

Notes on some rare HesperIIDae from Miao Range, Namdapha National Park, Arunachal Pradesh, India (Insecta: Lepidoptera)

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Abstract

Namdapha National Park is home to a wide variety of species located in Changlang district of Arunachal Pradesh state in North-East India. The park is flanked by the Patkai hills to the South and by the Himalaya in the North and lies close to the Indo-Myanmar-China trijunction. Here we reported the occurrence of 14 rare HesperIIDae from the park namely *Plastingia naga* (Nicéville, 1884), *Pyroneura margherita* (Doherty, 1889), *Salanoemia noemi* (Nicéville, 1885), *Lotongus sarala* (Nicéville, 1889), *Hidari bhawani* (Nicéville, 1888), *Matapa sasivarna* (Moore, 1866), *Thoressa hyrie* (Nicéville, 1891), *Burara amara* (Moore, 1866), *Burara gomata* (Moore, 1866), *Burara jiana* (Moore, 1866), *Bibasis sena* (Moore, 1866), *Odina decorates* (Hewitson, 1867), *Mooreana trichoneura* (Felder, 1860) and *Darpa hanria* (Moore, 1881).

Keywords: Insecta, Lepidoptera, HesperIIDae, Namdapha National Park, India.

Notas sobre algunos HesperIIDae raros de Miao Range, Parque Nacional de Namdapha, Arunachal Pradesh, India (Insecta: Lepidoptera)

Resumen

El Parque Nacional de Namdapha alberga una gran variedad de especies y está situado en el distrito de Changlang del estado de Arunachal Pradesh, en el noreste de la India. El parque está flanqueado por las colinas Patkai al sur y por el Himalaya al norte y se encuentra cerca de la trijunción Indo-Myanmar-China. Aquí informamos de la presencia de 14 HesperIIDae poco comunes en el parque, a saber, *Plastingia naga* (Nicéville, 1884), *Pyroneura margherita* (Doherty, 1889), *Salanoemia noemi* (Nicéville, 1885), *Lotongus sarala* (Nicéville, 1889), *Hidari bhawani* (Nicéville, 1888), *Matapa sasivarna* (Moore, 1866), *Thoressa hyrie* (Nicéville, 1891), *Burara amara* (Moore, 1866), *Burara gomata* (Moore, 1866), *Burara jiana* (Moore, 1866), *Bibasis sena* (Moore, 1866), *Odina decorates* (Hewitson, 1867), *Mooreana trichoneura* (Felder, 1860) y *Darpa hanria* (Moore, 1881).

Palabras clave: Insecta, Lepidoptera, HesperIIDae, Parque Nacional de Namdapha, India.

Introduction

Namdapha National Park is the only National Park in the state having dual status of a National Park as well as Tiger Reserve covering a total geographical area of 1,985 km² (Lodhi et al. 2013). The climatic conditions are heterogeneous across the park, temperature varies from 5° to 35° at lower altitudes and drops to below freezing point at higher elevations (Arunachalam et al. 2004). It has different major forest types as tropical wet evergreen forests, subtropical broad-leaved forests, subtropical pine forests, temperate broad-leaved forests, alpine meadows, and perennial snow (Dutta et al. 2008). The vegetation of the park is dominated by *Dipterocarpus retusus* Blume, *Shorea assamica*

Dyer, *Mesua ferrea* L., *Liquidambar excelsa* (Noronha) Oken, *Elaeocarpus aristatus* Wallich, and *Terminalia myriocarpa* Van Heurck & Mull. Arg. The region experiences four seasons namely, winter (mid-November to February), spring (March to April), monsoon (May to September) and a brief autumn (October to mid-November) (Nath et al. 2005). Due to above balance ecological factors the park exhibits rich floral and faunal diversity (Chauhan et al. 1996). Every organism has an important role in their ecosystem. For example, insect is vital for the ecosystems with different functional aspects of the species. Among insects, Lepidoptera perform prominent roles such as pollination, herbivores and bioindication providing health of any specified terrestrial ecosystem (Kunte, 2000). Monitoring and observations on the species diversity provide information about the variations in the species richness and the abundance of a particular habitat. Various work on Lepidoptera suggested that the place harbour a good number and varieties. A total of 84 species belonging to the four-Lepidoptera family recorded from Namdapha National Park, Arunachal Pradesh (Bhattacharya, 1985). Sethy et al. (2014) reported 113 species under 73 genera from South-eastern part of Namdapha Tiger Reserve. Several new and rare species have also been described from the park such as *Hypolycaena Narada* Kunte, 2015, *Capila pieridoides* (Moore, 1878), *Plastingia naga* (Nicéville, 1884), *Salanoemia noemi* (Nicéville, 1885), *Lotongus saralus* (Nicéville, 1889), *Pieris naganum* Moore, 1884, *Erites falcipennis* Wood-Mason & Nicéville, 1883, *Coelites nothis adamsoni* Moore, 1891, *Bassarona durga splendens* Tytler, 1914 and *Papilio noblei* Nicéville, 1889 (Kunte, 2015; Das et al. 2020; Bose et al. 2023). Moreover, many species and subspecies were reported after a long gap from Namdapha National Park. Two subspecies *Coelites nothis adamsoni* and *Pieris naganum naganum* were reported for the first time after a gap of more than a century from Namdapha National Park (Das et al. 2020). Species *Pintara pinwilli* (Butler, 1879) was reported from Deban, Namdapha National Park and known to have a single record in the late 1800s from NE India (Gogoi & Dwari, 2023). Species *Ideopsis similis persimilis* (Moore, 1879), reported as the first subspecies from Namdapha National Park (Thombre & Kehimkar, 2015). Variya et al. (2021) reported the occurrence of the Veined Palmer *Hidari bhawani* Nicéville, [1889] from Namdapha NP & TR, Miao, Arunachal Pradesh. Species *Lebadea martha* (Fabricius, 1787) is reported for the first time in Arunachal Pradesh from Namdapha National Park, Miao (Upadhaya & Gogoi, 2023).

Rare Hesperidae Species

HESPERINAE

Plastingia naga (Nicéville, 1884)

This species is "rare" in North-Eastern India, but it is moderately common in Myanmar, Thailand, and Indonesia (Evans, 1932; Kehimkar, 2016). *Plastingia naga* has a blackish-brown colour with distinct pale white spots on the underside and the upper side is marked with obscure yellow spots (Das et al. 2016). Current Sighting: Miao.

The species is not new to Arunachal Pradesh as it is already reported from the Namdapha National Park in 2016 (Das et al. 2020).

Pyroneura margherita (Doherty, 1889)

It is a grass Hesperidae found in India, Singapore, and Thailand (Evan, 1932; Kehimkar, 2016). Current Sighting: Miao, Mpen.

The species is earlier reported from Joypore Dehing Forest, Barail Wildlife Sanctuary and known to be common in Assam (Gogoi, 2013; Gogoi et al. 2016). The colour of the species is brown with yellow and white hyaline spots and two forewing cell spots are almost conjoined.

Salanoemia noemi (Nicéville, 1885)

The species is distributed in Sikkim to Northeast India, Thailand, and Vietnam (Evans, 1932). Current Sighting: Miao.

In the year 2016, the species is reported from the same place Deban, Namdapha National Park (Das et al. 2020) hence, it is not new to Arunachal Pradesh. The colour of the species is brown, forewing with pale yellow hyaline spot and hindwing has ill-defined dark spots.

Lotungus sarala (Nicéville, 1889)

The species is mostly confined to lowland forests of Indo-Malayan region and is represented by three species (Savela, 2019). Current Sighting: Miao, Mpen.

Among these, *Lotungus sarala* (de Nicéville, 1889) is the only species that found in India and Myanmar (Evans, 1949; Kehimkar, 2016). Earlier, the species was photographed from Panbari Reserve Forest, Central Assam, and Namdapha National Park (Gogoi, 2013; Das et al. 2020). The colour of the species is blackish brown with a broader central yellowish patch running on underside of the hindwing.

Hidari bhawani (Nicéville, 1888)

The species is found in Southeast Asia, India whereas, other two species from the genus *Hidari* were confine to Malaysia, Indonesia, Myanmar, and Thailand (Evans, 1932; Kehimkar, 2016). Current Sighting: Miao.

Recently the species is recorded from Miao, Namdapha National Park (Variya et al. 2021) and documented from Lakhimpur, Jorhat, Sivasagar, Tinsukia and Golaghat districts of Assam state, India (Evans, 1949; Singh, 2015).

Matapa sasivarna (Moore, 1866)

The species ranges from Sulawesi, Thailand, Laos, Sikkim to NE India (Evans, 1932; Kumar et al. 2018). Current Sighting: Mpen.

The upperside is dark vinaceous brown, palpi and body blackish brown, abdomen with slight orange-yellow tuft and red eyes. The host plant of the species is generally grasses belongs to family Poaceae (Jong, 1983). The species was previously reported from Kaziranga-Karbi Anglong (Gogoi, 2013).

Thoressa hyrie (Nicéville, 1891)

The species is mainly confine to North-eastern area to Bhutan and Myanmar (Kehimkar, 2016). Current Sighting: Deban

The colour of the species is yellow- brown with club antenna and a pale yellow ringed below hook is present. Earlier the species is recorded from Naga Hills, Manipur, Bhutan and South-eastern Tibet, Mishmi Hills, Central Arunachal Pradesh and Kameng Protected area (Evan, 1949; Sondhi and Kunte, 2016).

COELIADINAE

Burara amara (Moore, 1866)

The species is ranges from India, Myanmar, Thailand, South Yunnan and Andaman Islands. It is rare in the Himalayas and very rare in the Andamans (Evans, 1932). Current Sighting: Mpen.

The colour of the species is brown with a greenish gloss. Both wings have black veins except the lower portion of the forewing which is pale green and unmarked. The species is earlier recorded from Mishmi Hills, Kameng Protected area, Panbari Forest Kaziranga-Karbi Anglong (Gogoi, 2013; Sondhi et al. 2016).

Burara gomata (Moore, 1866)

The species is range from India to China, Indochina, Thailand, and Philippines (Evans, 1932). Current Sighting: Miao

It is earlier recorded from Mishmi Hills, Panbari Forest Kaziranga-Karbi Anglong, Kameng

Protected area (Gogoi, 2013; Sondhi et al. 2016). The colour of the species is greenish brown. Veins and narrow streaks are brown with a broad streak, which passes through the hindwing cell.

Burara jiana (Moore, 1866)

It is found in Western Ghats and the Himalayas where it is considered as a rare species (Varshney et al. 2015). Current Sighting: Mpen, Deban.

The occurrence of the species in the park is not surprising as its mainly confine to low foothills with dense forest. The colour of the species is red wine with orange costal streak and fringe in the forewings and hindwings.

Bibasis sena (Moore, 1866)

The species is found in Sri Lanka, India, Myanmar, Thailand, South Vietnam, Andaman, and Nicobar Island (Evans, 1932). Current Sighting: Deban.

Wings are long and narrow, Mid dorsum of forewing has a large white central patch and hindwing has a broad white distal band. Hindwing produced at tornus and fringed is orange.

PYRGINAE

Odina decorates (Hewitson, 1867)

Current Sighting: Deban.

It is confined to India (Garo hill, Arunachal Pradesh) and Thailand (Evans, 1932; Kehimkar, 2008). The colour of the species is yellow orange with numerous black spots on the body and on the wings. Forewings have broad black broader with a zigzag pale line.

Mooreana trichoneura (Felder, 1860)

Current Sighting: Deban.

The species is ranges from India to Thailand to Malaysia (Evans, 1932). The forewing of the species has numerous elongated hyaline spots with veins dusted white and hindwings is broad yellow orange at tornal area.

Darpa hanria (Moore, 1881)

Current Sighting: Deban.

Termens strongly crenulated, forewing have an irregular spot at mid costal which crossed the cell. The hindwing tornum area is yellowish in colour, with two marginal black spots at the end of veins 2 and 3.

The occurrence of rare insects is very significant for the National Park. Therefore, assays of composition, species richness should be updated annually which ultimately lead to better conservation/preservation of Lepidoptera fauna.

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