SHORT COMMUNICATION

A New Record of Elymnias caudata Butler, 1871 (Insecta: Lepidoptera: Nymphalidae) from Nagpur in Central India

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Abstract

Urban areas harbour diverse butterfly species in isolated and fragmented habitats such as parks, remnants of natural and semi-natural habitats and other such green areas. Tailed Palmfly, Elymnias caudata Butler, 1871 is a Nymphalid butterfly species found in the southern region of India. There is no previous record of this species from Nagpur, a densely populated city located in Central India. Here we are reporting Elymnias caudata from Nagpur for the first time and it shows that the distribution range of this species is wider than previously known.

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1. Introduction

As compared to other invertebrates, butterflies (Insecta: Lepidoptera) have been extensively observed, collected and studied by naturalists in the past, and ever since, the interest in conducting research on butterflies has only increased all over the world[1]. Many butterfly species require good quality habitat for survival, and respond quickly to any adverse change in their habitat[2], and hence, have been considered as useful bio-indicators for changes in habitat quality and for studying the impact of alterations in land-use[3]. Butterflies constitute an integral part of urban biodiversity, though urbanization is mostly responsible for the destruction and fragmentation of natural and semi-natural habitats, where small and isolated habitat remnants are surrounded by degraded and uninhabited areas[4][5]. Butterfly species thought to be most representative of the original, predevelopment butterfly fauna progressively disappear as the sites become more urban[6].

However, some research studies have also revealed that urban areas can harbour rich biodiversity in diverse habitats, with parks and other green areas being important for preserving biodiversity in urban areas[7]. In the present study, we are reporting a butterfly species known as the tailed palmfly (Elymnias caudata) from Nagpur city, a densely populated urban area, thereby adding another species to the butterfly fauna of Nagpur.

2. Material and Methods

The present study was conducted in S. M. Mohota College of Science (SMMCS) campus situated in Nagpur City (C. 21.1498°N 79.0806°E) in Central India. Nagpur is located in the North-east region of Maharashtra, the second largest state in India (Fig. 1). The SMMCS campus is spread over an area of around 25 acres and has a lot of green space. The climate of Nagpur is tropical wet and dry, with dry conditions dominating most of the year. The monsoon season lasts from June to September with heavy rains during July and August. Summers are extremely hot, while the winters are mild[8].

In September 2024, the second author happened to observe a butterfly larva on a classroom desk during the morning hours. The larva was first photographed and then identified with the help of the pictorial guides by Kehimkar[9] and Ogale et al.[10] as belonging to the butterfly species Elymnias caudata. Later on, an adult female of this species was also observed and photographed in the campus garden.

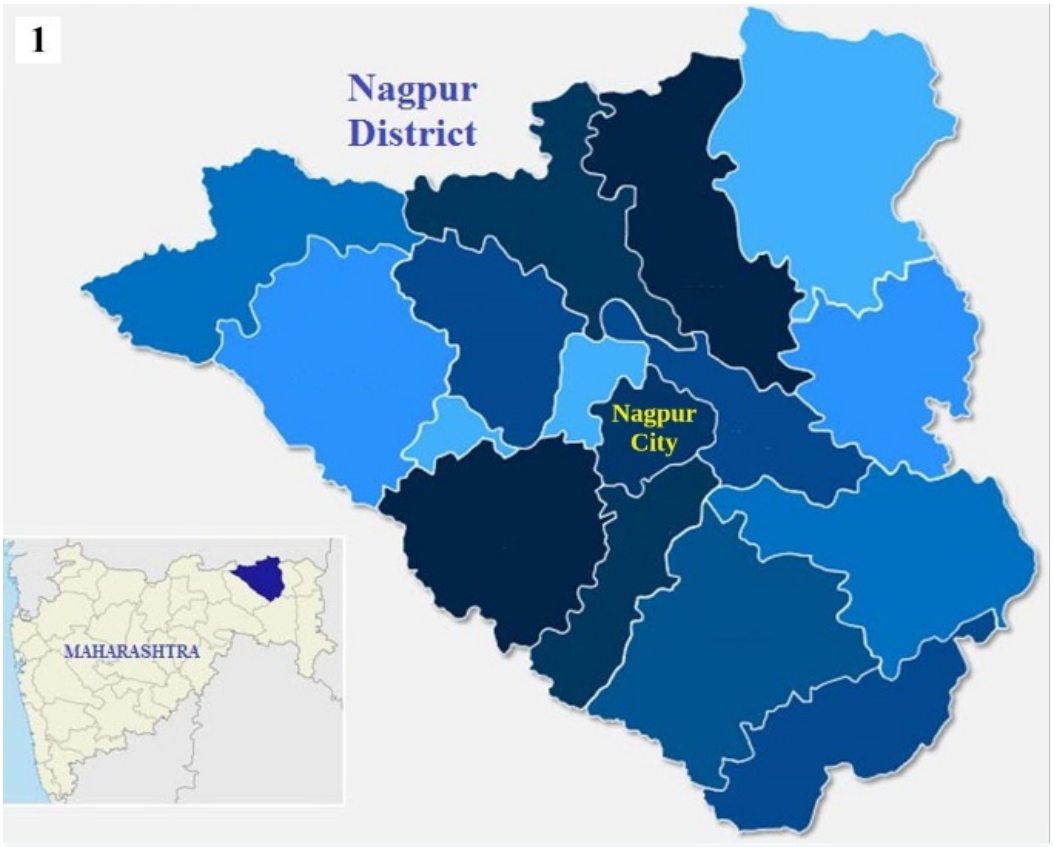

Fig. 1. Map showing the location of Nagpur city in Nagpur district of Maharashtra state, India

3. Results and Discussion

Elymnias Hübner, 1818 (Lepidoptera: Nymphalidae: Satyrinae) is a species-rich and widespread butterfly genus distributed throughout the Old World tropics[11]. One of the species in this genus is the tailed palmfly, Elymnias caudata (Figs. 2 - 4), which is distributed in the southern region of India[12][10]. This species utilizes the ornamental palm Chrysalidocarpus lutescens (Family Arecaceae) for oviposition and as larval host[13]. The butterfly diversity of Nagpur has

been studied by various zoologists, however, none of them have previously recorded E. caudata as occurring in Nagpur[14][15][16][17]. Hence, the present report is the first record of this species from Nagpur. As this butterfly is known to be distributed in Southern India, its occurrence in Central India where Nagpur is located, is an exciting find. Many ornamental plants of family Arecaceae, which are used as host plants by this butterfly species are growing in the study area. This explains the occurrence of E. caudata in the study area. This butterfly has also been reported from Ratnagiri and Sindhudurg districts located in the southern region of Maharashtra state[10].

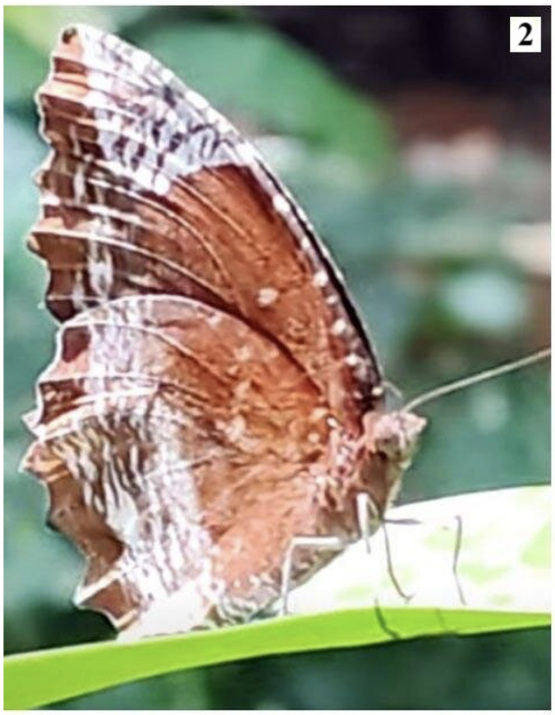

Fig. 2. Elymnias caudata (female)

Fig. 3. Elymnias caudata larva (dorsal view)

Fig. 4. Elymnias caudata larva (lateral view)

E. caudata is sexually dimorphic, as males and females are different in appearance. Eggs are laid singly and the hatched larva shows five instars[13]. The larva (Figs. 3 - 4) has a large dark brown head with two stout horns sloping backwards. The colour of the larva is bright green with distinct longitudinal yellow lines and two rows of large yellow spots tinged with green and sometimes tipped with black on the back, and prominent anal spines. The pupa is bright green, beautifully ornamented with four irregular rows of large yellow spots bordered with red[18][9].

Butterflies contribute to ecosystem services and thereby qualify as a group deserving conservation effort, and the information on butterfly-plant links can be useful to sustain butterfly populations, and enhance conservation and management[19]. The present study suggests that the availability of host plants and favourable environmental conditions may help to extend the distribution range of some butterfly species such as E. caudata.

Statements and Declarations

Conflict of interest

The authors declare that no competing interests exist.

Acknowledgements

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