

Report of Great Blue Mime from Kakoi Reserve Forest, Assam

India is one of the 17 mega biodiverse countries in the world and home to almost 1,501 species of butterflies (Kunte 1997). Assam being a unit of two zoogeographic sub-regions, the Indian and the Indo-Chinese, and part of the eastern Himalayan region, one of the four biodiversity hotspots in the country with diverse climatic conditions, topological variations, and ecological habitats such as forests, grasslands, floodplains, hilly regions etc. (Gogoi et al. 2022) is immensely rich in butterfly diversity with around 962 species representing six families: Papilionidae, Lycaenidae, Riodinidae, Nymphalidae, Pieridae, and Hesperidae. (Kehimkar 2016).

Kakoi Reserve Forest (27.3694 N, 94.0834 E) is an evergreen forest in the foothills of Arunachal Pradesh and occupying an area of 4,415.03 ha. It is located in the Lakhimpur District, Assam. The

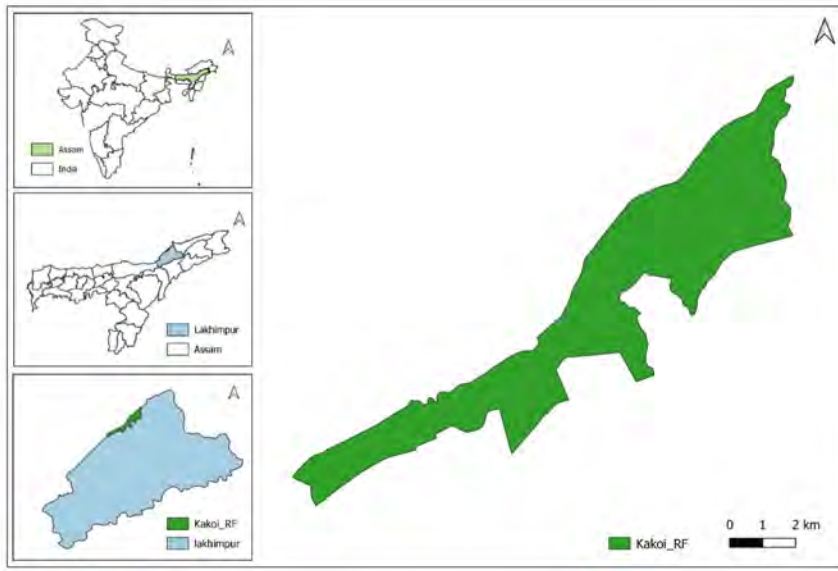


Papilio paradoxa Zincken, 1831. © Gayatri Dutta.

RF hosts a rich biodiversity, but no effective study has been conducted to assess the biodiversity (Saikia & Saikia 2020; Boruah & Saikia 2023).

During a butterfly survey at Kakoi RF in September 2020, we came across an individual looking like a *Euploea* sp. Two individuals of the species were sighted in the riparian fringing habitat of the RF, where the species was mud-puddling. We photographed the individuals

for further confirmation at around 1315 h. After comparing the photograph with the same-looking butterfly species and by using identification keys (Kehimkar 2016) we confirmed the species as *Papilio paradoxa*. Great Blue Mime *Papilio paradoxa* (Zincken, 1831) is a rare Schedule II butterfly species found in low-elevation forests of northeastern India, Bhutan, and Bangladesh (Gasse 2021). Upper forewing (UPF)



The study area – Kakoi Reserve Forest, Lakhimpur, Assam.

with blue gloss, a marginal row of bluish-white spots, a row of elongated blue spots, and a blue spot at the end-cell. Upper hindwing (UPH) dark brown, marginal row of white spots. While stripes between veins and in cells on female UPH. UN rich chocolate-brown. The Under forewing (UNF) cell has an indistinct short white streak. A series of white spots along the outer margin. The UPF of females is basal half dull brown and apical half brown shot with brilliant blue and has white stripes between veins and in cells on UNH (Khemikar 2016).

As per Gasse (2021), India hosts merely five Mime species, namely the Tawny Mime *Papilio agestor*, Gray 1831, Lesser Mime *Papilio epycides* Hewitson 1862, Blue-striped Mime *Papilio slateri*, Hewitson 1859, Great Blue Mime *Papilio paradoxa*, and Common Mime *Papilio clytia*, Linnaeus 1758. While all five are distributed across the northeastern region, their presence in Assam is notably rare. Singh (2017) documented the Great Blue Mime- *Papilio paradoxa* in the Jaipur Reserve Forest and Dehing Patkai National Park of Assam.

The larval food plant of Great Blue Mime is laurels (Lauraceae) (Gupta & Majumdar 2012). The larva displays a velvety hue of either black or green, adorned with fleshy spines and circular red spots along its sides. As for the pupa, it bears a striking resemblance to a fragmented twig, adopting a hue of green or brown mirroring that of the twig to which it securely attaches (Gupta & Majumdar 2012).

Discussion

The Great Blue Mime exhibits Batesian mimicry as the male mimics blue crows and the female mimics *Euploea radamanthus*. Butterflies serve as an important pollinator and their diversity acts as an indicator of the ecological fitness of terrestrial biotypes and they are sensitive to the slightest alteration in environmental factors (Dutta et al. 2020). Occurrence of the Great Blue Mime *Papilio paradoxa* indicates Kakoi Reserve Forest as a healthy habitat for butterflies. Therefore, it is crucial to

conserve and better manage the reserve forest to conserve the biodiversity of the area. However, more information about this species is needed to understand its distributional pattern and the ecological impact it might have.

References

Boruah, J. & K.K. Saikia (2023). The Brown-breasted Flycatcher in Assam, with a recent record from Lakhimpur District. *Bird-o-soar* #211, In: *Zoo's Print* 38(9): 33–34.

Dutta, M.P., S. Gogoi & M. Puzari (2020). Diversity analysis of butterflies in Dibrugarh University campus, Assam of northeast India. *NeBio* 11(1): 1–3.

Gasse, P.V. (2021). *Butterflies of the Indian Subcontinent-Distributional Checklist*. Tshikolovets Publications, 272pp.

Gogoi, N.J., K. Gogoi & D. Pangtey (2022). The orchid species of Ranga Reserve Forest, Assam, India. With three new records. *Richardiana* 6: 41–54.

Gupta, I.J. & M. Majumdar (2012). *Handbook on diversity in some of the Indian Butterflies (Insecta: Lepidoptera)*. Zoological Survey of India, Kolkata, 324 pp.

Kehimkar, I. (2016). *Butterflies of India*. Bombay Natural History Society, Mumbai, 528 pp.

Kunte, K. J. (1997). Seasonal patterns in butterfly abundance and species diversity in four tropical habitats in northern Western Ghats. *Journal of Biosciences*, 22(5):593-603. <https://doi.org/10.1007/BF02703397>

Saikia, J. & S. Saikia (2020). Forest cover change detection in Ranga, Kakoi, and Dulung Reserve Forests

in the Lakhimpur District of Assam, India. *Journal of the Social Sciences* 48(4): 1665–1672.

Singh, A.P. (2017). Butterflies of eastern Assam, India. *Journal of Threatened Taxa* 9(7): 10396–10420.

Acknowledgments

The authors express their gratitude to Kakoi Reserve Forest Authority. We would also like to thank Mr. Kundil Kumar Saikia and Mr. Dipak Baruwati for their support during the fieldwork.

Jigyas Baruah¹, Gayatri Dutta² & Monish Kumar Thapa³

¹ Environment and Forest Department, Govt. of Assam, Assam 786003, India.

² Department of Environmental Science, Tezpur University, Tezpur, Assam 784028, India.

³ Department of Zoology, Royal Global University, Guwahati, Assam 781035, India.

Email: ²gayatridutta42@gmail.com (corresponding author)

Citation: Baruah, J., G. Dutta & M.K. Thapa (2024). Report of Great Blue Mime from Kakoi Reserve Forest, Assam. *Bugs R All* #280, In: *Zoo's Print* 39(10): 41–43.

Bugs R All is a newsletter of the Invertebrate Conservation and Information Network of South Asia (ICINSA)

