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# A new addition to the Nymphalidae of Uttar Pradesh, India (Insecta: Lepidoptera)

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**Abstract**

The present study adds a new record of Nymphalidae i.e., *Phaedyma columella ophiana* (Moore, 1872) for the state of Uttar Pradesh, India.
**Keywords:** Insecta, Lepidoptera, Nymphalidae, Uttar Pradesh, India.

**Una nueva adición a los Nymphalidae de Uttar Pradesh, India (Insecta: Lepidoptera)**

**Resumen**

El presente estudio añade un nuevo registro de Nymphalidae, a saber, *Phaedyma columella ophiana* (Moore, 1872), para el estado de Uttar Pradesh, India.
**Palabras clave:** Insecta, Lepidoptera, Nymphalidae, Uttar Pradesh, India.

## Introducción

*Phaedyma columella* (Cramer, [1780]) has the following subspecies present in India: *Phaedyma columella nilgirica* (Moore, [1889]). Gasse (2018) says that *P. columella nilgirica* is uncommonly found in Peninsular India; it occuring up to 1500 m in Western Ghats and also seen in from Kerala, northern part of Tamil Nadu and from north of Tamin Nadu it is seen in all the states upto Southeast Gujarat, also seen in Madhya Pradesh, in Chhattisgarh, in Jharkhand, and Southern West Bengal. According to Varshney & Smetacek (2015), *P. columella nilgirica* (Moore, 1889) is found from Gujarat eastern side to West Bengal and southerly to Kerala.

1. *Phaedyma columella ophiana* (Moore, 1872). Gasse (2018) says that - *P. columella ophiana* is commonly seen in Himalayas that to up to the range of 1200 m, it is seen in eastern part of Uttarakhand and in Nepal, Northern part of Bihar, where observed in Champaran area of Bihar, also seen in Sikkim, Northern part of West Bengal, and also seen in Bhutan. Found in Arunachal Pradesh state and the remaining part of Northeast India but not seen in Manipur and Mizoram state as well as in Bangladesh. According to Varshney & Smetacek (2015), *P. columella ophiana* (Moore, 1872) is distributed from Uttarakhand to Northeast India.
2. *Phaedyma columella binghami* (Fruhstorfer, 1905). Gasse, 2018, says that **-** *P. columella binghami* is rarely seen in Nicobar part. It is mentioned as *Neptis columella* (Evans, 1932). According to Varshney & Smetacek (2015), *P. columella binghami* Fruhstorfer, 1905, is found in Nicobar Islands.

## Materials and methods

On 15-VII-2023, the authors surveyed the openly accessible portions of the Dudhwa National Park (28º29'24.7"N 80º38'44.5"E) (Figure 2) in district Lakhimpur-Kheri, Uttar Pradesh. The National Park lies at an altitude of around 150 m above mean sea level. During Rhopalocera survey, a species was seen and photographed i. e., *Phaedyma columella ophiana* (Moore, 1872). Later on, again the area was explored on 16-VII-2023 and this species was again spotted and photographed. The identification species was done with the help of available literature (Kehimkar, 2016; Evans, 1932). Were photographed with the help of DSLR Nikon D750 / Nikon D3100. No collection or killing was done. Distribution map was prepared with ArcGIS 10.5 software by using original base map of India (Figure 2).

## Study area

A survey of Rhopalocera was done in Dudhwa National Park (28º29'24.7"N 80º38'44.5"E) in district Lakhimpur-Kheri, Uttar Pradesh. Total area of the Dudhwa National Park is 490.29 sq. km.

The word "terai" means moist. The Terai in Uttar Pradesh runs parallel to the foothills of the Himalayas. It was once covered by vast stretches of forests, grasslands, and swamps. The Dudhwa National Park is a remnant of the once vast forest that clothed the area. It is distinguished by mixed variety of Sal trees, long and tall grasses, and marshes which are kept in place by monsoon flooding. It is one of the most endangered form of ecosystem within the country.

The Dudhwa National Park is the sole National Park that represents the one Biogeographic subdivision i.e., Terai-Bhabhar in Upper Gangetic Plains (7a) Biogeographic province. The fauna diversity is of the North Indian type i.e., Moist Deciduous type of woodland (Champion & Seth, 1968). It boasts some of the best sal woodlands in India. Current enlisting suggests the presence of a diverse range of plants and plant groups. Several of these are of conservation importance. It is home to a sizable tiger population, five species of deer, almost 400 species of birds and a very large number of other vertebrates and invertebrates.

## Results

Class Insecta Linnaeus, 1758
Order Lepidoptera Linnaeus, 1758
Family Nymphalidae Rafinesque, 1815

*Phaedyma columella ophiana* (Moore, 1872) (Figure 1)

Description: The upper side of both males and females is black with white markings. Forewing, the base colour is black with white markings on upperside. An imaginary line drawn through the center of the first two large dots meets the leading edge of the upper forewing just before the apex. Hindwing, the upperside of the hindwing has clearly demarcated band of white spots. In the post-discal portion, there are a series of greyish-brown dots. The underside is greyish-brown with wider white patterns as compared to the upperside. The underside of the body is white. The Wet season specimen differs from the dry season specimen with the presence of narrower white bands.

## Discussion

*Phaedyma columella ophiana* (Moore, 1872) is being reported along with photographs for the first time from the state of Uttar Pradesh. Previous literature on this species has no recoding or reporting of this Rhopalocera in Uttar Pradesh. The available literature, articles, papers, books were consulted to cross check the distribution of this species from this region of India and after checking the

literature and current checklist on Butterflies of India by Paul Van Gasse (2018), an updated version, this species is claimed as the first sighting and thus adding one more species to the Rhopalocera of Uttar Pradesh. The current study coincides with the previous articles written about the same state, the previous articles include (Behera, 2016; Bura et al. 2016; De Rye, 1902; Director, 2015; (Kanaujia et al. 2015; Kumar & Rana, 2018; Kumar, 2012; Kumar, 2014; Kumar, 2017; Kumar, 2020; Kumar et al. 2016; Kumar et al. 2016; Kumar et al. 2020; Sarkar & Mandal, 2018; Sharma, 2007; Champion & Seth, 1968; Kumari & Sheikh, 2021; Sheikh et al. 2023; (De et al. 2023). The current study is also correlated with the other studies which is done in other state and based on the format of those articles, the current article has been prepared. The articles with similar work based on new records (Sheikh & Parey, 2019a, 2019b; Sheikh & Malik, 2020; Parey & Sheikh, 2021; (Riyaz et al. 2021; Sheikh, 2022; Sheikh & Parey, 2022; Gupta & Sheikh, 2021; Khan & Sheikh, 2022; Sheikh & Mishra, 2022; Dar et al. 2022a; 2022b; Sheikh & Hassan, 2023). This species is not listed in the Wildlife (Protection) Act, 1972 (Anonymous, 2006).

## Conclusion

The state of Uttar Pradesh, with regard to Rhopalocera, is relatively uncharted territory. The ongoing exploration could result in many more new records and rediscoveries. This is the first reporting of the species from the State and as such an addition to the recorded biodiversity of the region.

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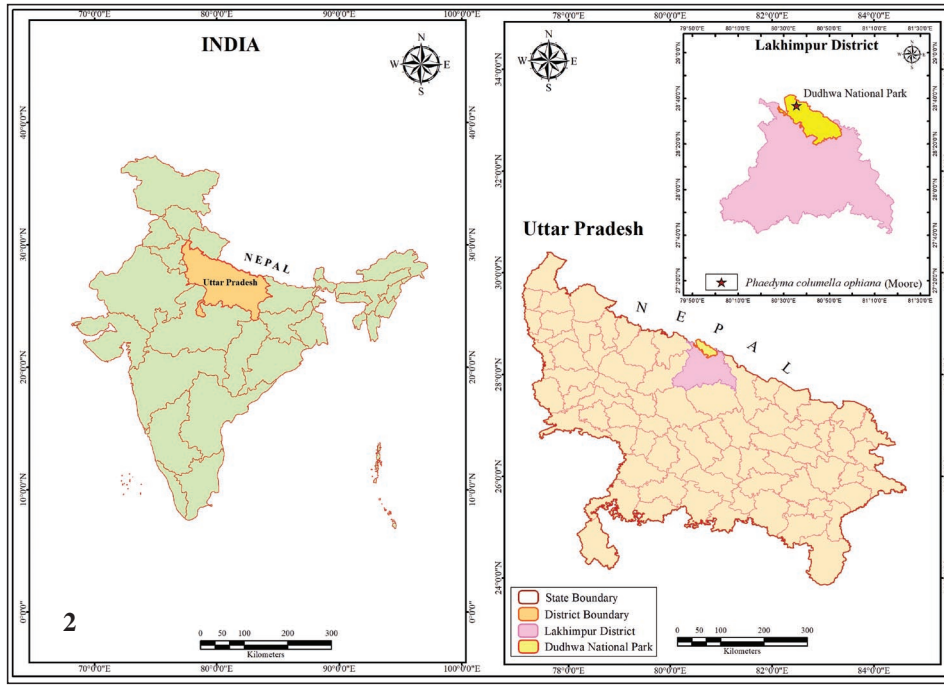


**Figures 1-2. 1.** *Phaedyma columella ophiana* (Moore, 1872) (Upperwing). **2.** Map showing the location of *Phaedyma columella ophiana* Moore.