

## NEW RECORD OF FREAK *CALINAGA* (INSECTA: LEPIDOPTERA: NYMPHALIDAE) FROM EASTERN HIMALAYA, NEPAL

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### Abstract

This paper presents the first record of a Freak, *Calinaga* Moore, 1857 from Taplejung district of Eastern Nepal. Three individuals were recorded from a forest edge alongside Cardamom plantation. The confirmation was made from a photograph of an individual perching on an epiphyte growing on a branch of *Ficus* spp.

**Keywords:** *Calinaga*, Eastern Nepal, New Record

### Introduction

*Calinaga* is placed in the monobasic nymphalid subfamily Calinaginae. The genus occurs in South Asia and China. There is considerable confusion over the taxa in this genus. Some authors recognize 11 species, of which 4 were believed to occur on the Indian subcontinent (Beccaloni *et al.*, 2003; Savela, 2015). However, Todisco *et al.* (2017) found that for six taxa of this genus they studied, only four were valid. Since only one of these, *C. aborica* Tytler, 1915 was an Indian taxon, we have treated the remaining taxa, i.e. *buddha* Moore, 1857, *brahma* Butler, 1885 and *gautama* Moore, 1901 as subspecies of *C. buddha*, following Varshney & Smetacek (2015) until reliable work is carried out on the Indian taxa.

Although the genus was known from both east as well as west of Nepal, i.e. from Himachal Pradesh to Uttarakhand (*buddha*) and from Sikkim to Arunachal Pradesh and Myanmar (*gautama*, *brahma* and *aborica*) (Evans, 1932), there was no report of this genus from

Nepal, although it was assumed that one or the other taxon occurred here.

### Material and Method

A study was carried out on butterfly diversity of the Eastern Himalaya, Nepal in 2018 where three individuals of *Calinaga* were recorded from Taplejung district, Province 1, Nepal. The individuals were recorded from Tamor river basin, one of the main tributaries of Koshi river at an altitude of 1286 m a.m.s.l (27.4911836 E; 87.746465 N). The individuals were seen fluttering along the edges of hill forests bordering cardamom plantation. The individuals were found perching on an epiphyte growing in the branch of a *Ficus* tree. Though in flight it resembled *Parantica* spp., a careful examination of the photograph (Fig 1) confirmed the species to be a *Calinaga*. We tentatively place the individuals observed by us under *C. b. gautama*, since the presence of pale brown underside hind wing and more elongated forewing separates it from *C. b. brahma* (Kehimkar, 2016). The markings of

the species along with the orange-red thorax are similar to *C. b. buddha* but the ground color is darker brown, especially on the underside. The forewings are a bit more elongated and produced and the hind wings are narrower and more angular compared to *C. buddha* (Moore, 1902; Evans, 1932).

### Results and Discussions

This is the first record of the genus and sub-family Calinaginae from Nepal. As Todisco, 2017 noted, evolutionary history of this *Calinaga* species is still uncertain and therefore we are not assigning a species level name to it. This species is most likely to be *gautama*, known from Sikkim, which adjoins the current study area. However, the status of the taxon *gautama* is not certain. It was recorded in May, which coincides with its short flying period from March to May (Kehimkar, 2016). Though the study was conducted extensively, this species was recorded only from the specific forest-agriculture edge. The species was found perching on the epiphyte for more than two hours around noon which might provide some basis for further research in ecology of the species. Lack of research coverage and localised habitat of the species might be the reason for the lack of evidential data of the species in Nepal.

At the recorded site, continual agricultural land extensions were observed. However, traditional agroforestry was practiced in the area, which makes its impact difficult to predict on the status of the species. Also, the lack of evidential data of the larval host plant of the species makes difficult to recommend specific conservation measures. Other members of the genus feed on *Morus* species in the larval stage and this species might feed on *Ficus*. This study confirms the presence of a small local population of the species in Nepal

but further research is essential to assess its overall distribution.

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Fig 1: *Calinaga* sp. perching on an orchid