

## THREE NEW ADDITIONS TO THE LEPIDOPTERAN FAUNA OF BARNAWAPARA WILDLIFE SANCTUARY, BALODA BAZAR DISTRICT, CHHATTISGARH, INDIA.

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### ABSTRACT

Recent butterfly studies in Chhattisgarh have focused on several districts and conservation areas, but not a lot towards Barnawapara Wildlife Sanctuary. The present study confirms new distribution records of three butterfly species: Indian Oakblue (*Arhopala atrax*), Pioneer (*Belenois aurota*), and Restricted Demon (*Notocrypta curvifascia*) from Barnawapara Wildlife Sanctuary. This study contributes to the existing knowledge of butterfly diversity and species composition in Barnawapara Wildlife Sanctuary, shedding light on their occurrence in BWLS.

**KEYWORDS:** Pioneer, Butterfly, New record, Lepidoptera, Chhattisgarh.

### INTRODUCTION

Barnawapara Wildlife Sanctuary (BWLS) (21° 81' N and 21° 00' N to 82° 22'E and

82° 37'E) in district Baloda Bazar, Chhattisgarh, encompasses an expanse of 244 km<sup>2</sup>. It boasts nine sub-circles and forty-five beats, rendering it a destination for wildlife enthusiasts. The sanctuary derives its name from the amalgamation of two villages, Bar and Nawapara, which hold a central position within its boundaries. Its summer temperatures range between 40°C and 47°C, while the winter season experiences a gradual descent to 5°C to 7°C. Annual rainfall is approximately 1100mm to 1300mm.

There are numerous small and large waterbodies that cater to the flourishing wildlife. Type 5 A/C 1b (iii) Dry Teak, Type 5 B/C 1c (iv) Dry Peninsular Sal Forest, Type 5 B/C 2 (xi) Northern Dry Mix Deciduous Forest, Type 5 E/9 Dry Bamboo Forest forms the forest composition of BWLS (Champion & Seth, 1968). The flora includes species viz., *Shorea robusta* L., *Tectona grandis* L. f., *Terminalia arjuna* Roxb. ex D.C.,

*Terminalia chebula* Retz., *Terminalia tomentosa* Wt. & Arn., *Cleistanthus collinus* Benth ex Hook. f., *Mangifera indica* L., *Pithocellebium dulce* Roxb. (Benth.), *Ficus religiosa* L., *Ficus benghalensis* L., etc., while the fauna includes Sloth Bear (*Melursus ursinus*), Golden Jackal (*Canis aureus*), Four-horned Antelope (*Tetracerus quadricornis*), Leopard (*Panthera pardus*), Black Buck (*Antilope cervicapra*), Jungle Cat (*Felis chaus*), Rhesus Macaque (*Macaca mulatta*), Indian Bison (*Bos gaurus*), Wild Boar (*Sus scrofa*), etc.

Recent studies on butterflies from several districts and conservation areas in Chhattisgarh have been conducted by a number of workers (Singh & Chandra, 2002; Chandra *et al.*, 2007; Chandra *et al.*, 2014; Sisodia, 2019; Nihlani *et al.*, 2021; Tandan *et al.*, 2021; Chand *et al.*, 2022). Previous study at Barnawapara Wildlife Sanctuary by Kudarya & Bhandarkar (2021) reported 33 butterfly species. This count was later updated and reported for 127 species of butterflies in the form of a field guide by Nihlani *et al.* (2022). The present study aims to update the butterfly count of BWLS. This study contributes to the existing knowledge of butterfly diversity in BWLS.

## MATERIAL AND METHODS

Opportunistic butterfly surveys were conducted intermittently from January 2023 to April 2023, at and around Barnawapara Wildlife Sanctuary (Figure 1) to document and assess the overall butterfly diversity of the sanctuary. The visual observations were taken into

account to identify and record butterfly species encountered during the survey. Documentation was primarily through photographs, using a DSLR camera and handheld mobile device, to document the appearance, wing patterns, and distinguishing features of the observed butterflies.

These photographs served as reference material for species identification and documentation. Species identification was based on field guides, standard literatures, and expert consultations were used to identify the butterflies (Varshney & Smetacek, 2015; Kunte, 2000; Antram, 2002, Kunte *et al.*, <https://www.ifoundbutterflies.org>).

## RESULT AND DISCUSSION

Notably, this communication confirms the new distribution records of three butterfly species from BWLS (Table 1). Indian Oakblue (*Arhopala atrax*, Hewitson, 1862) (Family: Lycaenidae) was spotted on 3.i.2023 on a semi wet ground, near a dry stream (Figure 2); Pioneer (*Belenois aurota*, Fabricius, 1793) (Family: Pieridae) was spotted on 12.iii.2023 on a flower of *Tridax procumbens* L. plant, it was involved in nectaring (Figure 3); Restricted Demon (*Notocrypta curvifascia* C. & R. Felder, 1862) (Family: Hesperiiidae) was spotted on 20.ii.2023 settled on a dry leaf on the ground within the sanctuary (Figure 4).

These three species were recorded by direct sightings in the field, during the survey period and have never been reported earlier by any worker in BWLS.

The new distribution records of the Indian Oakblue, Pioneer, and Restricted Demon butterflies augment the known butterfly diversity of BWLS.

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**Figure 2:** Indian Oakblue (*Arhopala atrax*, Hewitson, 1862)



**Figure 3:** Pioneer (*Belenois aurota* Fabricius, 1793)



**Figure 4:** Restricted Demon (*Notocrypta curvifascia*, C. & R. Felder, 1862)

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