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Two new species of the genus *Dyspessa* Hübner, [1820] 1816 (Lepidoptera, Cossidae: Cossinae) from Darvaz Mountains (Southern Tajikistan)

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Abstract

The article describes two species new to science from southern Tajikistan: *Dyspessa igoripljushtchi* sp. nov. (type locality: Darvaz Mts., Khaburabot pass) and *Dyspessa paki* sp. nov. (type locality: Khozratishokh Range, Muminabad distr., Lijaki-Bolo vill.). We give a detailed analysis of features distinguishing them from closely related Central Asian species. The article is illustrated with 8 figures.

Key words: Biodiversity, Central Asia, Pamir, Alai, Gissar, Darvaz, carpenter-moths.

Introduction

Dyspessa Hübner, [1820] 1816 (Lepidoptera, Cossidae: Cossinae) (type species: *Phalena pantherina* Hübner, 1790, by subsequent designation by Kirby, 1892) is the largest Palaearctic genus of Carpenter Moths, including over 70 valid species. The representatives of this genus are found in southern regions of western Palaearctic and Central Asia. The biggest species diversity of the genus is demonstrated in Middle East, in arid and semi-arid regions of Central Asia (Daniel 1962, 1964; Yakovlev 2011, 2015; Alipanah et al. 2021). 15 species are distributed in mountain regions of Central Asia: *D. tristis* A. Bang-Haas, 1912 (type locality – Karagai-Tau [SE Kazakhstan?]), *D. sochivkoi* Yakovlev, 2008 (type locality – Kirgizstan, 131 km S Osh, upper stream of Kichik-Alai river), *D. rueckbeili* Yakovlev, 2007 (type locality – Asia Centr., Altyn Tagh), *D. affinis* Rothschild, 1912 (type locality – Karagaitan [Karagaitau, SE Kazakhstan?]), *D. pallida* Rothschild, 1912 (type locality – Samarkand), *D. thianshanica* Daniel, 1964 (type locality – Thianschan, Ili-Gebiet [SE Kazakhstan, Ili Valley]), *Dyspessa lacertula* (Staudinger, 1887) (type locality – Margelan), *D. nigrifluta* (Staudinger, 1887) (type locality – Transalai [S. Kyrgyzstan]), *D. albina* Rothschild, 1912 (type locality – Baldschuan (Turkestan) [Badakhshan]), *D. karatavica* Yakovlev, 2007 (type locality – Kazakhstan, Karatau Range, 10 km N. Kentau), *D. mogola* Yakovlev, 2007 (type locality – Tadjikistan, the Mogoltau Mts., Khodzhen), *D. manas* Yakovlev, 2007 (type locality – Kirghisia, Naryn River, 30 km NO

Taschkumir), *D. curta* Rothschild, 1912 (type locality – Prov. Kuliab (Afghanistan) [Tadzhikistan]), *D. saldaitisi* (type locality – Mongolia, Gobi-Altai aimak, S. of Mongolian Altai, Mogoin-Gol river), and *D. kashgarica* Yakovlev, Saldaitis & Pekarsky, 2016 (type locality – China, Xinjiang, SW from Kashi, Keng Tau Mts, Oyttag loc.) (Yakovlev 2011; Yakovlev et al. 2016). During our study of the genus *Dyspessa* specimens, collected in Central Asia, we revealed two species new to science, their description is given below.

Material and methods

Male genitalia were mounted in euparal on slides following Lafontaine and Mikkola (Lafontaine & Mikkola 1987). The adults were photographed using digital camera of iPhone 7. The genitalia preparations were photographed using an Olympus DP74 camera attached to an Olympus SZX16 stereomicroscope.

Taxonomical part

Dyspessa igoripljushtchi sp. nov.

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Figs 1–2

Material. Holotype, male, Tajikistan, Darvaz Mts., Khaburabot pass, 3100 m, 17.vii.2018, leg. I. Pljushtch (slide # AN038; Zoological Institute, Sankt-Petersburg, Russia).

Description. Male. Antenna twice shorter than fore wing, bipectinate, setae 2–2.5 longer than antenna stem in diameter (in medium third). Length of fore wing 9 mm. Fore wing grey with small light-ochre spots in discal cell and on border between veins, fringe mottled (grey at veins, light coloured between veins). Hind wing grey, without pattern, fringe grey unicolorous.

Male genitalia. Uncus triangular, apically acute; gnathos arms of medium length; gnathos poorly structured; valve lanceolate with poorly sclerotized apical tip, costal margin of valve (on border between medium and distal third) semicircular process with uneven edge; transtilla process short, triangular, basally very thick, apically blunt; juxta saddle-like, basally wide, with small lateral processes; saccus small, semicircular; phallus 1/4 shorter than valve, thick, almost straight, narrowing to apex, vesica aperture in dorso-apical position, about 1/3 of phallus in length, vesica without cornuti.

Female unknown.

Diagnosis. The new species clearly differs from all the central Asian species of the genus in the very dark colour and the thick, almost straight phallus.

Distribution. Tajikistan, Darvaz Mts.

Etymology. The new species is named after a friend and teacher of the first author of this article, the well-known entomologist Dr. Igor Pljushtch, who, with his erudition and breadth of views, instilled in me the ability for self-development.

Notes. *Dyspessa igoripljushtchi* sp. nov. is the highest mountain species of the genus.

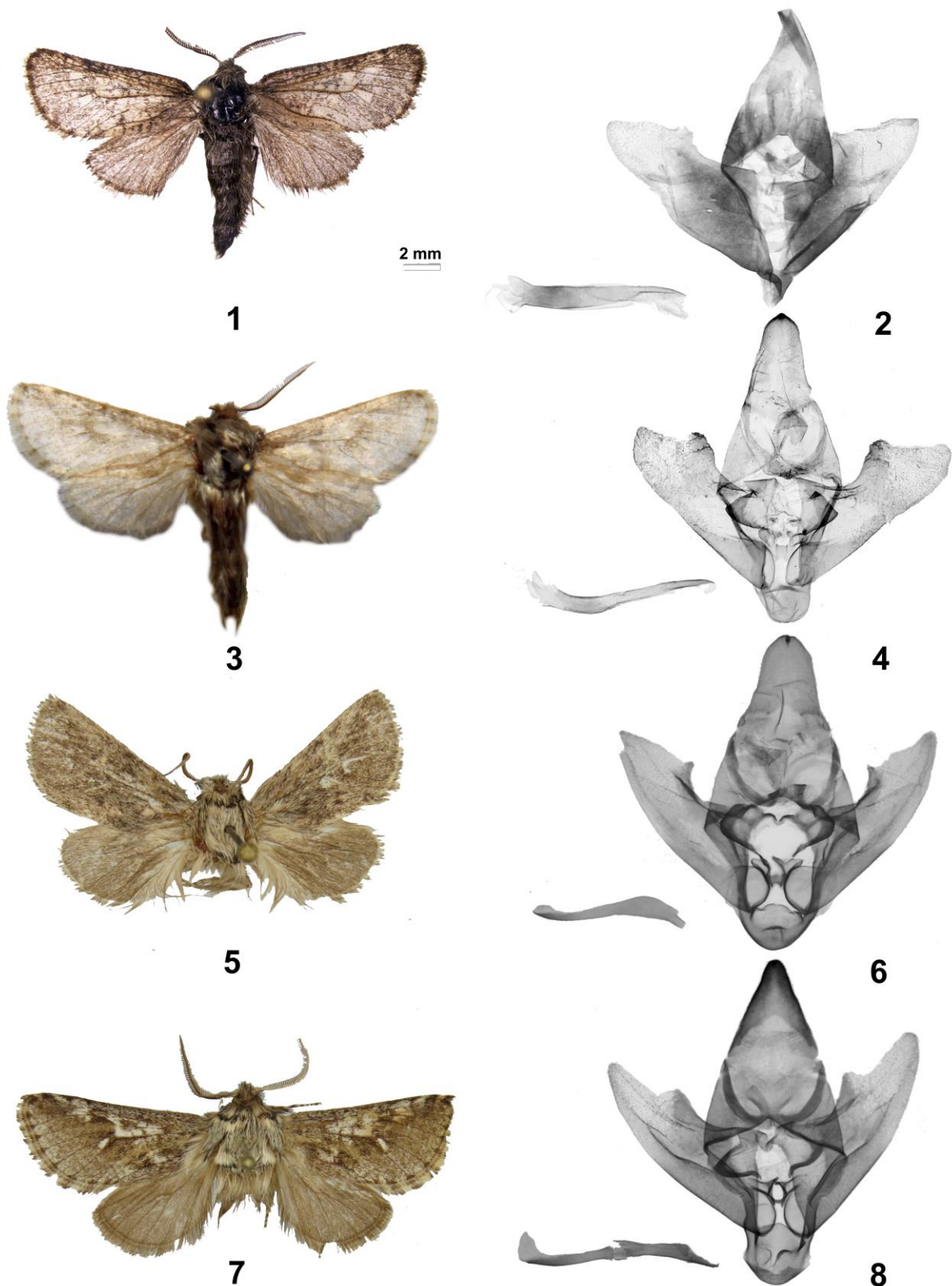
Dyspessa paki sp. nov.

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Figs 3–4

Material. Holotype, male, Tajikistan, Khozratishokh Range, Muminabad distr., Lijaki-Bolo vill., 1750 m, 38°10'N 70°06'E, 12–13.vii.2018, leg. O. Pak & E. Ivanova (slide # AN104; Zoological Institute, Sankt-Petersburg, Russia).

Description. Male. Antenna twice shorter than fore wing, bipectinate, setae 2.5–3 times longer than antenna stem in diameter (in medium third). Length of fore wing 11 mm. Fore wing light-yellow, with ochre spot at apex of discal cell, costal margin of wing with dense sputtering of ochre scales, frame thin, light-brown, with small light-brown spots at veins, fringe mottled (ochre at veins and light between veins). Hind wing ochre-yellow without pattern.



Figures 1–8. *Dyspessa*, adult males, and male genitalia: 1. *D. igoripljuschti* sp. nov., holotype; 2. *D. igoripljuschti* sp. nov., male genitalia (slide # AN038); 3. *D. paki* sp. nov., holotype; 4. *D. paki* sp. nov., male genitalia (slide # AN104); 5. *D. curta*, Tajikistan, Gissar. Kondara, 1100 m, 38°50'N 68°50'E, July 1998 (Museum Witt, Munich); 6. *D. curta*, male genitalia (slide GenitalPräparat Heterocera 28.240); 7. *D. sochivkoi*, “Kirgizien, Grenze mit Tadschikistan, Alai-Kette, Kara-Myk, 2600–3000 m, 16–17.vii.1995, leg. V. Lukhtanov” (Museum Witt, Munich); 8. *D. sochivkoi*, male genitalia (slide GenitalPräparat Heterocera 28.262).

Male genitalia. Uncus long, poorly narrowing to apex, apex sclerotized; gnathos arms of medium length; gnathos poorly structured; valve poorly sclerotized in distal third, apically semicircular, costal margin of valve (on border between medium and distal third) with very developed bump with uneven surface (height of bump slightly exceeds width of valve); transtilla process triangle, apically blunt; juxta tiny, with two small leaf-like lateral processes; saccus semicircular, of medium size; phallus equal to valve in length, thin, poorly curved on border between proximal and medium third, narrowing to apex, vesica aperture in dorso-apical position, about half of phallus in length, vesica without cornuti.

Female unknown.

Diagnosis. The new species is most close to *D. curta* (Figs 5–6) and *D. sochivkoi* (Figs 7–8), from which it differs in the light-coloured wings and the distinctive bump on the costal margin of the valve.

Distribution. Tajikistan, Khozratishokh Range.

Etymology. The new species is named after Oleg Pak, a well-known explorer of Lepidoptera fauna of Central Asia and Afghanistan.

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