



Sightings of the witch (*Lepidoptera: Araotes lapithis*) in Northeast Bangladesh

Biogeographically situated between the Indo-Malayan and Indo-Chinese subregions, Bangladesh is home to over 400 species of butterflies (anecdotal to IUCN Bangladesh 2015, Neogi *et al.* 2016, Habib *et al.* 2016). Lacking sufficient surveys of butterflies, the distribution and occurrence of many species in the country are still not well known (IUCN Bangladesh 2015). Hence, reports on the sightings of any poorly known butterfly species may help to develop a baseline for designing precise research and open windows for conservation efforts. The global distribution of the witch (*Araotes lapithis* Moore, 1858) butterfly ranges throughout south and southeast Asia, including India, Bangladesh, Bhutan, Thailand, Malaysia, Cambodia, Myanmar, Philippines and Indonesia (Druce 1895, Fruhstorfer 1911, Shelford 1901, Wangchuk 2021). There are few records of the species from different states of northeast India including Assam, Tripura, Nagaland, and West Bengal (Kunte *et al.* 2021).

The butterfly was first reported in Bangladesh from Barakhal in the Chittagong Hill Tracts by Doherty (de Nicéville 1890) over 130 years ago. The second report was around 7 years ago from the Moulvibazar District, and this was the first photographic evidence in Bangladesh (Habib *et al.* 2016). Here, we report additional sightings of the species from Satchari National Park (SNP) in northeast Bangladesh (see Fig. 1). The SNP (area 242.91 ha) is a semi-evergreen small forest patch of Raghunandan Hill Reserve Forest in northeastern Bangladesh, across the border from Tripura state in India (Ahmed & Naher 2021). The SNP is characterized by hilly topography (Nishat *et al.* 2002), having a tropical climate with high rainfall from early June to late September (monsoon) and mild winters from October to March (Neha *et al.* 2020). In SNP, a total of 195 species of butterflies (representing 125 genera from 6 families) have been recorded.

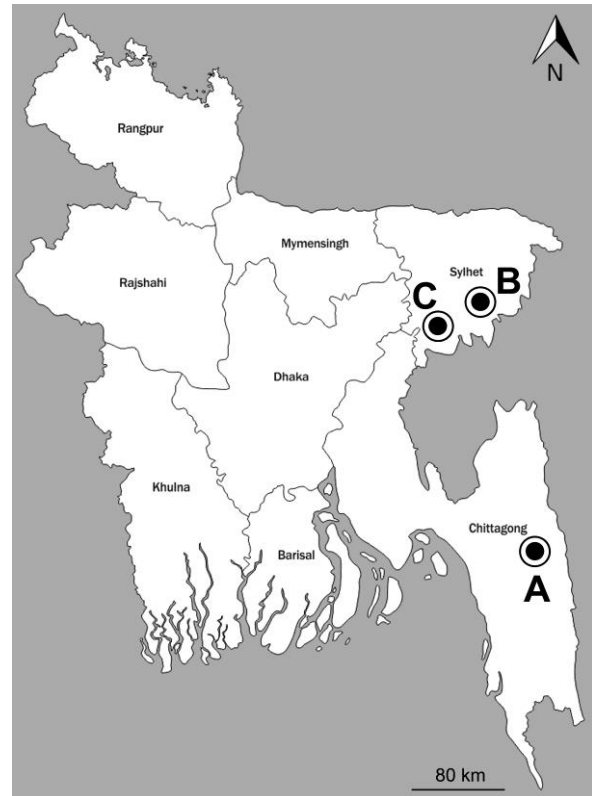


Figure 1. The distribution of the witch (*Araotes lapithis*) in Bangladesh; (A) first record from Barakhal, (B) second record from Moulvibazar, and (C) third record from SNP (this study).

We surveyed butterflies from April to July 2021 in SNP and identified *A. lapithis* based on morphological characteristics (Kehimkar 2008, Kunte *et al.* 2021). We took photos of the species using a digital camera (Nikon D7200 camera and 70–300mm lens). Temperature and humidity were recorded using a thermometer and a hygrometer. Four different individuals of the species were observed with an average day temperature of 31.5 C°, and humidity of 67.1%. A female individual (Fig. 2A) of *A. lapithis* was first sighted (24.128534N, 91.443490E) in April 2021 while the other three individuals were males (Fig. 2B), which were observed at three sites (24.128224N, 91.439668E; 24.128105N, 91.442193E; and 24.127272N, 91.439338E) during May–July 2021. Weather conditions during the survey were dry. Activities of both

female and male witch were basking, resting, and taking nectar, sap and liquid from plant parts. We observed that the witch used plant parts for feeding including wet bark of *Ziziphus oenoplia* (Rhamnaceae), mosses grown on the leaves of *Artocarpus chama* (Moraceae), *Glycosmis pentaphylla* (Rutaceae), *Allophylus cobbe* (Sapindaceae), *Litsea glutinosa* (Lauraceae), *Pistacia integerrima* (Anacardiaceae), and *Combretum* sp. (Combretaceae), flowers of *G. pentaphylla*, and ripe fruit of *Lepisanthes rubiginosa* (Sapindaceae). The butterflies were sighted from late morning to early afternoon (10:00–13:40 hrs). They performed these activities at an average of 2.68 m (range: 0.6–4.5m) from the ground.

The SNP has seven main streams and mostly shrubby and bushy habitats with a variety of plants. The climate in the area is usually warm and humid during the summer which is ideal for butterflies and other insects such as damselflies and dragonflies. *A. lapithis* is known from Tripura state of India and from Bhutan which are respectively about 66.5 km and 313 km in a straight line from our observed location. Within Bangladesh the distance was about 51 km from Moulvibazar and 187 km from Barakhal, the locations of the two previous records (Fig. 1). In a previous survey of butterflies at SNP, the occurrence of *A. lapithis* is not reported (Hasan *et al.* 2018). Probably this species may be found seasonally in that habitat. The undisturbed habitat of SNP suggests the possibility of recording more butterflies as well as larger witch populations. Deforestation and habitat fragmentation, logging and various human activities are the main threats to butterflies surrounding the areas of SNP.

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