

# Description of *Pima karatauensis* Tsvetkov, sp. n. from Kazakhstan (Lepidoptera: Pyralidae, Phycitinae)

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## Abstract

*Pima karatauensis* Tsvetkov, sp. n. is described from Turkestan Province of Kazakhstan. Male and female genitalia of this species and also habitus of imago are illustrated. The description is based on material collected by the author in Karatau Mts. in 2019.

KEY WORDS: Lepidoptera, Pyralidae, Phycitinae, *Pima*, new species, Kazakhstan.

## Descripción de *Pima karatauensis* Tsvetkov, sp. n. de Kazajistán (Lepidoptera: Pyralidae, Phycitinae)

## Resumen

Se describe de la provincia de Turkestan de Kazajistán a *Pima karatauensis* Tsvetkov, sp. n. Male and female genitalia of this species and also habitus of imago are illustrated. The description is based on material collected by the author in Karatau Mts. in 2019.

PALABRAS CLAVE: Lepidoptera, Pyralidae, Phycitinae, *Pima*, nueva especie, Kazajistán.

## Introduction

World fauna of the genus *Pima* Hulst, 1888 consists of 24 species. Nine of them inhabit the New World (HEINRICH, 1956; NEUNZIG, 2003), two species are present in East Africa (JOANNIS, 1927) and 14 species inhabit the Palaearctic (AMSEL, 1954; ROESLER, 1973, 1990; VIVES MORENO & GASTÓN 2017; SLAMKA, 2019) including one Holarctic species.

*Pima* representatives occur in south regions. Their habitats are often arid open places and semi-deserts but one species, *P. boisduvaliella* (Guenée, 1845), inhabits also temperate zone of the Palaearctic from Europe to Russian Far East (SINEV *et al.*, 2019). Among the hostplants Fabaceae are known for *P. boisduvaliella* and *P. leucoloma* (Herrich-Schäffer, 1849), also Fabaceae are supposed for other species of the genus (SLAMKA, 2019).

Central Asian fauna of the genus *Pima* is weakly studied and it arouses interest due to variety of xerothermic open habitats and the number of endemic for this area Lepidoptera species. *P. christophori* Ragonot, 1887 and *P. tabulella* (Ragonot, 1893) are known from Turkmenistan (KUZNETSOV, 1960; SLAMKA, 2019). Also *P. boisduvaliella* and *P. tabulella* were reported for Kyrgyzstan by SLAMKA (2019).

Two *Pima* species were collected in 2019 during expedition of the author to southern part of Kazakhstan. Among them *P. boisduvaliella* (Guenée, 1845) which is typical for mountain places of the country from altitude 600-700 m. Another collected species turned to be undescribed. Its series

were taken in Karatau Mts. in two localities about 100 km distant from each other. The specimens were attracted to light using fluorescent lamp (85 W, 6400 K). The genitalia of all collected specimens were dissected and the genitalia drawings were made on the base of the photographs.

***Pima karatauensis* Tsvetkov, sp. n.** (figs 1-7)

Type material: Holotype ♀, Kazakhstan, Turkestan Province, Karatau Mts., 3 km NE vill. Baizhansai, N 43° 08' 17", E 69° 56' 29", 29-VI-2019, leg. E. Tsvetkov. Paratypes (2 ♂♂, 8 ♀♀): the same locality as for holotype, 1 ♂, 5 ♀♀, 29-30-VI-2019, leg. E. Tsvetkov; Kazakhstan, Turkestan Province, Karatau Mts., 6 km NE vill. Ashisai, 43° 36' 11", E 68° 57' 22", 1 ♂, 3 ♀♀, 24-VI-2019, leg. E. Tsvetkov. Type material is deposited in the collection of Zoological Institute, St Petersburg (ZISP).

Imago: Frons convex semispherical. Vertex flat depressed. Chaetosemata present behind ocelli (whitish scales). Proboscis well developed. Labial palps long, pointed ahead, about 2.5 diameters of eye. First joint bent, second joint 1.5 times as long as the first, third joint thin and slightly shorter than the second. Maxillary palps extremely small with rounded joints. Antennae nearly 3/5 of the forewing. Scape about 2.5 times as long as wide, flattened dorsoventrally and narrowed at its ends. Dorsal side of flagellum finely chequered (whitish and grey scales). Cilia 1/3-1/4 of antenna diameter in males and much shorter in females. Base of male flagellum slightly sinuate, first six flagellomeres bear chitinous apical projections dorsally. Projections on first and sixth flagellomeres very small, projections on flagellomeres 2-5 as short vanes. Frons, vertex, scape, pedicel and labial palps covered by grey scales. Labial palps and frons often with addition of white. Maxillary palps in whitish scales. Thorax ochreous from dorsal side, abdomen ochreous-grey. Legs bicoloured: dark grey ventrally, whitish with slight creamy tinge dorsally.

Wings (fig. 1): Venation corresponds to venation within the genus *Pima* Hulst, 1888. Forewing 10-12 mm, elongate triangular with sharply rounded apex. Sexual dimorphism is not expressed in appearance. Forewing ochreous, postdiscal area greyish with ochreous streaky pattern along M and Cu veins; apical area and area along dorsum grey. White costal streak broad basally, narrowing towards apex and not reaching it, fading after R<sub>3</sub> branching. Costal edge dark grey. Blackish discal spot indistinct. Small white spot located at the dorsum. Trace of postmedial oblique white line present. Fringe brown, brownish scales white tipped. Underside of the forewing dark brown. Hindwing light brown, thin marginal line dark brown; fringe whitish with brown basal line. Hindwing underside light brown with broad darker area along costa.

Male genitalia (figs 2-6): Uncus rounded, elongate ladle like. Anal tube well sclerotized, conically tapering. Gnathos elongate with flat trapezoidal portion in its cranial 1/3. Distal (apical) 1/3 as hooked up and pointed thin process. Gnathos branches relatively narrow, very slightly sinuate, abruptly broadening at their ends. Tegumen with well sclerotized rather broad side portions, bears semicircular vanes on the sides. Valva elongate (costal arm nearly 1.2 of vinculum), narrowing from base to apex. Sacculus short and narrow with angulate apex, heavily sclerotized along the edge. Ventral edge of valva almost straight, rounded apically. Costal arm strong, gradually narrowing from the base to apex. Apex of the arm broadened, it is triangular and slightly bifid. Nearly triangular well sclerotized clasper present at the base of costal arm. Cucullus covered by long and fine setae. Clasper covered by shorter setae. Sacculus with strong setae arranged in a narrow strip along the edge. Sacculus free of setae between this strip and clasper. Juxta wide, its anterior edge widely rounded, posterior edge biangulate. Side lobes of juxta flat club like, apically covered by fine setae. Aedeagus cylindrical with bent proximal part (fig. 2). Vesica with two large cornuti at distal end of aedeagus (figs 2, 5, 6) and finely granulated membranous wrapping in proximal 1/2. Right (on figs 5, 6) cornutus on angulate base. Sclerotized side margins of eighth sternum form side lobes. The lobes narrow at the base, broadening posteriorly and have large membranous distal portion. Anterior margin of eighth sternum well sclerotized with small protrusion in the centre. Culcita as a pair of long and dense scale tufts.

Female genitalia (fig. 7): Papillae analis small triangular, membranous, densely covered by setae. Posterior apophyses thin, not much longer than anterior apophyses and nearly twice as long as papillae analis; slightly bent and expanded in 1/3 at junction with papillae analis. Anterior apophyses broadened basally, more strong than posterior apophyses. Eighth tergum broad, posterior margin straight, anterior margin strongly convex. Antrum broad and flat, well sclerotized and folded on the edges. Ductus bursae long ribbon-like, covered with fine mosaic structures, gradually broadening to corpus bursae in cranial 1/3. Corpus bursae elongate ovoid membranous with large well sclerotized area adjacent to ductus. Protrusion of this sclerite on the left side is rather weak. Heavily sclerotized narrow bent portion of the sclerite (located posteriorly) finely dentate from the inner side. Posterior portion of corpus bursae slug-like, densely covered by numerous fine spines from the inner side, ending in ductus seminalis. Middle part of bursa copulatrix wrinkly from ventral side (a large area in longitudinal wrinkles and folds on membranous and also sclerotized parts of the surface). Rather weak sclerotized hump present on corpus bursae dorsally on the right side.

Diagnosis: *Pima boisduvaliella* and *P. tabulella* show more uniform pattern of the forewing lacking the remains of postmedial line; ochreous color usually predominates on the forewing. In male genitalia of *P. karatauensis* the shape of cornuti in vesica is characteristic: wide base of one cornutus (right cornutus on figs 5, 6) is angulate with stepped ledge from one side. In other *Pima* species the base of right cornutus is narrowing smoothly towards apex and not angulate; see, for example, cornuti in *P. boisduvaliella* (fig. 8). In female genitalia of *P. karatauensis* ductus bursae gradually broadening to corpus bursae in cranial 1/3. Protrusion of the sclerite on the left side of corpus bursae (at the ductus) is weak, not abrupt as in *P. boisduvaliella*, *P. tabulella* (Ragonot, 1893) and *P. yllai* Slamka, 2019. The structure of corpus bursae is similar to *Pima tricolorella* Falck, Karsholt & Slamka, 2019 and *Pima vilhelmseni* Slamka, 2019. But in *P. karatauensis* corpus bursae is oriented with strong deviation from the direction of the ductus bursae in contrary to the compared species.

Etymology: The name “*karatauensis*” is connected with place (Karatau Mts.) the type material comes from.

Biology: In Karatau Mts. *P. karatauensis* inhabits open mountain valleys at the altitudes 800-900 m. The species occurred sympatrically with *P. boisduvaliella* in one of the localities.

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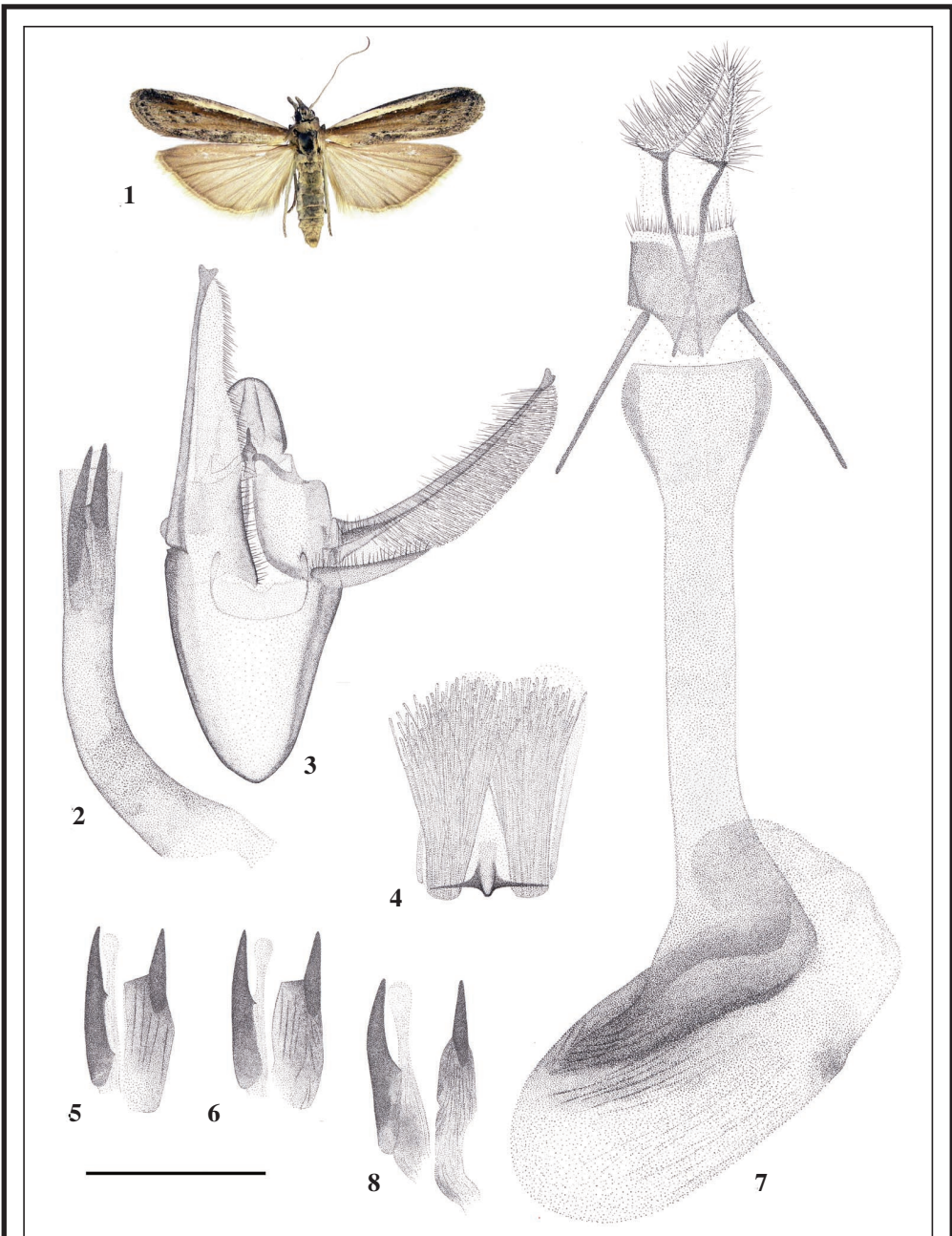
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**Figs 1-8.**– 1. *Pima karatauensis* Tsvetkov, sp. n., holotype; 2-7. Idem, genitalia (scale 1 mm); 2. aedeagus; 3. male genitalia (aedeagus removed); 4. eighth sternum (male); 5, 6. male cornuti of different paratype specimens; 7. female genitalia; 8. *Pima boisduvaliella* (Guenée, 1845), male cornuti (scale 1mm).