

Research Article

Fifty-one new additions to the butterfly (Lepidoptera: Rhopalocera) fauna of Tripura, North-east India

Cincuenta y una nuevas incorporaciones a la fauna de mariposas (Lepidoptera: Rhopalocera) de Tripura, noreste de India

Suman Bhowmik¹ 

¹Lepidoptera Conservation and Research Division, Wild Tripura Foundation, Tripura, India. E-mail: sumanbhowmikwildlife@gmail.com

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Abstract. The state of Tripura of North-east India is a part of the Indo-Myanmar biodiversity hotspot and rich in unique biological flora and fauna. The present study is based on extensive surveys done by the author for a period of 5 years in different parts of North Tripura, North-east India. Here, I present a total of 21 genera and 51 species that are new additions to the butterfly fauna of Tripura. These new records include 18 species of Hesperiididae, 12 species of Lycaenidae, 17 species of Nymphalidae and 4 species of Pieridae. These records represent a 20.90% increase in the number of butterflies known from Tripura and update the existing checklist of butterfly fauna of the state.

Key words: Conservation; Jampui Hills; new additions; North Tripura; North-east India.

Resumen. El estado de Tripura, en el noreste de India, es parte del hotspot de biodiversidad de Indo-Myanmar y es rico en una flora y fauna biológica únicas. El presente estudio se basa en extensas prospecciones realizadas durante 5 años en diferentes partes del norte de Tripura, noreste de India. Aquí, se presenta un total de 21 géneros y 51 especies que son nuevas adiciones a la fauna de mariposas de Tripura. Estos nuevos registros incluyen 18 especies de Hesperiididae, 12 especies de Lycaenidae, 17 especies de Nymphalidae y 4 especies de Pieridae. Estos registros representan un aumento del 20,90% en la cantidad de mariposas conocidas de Tripura y actualizan la lista de verificación existente de fauna de mariposas del estado.

Palabras clave: Conservación; Jampui Hills; norte de Tripura; noreste de India; nuevas incorporaciones.

Introduction

Butterflies hold promise as bioindicators of terrestrial environments and habitat quality. They have established roles in biological monitoring and conservation policy makings (Koh 2007; McGeoch 1998; Stork *et al.* 2003). Because of their close association with specific larval host plants, as well as their pollinating activities, butterflies often reflect potentials to be strong indicators of the presence of particular plant taxa (Sparrow *et al.* 1994). They are valuable pollinators moving from plant to plant, gathering nectar and are one of the important food chain components of birds, reptiles, spiders, and predatory insects (Sharma

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& Joshi 2009). Many butterfly species are strictly seasonal and prefer only a particular set of habitats (Kunte 1997). So, they also provide clues to small changes in climate conditions. They also serve as good indicators in terms of anthropogenic disturbance and habitat quality (Kocher & Williams 2000).

The picturesque hill state Tripura is situated in the western heart of Indo-Myanmar global hotspot (Mittermier *et al.* 2005; Tordoff *et al.* 2012). Tripura lies between 22°56' - 24°32' N latitude and 90°09' - 92°20' E longitude, covering an area of 10,492 square km. The forest covering area of the state is about 60% of the total area (Forest of Tripura 2020; www.forest.tripura.gov.in). The forest of the state is mostly dominated by semi-evergreen to moist deciduous plants and secondary bamboo breaks (Majumdar *et al.* 2012). Tripura has a humid climate and the annual rainfall ranges between 2,250 mm to 2,500 mm: and the annual temperature varies from 7 °C to 36 °C (ISFR 2019). Tripura is surrounded by Bangladesh on its north, south, and west, sharing about 856 km international border. In the east, it shares a common boundary with Mizoram and Assam for about 109 km and 53 km, respectively. Almost 30% of the total area is hilly tracts and mountains and the rest are alluvial plain, well cultivated and traversed by rivers (Nandi & Varshney 1988). The undulating topography of the state is due to the presence of a series of six major hill ranges running parallel with north-south orientation, each separated by subsequent narrow valleys. From west to the east each successive hill range rises higher than the previous; the lowest Deotamura Range is followed by the Baramura, Atharamura, Langtarai, Sakhan and Jampui range. The highest peak of Tripura, Betlingchhip, resides to the extreme south of the Jampui range.

There are around 244 species of butterflies under six families of insect order Lepidoptera in Tripura based on observation and sighting records by previous researchers (Nandi & Varshney 1988; Watson 1891; Majumder *et al.* 2012, 2013; Lodh & Agarwala 2015, 2016; Das 2017; Nair *et al.* 2018; Agarwala & Majumder 2019; Bhowmik *et al.* 2020; Deb & Mandal 2020).

The present work provides a brief description of 51 butterfly species that are new additions to the existing butterfly fauna of Tripura thereby increasing the total species number by 20.90 percent.

Materials and Methods

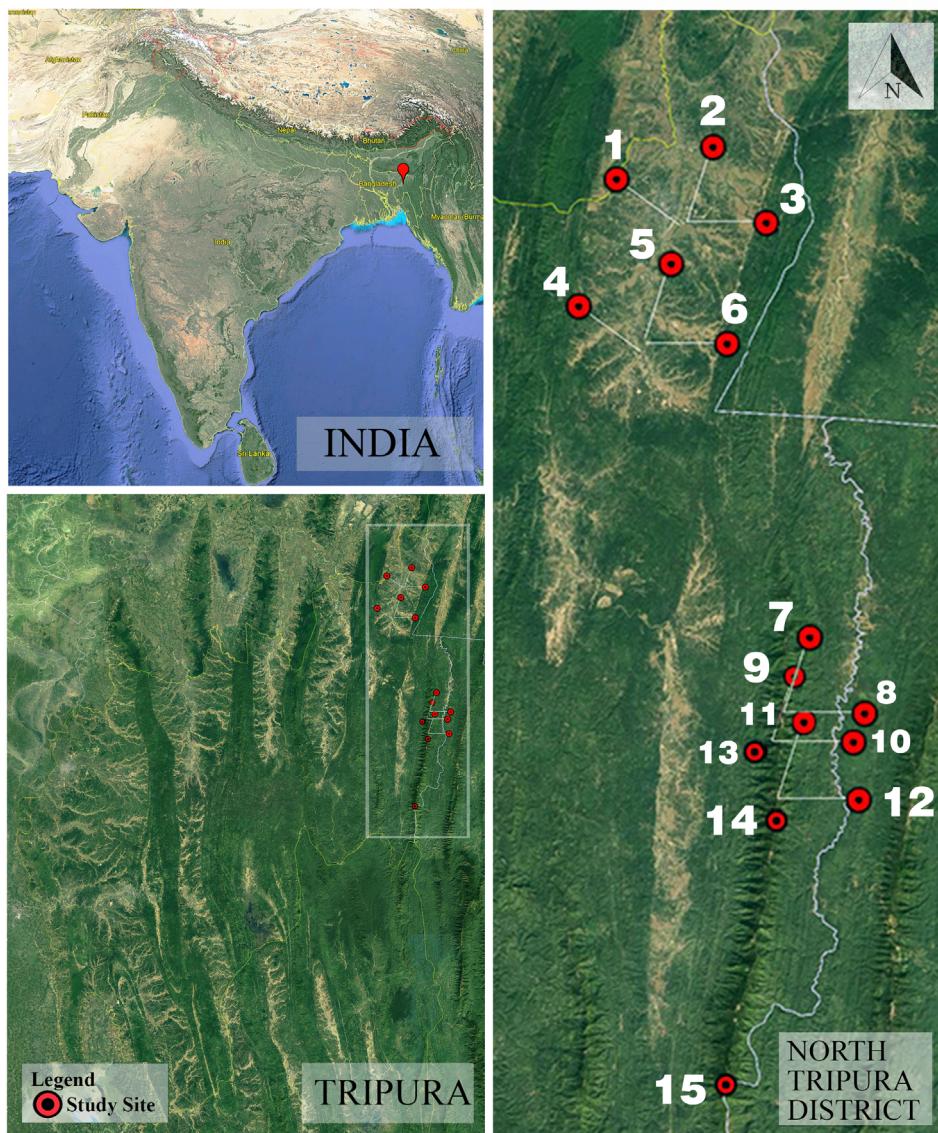
The author is constantly surveying butterflies in different parts of Tripura to document current populations, distribution, and status of butterflies for the last few years. As part of this long-term monitoring and diversity inventory programme, the author conducted preliminary and opportunistic surveys at different locations of Tripura from 2015-2020. The present observation on butterflies is based on the surveys conducted in the following study sites of North Tripura, Northeast India.

1. Jampui Hills: Jampui Hills is situated in northern part of the state and it ranges north to south, bordering the state Mizoram in the east. This area holds high potential for butterfly diversity being consists of small to large waterfalls and supportive vegetations. The coordinates included in this area are 24°2'20" N & 92°16'18" E; 23°48'51" N & 92°15'33" E; 24°0'9" N & 92°16'44" E; 24°2'20" N & 92°16'19" E; 23°59'17" N & 92°16'46" E; 24°0'6" N & 92°16'44" E; 24°1'54" N & 92°15'37" E.

2. Panisagar: Being situated in North Tripura District, The Rowa Wildlife Sanctuary is placed in the heart of this area. There are various potential areas for butterflies outside Rowa Wildlife Sanctuary that lies in the periphery of this area. The coordinates included in this area are 24°17'29" N & 92°9'31" E; 24°17'38" N & 92°9'27" E; 24°17'6" N & 92°9'20" E.

3. Kameswar Village: It is a small village under Dharmanagar Sub-division of North Tripura

District. A tributary of Kakri river flows through the heart of this village. There are many supportive larval host plants and nectaring plants along side of this tributary. The blooms of *Chromolaena odorata* (L.) R.M. King & H. Rob. and other wild flowers during winter season attract substantial number of butterfly species in this village. This area is especially important for butterflies that feed on Fabaceae plants. The coordinates included in this area are 24°22'21" N & 92°10'47" E; 24°22'21" N & 92°10'51" E.



GPS Coordinates of different localities:

- (1) 24° 22'12" N, 92° 10'31" E (2) 24° 22'21" N, 92° 10'47" E (3) 24° 22'21" N, 92° 10'51" E
 (4) 24° 17'38" N, 92° 9'27" E (5) 24° 17'06" N, 92° 9'20" E (6) 24° 17'29" N, 92° 9'31" E
 (7) 24° 3'29" N, 92° 16'42" E (8) 24° 3'29" N, 92° 16'43" E (9) 24° 2'20" N, 92° 16'18" E
 (10) 24° 2'20" N, 92° 16'19" E (11) 24° 0'9" N, 92° 16'44" E (12) 23° 0'06" N, 92° 16'44" E
 (13) 24° 1'54" N, 92° 15'37" E (14) 23° 59'17" N, 92° 16'46" E (15) 23° 48'51" N, 92° 15'33" E

Figure 1. Localities of new additions situated in Tripura, North-east India. Map courtesy Google Earth. / Localidades de las nuevas adiciones situadas en Tripura, noreste de India. Mapa cortesia de Google Earth.

4. Kakrir Par Village: A small village situated in Dharmanagar, North Tripura District, in the bank of Kakri river. This area is significant for butterflies that feed on bamboo breaks. The coordinate included in this area is 24°22'12" N & 92°10'31" E.

5. Ganganagar Tea Garden: It lies in North Tripura District. Vegetations that grow in fences or boundaries of this tea garden support wide variety of butterfly species. The coordinates included in this area are 24°3'29" N & 92°16'43" E; 24°3'29" N & 92°16'42" E.

The species identification was done by consulting the original taxonomic work and field guides (Evans 1927, 1932, 1949; Moore 1890-1892, 1893-1896, 1899-1900, 1901-1903, 1903-1905; Swinhoe 1905-1910, 1910-1911, 1911-1912, 1912-1913; Talbot 1947; Wynter-Blyth 1957). All the subspecies listed in this paper are based on the distribution of subspecies in Indian literature (Van Gasse 2013; Varshney & Smetacek 2015). Standard common English names for butterflies are used in this present work following Varshney & Smetacek (2015).

Results and Discussion

In the present study, the author documented a total of 51 butterfly species belonging to 4 families, 13 subfamilies and 41 genera (Table 1). These 51 species are documented for the first time in the state and considered as new additions to the butterfly fauna of Tripura (Nandi & Varshney 1988; Watson 1891; Majumder *et al.* 2012; Majumder *et al.* 2013; Lodh & Agarwala 2015, 2016; Das 2017; Nair *et al.* 2018; Agarwala & Majumder 2019; Bhowmik *et al.* 2020; Deb & Mandal 2020). Out of these 51 new additions, 18 species are from family Hesperiiidae, 12 species from family Lycaenidae, 17 species from family Nymphalidae and 4 species from family Pieridae. Out of 41 genera, 21 genera are documented for the first time in the state (Table 1). A total of 35 species out of the new additions are documented from Jampui Hills, North Tripura District (Table 2).

Table 1. Taxonomic overview of new additions to the butterfly fauna of Tripura. / Resumen taxonómico de las nuevas adiciones a la fauna de mariposas de Tripura.

Family	Subfamily	Number of new recorded genera	Total number of new recorded genera	Number of new recorded species	Total number of new recorded species
Hesperiiidae	Coeliadinae	1	5	1	18
	Hesperinae	3		12	
	Pyrginae	1		5	
Lycaenidae	Lycaeninae	-	9	1	12
	Miletinae	1		1	
	Polyommatainae	8		10	
Nymphalidae	Apaturinae	1	7	2	17
	Danainae	-		4	
	Heliconiinae	2		4	
	Nymphalinae	1		1	
	Satyrinae	3		6	
Pieridae	Coliadinae	-	-	1	4
	Pierinae	-		3	

Table 2. List of 51 species that are new additions to the butterfly fauna of Tripura. The list of 21 new genera additions is marked with asterisks in the table. / Lista de 51 nuevas adiciones a la fauna de mariposas de Tripura. Los 21 géneros adicionados están marcados con asterisco.

SL. No.	Common name	Scientific name	Location	Habitat	Number of sighting records
Family - HesperIIDae, Subfamily - Coeliadinae					
1.	Small Green Awlet	<i>Burara amara</i> (Moore, [1866])*	Jampui Hills	NW	1
Family - HesperIIDae, Subfamily - HesperIinae					
2.	Narrow-banded Velvet Bob	<i>Koruthaialos rubecula cachara</i> Evans, 1949	Jampui Hills	NW	2
3.	Silver-spotted Lancer	<i>Plastingia naga</i> (de Niceville, [1884])*	Panisagar	F	1
4.	Bevan's Swift	<i>Borbo bevani</i> (Moore, 1878)	Kameswar Village	HG	1
5.	Leech's Swift	<i>Caltoris bromus bromus</i> (Leech, 1894)	Kameswar Village, Kakrir Par Village	VR	4
6.	Dark-branded Swift	<i>Caltoris brunnea caere</i> (de Niceville, 1891)	Panisagar	VR	1
7.	Full-stop Swift	<i>Caltoris cormasa</i> (Hewitson, 1876)	Kakrir Par village	VR	1
8.	Tufted Swift	<i>Caltoris plebeia</i> (de Niceville, 1887)	Ganganagar Tea Garden	VR	1
9.	Sirius Swift	<i>Caltoris sirius sirius</i> (Evans, 1926)	Kameswar village	HG	1
10.	Himalayan Swift	<i>Polytremis discreta discreta</i> (Elwes & Edwards, 1897)*#	Jampui Hills	VR	1
11.	Pale Dart	<i>Potanthus pallida</i> (Evans, 1932)	Jampui Hills	HF	1
12.	Indian Dart	<i>Potanthus pseudomaesa clio</i> (Evans, 1932)	Jampui Hills	HF	5
13.	Common Grass Dart	<i>Taractrocera maevius sagara</i> (Moore, [1866])*	Ganganagar Tea Garden	TG	1
Family - HesperIIDae, Subfamily - Pyrginae					
14.	Elwes's Pied Flat	<i>Coladenia agnioides</i> Elwes & Edwards, 1897	Jampui Hills	HF	2
15.	Tricolour Pied Flat	<i>Coladenia indrani uposathra</i> Fruhstorfer, [1911]	Jampui Hills, Ambassa	NW	3
16.	Common Yellow-breast Flat	<i>Gerosis bhagava bhagava</i> (Moore, [1866])	Jampui Hills	R	1
17.	Yellow Flat	<i>Mooreana trichoneura pralaya</i> (Moore, [1866])*	Jampui Hills	NW	2
18.	Spotted Snow Flat	<i>Tagiades menaka menaka</i> (Moore, [1866])	Jampui Hills	NW	1
Family - Lycaenidae, Subfamily - Lycaeninae					
19.	Indian Purple Sapphire	<i>Heliophorus indicus indicus</i> (Fruhstorfer, 1908)	Jampui Hills	VR	1
Family - Lycaenidae, Subfamily - Miletinae					
20.	Great Darkie	<i>Allotinus drumila drumila</i> (Moore, [1866])*#	Jampui Hills	HF	2
Family - Lycaenidae, Subfamily - Polyommatinae					
21.	Fawcett's Pierrot	<i>Niphanda asialis marcia</i> (Fawcett, 1904)*	Jampui Hills	VR	1

22.	Glistening Cerulean	<i>Jamides elpis pseudelpis</i> (Butler, [1879])	Jampui Hills	NW	1
23.	White-banded Hedge Blue	<i>Lestranicus transpectus</i> (Moore, 1879)*	Jampui Hills	NW	3
24.	Opaque Sixlineblue	<i>Nacaduba beroe gythion</i> Fruhstorfer, 1916	Panisagar	F	1
25.	Blue Imperial	<i>Ticherra acte</i> (Moore, [1858])*	Jampui Hills	HF, NW	6
26.	Cornelian	<i>Deudorix epijarbas epijarbas</i> (Moore, [1858])*	Jampui Hills, Panisagar	HF, F	3
27.	Broadtail Royal	<i>Creon cleobis cleobis</i> (Godart, [1824])*	Kameswar village	VR	2
28.	Double-tufted Royal	<i>Dacalana penicilligera</i> (de Niceville, 1890)*	Panisagar	F	4
29.	White Royal	<i>Pratapa deva lila</i> Moore, [1884]*#	Kameswar village	VR	1
30.	Saffron	<i>Mota massyla</i> (Hewitson, [1869])*	Jampui Hills	HF	1
Family - Nymphalidae, Subfamily - Apaturinae					
31.	Indian Purple Emperor	<i>Mimathyma ambica ambica</i> (Kollar, [1844])*	Jampui Hills	NW	1
32.	Sergeant Emperor	<i>Mimathyma chevana chevana</i> (Moore, [1866])	Jampui Hills	VR	1
Family - Nymphalidae, Subfamily - Danainae					
33.	Long-branded Blue Crow	<i>Euploea algea deione</i> Westwood, 1848	Jampui Hills	NW	1
34.	Double-branded Crow	<i>Euploea sylvester hopei</i> C. & R. Felder, [1865]	Panisagar	F	5
35.	Chocolate Tiger	<i>Parantica melaneus plataniston</i> (Fruhstorfer, 1910)	Jampui Hills	VR	1
36.	Dark Blue Tiger	<i>Tirumala septentrionis septentrionis</i> (Butler, 1874)	Panisagar	F	2
Family - Nymphalidae, Subfamily - Heliconiinae					
37.	Banded Marquis	<i>Bassarona teuta teuta</i> (Doubleday, [1848])*#	Jampui Hills	NW, AL	8
38.	Green Commodore	<i>Sumalia daraxa daraxa</i> (Doubleday, [1848])*	Jampui Hills	HF, NW	3
39.	Small Yellow Sailer	<i>Neptis miah miah</i> Moore, [1858]	Jampui Hills	NW	4
40.	Perak Lascar	<i>Pantoporia paraka paraka</i> (Butler, 1879)	Panisagar	F	1
Family - Nymphalidae, Subfamily - Nymphalinae					
41.	Autumn Leaf	<i>Doleschallia bisaltide indica</i> Moore, 1899*	Jampui Hills	HE, NW	2
Family - Nymphalidae, Subfamily - Satyrinae					
42.	Common Faun	<i>Faunis canens arcesilas</i> Stichel, 1933*	Jampui Hills	HF	1
43.	Bamboo Forester	<i>Lethe kansa</i> (Moore, [1858])	Jampui Hills	VR	1
44.	Plain Bushbrown	<i>Telinga malsarida</i> (Butler, 1868)*	Jampui Hills	VR	1
45.	Plain Threering	<i>Ypthima lycus lycus</i> de Niceville, 1889	Jampui Hills	GL	1

46.	Newar Threering	<i>Ypthima newara newara</i> Moore, [1875]	Jampui Hills	GL	1
47.	Dusky Diadem	<i>Ethope himachala</i> (Moore, [1858])*	Jampui Hills	HF, NW	6
Family - Pieridae, Subfamily - Coliadinae					
48.	Scarce Grass Yellow	<i>Eurema simulatrix sarinoides</i> (Fruhstorfer, 1910)	Kameswar Village	VR	1
Family - Pieridae, Subfamily - Pierinae					
49.	Plain Puffin	<i>Appias indra indra</i> (Moore, [1858])	Jampui Hills	NW	3
50.	Spot Puffin	<i>Appias lalage lalage</i> (Doubleday, 1842)	Jampui Hills	GL	1
51.	Redbreast Jezabel	<i>Delias acalis pyramus</i> (Wallace, 1867)	Jampui Hills	VR	1

* -New documented genus for butterfly fauna of Tripura; # - Schedule species under Indian Wildlife (Protection) Act, 1972; AL - Agricultural Landscape; F - Forest; GL - Grassland; HF - Hill Forest; HG - Home garden; NW - Near waterfall; R - Riverine; TG - Tea Garden; VR - Vegetation near roadsides.

A brief description on the locations of observation along with geographical coordinates and altitudes; date of observations; habitat; and photographic records of the 51 new additions are given in this section.

Family - Hesperiiidae
Subfamily - Coeliadinae

1. *Burara amara* (Moore, [1866]) (Small Green Awlet)

Remarks. A single individual was sighted in Jampui Hills (24°2'20" N & 92°16'18" E, ca. 335 m above msl.), while mud-puddling near roadsides on 7.viii.2016. This species is rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Sikkim to Northeast India; Andaman Islands) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Hesperiiidae
Subfamily - Hesperinae

2. *Koruthaialos rubecula cachara* Evans, 1949 (Narrow-banded Velvet Bob)

Remarks. On 07.xii.2019, a single individual (red-banded form) was sighted in Jampui Hills (24°0'9" N & 92°16'44" E, ca. 571 m above msl.) while mud-puddling near roadsides. Recently in October, 2020 a female individual was recorded at Betlingchhip (23°48'51" N & 92°15'33" E) in Jampui Hills. This species is rare throughout the state.

Current known distribution. Nepal, Bangladesh, India (Assam, Manipur, Meghalaya, Nagaland) (Van Gasse 2013; Varshney & Smetacek 2015).

3. *Plastingia naga* (de Niceville, [1884]) (Silver-spotted Lancer)

Remarks. On 03.xii.2018, a single individual was recorded in Panisagar (24°17'29" N

& 92°9'31" E, ca. 8 m above msl.), perching on a small tree canopy. This species is rare throughout North-east India.

Current known distribution. Myanmar, India (Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

4. *Borbo bevani* (Moore, 1878) (Bevan's Swift)

Remarks. Rare in Tripura. One individual was recorded while nectaring on Marigold flower, at Kameswar village (24°22'21" N & 92°10'47" E, ca. 15 m above msl.) in Dharmanagar, North Tripura District. This observation was made on 13.xii.2016.

Current known distribution. Pakistan, Bangladesh, Myanmar, Bhutan, India (Gujarat east to West Bengal and southwards to Kerala; Jammu & Kashmir to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

5. *Caltoris bromus bromus* (Leech, 1894) (Leech's Swift)

Remarks. On 17.vii.2016, a single individual was sighted busking on a small tree at Kameswar Village (24°22'21" N & 92°10'47" E, ca. 15 m above msl.), Dharmanagar, North Tripura district. Later several individuals were observed at Kakrir Par Village (24°22'12" N & 92°10'31" E) in Dharmanagar, North Tripura district. This species is rare throughout the state.

Current known distribution. Myanmar, India (Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

6. *Caltoris brunnea caere* (de Niceville, 1891) (Dark-branded Swift)

Remarks. This species is very rare throughout the state. After searching for several years, one male individual was recorded while nectaring on *Chromolaena odorata* in Panisagar (24°17'38" N & 92°9'27" E, ca. 10 m above msl.). This sighting was made on 28.xii.2019.

Current known distribution. Myanmar, Bangladesh, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

7. *Caltoris cormasa* (Hewitson, 1876) (Full-stop Swift)

Remarks. This species is rare throughout the state. On 17.xii.2017, a single individual was recorded while nectaring on *Chromolaena odorata* at Kakrir Par village (24°22'12" N & 92°10'31" E, ca. 39 m above msl.), Dharmanagar, North Tripura.

Current known distribution. Myanmar, Bangladesh, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

8. *Caltoris plebeia* (de Niceville, 1887) (Tufted Swift)

Remarks. A Single individual was recorded at Ganganagar Tea Garden (24°3'29" N & 92°16'43" E, ca. 29 m above msl.), while busking on a fern. This record was made on 04.vi.2018. This species is rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

9. *Caltoris sirius sirius* (Evans, 1926) (Sirius Swift)

Remarks. On 12.xii.2016, two individuals were recorded, nectaring on Marigold flower at Kameswar Village (24°22'21" N & 92°10'47" E, ca. 15 m above msl.). This species is rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Assam, Manipur, Meghalaya) (Van Gasse 2013; Varshney & Smetacek 2015).

10. *Polytrema discreta discreta* (Elwes & Edwards, 1897) (Himalayan Swift)

Remarks. This species is legally protected under schedule II of the Indian Wildlife (Protected) Act, 1972 (Anonymous 1997). A single individual was recorded at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 335 m above msl.) in Jampui Hills, while busking on a bush. This record was made on 08.xi.2019. This species is very rare throughout the state.

Current known distribution. Pakistan, Myanmar, India (Jammu & Kashmir to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

11. *Potanthus pallida* (Evans, 1932) (Pale Dart)

Remarks. On 06.xi.2019, a single individual was recorded at Vangmun (24°0'9" N & 92°16'44" E, ca. 571 m above msl.) in Jampui Hills. This species is rare throughout the state.

Current known distribution. Sri Lanka, Myanmar, India (Karnataka to Kerala; Himachal Pradesh to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

12. *Potanthus pseudomaesa clio* (Evans, 1932) (Indian Dart)

Remarks. A total of three individuals were sighted in Jampui Hill (24°2'20" N & 92°16'19" E, ca. 329 m above msl.). This observation was made on 15.i.2017. This species is quite common in Jampui Hills but rare throughout the state.

Current known distribution. Bangladesh, Myanmar, India (Jammu & Kashmir to Northeast India; Uttar Pradesh to West Bengal) (Van Gasse 2013; Varshney & Smetacek 2015).

13. *Taractrocera maevius sagara* (Moore, [1866]) (Common Grass Dart)

Remarks. On 12.viii.2015, an individual was recorded at Ganganagar Tea Garden (24°3'29" N & 92°16'42" E, ca. 49 m above msl.), North Tripura District while perching on a grass. This species is rare throughout the state.

Current known distribution. Pakistan, Bangladesh, Myanmar, India (Gujarat to Kerala; Madhya Pradesh; West Bengal; Jammu & Kashmir to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).



Figure 2. Photographic records of: 1. *Burara amara*. 2-4. *Koruthaialos rubecula cachara* (red-banded form). 5. *Plastingia naga*. 6-7. *Borbo bevani*. 8-9. *Caltoris bromus bromus*. 10-11. *Caltoris brunnea caere*. 12. *Caltoris cormasa*. / Registros fotográficos de: 1. *Burara amara*. 2-4. *Koruthaialos rubecula cachara* (forma con bandas rojas). 5. *Plastingia naga*. 6-7. *Borbo bevani*. 8-9. *Caltoris bromus bromus*. 10-11. *Caltoris brunnea caere*. 12. *Caltoris cormasa*.

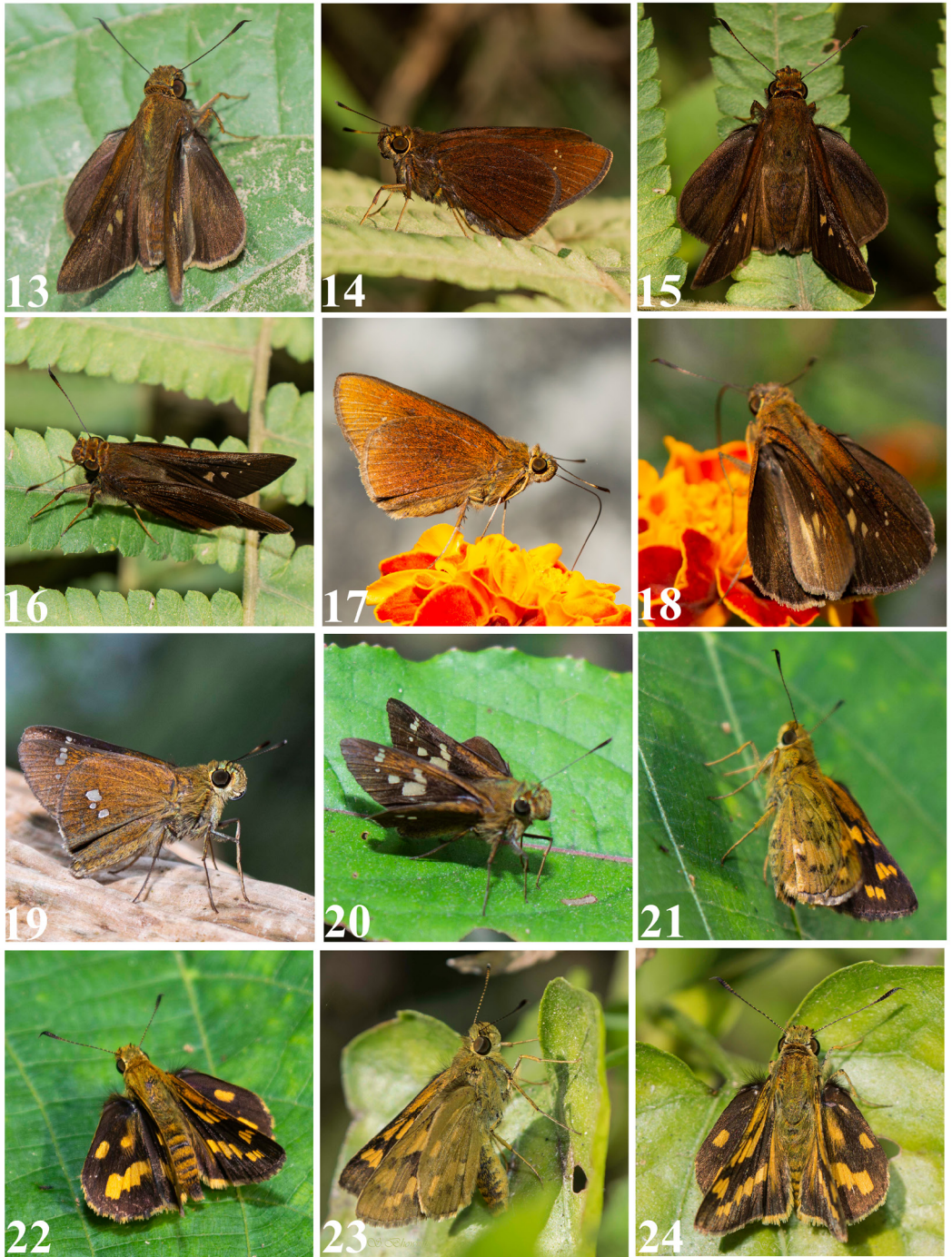


Figure 3. Photographic records of: 13. *Caltoris cornasa*. 14-16. *Caltoris plebeia*. 17-18. *Caltoris sirius sirius*. 19-20. *Polytremis discreta discreta*. 21-22. *Potanthus pallida*. 23-24. *Potanthus pseudomaesa clio*. / Registros fotográficos de: 13. *Caltoris cornasa*. 14-16. *Caltoris plebeia*. 17-18. *Caltoris sirius sirius*. 19-20. *Polytremis discreta discreta*. 21-22. *Potanthus pallida*. 23-24. *Potanthus pseudomaesa clio*.

Family - HesperIIDae

Subfamily – Pyrginae

14. *Coladenia agnioides* Elwes & Edwards, 1897 (Elwes's Pied Flat)

Remarks. Two individuals were recorded at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 827 m above msl.), on 26.viii.2019, near a roadside. Recently in October 2020 another individual was sighted at the same location. This species is very rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Manipur, Nagaland, Sikkim) (Van Gasse 2013; Varshney & Smetacek 2015).

15. *Coladenia indrani uposathra* Fruhstorfer, [1911] (Tricolour Pied Flat)

Remarks. A single individual was recorded in Jampui Hills (24°2'20" N & 92°16'19" E, ca. 329 m above msl.) till 04.vi.2016. Later three individuals were sighted in Ambassa, Dhalai District, on 15.iv.2017. Recently in October 2020 another individual was sighted at the same location in Jampui Hills. This species is rare throughout the state.

Current known distribution. Myanmar, India (Manipur) (Van Gasse 2013; Varshney & Smetacek 2015).

16. *Gerosis bhagava bhagava* (Moore, [1866]) (Common Yellow-breast Flat)

Remarks. On 05.xii.2015, a single individual was recorded at Vanghmun (24°0'9" N & 92°16'44" E, ca. 571 m above msl.) in Jampui Hills, while resting on a Pteridophyte. This species is not common in Tripura.

Current known distribution. Nepal, Myanmar, India (Goa to Jharkhand and south to Kerala; Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

17. *Mooreana trichoneura pralaya* (Moore, [1866]) (Yellow Flat)

Remarks. A single individual was recorded in Jampui Hills (24°2'20" N & 92°16'19" E, ca. 329 m above msl.), near to a waterfall on 03.vi.2018. In November 2019 two more individuals were sighted in the same area. This species is very rare in Tripura.

Current known distribution. Myanmar, India (Uttarakhand to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

18. *Tagiades menaka menaka* (Moore, [1866]) (Spotted Snow Flat)

Remarks. One individual was recorded in Jampui Hills (24°2'20" N & 92°16'19" E, ca. 329 m above msl.) till 05.xi.2019. On 07.xi.2019, two more individuals were recorded in the same area. This species is very rare throughout the state.

Current known distribution. Bhutan, Myanmar, India (Kashmir to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Lycaenidae

Subfamily - Lycaeninae

19. *Heliophorus indicus indicus* (Fruhstorfer, 1908) (Indian Purple Sapphire)

Remarks. A mating couple was sighted from Jampui Hills (23°59'17" N & 92°16'46" E, ca. 350 m above msl.) on 07.xi.2019. Immediately after mating, the male flew away and perched on a *Colocasia* leaf with his wing wide open, where it was photographed. This species is very rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Sikkim, Assam) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Lycaenidae

Subfamily - Miletinae

20. *Allotinus drumila drumila* (Moore, [1866]) (Great Darkie)

Remarks. This species is legally protected under schedule I of the Indian Wildlife (Protected) Act, 1972 (Anonymous 1997). One individual was recorded perching on bushes in Jampui Hills (23°59'17" N & 92°16'46" E, ca. 350 m above msl.), on 06.xi.2019. Recently in October 2020 eight individuals were sighted at Betlingchip in Jampui Hills. The species is quite rare in the state.

Current known distribution. Bangladesh, India (Uttarakhand, Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Lycaenidae

Subfamily - Polyommatae

21. *Niphanda asialis marcia* (Fawcett, 1904) (Fawcett's Pierrot)

Remarks. At 11:30 am, one individual was observed, when nectaring on a wild flowering plant in Jampui Hills (24°2'20" N & 92°16'18" E, ca. 335 m above msl.), on 31.xii.2017. The species is rare in Tripura as well all throughout India.

Current known distribution. Myanmar, India (Assam) (Van Gasse 2013; Varshney & Smetacek 2015).

22. *Jamides elpis pseudelpis* (Butler, [1879]) (Glistening Cerulean)

Remarks. On 12.v.2019, a male individual was sighted hovering over the puddling ground near a waterfall (24°2'20" N & 92°16'19" E, ca. 329 m above msl.), in Jampui Hills. Rarely found *Jamides* species of the state.

Current known distribution. Bangladesh, Myanmar, India (Sikkim to Northeast India; Andaman & Nicobar Islands) (Van Gasse 2013; Varshney & Smetacek 2015).

23. *Lestranicus transpectus* (Moore, 1879) (White-banded Hedge Blue)

Remarks. One individual recorded from Jampui Hills (24°2'20" N & 92°16'19" E, ca. 329 m above msl.), on 29.xii.2017, during mud-puddling near roadsides. After that, several individuals were recorded in Bettlingchip, the highest peak of the state. This species is very rare throughout the state but can be seen most often in Jampui Hills.



Figure 4. Photographic records of: 25. *Taractrocera maevius sagara*. 26-27. *Coladenia agnioides*. 28. *Coladenia indrani uposathra*. 29. *Gerosis bhagava bhagava*. 30. *Mooreana trichoneura pralaya*. 31. *Tagiades menaka menaka*. 32-33. *Heliophorus indicus indicus*. 34. *Allotinus drumila drumila*. 35. *Niphanda asialis marcia*. 36. *Jamides elpis pseudelpis*. / Registros fotográficos de: 25. *Taractrocera maevius sagara*. 26-27. *Coladenia agnioides*. 28. *Coladenia indrani uposathra*. 29. *Gerosis bhagava bhagava*. 30. *Mooreana trichoneura pralaya*. 31. *Tagiades menaka menaka*. 32-33. *Heliophorus indicus indicus*. 34. *Allotinus drumila drumila*. 35. *Niphanda asialis marcia*. 36. *Jamides elpis pseudelpis*.

Current known distribution. Nepal, Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

24. *Nacaduba beroe gythion* Fruhstorfer, 1916 (Opaque Sixlineblue)

Remarks. On 08.i.2017, a mating couple was recorded in Panisagar (24°17'29" N & 92°9'31" E, ca. 8 m above msl.) near roadside. This species is very rare throughout the state.

Current known distribution. Myanmar, India (Sikkim to Northeast India; Maharashtra to Kerala) (Van Gasse 2013; Varshney & Smetacek 2015).

25. *Ticherra acte acte* (Moore, [1858]) (Blue Imperial)

Remarks. This species was first observed in Jampui Hills while busking on tree canopy in December 2015. Later this species was sighted several times in Jampui Hills but unable to photograph on each encounter. However, on 07.xi.2019, one male individual was photographed in Jampui Hills (24°2'20" N & 92°16'19" E, ca. 329 m above msl.). Another observation occurred in Panisagar, near the Rowa Wildlife Sanctuary. This species is not so rare in Tripura.

Current known distribution. Bangladesh, Myanmar, India (Uttarakhand to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

26. *Deudorix epijarbas epijarbas* (Moore, [1858]) (Cornelian)

Remarks. This species is rare in Tripura and only a single record was made from Panisagar (24°17'6" N & 92°9'20" E, ca. 61 m above msl.), till 16.v.2018, while puddling on sandy surface. Two more sightings were made afterwards in Jampui Hills.

Current known distribution. Sri Lanka, Pakistan, Nepal, Myanmar, India (South India to West Bengal; Jammu & Kashmir to Uttarakhand; Sikkim to Northeast India, Andaman & Nicobar Islands) (Van Gasse 2013; Varshney & Smetacek 2015).

27. *Creon cleobis cleobis* (Godart, [1824]) (Broadtail Royal)

Remarks. One individual was recorded at Kameswar village (24°22'21" N & 92°10'51" E, ca. 29 m above msl.) in Dharmanagar, North Tripura district on 01.viii.2016 while resting on grass. In January 2018, another individual was sighted in the same place, nectering on *Chromolaena odorata*. This species is not so common in Tripura.

Current known distribution. Bangladesh, Myanmar, India (Goa to Kerala; Himachal Pradesh to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

28. *Dacalana penicilligera* (de Niceville, 1890) (Double-tufted Royal)

Remarks. A single individual was sighted from Panisagar till 03.v.2016, inside a forest patch (24°17'6" N & 92°9'20" E, ca. 61 m above msl.) near roadsides. Later several observations were made in Rowa Wildlife Sanctuary. This species is rare throughout the state, but it can be seen from March onwards in the present locality.

Current known distribution. Bangladesh, Myanmar, India (West Bengal to Northeast

India) (Van Gasse 2013; Varshney & Smetacek 2015).

29. *Pratapa deva lila* Moore, [1884] (White Royal)

Remarks. This species is legally protected under schedule II of the Indian Wildlife (Protected) Act, 1972 (Anonymous 1997). On 07.i.2018, a male individual was recorded while nectaring on *Chromolaena odorata* near roadsides (24°22'21" N & 92°10'51" E, ca. 29 m above msl.) at Kameswar village in Dharmanagar, North Tripura district. This species is very rare throughout the state.

Current known distribution. Bangladesh, Myanmar, India (Andaman & Nicobar Islands; Uttarakhand to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Lycaenidae

Subfamily - Polyommatainae

30. *Mota massyla* (Hewitson, [1869]) (Saffron)

Remarks. One female individual was recorded while egg laying in its host plant on 10.x.2020, in Jampui Hills (23°48'51" N & 92°15'33" E, ca. 827 m above msl.). This species is very rare throughout the state.

Current known distribution. Bhutan, Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Nymphalidae

Subfamily - Apaturinae

31. *Mimathyma ambica ambica* (Kollar, [1844]) (Indian Purple Emperor)

Remarks. Two individuals were sighted in Jampui Hills during mud-puddling near to a waterfall (23°59'17" N & 92°16'46" E, ca. 350 m above msl.), on 07.xi.2019. This species is rare throughout the state.

Current known distribution. Myanmar, India (Uttarakhand to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

32. *Mimathyma chevana chevana* (Moore, [1866]) (Sergeant Emperor)

Remarks. On 07.xi.2019, one individual was sighted perching on bushes along roadsides in Jampui Hills (23°59'17" N & 92°16'46" E, ca. 350 m above msl.). This species is very rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

Family Nymphalidae

Subfamily - Danainae

33. *Euploea algea deione* Westwood, 1848 (Long-branded Blue Crow)

Remarks. This species was recorded in Jampui Hills (24°2'20" N & 92°16'19" E, ca. 329 m above msl.), while puddling on roadways. This observation was made on 15.vi.2016. This species is also rare in the state.

Current known distribution. Nepal, Bangladesh, Myanmar, India (Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

34. *Euploea sylvester hopei* C. & R. Felder, [1865] (Double-branded Crow)

Remarks. On 08.vi.2019, two individuals were observed inside a forest patch in Panisagar (24°17'29" N & 92°9'31" E, ca. 8 m above msl.). Later this species was sighted several times inside Rowa Wildlife Sanctuary, although it is rare throughout the state.

Current known distribution. Nepal, Bangladesh, Myanmar, India (Sikkim and Assam) (Van Gasse 2013; Varshney & Smetacek 2015).

35. *Parantica melaneus plataniston* (Fruhstorfer, 1910) (Chocolate Tiger)

Remarks. One single individual was recorded on 06.xi.2019, at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 827 m above msl.) in Jampui Hills while nectaring on a wild plant. This species is very rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Uttarakhand to Northeast India; Nicobar Island) (Van Gasse 2013; Varshney & Smetacek 2015).

36. *Tirumala septentrionis septentrionis* (Butler, 1874) (Dark Blue Tiger)

Remarks. A male individual was recorded in Panisagar (24°17'38" N & 92°9'27" E, ca. 10 m above msl.) near Rowa Wildlife Sanctuary on 12.v.2016. In June 2019, another individual was sighted in the same locality, while resting on a dried stem. This species is not common in Tripura.

Current known distribution. Bangladesh, Myanmar, India (Himachal Pradesh to Northeast India; Andaman & Nicobar Islands) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Nymphalidae

Subfamily - Heliconiinae

37. *Bassarona teuta teuta* (Doubleday, [1848]) (Banded Marquis)

Remarks. This species is legally protected under schedule II of the Indian Wildlife (Protected) Act, 1972 (Anonymous 1997). On 05.xii.2015, a male individual was observed on a *Citrus sinensis* plant in Jampui Hills (24°0'6" N & 92°16'44" E, ca. 575 m above msl.). Later several sightings were made in different locations of Jampui Hills including a female. This species is not very rare in Jampui Hills, although very rare throughout the state.

Current known distribution. Bangladesh, Myanmar, India (Meghalaya & Manipur) (Van Gasse 2013; Varshney & Smetacek 2015).

38. *Sumalia daraxa daraxa* (Doubleday, [1848]) (Green Commodore)

Remarks. One individual was sighted at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 827 m above msl.), the highest peak of Tripura. This record was made on 05.viii.2019. Later another two sightings were made at Vanghmun in Jampui Hills. This species is rare throughout the state.



Figure 5. Photographic records of: 37. *Jamides elpis pseudelpis*. 38. *Lestranicus transpectus*. 39. *Nacaduba beroe gythion*. 40-41. *Ticherra acte acte*. 42. *Deudorix epijarbas epijarbas*. 43. *Creon cleobis cleobis*. 44. *Dacalana penicilligera*. 45-46. *Pratapa deva lila*. 47. *Mota massyla*. 48. *Mimathyma ambica ambica*. / Registros fotográficos de: 37. *Jamides elpis pseudelpis*. 38. *Lestranicus transpectus*. 39. *Nacaduba beroe gythion*. 40-41. *Ticherra acte acte*. 42. *Deudorix epijarbas epijarbas*. 43. *Creon cleobis cleobis*. 44. *Dacalana penicilligera*. 45-46. *Pratapa deva lila*. 47. *Mota massyla*. 48. *Mimathyma ambica ambica*.

Current known distribution. Nepal, Bangladesh, Myanmar, India (Uttarakhand to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

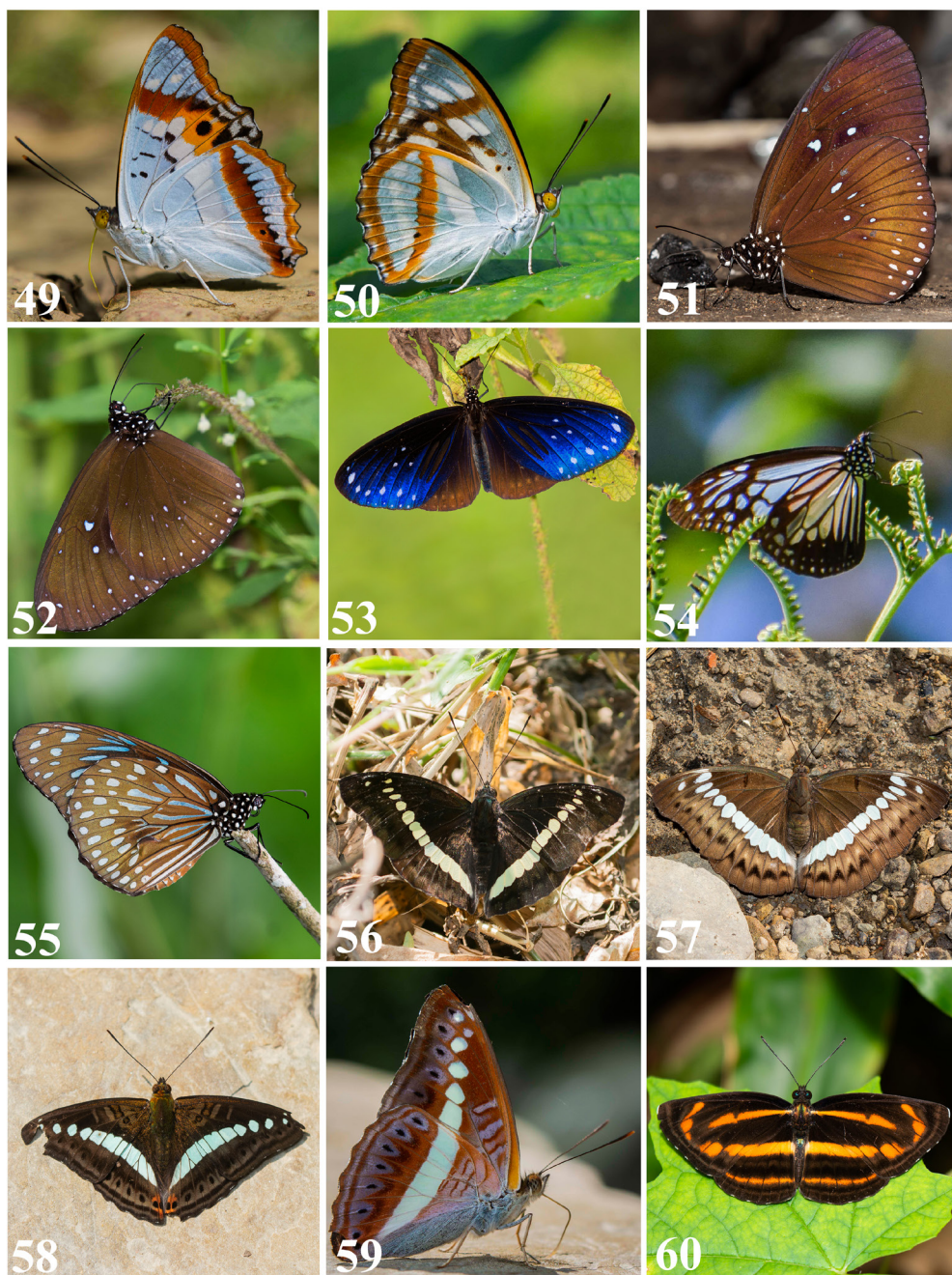


Figure 6. Photographic records of: 49. *Mimathyma ambica ambica*. 50. *Mimathyma chevana chevana*. 51. *Euploea algea deione*. 52-53. *Euploea sylvester hopei*. 54. *Parantica melaneus plataniston*. 55. *Tirumala septentrionis septentrionis*. 56-57. *Bassarona teuta teuta* (male and female). 58-59. *Sumalia daraxa daraxa*. 60. *Neptis miah miah*. / Registros fotográficos de: 49. *Mimathyma ambica ambica*. 50. *Mimathyma chevana chevana*. 51. *Euploea algea deione*. 52-53. *Euploea sylvester hopei*. 54. *Parantica melaneus plataniston*. 55. *Tirumala septentrionis septentrionis*. 56-57. *Bassarona teuta teuta* (macho y hembra). 58-59. *Sumalia daraxa daraxa*. 60. *Neptis miah miah*.

39. *Neptis miah miah* Moore, [1858] (Small Yellow Sailer)

Remarks. Recorded one individual from Jampui Hills on 04.viii.2019, during mud-puddling near to a waterfall (24°2'20" N & 92°16'19" E, ca. 329 m above msl.). Later several sightings were made in Jampui Hills. This species is rare throughout the state.

Current known distribution. Nepal, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

40. *Pantoporia paraka paraka* (Butler, 1879) (Perak Lascar)

Remarks. This species is very rare throughout the state. One individual was recorded in Panisagar (24°17'6" N & 92°9'20" E, ca. 61 m above msl.) feeding on mosses. This observation was made on 10.vi.2016.

Current known distribution. Bangladesh, Myanmar, India (Arunachal Pradesh, Assam) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Nymphalidae

Subfamily - Nymphalinae

41. *Doleschallia bisaltide indica* Moore, 1899 (Autumn Leaf)

Remarks. On 21.viii.2016, one individual was recorded during mud-puddling at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 827 m above msl.) in Jampui Hills. Recently on 22.ii.2020, another individual was recorded near the same locality (24°2'20" N & 92°16'19" E). This species is very rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Nymphalidae

Subfamily - Satyrinae

42. *Faunis canens arcesilas* Stichel, 1933 (Common Faun)

Remarks. One individual was recorded at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 827 m above msl.), Jampui Hills on 08.xi.2019. This species is very rare throughout the state.

Current known distribution. Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

43. *Lethe kansa* (Moore, [1858]) (Bamboo Forester)

Remarks. A single individual was sighted at Vanghmun (23°59'17" N & 92°16'46" E, ca. 350 m above msl.) on puddling ground in Jampui Hills. This record was made on 07.xi.2019. Rare throughout the state.

Current known distribution. Myanmar, India (Uttarakhand to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

44. *Telinga malsarida* (Butler, 1868) (Plain Bushbrown)

Remarks. At Vanghmun (23°59'17" N & 92°16'46" E, ca. 340 m above msl.) in Jampui Hills, a single individual was recorded perching on bushes. This observation was made on 06.xi.2019. This species is very rare throughout the state.

Current known distribution. Northeast India (Van Gasse 2013; Varshney & Smetacek 2015).

45. *Ypthima lycus lycus* de Niceville, 1889 (Plain Threering)

Remarks. Recorded one individual at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 827 m above msl.), perching on grasses in Jampui Hills. This observation was made on 06.viii.2019. This species is very rare in Tripura.

Current known distribution. Sikkim to Northeast India (Van Gasse 2013; Varshney & Smetacek 2015).

46. *Ypthima newara newara* Moore, [1875] (Newar Threering)

Remarks. On 10.xi.2020, one male individual was recorded in Jampui Hills (23°48'51" N & 92°15'33" E, ca. 827 m above msl.), while nectaring on *Bidens pilosa* flowers. Later in this same day and same spot, a female individual was recorded while egg laying on a Poaceae plant. This species is rare throughout the state.

Current known distribution. Nepal, Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

47. *Ethope himachala* (Moore, [1858]) (Dusky Diadem)

Remarks. This species is rare throughout the state, but not rare in Jampui Hills. A single individual was sighted from Jampui Hills till 07.viii.2016, inside a dark forest patch (24°2'20" N & 92°16'19" E, ca. 329 m above msl.) near roadsides. Later several observations were made in different locations of Jampui Hills.

Current known distribution. Bangladesh, Myanmar, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Pieridae

Subfamily - Coliadinae

48. *Eurema simulatrix sarinoides* (Fruhstorfer, 1910) (Scarce Grass Yellow)

Remarks. At Kameswar village (24°22'21" N & 92°10'47" E, ca. 15 m above msl.) in Dharmanagar, one female individual was recorded during egg laying on a Fabaceae plant. The observation was made on 11.i.2017. Due to its close similarity with *E hecabe* and *E blanda*, this species is often overlooked and hence it is difficult to evaluate its relative status in Tripura

Current known distribution. Myanmar, India (Sikkim) (Van Gasse 2013; Varshney & Smetacek 2015).

Family - Pieridae

Subfamily - Pierinae

49. *Appias indra indra* (Moore, [1858]) (Plain Puffin)

Remarks. One individual was recorded in Jampui Hills (24°2'20" N & 92°16'19" E, ca. 329 m above msl.) on 07.xi.2016, busking on a bush. Later several individuals were observed in Jampui Hills. This species is rare throughout the state.

Current known distribution. Nepal, Myanmar, Bangladesh, India (Sikkim to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

50. *Appias lalage lalage* (Doubleday, 1842) (Spot Puffin)

Remarks. On 22.ii.2020, two individuals were sighted at Betlingchhip (23°48'51" N & 92°15'33" E, ca. 827 m above msl.) in Jampui Hills, while nectaring on *Bidens pilosa* flowers. This species is very rare throughout the state.

Current known distribution. Myanmar, India (Uttarakhand to Northeast India; Kerala, Tamil Nadu) (Van Gasse 2013; Varshney & Smetacek 2015).

51. *Delias acalis pyramus* (Wallace, 1867) (Redbreast Jezabel)

Remarks. One individual was recorded in Jampui Hills (24°1'54" N & 92°15'37" E, ca. 212 m above msl.), nectaring on *Mikania* sp. flowers on 30.xi.2019. Very rare in Tripura.

Current known distribution. Nepal, Myanmar, India (Himachal Pradesh to Northeast India) (Van Gasse 2013; Varshney & Smetacek 2015).

The persistence of minimal pollution and a balanced habitat made up of different species of plants are one of the most important requisite for survivability of butterflies. There are innumerable potential areas for butterfly conservation exists in Tripura that need to be explored. These potential areas consist of different species of host plants and valuable nectaring plants that support and holds a substantial number of butterflies and their life cycle. An effort has been made to identify some of these potential areas during the present work.

The total numbers of butterflies so far recorded in Tripura by various authors and researchers does not reflects the actual potential of the state to be a butterfly hotspot, being part of North-east India. The present study provides an excellent justification of the above statement by increasing 20.90% species to the existing butterfly fauna of Tripura.

There is a great need not only to preserve potential habitats but also to safeguard different types of butterfly host plants and nectaring plants including essential micro habitats for proper conservation of butterflies. The first step towards any conservation plan is to stop arbitrary deforestation followed by long term plantation. Most often uncontrolled deforestation results in local extinctions of many species of important herbs, shrubs, climbers, and trees that holds a substantial number of butterfly species and unfortunately there is a negligible chance of replantation of these local extincts. The best policy towards butterfly conservation is community based conservation made for ecological restoration of a landscape. This helps to create awareness among local people about the importance of butterflies and their ecological role. In India protection of butterflies is made available only in the protected areas. However, there are many potential areas outside these protected areas that are providing

suitable habitat and breeding grounds to butterflies and many other insects. Legal protection and conservation of these butterfly hotspots will not only help to preserve butterflies but also maintain an ecological balance as a whole.

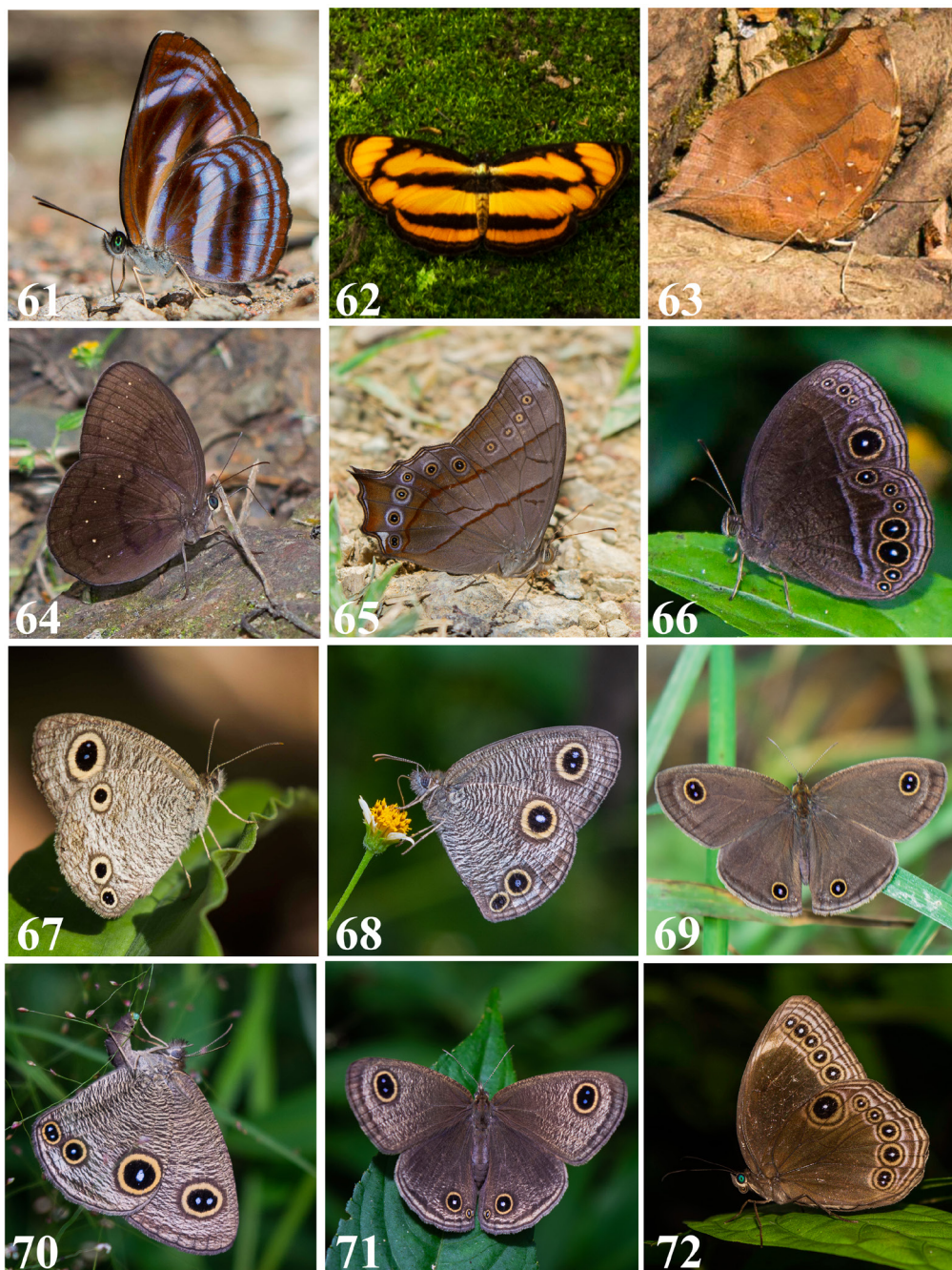


Figure 7. Photographic records of: 61. *Neptis miah miah*. 62. *Pantoporia paraka paraka*. 63. *Doleschallia bisaltide indica*. 64. *Faunis canens arcesilas*. 65. *Lethe kansa*. 66. *Telinga malsarida*. 67. *Ypthima lycus lycus*. 68-69. *Ypthima newara newara* (male). 70-71. *Ypthima newara newara* (female). 72. *Ethope himachala*. / Registros fotográficos de: 61. *Neptis miah miah*. 62. *Pantoporia paraka paraka*. 63. *Doleschallia bisaltide indica*. 64. *Faunis canens arcesilas*. 65. *Lethe kansa*. 66. *Telinga malsarida*. 67. *Ypthima lycus lycus*. 68-69. *Ypthima newara newara* (macho). 70-71. *Ypthima newara newara* (hembra). 72. *Ethope himachala*.



Figure 8. Photographic records of: 73. *Ethope himachala*. 74. *Eurema simulatrix sarinoides*. 75. *Appias indra indra*. 76. *Appias lalage lalage*. 77. *Delias acalis pyramus*. / Registros fotográficos de: 73. *Ethope himachala*. 74. *Eurema simulatrix sarinoides*. 75. *Appias indra indra*. 76. *Appias lalage lalage*. 77. *Delias acalis pyramus*.

Conclusion

This study reported 51 butterfly species for the first time in Tripura. This study will be important in the context of updating the checklist, status, distribution, seasonal and habitat wise diversity and conservation of the butterfly fauna of Tripura. The findings of 51 new records along with addition of 21 new genera to the state within a period of five years signifies that many species are constantly colonizing new areas of the Himalayan region and can be found in areas that remain unexplored. The present study is a clear indication of the above statement. The author hopes and believes that the major findings of this study can be used for future studies with respect to distribution, habitat, and seasonal availability of butterfly.

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