

ORIGINAL ARTICLE

New records of Lepidoptera from the South of West Siberian Plain

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The paper contains information on 26 Lepidoptera species from Omsk and Novosibirsk Provinces that are firstly reported from the territory of these Provinces. 7 of them are new for the West Siberian Plain. One species - *Heterogenea asella* ([Denis & Schiffermüller], 1775) is the first indication of the Family Limacodidae in Siberia. Finds of *Epischnia illotella* Zeller, 1839 and *Asthenes anseraria* (Herrich-Schäffer, 1855) are new for the Asian part of Russia.

Key words: Lepidoptera; butterflies; moths; West Siberia; Russia; fauna; new records

Introduction

Faunistic studies in West Siberia have become particularly active in the last 10 years. During this time, it was discovered a large number of new species for the study area, which is reflected in publications (Kosterin et al., 2007; Kosterin & Dubatolov, 2007; Knyazev, 2009; Knyazev et al. 2010a,b,c, 2011, 2012, 2013, 2014, 2015, 2016; Lvovsky et al. 2012; Vasilenko & Ivonin, 2012; Ustjuzhanin & Kovtunovich, 2012; Dubatolov, 2013; Knyazev & Ustjuzhanin, 2013; Ivonin et al., 2013; Knyazev & Mironov, 2015). However some areas still remain poorly studied, such as taiga zone on the north of Omsk and Novosibirsk Provinces. Especially interesting is that part of taiga zone where is *Tilia cordata* grows, large territories with *Pinus sibirica* and *Picea abies* and sphagnum swamps. These biotopes are inhabited with some nemoral species usually not presented on the other part of West Siberian Plain and often hidden from the collectors in mind remote and inaccessible areas.

In a series of expeditions in Omsk and Novosibirsk Provinces in 2017 and after studying of collecting materials from the previous years we discovered several species of Lepidoptera which are the new for the studied Provinces. Some of them were never reported from the territory of West Siberian Plain. The list of species with short remarks is published below.

Material and methods

Butterflies and moth were collected by standard method by butterfly net and by using mercury lamps 250W, already with UV-traps. All specimens deposited in collections of Svyatoslav Knyazev (SKO, Omsk, Russia), Vadim Ivonin (VIN, Novosibirsk, Russia), Konstantin Ponomaryov (KPO, Omsk, Russia), Vladimir Teploukhov (VTO, Omsk, Russia), Petr Ustjuzhanin (PUN, Novosibirsk,

Russia), Zoological institute RAS (ZISP, Saint-Petersburg, Russia) and Omsk state Museum of History and local studies (OSMH, Omsk, Russia).

Results

The general classification in the check-list accepted by Catalogue of Lepidoptera of Russia (2007). Noctuoidea classification is accepted here according to Zahiri et al., (2010).

Family Oecophoridae

Denisia similella (Hübner, 1796) Fig. 1

Material examined. 1 ♀, Omsk Province, Tara district, 4 km N of Samsonovo vill., 57°00'38.4"N, 74°20'27.7"E, at light, 17-18.VI.2017, S.A. Knyazev leg (SKO); 1 ♂, Khanty-Mansiysk Region, near town Seliyarovo, 61°05'N, 70°07' E., 17-20.VII.2010, K. Tomkovich leg. (ZISP).

Remark. New to the Western Siberia and Omsk Province. The species is widely distributed from Europe to Kamchatka in Russian Far East, but it is rare in the West-Siberian Plain. The only one female was collected in the mixed forest at the northeast of Omsk Province.

Pleurota bicostella (Clerck, 1759)

Material examined. 1 ♂, Khanty-Mansiysk Region, near town Seliyarovo, 61°05'N, 70°07' E., 17-20.VII.2010, K. Tomkovich leg. (ZISP).

Remark. The species is widely distributed in forest zone of Europe and Northern Asia, but very rare in Siberia. This record is the first on the territory of Western Siberia.

Minetia crinitus (Fabricius, 1798)

Material examined. 1 ♂, Novosibirsk Province, Iskitimski district, 54°26'43.77"N, 83°25'33.75"E., 18.V.2007, V.V. Ivonin leg. (ZISP).

Remark. The species is distributed in steppe zone and mountains of Europe and Siberia. This record is the first on the territory of Novosibirsk Region and Western Siberia.

Family Depressariidae

Agonopterix alstromeriana (Clerck, 1759)

Material examined. 3 ♂, Novosibirsk, Akademgorodok, 14.VI.1984; 3.VI.1988; 12.V.1989, on light, V.V. Dubatolov leg.; 1 ♂, the same place, 4.X.1992, O.E. Kosterin leg. (ZISP).

Remark. The species is very common in forest zone of Europe, but rare in Siberia. This record is the first on the territory of Novosibirsk Region and Western Siberia.

Agonopterix subtakamukui Lvovsky, 1998

Material examined. 1 ♂, Omsk Province, Krutinsky district 44 km NW Krutinka village, 5 km SW of Gulyai Pole vill., 56°13'30.08"N, 70°53'44.58"E., meadow near sphagnum swamp with *Pinus*, *Betula*, *Ledum*. 23.IX.2013, S.A. Knyazev leg. (SKO).

Remark. The species was described from Russian Far East, Primorsky Region. This record is the first for Siberia.

Family Limacodidae

Heterogenea asella ([Denis & Schiffermüller], 1775) Fig. 2

Material examined. 1 ♂, Omsk Province, Tara district, 4 km N of Samsonovo vill., 57°00'38.4"N, 74°20'27.7"E, at light, 17-18.VI.2017, S.A. Knyazev leg (SKO).

Remark. The new record of the family Limacodidae from the territory of Siberia. The single male was collected in forest zone on the northeast of Omsk Province in mixed forest contains of *Pinus sibirica*, *Pinus sylvestris*, *Picea abies*, *Larix sibirica*, *Betula pendula*, *Populus tremula*. Previously it was thought that *H. asella* has amphipaleartic distribution including European part of Russia and Russian Far East with a gap between rivers Volga and Zeya. So, it was not found in Urals and Siberia including Transbaikalia (Solovyev, 2008).

Family Pterophoridae

Platyptilia nemoralis Zeller, 1841 Fig. 3

Material examined. 1 ♂, Omsk Province, Bol'sheukovsky district, 28 km NW of Bol'shiye Uki vill., Yakovlevka, 57°10'39.05"N, 72°25'23.57"E, at light, 22-23.VI.2017, S.A. Knyazev leg. (SKO); 1 ♀, Omsk Province, Omsk district, Krasnoyarka vill., 55°20'10.5"N, 73°06'17.4"E, at light, 23.VI.2011, K.B. Ponomaryov leg. (KPO).

Remark. New to the Omsk Province where the species was collected in forest-steppe and forest zones. This species is widely distributed in Palaearctic Region. On the territory of West Siberia it was known from Tyumen' and Novosibirsk Provinces (Ustjuzhanin, 1998, Ustjuzhanin & Kovtunovich, 2012).

Stenoptilia veronicae Karvonen, 1932

Material examined. 17 specimens, Novosibirsk Province, on the border of Toguchin and Maslyanino districts, Salair, the floodplain of the river Poldnevaya, 54°33'13.01"N, 84°51'33.19"E, at light, 21.VI.2016, 27.VI.2016 and 05.VII.2016, V.V. Ivonin leg. (PUN).

Remark. New to the Novosibirsk Province. The species with Trans-Palaeartic distribution.

Oxyptilus parvidactylus (Haworth, 1811)

Material examined. 3 ♂, Omsk Province, Cherlack district, 2 km N of Malyi Atmas vill., 54°0'48.74"N, 74°56'39.91"E, at light, 1.VII.2012, K.B. Ponomaryov leg. (KPO, PUN).

Remark. West-Palaeartic species. New to the West Siberia and Omsk Province. Specimens collected on the south of forest-steppe zone in the floodplain of the river Irtysh.

Porittia galactodactyla ([Denis & Schiffermüller], 1775)

Material examined. 2 ♂, Omsk Province, Bol'sheukovsky district, 28 km NW of Bol'shiye Uki vill., Yakovlevka, 57°10'39.05"N, 72°25'23.57"E, at light, 22-23.VI.2017, S.A. Knyazev leg. (SKO).

Remark. New to the Omsk Province. The species is distributed from Europe to the South of West Siberia, where it was previously known from Kurgan and Novosibirsk Provinces (Ustjuzhanin, 1998).

Tabulaephorus marptys (Christoph, 1872) Fig. 4

Material examined. 1 ♂, Omsk Province, Cherlack district, 9 km SE of Nikolaevka vill., 54°12'40.44"N, 75°8'29.16"E, at light, 7-8.VI.2017, S.A. Knyazev leg. (SKO).

Remark. The species is distributed in Central-Palaeartic. New to the Russian part of the West Siberian Plain and Omsk Province. The nearest known locality of this species is in North Kazakhstan (Knyazev, 2015).

Cnaemidophorus rhododactylus ([Denis & Schiffermüller], 1775) Fig. 5

Material examined. 1 ♂, Omsk Province, Omsk district, 4 km NE of Davydovka vill., 55°11'7.80"N, 73°30'12.36"E, at light, 29-30.VI.2017, S.A. Knyazev leg. (SKO).

Remark. The species is widely distributed in temperate belt of Palaeartic and North America. New to the Omsk Province. The single specimen was collected in the vicinities of Omsk City in birch forest with *Rosa rugosa* undergrowth.

Family Pyralidae

Hypochalcia dignella (Hübner, 1796) Fig. 6

Material examined. 1 ♂, Omsk Province, Cherlack district, 9 km SE of Nikolaevka vill., 54°12'40.44"N, 75°8'29.16"E, at light, 7-8.VI.2017, S.A. Knyazev leg. (SKO).

Remark. New to the West Siberian Plain and Omsk Province. The single specimen was collected on the forb meadow near the border of Kurumbel' steppe and birch groves at the southeast of Omsk Province.

Epischnia illotella Zeller, 1839 Fig. 7

Material examined. 1 ♂, Omsk Province, Cherlack district, 10 km SE of Preobrazhenka vill., lake Sholacksor, 54°16'21.24"N, 75°14'42.18"E, at light, 19-20.VI.2017, S.A. Knyazev leg. (SKO).

Remark. New to the Asian part of Russia. Previously it was known only from the Volga-Don Region (Sinev, 2008). The single male was collected in dry steppe near salt lake at the southeast of Omsk Province.

Family Crambidae

Crambus silvellus (Hübner, [1813]) Fig. 9

Material examined. 1 ♂ 2♀, Omsk Province, Russko-Polyansky district, 2 km SE of Buzan vill., 53°54'42.9"N, 73°57'09.0"E, at light, 20-21.VII.2017, S.A. Knyazev leg. (SKO).

Remark. New to the West Siberian Plain and Omsk Province. Small series of specimens was collected on dry steppe station between small birch groves at the south of Omsk Province.

Udea decrepitalis (Herrich-Schäffer, 1848) Fig. 8

Material examined. 1 ♂, Omsk Province, Muromtsevo district, 1 km W of Petropavlovka vill., 56°24'13.74"N, 75°15'47.94"E, at light, 3-4.VI.2017, S.A. Knyazev leg. (SKO).

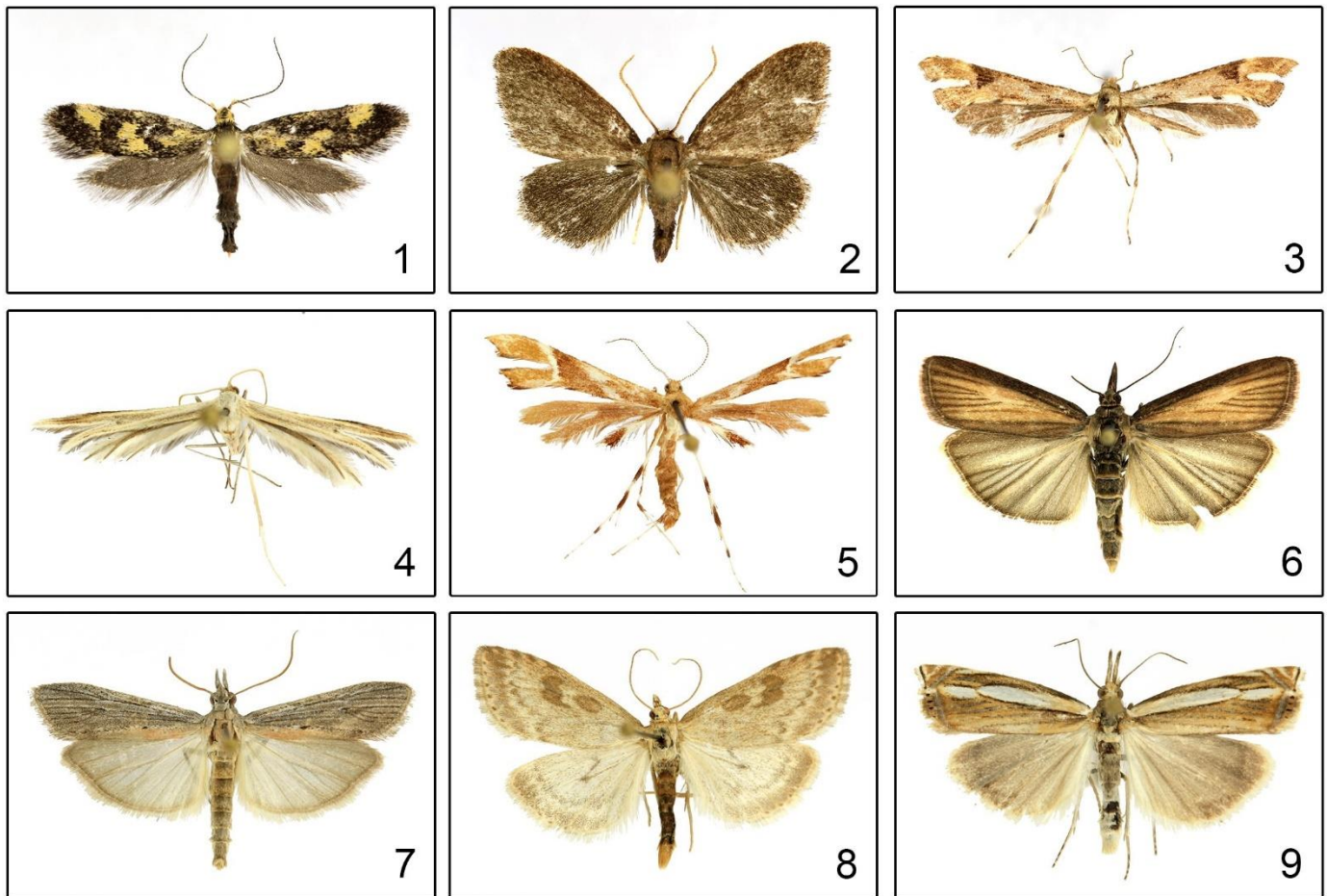
Remark. New to the West Siberian Plain and Omsk Province. The single male was collected in mixed forest with *Pinus sylvestris*, *Betula pendula*, *Populus tremula*, *Salix spp.*, *Prunus padus*, *Frangula alnus*.

Family Geometridae

Ectephrina semilutata (Lederer, 1853) Fig. 10

Material examined. 1 ♂, Novosibirsk Province, Kolyvan` district, Ust`-Toya vill., 56°04'22.05"N, 83°06'10.50"E, at light, 15.VI.2017, V.V. Ivonin leg. (VIN).

Remark. Rare East-Palaearctic subboreal temperate species. New to the Novosibirsk Province and the second record for West Siberia. Previously known from the Altai territory only (Vasilenko, 2006, Mironov et al., 2008).



Figs 1-9. Oecophoridae, Limacodidae, Pterophoridae, Pyralidae, Crambidae: adults. 1 – *Denisia similella*, Samsonovo, 17-18.VI.2017 (SKO); 2 – *Heterogenea asella*, Samsonovo, 17-18.VI.2017 (SKO); 3 – *Platyptilia nemoralis*, Yakovlevka, 22-23.VI.2017 (SKO); 4 – *Tabulaephorus marptys*, Nikolaevka, 7-8.VI.2017 (SKO); 5 – *Cnaemidophorus rhododactylus*, Davydovka, 29-30.VI.2017 (SKO); 6 – *Hypochalcia dignella*, Nikolaevka, 7-8.VI.2017 (SKO); 7 – *Epischnia illotella*, Preobrazhenka, 19-20.VI.2017 (SKO); 8 – *Udea decrepitalis*, Petropavlovka, 3-4.VI.2017 (SKO); 9 – *Crambus silvellus*, 20-21.VII.2017 (SKO).

Asthena anseraria (Herrich-Schäffer, 1855) Fig. 11

Material examined. 1 ♀, Novosibirsk Province, Kolyvan` district, Ust`-Toya vill., 56°04'22.05"N, 83°06'10.50"E, at light, 15.VI.2017, V.V. Ivonin leg. (VIN).

Remark. This is the first and easternmost record of this rare and local West-Palaearctic temperate species from West Siberian Plain. The closest localities of the species are in the European part of Russia (Mironov et al., 2008). The foodplants of *A. anseraria* are the species of the genus *Swida* Opiz (Cornaceae) (Hausmann & Viidalepp, 2012). There is the only one species (*Swida alba* L.) from this genus growing in the north and northeast of Novosibirsk Province and in floodplain of the river Ob`.

Melanthia mandshuricata (Bremer, 1864) Fig. 12

Material: 1 ♀, Omsk Province, Tara district, 4 km N of Samsonovo vill., 57°00'38.4"N, 74°20'27.7"E, at light, 17-18.VI.2017, S.A. Knyazev leg (SKO).

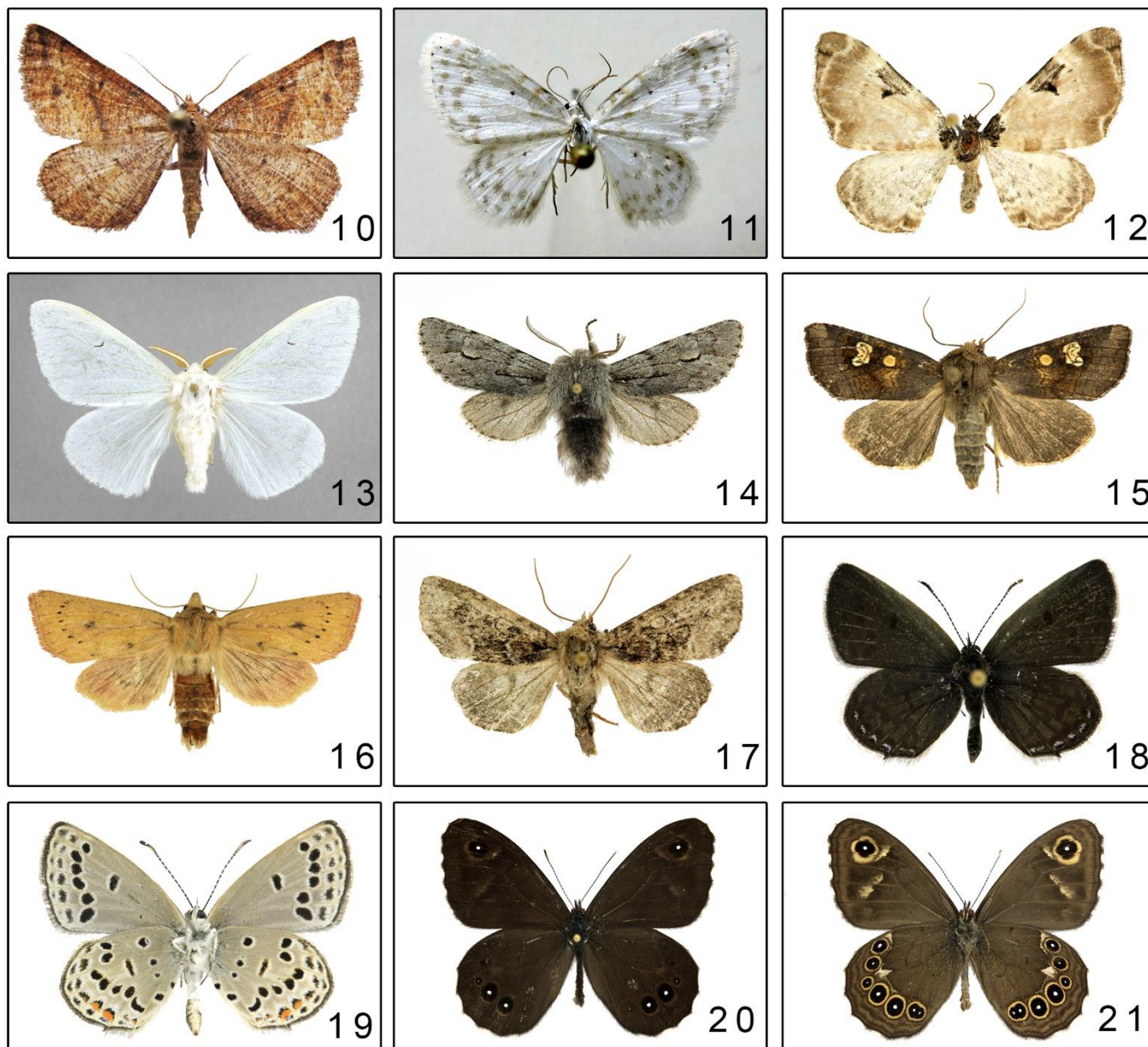
Remark. The species is firstly reported from Omsk Province. The single female was collected in forest zone on the northeast of the Province. East-Palaearctic species. It is very rare and local on the West Siberian Plain. The previously known closest locality is in Tobolsk district of Tyumen` Province (Vasilenko, 2003; Sitnikov, 2004).

Family Erebididae

Arctornis l-nigrum (Müller, 1764) Fig. 13

Material examined. 9 ♂, Omsk Province, Bol`sheukovsky district, 28 km NW of Bol`shiye Uki vill., Yakovlevka, 57°10'39.05"N, 72°25'23.57"E, at light, 22-23.VI.2017; 16 ♂, Omsk Province, Bol`sheukovsky district, 39 km NW of Bol`shiye Uki vill., Abakhshikha, 57°16'18.59"N, 72°19'55.78"E, at light, 23-24.VI.2017, S.A. Knyazev and K.B. Ponomaryov leg. (SKO, KPO, VTO).

Remark. The first record from Omsk Province. In West Siberia the species was known only from Tyumen` Province (Sitnikov, 2004). Moths were collected in the mixed forest contains of *Betula pendula*, *Populus tremula*, *Tilia cordata*, *Salix* spp.



Figs 10-21. Geometridae, Erebidae, Noctuidae, Lycaenidae, Satyridae: adults. 10 – *Ectephrina semilutata*, Ust-Toya, 15.VI.2017 (VIN); 11 – *Asthena anseraria*, Ust-Toya, 15.VI.2017 (VIN); 12 – *Melanthia mandshuricata*, Samsonovo, 17-18.VI.2017 (SKO); 13 – *Arctornis l-nigrum*, Abakhshikha, 23-24.VI.2017 (SKO); 14 – *Brachionychna sajana*, Samsonovo, 21-22.IV.2017 (SKO); 15 – *Amphipoea oculatea*, Samsonovo, 25.VIII.2017 (SKO); 16 – *Capsula algae*, Cherlack, 17.VIII.2017 (SKO); 17 – *Apamea illyria*, Samsonovo, 17-18.VI.2017 (SKO); 18 – *Tongeia fischeri*, upperside, Serebryanoye, 29.V.2017 (SKO); 19 – *Tongeia fischeri*, underside, Serebryanoye, 29.V.2017 (SKO); 20 – *Lopinga deidamia*, upperside, Yakovlevka, 22-23.VI.2017 (SKO); 21 – *Lopinga deidamia*, underside, Yakovlevka, 22-23.VI.2017 (SKO).

Family Noctuidae

Brachionychna sajana Draudt, 1934 Fig. 14

Material examined. 1 ♂, Omsk Province, Tara district, 9 km N of Tara town, 4 km N of Samsonovo vill., 57°00'38.4"N, 74°20'27.7"E, at light, 21-22.IV.2017, S.A. Knyazev leg. (SKO).

Remark. Rare and local Trans-Palaeartic species. This is the first record of the species from the territory of the West Siberian Plain. The closest localities of this species are in South Ural and Altai Mountains (Volynkin, 2012).

Amphipoea oculatea (Linnaeus, 1761) Fig. 15

Material examined. 1 ♂, 1 ♀, Omsk Province, Tara district, 9 km N of Tara town, 4 km N of Samsonovo vill., 57°00'38.4"N, 74°20'27.7"E, at light, 25.VIII.2017, S.A. Knyazev leg. (SKO).

Remark. This Euro-Siberian species is firstly reported from Omsk Province. In West Siberia it was previously known from Tyumen` and Kurgan Provinces only (Zolotarenko & Dubatolov, 2000).

Capsula algae (Esper, 1789) Fig. 16

Material examined. 3 ♀, Omsk Province, Cherlack district, Cherlack vill., 54°09'04.6"N, 74°48'49.7"E, at light, 24.VIII.2016 and 17.VIII.2017, A.A. Sal`nik leg. (SKO).

Remark. The new record from Omsk Province. This Euro-Siberian species was previously reported from Kurgan, Novosibirsk and Tomsk Provinces of West Siberia (Zolotarenko & Dubatolov, 2000).

Apamea illyria Freyer, 1846 Fig. 17

Material examined. 1 ♀, Omsk Province, Tara district, 9 km N of Tara town, 4 km N of Samsonovo vill., 57°00'38.4"N, 74°20'27.7"E, at light, 17-18.VI.2017, S.A. Knyazev leg. (SKO).

Remark. The new find from Omsk Province. Euro-Siberian species. In West Siberia it was previously known from Tyumen Province (Zolotarenko & Dubatolov, 2000) and after that it was reported from Novosibirsk Province (Knyazev et al., 2015, 2016).

Family Lycaenidae

Tongeia fischeri (Eversmann, 1843) Fig. 18, 19, 22

Material examined. 16 specimens, Omsk Province, Gor`kovsky district, near Serebryanoye vill., 55°43'0.29"N, 74°20'21.88"E, 29.V.2017 and 3.VI.2017, S.A. Knyazev leg. (SKO, KPO, VTO, OSMH).

Remark. The first record of the species from the territory of Omsk Province. A very local population was found on the elevated right bank of the river Irtysh where situated a local population of its food plant – *Orostachys spinosa*.

Family Satyridae

Lopinga deidamia (Eversmann, 1851) Fig. 20, 21

Material examined. 1 ♂, Omsk Province, Bol`sheukovsky district, 28 km NW of Bol`shiye Uki vill., Yakovlevka, 57°10'39.05"N, 72°25'23.57"E, 23.VI.2017, S.A. Knyazev leg. (SKO).

Remark. New to the Omsk Province. The species is very rare and local on the West Siberian Plain and more common in the mountains of Southern Siberia. The single male collected in forest zone at the northwest of Omsk Province.



Fig. 22. *Tongeia fischeri*, adult in nature, Omsk Province, Serebryanoye, 29.V.2017 (photo by S.A. Knyazev)



Fig. 23. Members of the expedition to Bol`sheukovsk district of Omsk Province in June 2017: V.Yu. Teploukhov, S.A. Knyazev, K.B. Ponomaryov, N.V. Plikina, Yu. Pereladova (photo by V.N. Pushkarev)

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Fig. 24. Omsk Province, Tara district, 4 km N. of Samsonovo vill. (photo by S.A. Knyazev)



Fig. 25. Omsk Province, Bol'sheukovsk district, Yakovlevka (photo by S.A. Knyazev)



Fig. 26. Omsk Province, Gor'kovsky district, Serebryanoye vill. vicinities (photo by S.A. Knyazev)



Fig. 27. Omsk Province, Cherlack district, 2 km N of Malyi Atmas vill. (photo by S.A. Knyazev)



Fig. 28. Omsk Province, Cherlack district, 10 km SE of Perobrazhenka vill., Kurumbel` steppe on the western shore of the lake Sholacksor (photo by S.A. Knyazev)

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