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### NOTE

**FIRST RECORDS OF BUTTERFLIES *ANTHENE EMOLUS EMOLUS* (GODART, [1924]) (LEPIDOPTERA: LYCAENIDAE: POLYOMMATINAE) AND *GANDACA HARINA ASSAMICA* MOORE, [1906] (LEPIDOPTERA: PIERIDAE: COLIADINAE) FROM KUMAON, UTTARAKHAND, INDIA**

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**FIRST RECORDS OF BUTTERFLIES *ANTHENE EMOLUS EMOLUS* (GODART, [1924]) (LEPIDOPTERA: LYCAENIDAE: POLYOMMATINAE) AND *GANDACA HARINA ASSAMICA* MOORE, [1906] (LEPIDOPTERA: PIERIDAE: COLIADINAE) FROM KUMAON, UTTARAKHAND, INDIA**

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The butterflies of the Kumaon Himalaya in the hill state of Uttarakhand are relatively well studied as exemplified by the works of numerous naturalists over the last century. The earliest publication on the butterflies of Kumaon region was by W. Doherty, an Englishman, who recorded 271 species (Doherty 1886). Frank Hannington, a British civil servant and amateur entomologist listed 378 species from Kumaon (Hannington 1910, 1911, 1915). In more recent times, Peter Smetacek, a lepidopterist from Bhimtal, has published numerous papers on butterflies of the region and has listed 243 butterfly species between 1951 and 2010 (Smetacek 2012) from the Jones Estate in Bhimtal. Despite these studies, there have been numerous new records of butterfly species that have not been recorded from Uttarakhand before, such as *Arhopala abseus* (Hewitson, 1862) and *Nacaduba kurava* (Moore, [1858])

(Smetacek 2011) and *Flos adriana* (de Nicéville, [1884]) (Venkatesh 2016). This paper adds two butterfly species to the checklist of Kumaon and Uttarakhand, the Common Ciliate Blue *Anthene emolus emolus* (Godart, [1924]) and the Tree Yellow *Gandaca harina assamica* Moore, [1906], of which there are no published records.

During the course of faunal surveys in Kumaon, the author recorded the Common Ciliate Blue *Anthene emolus emolus* (Godart, [1924]) on 17 October 2016 at 10:50hr on the Sandani Gaja trail (29.342767N & 79.238483E, altitude 425m to 29.339867N & 79.237717E, altitude 438m) in Pawalgarh Conservation Reserve, Nainital District (Image 1). On this trail, there were at least 10 individuals of this species sighted. On the next day, at Barati Rau, in the Ramnagar Forest Division, I again spotted 2–3 individuals of the same species. These individuals, mostly males, were seen basking, sitting on top of the leaves on foliage, a few feet above the ground, or were seen mud-puddling at moist spots. A review of literature (Doherty 1886; Hannington 1910; Evans 1932; Wynter-Blyth 1957; Cantlie 1963; Smith 1994; Sidhu & Sharma 2010; van Gasse 2013; Varshney & Smetacek 2015; Kehimkar 2016) reveals that the listed distribution for this species is Nepal eastwards through Sikkim, Bhutan and the eastern Himalayan states in India, as well as the hills of northeastern India and Bangladesh. The species is also known to occur in Odisha, Jharkhand, Bihar, Goa and southern Maharashtra down to southwestern



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Image 1. *Anthene emolus emolus*, 17 October 2016, Pawalgarh Conservation Reserve



Image 2. *Gandaca harina assamica*, 19 December 2016, Nandhaur Wildlife Sanctuary

India. There are no published records of this species from Uttarakhand, though Shankar Kumar from the Uttarakhand Forest Department reported sighting this species in Haldwani, Nainital District in July 2016 through a media report. Smith (1994) lists this species from Nepal as “not rare across the country” and that it is recorded “from the Terai to 4,500 feet in March to November”. Given that the proximity of these locations to the western border of Nepal is no more than 100km (Haldwani) to 150km (Pawalgarh), it is not surprising to find records of these species in this landscape.

On 19 December 2016, near the Chorgalia Forest Rest House in Nandhaur Wildlife Sanctuary, eastern Kumaon, Uttarakhand, a single Tree Yellow *Gandaca harina assamica* Moore, [1906] was spotted (Image 2). The individual, a female, was seen flying around a clump of croton plants at 12:56hr in a home garden in the village of Chorgalia (29.129733 N & 79.7024 E; 317m altitude). The individual sat under the leaves of various plants for 15 minutes, allowing me to observe and photograph it. A search on the next day, 20 December 2016 at 10:00hr in the same place did not result in any sightings of the species. Subsequently, on 2 March 2017, at 13:14hr, during the 4<sup>th</sup> Uttarakhand Spring Bird Festival at Nandhaur Wildlife Sanctuary, a second individual was sighted at Macchli Van (29.164483 N & 79.711417 E; 403m altitude), 2.5km from the first sighting, confirming the presence of this species in the area. The individual spotted, was a female, which was observed feeding on *Barleria* flowers. A review of literature (Doherty 1886; Hannington 1910; Evans

1932; Talbot 1939; Wynter-Blyth 1957; Smith 1994; Majumdar 2010; van Gasse 2013; Varshney & Smetacek 2015; Kehimkar 2016) reveals that the distribution of this subspecies extends from central Nepal eastwards through Sikkim and Bhutan to eastern Himalaya and northeastern India south to northeastern Bangladesh and Odisha. The closest record of this species is in central Nepal (Kaski District) and eastern Nepal where it is reported to be “generally uncommon” and recorded flying in the months of April to July, September, October and December from the Terai to 1,036m (Smith 1994). This record of *Gandaca harina assamica* in Chorgalia, Nandhaur Wildlife Sanctuary extends its range by more than 500km westwards from Kaski District, central Nepal. These records show that there are gaps in our information on the current distribution of butterfly species in the Himalaya and further extensive biodiversity surveys and systematic studies are required.

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