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## Rediscovery of a butterfly, *Neptis soma shania* Evans 1924 (Lepidoptera: Nymphalidae) in the Sundarbans of

### Bangladesh

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#### ABSTRACT

The Sundarbans spanning over Bangladesh and India is the largest mangrove forest in the world which supports enormous number of insects including many species of butterflies. I report here the rediscovery of a butterfly species *Neptis soma shania* Evans 1924 (Lepidoptera: Nymphalidae) from Harbaria location ( $22^{\circ}17'46.4''$  N &  $89^{\circ}37'00.8''$  E) of the Sundarbans of Bangladesh which was recorded in March, 2013. The last known record of this species was from the Nizampur ( $22^{\circ}46'37.6''$  N &  $91^{\circ}34'35.6''$  E) of Bangladesh by Chowdhury and Mohiuddin in 1999. This butterfly species had been extremely rare and not been noted for the last 14 years. This finding is significantly important in updating the status and distribution of this butterfly in Bangladesh including Sundarbans given its extreme rarity.

**Keywords:** *Neptis soma shania*, rediscovery, Sundarbans, Bangladesh.

#### 1. Introduction

The Sundarbans, spread over two neighboring countries—Bangladesh and India, is the largest mangrove forest in the world. Among other wild animals, Sundarbans has been an important habitat for butterfly, particularly between March and June when plenty of flowers are bloomed. There are some trees considered as typically honey producing plants in the Sundarbans. Besides these, there are many herbs and shrubs like Khulsi (*Aegiceras corniculatum*), Hargoza (*Acanthus ilicifolius*), Baoli lata (*Sarcolobus globosus*), Tylophora (*Tylophora tenuis*), Wedellia (*Wedellia sinensis*, *W. biflora*), etc. to attract various butterfly. On the other hand, a climber called Ipomoea (*Ipomoea illustris*) also attracts the butterfly in this mangrove forest. Most of the butterflies seen in this mangrove forest are periodic visitors which come from nearby places just only to sip nectar. Butterflies come for nectar when flowers are in bloom and new twigs are found in the trees. They concentrate in the north-west and the northern parts of the mangrove forest. Butterfly likes grassy land especially in the meadows cover the wider areas from Katka to Kachikhali. This grassy land is an ideal habitat for the butterflies. Records show that so far only 37 species of butterflies under 7 families were found in the Sundarbans [1]. It is known that insects including bees and butterflies play a pivotal role in maintaining the mangrove ecosystem by pollination. Many research works have been conducted on different aspects of vegetations [2, 3, 4] and wild animals, especially vertebrate fauna [5, 6, 7, 8] of the Sundarbans. However, investigative research on invertebrate fauna, especially on the butterfly is very scanty in this mangrove forest. Therefore, as part of an ongoing inventory on butterfly of Sundarbans, I report here the rediscovery of *Neptis soma shania* from this mangrove forest of Bangladesh. This finding will provide an updated status and new site records for this butterfly species of Bangladesh and highlights the importance of Sundarbans as a habitat that supports one of the rarest butterflies in Bangladesh.

#### 2. Materials and Methods

##### 2.1 Study area

Harbaria ( $22^{\circ}17'46.4''$  N &  $89^{\circ}37'00.8''$  E) is one of most important location for tourists and located in the Khulna Range of the Sundarbans (Fig 2). This mangrove forest is extended across the areas of Bangladesh and India that covers 10,000 km<sup>2</sup> of which 6,017 km<sup>2</sup> falls in the Bangladesh territory. The Sundarbans mangrove forests are composed of taxonomically diverse, salt-tolerant trees like Goran (*Ceriops decandra*), Keora (*Sonneratia apetala*), Baen (*Avicennia Officinalis*), Passur (*Xylocarpus moluccensis*), Kankra (*Bruguiera gymnorhiza*),

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**Fig 1:** Dorsal (A) and ventral (B) view of *Neptis soma Shania*



**Fig 2:** Location of the site of present record of the *Neptis soma shania*, Harbaria, Sundarbans

Gewa (*Excoecaria agallocha*), and Saila (*Sonneratia caseolaris*). Besides, there are some herbs and shrubs which further supplement for the habitats of butterflies. Of these, Khulsi (*Aegiceras corniculatum*), Hargoza (*Acanthus ilicifolius*), Baoli lata (*Sarcolobus globosus*), Akond (*Calotropis procera*), Asam lata (*Mikania scandens*), Ipomoea (*Ipomoea illustris*), Tylophora (*Tylophora tenuis*) and Wedelia (*Wedelia biflora*) are notable.

## 2.2 Collection and identification

The *Neptis soma shania* was collected from Harbaria of the Sundarbans. After collection, envelope was used for temporary storage, which was then carried to the Entomology laboratory of the Department of Zoology, Jahangirnagar University. The specimen was then stretched by a starching board and preserved in a wooden box for further taxonomic analysis. Identification of butterfly was done by using the keys developed and used by Moore (1858), Evans (1924, 1932), Wynter Blyth (1957) and Eliot (1969) [9, 10, 11, 12, 13].

## 3. Results and Discussion

The *Neptis soma shania* Evans 1924 (Sullied Sailer) was observed in March, 2013 from the said location of the Sundarbans of Bangladesh (Fig 1 a, b). During a transect walk in the forest, I was suddenly come along with this butterfly which was flying through the Sundari patch of forest. I kept following the trail and the butterfly finally rest for while on a leaf. I captured it using a sweeping net. Only one specimen was captured during this visit.

The *Neptis* is a genus of Nymphalidae butterfly found in South Asia and Southeast Asia. So far there are 10 *Neptis* species recorded from Bangladesh [14, 15, 16, 17, 18]. The *Neptis soma*, one out this ten recorded species from Sylhet, Bangladesh [11]. This species has several subspecies and the *Neptis soma shania* is one of them [13]. The habits and ecology of this species are not well known in Bangladesh, especially in Sundarbans mangrove forest.

The length of forewing of *Neptis soma shania* is 25 mm. It has a characteristic stiff gliding flight achieved by short and shallow wing beats just above the horizontal. It flies with great precision, weaving its way in and out through the foliage and branches. Members of this genus have a common feature of white spots and bars on a blackish ground of wing. *Neptis* is found in evergreen forest, plain lands and also at high elevation from the sea level. The larval food plants include Leguminosae, Malvaceae and Tiliaceae [18].

This *Neptis soma shania* (Sullied Sailer) reported by Gladman from Teknaf ( $20^{\circ}53'48.1"N$  &  $92^{\circ}16'14.3"E$ ) of Bangladesh in 1946 and from Sylhet ( $24^{\circ}53'51.9"N$  &  $91^{\circ}52'16.9"E$ ) by Evans in 1924. On the other hand, Larsen [16] mentioned that Gladman's finding was a misidentification of *N. nata*. However, Larsen [16] expected to have this species in Bangladesh. Besides, *Neptis soma soma* recorded from the Nizampur ( $22^{\circ}46'37.6"N$  &  $91^{\circ}34'35.6"E$ ) of Bangladesh by Chowdhury and Mohiuddin [15]. Taken together, this species had been extremely rare and not been noted for the last 14 years.

The current list of butterflies found in the Bangladesh Sundarbans [1] is not exhaustive and more species are yet to be recorded. Earlier another species of butterfly, the *Neptis jumbah* (Chestnut Streaked Sailer) which was quite uncommon in the Sundarbans, was recorded from this mangrove forest [1, 16]. Therefore, future intensive survey on butterfly species including other insects will provide more new information and thus immediate detailed inventory is strongly recommended. Furthermore, host plants-butterfly interaction studies are required to understand the ecological insight and conservation of this delicate and fragile insect in future.

#### 4. Conclusion

A butterfly species *Neptis soma shania* Evans 1924 (Lepidoptera: Nymphalidae) was rediscovered after 14 years from Harbaria location ( $22^{\circ}17' 46.4''$  N &  $89^{\circ}37'00.8''$  E) of the Sundarbans of Bangladesh. This finding is significantly important in updating the status and distribution of this butterfly in Bangladesh including Sundarbans given its extreme rarity.

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