





A new remarkable species of the genus *Hyperlais* Marion, 1959 (Lepidoptera: Crambidae) from Kyrgyzstan

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Abstract

A new species, *Hyperlais orodruinella* sp. n., is described. Its type locality is “Kyrgyzstan, Fergansky Mts., Razan Say Valley, Sary-Bel stream, 41°25'16.74"N, 72°18'59.19"E, 892 m”. This new species differs from all other species of the genus by its patternless wings, by its very dark ground colour and by its male genitalia features, especially aedoeagus cornuti (it has three groups of cornuti instead of two groups in other species).

Key words: snout moths, Central Asia, new species description.

Introduction

Hyperlais Marion, 1959 is a genus in Crambidae (Glaphyriinae) with type species *Hyperlais siccalis* Guenée, 1854. The genus was first erected as *Hypolais* Guenée, 1854 with two species included: *H. siccalis* Guenée, 1854 and *H. nemausalis* (Duponchel, [1834]) and with no type species fixation. As *Hypolais* was preoccupied by Kaup in 1829 (a genus of birds; incorrect subsequent spelling of *Hippolais* von Balenstein, 1827), it was replaced by *Hyperlais* (Marion, 1959). Representatives of this genus are characterized by a light ground colour of the wings (grey or light-brown) with some forewing pattern represented with belts and spots; male genitalia armatures have very characteristic folded valvae with a tuft of dark hairs at the apex of the fold and long-oval thick gnathos.

A remarkable new species of this genus, characterized by dark wings without any pattern was collected in the spring of 2023 during the research expedition in Kyrgyzstan and is described herein.

Taxonomic part

Hyperlais orodruinella Korb, Gorbunov et Melyakh, sp. n.

Material. Holotype: male, 14-15.04.2023, Kyrgyzstan, Fergansky Mts., Razan Say Valley, Sary-Bel stream, 41°25'16.74"N, 72°18'59.19"E, 892 m, leg. S.K. Korb, P.Yu. Gorbunov and S.F. Melyakh. Paratypes: 14 males, 2 females, 14-15.04.2023, same locality, leg. S.K. Korb, P.Yu. Gorbunov and S.F. Melyakh; 2 males, 1 female, 9.04.2023, 3 km E of Tash-Komyr, Sary-Kamush-Sai, 41°19'59"N, 72°14'40"E, 695 m a.s.l., leg. S.K. Korb, P.Yu. Gorbunov and S.F. Melyakh; 1 male, 19-20.04.2023, Suusamyrtoo Mts. Range, Torkent env., Borluu-Kyya River mouth, 41°52'33"N, 73°13'51"E, 1080 m a.s.l.; 3 males, 21-22.04.2023, Kyrgyzstan, Fergansky Mts., 15 km NE Kazarman, Naryn river, left bank, 41°30'46.55"N, 73°55'36.91"E, 1223 m, leg. S.K. Korb, P.Yu. Gorbunov and S.F. Melyakh. Holotype and part of paratypes are deposited in the collection of the Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia), other paratypes, in the private collections of the authors.

Description. *Male* (figs 1, 3). Forewing length 7–10 mm (9 mm in holotype). Head, antennae, labial palpi, legs and abdomen dark-brown. Thorax yellow above, dark-brown below. Wings dark-brown, with no pattern. Basal part of wings with yellow suffusion. Antennae flattened, about 5 mm long, composed of 47 triangle segments (antennae look like a saw). The segments are asymmetrical, with a brush of thin short hairs on the under surface; they are of the same form as those in the males of *Hyperlais dulcinalis* (Treitschke, 1835). Legs thin, characteristic of *Hyperlais* structure and proportions. Forelegs (femur, 2 mm; tibia, 0.9 mm; tarsus, 3.1 mm) without tibial spines. Middle legs (femur, 2.2 mm; tibia, 2 mm; tarsus 2.8 mm) with one pair of tibial spines. Hindlegs (femur, 2 mm; tibia, 2.5 mm; tarsus, 2.6 mm) with two pairs of tibial spines. *Female* (figs 2, 4). In general looks very similar to the male, can be distinguished only by antennae structure. Antennae cylindrical, with no protrusions or triangle points, covered by rarely suffused light scales.

Male genitalia. (Figs 5–9). Tegumen shorter than uncus. Uncus with pointed apex. Gnathos same length as uncus, long-oval, massive. Vinculum thin, cylindrical. Saccus triangle. Valva long (0.95 mm), trapezoidal, with folded ventral part; apex of this fold with tuft of dark hairs. Juxta short, bilobed. Phallus long (1.35 mm, longer than valva), cylindrical, with multiple small teeth on its apex (fig. 9). Everted vesica straight, about the same length as the phallus, having 7 spikes in three cornuti (fig. 7): the first cornutus (A) consists of two spikes and located in dorsal side near the vesica basis, the second cornutus (B) consists of four spikes located in ventral side near the vesica basis; the third cornutus (C) consisting of a single longest and thinnest spike, located in the middle part of vesica.

Female genitalia (fig. 10). Relatively small, the whole length is 2.5 mm. Papillae analis flat, C-shaped, short. The posterior apophyses are 10–15% shorter than anterior ones, straight and thin. Antrum cylindrical, sclerotized; ostium sclerotization is weak. Ductus bursae short, expanded to the bursa copulatrix, pear-shaped, with rounded sclerotization part next to antrum. Bursa copulatrix rounded, with no sclerotization or signae.

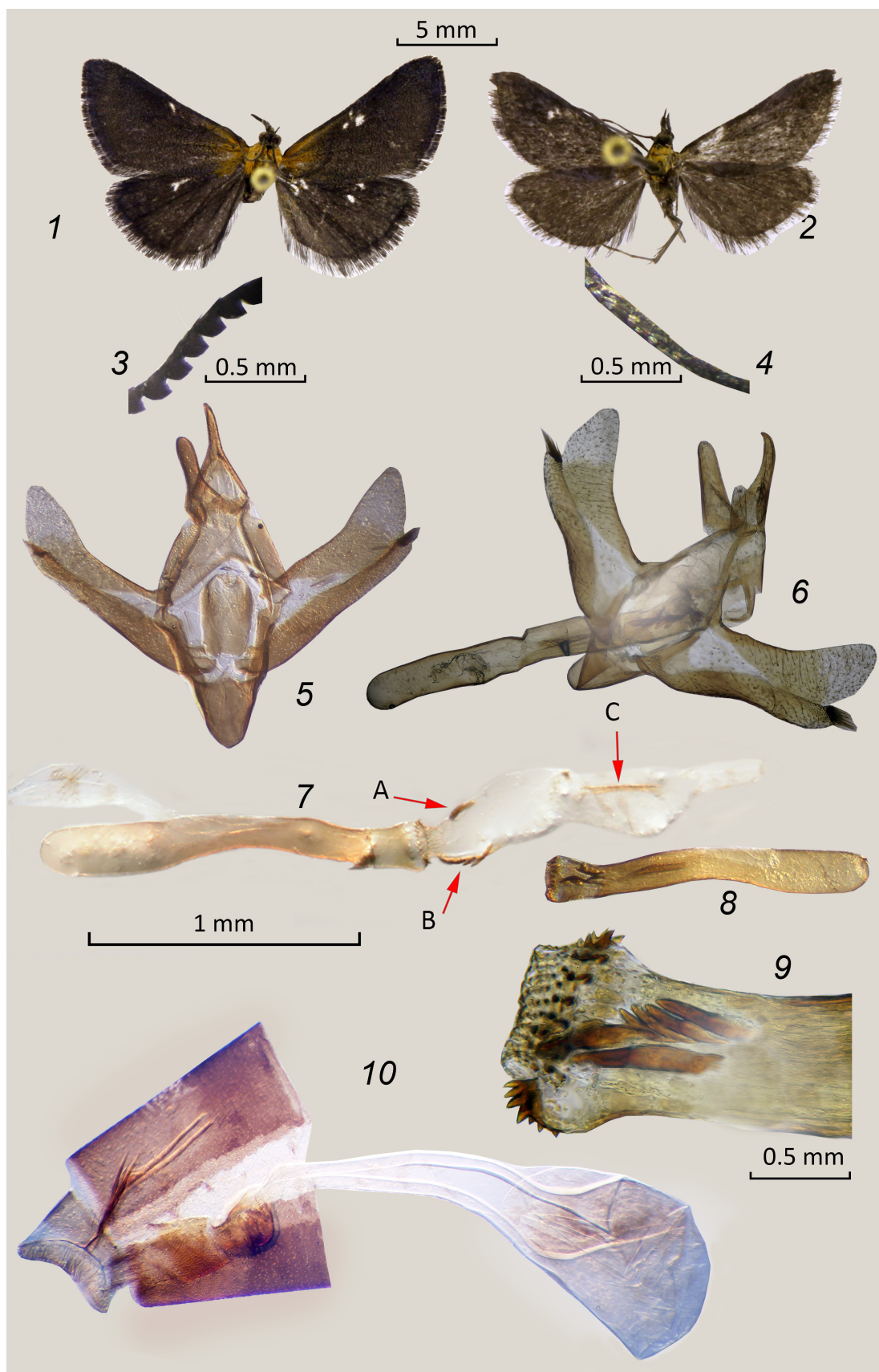
Diagnosis. This new species differs from all other *Hyperlais* first of all by its remarkable dark wings with no pattern; in all other species of this genus the wings always have some pattern (belts and spots) and are much lighter, grey or light-brown. The male genitalia of *H. orodruinella* sp. n. is characteristic for this genus and can be distinguished by the cornuti on the aedeagus: In other species of *Hyperlais* these cornuti have a different location and number, they are two groups of spikes (the first located in the middle part of aedeagus, and the second near the apex) instead of three groups of spikes in the new species. Female genitalia differ from those of other species of this genus by a ductus bursae with rounded sclerotization part next to antrum which is not present in other species.

Biology. The species was most abundant in the valley of the Sary-Bel River (at the altitude of 890 m a.s.l.) with a rather rich tree and shrub vegetation (*Salix wilhelmsiana*, *Crataegus knorringiana*, *Acer platanoides*, *A. semenovii*, *Celtis caucasica*, *Prunus mahaleb*, *Fraxinus sogdiana*, *Berberis integerrima*, *Lonicera korolkovii*). The traps were set up on the grassy area of the first floodplain terrace of the river from the south, which was adjoined by a slope of northern orientation with an abundance of shrubs (*Spiraea hypericifolia*, *Prunus prostrata*, *Rosa ecae*, *Atraphaxis* sp., *Pistacia vera*, etc.) (Fig. 11).

In the Naryn valley (fig. 12) the new species was collected at an altitude of 1220 m on the border of the floodplain and a slope of the eastern orientation with trees of *Populus talassica* with an undergrowth of *Berberis nummularia* and *Crataegus* sp. The river floodplain in this area has a width of about 160 m, about half of which is occupied by the river. In the dry part of the floodplain there are sandy pebbles covered with willow undergrowth (*Salix* sp.), and also with *Pseudosaphora alopecuroides*, *Glycyrrhiza shiheziensis*, *Xanthium strumarium*, and *Artemisia* sp. in summer and autumn. The slope in its lower part is treeless, covered with dense or sparse (rocks and scree) shrubs from *Spiraea hypericifolia*, *Rosa* sp., *Prunus prostrata*, *Ephedra* sp., *Krascheninnikovia ceratoides* and *Artemisia* sp.

The new species was found also in the dry mountainous semidesert near Tash-Kumyr at the altitude of about 700 m with sparse tree and shrub vegetation (*Populus pruinosa*, *Crataegus songarica*, *Tamarix* sp., *Zygophyllum atriplicoides*, *Keyserlingia griffithii*, *Atraphaxis* sp., *Myricaria bracteata*) in the stream valley and in the steep clay slopes.

The moths were attracted to the light between 22:00 and 02:00. When sitting, the moths take a pose characteristic of the subfamily (Figs 13, 14). The flight time of this monovoltine species falls on the spring period (April). At the same time with *Hyperlais orodruinella* sp. n. in the valley of the Sary-Bel River, the following species flew into the light (and were numerous): *Streblote primigenum* Staudinger, 1887 (Lasiocampidae), *Hyles centralasiae* (Staudinger, 1887) (Sphingidae), *Ligdia coctata* Guenée, 1858, *Ochodontia adustaria* (Fischer de Waldheim, 1840), *Scopula beckeraria* (Lederer, 1853), *Gnopharmia cocandaria* (Erschoff, 1874), *Menophra praestantaria* (Püngeler,



FIGURES 1–10. *Hyperlais orodruinella* sp. n. 1 – holotype, male, upperside. 2 – paratype, female, upperside. 3 – paratype, medium part of male antenna. 4 – paratype, medium part of female antenna. 5 – holotype, male genitalia, dorsal view, aedeagus removed. 6 – paratype, male genitalia, dorsal view. 7 – paratype, aedeagus with everted vesica. 8 – holotype, aedeagus. 9 – holotype, aedeagus apex (cornuti). 10 – paratype, female genitalia. Scale bar (for only imago): 1 mm.



FIGURES 11–14. *Hyperlais orodruinella* sp. n., habitats (11: type locality, 12: 15 km NE Kazarman, Naryn River valley) and alive moths: in nature (13) and near the trap (14).



FIGURE 15. *Hyperlais orodruinella* sp. n., distribution. The vertical hatching is the estimated range of the species, black circles with white centers represent current records.

1902), etc. (Geometridae); *Drasteria sesquilina* (Staudinger, 1888), *D. saisani* (Staudinger, 1882), *Zethes pistazina* Weisert, 2000, etc. (Erebidae), *Egira servadeii* Berio, 1981, *Orthosia picata* Bang-Haas, 1912, *Sartha mirabilis* (Staudinger, 1888), *Bryophilopsis roederi* (Standfuss, 1891), *Auchmis peterseni* (Christoph, 1887), etc. (Noctuidae). Such a late discovery and description of *Hyperlais orodruinella* sp. n., a very remarkable species, is clearly due to the fact that the central regions of Kyrgyzstan are very rarely visited by collectors.

Distribution (fig. 15). *H. orodruinella* sp. n. found in the river valleys in foothills of the mountain ranges Fergansky, Suusamyrtoo and Moldo-Too in the Naryn River basin. It is probably more widely distributed in the semidesert habitats at low altitudes near the Naryn River.

Etymology. We name the new species after Mount Orodruin. In J.R.R. Tolkien's *The Lord of the Rings*, the One Ring was forged on Mount Orodruin by the Dark Lord Sauron. The name shows the characteristic feature of the moth: black triangular wings with a yellow suffusion in the basal part, resembling a dark volcano with an erupting top.

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