

# A new species of the genus *Pediasia* Hübner, 1825 (Lepidoptera: Pyraloidea, Crambidae) from the Eastern Palaearctic

Alexander N. Streltsov

Herzen State Pedagogical University of Russia, 48 Moika Emb., Saint Petersburg, 191186, Russia

The article is an illustrated description of *Pediasia arctica* **sp. nov.** from the polar regions of the Eastern Palearctic. Morphologically, the new species is closest to the North American *Pediasia browerellus* (Klots, 1942), however, it is significantly different from the latter in the structure of the male genital apparatus. *Pediasia arctica* has a longer and more curved aedeagus, while its costal process of the valva is longer and thinner. Outwardly, among the Palearctic species, the new species is most similar to the Central Asian *Pediasia alaica* (Rebel, 1907) and *Pediasia zellerella* (Staudinger, 1900) which have a darker gray color and a contrasting pattern of the forewings; there are also significant differences in the structure of the male genitalia. *Pediasia arctica* inhabits flat tundra of various types from Taimyr to Chukotka. The specimens of the type series were collected in July.

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Alexander N. Streltsov1

1 Herzen State Pedagogical University of Russia, 48 Moika Emb., Saint Petersburg, 191186, Russia

Corresponding author: Alexander N. Streltsov ([streltsov@mail.ru](mailto:streltsov@mail.ru))

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## Keywords

Grass moths, Lepidoptera, Crambidae, Crambinae, Eastern Palaearctic, *Pediasia*, new species

## Introduction

The genus *Pediasia* Hübner, 1825 includes about 90 species distributed mainly in the Palaearctic (Bleszynski 1965; Nuss et al. 2003–2022), 8 species are known from the Nearctic (Scholtens and Solis 2015), and several species are found in Africa, Madagascar, and South America. Russia has 26 species, most of which are confined to the steppe and forest-steppe regions of the temperate zone (Sinev and Streltsov 2019). Boreal latitudes do not boast as many species, while some of them, due to the poor knowledge of these vast territories, have been described relatively recently (Shodotova

and Bolshakov 2009; Streltsov and Ustjuzhanin 2009). The analysis of the materials on the genus *Pediasia* Hbn. at the Zoological Institute of the Russian Academy of Sciences (Saint Petersburg) showed that the specimens from the tundra of North Asia designated as *Pediasia zellerella* (Staudinger, 1900) do not belong to this species. They actually belong to a new species described below.

## Results

***Pediasia arctica* sp. nov.**

*Pediasia arctica* Streltsov, 2019, nomen nudum

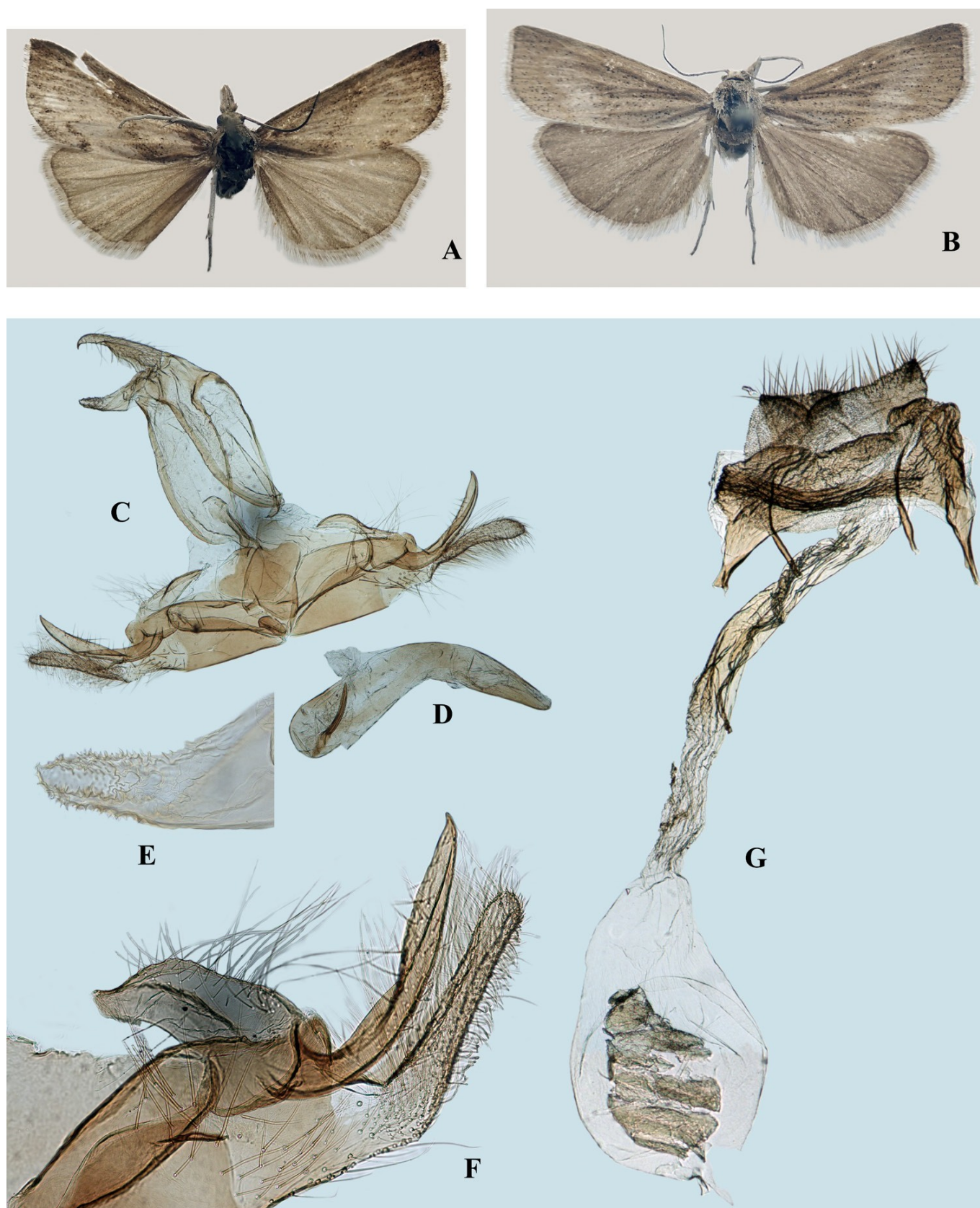
Type locality: Russia, Chukotka, Pevek

**Materials examined: Holotype:** RUSSIA ♂; Chukotka Autonomous Okrug, Pevek Village; 69°42'11"N, 170°16'28"E; 9 July 1963; K.B. Gorodkov leg.

**Paratypes:** RUSSIA 1♂; Tobokrug [Tobolsk District], Shchuchya River, Gostorg trading post (220 km from the mouth); 67°15'52"N, 68°40'21"E (surroundings of the modern settlement of Shchuchye); 9 July 1928; K.P. Samko leg.; 1♀; same place, 8 July 1928; 1♀; same place, 13 July 1928; 2♂♂; Yamalo-Nenets Autonomous Okrug, Nadymsky District, Tanlova River, II ridge; 65°7'1"N, 74°51'55"E; 22 July 1968, Yu.P. Korshunov leg.; 1♀; Chukotka Autonomous Okrug, St. No. 3. near the river bank Step-U 19 July 1925.

**Description.** Male (Fig. 1A). Head covered with greyish-brown appressed scales, frons slightly convex. The frons is slightly wider than the longitudinal diameter of the eyes. Labial palpus large, about 2.5 times the longitudinal diameter of the eyes, directed forward. Antennal flagellum dark grey, with short cilia. Thorax and tegulae brownish grey. The length of the forewing is 9-10 mm, the span of the forewings is 18-20 mm. The forewings are brownish-grey with a slight brownish tinge. The pattern is represented by a fairly wide light grey postdiscal band with the inner border even and smoothly curved, and the outer border having small teeth. The fringe is light grey, almost white. The underside of the wings is light grey. Hind wings uniform, brownish-grey, somewhat lighter than the general background of the forewings.

Female (Fig. 1B). Larger than male, forewings length 11-12 mm, forewings span 22-24 mm. The front wings are brownish-grey, sparsely covered with small black dots. The pattern consists of a narrow, strongly blurred, grey postdiscal band. Hind wings without pattern, the same shade as the general background of the front wings.



**Figure 1.** *Pediasia arctica* sp. nov. A – adult, male, Holotype, Chukotka, Pevek; B – adult, female, Paratype, Shchuchya River; C-F – male genitalia: C – armature genitals, D – aedeagus, E – apex of gnathos (enlarged), F – valva in lateral projection (enlarged); G – female genitalia.

**Male genitalia** (Fig. 1C-F). Uncus narrow from the lateral view, longer than tegumen; its apex is

hook-shaped from the side. Gnathos slightly shorter than uncus, triangular, with numerous small denticles at apex. The valvae are wide, rounded, with a long narrow lobe-shaped cucullus. The costal arm is large, with a pointed apex, only slightly shorter than the cucullus in length and width. The aedeagus is sharply curved in the middle, with a pointed apex and a large (1/4 of the total length of the aedeagus) conutus.

**Female genitalia** (Fig. 1G). Papillae analis triangular from the lateral view, equal in length to apophyses posterior and covered with short setae. Apophyses anterior short, no longer than antrum. The apophyses posterior are laterally equal or slightly shorter than the apophyses anterior. Antrum funnel-shaped, membranous. Ductus bursae membranous, 1.5 times as long as bursa copulatrix. The bursa copulatrix is membranous, pear-shaped. There are no signums.

**Differential diagnosis.** In terms of the general character of the pattern and the structure of the genitals, the species under consideration is closest to the North American *Pediasia browerellus* (Klots, 1942), which was described from the spurs of the Rocky Mountains in Colorado. The type series also included specimens from Wyoming (Klots 1942). Later, this species was found in British Columbia (Canada) (Pohl et al. 2015) and Alaska (USA) (Ferris et al. 2012). The new species differs from *P. browerellus* by the structure of the male genitalia with a longer and curved aedeagus and longer and thinner costal process of the valva. As regards external characters, females have a less contrasting pattern of the forewings. Of the Palaearctic species, the new species is closest in appearance to the Central Asian *P. alaica* (Rebel, 1907) and *P. zellerella* (Staudinger, 1900) which have a darker gray coloration and a contrasting pattern of the forewings (Bleszynski 1965). The most significant differences lie in the structure of the male genitalia: *P. alaica* has a very meek cornutus in the aedeagus tube; *P. zellerella* has a very thin costal process of the valva.

**Distribution.** Subarctic regions of Asia. Possibly, the specimens from Severnaya Zemlya (Kullberg et al. 2019) and Taimyr (Kozlov et al. 2006) designated as *P. zellerella* belong to the species under study.

**Biology.** According to the report by a collector of the type series, moths are found in July in tundra conditions (Samko 1928).

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