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Νοτε

A CENTURY LATER: TRICOLORED PIED FLAT *COLADENIA INDRANI UPOSATHRA* FRUHSTORFER, 1911 (HESPERIIDAE: PYRGINAE) AND CRENULATE OAKBLUE *APPORASA ATKINSONI* HEWITSON, 1869 (LYCAENIDAE: THECLINAE) REPORTED FROM MANIPUR, INDIA

Baleshwor Singh Soibam, Harmenn Huidrom & Jatishwor Singh Irungbam

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Manipur, a small northeastern state of India, covering a land area of 22,000km² is blessed with an exceptionally high diversity of flora and fauna. This has earned the state recognition, as it is a part of the Indo-Burma Biodiversity Hotspot (http:// www.cepf.net/resources/hotspots/ Asia-Pacific/Pages/Indo-Burma.aspx) as an area having one of the richest

biodiversity in the world. Northeastern India is a meeting place of the central Asian and Chinese sub-divisions of the Palaearctic region with the peninsular Indian and Malayan sub-division of the Oriental region thus very rich in butterfly diversity (Wynter-Blyth 1957). The area consists of many species which are endemic; very rare, and or protected under the Indian Wildlife (Protection) Act, 2002. Despite the very rich diversity, the area remains less studied in the last few decades thus there is little natural history and ecological knowledge on the butterflies of Manipur.

The studies on the butterflies of Manipur have been illustrated at Bingham (1905), Tytler (1914), Evans (1927, 1932), Talbot (1947) and Wynter-Blyth (1957). In recent years many species of butterflies have been reported and rediscovered from northeastern India. *Symbrenthia silana* de Nicéville, 1885, *Papilio elephenor* Doubleday, 1845 and *Shijimia moorei* Leech, 1889 were recently rediscovered from Sikkim and western Assam (Kunte 2010; Choudhury 2010) and are protected under Schedule I of the Indian Wildlife (Protection) Act, 1972. Later, *Lethe margaritae*

A CENTURY LATER: TRICOLORED PIED FLAT COLADENIA INDRANI UPOSATHRA FRUHSTORFER, 1911 (HESPERIIDAE: PYRGINAE) AND CRENULATE OAKBLUE APPORASA ATKINSONI HEWITSON, 1869 (LYCAENIDAE: THECLINAE) REPORTED FROM MANIPUR, INDIA

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Elwes, 1882 and *Neptis nycteus* de Nicéville, 1890 which are very rare to the Himalaya were reported nearly after a 100 years from Sikkim (Rai et al. 2012). Other butterflies like *Elymnias obnubila* Marshall & de Nicéville, 1883, *Athyma whitei* Tytler, 1940, *Algia fasciata fasciata* Felder & Felder, 1860, *Polygonia c-album agnicula* Moore, 1872 and *Calinaga aborica* Tytler, 1915 which were recently rediscovered; newly recorded or extended their range to different parts of northeast India (Kunte 2009; Gogoi 2014; Gogoi et al. 2015; Goswami et al. 2015; Sondhi et al. 2016).

In this paper, we report the sightings of two rare and important butterfly species: *Coladenia indrani uposathra*

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Century later report of two butterflies from Manipur

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Fruhstorfer, 1911 from Imphal west and Bishenpur District; *Apporasa atkinsoni* Hewitson, 1869 from the Chandel District of Manipur in northeastern India.

Tricolored Pied Flat *Coladenia indrani uposathra* Fruhstorfer, 1911

The skipper butterfly *Coladenia indrani* (Moore, [1866]) is a common and widespread species reported from India (from Gujarat eastwards to West Bengal and southward to Kerala, Himachal Pradesh to northeastern India and Manipur) (Varshney & Smetacek 2015), Nepal, Bhutan, Bangladesh, Myanmar, Sri Lanka (Kehimkar 2008), Thailand and Vietnam (Pinratanna 1985; Ek-Amnuay 2006) and Laos (Osada et al. 1999; Nakamura & Wakahara 2012). The genus *Coladenia* Moore, (1881) consists of about 20 species of which four species are reported from the Indian subregion, i.e., *Coladenia agni* (de Nicéville, [1884]), *Coladenia indrani* (Moore, [1866]), *Coladenia laxmi* (de Nicéville, [1889]) and *Coladenia agnioides* Elwes & Edwards, 1897 (Varshney & Smetacek 2015).

The Tricolored Pied Flat, *Coladenia indrani* Moore, 1866, is represented by three subspecies: *Coladenia indrani indra* Evans, 1926 (from Gujarat eastwards to West Bengal and southwards to Kerala); *Coladenia indrani indrani* (Moore [1866]) (Himachal Pradesh to northeastern India excluding Manipur); *Coladenia indrani uposathra* Fruhstorfer, 1911 (Manipur, Myanmar and Thailand, Japan) (Evans 1949; Pinratana 1985; Varshney & Smetacek 2016).

Coladenia indrani uposathra Fruhstorfer, 1911 is a medium-sized butterfly (Images 1 & 2) with a 28–34 mm wingspan and reddish-brown above with sub-apical hyaline spots in spaces 6–8. A discal patch of hyaline spots in and above the cell of forewing and also in spaces 2 and 3 (Ek-Amnuay 2006). Its wet season form is rather more ochreous than the dry season form (a very much brighter orange yellow). Its upper forewing is with complete and conspicuous sub-marginal yellow spots while in ssp. *indrani*, its upper hindwing is bright tawny (Evans 1949).

In this note, we report the sighting of *Coladenia indrani uposathra* Fruhstorfer, 1911. On 04 May 2014, the first author found the butterfly feeding on bird dropping (Images 1 & 2) at the side of a jeep track from Keibul Lamjao National Park (24°28'20.03"N & 93°49'0.08"E) (Fig. 1) at an altitude of 787m in Bishenpur District. Later, on 16 May 2014, the butterfly was photographed sitting under the leaves (Image 3) at Heibok Hills (24°43'36.768"N & 93°54'26.532"E) (Fig. 1) at an altitude of 785m in Imphal West District, Manipur. Singh et al. (2011) also reported the species from KLNP ecological park but it was misidentified as *Coladenia indrani indrani*. The species was recently sighted from Amarpur, Gumati District, Tripura during November 2009 and Ri-Bhoi



Image 1. Photographic record of *Coladeina indrani uposathra* Fruhstrofer, 1911 (UP) from Keibul Lamjao National Park, Bishenpur District



Image 2. Photographic record of *Coladeina indrani uposathra* Fruhstrofer, 1911 (UN) from Keibul Lamjao National Park, Bishenpur District

District, Meghalaya during April 2016 which are two new locality reports of this species in northeastern India (Saji et al. 2016). The butterfly is very active and a rapid flier when disturbed. It prefers shaded areas, thus found mostly hiding on the underside of a leaf. This subspecies was reported previously from Irang River (~24°32′47.044″N & 93°16′6.873″E) at Tamenglong District (Fig. 1) and Sebong (~24°29′8.44N & 94°20′10.94″E) (Fig. 1) at Chandel District of Manipur during February and April (Tytler 1915). Hence this record is not surprising, especially given the lack of Lepidoptera surveys in this area.

Crenulate Oakblue Apporasa atkinsoni Hewitson, 1869

The Lycaenidae butterfly, the Crenulate Oakblue *Apporasa atkinsoni* Hewitson, 1869 is the only species from the genus *Apporasa*. It has been known to occur from Assam, Manipur, Myanmar, Thailand, Laos and Vietnam (Evans 1927; Inoyasi 2016). Wynter-Blyth (1957) mentioned that the species is reported from the Naga Hills

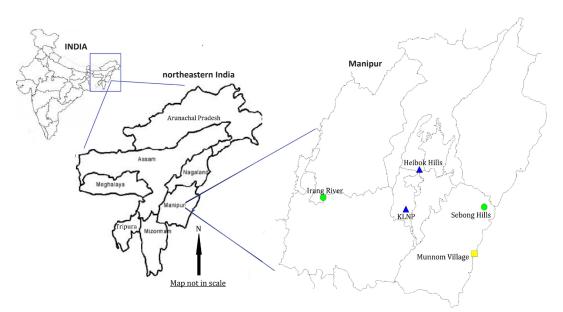


Figure 1. Map showing the localities of the recent sightings and older sightings (green circle) from Manipur. Blue Triangle shows the localities of *C. i. uposathra* and Yellow Square is of *A. atkinsoni*. (Prepared by: Jatishwor Singh Irungbam using DIVA-GIS 7.5.0)

and Manipur to Myanmar and reported that it is "rare". During June 1915, Tytler (1915) took a single female from Sebong Village, Manipur (Fig. 1). Ollenbach (1923) collected various specimens from Myekhanbaw and Sabatung, Myanmar. This species is reported to be very local, being found only at one particular spot at each of the above localities. The species keeps itself to small bushes and flies little, even when disturbed (Ollenbach 1923). Both male and female of the species were collected in Xiang Khouang located in central Laos (Osada et al. 1999). The species has been recently recorded from various locations of southeast Asia; southern Vietnam (Miyazaki et al. 2006) and Chiang Mai, Thailand (Young 2006) but the species has not been seen in India since Tytler (1915). The species is legally protected under Schedule II of Indian (Wildlife) Protection Act, 2002.

A recent detailed description of the species was provided at Ek-Amnuay (2006). FW strongly crenulated at upper half of the termen towards apex, HW deeply excavated at costal margin and pointed at apex, strongly dentate at termen and tailed at vein 2. Male UP is shining blue with broad borders. Females are lighter purplish-blue and usually with broader borders; UN brown with irregular dark markings. UNF with three spots outlined by yellowish transverse trips, postdiscal band is clearly present on the upper half with prominent yellowish discal patches in space 1b and 2.

In this note, we report the recent sighting of the species *Apporasa atkinsoni* Hewitson, 1869 (Image 4). On 08 December 2015, the second author photographed



Image 3. Photographic record of *Coladeina indrani uposathra* Fruhstrofer, 1911 from the Heibok hills, Imphal west.

the butterfly from Munnom Village (24º11'8.862"N & 94°16'15.092"E, 203m) at Yaingangpokpi Lokchao Wildlife Sanctuary (Fig. 1), Chandel District of Manipur which is close to the Indo-Myanmar border and lies in the Sebong Hill range (~24°29'8.44N & 94°20'10.94"E). The butterfly was sitting on the upper surface of a leaf with closed The butterfly was usually sighted sunbathing wings. on the leaf surface, and flew towards the canopy when disturbed. In the photograph (Image 4), we could clearly see the distinguishing character of the species, which is the strongly crenulated FW margin at upper half, and strongly dentate at termen and tailed at vein 2 (Ek-Amnuay 2006). The present sighting is significant because the site is very close to the Sebong area from which Tytler (1915) reported the specimen for the first time from Manipur.



Image 4. Photographic record of *Apporasa atkinsoni* Hewitson, 1869 from Munnon Village, Yaingangpokpi Lokchao Wildlife Sanctuary, Chandel District.

Conclusions

Our sighting of *Coladenia indrani uposathra* Fruhstorfer, 1911 appears to be the first in Manipur since Tytler (1915) saw the species from Irang River at Tamenglong District and Sebong at Chandel District of Manipur. Similarly, with *Apporasa atkinsoni* Hewitson 1869, it was reported by Tytler (1915) from Sebong Village, Manipur. Therefore, it constitutes an important sighting of these taxa for the country. These records identify good butterfly localities, elevations and habitat types in Manipur where more thorough surveys and monitoring efforts are needed. Further, these sites will help in accumulating more sighting records in future of the very rare and protected species in the state of Manipur.

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