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Short Note

Six New Records of Butterflies from Lawachara National Park, Bangladesh

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Lawachara National Park (24°30′-24°32′N, 91°37′- 91°39′E) is a mixed tropical evergreen forest in Moulvibazar district, which lies under the north-eastern region of Bangladesh and considered as a hotspot of faunal diversity[5]. The lowland Sino-Himalayan butterflies are well represented here and much of the tropical fauna of Hong Kong and Guandong, southern China, and northern Indochina are also present in this area[7]. Butterfly research on this kind of tropical area is still in the ongoing process in Bangladesh. Lawachara National Park (LNP) originally supported an indigenous vegetation cover of mixed tropical evergreen type[1]. Butterfly fauna of LNP are considerably well documented than other forests in Bangladesh. From previous studies, total 160 numbers of species of butterflies had been recorded from LNP[6]. We made several expeditions to LNP and recorded six species (two species of Hesperiidae, three species of Lycaenidae, and one species of Papilionidae family) new to Bangladesh, which are briefly described in the current article.

The Present survey was conducted in the North-east region of Bangladesh on Lepidoptera from 2013 to till now at Lawachara National Park, Moulvibazar and added six butterfly species new to Bangladesh as extension of their distribution. These are *Burara oedipodea belesis* Mabile, 1876; *Tagiades menaka menaka* Moore, 1865; *Suasa lisides lisides* Hewitson, 1863; *Arhopala fulla* Hewitson, 1862; *Flos diardi diardi Hewitson, 1862; Atrophaneura aidoneus* Doubleday, 1845. This six new record denotes previous sampling gaps in the area and suggest further study to compile a complete checklist to take conservation initiatives.

***Burara oedipodea belesis* (Mabile, 1876; Branded Orange Awlet)** was sighted in the coordinate of 24°20'11.83"N, 91°48'58.48"E; from Moulvibazar (LNP) on 22 March 2014 at 6.00 am (GMT: +06.00). The butterfly was taking liquids by rubbing proboscis on wet surfaces (Fig. 1.A.). Its flight was fast just above the ground and sat on a wet facial tissue again and again. The knowledge of host plants is still unknown, but the specimen was seen nearby *Chlorophora excelsa.* Larsen (2004) predicted *Burara oedipodea belesis* (Mabile, 1876) should be in Bangladesh[7]. This species had reported from India, Nepal, Bhutan, Myanmar, Sri Lanka[3,7].

Sighted individual was a male. Male has a compact, large, black and prominent circular brand from the base under the cell towards the middle of upper forewing. The two prominent black spots present on basal area of both under fore and hind wing.

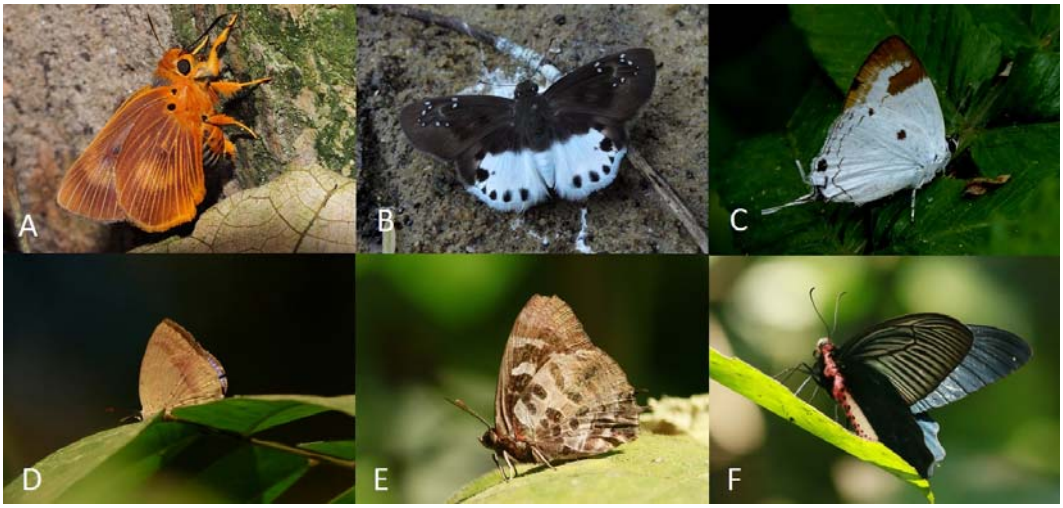

FIGURE 1. A. *Burara oedipodea belesis* **B.** *Tagiades menaka menaka* **C.** *Suasa lisides lisides* **D.** *Arhopala fulla* **E.** *Flos diardi diardi* ***F.*** *Atrophaneura aidoneus.*

Underside of fore and hind wings with was a combination of orange and red color. Some bluish color in discal area with whitish shadow on vein 1 to 8 in basal to sub-marginal area. Edge of apex and costal area are brownish orange color. Tornal area of hind wing underside is suffused with orange color. Upper forewing of *Burara oedipodea belesis* has ochreous red costal brand which extends across cell base.

***Tagiades menaka menaka* (Moore, 1865; Spotted Snow Flat)** was photographed during perching on bird dropping in a sandy trail 24°20'40.45"N, 91°48'35.67"E; under poor sunlight from Moulvibazar (LNP) on 06 March, 2015 at 10.53 am (GMT: +06.00) (Fig. 1.B.). This species was reported from some part of India (Himalayan foothills from Jammu & Kashmir to Arunachal Pradesh) and Nepal[3,9].

Wingspan same like as *Tagiades litigiosa*. Upper forewing has semi-transparent white spots with dark brown color. Outer two-thirds of upper hindwing has dark color move over rest of the middle parts are white color. This species is closely resembles the *Tagiades litigiosa*, excepting additional dark spots on the white area on upper hindwing. Under hindwing white except for brown costa and apical area.

***Suasa lisides lisides* (Hewitson, 1863; Red Imperial)** was photographed in the coordinate of 24°20'27.52"N, 91°48'7.51"E; from Moulvibazar (LNP) on 22 March 2014 at 10.12 am (GMT: +06.00) (Fig. 1.C.). Larsen (2004) mentioned *Suasa lisides* in the appendix 01 'species recorded from 'sylhet' ('silhet') or cachar, but not included in the checklist and a few species recorded in error from Bangladesh' and this record disprove Larsen's the prediction[7]. Flight of *Suasa lisides lisides* was moderately slow like as *Hypolycaena othona othona*. This rare species have been recorded from India (Assam-Arunachal Pradesh, Northeast), Myanmar and China[3,10].

Tail present at the end of hindwing, broad reddish brown band from under fore wing leading edge to mid- area, continuing as line, margin broadly reddish brown. White under hindwing has two dark spots near leading edge.

Arhopala fulla **(Hewitson, 1862; Spotless Oakblue)** was sighted in the coordinate of 24°20'11.69"N, 91°49'1.78"E; from Moulvibazar (LNP) on 06 March, 2015 at 07.33 am (GMT: +06.00) (Fig. 1.D.). One male specimen was observed during resting time on the leaf of the plant. This was also found later in Satchari Nationsl Park of Habigonj District. This species have been recorded from India, Myanmar and Bhutan[3].

Wingspan is moderately same like as other *Arhopala* species. Hindwing rounded and without tail. Underwing pale ocheous brown color, almost devoid of bands on both wings and have very indistinct basal spots on under hind wing. Upperwing of male have violet blue color with outer areas of wing purple color.

Flos diardi diardi **(Hewitson, 1862; Bifid Plushblue)** was recorded in the coordinate of 24°20'32.81"N, 91°48'42.33"E; from Moulvibazar (LNP) on 06 March, 2015 at 12.38 pm (GMT: +06.00). *Flos diardi diardi* had been found in the northern Arakan and at Dowki and should occur in Bangladesh (Fig. 1.E.)[7]. *Flos diardi diardi* have been recorded from India, Myanmar[2].

Sighted individual was a male. Male has dark purplish blue with no border; the markings are purplish brown contrasting strongly with pale brownish to whitish ground color on the hindwing. There are red patches at the base of costa on both wings. A distinguishing feature of *Flos diardi* is the presence of two conjoined clavate spots. The hindwing has a black tornal spot and a black marginal spot in space 2, both of which are surrounded by brassy scales which cover the marginal spaces from the tornal area to space 2.

Atrophaneura aidoneus **(Doubleday, 1845; Lesser Batwing)** was recorded in the coordinate of 24°20'37.13"N, 91°48'54.80"E; from Moulvibazar (LNP) on 05 March, 2015 at 11.44 am (GMT: +06.00) (Fig.1.F.). *Atrophaneura varuna astorion* (Westwood, 1842; Common Batwing) is known to occur in the same area, so it could have been overlooked by explorers previously due of same appearances. Widely distributed, including India, Nepal, Bhutan and Mayanmar[3].

Wingspan is moderately same like as *Atrophaneura varuna*. Male has a white scent fold edged with pink along inner edge of hindwing, which is usually not visible. *Atrophaneura aidoneus* female has a plain dark forewing and hindwing, unlike the *Atrophaneura varuna* female, which has a pale area on lower half of the forewing; both sexes of the *Atrophaneura aidoneus* have a uniform shade on the hindwing.

Large-scale habitat deforestation and fragmentation has led to the decline of various butterfly species from north-east region of Bangladesh. Also lack of knowledge on butterflies behavior and distribution is leading to a paucity of studies on their occurrence and biology. However, emphasizing the need of increasing efforts on this kind of expedition will lead to understanding the patterns of occurrence, seasonal frequency distribution and addition of new species of the northeast region of Bangladesh. The new areas for these species denote an extension of the former assumed distribution limit. Our observations suggest that these areas support a substantial number of butterfly species that are rare in Bangladesh. Human settlement, deforestation, commercial logging and other man made activities are the main threats in LNP to conserve butterflies and other species that are yet to be discovered[8]. It can be concluded that, initiatives should be taken to protect this hotspot of butterfly in Bangladesh.

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