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# New species and new records of gelechiid-moths from northern Siberia and Far East of Russia (Lepidoptera: Gelechiidae)

O. Bidzilya

## Abstract

Three new species of Gelechiidae are described from Russia: *Teleiopsis tchukotka* Bidzilya, sp. n. (Tchukotskiy AR), *Chionodes ermolaevi* Bidzilya, sp. n. (Sakhalin Island), *Chionodes arctica* Bidzilya, sp. n. (Jamalo-Nenetskiy AR, Jakutia, Wrangel Island). Five species are recorded for the first time from the Sakhalin Island, three species-from the Kurily Islands, two species-from Jakutia, one species from Tchukotskiy AR and one species-from Jamalo-Nenetskiy AR.

KEY WORD: Lepidoptera, Gelechiidae, new species, Russia.

## Nuevas citas y nuevos registros de geléichidos del norte de Siberia y del extremo oriente de Rusia (Lepidoptera: Gelechiidae)

## Resumen

Se describen tres nuevas especies de Gelechiidae de Rusia: *Teleiopsis tchukotka* Bidzilya, sp. n. (Chucotka AR), *Chionodes ermolaevi* Bidzilya, sp. n. (isla de Sajalín), *Chionodes arctica* Bidzilya, sp. n. (Yamalia-Nenetsia AR, Yakutia, isla de Wrangel). Por primera vez se registran cinco especies de la isla de Sajalín, tres especies de las islas Kuriles, dos especies de Yakutia, una especie de Chukotka AR y una especie de Yamalia-Nenetsia AR.

PALABRAS CLAVE: Lepidoptera, Gelechiidae, nuevas especies, Rusia.

## Introduction

The present contribution is devoted to the study of gelechiid-moths from northern Siberia, NE Jakutia, Tchukotskiy AR, Sakhalin and Kurily Islands of Russia. The Gelechiidae from these regions are as a rule poorly represented in old collections, new materials are often very limited too. As a result, the Gelechiidae-fauna of these territories remains rather poorly known in comparison to neighbouring southern regions of Siberia, Amur, Khaborvskiy and Primorskiy kray of the Russian Far East. In this connection, additional records from these areas are of great interest as they allow us to close the gap in our knowledge of species distribution and provide important data for study of regional biodiversity as well as the biogeography and systematics of Palaearctic Gelechiidae in general.

Review of my study collection material resulted in a new *Teleiopsis*-species from northern Tchukotka (Apapelgino near Pevek), a new *Chionodes*-species from Sakhalin Island and another new *Chionodes*-species from the tundra area of the Asiatic part of Russia. Additionally, five species are recorded for the first time from Sakhalin Island, three species - from the Kurily Islands, two species - from NE Jakutia, one species - from Jamalo-Nenetskiy AR and one - from Tchukotskiy AR.

The examined material is deposited in the Zoological Institute, Russian Academy of Sciences,

Sankt-Petersburg, Russia (ZIN) and Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine, Kiev, Ukraine (IZAN).

### List of species

#### *Monochroa cytisella* (Curtis, 1837)

Material examined: 3 ♂♂, Sakhalin, Novoaleksnadrovsk, 10-VII-1986 (Nesterov) (IZAN).

Distribution: Palaearctic region. **New for Sakhalin Island.**

#### *Metzneria lapella* (Linnaeus, 1758)

Material examined: 4 ♂♂, Sakhalin, Novoaleksnadrovsk vic., forest, 28-VI-1986; 24-VII-1986; 17-VIII-1986 (Nesterov) (IZAN).

Distribution: Palaearctic region, N America (introduced). **New for Sakhalin Island and Far East of Russia.**

#### *Bryotropha galbanella* (Zeller, 1839)

Material examined: 1 ♂, [Russia: Jamalo-Nenetskiy AR] near the beginning of bay, Gydajamo, locality No. 5, 11-VII-[19]27 (S. Naumov) | Gydajanskaya Exp. Ak.N. (ZIN).

Distribution: Northern and Central Europe, Tuva, NW Yakutia, Japan, N America (BIDZILYA, 2005; KARSHOLT & RUTTEN, 2005; PONOMARENKO, 2008). **New for Jamalo-Nenetskiy AR.**

#### *Carpatolechia alburnella* (Zeller, 1839)

Material examined: 2 ♂♂, 1 ♀, Yuzhno-Sakhalinsk, Novoaleksandrovsk, 3-VIII-1986; 20-VII-1987 (Nesterov) (IZAN).

Distribution: Palaearctic. **New for Sakhalin Island.**

#### *Pseudotelphusa paripunctella* (Thunberg, 1794)

Material examined: 1 ♀, S Kurily, Kunashir, Sernovodsk vic., 18-VII-[19]67 (Kuznetsov) | bog with *Alnus* and *Picea glehnii* (ZIN).

Distribution: Palaearctic. **New for Kurily Islands.**

### *Teleiopsis tchukotka* Bidzilya, sp. n.

Type material. Holotype ♂, Apapelchin, 15 km NOO Pevek, Tchukot.[ka], 15-VII-[1]963 (Gorodkov) | bereg morja [sea shore] (gen. slide 78/10) (ZIN). Paratypes: 1 ♀, same data as holotype (gen. slide 237/12) (ZIN).

Description (Fig. 1): Wingspan 18.9-19.1 mm. Head, thorax and tegulae grey, mixed with brown. Labial palpus strongly up-curved. Segment 2 grey with diffuse medial and apical brown belts, inner surface covered with light grey brown-tipped scales; segment 3 twice as slender and nearly as long as segment 2, pointed, greyish-brown; scapus brown, flagellum brown, grey-ringed, upper side finely ciliated. Forewing covered with light-grey brown-tipped scales, black oblique fascia from 1/4 of costa to dorsum, black prolonged spot and black point in middle of cell, two diffuse black spots at 2/3 of dorsal and costal margin, white subapical fascia poorly expressed, cilia grey. Hindwing and cilia light grey.

Male genitalia (Figs. 6, 9): Tergite VIII tongue-shaped, anterior margin deeply emarginated, anteriolateral lobes moderately broad, lateral coremata not extending the distal margin of tergite, lateral humps short and broad; sternite VIII twice broader than long, nearly parallel-sided, posterior margin weakly rounded, densely haired. Uncus moderately broad in basal half, gradually tapered distally; gnathos weak, slightly shorter than uncus and about as narrow as its distal half; distal part of tegumen narrow, prolonged, basal part divided by anterior emargination into two broad rounded lobes; valva (cucullus) digitate, basal half nearly 2.5 times broader than distal half, inner margin with short medial hump, apex with short thorns; sacculus weak, slender, needle-shaped, extending to 4/5 length of

cucullus; vinculum narrow, posterior margin with long weakly sclerotized projection; saccus absent; phallus slender, tubular, weakly curved, slightly exceeds the length of tegumen and uncus, lamina comparatively short.

Female genitalia (Fig. 12): Segment VIII slightly longer than broad, weakly sclerotized, tergite VIII with deep rounded anterior emargination. Apophyses anteriores about 1.5 times length of segment VIII, straight, moderately thick. Apophyses posteriores more than three times longer than apophyses anteriores, thin. Antrum as long as segment VIII and apophyses anteriores, tubular, nearly of equal width, narrow longitudinal fold from the base to 3/4 length, posterodorsal emargination sub-oval, subposterior pouch small, triangular. Ductus bursae long, slender, ribbon-shaped. Corpus bursae rounded, signum a sub-hexagonal plate, medial ridge wide, posterior lobe broader than anterior lobe, finely serrated.

Remarks: Both specimens from the type-series are not "fresh" and show no clear differences from *T. diffinis* (Haworth, 1828), *T. lindae* Schmid, 2010 and *T. laetitiae* Schmid, 2010 except for generally lighter ground colour of forewing, remotely resembling externally *T. albifemorella* (Hofmann, 1867). By the absence of white touch at dorsum of forewing the new species differs from *T. bagriotella*. The male genitalia are most similar to those of *T. rosabella* (Fologne, 1862) having gradually narrowed apically valva with the poorly expressed hump on its inner margin and apex, that is not curved inwards. The uncus of the new species is similar to that of *T. lindae*, it is tapered more strongly than in *T. diffinis*, but not a strongly as in *T. bagriotella* and *T. laetitiae*.

The shape of uncus of the new species is an intermediate between *T. bagriotella* and *T. laetitiae*. Moreover, the uncus of *T. bagriotella* is distinctly narrower at base. The female genitalia of *T. tchukotka* Bidzilya, sp. n. are characterized by a comparatively short antrum, whose length does not exceed the length of segment VIII and apophyses anteriores. This character well differentiates *T. tchukotka* Bidzilya, sp. n. from *T. diffinis*, *T. bagriotella*, *T. lindae*, *T. laetitiae* and other species with distinctly longer antrum. *T. albifemorella* most resembles *T. tchukotka* Bidzilya sp. in the female genitalia, but antrum of this species is shorter (see HUEMER & KARSHOLT, 1999: 290, fig. 50) and signum has another shape.

It should be noted that the new species looks similar externally to Nearctic *Ch. dolo* Hodges, 1999 (Yukon, Canada), but its genitalia are quite different.

Distribution: Russia: Tchukotskiy AR, Apapelnino (69° 47' N, 170° 36' E). According to label information both specimens were collected on the sea shore.

Etymology: The species name refers to the distribution in the Tchukotskiy AR of Russia.

### ***Chionodes tundra* Bidzilya, sp. n.**

*Chionodes species* (incertae sedis) (HUEMER & SATTLER, 1995: 51, figs. 48, 103, 137)

Type material. Holotype ♂, [Russia: Jamalo-Nenetskiy AR] u nachala guby, Gydajamo, stojanka No. 5, 11-VII-[19]27 (S. Naumov) | Gydajanskaya Exp. Ak. N. (gen. prep. in glycerol) (ZIN). [near the beginning of bay, Gydajamo, locality No. 5, 11-VII-[19]27 (S. Naumov) | Gydajan Exp. Academy of Sciences]. Paratypes: 2 ♂♂, same data as holotype (gen. slide 235/12); 1 ♂, Tiksi, Jakutia, 1-VII-1957 (Gorodkov) (ZIN).

Description (Figs. 2, 3): Wingspan 19.2-19.9 mm. Head light grey, frons light, nearly off-white; labial palpus strongly up-curved, grey mottled with black, segment 2 about as long and twice the width of segment 3; scapus brown, flagellum brown, underside finely ciliated; tegulae of same colour as head or slightly darker; forewing light brown evenly mottled with black-tipped scales; two brown spots in the middle of cell and short brown touch in fold; cilia grey; hindwing and cilia grey, lighter and slightly broader than forewing.

Variation: Four examined specimens slightly differ in the degree of expression of brown touch and number of black-tipped scales on forewing, looking from nearly uniformly light brown to dark brown with distinct spots.

Male genitalia (Figs. 7, 10): Tergum VIII slightly longer than sternum VIII, long and narrow,

evenly tapered apically, anterior margin deeply emarginated, anteriolateral arms narrow; sternum VIII broader than long, posterior margin with broad medial emargination, densely haired; anterior margin with paired sub-oval emargination astride of medial projection. Uncus rounded, densely setose laterally, posterior margin without medial thorn; gnathos long, sickle-shaped, broadened in middle, apex strongly pointed; tegumen weakly narrowed distally, clearly differentiated from the base of uncus, anterior margin with deep triangular emargination, pedunculi with long distal arms; valva (cucullus) evenly curved, of equal width except for strongly pointed apical fifth, not exceeding the top of uncus; sacculus straight, slender, about half length of valva; saccus nearly a regular triangular shape; phallus slim, slightly shorter than the length of saccus and cucullus, apex with leaf-like lobe, caecum slender with bulbous base, about 1/3 length of phallus.

Female genitalia: Unknown.

Remarks: The male genitalia of the new species remotely resemble those of *Ch. viduella* (Fabricius, 1794), *Ch. electella* (Zeller, 1839) and *Ch. nebulosella* (Heinemann, 1870) having long, apically pointed valva and pedunculi with long distal arms. It can be separated from above species by long and slender phallus and sub-oval rather than sub-rectangular uncus. *Ch. tundra* Bidzilya, sp. n. appears to be related either to the members of *funatella*-group (shape of valva and pedunculi) or to *distinctella*-group (long and slender phallus, rounded uncus). Its position within *Chionodes* can be defined more clearly after discovery of the female.

The single worn male of this species was mentioned as *Chionodes species* (incertae sedis) in the revision of Palaearctic *Chionodes* by HUEMER & SATTLER (1995). These authors recognized the specimen from Vrangl Island as a probably undescribed species, but did not provide its description due to insufficient material.

Distribution: Russia: northern parts of Jamalo-Nenetskiy AR, Northern-East Yakutia (Sakha), Vrangl Isl. The species occurs in the northern parts of tundra area of Eastern Palaearctic region between 69°-71° N and 77°-179° E. It seems to be the only *Chionodes* species, that inhabits such a high latitude.

Etymology: The species name refers to the distribution in the Tundra area of Eastern Palaearctic region.

#### *Chionodes ermolaevi* Bidzilya, sp. n.

Type material. Holotype ♂, Sakhalin, 17-20, PCH, 20-VII-1970 (Ermolaev) (ZIN). Paratypes: 2 ♂♂, 2 ♀♀, same data as holotype (gen. slide 150/07 ♂; 233/12 ♀) (ZIN).

Description (Figs. 4, 5): Wingspan 16.1-16.8 mm. Head, thorax, tegulae and ground colour of forewing light brown. Labial palpus strongly upcurved, light brown, segment 2 about two times width and slightly longer than segment 3; scapus brown, flagellum comparatively thick, brown, underside finely ciliated by male; forewing with two black spots in cell and black touch in fold; cilia light brown; hindwing and cilia grey.

Variation: Black touch in fold poorly expressed or reduced in some specimens; veins sometimes distinctly mottled with fuscous in apical third of forewing; the forewings of females are narrower than those of males.

Male genitalia (Figs. 8, 11): Tergum VIII tongue-shaped, as long as sternum VIII, moderately broad, anterior margin deeply emarginated, anterolateral arms narrow; sternum VIII slightly broader than long, posterior margin with broad medial emargination; anterior margin with paired sub-ovate emargination astride of medial lobe. Uncus rounded, broadest at base, weakly narrowed apically, densely covered with short marginal setae, posterior margin straight or with very small medial incision, medial thorn well developed; gnathos long, slender, sickle-shaped; tegumen nearly parallel-sided, twice longer than broad, constricted posteriorly and clearly separated from the base of uncus, anterior margin with short emargination; valva (cucullus) slender, evenly curved, apex needle-shaped, exceeds the base of gnathos; sacculus straight, slender, 2/3 length of cucullus; saccus basally broad, distinctly narrowed apically, apex rounded; phallus as long as the length of genitalia capsula, apex with leaf-like

lobe, vesica with slender weakly curved cornutus, caecum slender with bulbous base, about 2.5 times shorter than the length of phallus.

Variation: Cornutus in vesica is well visible in holotype, but not developed in paratype.

Female genitalia (Fig. 13): Segment VIII about as long as broad; apophyses anteriores basally strongly dilated, evenly tapered towards pointed apex; apophyses posteriores slender, nearly four times longer than apophyses anteriores; antrum a long gradually narrowed distally tube, distinctly longer than apophyses anteriores; ductus bursae extremely short and narrow; corpus bursae sub ovate, no signum.

Remarks: The new species is similar externally to *Ch. borzella* Bidzilya, 2000, that is known from Zabaikalskiy Krai of Russia (former Chitinskaya oblast), but differs in the smaller size of imago, uniformly brown forewing with usually poorly visible veins, as well as in the larger and better expressed black spots. The male genitalia of *Ch. binxianensis* Li & Zheng, 1997 are most similar to those of *Ch. ermolaevi* Bidzilya, sp. n., but can be distinguished by shorter gnathos and shorter caecum that is three times, rather than 2.5 times in *Ch. ermolaevi* Bidzilya, sp. n., shorter than phallus. The thin cornutus in the vesica of phallus can be considered as additional characteristic feature of the new species, but this character is not constant. The female genitalia most resemble those of *Ch. perpetuella* (Herrich-Schäffer, 1854) and *Ch. apolectella* (Walsingham, 1900) in the shape of apophyses anteriores, but can be distinguished by the longer antrum, that far surpasses the top of apophyses anteriores, and the absence of signum.

According to the female genitalia characters (absence of signum, shape of apophyses anteriores and shape of antrum) *Ch. ermolaevi* Bidzilya, sp. n. has undoubtedly to be placed in *distinctella*-group. The male genitalia of new species agree with those of *distinctella*-group too, but the uncus with distinct medial torn is more characteristic of *fumatella*-group.

Distribution: Russia: Sakhalin Island.

Etymology: The species is named in honor of the Russian lepidopterist V. P. Ermolaev, who collected the type series of the new species.

#### *Chionodes mongolica* Piskunov, 1979

Material examined: 2 ♂♂, Apapelchin, 15 km NOO Pevek, Tchukot., 15-VII-[1]963 (Gorodkov) | sea shore (ZIN).

Distribution: Ukraine (need confirmation), Russia: S Ural, S Siberia, Mongolia (HUEMER, SATTLER, 1995; PONOMARENKO, 2008). **New for Tchukotskiy AR.**

#### *Gelechia anomorcta* Meyrick, 1926

Material examined: 1 ♂, S Kurily, Kunashir, Sernovodsk vic., 5-VIII-1967, ex I. (Kuznetsov) | No. 169 ex P.[upa], Quercus, Kunashir Isl., Sernovodsk vic., 5-VIII-1967 (Kuznetsov) (ZIN).

Distribution: Russia: Zabaikalskiy krai, Khabarovskiy krai, Primorskiy krai (PONOMARENKO, 2008); Korea (North), Japan (PARK & PONOMARENKO, 2007). **New for Kurily Islands.**

#### *Gnorimoschema nordlandicolella* (Strand, 1902)

Material examined: 1 ♂, Sergeljakh vil., 5 km E from Jakutsk, 11-IX-[19]26 (Moskvina) | Jakutskaya Exped. Ak. N. (ZIN).

Distribution: Northern Europe, Russia (Irkutskaja obl., Altai, Zabaikalskiy krai), Turkmenistan, Kyrgyzstan, Turkey (PONOMARENKO, 2008; HUEMER & KARSHOLT, 2010). **New for Jakutia.**

#### *Scrobipalpa reiprichi* Povolný, 1974

Material examined: 1 ♀, S Kurily, Kunashir, Sernovodsk vic., 3-VII-1967 (Zabello) (ZIN).

Distribution: Europe: Slovakia, Norway, Hungary (HUEMER & KARSHOLT, 2010), Russia: Sakhalin (BIDZILYA, 2009), China (BIDZILYA & LI, 2010). **New for Kyrily Islands.**

#### *Caryocolum casella* (Walker, 1864)

Material examined: 1 ♀, Sakhalin, Novoaleksandrovsk vic., forest, 20-VII-1987 (Nesterov).

Distribution: Holarctic. **New for Sakhalin Island.**

*Syncopacma anthyllidella* (Hübner, [1813])

Material examined: 1 ♂, Sakhalin, Novoaleksandrovsk, mixed forest, 29-VII-1986 (Nesterov) (IZAN).

Distribution: Palaearctic region. **New for Sakhalin Island.**

*Neofaculta taigana* Ponomarenko, 1998

Material examined: 1 ♂, Upper Tomba river, branch of Olenek river, Jakut.[ia], VI-[18]74 (Tchekanovskiy) (ZIN).

Distribution: Russia: Tuva, S of Krasnojarskiy krai, Burjatia, Zabaikalskiy krai, Magadan reg., Khabarovskiy krai, Primorskiy krai. **New for Yakutia.**

*Acanthophila latipennella* (Rebel, 1937)

Material examined: 1 ♀, Sakhalin, Novoaleksandrovsk, 28-VII-1986 (Nesterov) (IZAN).

Distribution: Palaearctic region. **New for Sakhalin Island.**

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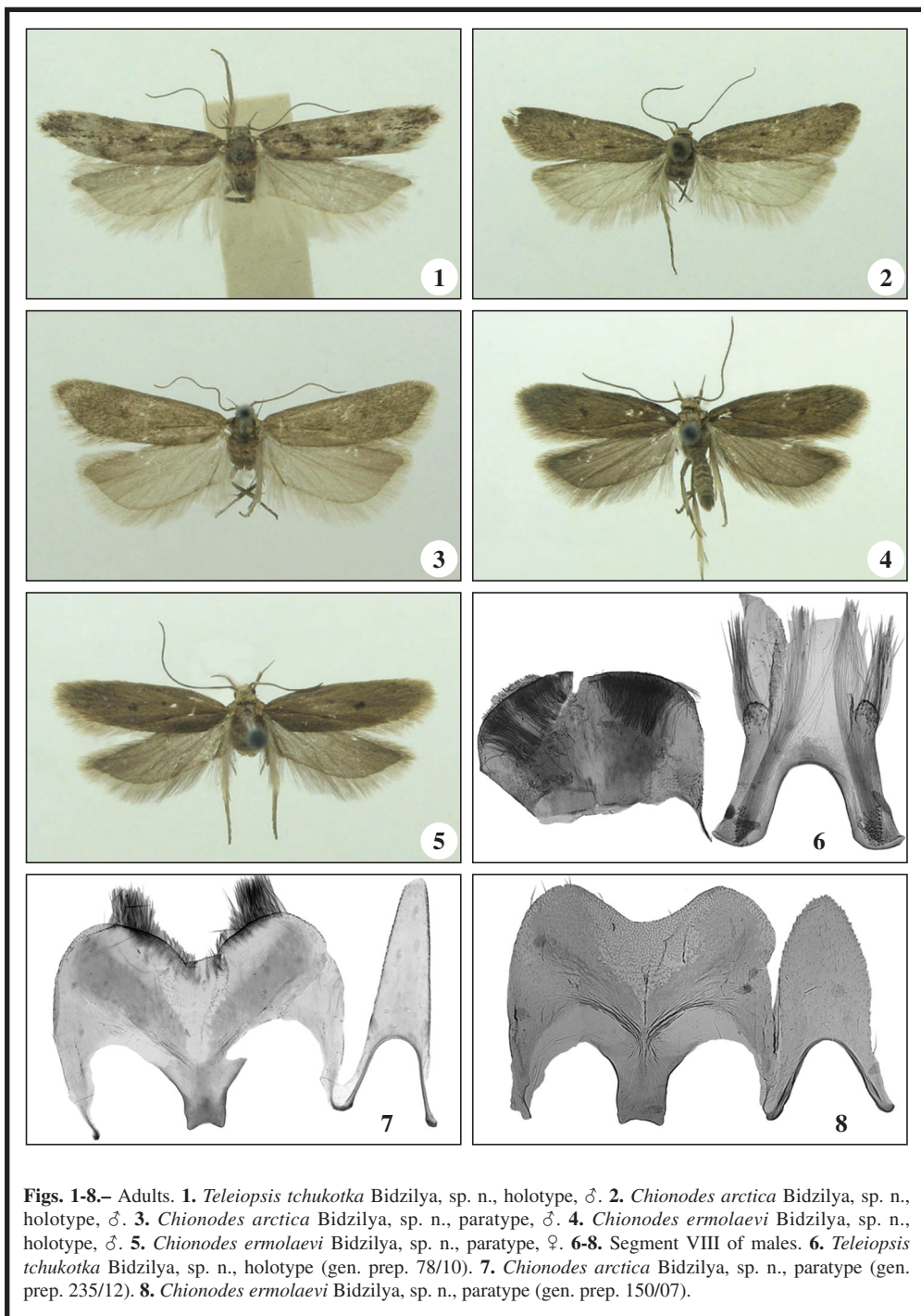
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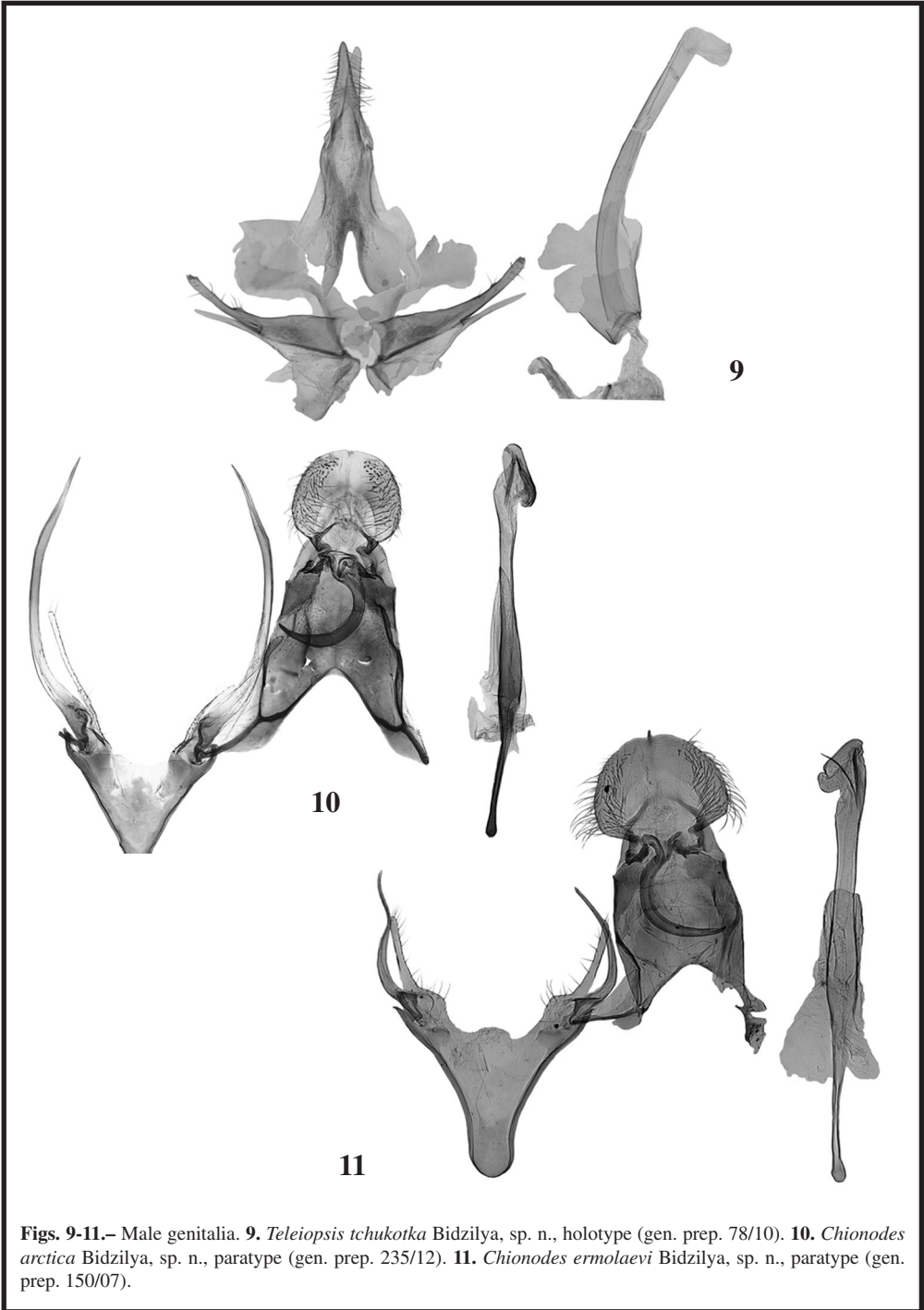
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**Figs. 1-8.**— Adults. **1.** *Teleiopsis tchukotka* Bidzilya, sp. n., holotype, ♂. **2.** *Chionodes arctica* Bidzilya, sp. n., paratype, ♂. **3.** *Chionodes arctica* Bidzilya, sp. n., holotype, ♂. **4.** *Chionodes ermolaevi* Bidzilya, sp. n., holotype, ♂. **5.** *Chionodes ermolaevi* Bidzilya, sp. n., paratype, ♀. **6-8.** Segment VIII of males. **6.** *Teleiopsis tchukotka* Bidzilya, sp. n., holotype (gen. prep. 78/10). **7.** *Chionodes arctica* Bidzilya, sp. n., paratype (gen. prep. 235/12). **8.** *Chionodes ermolaevi* Bidzilya, sp. n., paratype (gen. prep. 150/07).



**Figs. 9-11.**— Male genitalia. **9.** *Teleiopsis tchukotka* Bidzilya, sp. n., holotype (gen. prep. 78/10). **10.** *Chionodes arctica* Bidzilya, sp. n., paratype (gen. prep. 235/12). **11.** *Chionodes ermolaevi* Bidzilya, sp. n., paratype (gen. prep. 150/07).

