



First record of two species of Xylenini (Lepidoptera: Noctuidae: Noctuinae) from India

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Abstract

In this study, two Himalayan inhabitant *Hemiglaea mirabilis* Hreblay & Ronkay, 1998 and *Agrochola magarorum* Benedek, Bebics & Saldaitis, 2013 under tribe Xylenini (Lepidoptera: Noctuidae: Noctuinae) are recorded for the first time from India. Diagnosis and images of habitus and male genitalia are provided.

Keywords: *Agrochola*, *Hemiglaea*, India, New Records, Xylenini

Introduction

Xyleninae was downgraded to Xylenini in the modern concept of Noctuinae (Fibiger & Lafontaine, 2005; Keegan *et al.* 2021). Numerous taxa of Oriental Xylenini, including the Indian Himalayan region, were described by Hungarian lepidopterists and others (Hreblay & Ronkay, 1998; Owada, 1993; Ronkay & Ronkay, 2001; Benedek *et al.*, 2005; Ronkay *et al.*, 2010; Benedek *et al.*, 2012; Benedek *et al.*, 2012a; Benedek *et al.*, 2013; Saldaitis *et al.*, 2014 and Benedek & Saldaitis, 2014). Xylenini (sensu Xyleninae) is distributed throughout the globe and is well-defined by male and female genitalic features (Fibiger & Hacker, 2007). Though the exact number of species is not known, it is estimated that around 4000-5000 species are present worldwide (Abdelfattah *et al.* 2018). In India, approximately 25 species of Xylenini are known so far.

In this manuscript, two species, *Hemiglaea mirabilis* Hreblay & Ronkay, 1998 and *Agrochola magarorum* Benedek, Bebics & Saldaitis, 2013 are reported for the first time from India. Images of the habitus and male genitalia of the species are provided.

Materials and Methods

Moths were collected using a vertical sheet light trap from Darjeeling, West Bengal during the survey conducted by the team from Zoological Survey of India under the

Annual programme entitled “Fauna of Neora Valley National Park, West Bengal”. Collected moths were processed as per standard techniques in lepidopterology (Holloway *et al.*, 2001) and are deposited in National Zoological Collections, Zoological Survey of India, Kolkata.

Genus *Hemiglaea* Sugi, 1980

1980. *Hemiglaea* Sugi; *Tyô to Ga*, 30(3,4): 200

Type species: Penicillaria costalis Butler 1879

Taxonomic notes: Genus *Hemiglaea* was erected by Sugi (1980) for placement of *Penicillaria costalis* Butler, 1879 (type species) from Japan. The genus is characterized by the ciliate antennae in males, palpi moderate, with third segment short; In male genitalia, uncus relatively small, bluntly pointed; juxta large, wider at base and restricted at middle; valvae narrow, cucullus degenerated without corona, harpe as slender arm & smoothly curved, sacculus produced dorso-apically; aedeagus moderate without cornutus. The genus has currently nine species worldwide with a single species (*Hemiglaea costigera* Hreblay & Ronkay, 1998 (Shashank & Benedek, 2020)) distributed in India. *Hemiglaea mirabilis* Hreblay & Ronkay, 1998 is another species recorded here for the first time from India.

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Hemiglaea mirabilis Hreblay & Ronkay, 1998 (Figure 1-3)

1998. *Hemiglaea mirabilis* Hreblay & Ronkay. *Tinea*, 15(suppl. 1): 219.

Type locality: Nepal, Ganesh Himal, near Godlang

Material examined: India: West Bengal, Darjeeling, 1.5 km away from Gairibas towards Kaiyakata, 01.iii.2021 (4♂) (N 27.050, E 88.021 and Alt. 2675 M), M.S. Pandher

leg; India, West Bengal, Darjeeling, 1 Km North side of Gairibas, 28.ii.2021 (2♀) (N 27.052 E 88.031 and Alt. 2600 m), M.S. Pandher *leg.*

Diagnostics feature: Wingspan 32 mm (Figure 1). The head, thorax and forewing are dark chocolate colour, outer margin of the forewing is crenulate with light brown from base to subterminal, forming a triangle with a dark spot. Hindwings are uniformly brown. In male genitalia (Figures 2, 3), uncus short, valvae flap-like with long

Plate 1



Figures (1-3). *Hemiglaea mirabilis* Hreblay & Ronkay, 1998, 1. Adult, 2. Male genitalia, 3. Aedeagus. 4-6. *Agrochola magarorum* Benedek, Babics & Saldaitis, 2013, 4. Adult, 5. Male genitalia, 6. Aedeagus.

harpae, saccus triangular shape, aedeagus elongate, vesica without cornutus.

Distribution: India: West Bengal, Darjeeling (present study); Nepal (Hrebly & Ronkay, 1998).

Genus *Agrochola* Hübner, [1821]

1821. *Agrochola* Hübner. *Verz. bek. Schmett.*, (15): 229.

Type species: *Noctua pistacina* Denis & Schiffermüller, 1775

Taxonomic notes: Genus *Agrochola* was erected by Hübner (1821) for its type species *Noctua pistacina* Denis & Schiffermüller, 1775 from Vienna. The genus is characterized by the elongate, triangular and pointed or acute forewing and peculiar shape of valvae, harpe and vesica (Ronkay, *et al.*, 2001). The genus is distributed in the Nearctic, Palaerctic and Oriental regions with almost 79 species worldwide (Ronkay & Ronkay, 2001; Ronkay & Gyulai, 2010; Ronkay & Gyulai, 2006b; Kravchenko *et al.*, 2007; Lafontaine & Schmidt, 2010; Benedek, *et al.*, 2013), and three species (*Agrochola approximata* (Hampson, 1906), *Agrochola naumanni* Hacker & Ronkay, 1990 and *Agrochola flavirena* (Moore, 1881)) known from India. *Agrochola magarorum* Benedek, Babics & Saldaitis, 2013 is recorded for the first time from India.

Agrochola magarorum Benedek, Babics & Saldaitis, 2013 (Figures 4-6)

2013. *Agrochola magarorum* Benedek, Babics & Saldaitis; *Esperiana*, 18: 7.

Type locality: W. Nepal, Bheri, Dailekh area, 2380m

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Material examined: India: West Bengal, Darjeeling, 1.5 km away from Gairibas towards Kaiyakata, 01.iii.2021 (1♂) (N 27.050, E 88.021 and Alt. 2675 M), M.S. Pandher leg.

Diagnostics feature: Wing span 42 mm (Figure 4). The head and thorax are blackish brown, the ground colour of the forewing is brown, the subterminal fascia contains a black spot along the line, reniform and orbicular stigma present. Hindwing ground colour is uniformly light brown with a reddish terminal margin. In male genitalia (Figure 5, 6), the uncus is long and curved; the juxta is large, teeth-like; the saccus V shape; the sacculus is strong and asymmetrical, left valva is short while the right valva forms a sward-like process, on the right valva, harpae armed with strong two horn-like processes; Valvae elongate, right one is somewhat broad than left valvae; Cucullus with acute apex, aedeagus straight, vesica without cornutus.

Distribution: India: West Bengal, Darjeeling (present study); Nepal (Benedek *et al.*, 2013).

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