

# Description of a new Pterophoridae from Kazakhstan and new distribution records from central Palearctic region (Insecta: Lepidoptera)

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## Abstract

The Pterophoridae results of 60 expeditions to central Palearctic region during 1996-2019 are reported. Covered areas include the Volgo-Ural district, Southern Siberia, Central Asia, the Turanian region and the Caucasus. A new species is described from Kazakhstan: *Procapperia processidactyla* Nupponen, sp. n. from the Karatau Mountains. *Agdistis flavissima* Caradja, 1920 is reported as new to Europe from the lower Volga region. Previously unknown male genitalia of *Agdistis karabachica* Zagulajev, 1990 and *Tabulaephorus maracandicus* Arenberger, 1998 are illustrated. Distribution records of 42 species are reported.

KEY WORDS: Insecta, Lepidoptera, Pterophoridae, new species, new records, former USSR, Palearctic region.

## Descripción de un nuevo Pterophoridae de Kazajistán y nueva distribución de registros del centro de la región Paleártica (Insecta: Lepidoptera)

## Resumen

Se comunican los Pterophoridae, como resultado de 60 expediciones los Pterophoridae del centro de la región Paleártica durante 1996-2019. Las áreas cubiertas incluyen el distrito Volgo-Uralense, sur de Siberia, Asia central, la región Turánica y el Cáucaso. Se describe una nueva especie de Kazajistán: *Procapperia processidactyla* Nupponen, esp. n. de las montañas Karatau. Se menciona como nueva para Europa de la región del bajo Volga a *Agdistis flavissima* Caradja, 1920. Se ilustra la genitalia del macho, previamente desconocida, de *Agdistis karabachica* Zagulajev, 1990 y *Tabulaephorus maracandicus* Arenberger, 1998. Se menciona la distribución de 42 especies.

PALABRAS CLAVE: Insecta, Lepidoptera, Pterophoridae, nueva especie, nuevos registros, formalmente URSS, región Paleártica.

## Introduction

The Pterophoridae fauna of the former USSR has been studied intensively during the last decades (ANIKIN *et al.*, 2017; ARENBERGER, 1995, 1997, 1999, 2000, 2001, 2002a, 2002b, 2005; ARENBERGER & BUCHSBAUM, 1994, 1998; NUPPONEN & NUPPONEN, 2011; USTJUZHANIN, 2001; USTJUZHANIN & KOVTUNOVICH, 2014, 2016, 2018a, 2018b, 2019, 2020). Wings of many Pterophoridae are divided in spars, therefore making Pterophoridae diagnostic and easy to recognize on family level. Therefore los Pterophoridae are often collected by

lepidopterists not focused to the Microlepidoptera. As a result, rich material has accumulated in collections exceptionally extensively compared to many other lepidoptera families. Nowadays the Palearctic fauna is moderately well known. However, many species are known to be very local, and unknown species will certainly still hide in remote and hard-to-reach areas.

The present article is based on materials of Pterophoridae collected during 1996-2019 mainly by the author. Further material was donated for study by Pavel Gorbunov (Russia), Timo Nupponen (Finland), and Risto Haverinen (Finland).

## Material and methods

The materials, embracing about 2500 specimens of pinned Pterophoridae, originate from intensive collecting during about 60 expeditions to different parts of the former USSR, comprising altogether about 1000 days in the field. About 40 expeditions were made to different parts of Russia (35 to the Volgo-Ural district, two to Altai Mts., two to Buryatia, one to Primoriye), 12 to Kazakhstan, six to Central Asia (two to Uzbekistan, two to Tajikistan, one to Kyrgyzstan, one to Turkmenistan), and three to Caucasus (two to Georgia, one to Azerbaidzan). The material was collected by netting at daytime, as well as by light trapping at night. Two to four light traps with various ultraviolet- and led-lamps were used every night, excluding a few nights with heavy rain. Collection was not focused only on Pterophoridae, but more or less comprehensively covering all families of Lepidoptera.

At first, all plume moth material was sorted based on external characters, and then determined by studying the morphology and, if necessary, the genitalia dissected to confirm species identification. Majority of specimens belonging to the genus *Stenoptilia* Hübner, [1825] were not determined at species level. The material was determined using the available literature (ARENBERGER, 1995, 2002, 2005; ZAGULJAEV, 1997) and proceedings mentioned below in bibliography. Here are reported only species which are significant and contribute to existing knowledge, for example being the first record from country or a certain small area (e.g. Orenburg district), rare and local species (e.g. *Oirata volgensis* (Möschler, 1862)), or species occurs mainly in remote regions and is therefore seldom reported (e.g. *Agdistis ingens* Christoph, 1887). Species not reported here are often widely distributed and common, and these include such as *Crombrugghia distans* (Zeller, 1847) and *Emmelina monodactyla* (Linnaeus, 1758). Distribution data presented below follows mainly those presented in ARENBERGER (1995), USTJUZHANIN & KOVTUNOVICH (2019) and ANIKIN *et al.* (2017). Some additional data were picked up from various recently published articles (see Bibliography below). New regional findings, and notes on determination, habitats etc. are mentioned in the Remarks-section of each species. The materials reported here are deposited in the research collection of T. & K. Nupponen (Espoo, Finland). The type materials are available for loan via Finnish Museum of Natural History, University of Helsinki, Finland (FMNH), or directly from the author. The coordinates are presented in degrees and minutes.

## Abbreviations

NUPP	research collection of Kari and Timo Nupponen, Espoo, Finland.
FMNH	Finnish Museum of Natural History, University of Helsinki, Finland.
n×GP	number of genitalia preparations preserved in glycerol.

## Result

### *Procapperia processidactyla* Nupponen, sp. n.

Type material Holotype ♂: KAZAKHSTAN, 43° 47' N 68° 03' E, 540 m a.s.l., Karatau Mts., Turkestan town 50 km N, 7-V-2010, K. Nupponen leg. In coll. NUPP (FMNH). Paratypes: Ibidem, 2

♂♂, 1 ♀ 6-V-2010, 4 ♂♂, 7-V-2010. Genitalia slides: K. Nupponen prep. no. 1/5-I-2021 ♂, 1/6-I-2021 ♀. In coll. NUPP.

Diagnosis: Externally is similar to many dark species in the genera *Procapperia* and *Capperia* and examination of the genitalia is required for confident determination. The male genitalia are unmistakable, particularly by a long gnathos with bifurcate tip, and a characteristic process at middle of costal margin of the valva. In the female genitalia, posteriorly slightly asymmetric antrum and shape of sternum VII are diagnostic.

Description (Fig. 4): Wingspan 13.5-16 mm. Head, collar, neck tuft, haustellum, scape, labial palp and thorax and abdomen dark brown, more or less mixed with dirty white. Flagellum 0.65 x length of forewing, dark brown with few white scales at upper surface terminally at each segment; ciliate, sensillae shorter than diameter of flagellum. Legs: upper surface of femur blackish brown, lower surface dirty white with more or less distinct narrow longitudinal stripe; tibia and tarsus blackish brown, striped by three (tibia) or four (tarsus) white rings, being more distinct in hindlegs. Forewing blackish brown, at middle before cleft small white patch; fringes at dorsal margin mixed with white and dark brown, apical half with few blackish brown scales forming four indistinct spots. First forewing lobe with two white bands, inner one moderately broader, outer one narrower and oblique; at apex white costal spot. Second forewing lobe with indistinct subapical white spot. Hindwing dark brown; third lobe at basal two thirds dark brown mixed with white, less so at basal half; apical fifth with black scales at both costal and dorsal margins, dorsal ones longer but present only subapically.

Male genitalia (Fig. 5): Gnathos long, more than half length of phallus, thin and straight, tip bifurcate. Uncus triangular, shorter than gnathos. Valvae symmetrical, at middle slightly bent, distal half shovel-shaped; at middle of costal margin a robust mushroom-like sclerotised process, enlarged distal part densely covered by short but stout thorns. Phallus 0.7 x length of valva, sigmoid, distal fifth constant wide but thinner than basal part. Sternum VIII subpentagonal, posteriorly bifurcate, anterior margin slightly concave, posterolaterally hairy flap on both sides.

Female genitalia (Fig. 6): Ostium widely excavated in the antrum. Antrum funnel-shaped, posteriorly slightly asymmetric. Ductus bursae thin, corpus bursae oval without signa. Sternum VII pentagonal, tip blunt and shallowly concave. Apophyses posteriores about as long as height of sternum VII. Apophyses anteriores reduced.

Bionomy: The habitat is a mountain steppe at low altitude. The specimens were swept on low vegetation in the afternoon sunshine.

Distribution: South Kazakhstan. Only known from type locality, the Karatau Mountains.

Etymology. Lat. *processus* = process. The species name alludes to distinctive costal processes of the valvae.

Remarks: In Fig. 5 (based on slide 1/5-I-2021), the sclerotised process of the right valva was intentionally bent to make the surface thorns visible. Thus, the valvae are symmetrical. The habitat of *P. processidactyla* is illustrated in NUPPONEN (2011: Fig 6). The moth inhabits the same slope as *Scythris polata* Nupponen, 2011. Both species were observed only on a small area of about five acres, although similar slopes in the vicinity were swept for several hours. The Syrdarya Karatau is a moderately low but isolated mountain range, and well-known by numerous vascular plant endemics (eg. KAMELIN, 1990). It is possible that *P. processidactyla* is an endemic species too.

## Taxonomic notes and annotated records of Pterophoridae

*Agdistis asthenes* Bigot, 1970

*Agdistis asthenes* Bigot, 1970. *Reichebachia*, **12**(28): 283

Material: KAZAKHSTAN, 43° 14' N 78° 52' E, 1220 m a.s.l., Charyn River, 8 exx., 1-VI-2014, K. Nupponen & R. Haverinen leg., 2xGP; Kazakhstan, 43° 37' N 79° 55' E, 650 m a.s.l., Rakhat Kuduk by Ketmen Mts., 3 exx., 2-VI-2014, K. Nupponen & R. Haverinen leg.; Kazakhstan, 43° 47' N 79° 54'

E, 515 m a.s.l., Rakhat Kuduk by Ili River shore, tugai forest, 17 exx., 3-VI-2014 K. Nupponen & R. Haverinen leg., 5×GP; Kazakhstan, 43° 46' N 79° 55' E, 515 m a.s.l., Rakhat Kuduk, desert & sand dunes, 2 exx., 4-VI-2014 K. Nupponen & R. Haverinen leg., 1×GP.

*Agdistis falkovitshi* Zagulajev, 1986

*Agdistis falkovitshi* Zagulajev, 1986. *Trudy zool. Inst., Leningrad*, **67**: 77

Material: KAZAKHSTAN, 43° 14' N 78° 52' E, 1220 m a.s.l., Charyn River, 2 ♂♂, 1-VI-2014, K. Nupponen & R. Haverinen leg.; Kazakhstan, 43° 37' N 79° 55' E, 650 m a.s.l., Rakhat Kuduk by Ketmen Mts., 3 ♂♂, 2-VI-2014, K. Nupponen & R. Haverinen leg., 2×GP; Kazakhstan, 43° 46' N 79° 55' E, 515 m a.s.l., Rakhat Kuduk, desert & sand dunes, 4 exx., 4-VI-2014 K. Nupponen & R. Haverinen leg., 1×GP.

*Agdistis flavissima* Caradja, 1920

*Agdistis flavissima* Caradja, 1920. *Dt. ent. Z., Iris*, **34**: 87

Material: KAZAKHSTAN, 47° 16' N 55° 35' E, 55 m a.s.l., Emba River bank, near Mijaly village, 1 ♂, 1 ♀, 18-V-2010, K. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 2/19-XI-2010; Kazakhstan, 42° 36' N 54° 08' E, 0-47 m a.s.l., Ustyurt Nature Reserve, Onere spring, 1 ♂, 16-V-2011, K. Nupponen leg.; Kazakhstan, 44° 47' N 65° 45' E, 125 m a.s.l., Kyzylorda town 17 km E, 1 ex., 30-IV-2012, K. Nupponen leg.; Kazakhstan, 44° 17' N 66° 34' E, 140 m a.s.l., Baigakum 8 km E, sands, 1 ♂, 10-V-2012, K. Nupponen leg., 1×GP; Kazakhstan, 43° 59' N 79° 34' E, 495 m a.s.l., Ili River valley, Aidarly sands, Aidarly village 6 km SE, 1 ♂, 2-V-2017, K. Nupponen & R. Haverinen leg.; Kazakhstan, 44° 00' N 79° 31' E, 515 m a.s.l., sand dunes by Ili River, Aidarly village 3 km S, 1 ♂, 3-VI-2017, K. Nupponen & R. Haverinen leg. TAJIKISTAN, 37° 18' N 68° 23' E, 312 m a.s.l., Pavlon Tugai, 2 ♂♂, 1-V-2014, T. Nupponen & R. Haverinen leg., 1×GP; Tajikistan, 37° 19' N 68° 27' E, 324 m a.s.l., Tigravai Balka, 3 ♂♂, 2 ♀♀, 3-V-2014, T. Nupponen & R. Haverinen leg., 1×GP. RUSSIA, 48° 09' N 46° 49' E, -9 m, Astrakhan district, Baskunzak salt lake SW, Bogdo, 1 ♂, 4-VI-2001, K. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 2/12-II-2021.

Distribution: China, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, European Russia (Astrakhan district).

Remarks: New to Tajikistan, Kazakhstan and Russia. First record from Europe. The species is much more widely distributed in the Central Asian and Turanian deserts than known earlier. *A. flavissima* is a large species (Fig. 7), and externally it can be mixed only with *A. ingens* Christoph, 1887. The species occur often sympatrically. However, males of the two species are readily separated by sternum VIII of the abdomen. Sternum VIII of *A. ingens* is very long and narrow, while that of *A. flavissima* is essentially shorter and terminally broader. The difference is visible even without magnification and removing anal scales. The male genitalia of *A. flavissima* are unmistakable (ARENBERGER, 1995).

*Agdistis gerasimovi* Zagulajev & Blumenthal, 1994

*Agdistis gerasimovi* Zagulajev & Blumenthal, 1994. *Ent. Obozr.*, **73**: 24

Material: UZBEKISTAN, 41° 01' N 68° 36' E, 260 m a.s.l., Sidaryo district, Syr-Darya River, tugai forest, 1 ♂, 24-VII-2009, K. Nupponen leg., 1×GP; Tajikistan, 37° 19' N 68° 27' E, 324 m a.s.l., Tigravai Balka, 4 ♂♂, 1 ♀, 3-V-2014, T. Nupponen & R. Haverinen leg., 1×GP. TAJIKISTAN, 37° 18' N 68° 23' E, 312 m a.s.l., Pavlon Tugai, 1 ♂, 1-V-2014, T. Nupponen & R. Haverinen leg.; Tajikistan, 37° 16' N 68° 20' E, 317 m a.s.l., Pavlon Tugai, 1 ♂, 1 ♀, 4-V-2014, T. Nupponen & R. Haverinen leg., Genitalia slide: K. Nupponen prep. no. 3/1-XII-2020.

Distribution: Tajikistan, Uzbekistan.

Remark: New to Uzbekistan. The species inhabits Tugai forests along Central Asian rivers: Syr-Darya in Uzbekistan, and Amu-Darya in Tajikistan.

*Agdistis ingens* Christoph, 1887

*Agdistis ingens* Christoph, 1887. *Mém. Lépid.*, **3**: 124

Material: KAZAKHSTAN, 42° 13' N 68° 12' E, 210 m a.s.l., Syr-Darya River valley, Arys village 45 km W, 1 ♂, 3-V-2010, K. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 1/19-XI-2010; Turkestan town 35 km SW, 8 exx., 8-V-2012, K. Nupponen leg.; Kazakhstan, 43° 56' N 68° 14' E, 900 m a.s.l., Kulzhalykar Mts., Suzak settlement 30 km S, 1 ♂, 10-V-2010, K. Nupponen leg.; Kazakhstan, 47° 16' N 55° 35' E, 55 m a.s.l., Emba River bank, near Mijaly village, 1 ♂, 18-V-2010, K. Nupponen leg.; Kazakhstan, 42° 57' N 54° 39' E, 90 m a.s.l., Ustyurt Nature Reserve, Kendyrli, 3 exx., 19-V-2011, K. Nupponen leg.; Kazakhstan, 44° 47' N 65° 45' E, 125 m a.s.l., Kyzylorda town 17 km E, 1 ♂, 30-IV-2012, K. Nupponen leg.; Kazakhstan, 43° 32' N 67° 30' E, 170 m a.s.l., Syr-Darya River, tugai forest, Talap station 13 km SW, 4 exx., 1-V-2012, K. Nupponen leg.; Kazakhstan, 43° 08' N 67° 51' E, 185 m a.s.l., Syr-Darya River, tugai forest; Kazakhstan, 44° 11' N 66° 44' E, 160 m a.s.l., Shieli settlement, 4 exx., 10-V-2012, K. Nupponen leg.; Kazakhstan, 47° 43' N 61° 27' E, 100 m a.s.l., Terektikum Sands, Aralsk town 110 km N, 2 exx., 15-V-2012, K. Nupponen leg.; Kazakhstan, 43° 37' N 79° 55' E, 650 m a.s.l., Rakhat Kuduk by Ketmen Mts., 7 exx., 2-VI-2014, K. Nupponen & R. Haverinen leg.; Kazakhstan, 43° 47' N 79° 54' E, 515 m a.s.l., Rakhat Kuduk by Ili River shore, tugai forest, 2 exx., 3-VI-2014, K. Nupponen & R. Haverinen leg.; Kazakhstan, 43° 46' N 79° 55' E, 515 m a.s.l., Rakhat Kuduk, desert & sand dunes, 1 ♂, 4-VI-2014, K. Nupponen & R. Haverinen leg.; Kazakhstan, 43° 59' N 79° 34' E, 495 m a.s.l., Ili River valley, Aidarly sands, Aidarly village 6 km SE, 15 exx., 2-VI-2017, K. Nupponen & R. Haverinen leg.; Kazakhstan, 44° 00' N 79° 31' E, 515 m a.s.l., sand dunes by Ili River, Aidarly village 3 km S, 2 exx., 3-VI-2017, K. Nupponen & R. Haverinen leg.; Kazakhstan, 44° 07' N 79° 23' E, 792 m a.s.l., foothills of Katutau Mts., Konyrolen River, 1 ♂, 4-VI-2017, K. Nupponen & R. Haverinen leg.; Kyrgyzstan, 41° 25' N 74° 55' E, 1620 m a.s.l., Naryn River valley, near Ak-Tal village, 1 ♂, 3-VIII-2010, K. Nupponen & R. Haverinen leg.; Tajikistan, 37° 18' N 68° 23' E, 312 m a.s.l., Pavlon Tugai, 9 exx., 1-V-2014, 8 exx., 2-V-2014, T. Nupponen & R. Haverinen leg.; Tajikistan, 37° 19' N 68° 27' E, 324 m a.s.l., Tigravai Balka, 34 exx., 3-V-2014, T. Nupponen & R. Haverinen leg.; Tajikistan, 37° 16' N 68° 20' E, 317 m a.s.l., Pavlon Tugai, 1 ♂, 4-V-2014, T. Nupponen & R. Haverinen leg.

*Agdistis intermedia* Caradja, 1920

*Agdistis intermedia* Caradja, 1920. *Dt. ent. Z., Iris*, **34**: 88

Material: RUSSIA, 50° 58' N 54° 25' E, 100 m a.s.l., Orenburg district, near Burannoe village, Ilek River valley, 1 ♂, 30-VII-2000, 1 ♂, 1 ♀, 29-VIII-2000, 1 ♀, 12-VI-2001, 1 ♂, 3-VII-2003, 12 exx., 6-7-VIII-2005, 4 exx., 18-19-VIII-2006, K. Nupponen leg., 3×GP; Russia, 50° 59' N 54° 17-22' E, 100 m a.s.l., Orenburg district, Novoiletzk 8 km E, Ilek River valley, 3 ♂♂, 8-VI-1998, K. Nupponen & T. Nupponen leg.; Russia, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 1 ♂, 29-VI-2003, 2 ♂♂, 26-IX-2005, K. Nupponen leg., 1×GP; Russia, 53° 59' N 61° 12' E, 250 m a.s.l., Cheliabinsk district, Troizkii reserve near Berlin village, 1 ♀, 30-VI-1997, K. Nupponen leg.; Russia, 53° 02' N 62° 06' E, 200 m a.s.l., Cheliabinsk district, Ajat River near Nikolaevka village, 1 ♀, 5-IX-2000, K. Nupponen leg.; Russia, 49° 47' N 44° 25' E, 90 m a.s.l., Volgograd district, Olhovka village 12 km SW, 1 ♂, 1-VI-2001, K. Nupponen leg. AZERBAIJAN, Caspian Sea shore, 41° 22' N 49° 03' E, -36 m a.s.l., Chaygaragasly, 2 ♂♂, 5-VI-2019, K. Nupponen & R. Haverinen leg., 1×GP.

Remarks: The species is widely distributed, from Hungary extending in Russia eastwards to the Altai Mountains. Recently reported from Orenburg district (SACHKOV, 2020). In steppes of the southern Ural Mts. the species is not rare.

*Agdistis karabachica* Zagulajev, 1990

*Agdistis karabachica* Zagulajev, 1990. *Ent. Obozr.*, **69**(1): 112

Material: GEORGIA, 41° 12' N 46° 21' E, 285 m, Vashlovani Nat. Res., by Pantishara, 8 ♂♂, 30-V-2016, K. Nupponen & R. Haverinen leg., Genitalia slide: K. Nupponen prep. no. 4/1-XII-2020.

Distribution: Turkey, Azerbaijan, Turkmenistan, Georgia.

Remarks: The description of *A. karabachica* is based on a single female. The present material was collected near the type locality (40 km to the north) in similar pistachio forest habitat. As the male genitalia (Fig. 8) do not fit in with those of any described species, the taxon is considered to be conspecific with *A. karabachica*. **New to Georgia.**

*Agdistis kazakhstanicus* Ustjuzhanin & Kovtunovich, 2014

*Agdistis kazakhstanicus* Ustjuzhanin & Kovtunovich, 2014. *Entomologist's Gaz.*, **65**(4): 242

Material: KAZAKHSTAN, 42° 36' N 54° 08' E, 0-47 m a.s.l., Ustyurt Nat. Res., Onere spring, 1 ♂, 2 ♀♀, 16-V-2011, K. Nupponen leg.; Ibidem, 1 ♂, 3 ♀♀, 18-V-2008, P. Gorbunov leg.; Kazakhstan, 42° 57' N 54° 41' E, 128 m a.s.l., Ustyurt Nat. Res., Kendyrli, 1 ♂, 9-V-2008, P. Gorbunov leg.; Kazakhstan, 43° 24' N 54° 33' E, 142 m a.s.l., Ustyurt Nat. Res., Mametkazgan, 1 ♂, 11-V-2008, P. Gorbunov leg.; Kazakhstan, 43° 33' N 51° 45' E, -90 m a.s.l., Karagie salt lake, 15-IX-2012, K. Nupponen. Genitalia slides: K. Nupponen prep. no. 1/1-XII-2020 ♂, 1/11-XII-2020 ♀, 4/11-XII-2020 ♀; four male genitalia in glycerol.

Distribution: Kazakhstan: the species is known in SE Kazakhstan (Ili valley) and SW Kazakhstan (southern Ustyurt district and the Mangistau province area).

*Agdistis manicata* Staudinger, 1859

*Agdistis manicata* Staudinger, 1859. *Stettin. ent. Ztg.*, **20**: 258

Material: AZERBAIJAN, Caspian Sea shore, 41° 22' N 49° 03' E, -36 m a.s.l., Chaygaragasly, 2 ♂♂, 5-VI-2019, K. Nupponen & R. Haverinen leg., 1×GP.

Remarks: The species is widely distributed in the western Palaearctic region: from Spain and Morocco eastwards to the Caspian Sea. New to Azerbaijan.

*Agdistis mevlaniella* Arenberger, 1972

*Agdistis mevlaniella* Arenberger, 1972. *Beitr. Naturk. Forsch. SüdwDtl.*, **31**: 151

Material: KAZAKHSTAN, 44° 17' N 66° 34' E, 140 m a.s.l., Baigakum 8 km E, sands, 1 ♂, 10-V-2012, K. Nupponen leg.; Kazakhstan, 44° 00' N 79° 31' E, 515 m a.s.l., sand dunes by Ili River, Aidarly village 3 km S, 1 ♂, 3-V-2017, K. Nupponen & R. Haverinen leg., 1×GP. TAJIKISTAN, 37° 16' N 68° 20' E, 317 m a.s.l., Pavlon Tugai, 3 ♂♂, 4-V-2014, T. Nupponen & R. Haverinen leg., Genitalia slide: K. Nupponen prep. no. 2/1-XII-2020.

*Agdistis rubasiensis* Zagulajev, 1985

*Agdistis rubasiensis* Zagulajev, 1985. *Ent. Obozr.*, **64**(4): 785

Material: AZERBAIJAN, 39° 29' N 48° 44' E, -24 m a.s.l., Bilasuvar 15 km E, salt lake, 1 ♂, 1-VI-2019, K. Nupponen & R. Haverinen leg., Genitalia slide: K. Nupponen prep. no. 1/2-XII-2020.

Remarks: The species is known from a few localities on the west side of the Caspian Sea. New to Azerbaijan. The habitat in Azerbaijan is a shore of a large salt lake, abundant with *Limonium* and *Tamarix*, as well as *Artemisia* spp. in drier patches. The moth is misleadingly reminiscent of a sympatric *A. adactyla* (Hübner, [1819]), which appears to be smaller and darker in saline habitats than in steppes. The species can easily be determined by dissecting the genitalia (ARENBERGER, 1995). Males of the two species can also be separated by removing anal scales, so that adequate details become visible. In *A. adactyla* the left posterior branch of sternum VIII is *in situ* dorsad and shovel-shaped, while that of *A. rubasiensis* is distally pointed. This method is quick, and useful especially in localities where *A. adactyla* is abundant.

*Agdistis sissia* Arenberger, 1987

*Agdistis sissia* Arenberger, 1987. *Z. ArbGem. öst. Ent.*, **38**(3-4) (1986): 103

Material: GEORGIA, 41° 12' N 46° 21' E, 285 m a.s.l., Vashlovani Nat. Res., by Pantishara, 10 exx., 30-V-2016, K. Nupponen & R. Haverinen leg., 1×GP.

Distribution: Turkey, Armenia, Azerbaijan, Georgia, Turkmenistan. **New to Georgia.**

*Gillmeria macrornis* (Meyrick, 1930)

*Gillmeria macrornis* (Meyrick, 1930). *Exotic Microlepid.*, **3**(18): 567

Material: RUSSIA, 52° 02' N 49° 04' E, 35 m a.s.l., Saratov district, by Pugatsev village, 1 ex., 2-IX-2002, K. Nupponen leg.; Russia, 50° 58' N 54° 25' E, 100 m a.s.l., Orenburg district, near Burannoe village, Ilek River valley, 1 ex., 18-VIII-2006, 10 exx., 19-VIII-2006, K. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 1/10-XII-2020.

*Gillmeria rhusiodactyla* (Fuchs, 1903)

*Platyptilia rhusiodactyla* Fuchs, 1903. *Stett. ent. Ztg.*, **64**: 14

Material: RUSSIA, 51° 23' N 56° 49' E, 130-340 m a.s.l., Orenburg district, Donskoje village 6 km W, Verbljushka Gora, 1 ♂, 30-V-1998, 1 ♂, 17-VI-1999, 1 ♂, 23-V-2004, K. Nupponen leg.; Russia, 51° 13' N 57° 37' E, 350 m a.s.l., Orenburg district, Mednogorsk 20 km S, near Kidriasovo village, 1 ♂, 29-V-1998, K. Nupponen & T. Nupponen leg.; Russia, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 25 exx., 3-7-VI-1998, K. Nupponen & T. Nupponen leg., Genitalia slides: K. Nupponen prep. no. 1/12-XII-2020 1 ♂, 2-12-XII-2020, 1 ♀, 3×GP; Ibidem, 25-26-V-2004, 2 exx., K. Nupponen leg. KAZAKHSTAN, 46° 24' N 59° 35' E, 180 m a.s.l., Bozoi village 60 km E, Aral Sea shore 7 km N, 1 ♂, 13-V-2010, K. Nupponen leg.; Kazakhstan, 47° 27' N 55° 06' E, 95 m a.s.l., Aktolagai chalk hills, Emba River 40 km NW, 3 exx., 15-V-2010, K. Nupponen leg.; Kazakhstan, 47° 30' N 55° 07' E, 209 m a.s.l., Aktolagai chalk hills, Emba River 40 km NW, 5 exx., 17-V-2010, K. Nupponen leg.; Kazakhstan, 46° 24' N 59° 35' E, 180 m a.s.l., Bozoi village 60 km E, Aral Sea shore 7 km N, 1 ♂, 13-V-2010, K. Nupponen leg.; Kazakhstan, 47° 43' N 61° 27' E, 100 m a.s.l., Terektikum Sands, Aralsk town 110 km N, 6 exx., 15-V-2012, K. Nupponen leg.

*Gillmeria stenoptiloides* (Filipjev, 1927)

*Amblyptilia stenoptiloides* Filipjev, 1927. *Ezheg. Gosud. Muz. N. M. Mart. 'vanova*, **5**(1): 30

Material: RUSSIA, 50° 14-16' N 87° 40' E, 1500 m a.s.l., Altai Mts., Chuja valley, Aktash village 5 km SE, 1 ♂, 5-VII-2000, K. Nupponen & T. Nupponen leg.; Russia, 50° 48' N 86° 00' E, 1000 m a.s.l., Altai Mts., by Shashikman village, 2 ♂♂, 7-VII-2000, K. Nupponen & T. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 1/11-XII-2002; Russia, 59° 30-32' N 59° 09-11' E, 600 m, North Ural, by Kytlym village, Kosvinskij Kamen, 1 ♂, 10-VII-2003, K. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 1/12-II-2021.

Distribution: Russia (North Ural, South Siberia, Kamchatka, Far East), Japan, NE China.

Remarks: New to the Ural district, and westernmost record of this Siberian species. The moth is readily separated from other plume moth species occurring in the same regions by dark reddish-brown wings (Fig. 9).

It is somewhat questionable whether the area belongs to Europe or not. In some sources all highlands of the Urals are counted as Europe, in some other ones border between Europe and Asia runs along the watershed of the Ural Mountains. The point where the moth was found belongs to both, where is a semi-high area limited in the east in isolated high hills (Kosvinskij Kamen (1519 m), Denezkin Kamen (1292 m), Konzhakovskij Kamen (1568 m)), being actually higher than peaks of the main Ural Mts. in the same latitude. The altitude in the western Siberian plateau is in the average less than 100 m a.s.l., and west from the main Ural chain less than 200 m a.s.l. As altitude in the Kosvinskij Kamen district is in the average higher than 600 m a.s.l., it can reasonably interpreted as highland. The problem is not so serious but may be worth to keep in mind for those who are preparing lists of regional

species list in larger scale (eg. Europe, Siberia), that instead of distinct border there exist a large *grey area* in the eastern slopes of the Ural Mts. which can be included in both European and Asian sides on equally good grounds.

*Paraplatyptilia sahlbergi* (Poppius, 1906)

*Stenoptilia sahlbergi* Poppius, 1906. *Act. Soc. Faun. Flor. Fenn.*, **28**(3): 9

Material: RUSSIA, 66° 51-56' N 65° 32-47' E, 400-600 m a.s.l., Polar Ural, Tjumen district, Krasnyi Kamen, 16 exx., 12-VII-1999, 1 ♂, 13-VII-1999, K. Nupponen & T. Nupponen leg.

*Stenoptilia eborinodactyla* Zagulajev, 1986

*Stenoptilia eborinodactyla* Zagulajev, 1986. *Opred. Faune SSSR*, **117.4**(3): 113

Material: RUSSIA, 52° 45' N 53° 05' E, 250-300 m a.s.l., Orenburg district, by Zesnokovka village, 2 ♂♂, 9-VI-2001, K. Nupponen leg.; Russia, 51° 23' N 56° 49' E, 130-340 m a.s.l., Orenburg district, Donskoje village 6 km W, Verbljushka Gora, 1 ♀, 9-IX-2002, 1 ♂, 1 ♀, 10-IX-2002, K. Nupponen leg.; Russia, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 8 ♂♂, 5 ♀♀, 5-7-VI-1998, K. Nupponen & T. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 1/7-XII-2020 ♂; Ibidem, 1 ♂, 5 ♀♀, 17-VII-1998, 5 ♂♂, 2 ♀♀, 21-22-VI-1999, 1 ♂, 30-VII-2000, 5 ♂♂, 1 ♀, 30-31-VIII-2000, 6 ♂♂, 4 ♀♀, 10-11-VI-2001, 2 ♂♂, 1 ♀, 2-3-VIII-2005, 1 ♂, 5 ♀♀, 21-22-VIII-2006, K. Nupponen leg., Genitalia slide: K. Nupponen 2/7-XII-2020 ♂, 3×GP; Russia, 49° 47' N 44° 25' E, 90 m a.s.l., Volgograd district, Olhovka village 12 km SW, 2 ♂♂, 3-IX-2002, 1 ♀, 4-IX-2002, 2 ♂♂, 25-VIII-2006, K. Nupponen leg.

Remarks: **New to the Orenburg district.** The species inhabits chalk steppes.

*Stenoptilia latistriga* Rebel, 1916

*Stenoptilia latistriga* Rebel, 1916. *Dt. ent. Z., Iris*, **30**: 188

Material: RUSSIA, 50° 16-20' N 87° 50-55' E, 2500 m a.s.l., Altai Mts., Kuraisky hrebet, mountain steppe, 1 ♂, 1 ♀, 9-VII-2001, K. Nupponen leg.

*Stenoptilia nolckenii* (Tengström, 1869)

*Pterophorus nolckenii* Tengström, 1869. *Cat. lepid. Faun. fenn.*, **10**: 366

Material: RUSSIA, 50° 14-16' N 87° 50-55' E, 1500-1700 m a.s.l., Altai Mts., Kuraiskaja steppe, 1 ♂, 25-VI-2000, K. Nupponen & T. Nupponen leg.; Russia, 50° 14-16' N 87° 40' E, 1500 m a.s.l., Altai Mts., Chuja valley, Aktash village 5 km SE, 2 exx., 25-VI-2000, K. Nupponen & T. Nupponen leg.; Russia, 51° 47-48' N 100° 55-58' E, 1450 m a.s.l., SW Buryatia, East Sayan Mts., Mondy village 2 km E, taiga forest/steppe, 5 exx., 13-VI-2002, 2 exx., 14-VI-2002, 3 exx., 15-VI-2002, K. Nupponen leg.

*Marasmarcha asiatica* (Rebel, 1906)

*Platyptilia asiatica* Rebel, 1906. *Dt. ent. Z., Iris*, **15**: 108

Material: KAZAKHSTAN, 43° 47' N 68° 03' E, 540 m a.s.l., Karatau Mts.; Turkestan town 50 km N, 1 ♂, 8-V-2010, K. Nupponen leg., 1×GP; Kazakhstan, 47° 26' N 60° 49' E, 150 m a.s.l., Malye Barsuki sands, Karachokat village 5 km NW, 1 ♂, 14-V-2012, K. Nupponen leg., 1×GP; Kazakhstan, 43° 46' N 80° 03' E, 518 m a.s.l., Rakhatai Kuduk, desert & sand dunes, 1 ♂, 5-VI-2017, K. Nupponen & R. Haverinen leg., 1×GP.

*Marasmarcha colossa* Caradja, 1920

*Marasmarcha colossa* Caradja, 1920. *Dt. ent. Z., Iris*, **34**: 84

Material: RUSSIA, 50° 58' N 54° 25' E, 100 m a.s.l., Orenburg district, near Burannoe village, Ilek River valley, 1 ex., 18-VIII-2006, 5 exx., 20-VI-1999, 32 exx., 3-VII-2003, 1 ♂, 6-VIII-2005, 1 ♂, 7-



VIII-2005, K. Nupponen leg., 1×GP. TAJIKISTAN, 37° 18' N 68° 23' E, 312 m a.s.l., Pavlon Tugai, 19 exx., 1-V-2014, 8 exx., 2-V-2014, T. Nupponen & R. Haverinen leg., 1×GP; Tajikistan, 37° 16' N 68° 20' E, 317 m a.s.l., Pavlon Tugai, 2 ♂♂, 4-V-2014, T. Nupponen & R. Haverinen leg., 1×GP.

*Marasmarcha lydia* Ustjuzhanin, 1996

*Marasmarcha lydia* Ustjuzhanin, 1996. *Atalanta*, **27**(1-2): 364

Material: RUSSIA, 51° 37' N 106° 46' E, 600 m a.s.l., S Buryatia, Hamar Daban Mts., Bolshoe Sanzheevka River, Kharamsha village 2 km W, forest steppe, 1 ♂, 27-VI-2002, K. Nupponen leg., 1×GP.

*Marasmarcha samarcandica* Gerasimov, 1930

*Marasmarcha samarcandica* Gerasimov, 1930. *Ann. Mus. Zool. Acad. Sic. l'U.R.S.S.*, **31**: 27

Material: RUSSIA, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 1 ♂, 5-VI-1998, K. Nupponen & T. Nupponen leg.; Uzbekistan, 41° 01' N 68° 36' E, 260 m a.s.l., Sidaryo district, Syr-Darya River, tugai forest, 1 ♂, 9-V-2008, K. Nupponen & R. Haverinen leg. KAZAKHSTAN, 43° 47' N 68° 03' E, 540 m a.s.l., Karatau Mts.; Turkestan town 50 km N, 1 ♂, 6-V-2010, 10 exx., 8-V-2010, K. Nupponen leg. KAZAKHSTAN, 47° 16' N 55° 35' E, 55 m a.s.l., Emba River bank, near Mijaly village, 1 ♂, 18-V-2010, K. Nupponen leg.; Kazakhstan, 48° 09' N 56° 54' E, 130 m a.s.l., Emba River bank, sands near Karkamys village, 3 ♂♂, 19-V-2010, K. Nupponen leg.; Kazakhstan, 45° 30' N 55° 17' E, 110 m a.s.l., Beineu town 18 km N, 1 ♂, 28-V-2011, K. Nupponen leg.; Kazakhstan, 47° 37' N 59° 31' E, 190 m a.s.l., N Bolshoe Barsuki sands, Chelkar settlement 25 km S, 1 ♂, 3-VI-2011, K. Nupponen leg.; Kazakhstan, 48° 38' N 57° 54' E, 200 m a.s.l., Kumzhargan sands by Emba River, 1 ♀, 5-V-2011, K. Nupponen leg.; Kazakhstan, 43° 44' N 68° 19' E, 650 m a.s.l., Karatau Mts., Yankorgan River, 1 ♀, 6-V-2012, K. Nupponen leg.

Remarks: The species was recently reported as new to Russia and Europe (ANIKIN *et al.*, 2017). The habitat in South Ural is a chalk steppe. In Kazakhstan the species inhabits various desert steppes and semideserts.

*Oxyptilus ericetorum* (Zeller, 1844)

*Pterophorus ericetorum* Zeller, 1844. *Ber. Schles. Tausch-Ver. Schm.*, **5**: 18

Material: RUSSIA, 51° 37' N 57° 34' E, 300 m a.s.l., Orenburg district, Kuvandyk 30 km NE, 1 ♂, 1-VIII-2000, T. Nupponen leg., 1×GP.

Remark: New to the Ural region and Orenburg district.

*Capperia celeusi* (Frey, 1886)

*Oxyptilus celeusi* Frey, 1886. *Stett. ent. Ztg.*, **47**: 18

Material: RUSSIA, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 1 ♂, 3-VIII-2005, K. Nupponen leg., 1×GP; Russia, 49° 47' N 44° 25' E, 90 m a.s.l., Volgograd district, Olhovka village 12 km SW, 1 ♂, 18-V-2005, K. Nupponen leg. AZERBAIJAN, Greater Caucasus Mts., 40° 48' N 49° 08' E, 650 m a.s.l., Dizavarchay valley, 2 ♂♂, 30-V-2019, K. Nupponen & R. Haverinen leg.

Remarks: *C. taurica* Zagulajev, 1987 was recently synonymized with *C. celeusi* (USTJUZHANIN & KOVTUNOVICH, 2008). The taxon occurs in the southernmost part of Russia in Daghestan and Kalmykia. Both known habitats in the Volgo-Ural are chalk steppes. **New to the Ural region.**

*Oirata poculidactyla* (Nupponen & Nupponen, 2001)

*Pterophorus poculidactyla* Nupponen & Nupponen, 2001. *Ent. Fenn.*, **12**(1): 50

Material: Russia, 50° 16-20' N 87° 50-55' E, 2400-2800 m a.s.l., Altai Mts., Kuraisky hrebet, mountain steppe, 2 ♂♂, 7-VII-2001, 1 ♀, 8-VII-2001, 1 ♂, 12-VII-2001, K. Nupponen leg.

*Oirata volgensis* (Möschler, 1862)*Aciptilus volgensis* Möschler, 1862. *Wien. ent. Monatschr.*, **6**: 143

Material: RUSSIA, 51° 23' N 56° 49' E, 130-340 m a.s.l., Orenburg district, Donskoje village 6 km W, Verbljushka Gora, 2 ♂♂, 1-VI-1998, 10 exx., ex larva V-1999, 1 ♂, 24-V-2004, 4 ♂♂, 25-V-2004, 2 ♂♂, 31-V-2004, K. Nupponen & T. Nupponen leg.; Russia, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 30 exx., 26-27-V-2004, K. Nupponen leg.; Kazakhstan, 47° 27' N 55° 06' E, 95 m a.s.l., Aktolagai chalk hills, Emba River 40 km NW, 1 ♂, 15-V-2010, K. Nupponen leg. KAZAKHSTAN, 47° 30' N 55° 07' E, 209 m a.s.l., Aktolagai chalk hills, Emba River 40 km NW, 1 ♂, 17-V-2010, K. Nupponen leg.

Remarks: A rare and very local species inhabiting chalk steppes in the south Urals. For further information, see NUPPONEN & AHOLA (2001).

*Tabulaephorus maracandicus* Arenberger, 1998*Tabulaephorus maracandicus* Arenberger, 1998. *Quadrafina*, **1**: 288

Material: UZBEKISTAN, 38° 40' N 66° 55' E, 2360 m a.s.l., Hissar Mts., near Maidanak village, 1 ♂, 21-VII-2009, K. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 1/19-XII-2020.

Distribution: Tajikistan, Uzbekistan.

Remark: The description of this species is based on two females. The present male (Fig. 10) was collected from the same area as the type specimens, and externally it fits well in with the holotype. The male genitalia are illustrated here for the first time (Fig. 11). They differ from those of related species in details, such as a rather stout uncus, and shape of saccular processes (left one as long as valva and bent subapically, right one reduced).

*Tabulaephorus marptys* (Christoph, 1872)*Aciptilia marptys* Christoph, 1872. *Hor. Soc. ent. Ross.*, **9**: 37

Material: RUSSIA, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 1 ♂, 3-VI-1998, 1 ♂, 1-VIII-2000, K. Nupponen & T. Nupponen leg.; Russia, 50° 59' N 54° 17-22' E, 100 m a.s.l., Orenburg district, Novoiletz 8 km E, Ilek River valley, 1 ♀, 9-VI-1998, K. Nupponen & T. Nupponen leg.; Russia, 49° 13-26' N 43° 41-56' E, 45-65 m a.s.l., Volgograd district, Ilovla village 10 km WSW, 11 exx., 2-VI-2001, K. Nupponen, 2×GP; Russia, 51° 11-13' N 106° 10-12' E, 700 m a.s.l., S Buryatia, Hamar Daban Mts., Murtoy River, Gusinoe Ozero village 6 km NW, forest steppe, 10 exx., 19-VI-2002, K. Nupponen leg., 1×GP. KAZAKHSTAN, 48° 33' N 57° 36' E, 190 m a.s.l., Kumzhargan sands by Emba River, near Zhagabulak village, 5 exx., 17-V-2012, 1 ♂, 7-IX-2012, K. Nupponen leg., 2×GP.

Remark: The species is local but not rare in steppes of the southern Ural Mts.

*Tabulaephorus narynus* Arenberger, 1993*Tabulaephorus narynus* Arenberger, 1993. *Nachr. ent. Ver. Apollo, Frankf., N. F.*, **13**: 320

Material: KYRGYZSTAN, 39° 40' N 72° 32' E, 3220 m a.s.l., Alai Mts., near Kashka-Suu village, 2 ♂♂, 21-VII-2010, K. Nupponen & R. Haverinen leg. Genitalia slide: K. Nupponen prep. no. 1/17-XII-2020. UZBEKISTAN, 38° 40' N 66° 55' E, 2360 m a.s.l., Hissar Mts., near Maidanak village, 1 ♂, 21-VII-2009, K. Nupponen leg. TAJIKISTAN, 38° 40' N 72° 01' E, 2550 m a.s.l., W Pamir Mts., Vanch River valley, Poi-Mazar village 6 km E, Vanch Nat. Res., 1 ♂, 28-VII-2013, K. Nupponen & R. Haverinen leg.

Distribution: Kyrgyzstan, Uzbekistan, Tajikistan.

Remarks: The species seems to be infrequent but rather widely distributed at high altitudes of the Central Asian mountains.

*Calyciphora ludmilae* Ustjuzhanin & Kovtunovich, 2011*Calyciphora ludmilae* Ustjuzhanin & Kovtunovich, 2011. *Amurian zool. Jl.*, **3**(3): 275

Material: KYRGYZSTAN, 39° 39' N 73° 52' E, 2930 m a.s.l., Trans-Alai Mts., Nura River, SW from Irkeshtam village, 2 ♂♂, 30-VII-2010, K. Nupponen & R. Haverinen. 1×GP.

*Calyciphora nephelodactyla* (Eversmann, 1844)

*Alucita nephelodactyla* Eversmann, 1844. *Fauna Volg. Ural.*: 609

Material: RUSSIA, 49° 47' N 44° 25' E, 90 m a.s.l., Volgograd district, Olhovka village 12 km SW, 1 ♂, 4-IX-2002, K. Nupponen leg., 1×GP.

*Merrifieldia caspia* (Lederer, 1870)

*Pterophorus caspius* Lederer, 1870. *Hor. Soc. ent. Ross.*, **8**: 27

Material: UZBEKISTAN, 39° 44' N 68° 16' E, 1455 m a.s.l., Jizzax district, Margusor Mts., near Besh-Kuvi village, 47 exx., 15-VII-2009, K. Nupponen leg., 2xx. KYRGYZSTAN, 40° 33' N 73° 07' E, 1130 m a.s.l., Uzgen, Aldier, 1 ♂, 19-VII-2010, K. Nupponen & R. Haverinen leg.; Kyrgyzstan, 41° 25' N 74° 55' E, 1620 m a.s.l., Naryn River valley, near Ak-Tal village, 1 ♀, 3-VIII-2010, K. Nupponen & R. Haverinen leg. TAJIKISTAN, 38° 06' N 70° 26' E, 1180 m a.s.l., W Pamir Mts., Pianj River, by Zigar village, 1 ♂, 30-VII-2013, K. Nupponen & R. Haverinen leg.

*Wheeleria phlomidis* (Staudinger, 1871)

*Acipitilus phlomidis* Staudinger, 1871. *Hor. Soc. ent. Ross.*, **7**: 282

Material: RUSSIA, 51° 23' N 56° 49' E, 130-340 m a.s.l., Orenburg district, Donskoje village 6 km W, Verbljushka Gora, 15 exx., 10-12-VI-1998, 4 exx., 17-19-VI-1999, 2 exx., 27-VI-2003, K. Nupponen & T. Nupponen leg., 3×GP; Russia, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 1 ♂, 10-VI-2001, 2 ♀♀, 29-VI-2003, K. Nupponen leg.; Russia, 49° 47' N 44° 25' E, 90 m a.s.l., Volgograd district, Olhovka village 12 km SW, 1 ♂, 6-VI-2001, K. Nupponen leg., 1×GP.

*Pselnophorus poggei* (Mann, 1862)

*Oxyptilus poggei* Mann, 1862. *Wien. Ent. Monatsch.*, **6**: 409

Material: AZERBAIJAN, Talysh Mts., 38° 48' N 48° 31' E, 460 m a.s.l., Lerik 10 km E, 1 ♂, 31-V-2019, K. Nupponen & R. Haverinen leg., 1×GP.

*Oidaematophorus constanti* (Ragonot, 1875)

*Oedematophorus constanti* Ragonot, 1875. *Bull. Soc. ent. Fr.*, **1875**: 230

Material: RUSSIA, 53° 57' N 59° 03' E, 650 m a.s.l., Cheliabinsk district, by Moskovovo village, 19 exx., 16-VIII-2006, 1 ♂, 16-VII-2007, K. Nupponen leg., Genitalia slide: K. Nupponen prep. no. 1/14-II-2021 ♂, 1×GP. (Figs 12-13).

Distribution: European species, occurring in western Europe eastwards to Crimea. Separate record from Altai district, southern Siberia (USTJUZHANIN & KOVTUNOVICH, 2019). **New to Ural district.**

*Oidaematophorus rogenhoferi* (Mann, 1871)

*Pterophorus rogenhoferi* Mann, 1871. *Verh. zool.-bot. Ges. Wien*, **21**: 79

Material: TAJIKISTAN, 38° 40' N 72° 01' E, 2550 m a.s.l., W Pamir Mts., Vanch River Valley, Poi-Mazar village 6 km E, Vanch Nature Reserve, 1 ♂, 28-VII-2013, 1 ♂, 1 ♀, 29-VII-2013, K. Nupponen & R. Haverinen leg., Genitalia slide: K. Nupponen prep. no. 3/12-II-2021.

*Hellinsia chrysocomae* (Ragonot, 1875)

*Pterophorus chrysocomae* Ragonot, 1875. *Bull. Soc. ent. Fr.*, **1875**: 74

Material: KYRGYZSTAN, 40° 33' N 73° 07' E, 1130 m a.s.l., Uzgen, Aldier, 2 ♂♂, 19-VII-2010, K. Nupponen & R. Haverinen leg., 1×GP.

*Hellinsia innocens* (Snellen, 1884)

*Pterophorus innocens* Snellen, 1884. *Tijdschr. v. Ent.*, **27**: 195

Material: RUSSIA, 51° 11-13' N 106° 10-12' E, 700 m a.s.l., S Buryatia, Hamar Daban Mts., Murtoy River, Gusinoe Ozero village 6 km NW, forest steppe, 1 ♂, 19-VI-2002, 1 ♂, 22-VI-2002, K. Nupponen leg., 1×GP; Russia, 51° 00-10' N 85° 35-45' E, 1400-1500 m a.s.l., Altai Mts., Sarlyk region, 1 ♂, 8-VII-2000, K. Nupponen & T. Nupponen leg.

Distribution: Russia (Altai Mts., Irkutsk, Buryatia, Chita district, Sakhalin, Primoriye). **New to the Altai region.**

*Hellinsia lienigianus* (Zeller, 1852)

*Pterophorus lienigianus* Zeller, 1852. *Linn. Ent.*, **6**: 380

Material: RUSSIA, 51° 54' N 57° 43' E, 450 m a.s.l., Bashkiria, Sakmara River near Jantyshevo village, 1 ♂, 20-VI-1996, K. Nupponen leg., 1×GP.

*Hellinsia mongolicus* (Zagulajev & Pentschukovskaja, 1972)

*Pterophorus mongolicus* Zagulajev & Pentschukovskaja, 1972. *Insects Mongolia*, **1**: 691

Material: RUSSIA, 50° 14-16' N 87° 50-55' E, 1700-2000 m a.s.l., Altai Mts., Kuraiskaja steppe, 1 ♀, 26-VI-2000, 2 ♂♂, 27-VI-2000, 1 ♂, 28-VI-2000, K. Nupponen & T. Nupponen leg.; Russia, 50° 14-16' N 87° 40' E, 1500 m a.s.l., Altai Mts., Chuja valley, Aktash village 5 km SE, 1 ♀, 5-VII-2000, K. Nupponen & T. Nupponen leg.; Russia, 51° 47-48' N 100° 55-58' E, 1450 m a.s.l., SW Buryatia, East Sayan Mts., Mondy village 2 km E, taiga forest/steppe, 1 ♂, 13-VI-2002, 1 ♂, 15-VI-2002, K. Nupponen leg.

*Hellinsia pectodactylus* (Staudinger, 1859)

*Pterophorus pectodactylus* Staudinger, 1859. *Stett. ent. Ztg.*, **20**: 258

Material: RUSSIA, 51° 23' N 56° 49' E, 130-340 m a.s.l., Orenburg district, Donskoje village 6 km W, Verbljushka Gora, 1 ♀, 15-VII-1998, 2 ♀♀, 17-VI-1999, 1 ♀, 19-VI-1999, 1 ♂, 28-VII-2000, K. Nupponen & T. Nupponen leg.; Russia, 50° 58' N 54° 25' E, 100 m a.s.l., Orenburg district, near Burannoe village, Ilek River valley, 2 ♀♀, 30-VII-2000, T. Nupponen leg.; Russia, 50° 40-45' N 54° 26-28' E, 170-230 m a.s.l., Orenburg district, Pokrovka village 20 km S, Schibendy valley, 1 ♂, 5 ♀♀, 3-VI-1998, 3 ♂♂ 13 ♀♀, 7-VI-1998, K. Nupponen & T. Nupponen leg.; Ibidem, 1 ♂, 10-VI-2001, 1 ♂ 28 ♀♀, 17-VII-1998, 3 ♀♀, 2-4-VIII-2005, K. Nupponen leg.; Russia, 53° 02' N 62° 06' E, 200 m a.s.l., Cheliabinsk district, Ajat River near Nikolaevka village, 1 ♀, 5-IX-2000, K. Nupponen leg.; Russia, 48° 02-03' N 46° 37-40' E, 5-10 m a.s.l., Astrahan district, Peski Thikili by Bogdo village, 1 ♂, 30-VIII-2006, K. Nupponen leg.

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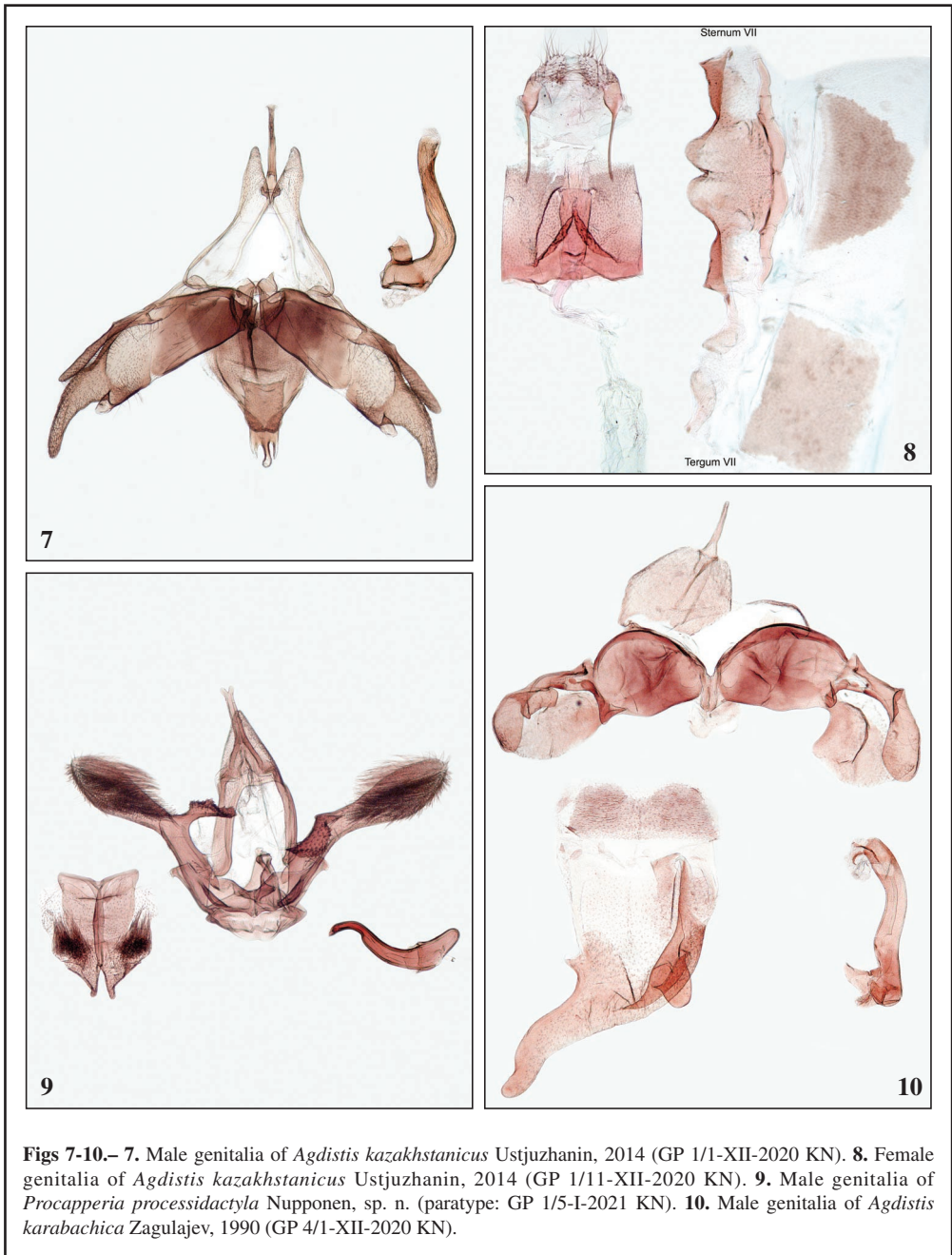
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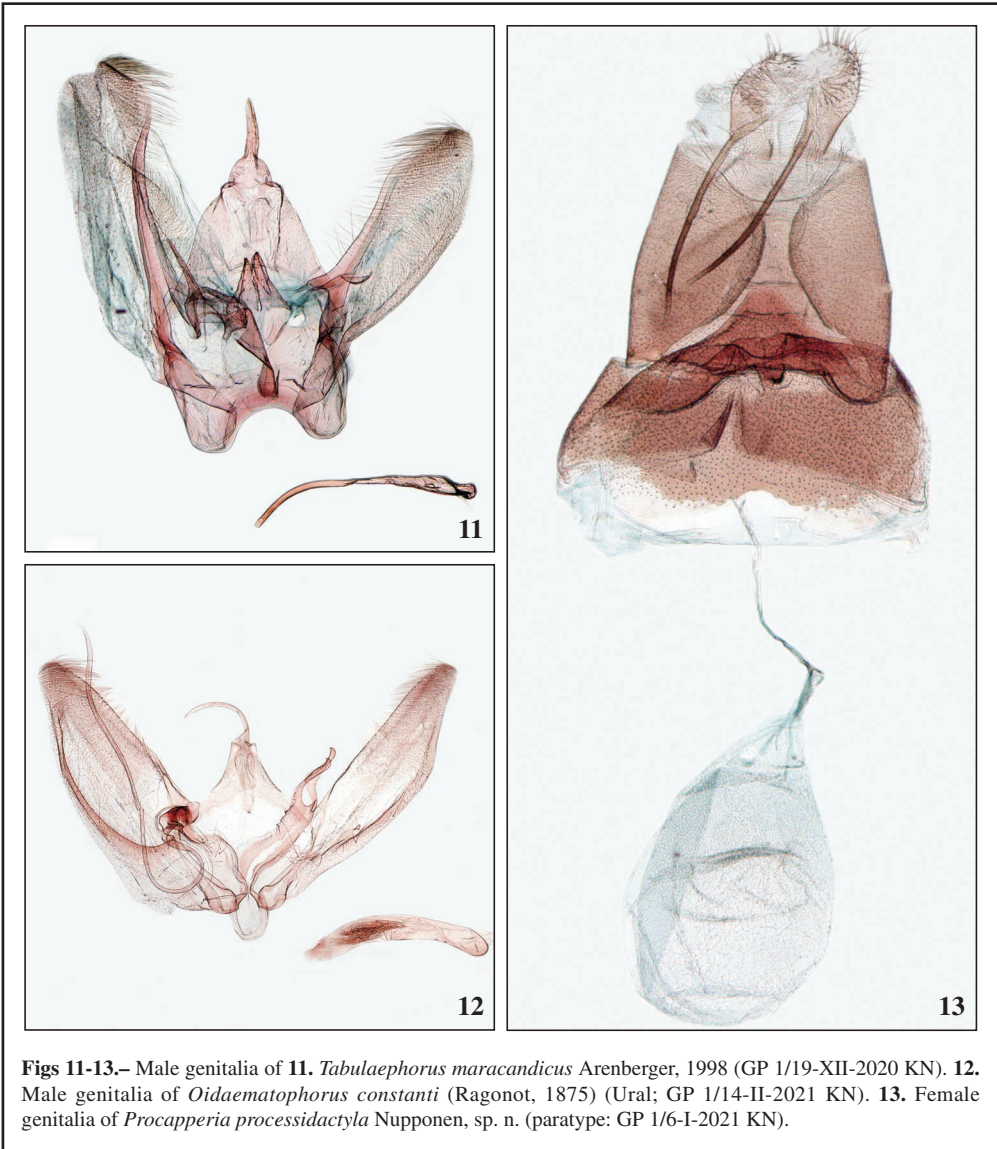


**Figs 1-6.**— Adults of **1.** *Agdistis kazakhstanicus* Ustjuzhanin, 2014. **1a.** male. **1b.** female. **2.** *Procapperia processidactyla* Nupponen, sp. n. **2a.** male, holotype. **2b.** female, paratype. **3.** *Agdistis flavissima* (Caradja, 1920) (Russia, Astrakhan district). **4.** *Gillmeria stenoptiloides* (Filipjev, 1927) (Russia, North Ural). **5.** *Tabulaephorus maracandicus* Arenberger, 1998 (Uzbekistan). **6.** *Oidaematophorus constanti* (Ragonot, 1875) (Ural).



**Figs 7-10.**– 7. Male genitalia of *Agdistis kazakhstanicus* Ustjuzhanin, 2014 (GP 1/1-XII-2020 KN). 8. Female genitalia of *Agdistis kazakhstanicus* Ustjuzhanin, 2014 (GP 1/11-XII-2020 KN). 9. Male genitalia of *Procapperia processidactyla* Nupponen, sp. n. (paratype: GP 1/5-I-2021 KN). 10. Male genitalia of *Agdistis karabachica* Zagulajev, 1990 (GP 4/1-XII-2020 KN).





**Figs 11-13.**– Male genitalia of **11.** *Tabulaephorus maracandicus* Arenberger, 1998 (GP 1/19-XII-2020 KN). **12.** Male genitalia of *Oidaematophorus constanti* (Ragonot, 1875) (Ural; GP 1/14-II-2021 KN). **13.** Female genitalia of *Procapperia processidactyla* Nupponen, sp. n. (paratype: GP 1/6-I-2021 KN).