bambusae bambusae*; 29. *Ancistroides nigrita diocles*; 30. *Notocrypta curvifascia curvifascia*; 31. *Notocrypta feisthamelii alysos*; 32. *Notocrypta paralysos asawa*; 33. *Udaspes folus*; 34. *Iambrix salsala salsala*; 35. *Koruthaialos butleri*; 36. *Scobura tytleri*; 37. *Scobura isota*; 38. *Suada swerga swerga*; 39. *Hyarotis adrastus praba*; 40. *Zographetus satwa*; 41. *Matapa aria*; 42. *Matapa druna*; 43. *Pudicitia pholus*©AV; 44. *Iton semamora semamora*; 45. *Baoris farri*; 46a. *Baoris pagana*; 46b. *Baoris pagana*; 47a. *Caltoris* cf. *moorei moorei*; 47b. *Caltoris* cf. *moorei moorei*

Pakke-Kesang at an altitude of 1,000m in September and October 2013. Only males seen. Uncommon. This species is legally protected under the Schedule II of WPA.

46. *Baoris pagana* (de Nicéville, 1887) (Figure-of-8 Swift): A single record on 22 May 2009 on the Bompus-Sessni trail at Eaglenest at an altitude of 1,500m. The description matches that in Evans (1932) and Evans (1949). Evans (1949) lists the distribution of species as Bengal and Sikkim, while Smith (1994) states that it is recorded in East and Central Nepal. Gogoi (2013b) has recorded this in Panbari Reserve Forest in Assam. This represents the first record of this species from western Arunachal Pradesh in recent times, though Gogoi (2012) reported it from the Mishmi Hills in central Arunachal Pradesh. Though outside the survey, Yash Sondhi recorded the same species in May 2013 at the same location. Rare.

47. *Caltoris cf. moorei moorei* Evans, 1926 (Cryptic Swift): A single record from the Seijosa West Bank-Khari trail at Pakke in March. This individual is provisionally identified as *Caltoris moorei* based on Evans (1932) and Evans (1949), but it could not be confidently distinguished from *C. philippina* without examining male genitalia. Very rare.

48. *Parnara* spp. (Swift spp.): Numerous records from Bhalukpong Ghat and Sukhanala at Pakke, Sessa Orchid WS and from Bompus, Lama and Sessni at Eaglenest in the pre- and post-monsoon seasons. Belonging to the genus *Parnara*, their specific identities could not be ascertained in the absence of specimens and information of genitalia. These sightings were across an altitudinal range of 110–2,100 m could actually be multiple species. Uncommon. Recorded by Evans (1914) in Dirang.

49. *Pelopidas mathias mathias* (Fabricius, 1798) (Small Branded Swift): Recorded from Langka and Sukhanala at Pakke in April and October. Quite a few individuals of *Pelopidas* species were recorded that could not be identified to the species level, as they were females lacking brands. Rare.

50. *Pelopidas agna* (Moore, 1866) (Obscure Branded Swift; ACN: Dark Branded Swift): Two individuals were recorded on 30 May 2011 at Sessa at an altitude of 1,200m. Rare.

51. *Polytremis eltola eltola* (Hewitson, 1869) (Yellow-spot Swift): Recorded from the Bhalukpong Ghat-Dinai trail, Langka and Sukhanala at Pakke, at Pakke-Kesang,

at Sessa Orchid WS and from Bompus, Lama and Sessni at Eaglenest in the pre- and post-monsoon seasons between altitudes of 110m and 2,200m. Very common at Pakke-Kesang, Sessa and Eaglenest. Not so common in the foothills at Pakke.

52. *Polytremis lubricans lubricans* (Herrich-Schäffer, 1869) (Contiguous Swift): Two records from Sukhanala at Pakke on 30 October 2010 and 16 April 2012. Rare. This subspecies is legally protected under the Schedule IV of WPA.

53. *Borbo bevani* (Moore, 1878) (Lesser Rice Swift; ACN: Bevan's Swift): A single record from Elephant Flat on 21 October 2013. Very rare in the survey area (possibly overlooked). Reported by Athreya (2006b) from Pakke.

Family Hesperidae, Subfamily Pyrginae

Eight species belonging to the Genus *Celaenorrhinus* were recorded from the survey. Given the cryptic nature of these species, extra care was taken in their identification by using Elwes & Edwards (1897), Swinhoe (1912–1913), Evans (1932) and Evans (1949), and the BMNH reference images by KK. Several of these species have not been reported from India in many decades. These are *C. badia*, *C. patula*, *C. plagifera*, *C. pyrha* and *C. sumitra*. None of these species have been reported in recent literature from eastern Himalaya and northeastern India by Athreya (2006), Gogoi (2012), Gogoi (2013a, 2013b) and Kunte et al. (2012). Arora & Mondal (1981) and Gupta & Shukla (1988) did not cover Hesperidae at all. Haribal (1992) makes a mention of many of these species, but clearly, these represent historical records, and not recent sightings.

54. *Celaenorrhinus aurivittata aurivittata* (Moore, 1878) (Dark Yellow-banded Flat): Two individuals recorded from the Bhalukpong Ghat-Dinai trail at Pakke while 10 individuals were recorded from Sessa Orchid WS, where it was common. Seen in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,200m. Common.

55. *Celaenorrhinus badia* (Hewitson, 1877) (Scarce Banded Flat): A single individual recorded on 12 September 2011 inside Sessa Orchid WS at an altitude of 1,250m on the narrow forest track leading into the sanctuary. No recent published records from India. Very rare.

56. *Celaenorrhinus leucocera* (Kollar, 1844) (Common

Spotted Flat): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common. Reported by Athreya (2006b) from Pakke.

57. *Celaenorrhinus* sp.: Six individuals recorded from the Bompou-Sessni trail at Eaglenest and Sessa Orchid WS in March and April between altitudes of 1,200m and 1,900m. These individuals closely match *C. morena* and *C. patula* (Evans 1932; Evans 1949 and images from the Natural History Museum, London). In all these individuals, the white upperside forewing subapical spots in 3 and 4 were small, and the spot in 1b overlapped the spot in 2 and was not shifted out. While the upperside white spotting pattern in these individuals largely matched *C. morena*, the antennae in all these individuals were white and unchequered as in *C. patula* (Evans 1949). Evans (1949) does indicate a DSF of *patula* in which subapical spots in 3 and 4 are small. While there is a published record of *C. morena* (incorrectly reported as *C. moreana*) by Gogoi (2013) from Kaziranga, Assam, there are no recent published records of *C. patula* from India. Further sampling and genitalia dissection are needed to confirm their identities. Uncommon, but local.

58. *Celaenorrhinus plagifera* de Nicéville, 1889 (Large-spotted Flat; ACN: de Nicéville's Spotted Flat): A single record from Bompou at Eaglenest at an altitude of 1,500m on 6 September 2011. Very rare. No recent published records from India.

59. *Celaenorrhinus putra* (Moore, 1866) (Restricted Spotted Flat): Recorded from Sukhanala on 3 June 2009 and 5 October 2010 at Pakke. Rare.

60. *Celaenorrhinus pyrha* de Nicéville 1889 (Double-spotted Flat): Recorded from Sessa Orchid WS on 30 May 2011 at an altitude of 1,250m and from the Pakke-Kesang to Seppa road on 20 September 2013 at 1,400m. Rare. No recent published records from India.

61. *Celaenorrhinus sumitra* (Moore, 1866) (Contiguous Spotted Flat; ACN: Moore's Spotted Flat): Two records from Sessa WS on 12 October 2010 and 21 October 2012 at the same location; on the narrow forest track leading into the sanctuary at an altitude of 1,250m. Rare and local. No recent published records from India.

62. *Gerosis phisara phisara* (Moore, 1884) (Dusky Yellow-breasted Flat): Two records from the Seijosa West Bank-Khari trail and Sukhanala at Pakke on 4 and 5 October 2010. Rare.

63. *Gerosis sinica narada* (Moore, 1884) (White Yellow-breasted Flat): A single record of a female near Sessni at Eaglenest on 7 September 2011 at an altitude of 1,400m. Very rare.

64. *Odontoptilum angulata angulata* (Felder, 1862) (Chestnut Angle): Recorded at all locations at Pakke in the pre- and post-monsoon seasons. Uncommon.

65. *Pseudocoladenia dan fabia* Evans, 1949 (Fulvous Pied Flat): Recorded from all locations at Pakke, Sessa and two records from the Sessni-Khellong trail from altitudes of 110m up to 1,200m in the pre-monsoon, monsoon and post-monsoon seasons. Very common in the foothills, not so at higher elevations. Reported by Athreya (2006b) from Eaglenest and Pakke.

66. *Pseudocoladenia cf. festa* (Evans, 1949) (Dull Pied Flat): A single record near Lama Camp at Eaglenest on 15 October 2012 at an altitude of 2,100m. In this individual, the spots on the upperside of the forewing were contiguous and the spot in 2 extended beyond the origin of vein 3 indicating that it is closest to *P. festa* (Evans 1949). However, a discrepancy in this individual was that the cell-end spot UPF was externally rounded, and not pinched in the center. In addition, *P. fatua* is very similar to *P. festa* and the two species are best separated by male genitalia, hence this is a tentative identification. While *festa* has been recorded from Bhutan and in India from Sikkim, Khasi Hills and Naga Hills, *fatua* is recorded from the same areas, but generally flies at a lower elevation than *festa* (Evans 1949; Kunte et. al 2016). Very rare. No recent published records from India.

67. *Sarangesa dasahara dasahara* Moore, 1866 (Common Small Flat): Recorded from Bhalukpong Ghat, Khari and Sukhanala at Pakke in the pre- and post-monsoon seasons. Common. Reported by Athreya (2006b) from Pakke.

68. *Seseria sambara sambara* Moore, 1866 (Notched Seseria; ACN: Sikkim White Flat): Recorded from Sukhanala at Pakke in October 2010, April 2013 and July 2014. Uncommon, but local.

69. *Tagiades cohaerens cynthia* Evans, 1934 (White-striped Snow Flat): Single record from Ramaling at Eaglenest on 20 October 2012. No recent published records from India. Very rare.

70. *Tagiades gana athos* Plötz, 1884 (Suffused Snow



Image 3: 48a. *Parnara* sp.; 48b. *Parnara* sp.; 49a. *Pelopidas mathias mathias*; 49b. *Pelopidas mathias mathias*; 50a. *Pelopidas agna*; 50b. *Pelopidas agna*; 51a. *Polytremis eltola eltola*; 51b. *Polytremis eltola eltola*; 52a. *Polytremis lubricans lubricans*; 52b. *Polytremis lubricans lubricans*; 53a. *Borbo bevani*; 53b. *Borbo bevani*; 54. *Celaenorrhinus aurivittata aurivittata*; 55. *Celaenorrhinus badia*; 56. *Celaenorrhinus leucocera* ©KK; 57a. *Celaenorrhinus* sp.; 57b. *Celaenorrhinus* sp.; 58a. *Celaenorrhinus plagifera*; 58b. *Celaenorrhinus plagifera*; 59. *Celaenorrhinus putra putra*; 60a. *Celaenorrhinus pyrha*; 60b. *Celaenorrhinus pyrha*

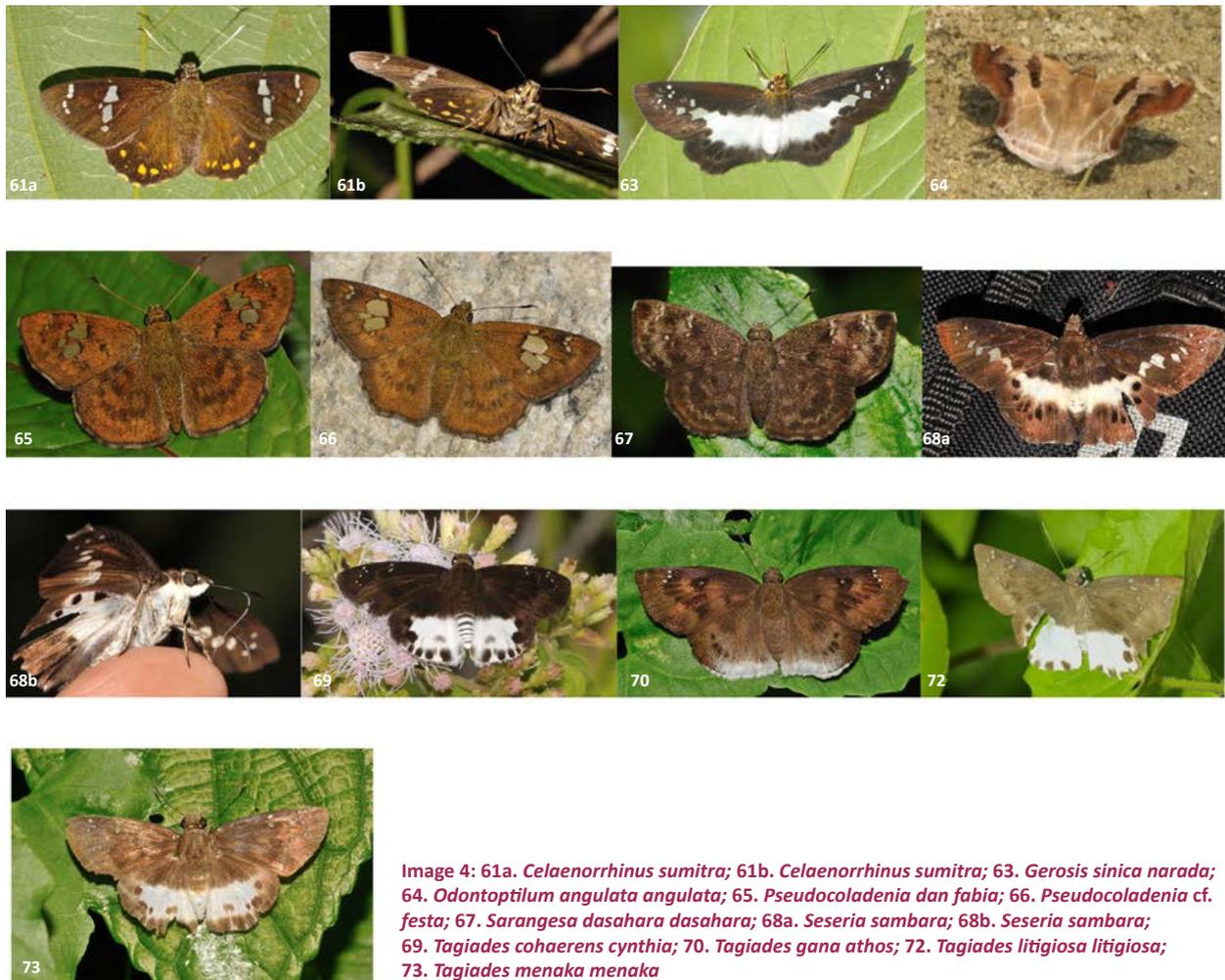


Image 4: 61a. *Celaenorrhinus sumitra*; 61b. *Celaenorrhinus sumitra*; 63. *Gerosis sinica narada*; 64. *Odontoptilum angulata angulata*; 65. *Pseudocoladenia dan fabia*; 66. *Pseudocoladenia cf. festa*; 67. *Sarangesa dasahara dasahara*; 68a. *Seseria sambara*; 68b. *Seseria sambara*; 69. *Tagiades cohaerens cynthia*; 70. *Tagiades gana athos*; 72. *Tagiades litigiosa litigiosa*; 73. *Tagiades menaka menaka*

Flat): Recorded from Khari, Langka and Sukhanala at Pakke in the pre- and post-monsoon seasons. Uncommon.

71. *Tagiades japetus ravi* (Moore, 1866) (Common Snow Flat): Recorded from all locations at Pakke and one record on the New Khellong-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons between altitudes of 110–750 m. Common.

72. *Tagiades litigiosa litigiosa* Möschler, 1878 (Water Snow Flat): Recorded from the Bhalukpong Ghat-Dinai trail, Langka and Sukhanala at Pakke in pre-monsoon, monsoon and post-monsoon seasons. Uncommon.

73. *Tagiades menaka menaka* (Moore, 1866) (Spotted Snow Flat): Recorded from Langka in April and Tippi in August at Pakke. Rare.

Family Lycaenidae, Subfamily Curetinae

74. *Curetis bulis bulis* (Westwood, 1852) (Bright

Sunbeam): Males recorded mud-puddling at moist soil at stream edges or river sandbanks from Langka and Sukhanala at Pakke and at Sochung at Pakke-Kesang. A single female seen high up in the canopy on the forest trail leading from Bhalukpong Ghat to Dinai. A male observed feeding on a rotting crab. Seen in pre- and post-monsoon seasons from the foothills up to 1,040m. Common.

75. *Curetis acuta dentata* Moore, 1879 (Acute Sunbeam; ACN: Dentate Sunbeam, Angled Sunbeam): Males recorded mud-puddling at moist soil from Langka and Sukhanala at Pakke in March and May. Rare. Gupta & Shukla (1988) reported this from Charduar Forest in Assam at 125m.

Family Lycaenidae, Subfamily Lycaeninae

76. *Heliophorus brahma brahma* (Moore, 1858) (Golden Sapphire): Males recorded from the Lama-Ramaling trail and Sessni at Eaglenest and Sessa in the pre- and post-monsoon seasons between altitudes of

1,200m and 1,900m. A group of four male *H. brahma* and one male *H. tamu* observed feeding together on carnivore scat. Uncommon. Reported by Gupta & Shukla (1988) from Bomidila, West Kameng District. Reported from Eaglenest by Athreya (2006b).

77. *Heliophorus epicles latilimbata* (Fruhstorfer, 1908) (Purple Sapphire): Males (more common) and females recorded from all locations at Pakke and from Sessa Orchid WS in the pre-monsoon, monsoon and post-monsoon seasons from an altitude of 110–1,200 m. Very common at Pakke, not so common at Sessa. Reported from Eaglenest by Athreya (2006b); however, we believe that this record may be erroneous and might be *H. indicus*.

78. *Heliophorus indicus* (Fruhstorfer, 1908) (Dark Sapphire; ACN: Indian Sapphire): Recorded from the Sessni-Khellong trail at Eaglenest and at Pakke-Kesang in the pre- and post-monsoon seasons between altitudes of 750m and 1,400m. At Pakke-Kesang in September 2013, 55 individuals were recorded, of which all but three individuals were male. Unconfirmed records from lower altitudes at Pakke. Locally very common. Reported by Gupta & Shukla (1988) from Bhalukpong, West Kameng District as *H. epicles indicus*. However, this record needs to be validated as to whether this is actually *H. indicus* or refers to *H. epicles latilimbata*, which is more likely to be found from the foothills near Bhalukpong.

79. *Heliophorus moorei moorei* (Hewitson, 1865) (Azure Sapphire): Males (more common) and females recorded from Bompou, Lama and Sessni at Eaglenest in the pre- and post-monsoon seasons between altitudes of 1,200m and 2,300m. Common. Reported from Dirang by Evans (1914). Reported from Eaglenest by Athreya (2006b). This subspecies is legally protected under the Schedule II of WPA.

80. *Heliophorus sena* (Kollar, 1844) (Sorrel Sapphire): Two individuals recorded at Tenga on 21 May 2009 and near Sessa on 12 October 2010 at altitudes of 1,350m and 1,200m respectively. Uncommon. Greeshma (2010) noted its occurrence at Rupa thereby extended its known range to western Arunachal Pradesh. Its larval food plant *Rumex histatus* is widespread near Tenga and Sessa.

81. *Heliophorus tamu tamu* (Kollar, 1844) (Powdery Green Sapphire): Recorded at Bompou, Lama-Ramaling trail and Sessni at Eaglenest in the pre- and post-monsoon seasons at altitudes between 900m and 2,400m. Very common; both sexes seen, females not so common.

Reported from Eaglenest by Athreya (2006b).

Family Lycaenidae, Subfamily Miletinae

82. *Allotinus drumila drumila* (Moore, 1866) (Crenulate Mottle): A single record of a female amidst the lower canopy on 18 October 2012 below Sessni at Eaglenest at an altitude of 1,200m. Very rare. This species is legally protected under the Schedule I of WPA.

83. *Logania distanti massalia* Doherty, 1891 (Dark Mottle): A pair of butterflies recorded from Seijosa West Bank at Pakke on 24 March 2011. Observed for 10 minutes during which the two butterflies repeatedly flew in circles, chasing each other, sitting only occasionally in the middle canopy of the tree. Outside of the survey, there is a subsequent record of an individual by Milind Pandit from Khari in early May 2013. Rare. This species is legally protected under the Schedule II of WPA.

84. *Miletus chinensis assamensis* (Doherty, 1891) (Common Mottle; ACN: Common Brownie): Records from Bhalukpong in September 2011 and April 2014 and Sukhanala in May 2011 at Pakke. Rare.

85. *Taraka hamada mendesia* Fruhstorfer, 1918 (Forest Pierrot): Recorded from Langka and Sukhanala at Pakke, at Sessa and at Pakke-Kesang in the pre- and post-monsoon seasons at altitudes from 110m to 1,300m. At Sessa, the species was seen at one specific location over seasons. Smith (1994) states that this species is found up to an altitude of 304m; these records from Sessa and Pakke-Kesang show that it is found also at mid-elevations. Uncommon.

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86. *Anthene emolus emolus* (Godart, 1824) (Common Ciliate Blue): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Large congregations were seen mud-puddling in May. Very common.

87. *Anthene lycaenina lycambes* (Hewitson, 1878) (Pointed Ciliate Blue): Recorded from all locations at Pakke and Pakke-Kesang in the pre- and post-monsoon seasons from the foothills up to 1,200m. Not as common as the previous species, and never seen in large congregations. Uncommon. This species is legally protected under the Schedule II of WPA.

88. *Catochrysops panormus exiguus* (Distant, 1886) (Silver Forget-me-not): Recorded from the Bhalukpong

Ghat-Dinai trail, Langka and Sukhanala at Pakke and Pakke-Kesang in the pre- and post-monsoon seasons. Common.

89. *Catochrysops strabo strabo* (Fabricius, 1793) (Forget-me-not): Recorded from all locations at Pakke and a single record from Bompu at Eaglenest at an altitude of 1,900m. Active in the pre-monsoon season; no post-monsoon records though it does fly post-monsoon elsewhere (Smith 1994; Sondhi 2013). Very common (at low elevations).

90. *Chilades lajus lajus* (Stoll, 1780) (Lime Blue): Recorded from the Bhalukpong-Dinai trail, Khari and Langka at Pakke and from Pakke-Kesang (1,400m altitude) in the pre- and post-monsoon seasons. Rare.

91. *Caleta elna noliteia* (Fruhstorfer, 1918) (Elbowed Pierrot): Recorded from all locations at Pakke and at Pakke-Kesang in the pre-monsoon, monsoon and post-monsoon seasons. A congregation of the species (7 individuals) was seen feeding on a single crab leg. Also observed feeding on bird dropping and rotting fish. On 2 August 2014, an individual which was completely chocolate brown below with creamy-white discal patches on both wings was seen feeding on carnivore scat in the company of other *C. elna* individuals. It is believed that this is an aberrant *C. elna* (Image 5: # 91b). Reported from Pakke by Athreya (2006b). Very common at low elevations.

92. *Castalius rosimon rosimon* (Fabricius, 1775) (Common Pierrot): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Prefers drier habitat than *C. elna*. Very common. Reported by Gupta & Shukla (1988) from Bhalukpong in West Kameng District and from Pakke by Athreya (2006b).

93. *Tarucus ananda* (de Nicéville, 1884) (Dark Pierrot): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Uncommon. This species is legally protected under the Schedule IV of WPA.

94. *Niphanda cymbia cymbia* de Nicéville, 1884 (Pointed Pierrot): Two individuals recorded from Dinai on 30 March 2011 and 15 September 2011 and a third individual recorded from Langka on 16 May 2011 at Pakke. The sightings at Dinai were in the same locality. Its flight seasons indicate that it is bi-voltine. There are only a few recent sightings of this species from northeastern India. Rare. This subspecies is legally protected under the Schedule II of WPA.

95. *Everes argiades diporides* (Chapman, 1909) (Tailed Cupid; ACN: Chapman's Cupid): A single record from Ramaling at Eaglenest on 21 May 2009 at an altitude of 1,900m. Very rare in the survey area. Reported from Dirang by Evans (1914).

96. *Jamides alecto euryaces* (Fruhstorfer, 1915) (Metallic Cerulean): Two records from Dinai on 4 October 2010 and Upper Dekorai on 30 April 2013 at Pakke. Rare. Reported from Eaglenest by Athreya (2006b).

97. *Jamides bochus bochus* (Stoll, 1782) (Dark Cerulean): Recorded from Bhalukpong Ghat-Dinai trail, Langka, Sukhanala and Upper Dekorai at Pakke and from Lama and the Sessni-Khellong trail at Eaglenest. Flies in the pre- and post-monsoon seasons up to an altitude of 2,000m. Both sexes seen; females less common. Very common at Pakke, not so common at Eaglenest. Reported from Eaglenest by Athreya (2006b).

98. *Jamides celeno celeno* (Cramer, 1775) (Common Cerulean): Three records from Dinai and Nameri West at Pakke in the pre- and post-monsoon seasons. Only wet season forms recorded. Rare. Reported from Eaglenest by Athreya (2006b).

99. *Jamides elpis pseudelpis* (Butler, 1879) (Glistening Cerulean): Recorded from the Bhalukpong-Dinai trail, Langka and Sukhanala at Pakke in the pre- and post-monsoon seasons. Only males seen. Very common. Reported by Gupta & Shukla (1988) only from Kaziranga, Assam. This species is legally protected under the Schedule II of WPA.

100. *Ionolyce helicon merguiana* (Moore, 1884) (Pointed Lineblue): Recorded from Nameri West in May 2009 and Bhalukpong Ghat and Tippi in July and August at Pakke and from Pakke-Kesang (1,200 m altitude) in September 2013. Rare in the survey area. This species is legally protected under the Schedule II of WPA.

101. *Nacaduba beroe gythion* Fruhstorfer, 1916 (Opaque Six-Lineblue): Records from Langka, Sukhanala and Upper Dekorai at Pakke, at Pakke-Kesang and below New Khellong at Eaglenest. Recorded in the pre- and post-monsoon seasons from the foothills up to 1,400m. At Eaglenest, many individuals were seen feeding on flowering bushes, 3.5m above the ground. Locally common.

102. *Nacaduba kurava euplea* Fruhstorfer, 1916



Image 5: 74a. *Curetis bulis bulis*; 74b. *Curetis bulis bulis*; 75. *Curetis acuta dentata*; 76. *Heliophorus brahma brahma*; 77. *Heliophorus epicles latilimbata*; 78. *Heliophorus indicus*; 79. *Heliophorus moorei moorei*; 81. *Heliophorus tamu tamu*; 82. *Allotinus drumila drumila* female; 83. *Logania distanti massalia*; 84. *Miletus chinensis assamensis*; 85. *Taraka hamada mendesia*; 86. *Anthene emolus emolus*; 87. *Anthene lycanina lycambes*; 88. *Catochrysops panormus exiguus*; 89. *Catochrysops strabo strabo*; 90. *Chilades lajus lajus*; 91a. *Caleta elna noliteia*; 91b. *Caleta elna* aberration; 93. *Tarucus ananda*; 94. *Niphanda cymbia cymbia*; 95. *Everes argiades diporides*; 96. *Jamides alecto euryaces*; 97. *Jamides bochus bochus*

(Transparent Six-Lineblue): Records from Pakke-Kesang in September 2013 and from the Bhalukpong Ghat-Dinai trail at Pakke in April 2014. Rare, possibly overlooked.

103. *Nacaduba hermus nabo* Fruhstorfer, 1916 (Pale Four-Lineblue): Recorded from Langka and Sukhanala in April and May at Pakke. All individuals observed at moist soil at forest stream edges. Rare.

104. *Nacaduba pactolus continentalis* Fruhstorfer, 1916 (Large Four-Lineblue): Recorded from Bhalukpong Ghat at Pakke and at Pakke-Kesang in the post-monsoon season. Rare. This species is legally protected under the Schedule II of WPA.

105. *Nacaduba pavana vajuva* Fruhstorfer, 1916 (Small Four-Lineblue; ACN: Violet Four-Lineblue): Males recorded from Khari, Langka and Sukhanala at Pakke in April and June. Observed at moist soil at edges of forest streams. Uncommon, but local. Reported from Pakke by Athreya (2006b).

106. *Petrelaea dana* (de Nicéville, 1884) (Dingy Lineblue): Recorded from the Bhalukpong Ghat-Dinai trail and Langka at Pakke in April and May. Often seen in mixed congregations with other lineblues at stream and river banks. Common.

107. *Prosotas aluta coelestis* (Wood-Mason & de Nicéville, 1887) (Banded Lineblue): Recorded from Nameri West, Khari, Langka and Sukhanala at Pakke in the pre- and post-monsoon seasons. Uncommon. This species is legally protected under the Schedule II of WPA.

108. *Prosotas bhutea* (de Nicéville, 1884) (Bhutia Lineblue): Recorded at all locations at Pakke in the pre- and post-monsoon seasons, often at moist soil in the company of other lineblues. Locally common.

109. *Prosotas dubiosa indica* (Evans, 1925) (Tailless Lineblue): Recorded from the Bhalukpong Ghat-Dinai trail, Langka and Sukhanala at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. A single individual recorded from Bhalukpong Ghat on 16 September 2011 appeared to be an aberrant with peculiar markings UNH (Image 6: # 109b). Mostly seen at moist soil at stream edges in large congregations with other lineblues. Very common. Reported from Pakke by Athreya (2006b).

110. *Prosotas nora ardates* (Moore, 1875) (Common Lineblue): Recorded from all locations at Pakke, Pakke-

Kesang, Sessa Orchid WS and on the Bompou-Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons up to an altitude of 2,200m. Very common; not so common at Eaglenest.

111. *Lampides boeticus* (Linnaeus, 1767) (Pea Blue): Seen at all locations at Pakke, Sessa and Eaglenest from 110m to 2,400 m in the pre-monsoon, monsoon and post-monsoon seasons. Very common in the survey area. Reported by Evans (1914) from Dirang, by Gupta & Shukla (1988) from Elephant Flat, Chackoo and Tenga in West Kameng District and from Eaglenest by Athreya (2006b). This species is legally protected under the Schedule II of WPA.

112. *Leptotes plinius plinius* (Fabricius, 1793) (Zebra Blue): Recorded at all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Observed feeding on damp shoes. Common.

113. *Megisba malaya sikkima* Moore, 1884 (Malayan): Recorded at all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. A solitary record from Lama Camp at Eaglenest on 15 October 2012 at an altitude of 2,100m. Most current records of this species are from lower altitudes; Smith (1994) states its upper elevation as 870m, so SS's record may be of a straggler at higher elevations. Common at lower elevations.

114. *Neopithecops zalmora zalmora* (Butler, 1870) (Quaker): Recorded from Bhalukpong, Khari and Upper Dekorai at Pakke and Pakke-Kesang in the pre-monsoon, monsoon and post-monsoon seasons. Uncommon. Reported from Pakke by Athreya (2006b).

115. *Orthomiella pontis pontis* (Elwes, 1887) (Straightwing Blue): Recorded from the Lama Camp-Ramaling trail and the Bompou-Sessni trail at Eaglenest in April and May between altitudes of 1,200m and 2,200m. Smith (1994) stated that this flies in April between altitudes of 1980 and 2,070m; however, the records from this survey indicate that it does descend to lower altitudes, but is not as common. On 20 April 2012, on the trail from Lama Camp to Ramaling, SS counted 270 individuals of this species in congregations of 10 to 75 individuals at moist soil, all along the trail. Such a localized mass emergence of *O. pontis* was not witnessed in any other season or location and has not been reported recently. Observed feeding mainly at moist patches, but occasionally seen feeding on rotting crabs. Univoltine. Very common,



Image 6: 98. *Jamides celeno celeno*; 99. *Jamides elpis pseudoelpis*; 100. *Ionolyce helicon merguiana* ©KK; 101. *Nacaduba beroe gythion*; 102. *Nacaduba kurava euplea*; 103. *Nacaduba hermus nabo*; 104. *Nacaduba pactolus continentalis*; 105. *Nacaduba pavana vajuva*; 106. *Petrelaea dana*; 107. *Prosotas aluta coelestis*; 108. *Prosotas bhutea*; 109a. *Prosotas dubiosa indica*; 109b. *Prosotas dubiosa indica* aberration; 110. *Prosotas nora ardates*; 112. *Leptotes plinius plinius*; 113. *Megisba malaya sikkima*; 114. *Neopithecops zalmora zalmora*; 115. *Orthomiella pontis pontis*; 116. *Acytolepis pusa gisca*; 117. *Celastrina lavendularis limbata*

but local. This subspecies is legally protected under the Schedule II of WPA.

116. *Acytolepis puspa gisca* (Fruhstorfer, 1910) (Common Hedge Blue): Recorded at all locations at Pakke, Sessa and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons at altitudes from 110 to 2,200 m. Both sexes seen. Very common. Reported from Eaglenest and Pakke by Athreya (2006b).

117. *Celastrina lavendularis limbata* (Moore, 1879) (Plain Hedge Blue): Recorded from Bhalukpong Ghat-Dinai trail, Langka and Sukhanala at Pakke, Pakke-Kesang, Sessa and on the Bompou, Lama and the Sessni-Khelong trails at Eaglenest in the pre- and post-monsoon seasons. Common. Reported from Eaglenest by Athreya (2006b).

118. *Monodontides musina musinoides* (Swinhoe, 1910) (Grey Hedge Blue; ACN: Swinhoe's Hedge Blue): A single record on the Lama-Ramaling trail at Eaglenest on 09 September 2011 at an altitude of 1,900m. The identification key in Evans (1932), carried forward by Cantlie (1963), states that this species as well as *Lestranicus transpectus* has a spot at the base of 1b, UNH. However, on examining images in Pinratana (1981), Corbet et al. (1992) and Ek-Amnuay (2012) as well as images taken by KK from the Museum of Natural History, London leads us to believe that this identification feature is incorrectly characterized. The spot in question is actually at the base of 1c, not 1b, UNH for both these species. Details of this feature for this species can be seen at <http://www.ifoundbutterflies.org/sp/2919/Monodontides-musina> and <http://www.ifoundbutterflies.org/sp/1016/Lestranicus-transpectus>. Very rare.

119. *Lestranicus transpectus* (Moore, 1879) (White-banded Hedge Blue): Recorded from the Bhalukpong Ghat-Dinai trail and Langka at Pakke, at Pakke-Kesang and one record from Bompou at Eaglenest at 1,900m in the pre- and post-monsoon seasons. Common. Reported from Pakke by Athreya (2006b).

120. *Udara albocaerulea albocaerulea* (Moore 1879) (Albocaerulean): Recorded from Sessni at Eaglenest and at Sessa in March and April at altitudes between 1,200m to 1,300m. Recorded in the pre-monsoon seasons in western Himalaya (SS pers. obs.) and by Smith (1994) in Nepal, hence bi-voltine. Rare, but local.

121. *Udara dilectus dilectus* (Moore, 1879) (Pale Hedge Blue): Recorded from Langka at Pakke, Pakke-

Kesang, Sessa and at all locations at Eaglenest in the pre- and post-monsoon seasons up to an altitude of 2,300m. Both sexes seen. Very common at Pakke-Kesang in September; not so common elsewhere. Reported from Dirang by Evans (1914) and from Eaglenest by Athreya (2006b).

122. *Una usta usta* (Distant, 1886) (Singleton; ACN: Una): Recorded from the Pakke riverbank at Sochung, Pakke-Kesang on 18 and 22 September 2013 at an altitude of 1,040m. Two individuals seen at precisely the same location on two different days, and at different times during the day, feeding on flower nectar and mud-puddling at moist sandy soil. Rare and local. Reported from Pakke by Athreya (2006b). This subspecies is legally protected under the Schedule II of WPA.

123. *Pseudozizeeria maha maha* (Kollar, 1844) (Pale Grass Blue): Recorded from the Bhalukpong Ghat-Dinai trail, Langka and Sukhanala at Pakke and at Pakke-Kesang in the pre-monsoon and monsoon seasons. Population counts of this and the next species might be under-represented as not all individuals were identified to species level. Very common. Reported by Evans (1914) and Gupta & Shukla (1988) from Dirang, West Kameng District.

124. *Zizeeria karsandra* (Moore, 1865) (Dark Grass Blue): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Very common.

125. *Zizula hylax hylax* (Fabricius, 1775) (Tiny Grass Blue): Recorded from the Bhalukpong Ghat-Dinai trail, Langka and Sukhanala at Pakke, from Bompou at Eaglenest and at Tenga in the pre- and post-monsoon seasons up to an altitude of 1,900m. Common.

126. *Zizina otis otis* (Fabricius, 1787) (Lesser Grass Blue): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Very common. Reported by Gupta & Shukla (1988) from Dirang Dzong, West Kameng District.

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127. *Arhopala bazalus teesta* (de Nicéville, 1886) (Powdered Oakblue): Single record from the Khari trail on 4 October 2010 at Pakke. Very rare.

128. *Arhopala belphoebe* Doherty, 1889 (White-ringed Oakblue; ACN: Doherty's Oakblue, Large-spotted Oakblue): Sightings of two individuals at the stream

near Bhalukpong Ghat Anti-poaching Camp at Pakke on 23 April 2014 represent only the second record of this species from India. These individuals were identified using Evans (1957) and d'Abbrera (1986) and matched closely with the specimens available at the Natural History Museum, London (KK, pers. obs.). The two individuals were seen 30 minutes apart around noon in a forest patch at the edge of an unnamed stream. They stayed low in the undergrowth, and displayed a weak, fluttering flight typical of the smaller, tailless oakblues. Two other oakblues, *Arhopala perimuta* and *Arhopala centaurus* were seen in the same location and shared the habitat with *A. belpheobe*. SS had surveyed butterflies in the same area in May 2009, October 2010, March 2011 and September 2011, but had no previous sightings of this species. The only previous Indian record of this species was reported by Evans (1957) as being from "Assam". However, this specimen currently carries three labels: (a) "moreh E. Manipur 1000", (b) "ASSAM: Moreh. E. Manipur. 1,000 ft. 24.iv.1954 T. Norman B.M. 1959-340.", and (c) "BMNH(E) #1036865" (KK, pers. obs.). Thus, this specimen was from Manipur and the Pakke records, in addition to representing only the second Indian locality, have extended the known range of the species further northwest into western Arunachal Pradesh (Sondhi & Kunte 2016).

129. *Arhopala birmana birmana* (Moore, 1884) (Myanmarese Bushblue; ACN: Burmese Bushblue): Recorded 1 male near Ramaling, Eaglenest WS (4 Sep 2011); and 2 males and 1 female from Tenga (21 Oct 2012) at altitudes of 2,000m and 1,400m respectively. Rare.

130. *Arhopala centaurus pirithous* (Moore, 1884) (Centaur Oakblue): Recorded from the Bhalukpong Ghat-Dinai trail, Khari, Sukhanala and Tippi at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Common.

131. *Arhopala ganesa watsoni* Evans, 1912 (Tailless Bushblue): A single record by Hemant Ogale below Lama Camp at Eaglenest on 15 Oct 2012 at an altitude of 2,000m. Rare. This subspecies is legally protected under the Schedule II of WPA.

132. *Arhopala khamti* Doherty, 1891 (Luster Oakblue ACN: Doherty's Dull Oakblue; Khamti Oakblue): Solitary individuals recorded from Sukhanala at Pakke on 16 April 2012, 13 September 2013 and 27 July 2014. Only males recorded. Rare and local. No recent published records from India.

133. *Arhopala oenea* (Hewitson, 1869) (Lackluster Oakblue; ACN: Hewitson's Dull Oakblue): Solitary individuals recorded from Sukhanala at Pakke on 5 October 2010 and 16 April 2012. Rare and local. Male and female seen. This species is legally protected under the Schedule II of WPA.

134. *Arhopala perimuta perimuta* (Moore, 1858) (Yellowdisc Tailless Oakblue): Recorded from Sukhanala on 4 June 2009, and 27 July 2014 and from Bhalukpong Ghat on 22 April 2014 at Pakke. Rare.

135. *Arhopala silhetensis silhetensis* (Hewitson, 1862) (Sylhet Oakblue): Recorded from Sukhanala at Pakke on 16 April 2012 and 13 September 2013. Rare and local. This subspecies is legally protected under the Schedule II of WPA.

136. *Bindahara phocides phocides* (Fabricius, 1793) (Plane): Single record on 28 April 2013 from Langka at Pakke. Another record outside of the survey from Ditchu in April by Rohit Naniwadekar. Rare. This species is legally protected under the Schedule II of WPA.

137. *Cheritra freja evansi* Cowan, 1965 (Common Imperial): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Observed feeding on moist, discarded wrapper of edible dates, as well as sweaty clothes. Common. Reported from Pakke by Athreya (2006b).

138. *Ticherra acte acte* (Moore, 1858) (Blue Imperial): Recorded from all locations at Pakke and at Pakke-Kesang (1,200m altitude) in the pre-monsoon, monsoon and post-monsoon seasons. Common.

139. *Hypolycaena kina kina* (Hewitson, 1869) (Blue Tit): Recorded from Lama, Bompou and Sessni at Eaglenest, at Sessa and at Pakke-Kesang. Single record from Langka at Pakke in March 2011 at 220m. Observed feeding on moist shoes. Wynter-Blyth (1957), Smith (1994) and Kehimkar (2008) states its range from 875m to 2,100m, which seems to be its preferred range, but the sighting at Pakke seems to indicate that it could descend to lower altitudes. Very common at Pakke-Kesang, Eaglenest and Sessa. Reported by Gupta & Shukla (1988) from Chug, West Kameng District. This subspecies is legally protected under the Schedule II of WPA.

140. *Hypolycaena othona othona* Hewitson, 1865 (Orchid Tit): Recorded from Bhalukpong Ghat, the Seijosa



Image 7: 118. *Monodontides musina musinoides*; 119. *Lestranicus transpectus*; 120. *Udara albocaerulea albocaerulea*; 121. *Udara dilectus dilectus*; 122. *Una usta usta*; 124. *Zizeeria karsandra*; 126. *Zizina otis otis*; 127. *Arhopala bazalus teetsa*; 128. *Arhopala belpheobe*; 129. *Arhopala birmana birmana*; 130. *Arhopala centaurus pirithous*; 131. *Arhopala ganesa watsoni* ©HO; 132. *Arhopala khanti*; 133. *Arhopala oenea*; 134. *Arhopala perimuta perimuta*; 135. *Arhopala silhetensis silhetensis*; 136. *Bindahara phocides phocides* ©RN; 137. *Cheritra freja evansi*; 138. *Ticherra acte acte*; 139. *Hypolycaena kina kina*; 140. *Hypolycaena othona othona*; 141. *Hypolycaena erylus himavantus*; 142. *Zeltus amasa amasa*

West Bank-Khari trail, Langka and Sukhanala at Pakke in the pre-monsoon, monsoon, and post-monsoon seasons. Uncommon. This subspecies is legally protected under the Schedule I of WPA.

141. *Hypolycaena erylus himavantus* Fruhstorfer, 1912 (Common Tit): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Males very common, females rare. Reported from Eaglenest by Athreya (2006b).

142. *Zeltus amasa amasa* (Hewitson, 1865) (Fluffy Tit): Recorded from all locations at Pakke and Sessa in the pre-monsoon, monsoon and post-monsoon seasons up to 1,100m. Very common at Pakke. Reported by Gupta & Shukla (1988) from Bhalukpong and Tipi in West Kameng District. Reported from Eaglenest by Athreya (2006b).

143. *Chrysozephyrus duma duma* (Hewitson, 1869) (Large Green Hairstreak): A single record of this species during the survey. A male hairstreak was recorded from below Lama Camp at Eaglenest on 9 September 2012 at an altitude of 2,000m. The individual was sitting in the mid-canopy and only a few photographs could be taken. Outside the survey, a male of this species was recorded by Arjan Basu Roy on 13 August 2014 at Lama Camp in Eaglenest WS (<http://www.ifoundbutterflies.org/sp/3030/Chrysozephyrus-duma>). Very rare.

144. *Chrysozephyrus* sp. (Hairstreak sp.): An unidentified female recorded from below Lama Camp at Eaglenest on 15 October 2012. This could possibly be the female of *C. duma*. Very rare.

145. *Chrysozephyrus assamicus* (Tytler, 1915) (Assam Silver Hairstreak): A single record of a male on the Lama-Ramaling trail on 2 September 2011 at Eaglenest at an altitude of 2,000m. Interestingly, all the hairstreak sightings at Eaglenest were in September–October. In western Himalaya, SS has observed that hairstreaks are most active in May–June. Very rare. No recent published records from India. This species is legally protected under the Schedule II of WPA.

146. *Deudorix epijarbas epijarbas* (Moore, 1857) (Cornelian): Recorded from Bhalukpong Ghat at Pakke and at Tenga near Eaglenest in August, September and October from the foothills up to 1,350m. Only males sighted. An individual repeatedly settled on our sweaty clothes to feed. Rare.

147. *Horaga onyx onyx* (Moore, 1858) (Common Onyx): A single record on the Khari-Seijosa West Bank trail from Pakke on 3 June 2009. Rare. This subspecies is legally protected under the Schedule II of WPA.

148. *Rapala iarbus iarbus* (Fabricius, 1787) (Common Red Flash): A single record of a male from Seijosa at Pakke on 29 July 2014. The species was basking on the upper surfaces of leaves in the lower canopy of a tree, and kept returning repeatedly to its perch. Very rare.

149. *Rapala nissa ranta* Swinhoe, 1897 (Common Flash): Recorded from Lama Camp at Eaglenest and from Pakke-Kesang in May and September between altitudes of 1,000m to 2,000m. Mostly males recorded, feeding on flower nectar. Common at Pakke-Kesang in September; not so common elsewhere.

150. *Rapala pheretima petosiris* (Hewitson, 1863) (Copper Flash): Records from Bhalukpong Ghat and Sukhanala at Pakke in April and May. Rare in the survey area. Reported from Pakke by Athreya (2006b).

151. *Rapala refulgens* de Nicéville, 1891 (Refulgent Flash): A single, provisional record (pending specimen collection) of a male from Langka at Pakke on 28 April 2013. Very rare—no recent published records from India. This species is legally protected under the Schedule II of WPA.

152. *Rapala varuna orseis* (Hewitson, 1863) (Indigo Flash): Recorded from Bhalukpong Ghat, Seijosa and Sukhanala at Pakke in March, June and July. Rare. This subspecies is legally protected under the Schedule II of WPA.

153. *Ancema blanka minturna* (Fruhstorfer, 1912) (Silver Royal): Two records from Bhalukpong Ghat at Pakke on 2 August 2014. One individual repeatedly kept returning to the butterfly net to feed. Rare. This species is legally protected under the Schedule II of WPA.

154. *Ancema ctesia ctesia* (Hewitson, 1865) (Bi-spot Royal): Recorded from Sochung, Pakke-Kesang on 18, 19 and 22 September 2013 at an altitude of 1,100m. The three sightings on three separate days, possibly of the same individual seen mud-puddling at the banks of the Pakke River. An additional record from Bhalukpong Ghat at Pakke on 23 April 2014. This species has been recorded from Sukhanala at Pakke in May 2007, outside of the survey. Rare.

155. *Remelana jangala ravata* (Moore, 1866) (Chocolate Royal): Recorded from Bhalukpong Ghat, Khari, Langka and Sukhanala at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Common.

156. *Sinthusa nasaka amba* (Kirby, 1878) (Narrow Spark): Recorded only from Langka at Pakke on 22 March 2011, 14 May 2011 and 29 April 2013. Only males seen. Rare and local.

157. *Sinthusa virgo* (Elwes, 1887) (Pale Spark): A single record above Ramaling at Eaglenest on 25 May 2011. Very rare-few recent published records from India. This subspecies is legally protected under the Schedule I of WPA.

158. *Surendra quercetorum quercetorum* (Moore, 1858) (Common Acacia Blue): Recorded at all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Both sexes seen. Very common. Reported from Pakke by Athreya (2006b).

159. *Zinaspia todara distorta* (de Nicéville, 1887) (Silver-streaked Acacia Blue): Recorded from the Pakke Jungle Camp and Langka at Pakke on 4 May 2013 and 15 September 2013. Attracted to sweat-lined clothes, visiting sweaty clothes repeatedly. Rare. This subspecies is legally protected under the Schedule II of WPA.

160. *Loxura atymnus continentalis* Fruhstorfer, 1912 (Yamfly): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common.

161. *Yasoda tripunctata tripunctata* (Hewitson, 1863) (Branded Yamfly): Three individuals recorded on the New Khellong-Khellong trail at Eaglenest on 18 October 2012 at altitudes between 750m and 900m. Additionally, a single individual recorded in August 2014 on the Bhalukpong Ghat-Dinai trail at Pakke. The records at Eaglenest represent highest altitude at which we have recorded this species in northeastern India; most previous sightings have been in the foothills. Rare. This subspecies is legally protected under the Schedule II of WPA.

162. *Spindasis lohita himalayanus* (Moore, 1884) (Long-banded Silverline): Recorded from the Bhalukpong Ghat-Dinai trail, Khari-Seijosa West Bank trail and Sukhanala at Pakke and at Pakke-Kesang in the pre-monsoon, monsoon and post-monsoon seasons. Observed feeding on sweaty clothes. On 11 September

2011, at Sessa, a mass emergence of males occurred. Twenty-two individuals were counted at the trail, mostly localized around a small stretch of the road. Recorded up to an altitude of 1,200m. Very common. Reported from Eaglenest and Pakke by Athreya (2006b). This subspecies is legally protected under the Schedule II of WPA.

163. *Spindasis syama peguanus* (Moore, 1884) (Club Silverline): Recorded from Langka, Khari and along the NEC road at Pakke in the pre- and post-monsoon seasons. Both WSF and DSF seen (Image 8: # 163a and 163b). Rare.

Family Nymphalidae, Subfamily Apaturinae

164. *Mimathyma ambica ambica* Kollar, (1844) (Indian Purple Emperor): Recorded from Langka at Pakke, Sessa Orchid and Lama-Ramaling trail at Eaglenest in the pre- and post-monsoon seasons. Smith (1994) and Kehimkar (2008) report that this species flies between 609m to 2,600m; however SS had four records from Langka in March, May and October at an altitude of 220m. SS also has records of this species at altitudes of 100–200 m from eastern Arunachal Pradesh (Namdapha) and Meghalaya (Garo Hills). Hence this species is found at lower altitudes than currently stated in literature. Common in the areas surveyed. Reported as very common by Betts (1950). Reported by Gupta & Shukla (1988) from Dirang in West Kameng District and by Athreya (2006b) from Eaglenest.

165. *Dilipa morgiana* (Westwood, 1850) (Golden Emperor): A single record from mid-way on the trail from Bompou to Sessni at Eaglenest on 8 September 2011 at an altitude of 1,500m. The butterfly was basking high up in the tree canopy, where it flew for close to 30 minutes permitting it to be properly observed through binoculars. Very rare. This species is legally protected under the Schedule I of WPA.

166. *Euripus consimilis consimilis* (Westwood, 1850) (Painted Courtesan): A single record alongside the road near Tipi on 4 September 2011 at Pakke. Very rare. This subspecies is legally protected under the Schedule II of WPA.

167. *Euripus nyctelius nyctelius* (Doubleday, 1845) (Courtesan): Recorded from the Khari-West Bank Seijosa trail at Pakke, Pakke-Kesang, and Sessa in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,200m. Only males seen. Rare.

168. *Herona marathus marathus* Doubleday, 1848 (Pasha): Records from Langka and Sukhanala on 2 October

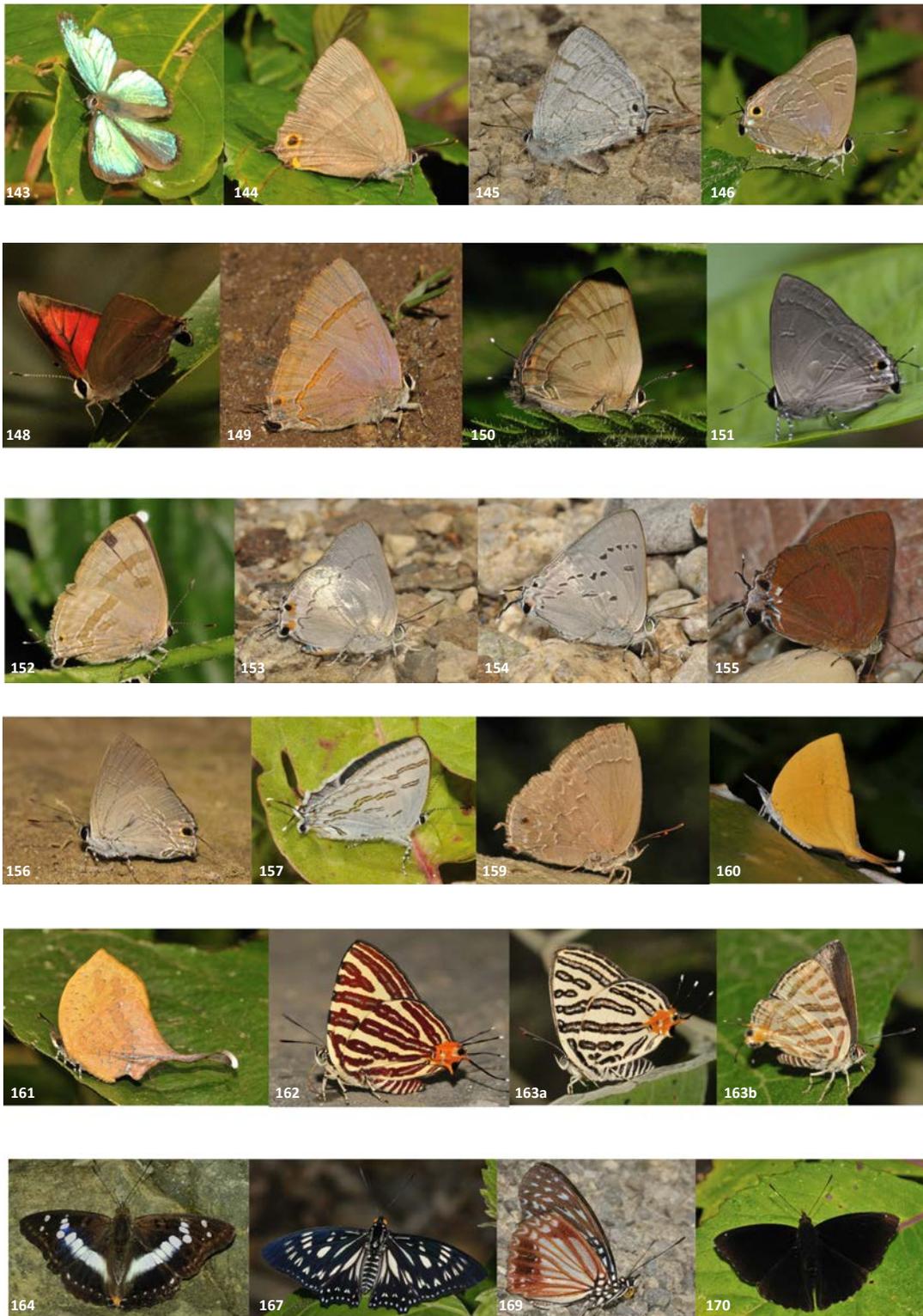


Image 8: 143. *Chrysozephyrus duma*; 144. *Chrysozephyrus* sp.; 145. *Chrysozephyrus assamicus*; 146. *Deudorix epijarbas epijarbas*; 148. *Rapala iarbus iarbus*; 149. *Rapala nissa ranta*; 150. *Rapala pheretima petosiris*; 151. *Rapala refulgens*©TK; 152. *Rapala varuna orseis*; 153. *Ancema blanka minturna*; 154. *Ancema ctesia ctesia*; 155. *Remelana jangala ravata*; 156. *Sinthusa nasaka amba*; 157. *Sinthusa virgo*; 159. *Zinaspia todara distorta*; 160. *Loxura atymnus continentalis*; 161. *Yasoda tripunctata tripunctata*; 162. *Spindasis lohita himalayanus*; 163a. *Spindasis syama peguanus*; 163b. *Spindasis syama peguanus*; 164. *Mimathyma ambica ambica*; 167. *Euripus nyctelius nyctelius*; 169. *Hestinalis nama nama*; 170. *Rohana parisatis parisatis*

2010 and 17 May 2011 at Pakke. Rare.

169. *Hestinalis nama nama* (Doubleday, 1844) (Circe): Recorded from all locations at Pakke-Kesang, Sessa and Eaglenest in the pre- and post-monsoon seasons. Records from Bhalukpong-Dinai trail and Dichu at Pakke. Common between 750–2,200 m, but occasionally seen in the foothills. Reported as fairly common by Betts (1950) and reported by Gupta & Shukla (1988) from numerous locations in West Kameng District and by Athreya (2006b) from Eaglenest.

170. *Rohana parisatis parisatis* (Westwood, 1850) (Black Prince): Recorded from Bhalukpong Ghat, Langka and Sukhanala at Pakke, Pakke-Kesang, from Sessa and from Khellong at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Seen feeding on human excreta. Only males recorded. Very common. Reported as fairly common by Betts (1950). Reported by Athreya (2006b) from Eaglenest.

171. *Rohana parvata parvata* (Moore, 1857) (Brown Prince): A single record mid-way between Bompou and Sessni on 16 October 2012 in Eaglenest at an altitude of 1,500m. Attracted to human perspiration; kept returning repeatedly to feed on the sweat on our clothes and bodies. Very rare.

172. *Sephisa chandra chandra* (Moore, 1858) (Eastern Courtier): A single unconfirmed record in flight mid-way between Bompou and Sessni at Eaglenest on 21 April 2012 at an altitude of 1,500m. Very rare. Reported by Gupta & Shukla (1988) from Naphra in West Kameng District. This subspecies is legally protected under the Schedule I of WPA.

Family Nymphalidae, Subfamily Biblidinae

173. *Ariadne ariadne pallidior* (Fruhstorfer, 1899) (Angled Castor): Recorded from all locations at Pakke and the Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,400m. Common. Reported by Athreya (2006b) from Pakke.

174. *Ariadne merione tapestrina* (Moore, 1884) (Common Castor): Recorded from all locations at Pakke and a single record from Lumta, Pakke-Kesang (1,000m altitude) in the pre-monsoon, monsoon and post-monsoon seasons. Very common at low elevations. Reported by Athreya (2006b) from Eaglenest and Pakke.

Family Nymphalidae, Subfamily Cyrestinae

175. *Chersonesia risa risa* (Doubleday, 1848) (Common Maplet): Recorded from Sukhanala at Pakke and at Sessa in September and October up to an altitude of 1,200m. Rare in the survey area. Reported as fairly common by Betts (1950). Reported by Athreya (2006b) from Eaglenest and Pakke.

176. *Cyrestis thyodamas thyodamas* Boisduval, 1846 (Map Butterfly; ACN: Common Map): Recorded from all locations at Pakke and Pakke-Kesang in the pre-monsoon, monsoon and post-monsoon seasons. Common. Reported as common by Betts (1950). Also reported by Gupta & Shukla (1988) from Dirang Dzong in West Kameng District and by Athreya (2006b) from Eaglenest.

Family Nymphalidae, Subfamily Charaxinae

177. *Charaxes arja arja* Felder & Felder, 1867 (Pallid Nawab): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Common. Could be more common as many individuals in flight could not be identified to species level.

178. *Charaxes bhārata* Felder & Felder (Indian Nawab): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Single record from Sochung, Pakke-Kesang at 1,040m altitude. Common. Reported as very common by Betts (1950). Also, reported by Athreya (2006b) from Pakke. Till recently, the Indian population of this species, was known as the Common Nawab *Charaxes athamas athamas*. Recent genetic work has raised the Indian population to a separate species, *Charaxes bhārata* (Toussaint et al. 2015).

179. *Charaxes bernardus hierax* (Felder & Felder, 1867) (Tawny Rajah): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Forms *corax*, *hipponax*, *hierax* and *pleistonax* recorded. Very common.

180. *Charaxes kahruba* (Moore, 1895) (Variegated Rajah): Recorded from the Bhalukpong Ghat-Dinai trail, the Seijosa West Bank-Khari trail, Sukhanala at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Common. This species is legally protected under the Schedule II of WPA.

181. *Charaxes marmax marmax* Westwood, 1847 (Yellow Rajah): Recorded from Sukhanala at Pakke in the pre- and post-monsoon seasons. Rare. This subspecies is

legally protected under the Schedule II of WPA.

182. *Charaxes narcaeus aborica* (Evans, 1924) (Chinese Nawab; ACN: China Nawab): Single unconfirmed record by SS from below Lama camp at Eaglenest on 5 September 2011 at an altitude of 2,000m. The individual was observed through binoculars sitting on a tree. Very rare.

Family Nymphalidae, Subfamily Danainae

183. *Danaus chrysippus chrysippus* (Linnaeus, 1758) (Plain Tiger): Recorded from all locations at Pakke and Sessa in the pre- and post-monsoon seasons up to an altitude of 1,200m. At Sessa, observed repeatedly visiting a moth screen with a mercury vapour bulb at night. Common.

184. *Danaus genutia genutia* (Cramer 1779) (Striped Tiger; ACN: Common Tiger): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common in the survey area. Reported from Doimara, West Kameng by Betts (1950).

185. *Parantica aglea melanoides* Moore, 1883 (Glassy Tiger): Recorded from all locations at Eaglenest, Pakke, Pakke-Kesang and Sessa in the pre-monsoon, monsoon and post-monsoon seasons. Very common in the survey area. Reported as common by Betts (1950) and by Athreya (2006b) from Eaglenest and Pakke.

186. *Parantica melaneus plataniston* (Fruhstorfer, 1910) (Chocolate Tiger): Recorded from all locations at Eaglenest, Pakke, Pakke-Kesang and Sessa in the pre-monsoon, monsoon and post-monsoon seasons between altitudes of 110m and 2,200 m. Very common at Pakke and Sessa, not so common at Eaglenest. Reported by Athreya (2006b) from Eaglenest and Pakke.

187. *Parantica sita sita* (Kollar, 1844) (Chestnut Tiger): Recorded from all locations at Eaglenest, Pakke, Pakke-Kesang and Sessa in the pre- and post-monsoon seasons from the foothills up to 2,200m. Very common, more numerous than *P. melaneus*. Reported by Athreya (2006b) from Eaglenest and Pakke. No records of Pedong Tiger *P. pedonga* despite netting and examining many individuals in hand.

188. *Tirumala limniace exoticus* (Gmélin, 1790) (Blue Tiger): Recorded from all locations at Pakke and Sessa in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,200m. Common.

189. *Tirumala septentrionis septentrionis* (Butler, 1874) (Dark Blue Tiger): Recorded from all locations from Pakke, Pakke-Kesang, Sessa and from Khellong at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Common. Reported by Athreya (2006b) from Pakke.

190. *Euploea algea deione* Westwood, 1848 (Long-branded Blue Crow): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Common.

191. *Euploea core core* (Cramer, 1780) (Common Crow; ACN: Indian Crow): Two records from Sukhanala at Pakke in April 2012 and July 2014. Rare in the survey area.

192. *Euploea klugii klugii* Moore, 1858 (Blue King Crow): Recorded from the Khari trail, Langka and Sukhanala at Pakke in March and October. Uncommon.

193. *Euploea midamus rogenhoferi* Felder & Felder, 1865 (Blue-spotted Crow): Recorded from Khari, Langka, Seijosa, Sukhanala and Upper Dekorai at Pakke in the pre-monsoon, monsoon and post-monsoons seasons. Rare. Reported by Athreya (2006b) from Eaglenest and Pakke. This subspecies is legally protected under the Schedule II of WPA.

194. *Euploea mulciber mulciber* (Cramer, 1777) (Striped Blue Crow): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 2,400m. Very common; both sexes seen but females less common. Reported by Athreya (2006b) from Eaglenest and Pakke. This subspecies is legally protected under the Schedule IV of WPA.

195. *Euploea radamanthus radamanthus* (Fabricius, 1793) (Magpie Crow): Recorded from all locations at Pakke, at Sessa and Khellong at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 750m. Very common at low elevations in the survey area. Reported by Betts (1950) from Charduar, Sonitpur District in Assam and by Athreya (2006b) from Eaglenest and Pakke.

196. *Euploea sylvester hopei* Felder & Felder, 1865 (Double-branded Blue Crow): Recorded from all locations at Pakke in the pre-monsoon and monsoon seasons. Common.



Image 9: 171. *Rohana parvata parvata*; 173. *Ariadne ariadne pallidior*; 174. *Ariadne merione tapestrina*; 175. *Chersonesia risa risa*; 176. *Cyrestis thyodamas thyodamas*; 177a. *Charaxes arja arja*; 177b. *Charaxes arja arja*; 178a. *Charaxes bhārata*; 178b. *Charaxes bhārata*; 179a. *Charaxes bernardus hierax*; 179b. *Charaxes bernardus hierax*; 180. *Charaxes kahruba*; 181. *Charaxes marmax marmax*; 184. *Danaus genutia genutia*; 185. *Parantica aglea melanoides*; 186. *Parantica melaneus plataniston*; 187. *Parantica sita sita*; 188. *Tirumala limniace exoticus*; 189. *Tirumala septentrionis septentrionis*; 190. *Euploea algea deione*; 192. *Euploea klugii klugii*; 193. *Euploea midamus rogenhoferi*; 194. *Euploea mulciber mulciber* female; 195. *Euploea radamanthus radamanthus*; 196. *Euploea sylvester hopei*

Family Nymphalidae, Subfamily Heliconiinae

197. *Acraea issoria issoria* (Hübner, 1819) (Yellow Coster): Recorded from all locations at Eaglenest and from Sessa in the pre- and post-monsoon seasons. On 17 October 2012 a mass emergence of this species had occurred, with 15 individuals being counted at a single location and dozens of caterpillars seen on its larval foodplant. Seen between altitudes of 900m and 2,000m. Very common; both sexes seen but males more common. This subspecies is legally protected under the Schedule II of WPA.

198. *Argynnis childreni childreni* Gray, 1831 (Large Silverstripe): Two records from Lama and Bompou at Eaglenest on 11 September 2011 and 17 October 2012 respectively at altitudes of 1,200m and 1,900m. Rare. Reported by Evans (1914) and by Gupta & Shukla (1988) from Naphra in West Kameng District.

199. *Argynnis hyperbius hyperbius* (Linnaeus, 1763) (Tropical Fritillary; ACN: Indian Fritillary): Recorded from Pakke-Kesang, Bompou and Ramaling at Eaglenest in the pre- and post-monsoon seasons between altitudes of 1,000m and 1,900m. Common. Reported by Evans (1914) and Gupta & Shukla (1988) from numerous locations in West Kameng District. Reported by Athreya (2006b) from Eaglenest and Pakke.

200. *Cethosia biblis tisamena* Fruhstorfer, 1912 (Red Lacewing): Recorded from Sukhanala and Langka at Pakke, Pakke-Kesang and all locations at Eaglenest and Sessa in the pre- and post-monsoon seasons up to an altitude of 2,300m. Both sexes seen, but males more common. Very common at Pakke-Kesang, Sessa and Eaglenest, not so common at Pakke. Reported as fairly common by Betts (1950). Also reported by Gupta & Shukla (1988) from numerous locations in West Kameng District and by Athreya (2006b) from Eaglenest and Pakke.

201. *Cethosia cyane cyane* (Drury, 1770) (Leopard Lacewing): Recorded from all locations at Pakke and at Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Very common at Pakke, not so common at Sessa. Reported by Athreya (2006b) from Eaglenest and Pakke.

202. *Cirrochroa aoris aoris* Doubleday, 1847 (Large Yeoman): Recorded from all locations at Pakke and at Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Females rare. Very common at Pakke, not so common

at Sessa and Pakke-Kesang. Reported by Gupta & Shukla (1988) from numerous locations in West Kameng District. Reported by Athreya (2006b) from Eaglenest and Pakke.

203. *Cirrochroa tyche mithila* Moore, 1872 (Common Yeoman): Recorded from all locations at Pakke and at Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Very common at Pakke, not so common at Sessa and Pakke-Kesang.

204. *Cupha erymanthis lotis* (Sulzer, 1776) (Rustic): Recorded from the Bhalukpong-Dinai trail at Pakke and at Sessa in pre- and post-monsoon seasons up to an altitude of 1,200m. Rare in the survey area. Reported by Athreya (2006b) from Eaglenest.

205. *Phalanta phalantha phalantha* (Drury, 1773) (Common Leopard): Recorded from Langka, Seijosa and Sukhanala at Pakke in March, May and July. Uncommon.

206. *Vagrans egista sinha* (Kollar, 1844) (Vagrant): Recorded from Langka and Nameri West at Pakke, Pakke-Kesang and Sessa in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,200m. At Lumta village, Pakke-Kesang, swarms of this species seen feeding on animal droppings near a village hut, where village hens were devouring them with ease. Very common.

207. *Vindula erota erota* (Fabricius, 1793) (Cruiser): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and from Lama, Bompou and the Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 2,200m. Females rare. Very common. Reported by Athreya (2006b) from Pakke.

Family Nymphalidae, Subfamily Libytheinae

208. *Libythea lepita lepita* Moore, 1858 (Common Beak): Recorded from Sukhanala on 24 March 2011 at Pakke and near Sessni at Eaglenest on 16 October 2012 at altitudes of 110m and 1,500m respectively. Rare. This subspecies is legally protected under the Schedule II of WPA.

209. *Libythea myrrha sanguinalis* Fruhstorfer, 1898 (Club Beak): Recorded from Langka and Sukhanala at Pakke in the pre- and post-monsoon seasons. Rare. Reported by Gupta & Shukla (1988) from Charduar in Sonitpur district in Assam.

Family Nymphalidae, Subfamily Limenitidinae

210. *Athyma asura asura* Moore, 1858 (Studded Sergeant): Two males recorded from Bhalukpong on 15 and 16 September 2011 at Pakke and a female recorded from Sessa at 1,300m on 21 October 2012. A male observed feeding on human perspiration on our bags. Rare. This subspecies is legally protected under the Schedule II of WPA.

211. *Athyma cama cama* Moore, 1858 (Orange Staff Sergeant): Recorded males from Sessa and Pakke-Kesang and a female at Ramaling, Eaglenest in the post-monsoon season at altitudes between 1,000m and 1,900m. Uncommon. Reported by Athreya (2006b) from Eaglenest and Pakke.

212. *Athyma inara inara* Doubleday, 1848 (Color Sergeant): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Only males seen. Common. Reported by Athreya (2006b) from Pakke.

213. *Athyma kanwa phorkys* Fruhstorfer, 1913 (Dot-dash Sergeant): Recorded from the Seijosa West Bank-Sukhanala trail at Pakke on 5 October 2010 and 16 April 2012. Rare. This subspecies is legally protected under the Schedule II of WPA.

214. *Athyma orientalis* Elwes, 1888 (Elongated Sergeant): Recorded from all locations at Pakke-Kesang, Eaglenest and Sessa between 1,200–2,000 m in the pre- and post-monsoon seasons. Previously treated as subspecies of *Athyma opalina orientalis* but raised to species level by Gallo & Bruna (2013). Common. Reported from Dirang in October by Evans (1914). Also reported by Gupta & Shukla (1988) from Dirang Dzong in West Kameng District and by Athreya (2006b) from Eaglenest.

215. *Athyma perius perius* (Linnaeus, 1758) (Common Sergeant): Recorded from Khari and Sukhanala at Pakke in the pre- and post-monsoon seasons. Rare. Reported as common from Rupa, West Kameng District by Betts (1950). Reported by Athreya (2006b) from Pakke.

216. *Athyma pravara acutipennis* Fruhstorfer, 1906 (Unbroken Sergeant): Recorded from Bhalukpong, Langka, Sukhanala and Tipi at Pakke in the pre- and post-monsoon seasons. Observed feeding on human perspiration on our bags. Uncommon. This subspecies is legally protected under the Schedule II of WPA.

217. *Athyma ranga ranga* Moore, 1858 (Blackvein

Sergeant): Recorded from Bhalukpong, Khari, Langka and Sukhanala at Pakke in pre-monsoon, monsoon and post-monsoon seasons. Uncommon. Reported as common by Betts (1950) from Doimara, West Kameng District. Reported by Athreya (2006b) from Pakke. This subspecies is legally protected under the Schedule II of WPA.

218. *Athyma selenophora selenophora* (Kollar, 1844) (Staff Sergeant): Recorded from Bhalukpong Ghat at Pakke, Pakke-Kesang and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Only males seen. Uncommon. Reported by Gupta & Shukla (1988) from Elephant Flat in West Kameng District.

219. *Athyma zeroa zeroa* Moore, 1872 (Small Staff Sergeant): Recorded from Langka and Khari at Pakke and Sessa in the pre- and post-monsoon seasons up to an altitude of 1,200m. Only males seen. Rare. Reported by Gupta & Shukla (1988) from Elephant Flat in West Kameng District. Reported by Athreya (2006b) from Eaglenest.

220. *Auzakia danava danava* (Moore, 1858) (Commodore): Recorded from Sessa in September and a single record from Langka at Pakke on 13 April 2012. Only males seen. Wynter-Blyth (1957) states that this species is recorded from low elevations to 2,400m while Smith (1994) records its elevation between 880 and 1,800m. SS's lowest altitudinal record in western Himalaya is 1,000m. Hence, this record from Langka, Pakke at 220m shows that it does occasionally descend to lower altitudes in eastern Himalaya. Rare. Reported by Gupta & Shukla (1988) from Dirang Dzong in West Kameng District.

221. *Bhagadatta austenia austenia* (Moore, 1872) (Grey Commodore): Recorded at Sessa and on the Bompou-Sessni-New Khellong trail in the pre- and post-monsoon seasons at altitudes between 1,000m and 1,400m. Common in the survey area. Recorded from Doimara, West Kameng District by Betts (1950) and by Athreya (2006b) from Eaglenest. This subspecies is legally protected under the Schedule II of WPA.

222. *Parasarpa zayla zayla* (Doubleday, 1848) (Bicolor Commodore): Recorded from Sessa and from Lama and Sessni at Eaglenest in September and October at altitudes between 1,200m and 1,900m. Observed feeding on plastic wrappers containing rotting fish, on the rotting fish itself and sweaty clothes and bags. Rare. Reported by Gupta & Shukla (1988) from numerous locations in West Kameng District.



Image 10: 197. *Acraea issoria issoria*; 199. *Argynnis hyperbius hyperbius*; 200. *Cethosia biblis tisamena*; 201. *Cethosia cyane cyane*; 202. *Cirrochroa aoris aoris*; 203. *Cirrochroa tyche mithila*; 204. *Cupha erymanthis lotis*© KK; 205. *Phalanta phalantha phalantha*; 206. *Vagrans egista sinha*; 207. *Vindula erota erota*; 208. *Libythea lepita lepita*; 209. *Libythea myrrha sanguinalis*; 210. *Athyma asura asura*; 211. *Athyma cama cama*; 212. *Athyma inara inara*; 213. *Athyma kanwa phorkys*; 214. *Athyma orientalis*; 216. *Athyma pravara acutipennis*; 217. *Athyma ranga ranga*; 218. *Athyma selenophora selenophora*; 219. *Athyma zeroca zeroca*; 220. *Auzakia danava danava*; 221. *Bhagadatta austenia austenia*; 222. *Parasarpa zayla zayla*

223. *Sumalia daraxa daraxa* (Doubleday, 1848) (Green Commodore): Recorded from Khari and Sukhanala at Pakke, Sessa and the Bompou-Sessni-New Khellong trail at Eaglenest in the pre- and post-monsoon seasons between altitudes of 110m and 1,400m. Seen feeding on human excreta. Common at 900–1,400 m; not so common at lower altitudes. Reported by Gupta & Shukla (1988) from Dirang Dzong in West Kameng District and by Athreya (2006b) from Eaglenest and Pakke.

224. *Sumalia zulema* (Doubleday, 1848) (Scarce White Commodore): A single record on the forest trail from Pakke-Kesang to Sochung on 22 September 2013 at an altitude of 1,200m. The individual kept patrolling the trail for over 30 minutes, forcing us to follow the butterfly up and down the track for this duration. There were at least two other unconfirmed sightings of this species at Sochung. Rare. This species is legally protected under the Schedule I of WPA.

225. *Bassarona durga durga* (Moore, 1858) (Blue Duke): Recorded from the Sochung and Riloh trails at Pakke-Kesang, Sessa and Sessni at Eaglenest in September and October at altitudes between 900m and 1,400m. This species largely perches high up in the tree canopy level, basking, descending to moist patches near streams infrequently. Rare. This subspecies is legally protected under the Schedule II of WPA.

226. *Dophla evelina derma* (Kollar, 1848) (Redspot Duke): A single record on the Seijosa West Bank-Sukhanala forest trail at Pakke on 29 April 2013. Very rare.

227. *Euthalia aconthea garuda* (Moore 1858) (Common Baron): Single record of a female from Bhalukpong Ghat at Pakke on 15 September 2013. Very rare. Very rare in the survey area.

228. *Euthalia alpheda jama* (Felder & Felder, 1867) (Streaked Baron): A single record of an individual below New Khellong at Eaglenest on 18 October 2012 at an altitude of 900m. Very rare.

229. *Euthalia francae francae* (Gray, 1846) (French Duke): Three records from the Bompou-Sessni trail at Eaglenest on 6 and 7 September 2011 at altitudes between 1,500m and 1,700m. Other records in the same area outside the survey in May 2013. Rare. This species is legally protected under the Schedule II of WPA.

230. *Euthalia iva* (Moore, 1858) (Grand Duke): Two

individuals recorded from within Sessa Orchid WS on 12 September 2011 and a third record from the Bompou-Sessni trail at Eaglenest on 17 October 2012 at altitudes between 1,200m and 1,400m. Generally basks very high up in the upper canopy of tall broadleaved trees, near forest streams. Rare. This species is legally protected under the Schedule I of WPA.

231. *Euthalia lubentina lubentina* (Cramer, 1777) (Gaudy Baron): Two males recorded from Langka and Khari at Pakke on 2 and 4 October 2010 respectively. Rare. This species is legally protected under the Schedule IV of WPA.

232. *Euthalia monina kesava* (Moore, 1859) (Powdered Baron): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Both sexes seen, although males were more abundant. Seen feeding on rotting fruit. Very common. Reported by Athreya (2006b) from Pakke.

233. *Euthalia nara nara* (Moore, 1859) (Bronze Duke): A single record from Sessa Orchid WS on 21 October 2012 at an altitude of 1,200m. Spotted feeding at the Army waste disposal area. Very rare. This subspecies is legally protected under the Schedule II of WPA.

234. *Euthalia phemius phemius* (Doubleday, 1848) (White-edged Blue Baron): Recorded from the Bhalukpong-Dinai trail and Tippi at Pakke, Sessa and Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Both sexes seen, but males more common. A female at Tippi was feeding on banana peels, returning repeatedly to the same spot. Common. Reported by Athreya (2006b) from Eaglenest.

235. *Lexias dirtea khasiana* (Swinhoe, 1893) (Dark Archduke): All individuals recorded from the same locality on the Bhalukpong forest trail at Pakke in March and October. Males and a single female seen. Uncommon, but local. This subspecies is legally protected under the Schedule II of WPA.

236. *Lebadea martha martha* (Fabricius, 1787) (Knight): Two records from Langka at Pakke on 22 March 2011. Rare in the survey area. Reported by Athreya (2006b) from Pakke.

237. *Moduza procris procris* (Cramer, 1777) (Commander): Recorded from the Bhalukpong Ghat-

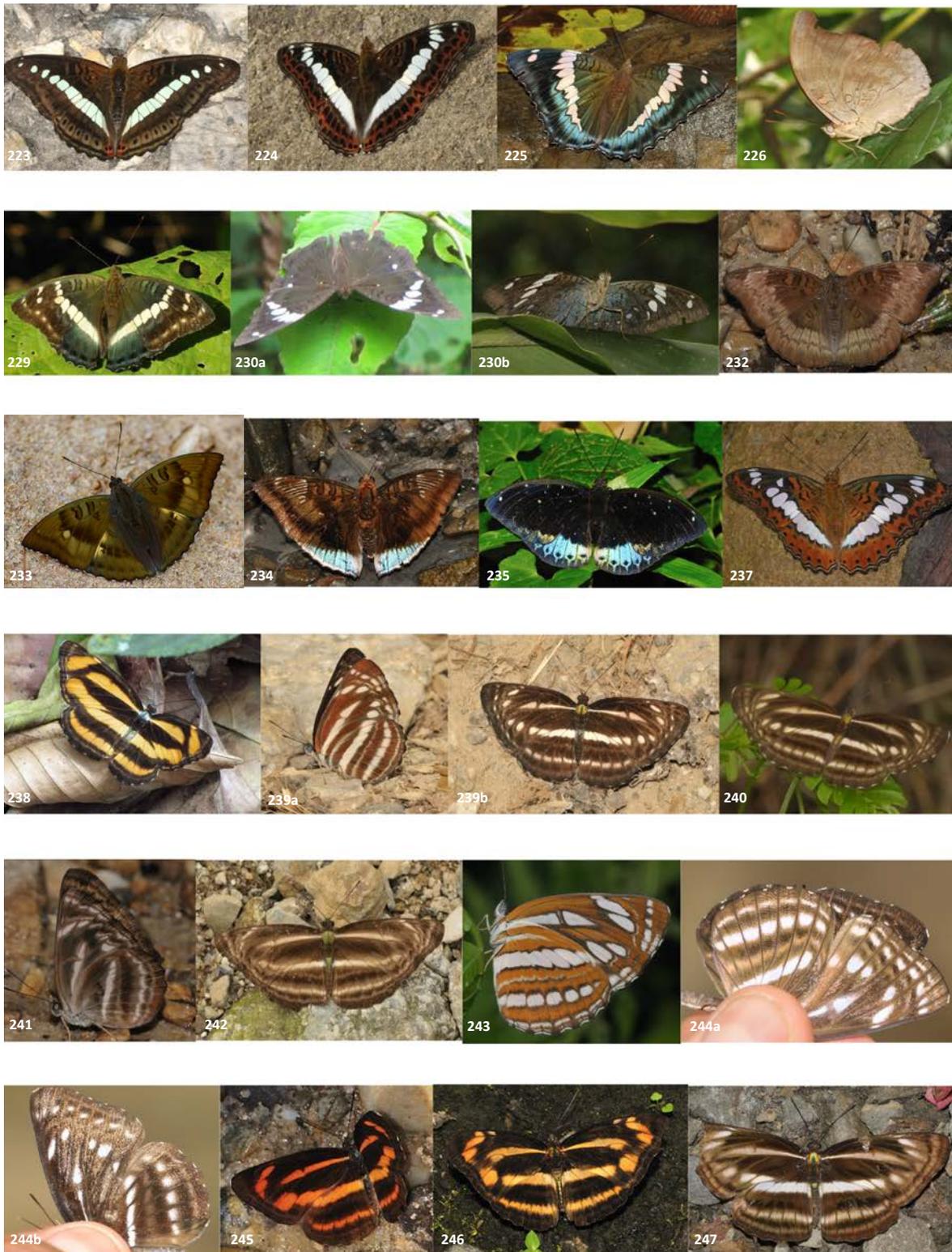


Image 11: 223. *Sumalia daraxa daraxa*; 224. *Sumalia zulema*; 225. *Bassarona durga durga*; 226. *Dophla evelina derma*; 229. *Euthalia franciae franciae*; 230a. *Euthalia iva*; 230b. *Euthalia iva*; 232. *Euthalia monina kesava*; 233. *Euthalia nara nara* © KK; 234. *Euthalia phemius phemius*; 235. *Lexias dirtea khasiana*; 237. *Moduza procris procris*; 238. *Lassipa viraja viraja* © PR; 239a. *Neptis cf. nata adipala*; 239b. *Neptis cf. nata adipala*; 240. *Neptis cf. clinia susruta*; 241. *Neptis harita harita*; 242. *Neptis pseudovikasi*; 243. *Neptis hylas varmona*; 244a. *Neptis magadha khasiana*; 244b. *Neptis magadha khasiana*; 245. *Neptis miah miah*; 246. *Neptis radha radha*; 247. *Neptis sankara amba*

Dinai trail, the Khari trail and Sukhanala at Pakke and Sessa Orchid WS in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,200m. Common. Reported as very common by Betts (1950). Reported by Athreya (2006b) from Pakke.

238. *Lasippa viraja viraja* (Moore, 1872) (Yellowjack Sailer): Single record by Purnendu Roy during the survey on 16 April 2012 from Sukhanala at Pakke. Very rare.

239. *Neptis nata adipala* Moore, 1872 (Clear Sailer; ACN: Burmese Sailer): Numerous records of *Neptis nata adipala* and *Neptis clinia susruta* from Pakke and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons. Given the seasonal and individual variation in these species, it is best to separate these species by examining male genitalia. As no collections were made, it was not possible to determine the species identity with a high degree of certainty. Very common.

240. *Neptis clinia susruta* Moore, 1872 (Sullied Sailer): See notes above. The common name of this species has been variously listed as Creamy Sailer, Sullied Sailer and Clear Sailer because of the historically confused taxonomy. Gupta & Shukla (1988) report ssp. *susruta* from Elephant Flat and Bhalukpong in West Kameng District. Very common.

241. *Neptis harita harita* Moore, 1875 (Dingiest Sailer): Records from Bhalukpong, Khari and Sukhanala at Pakke in the pre- and post-monsoon seasons. An unconfirmed sighting from Sessni at Eaglenest of either *Neptis harita* or *Neptis pseudovikasi*. Uncommon.

242. *Neptis pseudovikasi* (Moore, 1899) (False Dingy Sailer): A single record from Lumta village, Pakke-Kesang on 21 September 2013 at an altitude of 1,020m. Very rare (possibly overlooked). Reported by Gupta & Shukla (1988) from Elephant Flat, West Kameng District.

243. *Neptis hylas varmona* Moore, 1872 (Common Sailer): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Very common. Reported by Athreya (2006b) from Eaglenest and Pakke.

244. *Neptis magadha khasiana* Moore, 1872 (Spotted Sailer): A single record from Langka at Pakke on 2 October 2010. Very rare. This subspecies is legally protected under the Schedule II of WPA.

245. *Neptis miah miah* Moore, 1857 (Small Yellow

Sailer): Recorded at stream edges from Bhalukpong, Langka and Sukhanala at Pakke in the pre- and post-monsoon seasons. Uncommon in the survey area. Reported by Gupta & Shukla (1988) from Elephant Flat in West Kameng District. Also reported by Athreya (2006b) from Eaglenest.

246. *Neptis radha radha* Moore, 1857 (Great Yellow Sailer): Recorded from Sessa and near Sessni at Eaglenest in the pre- and post-monsoon seasons at altitudes between 1,000m and 1,400m. Rare. This subspecies is legally protected under the Schedule II of WPA.

247. *Neptis sankara amba* Moore, 1858 (Broad-banded Sailer): Recorded from the Khari trail and Sukhanala at Pakke, Pakke-Kesang and Sessa in the pre- and post-monsoon seasons at altitudes between 110m and 1,200m. Observed feeding on carnivore scat. Uncommon in the survey area. Reported by Gupta & Shukla (1988) from Dirang Dzong in West Kameng District.

248. *Neptis sappho astola* Moore, 1872 (Rusty Sailer; ACN:Pallas's Sailer): Recorded from Bhalukpong, Langka and Sukhanala at Pakke, Lama Camp and the Bompus-Sessni trail at Eaglenest in the pre- and post-monsoon seasons up to an altitude of 1,900m. Very common in the survey area. Reported by Gupta & Shukla (1988) as *Neptis hylas astola* from Bomdila Road in West Kameng District.

249. *Neptis soma soma* Moore, 1858 (Creamy Sailer): Recorded from Bompus, Lama and Sessni at Eaglenest in April and May between altitudes of 1,300m and 1,900m. Described in earlier literature as *Neptis yerburyi sikkima*, but its status was clarified by Eliot (1969). This species has been called the Sullied Sailer and Creamy Sailer because of the historically confused taxonomy. Common in the survey area. Reported as *Neptis yerburyi* from Dirang in October by Evans (1914). Also reported by Athreya (2006b) from Eaglenest. This subspecies is legally protected under the Schedule II of WPA.

250. *Phaedyma columella ophiana* (Moore, 1872) (Short-banded Sailer): Recorded from the Khari-West Bank Seijosa trail, Langka, Sukhanala and Upper Dekorai at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Seen along forest trails and at moist spots at stream edges in forested areas. More of a forest species than related *Neptis* species. Common in the survey area. Reported as common by Betts (1950).

251. *Pantoporia hordonia hordonia* (Stoll, 1790)

(Common Lascar): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Only one record from Khellong at Eaglenest at an altitude of 750m. Very common at Pakke. Reported by Gupta & Shukla (1988) from Bhalukpong in West Kameng District and by Athreya (2006b) from Pakke.

252. *Pantoporia paraka paraka* (Butler, 1879) (Perak Lascar): Single record on the Khari-West Bank Siejosa trail at Pakke on 2 June 2009. Very rare.

253. *Neurosigma siva siva* Westwood, 1850 (Panther): Recorded from Sessa Orchid WS and Sessni at Eaglenest in September at altitudes between 1,200–1,500 m. Attracted to rotting fish. Uncommon; best seen at Sessa, where it is more common. This subspecies is legally protected under the Schedule II of WPA.

254. *Tanaecia jahnu jahnu* (Moore, 1858) (Plain Earl): Recorded from Bhalukpong Ghat, the Khari trail and Sukhanala at Pakke in October 2010. Only females seen. Rare. Reported by Athreya (2006b) from Pakke.

255. *Tanaecia julii appiades* (Ménétriés, 1857) (Common Earl): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Both sexes seen; males more common. Common in the survey area. Reported by Betts (1950) as common from West Kameng District.

256. *Tanaecia lepidea lepidea* (Butler, 1868) (Grey Count): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Very common. Reported by Athreya (2006b) from Eaglenest and Pakke. This subspecies is legally protected under the Schedule II of WPA.

Family Nymphalidae, Subfamily Nymphalinae

257. *Aglais caschmirensis aesis* (Fruhstorfer, 1912) (Indian Tortoiseshell): Recorded from all locations at Eaglenest and Sessa in the pre- and post-monsoon seasons. At Sessa, on 27 March 2011, 50 individuals were counted along the road during a 3-hour count. Pairs were seen in courtship display, and a female laid more than a hundred green eggs in a pyramid-shaped cluster on *Urtica* spp. Very commonly recorded between 1,000m and 2,200m. The distributional records of this species have been extended eastwards to western Arunachal Pradesh (Greeshma 2010) and Nagaland (Naro 2012). However, Evans (1914) and Betts (1950) had reported this species from the area, which includes Tawang and West Kameng

Districts. Gupta & Shukla (1988) reported that many individuals were collected from West Kameng District at Naphra (1961, coll. by S Biswas), But (1961, coll. by K.C. Jayaram), Bomdila (1965, coll. Bhattacharya & Joseph), Bomdila Road and Bhalukpong (both in 1973, coll. by S.K. Tandon & party). Also, Athreya (2006b) reported it from Eaglenest. Hence, this species has been overlooked from western Arunachal Pradesh by Greeshma (2010), though its records from Nagaland might represent a more recent range extension.

258. *Junonia almana almana* (Linnaeus, 1758) (Peacock Pansy): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Very common; more common pre-monsoon. Reported as very common by Betts (1950).

259. *Junonia atlites atlites* (Linnaeus, 1763) (Grey Pansy): Recorded from all locations at Pakke and Pakke-Kesang in the pre-monsoon, monsoon and post-monsoon seasons. Very common in the survey area. Reported as very common by Betts (1950).

260. *Junonia hierta hierta* (Fabricius, 1798) (Yellow Pansy): Recorded from Sukhanala at Pakke and at Lama, Eaglenest and Sessa in the pre- and post-monsoon seasons up to an altitude of 2,200 m. Uncommon in the survey area. Reported from the area by Evans (1914) and Betts (1950). Also reported by Gupta & Shukla (1988) from numerous locations in West Kameng District and by Athreya (2006b) from Eaglenest and Pakke.

261. *Junonia iphita iphita* (Cramer, 1779) (Chocolate Pansy; ACN: Chocolate Soldier): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons up to an altitude of 2,200m. Very common—the most abundant species during the survey. Reported as very common by Betts (1950). Also reported by Gupta & Shukla (1988) from numerous locations in West Kameng District and by Athreya (2006b) from Eaglenest and Pakke.

262. *Junonia lemonias lemonias* (Linnaeus, 1758) (Lemon Pansy): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common. Reported by Athreya (2006b) from Eaglenest and Pakke.

263. *Junonia orithya ocyale* Hübner, 1816 (Blue Pansy): Recorded from Langka and Sukhanala at Pakke, Pakke-Kesang and Lama at Eaglenest in the pre- and

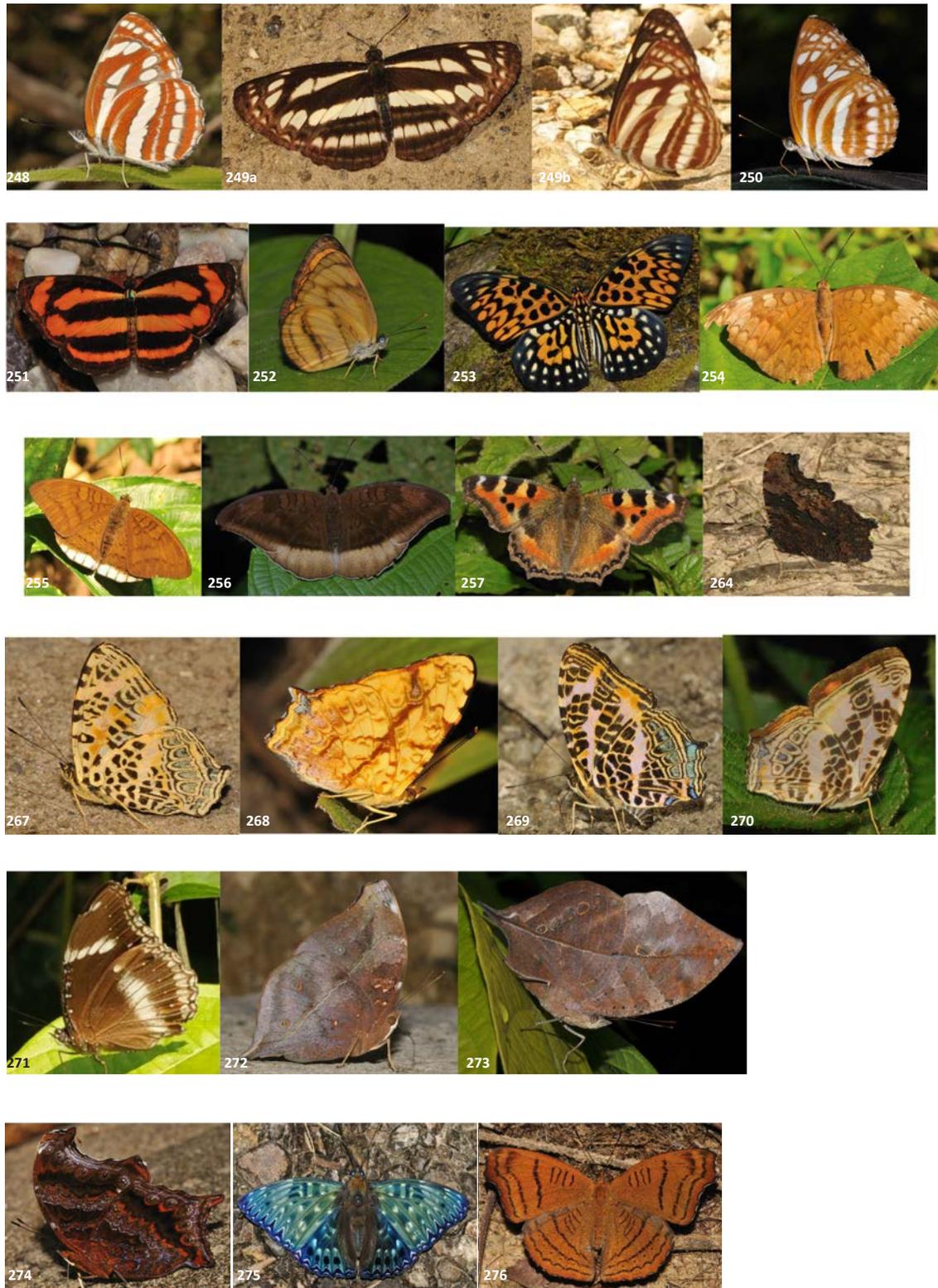


Image 12: 248. *Neptis sappho astola*; 249a. *Neptis soma soma*; 249b. *Neptis soma soma*; 250. *Phaedyma columella ophiana*; 251. *Pantoporia hardoniana hardoniana*; 252. *Pantoporia paraka paraka*; 253. *Neurosigma siva siva*; 254. *Tanaecia jahnu jahnu*; 255. *Tanaecia julii appiades*; 256. *Tanaecia lepidea lepidea*; 257. *Aglais caschmirensis aesis*; 264. *Kaniska canace canace*; 267. *Symbrenthia hypselis cotanda*; 268. *Symbrenthia lilaea khasiana*; 269. *Symbrenthia niphanda niphanda*; 270. *Symbrenthia silana*; 271. *Hypolimnas bolina jacintha*; 272. *Doleschallia bisaltide indica*; 273. *Kallima inachus inachus*; 274. *Rhinopalpa polynice birmana*; 275. *Dichorragia nesimachus nesimachus*; 276. *Pseudergolis wedah wedah*.

post-monsoon seasons. Uncommon in the survey area. Reported from the area by Evans (1914) and Betts (1950). Also reported by Gupta & Shukla (1988) from numerous locations in West Kameng District and by Athreya (2006b) from Eaglenest.

264. *Kaniska canace canace* (Linnaeus, 1763) (Blue Admiral): Recorded on the Lama-Ramaling trail at Eaglenest in September and October at altitudes between 1,500 and 2,000 m. Uncommon, and local in the survey area. Reported by Betts (1950) as not uncommon.

265. *Vanessa cardui* (Linnaeus, 1758) (Painted Lady): Recorded from all locations at Eaglenest between 1,200 and 2,400 m in the pre- and post-monsoon seasons. Uncommon in the survey area. Reported from West Kameng by Betts (1950) and by Athreya (2006b) from Eaglenest.

266. *Vanessa indica indica* (Herbst, 1794) (Indian Red Admiral): Recorded from all locations at Pakke-Kesang, Eaglenest and Sessa; a single record from Sukhanala at Pakke. Flies in the pre- and post-monsoon seasons from the foothills up to 2,400m. Very common, not so common at low elevations at Pakke. Reported from West Kameng by Evans (1914) and Betts (1950).

267. *Symbrenthia hypselis cotanda* Moore, 1875 (Spotted Jester): Recorded from all locations at Eaglenest and Sessa; a single record each from Langka at Pakke and at Pakke-Kesang. Flies in the pre- and post-monsoon seasons up to an altitude of 1,900m. Very common, not so common at low elevations at Pakke. Reported by Athreya (2006b) from Eaglenest.

268. *Symbrenthia lilaea khasiana* Moore, 1875 (Common Jester): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 2,400m. Very common. Reported by Athreya (2006b) from Eaglenest and Pakke.

269. *Symbrenthia niphanda niphanda* Moore, 1872 (Bluetail Jester): Recorded from Lama on 5 September 2011 and from Sessni on 7 September 2011 at Eaglenest and from Sessa on 3 September 2012 at altitudes between 1,200m and 2,000m. Rare. This subspecies is legally protected under the Schedule II of WPA.

270. *Symbrenthia silana* de Nicéville, 1885 (Scarce Jester): A single record from Haathi nala, near Sessni at

Eaglenest on 24 April 2012 at an altitude of 1,200m. This butterfly was rediscovered after 90 years with recent records from Sikkim, Namdapha in eastern Arunachal Pradesh and Nokrek in Meghalaya (Kunte 2010). This sighting from Eaglenest represents the first published record of this species from western Arunachal Pradesh. Very rare. This species is legally protected under the Schedule I of WPA.

271. *Hypolimnas bolina jacintha* (Drury, 1773) (Great Eggfly): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Both sexes sighted. Common. Reported by Athreya (2006b) from Eaglenest and Pakke.

272. *Doleschallia bisaltide indica* Moore, 1899 (Autumn Leaf): Recorded from all locations at Pakke, Pakke-Kesang and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Very common in the survey area. Reported as "fairly common" by Betts (1950). Reported by Athreya (2006b) from Eaglenest.

273. *Kallima inachus inachus* (Boisduval, 1846) (Orange Oakleaf): Recorded from all locations at Eaglenest, Pakke, Pakke-Kesang and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Very common at Pakke, not so common at Pakke-Kesang, Eaglenest and Sessa. Reported as common by Betts (1950). Also reported by Gupta & Shukla (1988) from Tenga Valley in West Kameng District and by Athreya (2006b) from Pakke.

274. *Rhinopalpa polynice birmana* Fruhstorfer, 1898 (Wizard): Recorded from Bhalukpong Ghat, Langka and Sukhanala at Pakke between July and October. Two unconfirmed sight records from Langka in March and April need further investigation as this species has so far been considered to be univoltine and flying between August and November (Wynter-Blyth, 1957; Kehimkar 2008). Attracted to human sweat; fed on our perspiration-lined clothes, refusing to fly away. Aggressive; chased away Pierids and larger Nymphalids such as *Vindula erota* feeding at moist soil. Generally flies at the canopy level, but descends to moist soil. Locally common. This subspecies is legally protected under the Schedule II of WPA.

Family Nymphalidae, Subfamily Pseudergolinae

275. *Dichorragia nesimachus nesimachus* (Doyère, 1840) (Constable): Recorded from Bhalukpong Ghat,

Dinai, Seijosa West Bank and Sukhanala at Pakke in the monsoon and post-monsoon seasons. Rare.

276. *Pseudergolis wedah wedah* (Kollar, 1844) (Tabby): Recorded from the Bhalukpong Ghat-Dinai trail at Pakke, Pakke-Kesang, Sessa and at all locations at Eaglenest from the foothills up to an altitude of 2,000m in the pre-monsoon, monsoon and post-monsoon seasons. Wynter-Blyth (1957) states that this species flies from low elevations up to 1,500m in the northeast, while Smith (1994) states that this species flies between 1,000m and 2,000m in Nepal. The records from Bhalukpong Ghat at 185m in October indicate that it occasionally descends to the foothills. Common at Pakke-Kesang, Eaglenest and Sessa; not so common at Pakke. Reported from the area by Evans (1914), Betts (1950) and Athreya (2006b).

277. *Stibochiona nicea nicea* (Gray, 1846) (Popinjay): Recorded from Dinai and Langka at Pakke, Sessa and along the Bompou-Sessni-Khelling trail at Eaglenest in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,400m. Wynter-Blyth (1957) states that this flies from low elevations to 1,200m while Smith (1994) states that this species flies between 480–1,800 m from April to June and August to December. However, records from this survey show that this species flies at lower altitudes (Dinai-155 m, Langka-220 m) and also flies in March. Very common at Sessa and Eaglenest; not so common at Pakke. Reported as fairly common by Betts (1950) from West Kameng District. Also, reported by Athreya (2006b) from Eaglenest.

Family Nymphalidae, Subfamily Satyrinae

278. *Aemona amathusia* (Hewitson, 1862) (Yellow Dryad): A single record of a male at Sessa Orchid WS on 12 September 2011. Another sighting of the rare female by Yash Sondhi (pers. comm.) at Bompou in May 2013, outside the survey (Image 13: # 278b). Both sightings at an altitude of 1,400m. Rare. This species is legally protected under the Schedule II of WPA.

279. *Amathuxidia amythaon amythaon* (Doubleday, 1847) (Koh-i-noor): A single record of the species on 30 July 2014 at 0650 hours below a fruiting Jamun (*Syzygium cumini*) tree near the Tippi Inspection Bungalow at the edge of Pakke. This subspecies is legally protected under the Schedule II of WPA. Rare in the survey area.

280. *Discophora sondaica zal* Westwood, 1851 (Common Duffer): A single record from Elephant Flat on 21 October 2012, near a large bamboo clump at an

altitude of 330m. Very rare in the survey area.

281. *Enispe euthymius euthymius* Doubleday, 1845 (Red Caliph): Recorded from Bompou at Eaglenest (1,900m) and from the Lumta trail at Pakke-Kesang (1,100m) in September. A couple of unconfirmed sightings in flight from Bompou during the same period. Rare.

282. *Faunis eumeus assama* (Westwood, 1858) (Large Faun): Recorded from Sessa Orchid WS at an altitude of 1,250m in May 2011. Rare. This subspecies is legally protected under the Schedule II of WPA.

283. *Stichopthalma nurinissa* de Nicéville, 1890 (Nurinissa Junglequeen; ACN: Chocolate Junglequeen): Single record of a female from Sessa Orchid WS on 13 October 2010 at an altitude of 1,300m. Very rare.

284. *Thaumantis diores diores* Doubleday, 1845 (Jungle Glory): Recorded from Khari at Pakke (~200m altitude), Sessa and the Sessni-New Khelling trail at Eaglenest in May and September at altitudes between 900m and 1,200m. At Sessa, the species was attracted to a mercury vapour bulb at night and repeatedly visited the moth screen. Kehimkar (2008) states that its flight period is September to November, whereas it was also recorded flying in May during the survey. SS has records of the species flying in March (Garo Hills, Meghalaya) and June (Namdapha, eastern Arunachal Pradesh) suggesting that it may be bi-voltine at lower elevations. Uncommon.

285. *Aulocera saraswati vishnu* Gross, 1958 (Striated Satyr): Recorded on 5 and 10 September 2011 and 5 September 2012 on the trail from Lama to Ramaling at Eaglenest at altitudes between 1,900m to 2,100m. Uncommon. The distribution of this species as reported in previous literature needs a comment. Talbot (1947) mentions its distribution as north-west Himalaya to Sikkim while Wynter-Blyth (1957) states its distribution as "Himalaya". Kehimkar (2008), too, states its distribution as Jammu and Kashmir to Sikkim. Evans (1914) reported this species from Dirang in West Kameng District in mid October. Betts (1950) reported three species of the genus *Aulocera* from western Arunachal Pradesh *A. brahminus*, *A. swaha* and *A. padma*, but did not report *A. saraswati*. However Gupta & Shukla (1988) reported that S. Biswas collected it from Siggaram and Kalaktang in West Kameng District in 1961 but did not report that it represented a range extension. Hence the distribution of this species extends at least to western Arunachal Pradesh.

Callerebria species: The genus *Callerebria* shows

significant seasonal and individual variations hence identification can be difficult. Thus while considerable care has been taken in these identifications they should be considered provisional in the absence of close investigation of male genitalia. Five species could be recorded from this area, and these are *Callerebia annada*, *C. baileyi*, *C. orixa*, *C. suroia*, *C. scanda* and possibly the new species described recently from Arunachal Pradesh, *C. dibangensis* (Roy 2013). Only two of these species were recorded from Eaglenest, though a literature review reveals that other species could be found in the area. Evans (1914) reported *C. suroia* (as *polyphemus*?) from Tawang at 2,430m in October. Betts (1950) reported *C. orixa* as common from Rupa in West Kameng District, while Gupta & Shukla (1988) reported *C. orixa* from Kalikat in Kameng District. Given the cryptic nature of these species and the variations encountered, the identifications below are best considered provisional and need to be confirmed through collection of specimens.

286. *Callerebia annada annada* (Moore, 1858) (Ringed Argus): Recorded commonly from the Lama Camp-Ramaling trail at Eaglenest in the pre- and post-monsoon seasons. The two subspecies of this genus are ssp. *caeca* whose distribution is Kashmir to Nepal, while ssp. *annada* is known from Sikkim to Bhutan (Talbot 1947; Smith 1994; Roy 2013). These records extend the range of ssp. *annada* further eastward to western Arunachal Pradesh. A third ssp. *orixa*, is now raised to a separate species (Bruna et al. 2000). Common.

287. *Callerebia scanda opima* Watkins, 1927 (Pallid Argus): Recorded from the Lama Camp-Ramaling trail at Eaglenest in May, September and October. Subspecies *scanda* has a known distribution from Kashmir to Nepal and lower Sikkim, while ssp. *opima* is known from upper Sikkim (Talbot 1947) and eastern Bhutan (Roy 2013). This record extends the distribution of this subspecies eastwards into western Arunachal Pradesh. Uncommon. This species is legally protected under the Schedule II of WPA.

288. *Elymnias hypermnestra undularis* (Drury, 1773) (Common Palmfly): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Only one female sighted. Common. Reported by Gupta & Shukla (1988) from Bhalukpong in West Kameng District and by Athreya (2006b) from Pakke.

289. *Elymnias malelas malelas* (Hewitson, 1863) (Spotted Palmfly): Recorded from Seijosa and Khari at

Pakke and from New Khellong at Eaglenest between altitudes of 110m and 750m in the pre- and post-monsoon seasons. Rare.

290. *Elymnias nesaea timandra* Wallace, 1869 (Tiger Palmfly): A single unconfirmed record in flight from Sukhanala at Pakke in October 2010. Subsequently, confirmed sightings outside the survey by Balakrishnan Valappil (pers. comm.). Rare.

291. *Elymnias patna patna* (Westwood, 1851) (Blue-striped Palmfly): A single record from the Tippi Inspection Bungalow at the edge of Pakke on 1 August 2014. Very rare in the survey area.

292. *Elymnias vasudeva* Moore, 1857 (Jezebel Palmfly): A single record near Upper Dekorai on 2 May 2013 at Pakke. Spotted from elephant back. Very rare. This species is legally protected under the Schedule II of WPA.

293. *Ethope himachala* (Moore, 1857) (Dusky Diadem): Recorded from the Bhalukpong Ghat-Dinai trail, Elephant Flat, Khari, Sukhanala and Tipi in the pre- and post-monsoon seasons. Common.

294. *Lethe bhairava* (Moore, 1857) (Rusty Forester): Recorded from the Bompou-Sessni-New Khellong trail and Lama at Eaglenest and Pakke-Kesang and Sessa in the pre- and post-monsoon seasons between altitudes of 1,200m and 2,00m. Very common. Reported from Eaglenest by Athreya (2006b).

295. *Lethe isana dinarbas* (Hewitson, 1863) (Common Forester): Recorded from the Bompou-Sessni trail at Eaglenest in the pre- and post-monsoon seasons between altitudes of 1,200m and 1,900m. Observed feeding on rotting crab and human excreta. Common.

296. *Lethe scanda* (Moore, 1857) (Blue Forester): Three records on 23 May 2009 below Bompou at Eaglenest at an altitude of 1,700m. Seen at carnivore scat and at moist patches in company of other species of *Lethe*, especially woodbrowns. Rare. This species is legally protected under the Schedule II of WPA.

297. *Lethe vindhya vindhya* (Felder & Felder, 1859) (Black Forester): Recorded males near Sessni at Eaglenest and at Pakke-Kesang between altitudes of 1,200m and 1,400m in the pre- and post-monsoon seasons. Observed feeding on blood on a leaf from a freshly and illegally



Image 13: 277. *Stibochiona nicea nicea*; 278a. *Aemona amathusia amathusia*; 278b. *Aemona amathusia amathusia* female©YS; 279. *Amathuxidia amythaon amythaon*; 281. *Enispe euthymius euthymius* 282. *Faunis eumeus assama* 283. *Stichophthalma nurinissa* 284. *Thaumantis diores diores*; 285. *Aulocera saraswati vishnu*; 286. *Callerebia annada annada*; 287. *Callerebria scanda opima*; 288. *Elymnias hypermnestra undularis* female; 289. *Elymnias malelas malelas*; 291. *Elymnias patna patna*; 293. *Ethope himachala*; 294. *Lethe bhairava*; 295. *Lethe insana dinarbas*; 296. *Lethe scanda*; 297. *Lethe vindhya vindhya*; 298. *Lethe chandica chandica*; 299. *Lethe distans*; 300. *Lethe mekara mekara*; 301. *Lethe sinorix sinorix*; 302. *Lethe nicetas*

hunted Barking Deer (*Muntiacus muntjak*). Also observed feeding on human excreta. Rare in the survey area. Reported by Gupta & Shukla (1988) from Elephant Flat, West Kameng District.

298. *Lethe chandica chandica* (Moore, 1858) (Angled Red Forester): Recorded near Tipi at Pakke and at Elephant Flat in October 2012 between altitudes of 180m and 330m. Rare.

299. *Lethe distans* Butler, 1870 (Scarce Red Forester): Recorded from Sessa and at Sessni at Eaglenest in April and October between altitudes of 1,200m and 1,500m. Rare. This species is legally protected under the Schedule I of WPA. Reported from Eaglenest by Athreya (2006b).

300. *Lethe mekara mekara* (Moore, 1858) (Common Red Forester): Recorded from Sukhanala and Tipi at Pakke in April and October. Rare.

301. *Lethe sinorix sinorix* (Hewitson, 1863) (Tailed Red Forester): Recorded on the Bompou-Sessni-New Khellong trail in April 2012 between altitudes of 1,200m and 1,500m. Rare. This subspecies is legally protected under the Schedule II of WPA. Reported from Eaglenest by Athreya (2006b).

302. *Lethe nicetas* (Hewitson, 1863) (Yellow Woodbrowner): Recorded only on the Lama-Ramaling trail in the pre- and post-monsoon seasons between altitudes of 1,900m and 2,200m. Observed feeding on cattle dung near Ramaling. Uncommon. Reported from Dirang by Evans (1914) and from Eaglenest by Athreya (2006b).

303. *Lethe siderea* Marshall, 1881 (Scarce Woodbrowner): Recorded on the Chackoo-Bompou-Sessni trail and Lama at Eaglenest in May and October over numerous seasons between altitudes of 1,200m and 2,000m. Observed feeding on carnivore scat in the company of three Lilacforks *Lethe sura*. Common.

304. *Lethe sidonis* (Hewitson, 1863) (Common Woodbrowner): Recorded on the Chackoo-Bompou-Sessni trail and Lama at Eaglenest in May, September and October over numerous seasons between altitudes of 1,200m and 2,200m. Common. Reported as extremely local from Bompou and Bomdila in West Kameng District by Betts (1950). Reported from Eaglenest by Athreya (2006b).

305. *Lethe visrava* (Moore, 1866) (White-edged

Woodbrowner): Three males recorded on the Bompou-Sessni trail at Eaglenest on 26, 27 and 28 May 2011 between altitudes of 1,200–1,700 m. A single record of the rarely seen female (Image 14: # 305b) on 28 May 2011 from the same area. Rare. This species is legally protected under the Schedule II of WPA.

306. *Lethe confusa confusa* Aurivillius, 1898 (Banded Treebrowner): A single record from Bhalukpong Ghat at Pakke on 15 October 2010. Very rare in the survey area. Reported as common by Betts (1950). Also reported by Gupta & Shukla (1988) from Bomdila, West Kameng District and by Athreya (2006b) from Eaglenest.

307. *Lethe rohria rohria* (Fabricius, 1787) (Common Treebrowner): Recorded on the Lama-Ramaling trail at Eaglenest in May, September and October; all sightings at the same area between altitudes of 1,700–2,000 m. Rare, but local. Reported from Dirang by Evans (1914).

308. *Lethe verma sintica* Fruhstorfer, 1911 (Straight-banded Treebrowner): Recorded from all locations at Eaglenest and Sessa in the pre- and post-monsoon seasons between 1,200m and 2,000m. Common. Reported from Dirang by Evans (1914), from West Kameng District by Betts (1950) and from Eaglenest by Athreya (2006b).

309. *Lethe sura sura* (Doubleday, 1849) (Lilacfork): Recorded from all locations at Eaglenest in the pre- and post-monsoon seasons between 1,200 and 2,200 m. Observed feeding on carnivore scat in the company of *Lethe bhairava*, *Lethe visrava* and *Mycalesis mestra*. Also observed feeding on a dead rodent. Common; seen most frequently on the Chackoo-Bompou-Sessni trail. Reported as common in September at Bompou and Bomdila, West Kameng District by Betts (1950).

310. *Melanitis leda leda* (Linnaeus, 1758) (Common Evening Brown): Recorded from all locations at Pakke, Pakke-Kesang, Eaglenest and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,400m. Wet season and dry season forms seen very commonly. Sometimes, both forms seen together. DSF more common. Reported as extremely common by Betts (1950).

311. *Melanitis phedima bela* Moore, 1857 (Dark Evening Brown): Recorded from the Bhalukpong-Dinai trail, Langka and Khari at Pakke, Sessa and at Sessni at Eaglenest from the foothills up to 1,300m in the pre- and post-monsoon seasons. Uncommon in the survey area.

Reported as scarce by Betts (1950).

312. *Mycalesis anaxias aemate* Fruhstorfer, 1911 (White-bar Bushbrown): Recorded from Bhalukpong, Khari and Sukhanala at Pakke and Elephant Flat in the pre- and post-monsoon seasons between 120m and 330m. Rare. This subspecies is legally protected under the Schedule II of WPA.

313. *Mycalesis francisca sanatana* Moore, 1858 (Lilacine Bushbrown): Recorded from Pakke-Kesang, Sessa and Lama at Eaglenest in the pre- and post-monsoon seasons between altitudes of 1,200m and 2,000m. Dry and wet season forms seen. Rare. Reported by Athreya (2006b) from Eaglenest.

314. *Mycalesis gotama charaka* Moore, 1875 (Chinese Bushbrown): A single record of a male on 14 April 2012 from Langka at Pakke. Very rare. This subspecies is legally protected under the Schedule II of WPA.

315. *Mycalesis heri* Moore, 1857 (Large-eyed Bushbrown; ACN: Moore's Bushbrown): A single record of a male on 7 September 2011 on the Bompou-Sessni trail at Eaglenest at an altitude of 1,500m. The known range of this species is from Kumaon east to Bhutan (Talbot, 1947). This record extends its range eastwards into western Arunachal Pradesh. Very rare. This species is legally protected under the Schedule II of WPA.

316. *Mycalesis intermedia* (Moore, 1892) (Intermediate Bushbrown; ACN: Pale-brand Bushbrown): A record from Elephant Flat on 21 Oct 2012 and another from Langka at Pakke on 28 April 2013. Both males in dry season form. Rare.

317. *Mycalesis malsarida* Butler, 1868 (Plain Bushbrown): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Both sexes and dry and wet season forms sighted. Common. This species is legally protected under the Schedule II of WPA.

318. *Mycalesis mestra mestra* Hewitson, 1862 (White-edged Bushbrown): Recorded from all locations at Eaglenest in the pre- and post-monsoon seasons between 1,500m and 1,900m. Often observed feeding on carnivore scat in the company of the Lilacfork *L. sura*. Uncommon; seen most frequently on the Bompou-Sessni trail. Reported by Athreya (2006b) from Eaglenest. This subspecies is legally protected under the Schedule II of WPA.

319. *Mycalesis mineus mineus* (Linnaeus, 1758) (Darkbrand Bushbrown): Recorded from Bhalukpong Ghat, Khari and Langka at Pakke in the pre- and post-monsoon seasons. Mostly males seen. Uncommon.

320. *Mycalesis perseus blasius* (Fabricius, 1798) (Common Bushbrown): Single record of a male from Langka at Pakke on 28 April 2013. Very rare in the survey area.

321. *Mycalesis visala visala* Moore, 1858 (Long-branded Bushbrown): Recorded from Bhalukpong Ghat, Langka, Sukhanala and Upper Dekorai at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Both sexes seen. Common. Reported by Gupta & Shukla (1988) from Pinjoli and Tipi in West Kameng District and by Athreya (2006b) from Eaglenest.

322. *Neope arandii khasiana* Moore, 1881 (Chinese Labyrinth): Recorded from Bompou on 22 May 2009 and from Sessni on 23 and 24 April 2012 at Eaglenest between altitudes of 1,200m and 1,900m. Rare.

323. *Neope bhadra* (Moore, 1857) (Tailed Labyrinth): Recorded from the Bompou-Sessni trail at Eaglenest on 6 September 2011 and on the Lumta trail at Pakke-Kesang on 21 September 2013 at altitudes between 1,200m and 1,500m. Rare. Reported from Bomdila, West Kameng District by Betts (1950).

324. *Neope yama yama* (Moore, 1858) (Dusky Labyrinth): Two records on 23 May 2009 and 26 May 2011 at Bompou from Eaglenest at an altitude of 1,900m. Rare. This subspecies is legally protected under the Schedule II of WPA. Reported by Athreya (2006b) from Eaglenest.

325. *Neorina hilda* Westwood, 1850 (Yellow Owl): A single unconfirmed record on 9 September 2011 on the Bompou-Chackoo trail from Eaglenest at an altitude of 2,100m. Very rare in the survey area. A confirmed record from outside the area is reported by Rohit Naniwadikar at <http://www.ifoundbutterflies.org/sp/1034/Neorina-hilda> (Kunte et al. 2016). Reported from Dirang in October by Evans (1914). Also, reported as scarce from Bompou in August and September by Betts (1950). This species is legally protected under the Schedule II of WPA.

326. *Neorina patria westwoodii* Moore, 1891 (White Owl): Recorded from the Chackoo-Bompou-Sessni trail at Eaglenest, at Pakke-Kesang and Sessa in September at altitudes between 1,200m and 2,000m. Seen patrolling



Image 14: 303. *Lethe siderea*; 304. *Lethe sidonis*; 305a. *Lethe visrava*; 305b. *Lethe visrava* female; 306. *Lethe confusa confusa*; 307. *Lethe rohria rohria*; 308. *Lethe verma sintica*; 309. *Lethe sura sura*; 310. *Melanitis leda leda*; 311. *Melanitis phedima bela*; 312. *Mycalesis anaxias aemate*; 313. *Mycalesis francisca sanatana*; 314. *Mycalesis gotama charaka*; 315. *Mycalesis heri*; 316. *Mycalesis intermedia*; 317. *Mycalesis malsarida*; 318. *Mycalesis mestra mestra*; 319. *Mycalesis mineus mineus*; 321. *Mycalesis visala visala*; 322. *Neope armandii khasiana*; 323. *Neope bhadra*; 324. *Neope yama yama*; 326. *Neorina patria westwoodii*; 327. *Orinoma damaris damaris*

up and down forest tracks quite frequently; at the first instance SS mistook it in flight for an oakleaf butterfly (*Kallima* spp.). Based on these records as well as other sightings in NE India, this species is univoltine, and probably has a single post-monsoon brood. Locally common at Eaglenest in September. Reported by Athreya (2006b) from Eaglenest. This subspecies is legally protected under the Schedule II of WPA.

327. *Orinoma damaris damaris* Gray, 1846 (Tiger Brown): Recorded from the Sessni-New Khellong trail at Eaglenest in the pre- and post-monsoon seasons at altitudes between 750m and 1,200m. Rare and local. Reported by Athreya (2006b) from Eaglenest.

328. *Orsotriaena medus medus* (Fabricius, 1775) (Medus Brown): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Dry and wet season forms seen. Very common in the survey area. Reported from Doimara, West Kameng District by Betts (1950). Gupta & Shukla (1988) reported it from Chuarduar and Sonai Rupai forests in the adjacent areas of Assam.

329. *Penthema lisarda lisarda* (Doubleday, 1845) (Yellow Kaiser): Recorded from Langka on 13 April 2012 and from Sukhanala on 29 April 2013 at Pakke. Typically seen patrolling along riverbanks, flying 8 to 10 feet above the ground. Rare. This subspecies is legally protected under the Schedule II of WPA.

330. *Ragadia crito* de Nicéville, 1890 (Dusky-striped Ringlet): Recorded from Sessa Orchid WS on 12 October 2010 and 12 September 2011 at the same location at an altitude of 1,200m. Also recorded from Pakke-Kesang on 20 September 2013. A similar species, *Ragadia crisilda crisilda*, occurs south of the Brahmaputra River. Rare and local. Reported as *Ragadia crisilda* by Athreya (2006b) from Eaglenest. This subspecies is legally protected under the Schedule II of WPA.

331. *Ypthima cf. affectata* Elwes and Edwards, 1893 (Affected Five-ring): Only a single individual recorded from the Riloh trail at Pakke-Kesang on 19 September 2013. The individual most closely matched the description of *Y. affectata* (Talbot, 1947) who reports this as a subspecies *Ypthima similis affectata* (now elevated to species level). However, given the seasonal and individual variation of the genus *Ypthima*, alongwith the fact that only a single individual was sighted, this identification is only provisional pending more sampling, and examination of

male genitalia. This subspecies is legally protected under the Schedule II of the WPA.

332. *Ypthima baldus baldus* (Fabricius, 1775) (Common Five-ring): Recorded from all locations at Pakke, Pakke-Kesang and Sessa and from Ramaling as well as the Bompou-Sessni trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,900m. Both dry and wet seasons forms seen. At Eaglenest and Pakke-Kesang, found alongside *Y. sakra* on a few occasions. Very common in the survey area. Reported by Gupta & Shukla (1988) from many locations in West Kameng District and by Athreya (2006b) from Eaglenest and Pakke.

333. *Ypthima huebneri* Kirby, 1871 (Common Fourring): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Uncommon.

334. *Ypthima cf. newara* Moore, 1875 (Newar Three-ring): Recorded from Bhalukpong Ghat and Langka at Pakke, Pakke-Kesang and Ramaling and New Khellong at Eaglenest in the pre- and post-monsoons seasons between altitudes of 110m and 1,500m. Very common at Pakke-Kesang. This species is provisionally identified at *Y. newara*, as there are several very similar species that can be separated from *Y. newara* only by examining museum specimens and male genitalia. Reported from Dirang by Evans (1914) and as "fairly common" by Betts (1950) from West Kameng District. Also reported by Gupta & Shukla (1988) from Pinjoli in West Kameng District.

335. *Ypthima cf. persimilis* Elwes & Edwards, 1893: Seen commonly (28 individuals counted) along the Bompou-Sessni trail in April-May and September–October. These individuals most closely match *Ypthima persimilis* (Elwes & Edwards 1893; Uemera & Monastyrskii 2004). They also closely resemble *Y. methora*, but the ocelli in 5 UNH is shifted and separate in *persimilis*. This species was described in 1893 based on specimens collected from Mao, Manipur at 1,825–2135 m. All the individuals SS saw were between altitudes of 1,500–2,000 m. If the species identity is confirmed, these would be the first sightings of this species from India in more than a hundred years with no published records of it since its original description. Evans (1934), Wynter-Blyth (1957), Shirozu & Shima (1979) and Kehimkar (2008) make no mention of this species. Talbot (1947) lists this as a subspecies *Ypthima dohertyi persimilis* from Manipur and northeastern Myanmar but Uemera & Monastyrskii (2004) treat this

as a distinct species. Gupta & Shukla (1988) reported *Ypthima methora methora* from Elephant Flat in West Kameng District (coll. by S.K. Tandon in 1973). However, given the seasonal and individual variation of the genus *Ypthima*, this identification is only provisional pending more sampling, and examination of male genitalia.

336. *Ypthima sakra sakra* Moore, 1857 (Himalayan Fivering): Recorded from all locations at Eaglenest and Pakke-Kesang in the pre- and post-monsoon seasons between altitudes of 1,000–2,200 m. Very common in the survey area. Evans (1914) reported the subspecies *Y. sakra sakra* from Dirang with a comment that many individuals are inseparable from the ssp. *austeni*. Reported as common in West Kameng by Betts (1950). Gupta & Shukla (1988) reported the nominate subspecies *Y. sakra sakra* from Kameng and Subansiri districts. Reported by Athreya (2006b) from Eaglenest. There is a need to revisit the exact taxonomic status of subspecies *austeni*.

337. *Zipaetis scylax scylax* Hewitson, 1863 (Dark Catseye): Recorded from Langka at Pakke in March 2011 and at Elephant Flat in October 2012. Rare.

Family Papilionidae, Subfamily Parnassiinae

338. *Bhutanitis lidderdalii lidderdalii* Atkinson, 1873 (Bhutan Glory): Recorded from the Lama Camp-Ramaling trail and the Chackoo-Bompu-Sessni trail at Eaglenest in September and October between altitudes of 1,600m and 2,200m. Some individuals were seen flying as early as 06:00hr on sunny days, at the first hint of sunlight. On cloudy days, sunshine for even a few minutes would bring out the butterflies to bask. The species was seen flying as late as 16 October 2012. Very common, but local. Reported from Eaglenest during the Eaglenest Biodiversity Project (Athreya 2006b). This subspecies is legally protected under the Schedule II of WPA.

339. *Bhutanitis ludlowi* Gabriel, 1942 (variously known as Mystical Bhutan Glory, Ludlow's Bhutan Glory, and Ludlow's Bhutan Swallowtail): A single record of a dead individual from Ramaling at Eaglenest on 10 September 2011 at an altitude of 1,700m. Outside of the survey, Sujatha Padmanabhan photographed another individual on 11 September 2012 below Lama Camp. Additionally, Rohit Naniwadikar photographed this species at Eaglenest in August 2007, but his record went unreported till recently. This species was re-discovered in Bhutan in September 2012 (Harada et al. 2012) many decades after its description (Gabriel 1942). These records from Eaglenest, along with a sighting between

Dirang and Sange in West Kameng District represent the first records of this species outside of Bhutan, extending its known range. More on these Indian records may be found in (Dutta et al. 2015). Rare.

Family Papilionidae, Subfamily Papilioninae

340. *Graphium agamemnon agamemnon* (Linnaeus, 1758) (Tailed Jay): Recorded from all locations at Pakke and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Attracted to rotting crabs. Very common in the survey area. Reported by Betts (1950) from Doimara in West Kameng District and by Athreya (2006b) from Pakke.

341. *Graphium chironides chironides* (Honrath, 1884) (Veined Jay): Recorded from Langka at Pakke, Pakke-Kesang and the Sessni-New Khellong trail at Eaglenest in the pre- and post-monsoon seasons between altitudes of 120m and 1,200m. Uncommon in the survey area. Reported by Betts (1950) and by Arora & Mondal (1981) from Amatulla in West Kameng District.

342. *Graphium doson axionides* (Page & Treadaway, 2014) (Common Jay): Recorded from all locations at Pakke and Pakke-Kesang in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,200m. Common in the survey area. Reported by Betts (1950) and by Arora & Mondal (1981) from Amatulla, Tipi and Bhalukpong in West Kameng District.

343. *Graphium eurypylus cheronus* (Fruhstorfer, 1903) (Great Jay): Recorded from all locations at Pakke and Pakke-Kesang from the foothills up to 800m in the pre- and post-monsoon seasons. Very common.

344. *Graphium antiphates pompilius* (Fabricius, 1787) (Five-bar Swordtail): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common.

345. *Graphium eurous sikkimica* (Heron, 1899) (Six-bar Swordtail): A single unconfirmed record at Alu Bari below Lama Camp at Eaglenest on 25 May 2011 at an altitude of 1,700m. The individual sat a few feet away from SS, but flew away before SS could photograph it. The known flight season from the Western Himalaya and from SS's personal records is April and early May. Very rare in the survey area. Reported by Arora & Mondal (1981) from Chug Village, Dirang in West Kameng District in April.

346. *Graphium macareus indicus* (Rothschild, 1895)

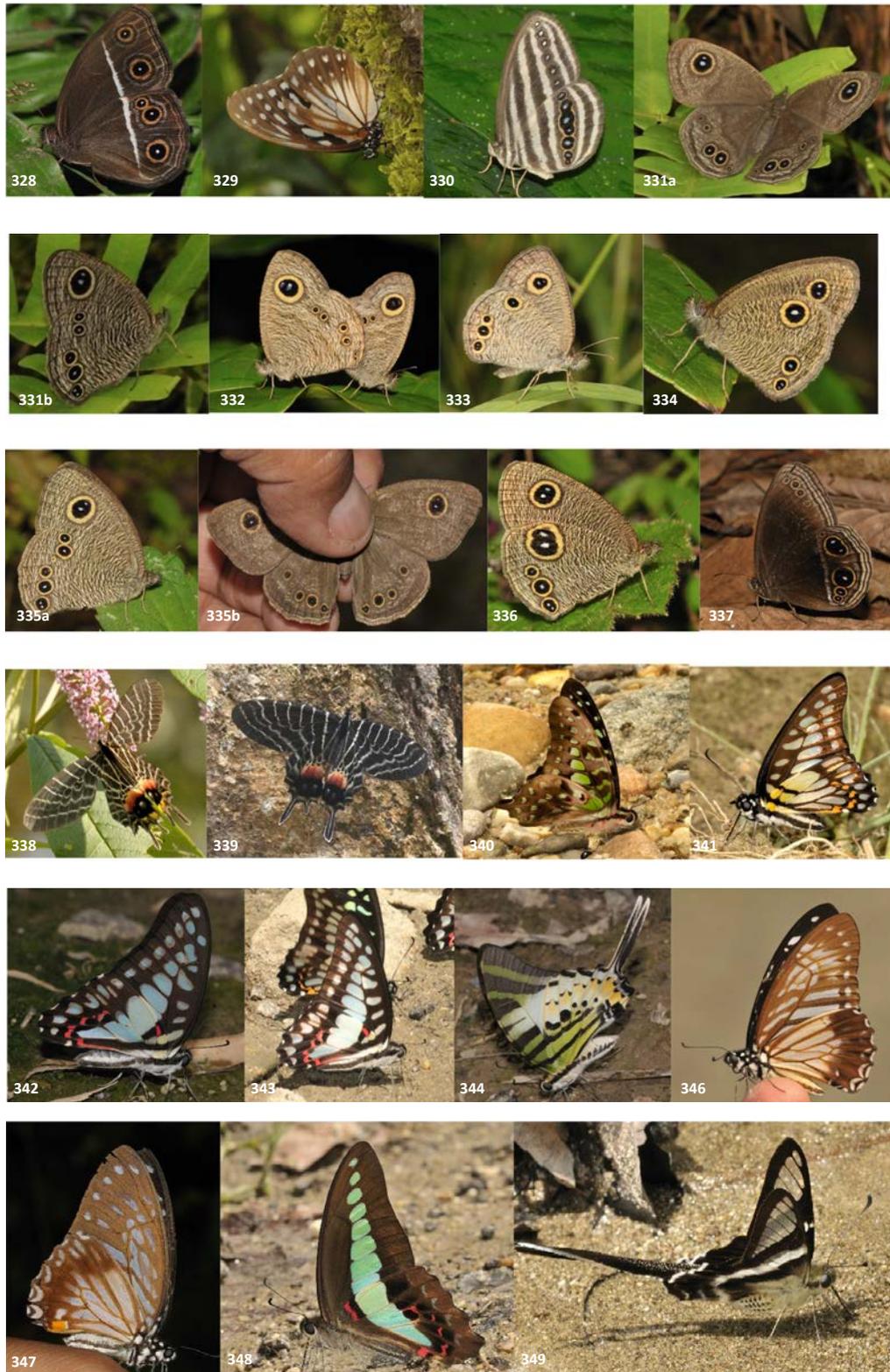


Image 15: 328. *Orsotriaena medus medus*; 329. *Penthema lisarda lisarda*; 330. *Ragadia crito*; 331a. *Ypthima cf. affectata*; 331b. *Ypthima cf. affectata*; 332. *Ypthima baldus baldus*; 333. *Ypthima huebneri*; 334. *Ypthima cf. newara*; 335a. *Ypthima cf. persimilis*; 335b. *Ypthima cf. persimilis*; 336. *Ypthima sakra sakra*; 337. *Zibaetis scylax scylax*; 338. *Bhutanitis lidderdalii lidderdalii*; 339. *Bhutanitis ludlowi* ©SP; 340. *Graphium agamemnon agamemnon*; 341. *Graphium chironides chironides*; 342. *Graphium doson axionides*; 343. *Graphium eurypylus acheron*; 344. *Graphium antiphates pompilius*; 346. *Graphium macareus indicus*; 347. *Graphium xenocles phrontis*; 348. *Graphium sarpedon sarpedon*; 349. *Lamproptera curius curius*

(Lesser Zebra): Recorded from Langka, Nameri West and Sukhanala at Pakke from March to May. Common. Arora & Mondal (1981) reported it from Bhalukpong in West Kameng District and from the Subansiri and Lohit districts.

347. *Graphium xenocles phrontis* (de Nicéville, 1897) (Great Zebra): A single record of an individual on 10 April 2012 on the Seijosa West Bank-Sukhanala trail at Pakke. Very rare.

348. *Graphium sarpedon sarpedon* (Linnaeus, 1758) (Common Bluebottle): Recorded from all locations at Pakke, Pakke-Kesang and Sessa in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,200m. Very common at Pakke; not so common at Sessa. Reported by Betts (1950) and by Arora & Mondal (1981) from West Kameng District. Recently the northeast Indian populations and presumably also the Himalayan populations were assigned to a new subspecies, *Graphium sarpedon sirkari* Page & Treadaway, 2013 (Page & Treadaway 2013). This name appears to describe only minor and inconsistent, and therefore infrasubspecific, variation of the nominotypical subspecies.

349. *Lamproptera curius curius* (Fabricius, 1787) (White Dragontail): Recorded from all locations at Pakke, Pakke-Kesang and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. At Pakke-Kesang, a congregation of 10 individuals was seen mud-puddling at the banks of the Pakke River. Very common.

350. *Papilio agestor agestor* Gray, 1831 (Tawny Mime): Two unconfirmed records of individuals observed through binoculars sitting and flying at the canopy level on 21 and 23 April 2012 mid-way on the Bompou-Sessni trail at Eaglenest at an altitude of 1,500m. Vary rare in the survey area. Reported by Arora & Mondal (1981) from Chug village, Dirang in West Kameng District.

351. *Papilio clytia clytia* Linnaeus, 1758 (Common Mime): Recorded from all locations at Pakke and on the Bompou-Sessni trail at Eaglenest from the foothills up to an altitude of 1,500m in the pre-monsoon, monsoon and post-monsoon seasons. Forms *clytia* and *dissimilis* seen. Only two females seen. Common.

352. *Papilio epycides epycides* Hewitson, 1864 (Lesser Mime): Two records of mud-puddling males from Lankga on 23 March 2011 at Pakke (110m) and from Sessni (1,400m) at Eaglenest on 23 April 2012. Rare in the

survey area. Reported by Arora & Mondal (1981) from Pinjoli in West Kameng District. This subspecies is legally protected under the Schedule II of WPA.

353. *Papilio paradoxa telearchus* (Hewitson, 1852) (Great Mime): Recorded from Sukhanala at Pakke on 16 April 2012. Observed feeding repeatedly on human urine at moist soil. Rare and local in the survey area. Reported by Arora & Mondal (1981) from Denling and Bhalukpong in West Kameng District. This subspecies is legally protected under the Schedule II of WPA.

354. *Papilio memnon agenor* Linnaeus, 1758 (Great Mormon): Recorded from all locations at Pakke, Sessa and Eaglenest in the pre- and post-monsoon seasons up to an altitude of 1,900m. Male form *agenor* seen. Very common. Reported from Pakke by Athreya (2006b).

355. *Papilio polytes romulus* Cramer, 1775 (Common Mormon): Recorded from all locations at Pakke and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m. Very common in the survey area. Reported as “very common” by Betts (1950). Also reported by Arora & Mondal (1981) from Bhalukpong and Dirang in West Kameng District and Pakke (Athreya 2006b).

356. *Papilio helenus helenus* Linnaeus, 1758 (Red Helen): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,500m. Very common in the survey area. Reported as the “commonest *Papilio*” by Betts (1950). Also reported by Arora & Mondal (1981) from numerous locations in West Kameng District and from Pakke and Eaglenest (Athreya 2006b).

357. *Papilio nephelus chaon* Westwood, 1845 (Yellow Helen): Recorded from all locations at Pakke and Pakke-Kesang in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,200m; more common at low elevations. Observed feeding on rotting crab. Very common in the survey area. A single record from Doimara, West Kameng District by Betts (1950). Also reported by Arora & Mondal (1981) from Bhalukpong and Tipi in West Kameng District.

358. *Papilio alcmenor alcmenor* Felder & Felder, 1864 (Redbreast): Recorded from the Bhalukpong, Seijosa West Bank-Khari trail and Langka at Pakke and Pakke-Kesang in the pre- and post-monsoon seasons from the foothills up

to 1,200m. Rare in the survey area. Reported by Arora & Mondal (1981) from Dirang in West Kameng District and from Eaglenest (Athreya 2006b).

359. *Papilio protenor euprotenor* Fruhstorfer, 1908 (Spangle): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre- and post-monsoon seasons from the foothills up to an altitude of 1,500m. Common in the survey area. Reported by Arora & Mondal (1981) from Sangloom Village in the West Kameng District.

360. *Papilio arcturus arcturus* Westwood, 1842 (Blue Peacock): A single record at New Khellong at Eaglenest on 6 September 2011 at an altitude of 1,100m. Very rare.

361. *Papilio bianor ganesa* Doubleday, 1842 (Common Peacock): Only recorded from Pakke-Kesang on 17, 20 and 21 September 2013 at altitudes between 1,000m to 1,400m. Only males seen, but many individuals seen in flight that could not be identified to species level. Uncommon. Much less common than *P. paris*.

362. *Papilio paris paris* Linnaeus, 1758 (Paris Peacock): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 1,900 m. Very common in the survey area. Reported as “the commonest of the genus other than *P. helenus*” by Betts (1950). Also reported from Eaglenest (Athreya 2006b).

363. *Papilio castor polias* Jordan, 1909 (Common Raven): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Common in the survey area. Reported as “not uncommon” by Betts (1950). Also reported by Arora & Mondal (1981) from Tipi in the West Kameng District.

364. *Papilio demoleus demoleus* Linnaeus, 1758 (Lime Swallowtail): Recorded from Khari, Langka, Seijosa and Sukhanala at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Uncommon in the survey area. Reported as “very common” by Betts (1950). Also reported from Pakke by Athreya (2006b).

365. *Meandrusa lachinus lachinus* (Fruhstorfer, 1902) (Brown Gorgon): A single unconfirmed record of an individual in flight on 5 September 2012 below Lama Camp at Eaglenest at an altitude of 1,900m. Very rare. This subspecies is legally protected under the Schedule II

of WPA.

366. *Atrophaneura aidoneus* Doubleday, 1845 (Lesser Batwing): Recorded from Bhalukpong and Sukhanala at Pakke in the post-monsoon season. Only the confirmed records with species identified in hand are included here. Uncommon. There were numerous sightings of Batwings in flight whose identities could not be confirmed; hence this species is likely to be more common.

367. *Atrophaneura varuna astorion* Westwood, 1842 (Common Batwing): Recorded from Bhalukpong, Langka and Sukhanala at Pakke and from Pakke-Kesang (altitude 1,200m) in the pre-monsoon, monsoon and post-monsoon seasons. Common in the survey area. Reported by Evans (1914) from Dirang and as “widely spread, but not numerous” by Betts (1950). Also reported by Arora & Mondal (1981) from Bhalukpong in West Kameng District.

368. *Byasa dasarada dasarada* (Moore, 1857) (Great Windmill): Recorded from the Bhalukpong-Dinai trail, Langka and Sukhanala at Pakke, Pakke-Kesang, Sessa and the Bompus-Sessni trail at Eaglenest in the pre- and post-monsoon season up to 1,800m. Uncommon in the survey area. There were numerous sightings of Windmills in flight whose identities could not be confirmed; hence this species is likely to be more common. Reported by Arora & Mondal (1981) from Amatulla in West Kameng District and from Pakke (Athreya 2006b).

369. *Byasa latreillei kabrua* Tytler, 1915 (Rose Windmill): A pair of butterflies was observed in a courtship display at Ramaling at Eaglenest on 20 May 2009 at altitude of 1,800m. Rare in the survey area. Reported by Arora & Mondal (1981) from near Bomdilla in West Kameng District. This subspecies is legally protected under the Schedule II of WPA. The nominotypical subspecies is expected to occur in the KPAC based on previous literature (Talbot 1939), but the individuals that SS saw match the description of *kabrua*, so this is a range extension of the subspecies. Ranges and separation between these two subspecies needs to be studied in detail in this area.

370. *Byasa polla* (de Nicéville, 1897) (Crimson-bordered Windmill; ACN: de Nicéville’s Windmill): A record of a worn individual seen basking up in the canopy on the Bompus-Sessni trail at Eaglenest on 27 May 2011 at an altitude of 1,500m. Two individuals recorded on 11 September 2011 from Sessa at an altitude of 1,300m. An unconfirmed record in September 2012 from Sessa. Rare in the survey area. Reported by Gupta & Shukla (1988)

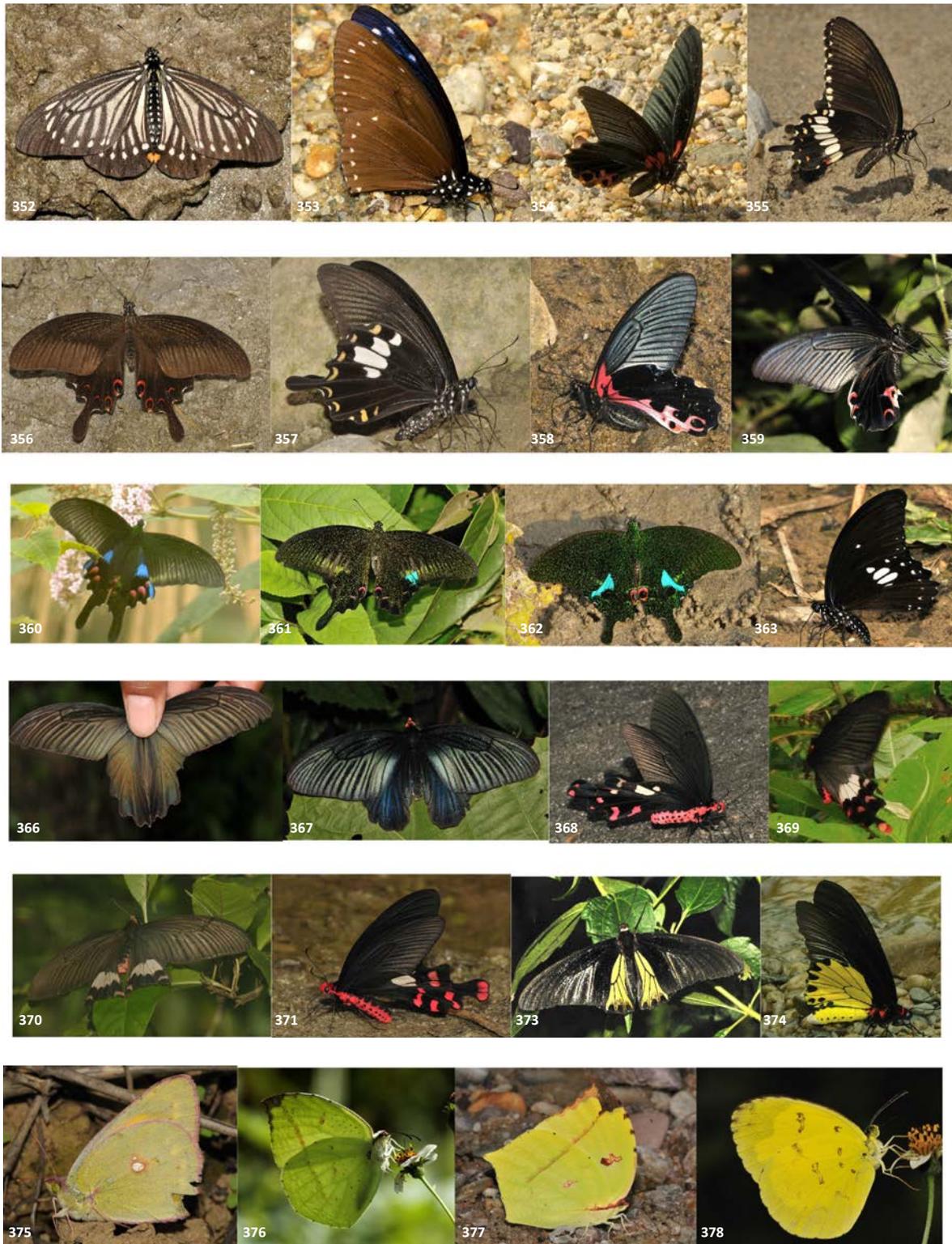


Image 16: 352. *Papilio epycides epycides*; 353. *Papilio paradoxa telearchus*; 354. *Papilio memnon agenor*; 355. *Papilio polytes romulus*; 356. *Papilio helenus helenus*; 357. *Papilio nephelus chaon*; 358. *Papilio alcmenor alcmenor*; 359. *Papilio protenor euprotenor*; 360. *Papilio arcturus arcturus*; 361. *Papilio bianor ganesa*; 362. *Papilio paris paris*; 363. *Papilio castor polias*; 366. *Atrophaneura aidoneus*; 367. *Atrophaneura varuna astorion*; 368. *Byasa dasarada dasarada*; 369. *Byasa latreillei kabrua*; 370. *Byasa polla*; 371. *Byasa polyuctes polyuctes*; 373. *Troides aecus aecus*; 374. *Troides helena cerberus*; 375. *Colias fieldii fieldii*; 376. *Dercas lycorias lycorias* ©BV; 377. *Dercas verhuelli doubledayi*; 378. *Eurema andersonii jordani*

from “Pura Bridge” in Kameng.

371. *Byasa polyeuctes polyeuctes* (Doubleday, 1842) (Common Windmill): Recorded from Pakke, Sessa and Eaglenest in the pre- and post-monsoon seasons at altitudes up to 2,200m. Very common in the survey area. Reported by Betts (1950) as being extremely common in the temperate areas of East and West Kameng Districts. Also reported by Arora & Mondal (1981) from many locations in West Kameng District and from Eaglenest (Athreya 2006b).

372. *Pachliopta aristolochiae aristolochiae* (Fabricius, 1775) (Common Rose): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common in the survey area. Reported by Arora & Mondal (1981) from Denling in West Kameng District.

373. *Troides aeacus aeacus* (Felder & Felder, 1860) (Golden Birdwing): Recorded from the Bhalukpong Ghat-Dinai, Langka and Sukhanala at Pakke and at Sessa in the pre- and post-monsoon seasons between 110m and 1,200m. Both sexes seen. Common in the survey area. Reported as fairly common at low elevations in September and October by Betts (1950). Also, reported by Gupta & Shukla (1988) from numerous locations in West Kameng District below 1,000m.

374. *Troides helena cerberus* (Felder & Felder, 1865) (Common Birdwing): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Both sexes seen. Common.

Family Pieridae, Subfamily Coliadinae

375. *Colias fieldii fieldii* Ménétrés, 1855 (Dark Clouded Yellow): Solitary individual recorded from the Khari-Seijosa trail at Pakke in April 2012 (~150m altitude). Additional records from Pakke-Kesang and on the Sunderview-Bompu-Chackoo trail at Eaglenest in April and September at altitudes between 1,200m and 2,200m. While mostly a butterfly of the hill regions, this species does descend to the plains and foothills in colder weather (Wynter-Blyth 1957; Smith 1994; Kehimkar 2008). It is less common in the Eastern Himalaya (Talbot 1947) than the western Himalaya. Both sexes seen. Rare in the survey area. Reported as common at Rupa, West Kameng District by Betts (1950). Reported from Eaglenest by Athreya (2006b).

376. *Dercas lycorias lycorias* (Doubleday, 1842)

(Plain Sulphur): Recorded from the Lama-Ramaling trail at Eaglenest on 15 October 2012 vide sight records and a photograph by Balakrishnan Valappil. Another unconfirmed record in flight by SS from Sessni on 28 May 2011. Rare. This subspecies is legally protected under the Schedule II of WPA.

377. *Dercas verhuelli doubledayi* Moore, 1905 (Tailed Sulphur): Recorded from all locations at Pakke, at Nechphu near Sessa and from Sessni at Eaglenest in the pre-monsoon season between March and June from the foothills up to 1,400m. Wynter-Blyth (1957) mentions it flies in May and June, while Smith (1994) states it flies in April, May and July implying that it flies in the pre-monsoon season only. However, there is a solitary record of this species by Pareshe Kale from Namdapha in November (Kunte et al. 2016), hence there may be an additional post-monsoon brood, but more data is need to validate this. Uncommon, but local. Reported from Eaglenest by Athreya (2006b).

The Grass Yellows *Eurema* spp. were abundant, but not all individuals were identified to species level. Hence the records here would under-represent the populations of this genus, as individuals whose species identity was not confirmed are not included in these counts.

378. *Eurema andersoni jordani* Corbet & Pendlebury, 1932 (One-spot Grass Yellow): Recorded from the Bhalukpong-Dinai trail, the Khari-Seijosa trail and Langka at Pakke, Sessa and Ramaling at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,900m. Common.

379. *Eurema blanda silhetana* (Wallace, 1867) (Three-spot Grass Yellow): Recorded from the Bhalukpong-Dinai trail at Pakke (100–250 m altitude) and below Lama Camp (1,900m) at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons. Observed feeding on fluids on a box containing rotting fish. Locally common. Reported from Eaglenest and Pakke by Athreya (2006b).

380. *Eurema brigitta rubella* (Wallace, 1867) (Small Grass Yellow): A single record from Sunderview at Eaglenest on 9 September 2011 at an altitude of 2,400m. Very rare in the survey area.

381. *Eurema hecabe hecabe* (Linnaeus, 1758) (Common Grass Yellow): Recorded from all locations at Pakke and single records at Pakke-Kesang, Sessa and Eaglenest in the pre-monsoon, monsoon and post-

monsoon seasons from the foothills up to an altitude of 1,900m. Very common at Pakke. Reported from Dirang by Evans (1914). Reported from Eaglenest and Pakke by Athreya (2006b).

382. *Eurema laeta sikkima* (Moore, 1906) (Spotless Grass Yellow): A single record below Eaglenest Pass at Eaglenest on 21 April 2012 at 2,300m. Very rare in the survey area.

383. *Gandaca harina assamica* Moore, 1906 (Tree Yellow): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Mostly males seen, females seen only on a few occasions. Very common.

Family Pieridae, Subfamily Pierinae

384. *Appias albina darada* (Felder & Felder, 1865) (Common Albatross): Recorded from all locations at Pakke in the pre- and post-monsoon seasons. Both sexes seen. The rare female yellow form *flava* (Image 17: # 384b.) was also recorded once from Langka in March. Very common. This subspecies is legally protected under the Schedule II of WPA.

385. *Appias galba* (Wallace, 1867) (Indian Orange Albatross; ACN: Wallace's Albatross): A single individual recorded from the banks of the Pakhui River at Langka on 15 May 2011. Very rare. This species is legally protected under the Schedule IV of WPA.

386. *Appias lycida eleonora* (Boisduval, 1836) (Chocolate Albatross): Recorded from all locations at Pakke and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to an altitude of 2,000m. Mostly males seen, females seen only on a few occasions. Very common at Pakke; not so common at Eaglenest. Reported from Eaglenest and Pakke by Athreya (2006b).

387. *Appias olferna* Swinhoe, 1890 (Eastern Striped Albatross): Recorded from Langka and Khari at Pakke in March. Rare.

388. *Appias indra indra* (Moore, 1857) (Plain Puffin): Recorded from Langka and Sukhanala at Pakke and Pakke-Kesang in the pre-monsoon season. Very common.

389. *Appias lalage lalage* (Doubleday, 1842) (Spot Puffin): Recorded from Langka at Pakke, Pakke-Kesang, Sessa and the Bompou-Sessni-New Khellong trail at Eaglenest in the pre- and post-monsoon seasons. Very

common at Eaglenest and Pakke-Kesang; not so common at Pakke. Reported from Eaglenest by Athreya (2006b).

390. *Belenois aurota aurota* (Fabricius, 1793) (Pioneer): A single record from Sukhanala at Pakke (May 2011). Very rare in the survey area.

391. *Catopsilia pomona pomona* (Fabricius, 1775) (Common Emigrant): Recorded from all locations at Pakke and one record from Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,200m. Common in the survey area. Reported from Doimara, West Kameng District by Betts (1950). Reported from Pakke by Athreya (2006b).

392. *Catopsilia pyranthe pyranthe* (Linnaeus, 1758) (Mottled Emigrant): Recorded from Sukhanala in October 2010 and Bhalukpong Ghat in April 2014 at Pakke. Rare in the survey area, but possibly overlooked.

393. *Cepora nadina nadina* (Lucas, 1852) (Lesser Gull): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and the Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,500m. Observed feeding on rotting fish. Very common; less common at higher altitudes. Reported from Eaglenest and Pakke by Athreya (2006b).

394. *Cepora nerissa nerissa* (Fabricius, 1775) (Common Gull): Recorded from all locations at Pakke in the pre-monsoon, monsoon and post-monsoon seasons. Very common.

395. *Delias acalis pyramus* (Wallace, 1867) (Red-breast Jezebel): Recorded from Langka on 2 October 2010 and Sukhanala on 16 April 2012 at Pakke. Rare. Reported from Pakke by Athreya (2006b).

396. *Delias agostina agostina* (Hewitson, 1852) (Yellow Jezebel): Recorded from the Khari trail (150m altitude) on 15 April 2012 at Pakke and at Sessa (1,000m altitude) on 14 October 2010. Rare.

397. *Delias belladonna ithiela* Butler, 1869 (Hill Jezebel): Recorded from all locations at Eaglenest and Sessa in the pre- and post-monsoon seasons between altitudes of 1,200m and 2,300m. A single record from Pakke-Kesang in September 2013. Very common. Reported from Eaglenest by Athreya (2006b).

398. *Delias berinda boyleae* Butler, 1885 (Dark Jezebel): Recorded from Haathi nala before Sessni at



Image 17: 379. *Eurema blanda silhetana*; 380. *Eurema brigitta rubella*; 381. *Eurema hecabe hecabe*; 383. *Gandaca harina assamica*; 384a. *Appias albina darada*; 384b. *Appias albina darada* (form *flava*); 386. *Appias lycida eleonora*; 387. *Appias indra indra*; 388. *Appias lalage lalage*; 393. *Cepora nadina nadina*; 394. *Cepora nerissa nerissa*; 395. *Delias acalis pyramus*; 396. *Delias agostina agostina*; 397. *Delias belladonna ithiela*; 398. *Delias berinda boyleae*; 400. *Delias hyparete indica* ©KK; 401. *Delias pasithoe pasithoe*; 402. *Gonepteryx amintha thibetana*; 403. *Hebomoia glaucippe glaucippe*; 404. *Ixias pyrene familiaris*

Eaglenest in May at an altitude of 1,400m. Observed mud-puddling in the company of Hill Jezebel *D. belladonna*. Rare and local.

399. *Delias descombesi descombesi* (Boisduval, 1836) (Red-spot Jezebel): Recorded from Langka, Seijosa and Tippi at Pakke in March, July and October. Uncommon.

400. *Delias hyparete indica* (Wallace, 1867) (Painted Jezebel): Recorded from Seijosa at Pakke on 29 July 2014. Seen feeding on flowers of a Teak (*Tectona grandis*) tree along with other Jezebel species (*Delias* spp.). Very rare in the survey area.

401. *Delias pasithoe pasithoe* (Linnaeus, 1767) (Red-base Jezebel): Recorded from Langka, Seijosa and Sukhanala at Pakke, Pakke-Kesang and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,200m. Seen feeding on flowers of a Teak (*Tectona grandis*) tree along with other Jezebel species (*Delias* spp.). Uncommon in the survey area. Recorded from Doimara, West Kameng by Betts (1950).

402. *Gonepteryx amintha thibetana* Nekrutenko, 1968 (Orange Brimstone; ACN: Tibetan Brimstone): Three records of males from the Lama-Ramaling trail and Bompou at Eaglenest in April 2012 at altitudes between 1,500m and 2,200m. These sightings represent an addition to the butterfly fauna of India. This species was previously known from Tibet; however, its type locality, Lalung, (Nekrutenko 1973) which was considered to be in Tibet, is actually in India (Sondhi & Roy 2013). Rare.

403. *Hebomoia glaucippe glaucippe* (Linnaeus, 1758) (Great Orange-tip): Recorded from all locations at Pakke, Sessa and the Bompou-Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 2,100m. Very common; less common at higher altitudes. Reported from Eaglenest and Pakke by Athreya (2006b).

404. *Ixias pyrene familiaris* Butler, 1874 (Yellow Orange-tip): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and the Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,200m. Females seldom seen. Very common. Reported from Eaglenest and Pakke by Athreya (2006b).

405. *Leptosia nina nina* (Fabricius, 1793) (Psyche): Recorded from all locations at Pakke and Sessa in the pre-monsoon, monsoon and post-monsoon seasons from the

foothills up to 1,200m. Common.

406. *Pareronia avatar* (Moore, 1858) (Pale Wanderer): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and the Bompou-Sessni-Khellong trail at Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 1,200m. Smith (1994) states its altitudinal range in Nepal is from 640m up to 1090m while Kehimkar (2008) states its altitudinal range as up to 1090m, but it does fly at higher altitudes and in the survey area it was most common at 1,200m altitude. Both sexes seen; females less common. Very common in the survey area. Reported as locally common by Betts (1950). Reported from Eaglenest by Athreya (2006b).

407. *Pieris brassicae nepalensis* Gray, 1846 (Large Cabbage White): Recorded from Bhalukpong Ghat (March 2011) and Khari (April 2012) at Pakke, and all locations at Sessa and Eaglenest in the pre- and post-monsoon seasons from the foothills up to 2,200m. Both sexes seen. Not so common at Pakke; very common elsewhere. Reported from the area by Evans (1914), Betts (1950) and Athreya (2006b).

408. *Pieris canidia indica* Evans, 1926 (Indian Cabbage White): Recorded from all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre- and post-monsoon seasons from the foothills up to 2,200m. Both sexes seen. Very common in the survey area. Reported from the area by Evans (1914), Betts (1950) and Athreya (2006b).

409. *Pieris melete ajaka* Moore, 1865 (Green-veined White): Recorded from the Eaglenest Pass-Lama Camp-Ramaling trail at Eaglenest, Pakke-Kesang and Sessa in the pre- and post-monsoon seasons between 1,100m and 1,900m. Common. Reported from the area by Evans (1914).

410. *Pontia daplidice moorei* (Röber, 1907) (Bath White): Recorded from Langka on 15 May 2011 and 14 April 2012 at Pakke and from Sessa on 28 March 2011 at altitudes of 120m and 1,100m respectively. These records represent a range extension of this species to the eastern Himalaya and are the first record of this species from Arunachal Pradesh. Previously, the species' distribution in literature had been stated as Western and central Himalaya, but recent sightings from Sikkim, Assam, Arunachal Pradesh, Manipur and Nagaland have extended its known distributional range eastwards (Naro & Sondhi 2013; Singh & Gogoi 2013). In addition,



Image 18: 406. *Pareronia avatar*; 407. *Pieris brassicae nepalensis*; 408. *Pieris canidia indica*; 409. *Pieris melete ajaka*; 410. *Pontia daplidice moorei*; 411. *Prioneris thestylis thestylis*; 412. *Abisara chela chela*; 413. *Abisara fylla*; 414. *Abisara neophron neophron*; 415. *Dodona adonira adonira*; 416. *Dodona dipoea dipoea*; 417. *Dodona eugenes*; 418a. *Dodona ouida ouida*; 418b. *Dodona ouida ouida*; 419. *Stiboges nymphidia nymphidia*; 420. *Zemeros flegyas flegyas*; 421. *Calinaga aborica*

All images taken in KPAC by Sanjay Sondhi unless otherwise specified vide legend below.

KK: Krushnamegh Kunte, AV: Alka Vaidya, RN: Rohit Naniwadekar, BV: Balakrishnan Valappil, SP: Sujatha Padmanabhan, TK: Tarun Karmakar, HO: Hemant Ogale, YS: Yash Sondhi

Kehimkar mentions its altitudinal range as 1,200–2,700 m. However, it does occasionally descend to the lower elevations; in addition to this record from Pakke, we have seen the species in the foothills elsewhere, too, across the Himalaya. Rare.

411. *Prioneris thestylis thestylis* (Doubleday, 1842) (Spotted Sawtooth): Recorded from Langka at Pakke, Pakke-Kesang, Sessa and at all locations at Eaglenest in the pre- and post-monsoon seasons from the foothills up to 1,900m. An individual repeatedly visited the moth screen with a vapour mercury bulb at Sessa at night. Very common. Reported from Eaglenest by Athreya (2006b).

Family Riodinidae, Subfamily Nemeobiinae

412. *Abisara chela chela* de Nicéville, 1886 (Spot Judy): Recorded from the Bompu-Sessni trail at Eaglenest and Sessa in the pre-monsoon season between altitudes of 1,300m and 1,500m. Rare.

413. *Abisara fylla* (Westwood, 1851) (Dark Judy): Recorded from Langka (Mar 2011) at Pakke, Pakke-Kesang and at all locations at Sessa and Eaglenest in the pre- and post-monsoon seasons between 110m and 1,900m. Both sexes seen. Very common at Eaglenest and Sessa; not so common at Pakke. Reported from Eaglenest by Athreya (2006b).

414. *Abisara neophron neophron* (Hewitson, 1861) (Tailed Judy): Recorded from Sukhanala at Pakke on 5 October 2010 at an altitude 110m and from the Bompusessni trail at Eaglenest on 23 April 2012 and 19 October 2012 between altitudes of 1,200m and 1,900m. Smith (1992) and Kehimkar (2008) state that it flies between 790m and 1,790m; however this record at Pakke and other records by the authors in northeastern India show that it occasionally descends to lower altitudes in the foothills. Rare. Reported from Eaglenest and Pakke by Athreya (2006b).

415. *Dodona adonira adonira* Hewitson, 1866 (Striped Punch): Recorded at all locations at Eaglenest in the pre- and post-monsoon seasons between 1,200m and 2,200m. Uncommon in the survey area. Reported by Gupta & Shukla (1988) from Chug valley in West Kameng District and from Eaglenest by Athreya (2006b). This subspecies is legally protected under the Schedule II of WPA.

416. *Dodona dipoea dipoea* Hewitson, 1866 (Lesser Punch): Recorded at all locations at Eaglenest in the pre- and post-monsoon seasons between 1,800m and 2,300m. Active at Eaglenest even in December. Common. This subspecies is legally protected under the Schedule II of WPA.

417. *Dodona eugenes* Bates, 1867 (Tailed Punch): Recorded at all locations at Eaglenest in the pre- and post-monsoon seasons between 1,800m and 2,300m. Common.

418. *Dodona ouida ouida* Moore, 1866 (Mixed Punch): Recorded at all locations at Eaglenest in the pre- and post-monsoon seasons between 1,500m and 2,200m. Two records of females (Image 18: # 409b), rest males. Uncommon.

419. *Stiboges nymphidia nymphidia* Butler, 1876 (Columbine): Recorded on the Bompusessni trail at Eaglenest on 23 and 24 April 2012. Rare and local.

420. *Zemeros flegyas flegyas* Cramer, 1780 (Punchinello): Recorded at all locations at Pakke, Pakke-Kesang, Sessa and Eaglenest in the pre-monsoon, monsoon and post-monsoon seasons from the foothills up to 2,000m. Very common. Reported from Eaglenest and Pakke by Athreya (2006b).

Family Nymphalidae, Subfamily Calinaginae

421. *Calinaga aborica* Tytler, 1915 Abor Freak (Dark Freak): A single record of this species on 21 May 2015 at

Sochung, Pakke-Kesang. While this species was recorded outside the duration of the survey period covered in this manuscript, this sighting constitutes a significant record and a species re-discovery after a hundred years (Sondhi et al. 2016), so we felt it pertinent to include this species in this manuscript during the production stage.

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Table 5. Checklist of butterflies recorded in this survey of the Kameng Protected Area Complex, showing occurrence of species by protected areas, seasons and abundance.

Notes:

¹The accepted common names based on Evans (1932), Wynter-Blyth (1957), Sondhi et al. (2013), Sondhi & Kunte (2014) and Kunte et al. (2016) have been used. Alternative common names, if any, are mentioned in the detailed species notes.²The scientific name up to the subspecies level is mentioned where trinomial names exist.³The protected areas in which the butterfly was recorded with respect to the three areas sampled—Eaglenest WS (EN), Pakke Tiger Reserve (PTR) and Sessa Orchid WS (SO) are mentioned here. Specific locations at which these individuals were sighted in these PAs is mentioned in the detailed species notes.⁴Months during the survey during which the individuals were sighted. This does not mean that the butterflies are not active outside this season, but is meant as an indicator of seasonal occurrence and flight periods.⁵The altitudinal ranges at which the individuals were sighted.⁶This refers to the total number of individuals sighted during the surveys in the pre-monsoon, monsoon and post-monsoon seasons.

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
Family Hesperiiidae, Subfamily Coeliadinae					
1. Brown Awl	<i>Badamia exclamationis</i>	PTR	vii	120	1
2. Orange-tail Awl	<i>Bibasis sena sena</i>	PTR	iv, vi, x	120–250	4
3. Small Green Awlet	<i>Burara amara</i>	PTR	vii	120	1
4. Pale Green Awlet	<i>Burara gomata gomata</i>	PTR	ix	1430	1
5. Harisa Orange Awlet	<i>Burara harisa harisa</i>	PTR	vii	120	1
6. Orange Awlet	<i>Burara jaina jaina</i>	PTR	x	120	2
7. Branded Orange Awlet	<i>Burara oedipodea belesis</i>	PTR	x	120–250	2
8. Indian Awlking	<i>Choaspes cf. benjaminii japonica</i>	EN/PTR	iii, ix, x	120–1,250	6
9. Common Awl	<i>Hasora badra badra</i>	PTR/SO	iv, x	120–1, 150	6
10. Common Banded Awl	<i>Hasora chromus chromus</i>	EN/PTR/SO	iv, ix, x	120–1,900	10
11. Plain Banded Awl	<i>Hasora vitta indica</i>	EN/PTR/SO	iv, ix, x	120–2,100	9
Family Hesperiiidae, Subfamily Hesperinae					
12. Veined Scrub Hopper	<i>Aeromachus stigmata stigmata</i>	PTR	ix	1,040–1,400	3
13. Forest Hopper	<i>Astictopterus jama olivascens</i>	PTR	iii, iv, vi, viii, ix, x	120–250	17
14. Tiger Hopper	<i>Ochus subvittatus subradiatus</i>	PTR	ix	1,000–1,400	38
15. Bi-spot Banded Ace	<i>Halpe porus</i>	PTR	iii, iv, x	120–250	4
16. Zola Banded Ace	<i>Halpe cf. zola zola</i>	PTR	ix	160 m	1
17. Ace sp. at Eaglenest	<i>Halpe sp. # 1</i>	EN/SO	iv, v, ix	1,200	10
18. Ace sp. at Pakke	<i>Halpe sp. # 2</i>	PTR	iii, iv, vi, x	120–250	6
19. Light Straw Ace	<i>Pithauria stramineipennis stramineipennis</i>	PTR	viii, ix	120	3
20. Tufted Ace	<i>Sebastonyma dolopia</i>	PTR	v, vi, x	120–250	6
21. Chequered Ace	<i>Sovia separata magna</i>	PTR	ix	1,400	1
22. Northern Spotted Ace	<i>Thoressa cerata</i>	PTR	iv, ix	120–250	2
23. Variable Ace	<i>Thoressa hyrie</i>	EN	iv	1,200	3
24. Wax Dart	<i>Cupitha purreea</i>	PTR	iii, iv, x	120	3
25. Smaller Dartlet	<i>Oriens goloides</i>	PTR	iv	120	1
26. Plain Palm-Dart	<i>Cephrenes acalle oceanica</i>	PTR	x	140	1
27. Dart sp.	<i>Potanthus sp.</i>	EN/PTR/SO	iii–vi, viii, ix, x	120–2,200	17
28. Dark Palm-Dart	<i>Telicota bambusae bambusae</i>	PTR	vi, ix, x	120–250	3
29. Chocolate Demon	<i>Ancistroides nigrita diocles</i>	PTR	iii–v, vii, ix–x	120–250	48
30. Restricted Demon	<i>Notocrypta curvifascia curvifascia</i>	EN/PTR	iii, vii, ix, x	120–250, 1,200	21
31. Spotted Demon	<i>Notocrypta feisthamelii alysos</i>	EN/PTR/SO	iii–v, vii, ix, x	120–250 & 1,200–2,200	15
32. Common Banded Demon	<i>Notocrypta paralysos asawa</i>	PTR	iii–vi, x	120–250	30
33. Grass Demon	<i>Udaspes folus</i>	PTR	vii, ix, x	120–800	14

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
34. Chestnut Bob	<i>Iambrix salsala salsala</i>	PTR	iii-viii, ix, x	120–250	52
35. Dark Velvet Bob	<i>Koruthaialos butleri</i>	PTR	iii, iv, vi, ix, x	120–250	6
36. Conjoined Bush Bob	<i>Scobura tytleri</i>	SO	ix	1,150	1
37. Forest Bob	<i>Scobura isota</i>	PTR	iv	120	1
38. Indian Grass Bob	<i>Suada swerga swerga</i>	PTR	iv	120	1
39. Tree Flitter	<i>Hyarotis adrastus praba</i>	PTR	iii, viii, iv	120	5
40. Purple and Gold Flitter	<i>Zographetus satwa</i>	PTR	iii, iv	120	8
41. Common Red-eye	<i>Matapa aria</i>	PTR	iii, x	120	2
42. Dark Branded Red-eye	<i>Matapa druna</i>	PTR	x	330	1
43. Spotted Redeye	<i>Pudicitia pholus</i>	PTR	ix	1,400	1
44. Common Wight	<i>Iton semamora semamora</i>	PTR	iv, x	120–250	3
45. Complete Paint-brush Swift	<i>Baoris farri</i>	PTR	ix, x	120–1,000	5
46. Figure of 8 Swift	<i>Baoris pagana</i>	EN	v	1,500	1
47. Cryptic Swift	<i>Caltoris cf. moorei moorei</i>	PTR	iii	300	1
48. Straight Swift	<i>Parnara sp.</i>	EN/PTR/SO	iv, xi, x	120–2,100	7
49. Small Branded Swift	<i>Pelopidas mathias mathias</i>	PTR	iv, ix, x	120–250	4
50. Dark Branded Swift	<i>Pelopidas agna</i>	SO	v	1,200	2
51. Yellow-spot Swift	<i>Polytremis eltola eltola</i>	EN/PTR/SO	iii-v, ix, x	120–250 & 900–2,200	27
52. Contiguous Swift	<i>Polytremis lubricans lubricans</i>	PTR	iv, x	120	2
53. Lesser Rice Swift	<i>Borbo bevani</i>	PTR	ix, x	120–330	2
Family Hesperidae, Subfamily Pyrginae					
54. Dark Yellow-banded Flat	<i>Celaenorrhinus aurivittata aurivittata</i>	PTR/SO	iii, v, ix, x	120–250 & 1,200	13
55. Scarce Banded Flat	<i>Celaenorrhinus badia</i>	SO	ix	1,250	1
56. Common Spotted Flat	<i>Celaenorrhinus leucocera</i>	PTR	iii-vi, viii, x	120–250	23
57. Flat sp.	<i>Celaenorrhinus sp.</i>	EN/SO	iii, iv	1,200–1,900	6
58. Large Spotted Flat	<i>Celaenorrhinus plagifera</i>	EN	ix	1,500	1
59. Restricted Spotted Flat	<i>Celaenorrhinus putra putra</i>	PTR	vi, x	160	3
60. Double-spotted Flat	<i>Celaenorrhinus pyrha</i>	PTR/SO	v, ix	1,250–1,400	2
61. Contiguous Spotted Flat	<i>Celaenorrhinus sumitra</i>	SO	x	1,250	2
62. Dusky Yellow-breasted Flat	<i>Gerosis phisara phisara</i>	PTR	x	120	2
63. White Yellow-breasted Flat	<i>Gerosis sinica narada</i>	EN	ix	1,400	1
64. Chestnut Angle	<i>Odontoptilum angulata angulata</i>	PTR	iii, vi, ix, x	120–250	7
65. Fulvous Pied Flat	<i>Pseudocoladenia dan fabia</i>	PTR/SO	iii-vi, viii-x	120–1,200	45
66. Dull Pied Flat	<i>Pseudocoladenia cf. festa</i>	EN	x	2,100	1
67. Common Small Flat	<i>Sarangesa dasahara dasahara</i>	PTR	iii, vii, ix, x	120–250	11
68. Notched Seseria	<i>Seseria sambara</i>	PTR	iv, x	120–250	6
69. Striped Snow Flat	<i>Tagiades cohaerens cynthia</i>	EN	x	1,900	1
70. Suffused Snow Flat	<i>Tagiades gana athos</i>	PTR	iii, iv, x	120–250	4
71. Common Snow Flat	<i>Tagiades japetus ravi</i>	EN/PTR	iii-vii, ix, x	120–750	11
72. Water Snow Flat	<i>Tagiades litigiosa litigiosa</i>	PTR	iii, v, viii- x	120–250	6
73. Spotted Snow Flat	<i>Tagiades menaka menaka</i>	EN/PTR	iv, viii	120	2
Family Lycaenidae, Subfamily Curetinae					
74. Bright Sunbeam	<i>Curetis bulis bulis</i>	PTR	iv, v, ix	120–1,040	10
75. Acute Sunbeam	<i>Curetis acuta dentata</i>	PTR	iii, v	120–250	3

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
Family Lycaenidae, Subfamily Lycaeninae					
76. Golden Sapphire	<i>Heliophorus brahma brahma</i>	EN/SO	iv, v, ix, x	1,200–1,900	9
77. Purple Sapphire	<i>Heliophorus epicles latilimbata</i>	PTR/SO	iii-x	120–1,200	157
78. Dark Sapphire	<i>Heliophorus indicus</i>	EN	v, ix, x	750–1,400	66
79. Azure Sapphire	<i>Heliophorus moorei moorei</i>	EN	iv, v, ix, x	1,200–2,300	19
80. Sorrel Sapphire	<i>Heliophorus sena</i>	EN/SO	v, x	1,200–1,800	2
81. Powdery Green Sapphire	<i>Heliophorus tamu tamu</i>	EN	iv, v, ix, x	900–2,400	45
Family: Lycaenidae, Subfamily: Miletinae					
82. Crenulate Mottle	<i>Allotinus drumila drumila</i>	EN	x	1,200	1
83. Dark Mottle	<i>Logania distanti massalia</i>	PTR	iii, iv	120	2
84. Common Mottle	<i>Miletus chinensis assamensis</i>	PTR	iv, v, ix	120–400	3
85. Forest Pierrot	<i>Taraka hamada mendesia</i>	PTR/SO	iv, v, ix	120–1,300	8
Family Lycaenidae, Subfamily Polyommatinae					
86. Common Ciliate Blue	<i>Anthene emolus emolus</i>	PTR	iii-vii, ix, x	120–250	68
87. Pointed Ciliate Blue	<i>Anthene lycaenina lycambes</i>	PTR	iv-vi, ix, x	120–1,200	8
88. Silver Forget-me-not	<i>Catochrysops panormus exiguus</i>	PTR	iv, v, ix	120–1,200	12
89. Forget-me-not	<i>Catochrysops strabo strabo</i>	EN/PTR	iii-v	120–250 & 1,900	26
90. Lime Blue	<i>Chilades lajus lajus</i>	PTR	iii, vi, ix, x	120–1,400	4
91. Elbowed Pierrot	<i>Caleta elna noliteia</i>	PTR	iii-x	120–1,400	103
92. Common Pierrot	<i>Castalius rosimon rosimon</i>	PTR	iii-x	120–250	34
93. Dark Pierrot	<i>Tarucus ananda</i>	PTR	iii, v, x	120–250	6
94. Pointed Pierrot	<i>Niphanda cymbia cymbia</i>	PTR	iii, v, ix	120–250	3
95. Tailed Cupid	<i>Everes argiades diporides</i>	EN	v	1,900	1
96. Metallic Cerulean	<i>Jamides alecto euryaces</i>	PTR	iv, x	120	2
97. Dark Cerulean	<i>Jamides bochus bochus</i>	EN/PTR	iii-v, x	120–250 & 1,200–2,000	29
98. Common Cerulean	<i>Jamides celeno celeno</i>	PTR	vi, x	120	3
99. Glistening Cerulean	<i>Jamides elpis pseudelpis</i>	PTR	iii-viii, x	120–250	25
100. Pointed Lineblue	<i>Ionolyce helicon merguiana</i>	PTR	vi, vii-ix	120–1,200	8
101. Opaque Six-Lineblue	<i>Nacaduba beroe gythion</i>	EN/PTR	iv, ix, x	120–1,400	24
102. Transparent Six-Lineblue	<i>Nacaduba kurava euplea</i>	PTR	iv, ix	120 & 1,400	2
103. Pale Four-Lineblue	<i>Nacaduba hermus nabo</i>	PTR	iv, v	120–250	4
104. Large Four-Lineblue	<i>Nacaduba pactolus continentalis</i>	PTR	ix, x	120–800	5
105. Violet Four-Lineblue	<i>Nacaduba pavana vajuva</i>	PTR	iv, vi	120–250	6
106. Dingy Lineblue	<i>Petrelaea dana</i>	PTR	iv, v, ix	120–250	12
107. Banded Lineblue	<i>Prosotas aluta coelestis</i>	PTR	iii-v, ix	120–250	8
108. Bhutia Lineblue	<i>Prosotas bhutea</i>	PTR	iii-vi, x	120–250	22
109. Tailless Lineblue	<i>Prosotas dubiosa indica</i>	PTR	iv, v, viii-x	120–250	142
110. Common Lineblue	<i>Prosotas nora ardates</i>	EN/PTR/SO	iii-x	120–2,200	102
111. Pea Blue	<i>Lampides boeticus</i>	EN/PTR/SO	iii-v, viii, x	120–2,400	46
112. Zebra Blue	<i>Leptotes plinius plinius</i>	PTR	iii-v, viii, x	120–250	14
113. Malayan	<i>Megisba malaya sikkima</i>	PTR/EN	iv-vii, ix	120–250 & 2,100	22
114. Quaker	<i>Neopithecops zalmora zalmora</i>	PTR	iii, iv, viii-x	120–1,000	9
115. Straightwing Blue	<i>Orthomiella pontis pontis</i>	EN	iv, v	1,200–2,300	277
116. Common Hedge Blue	<i>Acytolepis puspa gisca</i>	EN/PTR/SO	iii-v, viii-x	120–2,200	43
117. Plain Hedge Blue	<i>Celastrina lavendularis limbata</i>	EN/PTR/SO	iii, iv, viii, x	120–2,200	11

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
118. Grey Hedge Blue	<i>Monodontides musina musinoides</i>	EN	ix	1,900	13
119. White-banded Hedge Blue	<i>Lestranicus transpectus</i>	EN/PTR	iii-v, ix, x	120–1,900	1
120. Albocaerulean	<i>Udara albocaerulea albocaerulea</i>	EN/SO	iii, iv	1,200–1,300	5
121. Pale Hedge Blue	<i>Udara dilectus dilectus</i>	EN/PTR/SO	iii-v, ix, x	120–2,300	41
122. Singleton	<i>Una usta usta</i>	PTR	ix	1,200	2
123. Pale Grass Blue	<i>Pseudozizeeria maha maha</i>	PTR	iii, iv, vii, viii	120–250	74
124. Dark Grass Blue	<i>Zizeeria karsandra</i>	PTR	iii-vi, ix, x	120–250	104
125. Tiny Grass Blue	<i>Zizula hylax hylax</i>	EN/PTR	iii, iv, x	120–250 & 1,900	8
126. Lesser Grass Blue	<i>Zizina otis otis</i>	PTR	iii, x	120–330	10
Family Lycaenidae, Subfamily Theclinae					
127. Powdered Oakblue	<i>Arhopala bazalus teetsa</i>	PTR	x	170	1
128. White-ringed Oakblue	<i>Arhopala belpheobe</i>	PTR	iv	170	2
129. Myanmarese Bushblue	<i>Arhopala birmana birmana</i>	EN	ix, x	1,400–2,000	4
130. Centaur Oakblue	<i>Arhopala centaurus pirthous</i>	PTR	iv, vii-x	120–250	22
131. Tailless Bushblue	<i>Arhopala ganesa watsoni</i>	EN	x	2,000	1
132. Luster Oakblue	<i>Arhopala khamti</i>	PTR	iv, vii, ix	120	3
133. Lackluster Oakblue	<i>Arhopala oenea</i>	PTR	iv, x	120	2
134. Tailless Yellowdisc Oakblue	<i>Arhopala perimuta perimuta</i>	PTR	iv, vi, vii	120	3
135. Sylhet Oakblue	<i>Arhopala silhetensis silhetensis</i>	PTR	iv, ix	120	3
136. Plane	<i>Bindahara phocides phocides</i>	PTR	iv	200	1
137. Common Imperial	<i>Cheritra freja evansi</i>	PTR	iii-x	120–250	14
138. Blue Imperial	<i>Ticherra acte acte</i>	PTR	iv-x	120–1,400	14
139. Blue Tit	<i>Hypolycaena kina kina</i>	EN/PTR/SO	iii-v, ix, x	120–1,500	31
140. Orchid Tit	<i>Hypolycaena othona othona</i>	PTR	iii, iv, vi, viii, ix, x	120–250	9
141. Common Tit	<i>Hypolycaena erylus himavantus</i>	PTR	iii-vii, ix, x	120–250	90
142. Fluffy Tit	<i>Zeltus amasa amasa</i>	PTR/SO	iv-x	120–1,100	40
143. Metallic Green Hairstreak	<i>Chrysozephyrus duma</i>	EN	ix	2,200	1
144. Hairstreak sp.	<i>Chrysozephyrus sp.</i>	EN	x	2,000	1
145. Assam Silver Hairstreak	<i>Chrysozephyrus assamicus</i>	EN	ix	2,000	1
146. Cornelian	<i>Deudorix epijarbas epijarbas</i>	EN	viii-x	120–1,350	4
147. Common Onyx	<i>Horaga onyx onyx</i>	PTR	vi	120	1
148. Common Red Flash	<i>Rapala iarbus iarbus</i>	PTR	vii	150	1
149. Common Flash	<i>Rapala nissa ranta</i>	EN	v, ix	1,200–2,000	11
150. Copper Flash	<i>Rapala pheretima petosiris</i>	PTR	iv, v	120	3
151. Refulgent Flash	<i>Rapala refulgens</i>	PTR	iv	120	1
152. Indigo Flash	<i>Rapala varuna orseis</i>	PTR	iii, vi, vii	120	3
153. Silver Royal	<i>Ancema blanka minturna</i>	PTR	vii	180	2
154. Bi-spot Royal	<i>Ancema ctesia ctesia</i>	PTR	iv, ix	120, 1,200	2
155. Chocolate Royal	<i>Remelana jangala ravata</i>	PTR	iv, vi, viii, ix, x	120–250	10
156. Narrow Spark	<i>Sinthusia nasaka amba</i>	PTR	iii-v	200	5
157. Pale Spark	<i>Sinthusia virgo</i>	EN	v	1,900	1
158. Common Acacia Blue	<i>Surendra quercetorum quercetorum</i>	PTR	iii-x	120–250	49
159. Silver-streaked Acacia Blue	<i>Zinaspa todara distorta</i>	PTR	v, ix	120–220	2
160. Yamfly	<i>Loxura atymnus continentalis</i>	PTR	iii-vi, viii-x	120–250	22
161. Branded Yamfly	<i>Yasoda tripunctata tripunctata</i>	EN/PTR	vii, x	120–900	4

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162. Long-banded Silverline	<i>Spindasis lohita himalayanus</i>	PTR/SO	iii, v,vii, ix, x	120–1,200	35
163. Club Silverline	<i>Spindasis syama peguanus</i>	PTR	iii, iv, x	120–400	4
Family Nymphalidae, Subfamily Apaturinae					
164. Indian Purple Emperor	<i>Mimathyma ambica ambica</i>	EN/PTR/SO	iii, v, ix, x	120–1,900	11
165. Golden Emperor	<i>Dilipa morgiana</i>	EN	ix	1,500	1
166. Painted Courtesan	<i>Euripus consimilis consimilis</i>	PTR	ix	250	1
167. Courtesan	<i>Euripus nyctelius nyctelius</i>	PTR/SO	iii, vi, ix, x	120–1,200	5
168. Pasha	<i>Herona marathus marathus</i>	EN/PTR	v, ix	120, 1,500	2
169. Circe	<i>Hestinalis nama nama</i>	EN/PTR/SO	iii-v, ix, x	160–2,200	22
170. Black Prince	<i>Rohana parisatis parisatis</i>	EN/SO/PTR	iii, vi, vii, ix, x	120–1,200	52
171. Brown Prince	<i>Rohana parvata parvata</i>	EN	x	1, 500	1
172. Eastern Courtier	<i>Sephisa chandra</i>	EN	iv	1,500	1
Family Nymphalidae, Subfamily Biblidinae					
173. Angled Castor	<i>Ariadne ariadne pallidior</i>	EN/PTR	iii-v, vii, x	120–1,400	22
174. Common Castor	<i>Ariadne merione tapestrina</i>	PTR	iii-x	120–1,000	39
Family Nymphalidae, Subfamily Cyrestinae					
175. Common Maplet	<i>Chersonesia risa risa</i>	PTR/SO	ix, x	120 – 1,200	5
176. Common Map	<i>Cyrestis thyodamas thyodamas</i>	PTR	iii, iv, vii, ix	120–1,200	20
Family Nymphalidae, Subfamily Charaxinae					
177. Pallid Nawab	<i>Charaxes arja arja</i>	PTR	iv, v, vii, ix, x	120–250	15
178. Indian Nawab	<i>Charaxes bhārata</i>	PTR	iii-v, vii-x	120–1,200	26
179. Tawny Rajah	<i>Charaxes bernardus hierax</i>	PTR	iii-x	120–250	51
180. Variegated Rajah	<i>Charaxes kahruba</i>	PTR	iv, vii, ix, x	120–250	15
181. Yellow Rajah	<i>Charaxes marmax marmax</i>	PTR	iv, x	120–250	4
182. Chinese Nawab	<i>Charaxes narcaeus aborica</i>	EN	ix	2,000	1
Family Nymphalidae, Subfamily Danainae					
183. Plain Tiger	<i>Danaus chrysippus chrysippus</i>	PTR/SO	iii-vi, ix, x	120–1,200	15
184. Striped Tiger	<i>Danaus genutia genutia</i>	PTR/SO	iii-viii, x	120–1,200	31
185. Glassy Tiger	<i>Parantica aglea melanoides</i>	EN/PTR/SO	iii-x	120–2,200	115
186. Chocolate Tiger	<i>Parantica melaneus plataniston</i>	EN/PTR/SO	iii, iv, viii-x	120–2,200	31
187. Chestnut Tiger	<i>Parantica sita sita</i>	EN/PTR/SO	iii-v, ix, x	120–2,200	68
188. Blue Tiger	<i>Tirumala limniace exoticus</i>	PTR/SO	iii-vi, ix, x	120–1,200	12
189. Dark Blue Tiger	<i>Tirumala septentrionis septentrionis</i>	EN/PTR/SO	iii-x	120–1,200	21
190. Long-branded Blue Crow	<i>Euploea algea deione</i>	PTR	iii-v, vii-x	120–330	13
191. Common Crow	<i>Euploea core core</i>	PTR	iii, vii	300	2
192. King Crow	<i>Euploea klugii klugii</i>	PTR	iii, x	120–250	6
193. Blue-spotted Crow	<i>Euploea midamus rogenhoferi</i>	PTR	iii-v, vii, x	120–250	6
194. Striped Blue Crow	<i>Euploea mulciber mulciber</i>	EN/PTR/SO	iii-x	120–2,400	122
195. Magpie Crow	<i>Euploea radamanthus radamanthus</i>	EN/PTR/SO	iii-x	120–750	32
196. Double-branded Blue Crow	<i>Euploea sylvester hopei</i>	PTR	iii-v, vii	120–250	19
Family Nymphalidae, Subfamily Heliconiinae					
197. Yellow Coster	<i>Acraea issoria issoria</i>	EN/SO	iv, x, ix, x	900–2,000	34
198. Large Silverstripe	<i>Argynnis childreni childreni</i>	EN/SO	ix, x	1,200–1,900	2
199. Tropical Fritillary	<i>Argynnis hyperbius hyperbius</i>	EN	v, ix, x	1,700–2,000	14
200. Red Lacewing	<i>Cethosia biblis tisamena</i>	EN/PTR/SO	iii, iv, ix, x	120–2,300	30

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
201. Leopard Lacewing	<i>Cethosia cyane cyane</i>	PTR/SO	iii, iv, vii- x	120–1,200	28
202. Large Yeoman	<i>Cirrochroa aoris aoris</i>	PTR/SO	iii, iv, vii-x	120–1,200	209
203. Common Yeoman	<i>Cirrochroa tyche mithila</i>	PTR/SO	iii-x	120–1,500	65
204. Rustic	<i>Cupha erymanthis lotis</i>	PTR/SO	iii, ix, x	120, 1,200	4
205. Common Leopard	<i>Phalanta phalantha phalantha</i>	PTR	iii-v, vii	120–250	8
206. Vagrant	<i>Vagrans egista sinha</i>	PTR/SO	v, ix, ix, x	120–1,500	39
207. Cruiser	<i>Vindula erota erota</i>	EN/PTR/SO	iii-v, vii- x	120–2,000	51
Family Nymphalidae, Subfamily Libytheinae					
208. Common Beak	<i>Libythea lepita lepita</i>	EN/PTR	iii, x	120 & 1,500	3
209. Club Beak	<i>Libythea myrrha sanguinalis</i>	PTR	iv, x	120	4
Family Nymphalidae, Subfamily Limenitidinae					
210. Studded Sergeant	<i>Athyma asura asura</i>	PTR/SO	ix, x	120 & 1,300	3
211. Orange Staff Sergeant	<i>Athyma cama cama</i>	EN/SO	ix, ix, x	1,000–1,900	6
212. Color Sergeant	<i>Athyma inara inara</i>	PTR	iii, iv, vi, ix, x	120–250	14
213. Dot-dash Sergeant	<i>Athyma kanwa phorkys</i>	PTR	iv, x	120	4
214. Elongated Sergeant	<i>Athyma orientalis</i>	PTR/EN/SO	iv, v, ix, x	1,200–2,000	13
215. Common Sergeant	<i>Athyma perius perius</i>	PTR	iii, x	120	2
216. Unbroken Sergeant	<i>Athyma pravara acutipennis</i>	PTR	vi, ix, x	120–400	7
217. Blackvein Sergeant	<i>Athyma ranga ranga</i>	PTR	iii, vi, vii, x	120–250	9
218. Staff Sergeant	<i>Athyma selenophora selenophora</i>	PTR/SO	iii, vii, ix, x	120–1,200	11
219. Small Staff Sergeant	<i>Athyma zeroa zeroa</i>	PTR/SO	iii, x	120–1,200	5
220. Commodore	<i>Auzakia danava danava</i>	PTR/SO	iii, ix	120–1,200	4
221. Grey Commodore	<i>Bhagadatta austenia austenia</i>	EN/SO	v, ix, x	1,000–1,400	14
222. Bi-color Commodore	<i>Parasarpa zayla zayla</i>	EN/SO	ix, x	1,200–1,900	4
223. Green Commodore	<i>Sumalia daraxa daraxa</i>	EN/PTR/SO	iii, iv, ix, x	120–1,400	16
224. Scarce White Commodore	<i>Sumalia zulema</i>	PTR	ix	1,200	1
225. Blue Duke	<i>Bassarona durga durga</i>	PTR/EN/SO	ix, x	1,000–1,400	5
226. Red Spot Duke	<i>Dophla evelina derma</i>	PTR	iv	160	1
227. Common Baron	<i>Euthalia aconthea garuda</i>	PTR	ix	160	1
228. Streaked Baron	<i>Euthalia alpheda jama</i>	EN	x	900	1
229. French Duke	<i>Euthalia francae francae</i>	EN	v, ix, x	1,500–1,700	3
230. Grand Duke	<i>Euthalia iva</i>	SO	ix, x	1,200–1,400	3
231. Gaudy Baron	<i>Euthalia lubentina lubentina</i>	PTR	x	160	2
232. Powdered Baron	<i>Euthalia monina kesava</i>	PTR	iii-vii, ix, x	120–250	36
233. Bronze Duke	<i>Euthalia nara nara</i>	SO	x	1,200	1
234. White-edged Blue Baron	<i>Euthalia phemius phemius</i>	EN/PTR/SO	iii, viii, x	120–1,200	12
235. Dark Archduke	<i>Lexias dirtea khasiana</i>	PTR	iii, x	120	6
236. Knight	<i>Lebadea martha martha</i>	PTR	iii	120	2
237. Commander	<i>Moduza procris procris</i>	PTR/SO	iii, iv, ix, x	120–1,200	12
238. Yellowjack Sailer	<i>Lasippa viraja viraja</i>	PTR	iv	120	1
239. Clear Sailer	<i>Neptis nata adipala</i>	EN/PTR	iii-vii, ix, x	120–250, 1,000–2,000	37
240. Sullied Sailer	<i>Neptis clinia susruta</i>	PTR	iii-vii, ix, x	120–250	2
241. Dingiest Sailer	<i>Neptis harita harita</i>	PTR	iii, vi, ix, x	120	4
242. False Dingy Sailer	<i>Neptis pseudovikasi</i>	PTR	ix	1,000	1
243. Common Sailer	<i>Neptis hylas varmona</i>	PTR	iii, iv, vi, x	120–250	30

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244. Spotted Sailer	<i>Neptis magadha khasiana</i>	PTR	x	120	1
245. Small Yellow Sailer	<i>Neptis miah miah</i>	PTR	ii, v, vi, x	120–250	9
246. Great Yellow Sailer	<i>Neptis radha radha</i>	EN/SO	v, x	1,000–1,400	3
247. Broad-banded Sailer	<i>Neptis sankara amba</i>	PTR/SO	iv, ix, x	120 & 1,200–1,400	6
248. Rusty Sailer	<i>Neptis sappho astola</i>	EN/PTR	iv, ix, x	120–250 & 1,400–1,900	28
249. Creamy Sailer	<i>Neptis soma soma</i>	EN	iv, v	1,300–1,900	10
250. Short-banded Sailer	<i>Phaedyma columella ophiana</i>	PTR	iii, iv, ix	120–330	16
251. Common Lascar	<i>Pantoporia hordonia hordonia</i>	EN/PTR	iii-x	120–1,000	103
252. Perak Lascar	<i>Pantoporia paraka paraka</i>	PTR	vi	120	1
253. Panther	<i>Neurosigma siva siva</i>	EN/SO	ix	1,200–1,500	8
254. Plain Earl	<i>Tanaecia jahnu jahnu</i>	PTR	x	120	3
255. Common Earl	<i>Tanaecia julii appiades</i>	PTR	iii, vi, viii, ix, x	120	15
256. Grey Count	<i>Tanaecia lepidea lepidea</i>	PTR	iii, iv, vi- x	120–330	29
Family Nymphalidae, Subfamily Nymphalinae					
257. Indian Tortoiseshell	<i>Aglais caschmirensis aesis</i>	EN/SO	iii-v, ix, x, xii	1,000–2,200	74
258. Peacock Pansy	<i>Junonia almana almana</i>	PTR	iii, iv, x	120–250	21
259. Grey Pansy	<i>Junonia atlites atlites</i>	PTR	iii, iv, vii- x	120–1,400	38
260. Yellow Pansy	<i>Junonia hierta hierta</i>	EN/PTR/SO	iv, v, ix, x	120–2,200	5
261. Chocolate Pansy	<i>Junonia iphita iphita</i>	EN/PTR/SO	iii-x	120–2,200	343
262. Lemon Pansy	<i>Junonia lemonias lemonias</i>	PTR	iii-x	120–250	38
263. Blue Pansy	<i>Junonia orithya ocyale</i>	EN/PTR	iii, vi, ix, x	120 & 1,000–1,800	9
264. Indian Blue Admiral	<i>Kaniska canace canace</i>	EN	ix, x	1,500–2,000	4
265. Painted Lady	<i>Vanessa cardui</i>	EN	iv, ix, x	1,200–2,400	8
266. Indian Red Admiral	<i>Vanessa indica indica</i>	EN/PTR/SO	iii-v, ix, x, xii	120–2,400	26
267. Spotted Jester	<i>Symbrenthia hypselis cotanda</i>	EN/PTR/SO	iii-v, ix, x	120–1,900	30
268. Common Jester	<i>Symbrenthia lilaia khasiana</i>	EN/PTR/SO	iii-x	120–2,400	45
269. Bluetail Jester	<i>Symbrenthia niphanda niphanda</i>	EN/SO	ix	1,200–2,000	3
270. Scarce Jester	<i>Symbrenthia silana</i>	EN	iv	1,400	1
271. Great Eggfly	<i>Hypolimnas bolina jacintha</i>	PTR	iii-x	120–330	22
272. Autumn Leaf	<i>Doleschallia bisaltide indica</i>	PTR/SO	iii-v, vii- x	120–1,200	55
273. Orange Oakleaf	<i>Kallima inachus inachus</i>	EN/PTR/SO	iii-x	120–1,200	65
274. Wizard	<i>Rhinopalpa polynice birmana</i>	PTR	iii, iv, vii- x	120–250	22
Family Nymphalidae, Subfamily Pseudergolinae					
275. Constable	<i>Dichorragia nesimachus nesimachus</i>	PTR	vii-x	120–250	5
276. Tabby	<i>Pseudergolis wedah wedah</i>	EN/PTR/SO	viii-x	120–2,000	23
277. Popinjay	<i>Stibochiona nicea nicea</i>	EN/PTR/SO	iii-v, ix, x	120–1,400	35
Family Nymphalidae, Subfamily Satyrinae					
278. Yellow Dryad	<i>Aemona amathusia amathusia</i>	EN/SO	v, ix	1,300	1
279. Koh-i-noor	<i>Amathuxidia amythaon amythaon</i>	PTR	vii	180	1
280. Common Duffer	<i>Discophora sondaica zal</i>	PTR	x	330	1
281. Red Caliph	<i>Enispe euthymius euthymius</i>	EN/PTR	ix	1,200–1,900	2
282. Large Faun	<i>Faunis eumeus assama</i>	SO	x	1,250	2
283. Nurinissa Junglequeen	<i>Stichophthalma nurinissa</i>	SO	x	1,300	1
284. Jungle Glory	<i>Thaumantis diores diores</i>	EN/PTR/SO	v, ix, x	120–1,200	5
285. Striated Satyr	<i>Aulocera saraswati vishnu</i>	EN	ix	1,900–2,200	5

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
286. Ringed Argus	<i>Callerebia annada annada</i>	EN	v, ix, x	1,500–2,200	19
287. Pallid Argus	<i>Callerebia scanda opima</i>	EN	v, ix, x	1,500–2000	7
288. Common Palmfly	<i>Elymnias hypermnestra undularis</i>	PTR	iii-v, ix, x	120–250	14
289. Spotted Palmfly	<i>Elymnias malelas malelas</i>	EN/PTR	iii, x	120–750	3
290. Tiger Palmfly	<i>Elymnias nesaea timandra</i>	PTR	x	120	1
291. Blue-striped Palmfly	<i>Elymnias patna patna</i>	PTR	vii	180	1
292. Jezebel Palmfly	<i>Elymnias vasudeva</i>	PTR	v	180	1
293. Dusky Diadem	<i>Ethope himachala</i>	PTR	v, vi, x	120–330	10
294. Rusty Forester	<i>Lethe bhairava</i>	EN/SO	iii-v, ix, x	1,200–2,000	25
295. Common Forester	<i>Lethe insana dinarbas</i>	EN	iv, ix	1,200–1,900	11
296. Blue Forester	<i>Lethe scanda</i>	EN	v	1,700	3
297. Black Forester	<i>Lethe vindhya vindhya</i>	EN	iv, ix	1,200–1,400	4
298. Angled Red Forester	<i>Lethe chandica chandica</i>	PTR	x	180–330	2
299. Scarce Red Forester	<i>Lethe distans</i>	EN/SO	iv, x	1,200–1,500	3
300. Common Red Forester	<i>Lethe mekara mekara</i>	PTR	iv, x	120–250	2
301. Tailed Red Forester	<i>Lethe sinorix sinorix</i>	EN	iv	1,200–1,500	3
302. Yellow Woodbrown	<i>Lethe nicetas</i>	EN	v, x	1,900–2,200	7
303. Scarce Woodbrown	<i>Lethe siderea</i>	EN	v, x	1,200–2,000	12
304. Common Woodbrown	<i>Lethe sidonis</i>	EN	x, ix, x	1,200–2,200	24
305. White-edged Woodbrown	<i>Lethe visrava</i>	EN	v	1,200–1,700	4
306. Banded Treebrown	<i>Lethe confusa confusa</i>	PTR	x	120	1
307. Common Treebrown	<i>Lethe rohria rohria</i>	EN	v, ix, x	1,700–2,000	4
308. Straight-banded Treebrown	<i>Lethe verma sintica</i>	EN/SO	iv, v, ix, x	1,200–2,000	14
309. Lilacfork	<i>Lethe sura sura</i>	EN	v, ix, x	1,200–2,200	22
310. Common Evening Brown	<i>Melanitis leda leda</i>	EN/PTR/SO	iii-x	120–1,400	60
311. Dark Evening Brown	<i>Melanitis phedima bela</i>	EN/PTR/SO	iii-v, viii, x	120–1,300	9
312. White-bar Bushbrown	<i>Mycalesis anaxias aemate</i>	PTR	iii, iv, ix, x	120–330	6
313. Lilacine Bushbrown	<i>Mycalesis francisca sanatana</i>	EN/SO/PTR	v, ix, x	1,200–2,000	4
314. Chinese Bushbrown	<i>Mycalesis gotama charaka</i>	PTR	iv	120	1
315. Large-eyed Bushbrown	<i>Mycalesis heri</i>	EN	ix	1,500	1
316. Intermediate Bushbrown	<i>Mycalesis intermedia</i>	PTR	iv, x	120–330	2
317. Plain Bushbrown	<i>Mycalesis malsarida</i>	PTR	iii, iv, ix, x	120–250	13
318. White-edged Bushbrown	<i>Mycalesis mestra mestra</i>	EN	v, ix, x	1,500–1,900	7
319. Darkbrand Bushbrown	<i>Mycalesis mineus mineus</i>	PTR	iv, vi, ix, x	120–250	8
320. Common Bushbrown	<i>Mycalesis perseus blasius</i>	PTR	iv	120	1
321. Long-branded Bushbrown	<i>Mycalesis visala visala</i>	PTR	iv, v, vii- x	120–800	24
322. Chinese Labyrinth	<i>Neope armandii khasiana</i>	EN	iv, v	1,200–1,900	4
323. Tailed Labyrinth	<i>Neope bhadra</i>	EN/PTR	ix	1,200–1,500	4
324. Dusky Labyrinth	<i>Neope yama yama</i>	EN	v	1,900	2
325. Yellow Owl	<i>Neorina hilda</i>	EN	ix	2,100	1
326. White Owl	<i>Neorina patria westwoodii</i>	EN/SO	ix	1,200–2,100	21
327. Tiger Brown	<i>Orinoma damaris damaris</i>	EN	iv, v, x	750–1,200	4
328. Medus Brown	<i>Orsotriaena medus medus</i>	PTR	iv-x	120–330	45
329. Yellow Kaiser	<i>PentHEMA lisarda lisarda</i>	PTR	iv	120	2
330. Dusky Striped Ringlet	<i>Ragadia crito</i>	PTR/SO	ix, x	1,250–1,400	3

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
331. Affected Five-ring	<i>Ypthima cf. affectata</i>	PTR	ix	1,400	4
332. Common Five-ring	<i>Ypthima baldus baldus</i>	EN/PTR	iii-x	120–1,900	87
333. Common Four-ring	<i>Ypthima huebneri</i>	EN/PTR	iii,iv, vii- x	120–330, 1,200	9
334. Newar Three-ring	<i>Ypthima cf. newara</i>	EN/PTR	iv, ix, x	120, 1,000–1,500	44
335. Ring sp.	<i>Ypthima cf. persimilis</i>	EN	iv,v, ix	1,200–1,900	29
336. Himalayan Five-ring	<i>Ypthima sakra sakra</i>	EN/PTR	v, ix, x	1,000–2,200	59
337. Dark Catseye	<i>Ziphaetis scylax scylax</i>	PTR	iv, x	120–330	3
Family Papilionidae, Subfamily Parnassiinae					
338. Bhutan Glory	<i>Bhutanitis lidderdalii lidderdalii</i>	EN	ix, x	1650–2,300	48
339. Mystical Bhutan Glory	<i>Bhutanitis ludlowi</i>	EN	ix	1,700	1
Family Papilionidae, Subfamily Papilioninae					
340. Tailed Jay	<i>Graphium agamemnon agamemnon</i>	PTR/SO	iii-x	120–1,200	34
341. Veined Jay	<i>Graphium chironides chironides</i>	EN/PTR	iii, iv, ix, x	120–1,000	5
342. Common Jay	<i>Graphium doson axionides</i>	PTR	iii-v, ix, x	120–330	22
343. Great Jay	<i>Graphium eurypylus acheron</i>	PTR	iii-v, ix	120–800	24
344. Five-bar Swordtail	<i>Graphium antiphates pompilius</i>	PTR	iii-vi, ix, x	120–250	26
345. Six-bar Swordtail	<i>Graphium eurous sikkimica</i>	EN	iv	1,500	1
346. Lesser Zebra	<i>Graphium macareus indicus</i>	PTR	iii-v	120–250	10
347. Great Zebra	<i>Graphium xenocles phrontis</i>	PTR	iv	120	1
348. Common Bluebottle	<i>Graphium sarpedon sarpedon</i>	PTR/SO	iii-v, ix, x	120–1,200	41
349. White Dragontail	<i>Lamproptera curius curius</i>	PTR/SO	iii-x	120–1,200	69
350. Tawny Mime	<i>Papilio agestor agestor</i>	EN	iv	1,500	2
351. Common Mime	<i>Papilio clytia clytia</i>	EN/PTR	iv-vii, ix, x	120–330 & 1,500	26
352. Lesser Mime	<i>Papilio epycides epycides</i>	EN/PTR	iv	120 & 1,400	2
353. Great Mime	<i>Papilio paradoxa telearchus</i>	EN/PTR	iv	120	3
354. Great Mormon	<i>Papilio memnon agenor</i>	EN/PTR/SO	iii-x	120–1,900	43
355. Common Mormon	<i>Papilio polytes romulus</i>	EN/PTR	iii-x	120–1,200	43
356. Red Helen	<i>Papilio helenus helenus</i>	EN/PTR/SO	iii-v, vii- x	120–1,500	65
357. Yellow Helen	<i>Papilio nephelus chaon</i>	PTR	iii-x	120–330	92
358. Redbreast	<i>Papilio alcmenor alcmenor</i>	PTR	iii, ix, x	120 & 1,200	5
359. Spangle	<i>Papilio protenor euprotenor</i>	EN/PTR/SO	iii-v, ix, x	120–1,500	19
360. Blue Peacock	<i>Papilio arcturus arcturus</i>	EN	ix	1,100	1
361. Common Peacock	<i>Papilio bianor ganesa</i>	PTR	ix	1,200–1,400	3
362. Paris Peacock	<i>Papilio paris paris</i>	EN/PTR/SO	iii-vii, ix, x	120–1,900	53
363. Common Raven	<i>Papilio castor polias</i>	PTR	iii-v, vii- x	120–250	20
364. Lime Swallowtail	<i>Papilio demoleus demoleus</i>	PTR	iii, v-vi, x	120–250	7
365. Brown Gorgon	<i>Meandrusa lachinus lachinus</i>	EN	ix	1,900	1
366. Lesser Batwing	<i>Atrophaneura aidoneus</i>	PTR	vi, x	120–250	5
367. Common Batwing	<i>Atrophaneura varuna astorion</i>	PTR	iii, v, vii, ix, x	120–1,400	16
368. Great Windmill	<i>Byasa dasarada dasarada</i>	EN/PTR/SO	iii, v, ix, x	120–1,800	9
369. Rose Windmill	<i>Byasa latreillei kabrua</i>	EN	v	1,200	2
370. Crimson-bordered Windmill	<i>Byasa polla</i>	EN/SO	v, ix	1,200–1,500	3
371. Common Windmill	<i>Byasa polyeuctes polyeuctes</i>	EN/PTR/SO	iii-v, ix, x	120–2,200	35
372. Common Rose	<i>Pachliopta aristolochiae aristolochiae</i>	PTR	iii-vi, viii- x	120–250	51
373. Golden Birdwing	<i>Troides aeacus aeacus</i>	PTR/SO	iii, iv, x	120–1,200	11

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
374. Common Birdwing	<i>Troides helena cerberus</i>	PTR	iii, iv, viii- x	120–250	12
Family Pieridae, Subfamily Coliadinae					
375. Dark Clouded Yellow	<i>Colias fieldii fieldii</i>	EN/PTR	iv, ix	120 & 1,200–2,200	7
376. Plain Sulphur	<i>Dercas lycorias lycorias</i>	EN	v, x	1,400–1,900	2
377. Tailed Sulphur	<i>Dercas verhuelli doubledayi</i>	EN/PTR/SO	iii-vi	120–1,400	10
378. One-spot Grass Yellow	<i>Eurema andersonii jordani</i>	EN/PTR/SO	iv, v, viii-x	120–1,900	11
379. Three-spot Grass Yellow	<i>Eurema blanda silhetana</i>	EN/PTR	v, viii, ix, x	120–250 & 1,900	13
380. Small Grass Yellow	<i>Eurema brigitta rubella</i>	EN	ix	2,400	1
381. Common Grass Yellow	<i>Eurema hecabe hecabe</i>	EN/PTR/SO	iii-x	120–250 & 1,200–1,900	68
382. Spotless Grass Yellow	<i>Eurema laeta sikkima</i>	EN	iv	2,300	1
383. Tree Yellow	<i>Gandaca harina assamica</i>	PTR	iii-x	120–330	77
Family Pieridae, Subfamily Pierinae					
384. Common Albatross	<i>Appias albina darada</i>	PTR	iv, v, ix, x	120–250	34
385. Indian Orange Albatross	<i>Appias galba</i>	PTR	v	120	1
386. Chocolate Albatross	<i>Appias lycinda eleonora</i>	EN/PTR	iii-x	120–2,000	247
387. Eastern Striped Albatross	<i>Appias olferna</i>	PTR	iii	120	3
388. Plain Puffin	<i>Appias indra indra</i>	PTR	iii-vi, ix	120–1, 200	28
389. Spot Puffin	<i>Appias lalage lalage</i>	EN/PTR/SO	iv, v, ix, x	120–2,000	111
390. Pioneer	<i>Belenois aurota aurota</i>	PTR	v	120	1
391. Common Emigrant	<i>Catopsilia pomona pomona</i>	PTR/SO	iii-v, vii-x	120–1,200	22
392. Mottled Emigrant	<i>Catopsilia pyranthe pyranthe</i>	PTR	iv, x	120	2
393. Lesser Gull	<i>Cepora nadina nadina</i>	EN/PTR/SO	iii-x	120–1,500	171
394. Common Gull	<i>Cepora nerissa nerissa</i>	PTR	iii-x	120–250	43
395. Red-breast Jezebel	<i>Delias acalis pyramus</i>	PTR	iv, x	120–250	2
396. Yellow Jezebel	<i>Delias agostina agostina</i>	PTR/SO	iv, x	150 & 1,000	2
397. Hill Jezebel	<i>Delias belladonna ithiela</i>	EN/PTR/SO	iii-v, ix, x	1,200–2,300	29
398. Dark Jezebel	<i>Delias berinda boyleae</i>	EN	v	1,400	4
399. Red-spot Jezebel	<i>Delias descombesi descombesi</i>	PTR	iii, vii, viii, x	120–250	6
400. Painted Jezebel	<i>Delias hyparete indica</i>	PTR	vii	120	1
401. Red-base Jezebel	<i>Delias pasithoe pasithoe</i>	PTR/SO	iv, vii, ix, x	120–1,200	7
402. Orange Brimstone	<i>Gonepteryx amintha thibetana</i>	EN	iv	1,500–2,200	3
403. Great Orange-tip	<i>Hebomoia glaucippe glaucippe</i>	EN/PTR/SO	iii-x	120–2,000	122
404. Yellow Orange-tip	<i>Ixias pyrene familiaris</i>	EN/PTR/SO	iii-x	120–1,200	147
405. Psyche	<i>Leptosia nina nina</i>	PTR/SO	iii-x	120 & 1200	17
406. Pale Wanderer	<i>Pareronia avatar</i>	EN/PTR/SO	iii-x	120–1,500	87
407. Large Cabbage White	<i>Pieris brassicae nepalensis</i>	EN/PTR/SO	iii-v, ix, x	120–2,200	27
408. Indian Cabbage White	<i>Pieris canidia indica</i>	EN/PTR/SO	iii-v, ix, x, xii	120–2,200	100
409. Green-veined White	<i>Pieris melete ajaka</i>	EN/SO	iii-v, ix, x	1,100–1,900	12
410. Bath White	<i>Pontia daplidice moorei</i>	PTR/SO	iii-v	120 & 1,100	3
411. Spotted Sawtooth	<i>Prioneris thestylis thestylis</i>	EN/PTR/SO	iii, iv, ix, x	120–1900	22
Family Riordinidae, Subfamily Nemeobiinae					
412. Spot Judy	<i>Abisara chela chela</i>	EN	iv, v	1,300–1,500	5
413. Dark Judy	<i>Abisara fylla</i>	EN/PTR/SO	iii-v, ix, x	120–1,900	51
414. Tailed Judy	<i>Abisara neophron neophron</i>	EN/PTR	iv, x, xii	120 & 1,200–1,900	4
415. Striped Punch	<i>Dodona adonira adonira</i>	EN	iv, v, x	1,200–2,200	9

¹ Common name	² Scientific name	³ PAs seen in	⁴ Months seen	⁵ Altitudinal range (in m)	⁶ Individuals sighted
416. Lesser Punch	<i>Dodona dipoea dipoea</i>	EN	iv, v, ix, x, xii	1,800–2,300	18
417. Tailed Punch	<i>Dodona eugenes</i>	EN	iv, v, ix, x	1,800–2,300	21
418. Mixed Punch	<i>Dodona ouida ouida</i>	EN	iv, v, ix, x	1,500–2,200	9
419. Columbine	<i>Stiboges nymphidia nymphidia</i>	EN	iv	1,200–1,400	4
420. Punchinello	<i>Zemeros flegyas flegyas</i>	EN/PTR/SO	iii-x	120–2,000	136
421. Dark Freak	<i>Calinaga aborica</i>	PTR	iv	1,500	1
Total					8476

Table 6. Additional list of species recorded in older literature and recent records outside the survey from East and West Kameng Districts in western Arunachal Pradesh.

Common name	Scientific name	Records in literature or recorded by	Location recorded from/notes
Family Hesperidae, Subfamily Hesperinae			
1. Purple Swift	<i>Caltoris tulusi tulusi</i> (de Nicéville, 1884)	Rachit Singh	Tenga Valley, West Kameng District, April 2013. http://www.ifoundbutterflies.org/sp/2779/Caltoris-tulusi
2. Banded Red-eye	<i>Gangara lebadea lebadea</i> (Hewitson, 1868)	Krushnamegh Kunte	Seijosa, Pakke, May 2007 http://www.ifoundbutterflies.org/sp/1042/Gangara-lebadea
3. Great Swift	<i>Pelopidas assamensis</i> (de Nicéville, 1882)	Athreya (2006b)	Recorded at Pakke. Schedule IV.
4. Indian Yellow-veined Lancer	<i>Pyrroneura margherita</i> (Doherty, 1889)	Hemant Ogale & Ajay Gaikwad	Bhalukpong Ghat, Pakke, October 2012 http://www.ifoundbutterflies.org/sp/2096/Pyrroneura-margherita
5. Indian Grizzled Skipper	<i>Spialia galba</i> (Fabricius, 1773)	Athreya (2006b)	Recorded at Pakke
Family Hesperidae, Subfamily Pyrginae			
6. Multi-spotted Flat	<i>Celaenorrhinus pulomaya</i> (Moore, 1866)	Evans (1914), Athreya (2006b)	Dirang at 2,000 m in October Recorded at Pakke and Eaglenest.
7. Tri-colored Pied Flat	<i>Coladenia indrani indrani</i> (Moore, 1866)	Athreya (2006b)	Recorded at Eaglenest WS.
Family Lycaenidae, Subfamily Polyommatainae			
8. Straight Pierrot	<i>Caleta roxus roxana</i> (de Nicéville, 1897)	Krushnamegh Kunte	Sukhanala, Pakke, May 2007 http://www.ifoundbutterflies.org/sp/986/Caleta-roxus
Family Lycaenidae, Subfamily Portiinae			
9. Common Gem	<i>Poritia hewitsoni hewitsoni</i> Moore, 1866	Balakrishnan Valappil (pers. comm.)	Bhalukpong Ghat, Pakke, October 2012. Schedule II.
Family Lycaenidae, Subfamily Theclinae			
10. Curious Oakblue	<i>Arhopala curiosa</i> (Evans, 1957)	Animish Mandrekar	Lama Camp, Eaglenest WS, November 2008. Re-discovery. http://www.ifoundbutterflies.org/sp/948/Arhopala-curiosa . Animish Mandrekar's record from Lama Camp, Eaglenest WS, on 12 November 2008 (http://www.ifoundbutterflies.org/367-arhopala/arhopala-curiosa). This was only the second record of the species in the world, and the first record for India. The species was previously known from only the female type that Evans described (Image 19).
11. Dark Himalayan Oakblue	<i>Arhopala rama rama</i> (Kollar, 1844)	Pratap Bhanu	Singh (2015)
12. Common Tinsel	<i>Catapaecilma major major</i> Druce, 1895	Athreya (2006b)	Recorded at Eaglenest WS.
13. Silverstreak Blue	<i>Iraota timoleon timoleon</i> (Stoll, 1790)	Athreya (2006b)	Recorded at Eaglenest WS.
14. Branded Flash	<i>Rapala tara</i> de Nicéville, 1889	Athreya (2006b)	Recorded at Pakke.
Family Nymphalidae, Subfamily Heliconiinae			
15. Himalayan Queen Fritillary	<i>Issoria isaea</i> (Doubleday, 1846)	Gupta & Shukla (1988)	Tawang, coll. in 1965. Reported as <i>Argynnis lathonia</i> .
Family Nymphalidae, Subfamily Cyrestinae			
16. Wavy Maplet	<i>Chersonesia intermedia rahrioides</i> Moore, 1899	Kunte (2008)	Khari, Pakke Tiger Reserve, May 2007. Schedule II.

Common name	Scientific name	Records in literature or recorded by	Location recorded from/notes
Family Nymphalidae, Subfamily Charaxinae			
17. Great Nawab	<i>Charaxes eudamippus eudamippus</i> (Doubleday, 1843)	Rohit Naniwadekar	Dichu Anti-poaching Camp, Pakke, Apr. 2006.
18. Black Rajah	<i>Charaxes solon solon</i> (Fabricius, 1793)	Athreya (2006b)	Recorded at Pakke.
Family Nymphalidae, Subfamily Limenitidinae			
19. Bhutan Sergeant	<i>Athyma jina jina</i> Moore, 1858	Evans (1914)	Dirang at 2,000 m in Oct. Schedule I.
20. Grey Baron	<i>Euthalia anosia anosia</i> (Moore, 1858)	Balakrishnan Valappil	Recorded at Pakke. Schedule II.
21. Yellow Sailer	<i>Neptis ananta ochracea</i> Evans, 1924	Gupta & Shukla (1988)	Dirang Dzong, coll. in 1961.
22. Plain Sailer	<i>Neptis cartica</i> Moore, 1872	Gupta & Shukla (1988)	Elephant Flat, coll. in 1973.
23. Himalayan Sailer	<i>Neptis mahendra</i> Moore, 1872	Gupta & Shukla (1988)	Bhalukpong, Lakhimpur (Assam). The identification of this species needs re-confirmation as its known distribution in India is restricted to West Nepal westwards (Eliot 1969).
24. Clipper	<i>Parthenos sylvia gambrisius</i> (Fabricius, 1787)	Athreya (2006b)	Recorded at Pakke. Schedule II.
Family Nymphalidae, Subfamily Satyrinae			
25. Narrow-banded Satyr	<i>Aulocera brahminus dokwana</i> Evans, 1923	Betts (1950)	West Kameng between 1,800–3,000 m. The identification of this species needs re-confirmation as its known distribution in India is restricted from West Garhwal to Nepal (Talbot 1947). Betts may have been referring to <i>A. brahminoides</i> , Moore 1892, which is known to occur in E. Himalayas.
26. Eyeless Satyr	<i>Aulocera loha loha</i> Doherty, 1886	Evans (1914)	Near Tawang between 1,830–2,440 m in October.
27. Great Satyr	<i>Aulocera padma padma</i> (Kollar, 1844)	Betts (1950)	West Kameng between 1,800–3,000 m.
28. Common Satyr	<i>Aulocera swaha swaha</i> (Kollar, 1844)	Betts (1950)	West Kameng between 1,800–3,000 m
29. Branded Evening Brown	<i>Cylogenes suradeva</i> (Moore, 1857)	Betts (1950)	Bompu La at 2,134m in September Schedule II.
30. Brahmputra Palmfly	<i>Elymnias peali</i> Wood-Mason, 1883	Kunte et al. (2012)	Recorded in February 2001 from Sukhanala near Seijusa, Pakke TR. Schedule I.
31. Scarce Lilacfork	<i>Lethe dura gammiei</i> (Moore, 1892)	Athreya (2006b)	Recorded at Eaglenest .
32. Large Goldenfork	<i>Lethe goalpara</i> (Moore, 1866)	Betts (1950)	Bomdila at 2,700m in Sep/Oct in company of <i>L. sura</i> . Schedule II.
33. Brown Forester	<i>Lethe serbonis</i> (Hewitson, 1876)	Betts (1950); Evans (1914)	Bomdila & Dirang at 2,130m in Sept and Oct. Schedule II.
34. Great Evening Brown	<i>Melanitis zitenius zitenius</i> (Herbst, 1796)	Betts (1950)	Reported as extremely common. Schedule II.
35. Northern Jungle Queen	<i>Stichopthalma camadeva camadeva</i> (Westwood, 1848)	Rohit Naniwadekar Krushnamegh Kunte	Eaglenest WS, Aug 2007 http://www.ifoundbutterflies.org/sp/953/Stichopthalma-camadeva
36. Indecorous Five-ring	<i>Ypthima indecora</i> Moore, 1882	Gupta & Shukla (1988)	Rupa, Kameng District, coll. in 1973.
37. Variegated Five-ring	<i>Ypthima methora methora</i> Hewitson, 1865	Gupta & Shukla (1988)	Elephant Flat., coll. in 1973.
Family Papilionidae, Subfamily Papilioninae			
38. Glassy Bluebottle	<i>Graphium cloanthus cloanthus</i> (Westwood, 1841)	Gupta & Shukla (1988)	Dirang Road, West Kameng, coll. in 1961.
39. Spotted Zebra	<i>Graphium megarus megarus</i> (Westwood, 1844)	Balakrishnan Valappil (pers. comm.)	Seijosa, Pakke, April 2008. Schedule II.
40. Green Dragontail	<i>Lamproptera meges indistincta</i> Tytler, 1912	Athreya (2006b)	Recorded at Eaglenest WS.
41. Krishna Peacock	<i>Papilio krishna krishna</i> Moore, 1857	Alka Vaidya (pers. comm.)	Lama Camp, Eaglenest WS, Apr 2009.
42. Orange Punch	<i>Dodona egeon egeon</i> (Westwood, 1851)	Harsha Kumar	Bompu, Eaglenest WS, May 2012, http://www.ifoundbutterflies.org/sp/803/Dodona-egeon . Schedule II.

Table 7. Summary of butterflies of the Kameng Protected Area Complex that are legally protected in India under WPA.

Family	Schedule I	Schedule II	Schedule IV
Hesperiidae	0	2	4
Lycaenidae	3	26	1
Nymphalidae	8	49	2
Papilionidae	1	6	0
Pieridae	0	2	1
Riodinidae	0	3	0
Total (107)	12	88	8

Table 8. List of butterflies of the Kameng Protected Area Complex that are legally protected in India under WPA

<p>SCHEDULE I</p> <p>Lycaenidae <i>Allotinus drumila drumila</i> <i>Hypolycaena othona othona</i> <i>Sinthusia virgo</i></p> <p>Nymphalidae <i>Athyma jina jina</i> <i>Dilipa morgiana</i> <i>Elymnias peali</i> <i>Euthalia iva</i> <i>Lethe distans</i> <i>Sephisa chandra</i> <i>Sumalia zulema</i> <i>Symbrenthia silana</i></p> <p>Papilionidae <i>Byasa polla</i></p> <p>SCHEDULE II</p> <p>Hesperiidae <i>Baoris farri</i> <i>Bibasis sena sena</i></p> <p>Lycaenidae <i>Ancema blanka minturna</i> <i>Anthene lycaenina lycambes</i> <i>Arhopala ganesa watsoni</i> <i>Arhopala oenea</i> <i>Arhopala silhetensis silhetensis</i> <i>Bindahara phocides phocides</i> <i>Hypolycaena kina kina</i> <i>Heliophorus moorei moorei</i> <i>Horaga onyx onyx</i> <i>Chrysozephyrus assamicus</i> <i>Jamides elpis pseudelpis</i> <i>Ionolyce helicon merguiana</i> <i>Lampides boeticus</i> <i>Logania distanti massalia</i> <i>Nacaduba hermus nabo</i> <i>Nacaduba pactolus continentalis</i> <i>Niphanda cymbia cymbia</i> <i>Orthomiella pontis pontis</i> <i>Poritia hewitsoni hewitsoni</i> <i>Prosotas aluta coelestis</i> <i>Rapala refulgens</i> <i>Rapala varuna orseis</i></p>	<p>SCHEDULE II (cont'd)</p> <p><i>Spindasis lohita himalayanus</i> <i>Una usta usta</i> <i>Yasoda tripunctata tripunctata</i> <i>Zinaspa todara distorta</i></p> <p>Nymphalidae <i>Acraea issoria issoria</i> <i>Aemona amathusia</i> <i>Amathuxidia amythaon amythaon</i> <i>Athyma asura asura</i> <i>Athyma kanwa phorkys</i> <i>Athyma pravara acutipennis</i> <i>Athyma ranga ranga</i> <i>Aulocera brahminus</i> <i>Bassarona durga durga</i> <i>Bhagadatta austenia austenia</i> <i>Charaxes kahruha</i> <i>Charaxes marmax marmax</i> <i>Chersonesia intermedia rahroides</i> <i>Cylogenes suradeva</i> <i>Elymnias vasudeva</i> <i>Euploea midamus rogenhoferi</i> <i>Euripus consimilis consimilis</i> <i>Euthalia anosia anosia</i> <i>Euthalia francae francae</i> <i>Euthalia nara nara</i> <i>Faunis eumeus assama</i> <i>Lethe goalpara</i> <i>Lethe scanda</i> <i>Lethe serbonis</i> <i>Lethe sinorix sinorix</i> <i>Lethe visrava</i> <i>Lexias dirtea khasiana</i> <i>Libythea lepita lepita</i> <i>Melanitis zitenius zitenius</i> <i>Mycalesis anaxias aemate</i> <i>Mycalesis gotama charaka</i> <i>Mycalesis heri</i> <i>Mycalesis malsarida</i> <i>Mycalesis mestra mestra</i> <i>Neope yama yama</i> <i>Neorina hilda</i> <i>Neorina patria westwoodii</i> <i>Neurosigma siva siva</i> <i>Neptis magadha khasiana</i> <i>Neptis radha radha</i></p>	<p>SCHEDULE II (cont'd)</p> <p><i>Neptis soma soma</i> <i>Parthenos sylvia gambrisius</i> <i>PentHEMA lisarda lisarda</i> <i>Ragadia crito</i> <i>Rhinopalpa polynice birmana</i> <i>Symbrenthia niphanda niphanda</i> <i>Tanaecia lepidea lepidea</i> <i>Ypthima affectata</i> <i>Ypthima methora methora</i></p> <p>Papilionidae <i>Bhutanitis lidderdalii</i> <i>Byasa latreillei kabrua</i> <i>Graphium megarus megarus</i> <i>Meandrusa lachinus lachinus</i> <i>Papilio epycides epycides</i> <i>Papilio paradoxa telearchus</i></p> <p>Pieridae <i>Appias albina darada</i> <i>Dercas lycorias lycorias</i></p> <p>Riodinidae <i>Dodona adonira adonira</i> <i>Dodona dipoea dipoea</i> <i>Dodona egeon egeon</i></p> <p>SCHEDULE IV</p> <p>Hesperiidae <i>Hasora vitta indica</i> <i>Hyarotis adrastus praba</i> <i>Pelopidas assamensis</i> <i>Polytremis lubricans lubricans</i></p> <p>Lycaenidae <i>Tarucus ananda</i></p> <p>Nymphalidae <i>Euploea mulciber mulciber</i> <i>Euthalia lubentina lubentina</i></p> <p>Pieridae <i>Appias galba</i></p>
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Image 19. Species added to the Indian butterfly fauna



Image 20. Species rediscoveries and range extensions into Arunachal Pradesh

Species additions, rediscoveries and range extensions for Indian butterflies from the Kameng Protected Area Complex, Arunachal Pradesh, India





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-- Sanjay Sondhi & Krushnamegh Kunte, Pp. 9053–9124

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