



## Notes On Two Lycaenid Butterflies Confirm To Bangladesh

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### ABSTRACT

The present article confirms that two new butterflies (Lepidoptera: Lycaenidae) species, *Logania distanti massalia* Doherty, 1891 (Dark Mottle) and *Nacaduba pactolus continentalis* Fruhstorfer, 1916 (Large four-Linblue) reported for the first time from the North-eastern region of Bangladesh during an opportunistic survey on butterflies. These two new sighting records signify previous sampling gaps and suggest further survey to make a baseline database and take effective initiatives for conservation to protect the butterfly fauna in this area.

**Key words:** Lepidoptera, Lycaenidae, North-eastern, Bangladesh, Conservation.

### INTRODUCTION

Considering the floral diversity and habitat variations, North-eastern region of Bangladesh prefers diversified faunal diversity. Most of the protected areas of this part contain mixed tropical evergreen forest, especially in Moulvibazar district. Butterflies are particularly sensitive to environmental variation. Relations have been found between butterfly diversity and environmental variables viz. Plant diversity, habitat pattern, landscape structure, topographic and moisture gradients in tropical forest. So, it is now a very important group for ecological studies as a bio indicator. In Bangladesh, butterfly research on tropical areas, is still ongoing process yet not good. Torben (2004) confirmed 311 species and assumed another 116 species of butterflies might be present focused on contrasting vegetation types of Bangladesh.

This opportunistic survey has been conducted in a long-term monitoring program on butterflies from 2012 to till now. The aim of this survey is to identify which species of butterflies are present in the mixed tropical semi evergreen forests at North-Eastern region of Bangladesh, to characterize spatial patterns, temporal trends and to monitor the condition of the forest habitat. Several expeditions were conducted to different protected areas of Moulvibazar. During the last two years, there have been reports of range extensions for several species of butterflies. The present article decisively confirms the presence of two lycaenid, *Logania distanti massalia* and *Nacaduba pactolus continentalis* (Lepidoptera: Lycaenidae) as a new geographical extension of their distribution in Bangladesh.

### DISCUSSION

The first sighting of *Logania distanti massalia* Doherty, 1891 (Dark Mottle) was made on 02 December 2014 from Kauyargola forest beat in Adampur reserved forest, Moulvibazar district under the coordinate of 24°17'3.44"N; 91°53'54.46"E at 11.21 am

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(GMT+6), when it was busking about 1-1.2m above the ground on the leaf of the *Clerodendrum viscosum* plant (Fig. 1). The sex of the sighting specimen was unknown. *Logania distanti massalia* is distributed in India (Sikkim to Arunachal Pradesh, Northeast), Nepal, Bhutan and Myanmar (Kehimkar, 2013). Larsen (2004) assumed to be present in Bangladesh but had not confirmed record (Ahmad, 2009; Choudhury, 2013).

Morphological characteristics of *Logania distanti massalia*, wings drab colored, small in size. Under wing closely mottled brown. Fore wing termen not crenulated. Male has basal portion of vein 4 of upper fore wing slightly thickened and darkened.

**Figure 1. *Logania distanti massalia* Doherty, 1891 (Dark Mottle)**



**Figure 2. *Nacaduba pactolus continentalis* Fruhstorfer, 1916 (Large four-Linblue)**



Another species *Nacaduba pactolus continentalis* Fruhstorfer, 1916 (Large four-Linblue) was sighted for the first time on 16 October 2015 from Lawachara

National Park, Moulavibazar at 10.13 am (GMT +6) in the coordinate of 24°18'58.65"N; 91°46'54.11"E, when it was feeding minerals from the shoes of recorder (Fig. 2). The sex of the sighting specimen was unknown. The genus *Nacaduba* Moore, 1881 (Lepidoptera: Lycaenidae: Polyommatainae) is distributed throughout the Indo-Australian region. There are 4 species under genus *Nacaduba* has previous confirmed record from Bangladesh and 2 assumed to be present in Bangladesh (Larsen, 2004). Among these 2, this article, ensures the presence of *Nacaduba Pactolus continentalis* found in Bangladesh. The larval food plants of *N. pactolus* has been recorded from India; *Entada pursaetha* (Fabaceae) (Bean, 1964; Bean, 1988), Taiwan; *Entada rheedii* (Hsu *et al.*, 2004) from Singapore; *Entada spiralis* (Fabaceae) (Tan 2009); *Entada rheedii* (Fabaceae) from Sri Lanka (Priyadarshana, 2015). In Bangladesh this is still unknown. *N. p. continentalis* distributed in India (Western Ghats), Sikkim to Arunachal Pradesh, Northeast), Sri Lanka, Nepal, Bhutan and Myanmar (Kehimkar, 2013).

The morphological characteristics of *Nacaduba pactolus continentalis*, hind wing tailed, underside brownish with wings crossed by two pairs of whitish lines, Could be easily misidentified as *Nacaduba hermus* Felder, 1860; both don't have the pair of basal lines on under forewing, differs in having border yellowish under wing markings and more rounded wings. In addition, male bears fine dark, borderline on the upper, while in females the veins of purple-blue discal area on upperside are clearly defined; both these characteristics are absent in *Nacaduba hermus*. Under fore wing sub-marginal line broad, diffused and continuous.

Current notified area of Lawachara National Park covers 1250 hectares considered as semi or mixed evergreen tropical forest, where tall trees are deciduous and the under storey evergreen. This area undulating with slopes and hillocks locally called tilla (ranging from 10-50 m) and are scattered in the forest. Numerous streams flow through the forest (Ahsan, 2000; FSP, 2000a, Feeroz *et al.*, 2000). Numerous trails and tracks are found within the forest, created by the local ethnic people for collecting wood from the forest. On the other hand Kauyargola forest beat under Adampur reserved forest is typically mixed evergreen forest that contains hills, deep forests, stream and agricultural land. The entrance area of Adampur is slightly disturbed and located inside the village of ethnic and local people.

It is particularly important to undertake long-term butterfly monitoring in North-eastern region to experience briefly its seasonal pattern, food sources and habitats. Climate change and habitat destruction are the major threats to the persistence of butterfly diversity in this region. Biogeographically, the northeast region remains under Indo-Burma biodiversity hotspot, which means that potentially large number of species may be found here and there is a great chance to

document range extensions. These two new records highlight the needs of proper conservation planning for rare butterflies, find out their associated nectar and larval food plants.

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## Conflict of Interests

Authors declare that there is no conflict of interests regarding the publication of this paper.

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