

Noval sighting and new distribution records of the Black Rajah in Gandhi Sagar Wildlife Sanctuary, Madhya Pradesh

The Black Rajah *Charaxes solon solon*, known for its elusive nature and captivating beauty has long been a subject of fascination among entomologists and conservationists. Despite its charismatic allure, comprehensive studies on the distribution and ecological dynamics of this species remain scarce (Houlihan et al. 2019). This research endeavours to address this gap by presenting

a detailed account of a rare sighting and unveiling new distribution records of the Black Rajah butterfly within the confines of the Gandhi Sagar Wildlife Sanctuary in Madhya Pradesh, India. As biodiversity faces unprecedented challenges, understanding the presence and patterns of rare species becomes imperative for effective conservation (Dennis et al. 2013). This study aims



Charaxes solon solon in Gandhi Sagar Wildlife Sanctuary. © Shiladitya Acharjee.

to contribute valuable insights into the ecological significance of the *Charaxes solon solon* butterfly's habitat, emphasizing the importance of continued research and conservation initiatives in safeguarding these remarkable yet vulnerable inhabitants of our natural landscapes (New et al. 1995).

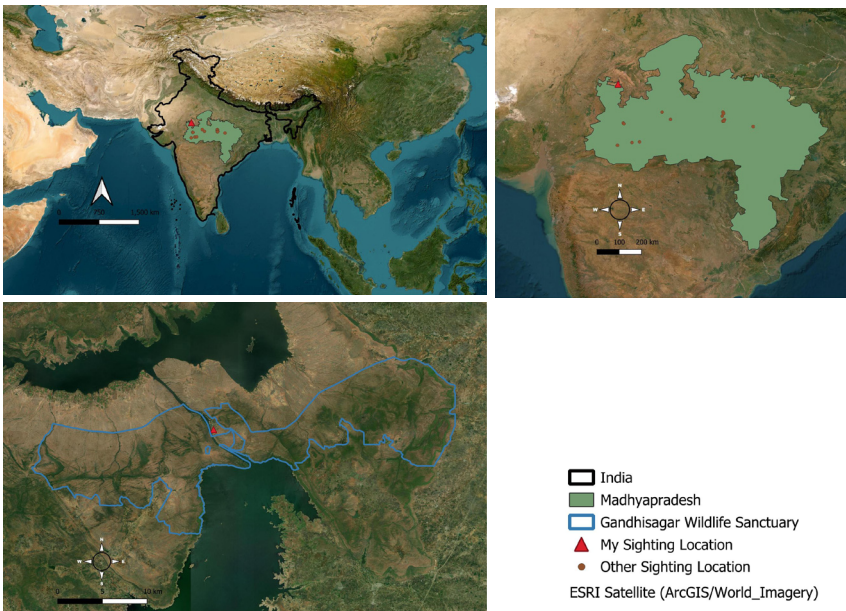
Study Area

The study area in Gandhi Sagar

Wildlife Sanctuary, located in northwestern Madhya Pradesh at coordinates 24.28 N & 75.56 E, showcases a diverse landscape with hills, plateaus, and the reservoir created by the 1960-built Gandhi Sagar Dam. Encompassed by dry deciduous forests hosting teak, tendu, bamboo, and more, the sanctuary is home to notable wildlife like the Indian leopard, chital, sambar deer, wild



Map of the study area.



Records of previous and recent distribution of *Charaxes solon solon* from Madhya Pradesh, India.

boar, antelopes, various bird species, and a vibrant array of butterflies, covering an area of approximately 162 km².

Observation

The observation of *Charaxes solon solon* during a field study for assessment of habitat for Cheetah for Bringing

Back Cheetah project within the Gandhi Sagar Wildlife Sanctuary, (24.6842 N, 75.5664 E), underscores the presence of diverse butterfly species in this distinctive ecosystem. Notably, the survey was conducted by the first author in November, 2023 in winter season.

Species Description

The Black Rajah *Charaxes solon solon*, a medium-sized butterfly with a wingspan 70–80mm, displays a dark brownish-black colouration above. Greenish or white discal bands stretch across both wings, breaking into spots near the apex of the forewing. Notably, the hind wing features two similar-sized tails at veins 2 and 4. The tails are longer in females and have a more pointed appearance in males (Kehimkar 2016; Anon. 2024).

Distribution

The Black Rajah *Charaxes solon solon* is found in the northeastern states of India, particularly in northern part of West Bengal, Assam, Nagaland, and Manipur (Anon. 2024). It inhabits broadleaf evergreen forests and moist deciduous forests in these regions. This butterfly was previously recorded in Madhya Pradesh particularly in Cantonment, Garha, Jabalpur, Sirpur, Indore, Damoh Naka, Gayatri Temple, Barrai, Khargone, Hoshangabad, Omkareshwar, OFK Estate, Tropical Forest Research Institute, Amarkantak WS, and Narmada Nagar town

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(Tiple 2012) and now it is recorded in Gandhi Sagar Wildlife Sanctuary. The distribution of the Black Rajah butterfly also extends to other countries in southeastern Asia such as Myanmar, Thailand, and Vietnam (Anon. 2024).

Discussion

Charaxes solon solon belongs to the Nymphalidae family and has not been recorded in Gandhi Sagar Wildlife Sanctuary. The rare sighting and new distribution records of this species within the confines of study area unveil intriguing insights into the ecological dynamics of this species. The observed presence of the Black Rajah in this region expands our understanding of its habitat range, contributing crucial data for future conservation strategies. This discovery promotes a reassessment of the sanctuary's ecological significance and highlights the need for continued monitoring.

The coexistence of the *Charaxes solon solon* with specific vegetation and environmental conditions underscores the delicate balance necessary for the survival of this rare butterfly. The implications extend beyond the species itself, resonating with broader conservation efforts in the face of environmental changes. Furthermore, the documented sighting promotes further exploration into the butterfly's life cycle, behaviour, and interactions with other species within the sanctuary.

Conservation Status

The Black Rajah butterfly is legally protected in India under Schedule II of the Wildlife (Protection) Act, 1972.

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