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Article

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New species of *Catopta* Staudinger, 1899 (Lepidoptera: Cossidae) from Kyrgyzstan

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Abstract

The article provides the description of a new species *Catopta nupponeni* sp. n. – a new representative of the autumn fauna in Central Asia (Lepidoptera: Cossidae). It differs from the closely related *C. rocharva* Sheljuzhko, 1943 by the following features: more light-colored fore wing, relatively narrow uncus, more expressed semicircular process on the costal side of the valvae, the poorly curved anal side of the valvae (in *C. rocharva*, this side is strongly crescent-curved), the abdominal surface of the phallus covered with tiny warty growths. The article is illustrated with the figures of the adult specimens and male genitalia of *C. nupponeni* sp. n. and similar *C. rocharva* Sheljuzhko, 1943 and a distribution map.

Key words carpenter-moths, fauna, biodiversity, Central Asia, Tian-Shan.

Introduction

The genus *Catopta* Staudinger, 1899 was established for *Catopta albimacula* Staudinger, 1899 (by original designation). The genus comprises 20 valid species widely distributed in the Palaearctic (from southern Yakutia to the Himalayas), one more species (*Catopta tropicalis* Yakovlev & Witt, 2009) is distributed in northern Vietnam (Daniel 1961; Yakovlev 2011; Yakovlev *et al.* 2013; Yakovlev & Saldaitis 2023). This genus is the type genus for the subfamily Catoptinae Yakovlev, 2009 (Yakovlev 2009).

During the expedition of the second and third authors to the Republic of Kyrgyzstan have been collected a small series of *Catopta* new to science – its description is given below.

Material and Methods

The genitalia were dissected and stained with Eosin red and mounted in Euparal on microscope slides, applying standard preparation methods (Lafontaine & Mikkola 1987). The adults were photographed using a Nikon D700 camera with a Nikkor AF-S Micro 105 mm lens. The genitalia preparations were photographed using an Olympus DP74 camera attached to an Olympus SZX16 stereomicroscope at Altai State University (Barnaul, Russia). Topographical map of the Central Asia is freely accessible under the Creative Commons Attribution 4.0 International license at <https://www.bluegreenatlas.com> and is not copyrighted.

Materials are deposited in:

MWM Museum Witt (Munche);
SKB Stanislav Korb research collection (Bishkek);
RYB Roman Yakovlev research collection (Barnaul);
ZISP Zoological Institute (St.-Petersburg).

Taxonomical part

Order Lepidoptera Linnaeus, 1758

Suborder Glossata Latreille, 1802

Superfamily Cossoidea Leach, [1815]

Family Cossidae Leach, [1815]

Subfamily Catoptinae Yakovlev, 2009

Genus *Catopta* Staudinger, 1899

***Catopta nupponeni* sp. n.**

<https://www.zoobank.org/urn:lsid:zoobank.org:act:1197AE2B-6C33-4D0D-8DE8-71BD5F521088>

Figs 1, 3, 5

Material. Holotype, male, Kyrgyzstan, Fergansky Mts. Range, 12 km NE Tash-Komyr, Sary-Bel' River, 41°25'16" N 72°18'59" E, 892 m, 20.ix.2024, leg. P. Gorbunov, S. Korb (ZISP). Paratypes: 4 males, same data and localities (RYB & SKB).

Description. Male. Length of forewing 16–17 mm (holotype – 17 mm). Antenna short, yellowish, 2 times shorter than forewing, bipectinate, rami 2.5 times longer than flagellum in diameter. Fore wing light-yellow, with series of brown strokes along costal margin, with dense black reticulated pattern, more expressed discally and postdiscally, discal spot ochreous, poorly expressed, fringe light-brown. Hind wing light-yellow with very dense suffusion of brown scales, border very thin, ochreous, fringe light-brown.

Male genitalia. Uncus relatively wide, tapered; gnathos arms thin, long; gnathos small, pyramidal, densely covered with tiny thorns; valvae relatively long with small semicircular process on costal side (in medium third), apex semicircular, anal side poorly curved; juxta saddle-like with two leaf-like lateral processes, saccus tapered, of medium size; phallus thick, almost straight, approximately equal to valvae in length, abdominal surface of phallus covered with small wart-like growths, vesica aperture in dorso-apical position, about 1/4 of phallus in length, vesica with nine small spiky cornuti.

Female unknown.

Diagnosis. The new species is mostly close to West-Pamir species *C. rocharva* Sheljuzhko, 1943 (type locality: Rocharv, Pjandzh-Tal (Ruschan) [Rushan, Tadjikistan]) from which it differs in a series of characters:

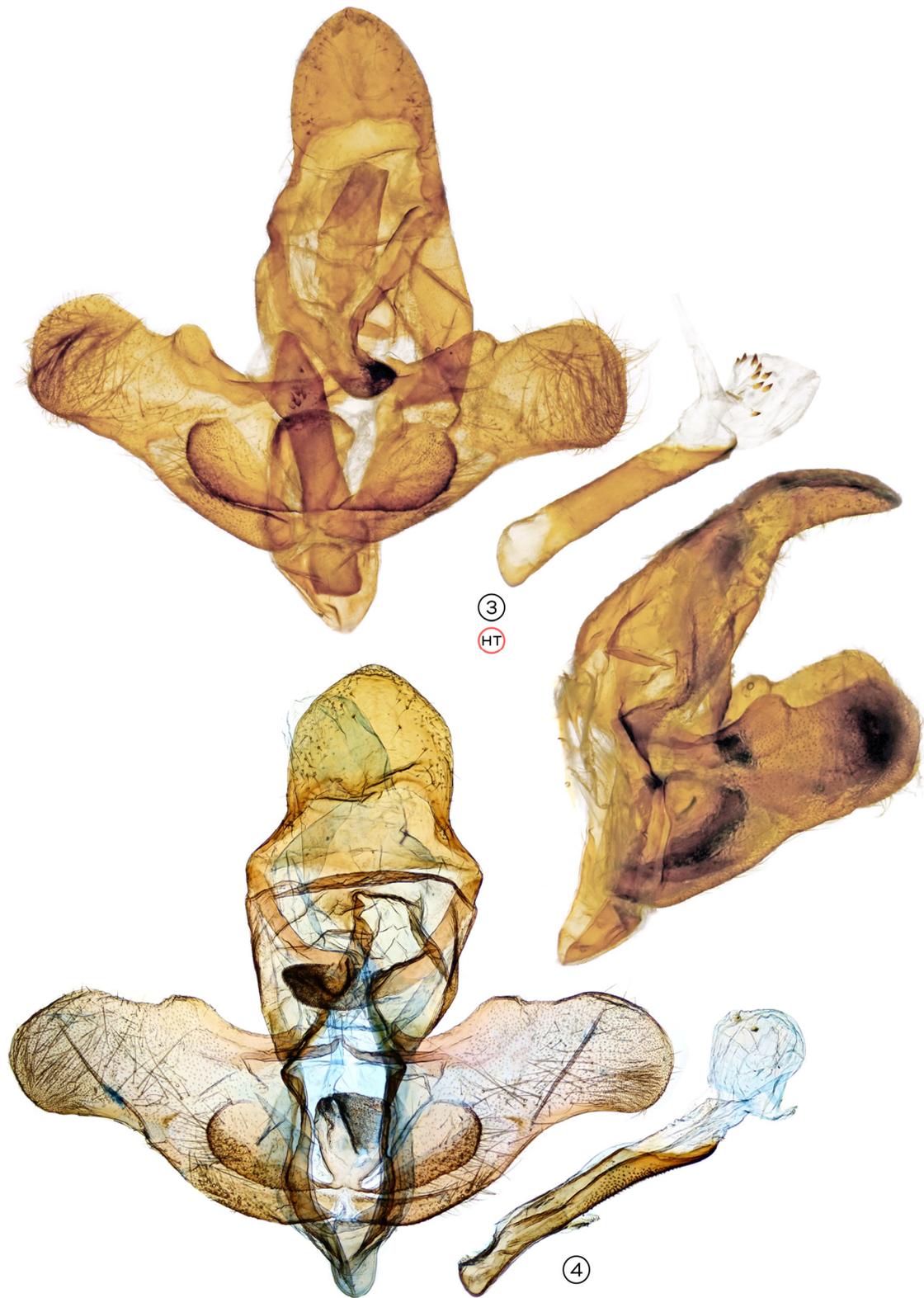
- more light-colored fore wing,

- relatively narrow uncus,
- more expressed semicircular process on the costal side of the valvae,
- the poorly curved anal side of the valvae (in *C. rocharva*, this side is strongly crescent-curved),
- the abdominal surface of the phallus covered with tiny warty growths (in *C. rocharva*, the abdominal side and the lateral surfaces of the phallus are densely covered with tiny teeth and warty growths).



Figures 1–2. *Catopta*, adult males: 1. *C. nupponeni* sp. n., Holotype (ZISP); 2. *C. rocharva*, Tajikistan, Karategin Mts., Sangikar, 1700 m, 16.vii.–8.viii.1969, leg. Yu.L. Stchetkin (MWM).

Habitat and biology. The imagos were collected at night, on UV light traps, on the floodplain terrace of the Sarybel River, next to the northern slope. The river valley has rich tree and shrub vegetation of *Acer platanoides turkestanicum*, *Crataegus turkestanica*, *Fraxinus sogdiana*, *Prunus sogdiana*, *Morus alba*, *Rosa maracandica*, *Berberis nummularia*, *Berberis integerrima*, *Lonicera korolkowii*, *Spiraea lasiocarpa*, etc. The adjoining rocky slope of the northern exposure is covered with rather dense thickets of *Celtis caucasica*, *Pistacea vera*, *Juglans regia*, *Rosa ecae*, *Atraphaxis virgata*, *Spiraea hypericifolia*, *Ephedra* sp., etc.



Figures 3–4. *Catopta*, male genitalia: 3. *C. nupponeni* sp. n., Holotype (ZISP); 4. *C. rocharva*, S. Tajikistan, Darvaz Mts., down of Khoburabod Pass, 1900 m, 19–29.viii.2006, leg. V. Gurko (slide MWM: 34.659).



Figure 5. Habitat of *Catopta nupponeni* sp. n. (October 2023, photo by P. Gorbunov).

Distribution. Kyrgyzstan, Fergansky mts. Range.

Etymology. The new species is named after our past friend and colleague Kari Nupponen (1962–2022), well-known Finnish entomologist and expert in some groups of Microlepidoptera, explored and described a family Ustyurtiidae in 2022.



Figure 6. Map of distribution of *Catopta nupponeni* sp. n. and *C. rocharva*.

Discussion. The new species is a representative of a relatively poorly studied complex of autumnal Lepidoptera of Central Asian fauna, which includes a significant number of unique species that are very rare in collections, such as: *Cossulus irtlachi* Yakovlev & Witt, 2017, *C. nasreddin* Yakovlev, 2006 (Cossidae), *Phantosoma witti* Zolotuhin et Kostjuk, 2000, *Zolotuhia paradoxa* Beljaev, P. Gorbunov, S. Korb, 2025 (Lasiocampidae), *Eugnorisma mikkolai* Varga, Ronkay, Ronkay & Gyulai, 2015, *Euxoa bogdanovi* (Erschoff, 1874), *Catasema vulpina* (Staudinger, 1888), *Metopodicha antherici* (Christoph, 1884), *Dryobotodes contermina* (Graeser, 1892), *Bryomixis lichenosa* Ronkay & Varga, 1990, *Polymixis colluta* (Draudt, 1934), *P. trisignata* (Ménétrières, 1849), *Dichagyris amoena* (Staudinger, 1892), *D. singularis* (Staudinger, 1877), etc. (Noctuidae) (Zolotuhin & Kostjuk 2000; Yakovlev & Witt 2017; Beljaev et al. 2025).

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