SHILAP Revista de lepidopterología, 49 (195) septiembre 2021: 501-506 eISSN: 2340-4078 ISSN: 0300-5267
https://doi.org/10.57065/shilap.288

To the fauna of Pterophoridae of Venezuela with description of two new species (Lepidoptera: Pterophoridae)

P. Ya. Ustjuzhanin, V. N. Kovtunovich & A. N. Streltzov

Abstract

The article describes two new Pterophoridae species from Venezuela: *Postplatyptilia lastukhini* Ustjuzhanin & Kovtunovich, sp. n. and *Postplatyptilia stekolnikovi* Ustjuzhanin & Kovtunovich, sp. n. Four species: *Stenoptilodes brevipennis* (Zeller, 1874), *Adaina costarica* Gielis, 1992, *Adaina desolata* Arenberger & Bond, 1995 and *Hellinsia devriesi* (Landry & Gielis, 1992) are recorded for the fauna of Venezuela for the first time.
KEY WORDS: Lepidoptera, Pterophoridae, biodiversity, new species, new data, Venezuela.

La fauna de Pterophoridae de Venezuela con descripción de dos nuevas especies (Lepidoptera: Pterophoridae)

Resumen

El artículo describe dos nuevas especies de Pterophoridae de Venezuela: *Postplatyptilia lastukhini* Ustjuzhanin & Kovtunovich, sp. n. y *Postplatyptilia stekolnikovi* Ustjuzhanin & Kovtunovich, sp. n. Por primera vez, se registran cuatro nuevas especies para la fauan de Venezuela: *Stenoptilodes brevipennis* (Zeller, 1874), *Adaina costarica* Gielis, 1992, *Adaina desolata* Arenberger & Bond, 1995 y *Hellinsia devriesi* (Landry & Gielis, 1992).
PALABRAS CLAVE: Lepidoptera, Pterophoridae, biodiversidad, nuevas especies, nuevos registros, Venezuela.

Introduction

The Pterophoridae fauna of Venezuela includes 45 species (ARENBERGER & WOJTUSIAK, 2001; GIELIS, 1995, 2003, 2006, 2011, 2013, 2014). The variety of landscapes in this country allows to suggest that the study of Pterophoridae is insufficient in this area. This article is based on the materials of Pterophoridae collected by A. A. Lastukhin in north-western portion of Venezuela, state Mérida, mountain ridge Cordillera de Mérida (Figs1-2). In total, we recorded 10 species, two of them are new to science: *Postplatyptilia lastukhini* Ustjuzhanin & Kovtunovich, sp. n. and *Postplatyptilia stekolnikovi* Ustjuzhanin & Kovtunovich, sp. n. Four species are recorded for the fauna of the country for the first time: *Stenoptilodes brevipennis* (Zeller, 1874), *Adaina costarica* Gielis, 1992, *Adaina desolata* Arenberger & Bond, 1995, *Hellinsia devriesi* (Landry & Gielis, 1992).

Material and methods

The Pterophoridae were collected at night and in the twilight using light traps. The studied specimens are deposited in the collection of the Zoological Institute St. Petersburg, Russia (ZISP) and in the Collection of P. Ustjuzhanin and V. Kovtunovich (Novosibirsk and Moscow, Russia, CUK). The

holotypes and paratypes of the new species are deposited in the collection of Zoological Institute, St. Petersburg, Russia (ZISP).

Figures 1-2.– 1-2. Biotope and maps. **1.** Biotopes Cordillera de Merida, Apartaderos. Photo A. Lastukhin. **2.** Maps and location of Cordillera de Merida, Apartaderos.

List of species (the species new to the fauna of Venezuela are marked with *)

Platyptilia anniei Gielis, 1997
Platyptilia anniei Gielis, 1997. *Ent. Ber. Amst*., **57**: 40
Type locality: ECUADOR, Pichincha.

Material examined. 1 ♂, W. VENEZUELA, Cordillera de Mérida, Santo-Domingo, 05-III-2011, A. Lastukhin leg.

Distribution: Ecuador, Venezuela, Peru, Bolivia.

Postplatyptilia carchi Gielis, 2006
Postplatyptilia carchi Gielis, 2006. *Zoöl. Meded. Leiden*, **80-2**(1): 97
Type locality: ECUADOR, Carchi.

Material examined. 1 ♂, W. VENEZUELA, Cordillera de Mérida, Apartaderos, 10-III-2011, A. Lastukhin leg.

Distribution: Ecuador, Colombia, Venezuela.

***Postplatyptilia lastukhini* Ustjuzhanin & Kovtunovich, sp. n.** (Figs. 3-5)

Type material: Holotype, 1 ♂ W. VENEZUELA, Cordillera de Mérida, Apartaderos, 10-III-2011, A. Lastukhin leg. (ZISP 1944); Paratype, 1 ♀, (ZISP 1945), same data as holotype.

Description: External characters. Head, thorax and tegulae dark grey interspersed with small white scales. Palps dark grey, distally lightened with white scales, palpus 2,5 times longer than longitudinal eye diameter. Antenna thin, dark brown. Wingspan 20-21mm (holotype - 20 mm). Fore wing grey. Two connected spots - one dark, other light brown - on costal edge above cleft. First lobe apically lightened, ending with three dark brown spots on fringe. Two dark brown dots in vertical position in front of cleft. Small elongated brown. Spot basally on forewing. Fringe on second lobe of forewing with dark brown spots of scales. Hindwings unicolorous, light grey. Brown scales scattered om outer edge of fringe on third lobe. Hind legs light brown.

Male genitalia: Valves symmetric. Sacculus of two segments equal in length, basal segment wider than distal one. Cucullus apically ending short, quite sharp. Tegumen simple. Uncus narrow, apically sharp. Saccus triangle, distally narrow. Aedeagus curved at almost right angle, basal process well expressed, perpendicular. Cornuti absent.

Female genitalia: Papillae anales narrow, elongated. Posterior apophyses thin, long, equal to ductus in length. Anterior apophyses rather long, arched, with small spiky process distally, endings of anterior apophyses sharp. Antrum tubulate, sclerotized, basally widened, sternum VII distally smooth, without lobes. Ductus membranous, twice longer than antrum. Bursa copulatrix oval, with two uncinated signa. Ductus seminalis departs near confluence into bursa copulatrix.

Diagnosis: The male genitalia, the shape of the valves, the uncus and apically sharp cucullus, the new species is close to *Postplatyptilia flinti* Gielis, 1991, but clearly differs from it is the shape of the saccus, equal segments of the sacculus and the aedeagus structure. In the female genitalia, the shape of the antrum and ductus, the new species is close to *Anstenoptilia hugoiella* Gielis, 1996, from which it differs in the smooth distal edge of sternum VII which has no lobes, and in the long arched anterior apophyses with a spiky process distally, while in *A. hugoiella* the distal edge of sternum VII is bilobed, and the anterior apophyses are short, without processes.

Flight period: March.

Distribution: Venezuela.

Etymology: The species is named after the entomologist and honored ecologist of Russia, Albert Lastukhin, who collected the new species.

***Postplatyptilia stekolnikovi* Ustjuzhanin & Kovtunovich, sp. n.** (Figs. 6-8)

Type material: Holotype, 1 ♂, W. Venezuela, Cordillera de Mérida, Santo-Domingo, 06-III-2011, A. Lastukhin leg. (ZISP 1946); Paratype, 1 ♀, W. Venezuela, Cordillera de Mérida, Apartaderos, 10-III-2011, A. Lastukhin leg. (ZISP 1947).

Description: External characters. Head, thorax and tegulae brown-grey interspersed with small white scales. Palps dark grey, lightened with white scales along outer edge, palpus twice longer than longitudinal eye-diameter. Antenna thin, dark brown. wingspan 20 mm. Costal edge of forewing darkened. Thin yellow band on both lobes distally. Fringe basally with dark brown scales. Two dark brown dots in vertical position in front of cleft. Hind edge of fore wing noticeably lighter than fore edge. First and second lobes of hindwing unicolorous grey. Third lobe brown, with dark-brown spots of scales along outer edge of fringe. Hindlegs light brown, with portions of darker brown scales at bases of spurs.

Male genitalia: Valves symmetric. Sacculus of two non-equal segments, basal segment significantly wider and shorter than distal one. Valve oval, slightly narrowing apically. Tegumen arched, simple. Uncus narrow slightly widened apically. Anellus arms long, wide. Saccus distally narrowing, apically forked. Aedeagus curved almons at right angle, basal process well expressed and directed obliquely to coecum. Cornuti absent.

Female genitalia: Papillae anales round-oval. Posterior apophyses thin, long. Antrum rather wide, tubulate. Ductus bursae long, robust, with pronounced sclerotized cord. Sternum VII distally bilobed. Bursa copulatrix together with signa was not preserved.

Diagnosis: The male genitalia, in the shape of the tegumen and sacculus, the new species is similar to *Postplatyptilia vorbecki* Gielis, 2006, from which it differs in the wide anellus arms, the apically forked saccus and the shape of the aedeagus. Moreover, in the male genitalia, the new species is close to *Anstenoptilia marmarodactyla* (Dyar, [1903]), from which it differs in the shape of the sacculus and in the short basal process of the aedeagus; in the new species the sacculus is swollen in the basal lobe and then narrowing, while in *A. marmarodactyla* the sacculus is evenly swollen throughout the entire first basal lobe. In the female genitalia, the new species is slightly close to *Lantanophaga minima* (Landry & Gielis, 1992), but differs from it in the two-bladed distal edge of sternum VII and in the sclerotized cord in the ductus. From all the mentioned species the new species clearly differs externally in the wings shape and pattern.

Flight period: March.

Distribution: Venezuela.

Etymology: The species is named in memory of the Soviet writer and poet, Lev Borisovich Stekolnikov (1912-1968), whose remarkable books about insects aroused great interest in many children who later became entomologists (including the author of this article). Lev Borisovich

Stekolnikov is also the uncle of the famous scientist, entomologist, professor at St. Petersburg State University, Anatoly Aleksandrovich Stekolnikov.

Stenoptilia neblina Gielis, 1995
Stenoptilia neblina Gielis, 1995. *SHILAP Revta. lepid*., **23**(90): 147
Type locality: VENEZUELA, Cerro de la Neblina.
Material examined. 1 ♂, W. VENEZUELA, Cordillera de Mérida, Apartaderos, 10-III-2011, A. Lastukhin leg.
Distribution: Venezuela.

**Stenoptilodes brevipennis* (Zeller, 1874)
Platyptilia brevipennis Zeller, 1874. *Verh. k. k. zool.-bot. Ges*., **24**: 442
Type locality: PERU, Payta, Piura.
Material examined. 1 ♀, W. VENEZUELA, Cordillera de Mérida, Santo-Domingo, 04-III-2011, A. Lastukhin leg.
Distribution: Mexico, Honduras, Puerto Rico, Surinam, Galapagos Islands, Bolivia, Peru, Venezuela.

**Adaina costarica* Gielis, 1992
Adaina costarica Gielis, 1992. *SHILAP Revta. lepid*., **20**(80): 387
Type locality: COSTA RICA, Turrialba.
Material examined: 2 ♂♂, W. VENEZUELA, Cordillera de Mérida, Santo-Domingo, 05-III-2011, A. Lastukhin leg.; 3 ♂♂, VENEZUELA, Río San José, 15 km E Piacoa vill., 27-30-I-2003, A. Sochivko leg.; 7 ex., VENEZUELA, Llanos del Orinoco, 11-22-XI-2012, V. Zaritskiy leg.
Distribution: Costa Rica. Honduras, Venezuela.

**Adaina desolata* Arenberger & Bond, 1995
Adaina desolata Arenberger & Bond, 1995. *SHILAP Revta. lepid*., **23**(92): 466
Type locality: COLOMBIA, Bogota.
Material examined. 1 ♂, W. VENEZUELA, Cordillera de Mérida, Apartaderos, 10-III-2011, A. Lastukhin leg.
Distribution: Colombia, Venezuela.

**Hellinsia devriesi* (Landry & Gielis, 1992)
Oidaematophorus devriesi Landry & Gielis, 1992. *Zool. Verh. Leiden*, **276**: 24
Type locality: GALAPAGOS ISLANDS, Isabela.
Material examined. 1 ♂, VENEZUELA, Tabai, Sierra Nevada de Mérida N. P., 15-V-2010, N. Ivshin leg.
Distribution: Galapagos Islands, Guadeloupe, Venezuela.

Hellinsia meridae Gielis, 2014
Hellinsia meridae Gielis, 2014. *Boln Soc. ent. aragon.*, **55**: 77
Type locality: VENEZUELA, Mérida.
Material examined. 1 ♀, W. VENEZUELA, Cordillera de Mérida, Santo-Domingo, 04-III-2011; 1 ♂, W. VENEZUELA, Cordillera de Mérida, Apartaderos, 10-III-2011, A. Lastukhin leg.
Distribution: Venezuela.

Acknowledgements

The authors are grateful to Albert Lastukhin (Cheboksary, Russia), Andrey Sochivko, Nikolay Ivshin (Moscow, Russia) for collecting the material and providing it for our study. We also thank Sergey Reshetnikov (Novosibirsk, Russia) for photographs of the adult specimens. The authors are grateful to Anna Ustjuzhanina (Tomsk, Russia) for language improvements.

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*P. Ya. U.
Altai State University
Lenina, 61
RUS-656049 Barnaul
RUSIA / *RUSSIA*
E-mail: petrust@mail.ru
https://orcid.org/0000-0002-5222-2241

y / *and*

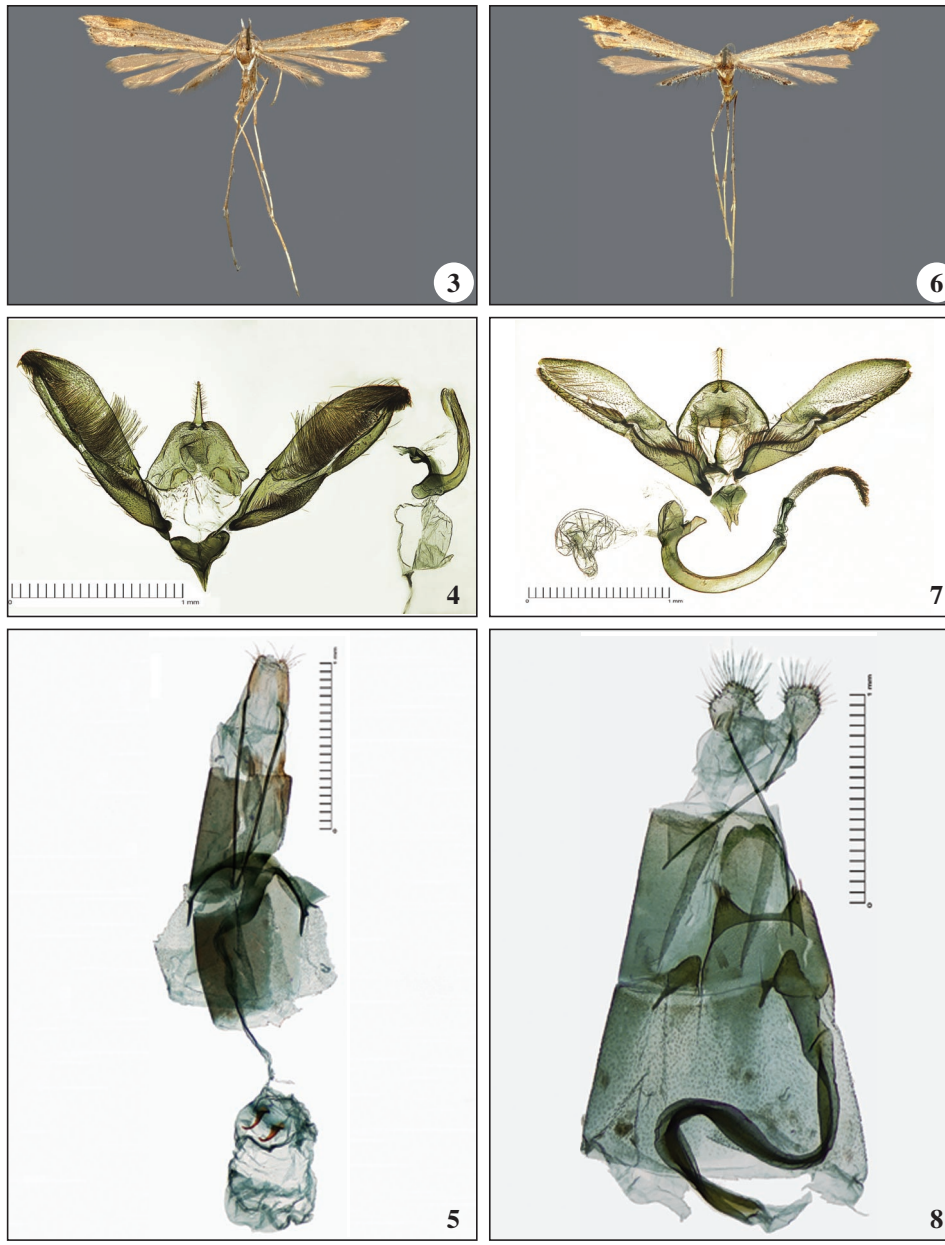
Biological Institute
Tomsk State University
Lenina Prospekt, 36
RUS-634050 Tomsk
RUSIA / *RUSSIA*

V. N. K.
Moscow Society of Nature Explorers
Bol'shaya Nikitskaya, 6
RU-103009 Moscow
RUSIA / *RUSSIA*
E-mail: vasko-69@mail.ru
https://orcid.org/0000-0001-5091-4263

A. N. S.
Herzen State Pedagogical University of Russia
Moika Emb., 48
RUS-191186 Saint-Petersburg
RUSIA / *RUSSIA*
E-mail: streltzov@mail.ru
https://orcid.org/0000-0002-5658-8515

*Autor para la correspondencia / *Corresponding author*

(Recibido para publicación / *Received for publication* 27-XII-2020)
(Revisado y aceptado / *Revised and accepted* 18-I-2021)
(Publicado / *Published* 30-IX-2021)



Figures 3-8.– 3-5. *Postplatyptilia lastukhini* Ustjuzhanin & Kovtunovich, sp. n. **3.** Adult (Holotype, ZISP). **4.** Male genitalia (Holotype, ZISP 1931). **5.** Female genitalia (Paratype, ZISP 1932). **6-8.** *Postplatyptilia stekolnikovi* Ustjuzhanin & Kovtunovich, sp. n. **6.** Adult (Holotype, ZISP). **7.** Male genitalia (Holotype, ZISP 1933). **8.** Female genitalia (Paratype, ZISP 1934).