

Notes on the genus *Himalistra* HACKER & RONKAY, 1993 (Lepidoptera, Noctuidae) with descriptions of three new species from China

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Abstract. Descriptions of three new *Himalistra* species from China Sichuan Province are given, together with a description and illustration of the female genitalia of the little-known species *Himalistra flavoguttata* HREBLAY & RONKAY, 1999. Further faunistic information and the checklist of the genus are given.

Key words

Himalistra, new species, China, Nepal, taxonomy.

Introduction

Himalistra is an exclusively Palaearctic noctuid Genus which is confined to the higher regions of the Central and Southern Asian mountain systems. Species of *Himalistra* occur from North Eastern Turkey throughout the Tien Shan and the Himalaya mountains to the island of Taiwan. The species are found usually above the timberline, their flight period starts in late autumn and the adults are active again in early spring after hibernation. Following descriptions of *Dimya sinuata* MOORE, 1882, *Orrhodia eriophora* PÜNGELER, 1901, *Ufeus carnea* HAMPSON, 1907, *Conistra eriophora perspicua* PÜNGELER, 1925, *Rhyacia homichlodes* BOURSIN, 1954 and *Eupsilia delicata* RONKAY, VARGA & BEHOUNEK, 1991 the genus was defined and clarified by HACKER & RONKAY in 1993. The characteristics of this new genus became more apparent after the study and examination of some noctuid material collected on the expedition to the Himalayas of North Western India by HACKER in 1990. Subsequently, more extensive exploration of the autumnal and late autumnal noctuid fauna of the high mountains of Pakistan, Nepal, Vietnam and Taiwan, made mostly by Hungarian entomologists, resulted in the description of several more *Himalistra* species by HREBLAY, PLANTE and RONKAY (1994, 1995, 1997 and 1999). These explorations greatly extended the knowledge of the genus, and showed that the majority of the species occurred in the main chains of the Himalaya. This research is complimented now with the results of expeditions to Nepal and China made by the authors in late seasons.

Material and methods

The moths were collected at night using ultraviolet lights and sugar ropes. Numerous genitalia dissections following the technique of Lafontaine (2004) were mounted in euparal on slides. The abdominal integuments were cut lengthwise, descaled, and also mounted on slides. A Wild M3Z microscope and Canon EOS 350D camera were used to prepare images. Nomenclature used in this study relies upon taxonomic authorities and relevant literature (BÁLINT & KATONA, 2013; BOURSIN, 1954; HACKER, 1993; HACKER & PEKS, 1996; HACKER & RONKAY, 1996; HACKER & WEIGERT, 1990; HREBLAY, PLANTE & RONKAY, 1994, 1995; HREBLAY, PEREGOVITS & RONKAY, 1999; HREBLAY & RONKAY, 1995, 1997, 1998, 1999; LEHMANN & BERGMANN, 2005; RONKAY, VARGA & BEHOUNEK, 1991; SMITH, 2002).

Abbreviations of depositories

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HSV – Helmut SEIBALD (Vienna, Austria)
NRCV – Nature Research Centre (Vilnius, Lithuania);
PGM – Peter GYULAI (Miskolc, Hungary).

Systematic part

Check list of *Himalistra*

species-group: *eriophora*

eriophora (PÜNGELER, 1901)

subspec. *perspicua* (PÜNGELER, 1925)

nekrasovi HACKER & RONKAY, 1993

tahircicola RONKAY & HREBLAY, 1994

caesia HREBLAY & PLANTE, 1994

nivea HREBLAY & PLANTE, 1994

delicata (RONKAY, VARGA & BEHOUNEK, 1991)

species-group: *fusca*

fusca HACKER & RONKAY, 1993

subspec. *fumata* HREBLAY & PLANTE, 1994

variabilis HREBLAY & PLANTE, 1994

arcessita HACKER & RONKAY, 1993

species-group: *carnea*

carnea (HAMPSON, 1907)

extera HACKER & RONKAY, 1993

obscura HREBLAY & PLANTE, 1995

hackeri HREBLAY & RONKAY, 1995

grassorata **spec. nov.**

jeleni HREBLAY, PEREGOVITS & RONKAY, 1999

dimorpha HREBLAY & RONKAY, 1995

simillima HREBLAY & RONKAY, 1995

ludinga **spec. nov.**

implicata HREBLAY & RONKAY, 1998

species-group: *aristata*

propria (HACKER & PEKS, 1993)

homichlodes (BOURSIN, 1954)

manfredi **spec. nov.**

aristata HREBLAY & RONKAY, 1995

sinuata (MOORE, 1882)

rubida PLANTE & RONKAY, 1995

species-group: *soluta*

soluta HREBLAY & RONKAY, 1997

species-group: *flavoguttata*

flavoguttata HREBLAY & RONKAY, 1999

Himalistra hackeri HREBLAY, PLANTE & RONKAY, 1995

(Plate 1, figs 1 - 3; gen. fig. 1)

Material examined: 2 ♀♀, China, W. Sichuan, Kangding, near Zheduo Pass, N30°17.022', E101°50.256', 13.iv.2010, h-3230 m, leg. A. SALDAITIS; 1 ♀, China, W. Sichuan, road Menghugang/Kangding, N29°49.955', E102°02.827', 12.iv.2010, h-3000 m, leg. A. SALDAITIS; 2 ♂♂, China, Sichuan, near Moxi, N29°46.214', E102°03.433', 05.xii.2011, h-2400 m, leg. CHEN GUN; 1 ♂, China, Xiling Xue Shan, near Dayi, N30°40.087', E103°13.251', 06.xii.2011, h-1200 m, leg. CHEN GUN; 6 ♀♀, China, NW Yunnan, Baima Xue Shan, near Yak La pass, N28°24.900', E98°59.800', 21-22.v.2012, 3900 m, leg. FLORIANI; 6 ♂♂, 1 ♀, China, NW Yunnan, road from Zhongdian to Degin, Baima Xue Shan, N28°24.900', E98°59.800', 19.x.2011, 3900 m, leg. FLORIANI, slide Nos JB1770♂, JB1773♂, JB2025♀, PGy2419♀ (colls AFM and NRCV).

Additional material: series of ♂♂ and ♀♀, Nepal, Gandaki, Lamjung Himal, 2 km NW of Thokyo, 3500 m, 17. xi. 2011 and near Lamjung Base Camp, 4000 m, 18. XI. 2011, leg. Balázs BENEDEK, (coll. BBT).

Bionomics and distribution. Both sexes were collected at ultraviolet light in December, and overwintering females in April-May in southwest Sichuan and northwest Yunnan Provinces of China on the east edge of the Tibetan plateau at altitudes ranging from 2400 to 3700 m. *H. hackeri* was collected in mountain mixed forests dominated by various conifer trees, bushes and rhododendron, and also encountered in the shrubby transition between the mountain primary mixed forest and the alpine grassland zones.

Remarks: The Chinese specimens are on average larger than those from Nepal.

Himalistra grassorata spec. nov.

(Plate 1, fig. 4; gen. fig. 2)

Holotype: ♂, China, Sichuan, Erlang Shan Mt., road Ya'an-Kangding, N29°03.798', E102°19.744', 04.xii.2011, h-2200 m, leg. CHEN GUN, slide No. JB1771♂, (coll. GBG/ZSM).

Diagnosis. The new species (Plate 1, fig. 4) is very similar to *H. hackeri* (Plate 1, figs 1 - 3), but differs in the more unicolorous, less distinct forewing pattern with darker medial field and somewhat darker hindwings. The male genitalia (gen. fig. 2) differ from those of *H. hackeri* (gen. fig. 1) in the longer uncus, larger, wider juxta, more elongated valvae with smaller apical plates and also in the configuration of the clasper. The vesica of the new species is broader with broader subbasal diverticulum.

Description. Wingspan 37 mm, length of forewings 17 mm. Antennae of males shortly bipectinated with very fine ciliation, front of collar light clay-brown with double, darker brownish striping, thorax chocolate-brown. Ground colour of forewings light clay-brown, with fine black scaling along veins, medial field dark brownish, pattern very fine, less distinct, reniform stigma diffuse, black with fine yellowish rim and black shadow on both sides; orbicular stigma more remarkable, flattened, light clay-coloured, costal margin decorated with sharp, black streaks; antemedial line wide, double, strongly sinuous, postmedial line diffuse, very pale, sub-terminal line lighter, yellowish-brown with smooth discursive brownish proximal shadow, terminal field black, cilia concolorous, chequered with black patches. Hindwings greyish-brown, discal spot pale, cilia tinted with a fine pinkish gloss.

Male genitalia (gen. fig. 2). Uncus medium long, broad, apically strongly tapered, subapical hairs extending nearly the length of both sides, tegumen high positioned, broad, penicular arms large, well developed, juxta large, triangular with large, semicircularly curved and sclerotized apical arms, vinculum broad, V-shaped, valvae medium broad, cucullus rounded, clasper large, moderately sclerotized, two-armed and basin-shaped, costal plate strong, blade-shaped and apically pointed. Aedeagus short, broad, carina and dorsal side of vesica densely covered with fine spiculi, vesica dorsally everted, subbasal diverticulum large, conical, armed with a small terminal cornutus.

Female unknown at present.

Bionomics and distribution. The new species is known from the Erlang Shan Mountains at the eastern edge of the Tibetan plateau in Sichuan Province of China. One male was attracted by light on 4 December at altitude ca. 2200 m. It was collected in virgin mixed forest habitat dominated by various broad-leaved trees including oaks (*Quercus dentata*, *Q. glauca*), poplars (*Populus cathayana*, *P. simonii*), elm (*Ulmus parvifolia*), rhododendrons (*Rhododendron brachycarpum*, *R. dauricum*), and bamboos (*Phyllostachys* ssp., *Borinda* ssp., *Fargesia* spp.).