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Short Communication

First record of *Aglais caschmirensis aesis* (Fruhstorfer, 1912) (Lepidoptera : Rhopalocera : Nymphalidae) from Meghalaya, with a note on its spatial distribution

Imtiaz Imam and Ilona Jacinta Kharkongor*

North Eastern Regional Centre, Zoological Survey of India, Shillong – 793014, Meghalaya, India; ilona.kharkongor@ymail.com

Abstract

The Himalayan Tortoiseshell, *Aglais caschmirensis aesis* (Fruhstorfer, 1912) is reported for the first time from Meghalaya, North-East India, from a single specimen collected from Nongkhyllem Wildlife Sanctuary. The present paper bridges the existing distribution 'gap' of the species to include Meghalaya which is in between Sikkim and Nagaland, besides revising the altitudinal distribution of the species to include a lower elevation.

Keywords: Altitudinal Distribution, Indian Tortoise Shell, Nongkhyllem Wildlife Sanctuary, Ri Bhoi District

Introduction

Studies on the lepidopteran fauna of Meghalaya began with the work of Swinhoe (1893; 1896), who initiated natural history studies on the butterfly fauna of the composite Khasi and Jaiñtia Hills of Meghalaya. This pioneering work was subsequently followed by the works/studies of other stalwarts in this field, like Parsons and Cantlie (1948), Varshney and Chanda (1971), Varshney (1977), Rynth (1977), Radhakrishnan, *et al* (1989), to name a few. Most recent works on this group from Meghalaya are those of Kunte, *et al* (2012), who carried out an extensive survey and study on the butterflies of the Garo Hills area of the State. Butterfly fauna of Meghalaya is well documented, but there is no record of the Himalayan Tortoiseshell butterfly *Aglais caschmirensis aesis* (Fruhstorfer, 1912), from the State. Even Parson and Cantlie (1948) in their report on the butterflies of the Khasi and Jaiñtia Hills have stated, "*Although there is no reason why this species should not be found on the high plateau, we know of no record*"; nearly 70 yrs were to elapsed since their statement, before this species (*Aglais caschmirensis aesis*) is discovered from the '*high plateau*'!

We are reporting here, for the first time, the presence of the Nymphalid butterfly *Aglais caschmirensis aesis* Fruhstorfer, 1912, in Meghalaya. The authors found a single specimen of this nymphalid butterfly while studying the butterfly specimens collected from a recent (10th May, 2017) field survey to Nongkhyllem Wildlife Sanctuary (N 25°59'41.05"; E 91°44'48.56"; Alt. 209 m ASL) in Ri Bhoi District, Meghalaya.

The previous range of *Aglais caschmirensis aesis* (Fruhstorfer, 1912), stretched along the entire range of the Western Himalaya up to Sikkim (Wynter-Blyth, 1957; Antram, 1986; Gupta and Shukla, 1988; Kehimkar, 2008). Prior to this report, the Himalayan Tortoise shell butterfly has been reported from Arunachal Pradesh (Greeshma, 2010), Nagaland (Naro, 2012) and Manipur (Valappil and Kunte, 2017; Irungbam *et al*., 2017) of the North-Eastern part of India, with Meghalaya being the fourth State. The altitudinal range of the species is from 1500-5000m (Wynter-Blyth, 1957; Greeshma, 2010).

Diagnostic Characters: The collected specimen has been identified as *Aglais caschmirensis aesis* (Fruhstorfer, 1912), (Fig. 1a and 1b) following the diagnostic characters as given in Bingham (1905), with few modifications: "Wingspan: 52-63 mm. Upperside of forewings with the basal half of costa and termen pale brown to chestnut-red; the termen is bordered inwardly by a narrow darker brown band bearing a series of black lunules; broad black bars across middle of cell to before apex, alternating with ochreous

* *Author for correspondence*

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Figure 1. *Aglais caschmirensis aesis* (Fruhstorfer, 1912). a. Upperside. b. Underside.

bars; outwardly traversed by sinuous slender subterminal and terminal black lines: base of wing and the greater part of interspace 1a and of 1 posteriorly brown, irrorated with golden scales, the rest of the wing anteriorly tangy yellow, posteriorly and at base of cell red, with the following black markings: a broad band across the cell, another broader short band beyond, touching the discocellulars, not extending below vein 4, and a third not extending below vein 5, with a white patch beyond before apex, all three short bands rounded posteriorly; on the disc there is a large oval black spot, followed by a yellow patch in interspace 1, and above it smaller black spots in interspaces 2 and 3. Hindwing has the basal half dusky brown, covered posteriorly with long brown hairs; anteriorly beyond the bases of veins 5, 6 and 7 black, followed by a broad red band anteriorly turning to yellow; a broad terminal brown band, traversed by a series of black-bordered blue lunules, and beyond them by very slender inner and outer black sinuous lines. Underside brown, with closely set transverse short black striae; basal half of wings clouded with dark purplish brown, the outer margin of the dark portion defined by a highly sinuous jet-black transverse line, most distinct on the hindwing, and also crossed, nearer the base of the wings, by two or three similar, much interrupted lines; terminal half of the wings paler, with two dark irregular patches below costa of forewing" (Bingham, 1905).

This species is very common along its known range of distribution, along the foothills of the Himalayas, from the Western Himalayas to Sikkim (Kehimkar, 2008). Barring Sikkim, this species is obviously, not very common in the rest of North-East India as, till date, it has been reported only from very few locations in the region (Greeshma, 2010; Naro, 2012; Irungbam *et al.*, 2017; Valappil and Kunte, 2017). Apparently, the species is very rare in Meghalaya as it has never been encountered in the State before. Moreover, this present paper forming the first report of the species from the State is based on a chance collection from Nongkhyllem WLS, one of the few pristine natural forest environments and important Protected Area of Meghalaya.

This paper, besides forming the first documented record of the species from Meghalaya, also bridges the intervening 'gap' of its known range of distribution. As mentioned in the foregoing paragraphs, the distribution range of *Aglais caschmirensis aesis* (Fruhstorfer, 1912), is from the Western Himalaya to Sikkim (Wynter-Blyth, 1957; Antram, 1986; Gupta and Shukla, 1988; Kehimkar, 2008). Recent reports of the species from Arunachal Pradesh (Greeshma, 2010), Nagaland (Naro, 2012) and Manipur (Valappil and Kunte, 2017; Irungbam *et al.*, 2017) have extended the distribution range further east, with intervening 'gap' between Sikkim and Nagaland. This present report of the species from Meghalaya has bridged this distribution gap. Additionally, the paper also revises the known altitudinal range of the species (1500-5000 m) to include a lower elevation (from where our specimen was collected) changing the altitudinal range of *Aglais caschmirensis aesis* (Fruhstorfer, 1912) to 209-5000m asl. The specimen is registered in the National Zoological Collection of the Zoological Survey of India, Shillong, under the registration number I/LE/ERS-963 and was collected by Bhaskar Saikia of ZSI, Shillong from near the

Forest IB at Lailad, Nongkhyllem Wildlife Sanctuary, Ri Bhoi District, Meghalaya.

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