

Bugs R All

Invertebrate Conservation & Information Network of South Asia (ICINSA)

Newsletter of the

New distribution record of butterfly species from AJC Bose Botanical Garden, Howrah, India

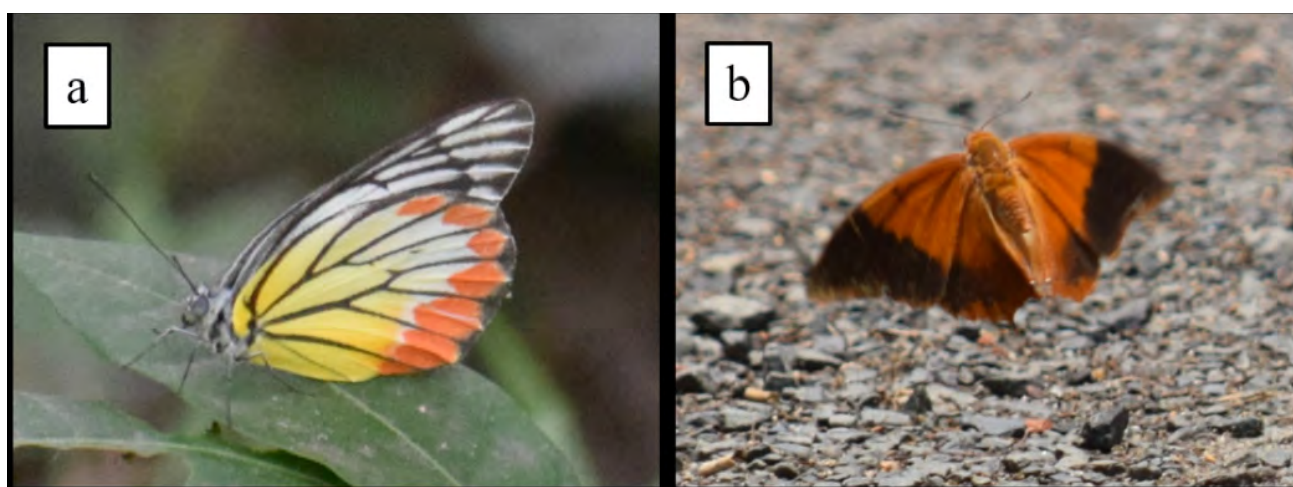


Image. a–*Delias hyparete* L., b–*Charaxes psaphon* Westwood.

This report highlights the extension of the range of the two Butterfly species, Painted Jezebel *Delias hyparete* Linnaeus, 1758 and Plain Tawny Rajah *Charaxes psaphon* Westwood, 1847 from Howrah district, West Bengal.

During the course of our periodical surveys in 2016, to study the diversity and divergence of Butterflies in and around Kolkata, India (22.572°N, 88.363°E), we observed two species of butterflies at Acharya Jagadish Chandra (AJC) Bose Botanical Garden that have not been observed in Kolkata or surrounding areas earlier.

AJC Bose Botanical Garden is a human-maintained protected region, lying by the side of the river Hugli. It exhibits a wide variety of rare plants with a total collection of over 12,000 specimens spreading over 109 hectares. The diverse flora favoured the attraction of several pollinators. In summer, the temperature ranges from 29 to 40°C, while in winter, the range is 15–28°C. The average annual rainfall is about 660mm.

The species were photo-documented (with a Nikon DSLR 5300) and identified using the right keys (Kehimkar 2016) and the distribution of the two Butterfly

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species (previous records taken from [ifoundbutterflies.org](http://foundbutterflies.org)) were geographically mapped using DIVA-GIS software version 7.5.

The species observed include the Painted Jezebel *Delias hyparete* Linnaeus, 1758 and Plain Tawny Rajah *Charaxes psaphon* Westwood, 1847 from the AJC Bose Indian Botanic Garden (22.970°N, 88.465°E). Both the species were observed within a span of three months.

Diagnostic characters of the species:

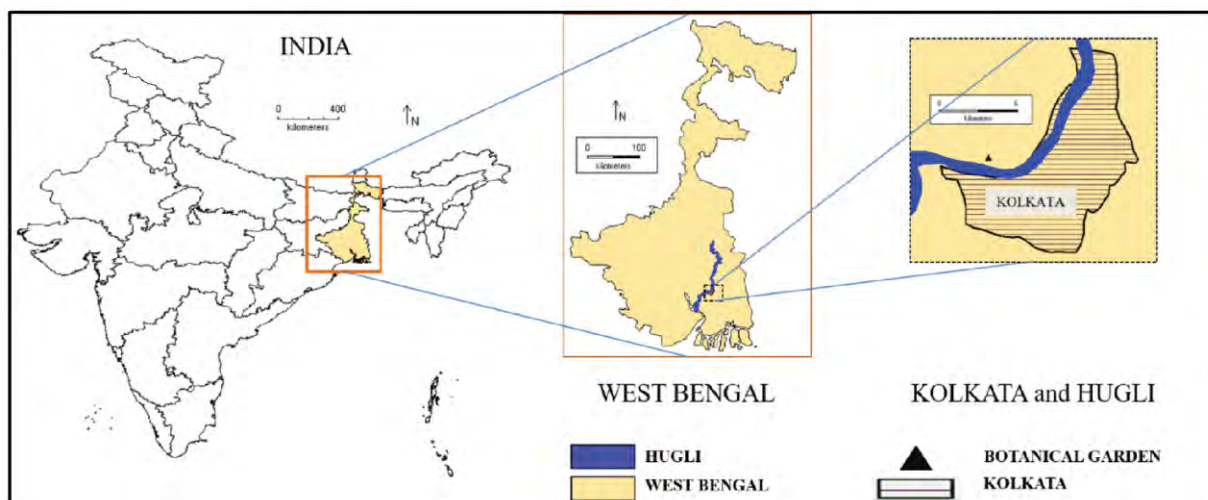
Quite identical to the Indian Jezebel *Delias eucharis* Drury, the Painted Jezebel *D. hyparete* is more lightly marked. The under-hindwing basal yellow marks does not reach the row of red marginal spots. The spots are ringed and the red marginal

row is outwardly bordered by black margins (Kehimkar 2016).

Charaxes psaphon has a tawny upper forewing with broad black terminal border. The upper hindwing has a black terminal border broad near the apex, tapering towards the lower tip, in a series of black-edged white spots (Kehimkar 2016).

Previous distributional range of the

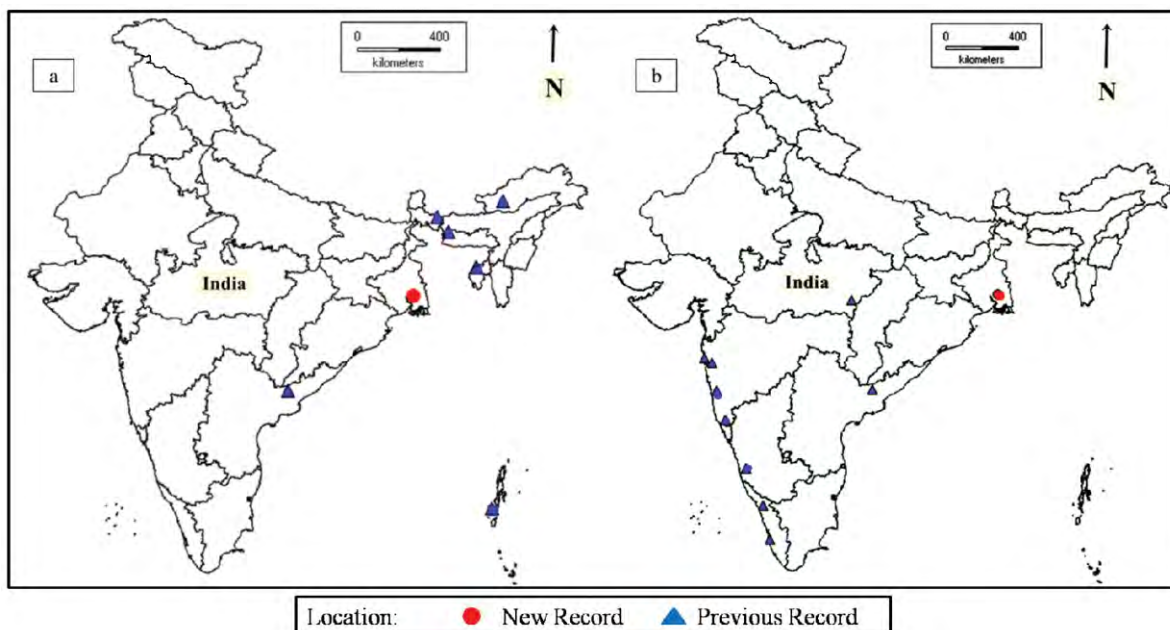
species: *Delias hyparete* has been reported from Andhra Pradesh, Arunachal Pradesh, Chattisgarh, north eastern Maharashtra, Orissa, Tamil Nadu, Uttarakhand, and north eastern part of West Bengal (Chandra et al. 2007; Anonymous 2018; Sondhi & Kunte 2018). Outside the country, *D. hyparete* has been recorded from many parts of Malaysia, Thailand, Nepal and Bangladesh



Location of AJC Bose Botanical Garden provide updated India map.

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Previous and new record distribution of a. *Delias hyparete* L. b. *Charaxes psaphon* Westwood provide updated India map.

(Khandokar et al. 2013; Khan et al. 2011; Bhusal & Khanal 2008; Hutacharern & Tubtim 1995). The nearest distribution record of *C. psaphon* is Alipurduar District, West Bengal, which is nearly 750kms away from the present record (Kunte et al. 2019).

C. psaphon has been recorded from Sri Lanka (Evans 1932; Perera & Bambaradeniya 2006; van der Poorten 2012) and the western coast of India (Tiple 2010). Reports by Khandokar et al. (2013) shows the presence of the species in many regions of Bangladesh. Due to the insufficiency of documentation from Singhbhum district of Jharkhand, a specimen of *Charaxes* sp. was uncertain whether it was *C. psaphon* or *C. bernardus* (Singh 2010). Very recently, it was reported

from Puruliya District, West Bengal, which is nearly 300km away from the present record (Kunte et al. 2019).

The previous distributional records (Anonymous 2018; Churi 2018) of both the species are well portrayed in the maps pictorially explained.

Discussion: Spotting such species away from its previous recorded regions hints on expansion of ecological range, especially worth noting for *C. psaphon* as Kehimkar (2016) stated that *C. psaphon* is restricted to peninsular India up to Odisha, but our report clearly hints on its extension. The assessment, occurrence, and characteristics of the fauna, provide crucial information about the environmental quality

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of a particular region of ecosystem, as they are sensitive to minute level of ecological changes. Their distribution depends upon habitat structure and availability of their food plants (Abideen et al. 2015). Changes in abundance and distribution of butterflies are linked to a wide range of factors including habitat loss and fragmentation, land use and climate changes (Thomas et al. 1998). Hence, reporting the sighting of these bioindicator species is essential.

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