

*In memory of great collector, entomologist and geologist from Krasnoyarsk City –
Igor Semenovich Zakharzhevsky (1924-2019)

New records of Heterocera (Insecta, Lepidoptera) from the Republic of Khakassia and South of Krasnoyarsk region (South Siberia, Russia)

R. E. Maksimov¹, M. A. Ivanov², S. A. Knyazev³.

¹*Karl Marx St. 19, app.5, Abakan, Khakassia Rep., Russia, 655017*
E-mail: riverabakan@mail.ru

²*2-nd Khabarovskaya St. 1, app. 36, Krasnoyarsk, Russia, 660041*
E-mail: ima54@mail.ru

³*Russian Entomological Society, Irtyshskaya Naberezhnaya St, 14-16, Omsk, Russia, 644042*

³*Altai State University, Lenina St. 61, Barnaul, Russia, 656049*
E-mail: konungomsk@yandex.ru

Here we presented the new data and new records of Lepidoptera (*Crambidae*, *Cossidae*, *Lasiocampidae*, *Drepanidae*, *Geometridae*, *Notodontidae*, *Noctuidae s.l.*, *Arctiidae*) from the Khakassia Republic and the South of Krasnoyarsk region. A total of 147 species are reported for the fauna of both regions for the first time, based on the literature records and personal data collected in 1999–2019. We collected the moths in Khakassia and South of Krasnoyarsk region in more than 40 localities, from the steppe zone to the alpine area of the West Sayan, the Kuznetsky Alatau, and foothills of East Sayan Mountains. Specimens were collected in the daylight by standard methods using butterfly net and in the night, using mercury lamp Sylvania (250W) and inverter generator (1000W). All collected materials preserved in private collections of R.E. Maksimov in Abakan (RMA), M.A. Ivanov in Krasnoyarsk (MIK), and in private collection of S.A. Knyazev in Omsk (SKO). The presence of several species have been considered doubtful before our study. We suggested that the regional list of Heterocera of Khakassia and South of the Krasnoyarsk region should be considerably revised. The great share of the specimens mentioned in this article is presented on the website “The Nature of South Siberia” (www.ermak24.com/animalia-insecta.html/).

Key words: Lepidoptera, Heterocera, moths, Siberia, Khakassia, Krasnoyarsk territory, new records.

Introduction

The first information on the Lepidoptera fauna for Khakassia and the South of Krasnoyarsk region was presented by Jakobson (1901) and Sushkin & Tshetverikov (1907), who reported 32 butterfly species. This was followed by Meinhard expedition of 1903, the data of which was published later (Meinhard 1912). The notable contribution was made by W. Kozhantshikov (Kozhantshikov 1923; 1925; 1926; 1927; 1928). This time he was a Director of the Minusinsk Martyanov’s Museum and invited to work here a number of qualified lepidopterologists, namely A. Djakonov, N. Filipyev, S. Tshugunov, and E. Wehrly. W. Wnoukovsky clarified and confirmed the identification of many species, worked with A. Meinhard, W. Kozhantchikov and S. Tshugunov old data (Wnoukovsky 1929; 1930).

Much later, Yu. Korshunov and J. Viidalepp (1980; 1982) studied Lepidoptera more detail, but they were limited only for Geometridae family. However, despite the intensive research of Lepidoptera from South Siberia and Altai-Sayan Mountain Country, the revision of species list and study of fauna in Khakassia and South of Krasnoyarsk region was rather episodic and fragmentary. Moreover, the remarkable part of scientific reports was dedicated to butterflies (Lepidoptera, Diurna), while Heterocera fauna is very poorly studied in this region. Some fragmentary information was previously published by Wnoukovsky (1929; 1930), Kozhantshikov (1923; 1925; 1926; 1927), Zolotarev (1969), Korshunov and Viidalepp (1980; 1982). Thus, these data need to be revised. Probably, the main limitations were the inaccessibility of the main part of this territory and lack of modern research equipment.

Material and methods

All new data has been obtained from our personal collections sampled in 1999-2018. We collected the moths in Khakassia and South of Krasnoyarsk region in more than 40 localities, from the steppe zone to the alpine area of the West Sayan, the Kuznetsky Alatau, and foothills of East Sayan Mountains. Specimens were collected in the daylight by standard

methods using butterfly net and in the night, using mercury lamp Sylvania (250W) and inverter generator (1000W). All collected materials preserved in private collections of R.E. Maksimov in Abakan (RMA), M. A. Ivanov in Krasnoyarsk (MIK), and in private collection of S.A. Knyazev in Omsk (SKO).

The general classification in the check-list accepted by Catalogue of Lepidoptera of Russia (2008) included institutional catalog numbers for specimens preserved in collections.

Localities:

Abakan - **Khakassia**, near Abakan town, meadow on the river Abakan, 53°64'86"N, 91°44'02"E;

Avraz - **Khakassia**, Shira district, lake Avraz, 54°32'23.23"N, 54°32'23.23"E;

Balankul - **Khakassia**, near Balankul lake, subtaiga zone, hills & rocky slope. 53°27'54.85"N, 90°24'18.41"E, h=850 m;

Balgash - **Krasnoyarsk territory**, Krasnoyarsk City vicinities, Balgash boundary, 56° 7'30.37"N, 92°52'11.10"E;

Bidja - **Khakassia**, Ust-Abakan district, near Bidja village, 53°99'99"N, 90°56'14"E;

Bograd - **Khakassia**, Bograd district, near Bograd settlement, 54°13'6"N, 90°53'9"E;

Chernoye Ozero - **Khakassia**, Shira district, Chernoye Ozero vill., 54°41'17.58"N, 89°25'4.47"E;

Efremkino - **Khakassia**, Kuznetsky Alatau, Shira district, near Efremkino, closed marmoreal career, 54°26'20.64"N, 89°26'07.17"E, h=671 m;

Ergaky - **Khakassia**, West Sayan, Ergaky ridge, mountain taiga, subalpine meadow, 52°48'38.83"N, 93°13'51.64"E, h=1369 m;

Galdja - **Khakassia**, Shira district, near Galdja village, forest-steppe, meadow, 54°24'23"N 90°30'31"E;

Gladenkaya - **Khakassia**, W.Sayan, Gladenkaya mountain, mountain taiga & tundra, kurumnikiy, 52°55'41"N, 91°23'33"E;

Ingol` - **Krasnoyarsk territory**, Sharypovo district, Ingol` lake, 55°31'39.65"N, 88°50'39.90"E;

Ivanovskie lakes - **Khakassia**, Kuznetsky Alatau, Ordzenikidze district, subalpine meadows & tundra, 54°63'88"N, 88°63'16"E;

Karynzul - **Krasnoyarsk territory**, W. Sayan, M 54 rd., (574km), mountain taiga, on Karynzul stream. 52°59'48.56"N, 93°12'59.07"E, h= 501 m;

Katcha - **Krasnoyarsk territory**, Krasnoyarsk vicinities, Katcha rail station, 56° 6'2.34"N, 92°13'22.26"E;

Khudonogovo - **Krasnoyarsk territory**, Krasnoyarsk vicinities, Khudonogovo village, 56° 9'48.46"N, 93°12'4.22"E;

Krasnoyarsk - **Krasnoyarsk territory**, Krasnoyarsk City, 56° 0'50.75"N, 92°49'59.62"E;

Krasnoye ozero - **Khakassia**, Ust-Abakan district, steppe near Red Lake, about 53°30'N 91°30'E;

Lubimoe - **Khakassia**, W. Sayan, Tashtyp district, Lubimoe lake, alpine meadow, mountain tundra, h=1800 m, 51°76'63"N, 89°79'65"E;

Lugavskoye - **Krasnoyarsk territory**, near Lugavskoye lake, 53°49'85"N, 91°88'2"E;

Mayna - **Khakassia**, Beya district, W. Sayan, close Mayna settlement, from Mayna to marble quarry road (6 km), mountain taiga 52°57'28"N, 91°24'01"E, h=632m.;

Maliy Kyzykul - **Krasnoyarsk territory**, near Maliy Kyzykul lake, forest meadow, 53°75'72"N, 92°21'63"E;

Manysh - **Khakassia**, W. Sayan, Tashtyp district, near Manysh river, mountain taiga meadow, 51°52'36"N, 89°48'8"E. h=1122 m;

Minino - **Krasnoyarsk territory**, Krasnoyarsk vicinities, Minino village, river Karaul`naya, 56° 4'52.93"N, 92°42'58.92"E;

Novoselovo - **Krasnoyarsk territory**, near Novoselovo village, 55° 0'32.35"N, 90°58'33.14"E;

Oglahty - **Khakassia**, Khakassky state National Reserve, Oglahty area, motley grass steppe, rocky hills. 53°59'22"N, 91°29'31"E, h=336m;

Otchury - **Khakassia**, Beya district, Otchury vill., 53°10'33.40"N, 91°39'17.76"E;

Parnaya - **Krasnoyarsk territory**, Sharypovo district, Parnaya village, 55°17'15.31"N, 89°13'23.72"E;

Podlunnaya - **Khakassia**, Kuznetsky Alatau mountains, Shira district, close Kommunar mine, Podlunnaya mountain, mountain taiga, subalpine meadow. 54°18'36.61"N, 89°13'42.79"E, h=1320m;

Podsinee - **Khakassia**, near Podsinee village, meadow on the river Enissey, 53°67'35"N, 91°56'99"E;

Pugatshevo - **Krasnoyarsk territory**, Krasnoyarsk vicinities, Pugatshevo railway station, 56° 1'57.09"N, 92°37'38.35"E;

Pulankol - **Khakassia**, near Pulankol village, subtaiga zone, hills & rocky, 53°28'33"N, 90°25'52"E;

Salbyksky kurgan - **Khakassia**, Kamysaksakaya steppe, near Salbyksky kurgan, 53°54'12.11"N, 90°45'45.12"E, h=540 m;

Sarala - **Khakassia**, Odzhonikidze district, Sarala, 54°51'52.50"N, 89°14'10.77"E;

Sayanogorsk - **Khakassia**, Beya district, Sayanogorsk town, 53° 5'47.93"N, 91°24'59.10"E;

Saylig-Khem-Taiga - **Khakassia**, Tashtyp district, W. Sayan, Saylig-Khem-Taiga ridge, mountain tundra, h=2140m, 51°72'50"N, 89°90'34"E;

Serebryany Bor - **Krasnoyarsk territory**, Krasnoturansk district, Serebryany Bor camp, forest-steppe. 54°15'58"N, 91°31'49"E;

Serebryany Klyuch - **Khakassia**, Tashtyp district, W. Sayan, A161rd. (215km), mountain taiga, h=978 m, 52°36'75"N, 89°94'09"E;
 Shira - **Khakassia**, Shira district, Kuznetsky Alatau foothills, 54°27'22.65"N, 89°52'2.59"E;
 Snezhnitsa - **Krasnoyarsk territory**, Krasnoyarsk vicinities, railway station Snezhnitsa, 56° 4'40.67"N, 92°24'55.58"E;
 Snow Leopard - **Khakassia**, Tashtyp district, W. Sayan, A161 road, "Snow Leopard" camp, high mountain taiga, mountain tundra, h=1350m, 51°83'31"N, 89°77'91"E;
 Stolby - **Krasnoyarsk territory**, Krasnoyarsk vicinities, Stolby nature reserve, Zmeinyy hollow, 55°55'22.15"N, 92°50'54.30"E;
 Sugesh - **Khakassia**, Tashtyp district, W. Sayan, Sugesh camp, mountain taiga, h=575m, 52°71'71"N, 89°92'09"E;
 Tuim - **Khakassia**, Shira district, Tuim village, 54°19'49.08"N, 89°55'42.60"E;
 Tyoia - **Khakassia**, W. Sayan, Abakansky ridge, near Vershina Tyoia, h=980m, 53°25'19"N, 89°56'78"E;
 Ust-Erba - **Khakassia**, near Ust-Erba village, steppe, 54°48'14"N, 91°15'64"E;
 Ust-Kaspa - **Krasnoyarsk territory**, Sayan foothills, near Ust-Kaspa railway station, rocky hill slope, Kyzyr river bank, taiga. 54°18'92"N, 93°29'81"E;
 Yezagash - **Krasnoyarsk territory**, Krasnoyarsk reservoir, Yezagash boundary, 55°27'9.73"N; 91°59'13.86"E;
 Yuferovskoye - **Khakassia**, Kuznetsky Alatau, Sharypovo district, 3 km N of Yuferovskoye village, Bolshaya Sosnovka river valley, 55°19'11.2"N, 88°38'23.9"E.

List of species reported from Khakassia and South of Krasnoyarsk Region for the first time is presented below. Here we included some species previously reported for the studied territory and confirmed by our collecting materials but not included in Region 22 (Catalogue, 2008).

Family Zygaenidae

3426 *Zygaena purpuralis* (Brünnich, 1763) – [Tshugunov, 1912; Djakonov, 1926; Wnukovsky, 1930]; Ust-Erba, 22.VII.2000, 1 specimen, R. Maksimov (RMA); Bidja, 19.VII.2015, 1 specimen, R. Maksimov (RMA); Novoselovo, 22.VII.2009, 1 specimen, M. Ivanov (MIK).

3434 *Zygaena loti* ([Denis & Schiffermüller], 1775) – [Tshugunov, 1912]: *Zygaena achilleae* (Esper, 1780); Balgash, 16.VI.2011, 1 specimen, M. Ivanov (MIK).

Family Sesiidae

3470 *Pennisetia hylaeiformis* (Laspeyres, 1801) – Minino, daylight, 26.VII.2019, 1 specimen, M. Ivanov (MIK).

Family Cossidae

3610 *Phragmataecia castanea* (Hübner, 1790) - Maliy Kyzikul, at light, 25.VII.2015, 1 specimen; same locality, 10.VI.2017, 2♂, R. Maksimov (RMA).

Family Thyrididae

5218 *Thyris fenestrella* (Scopoli, 1763) - [Kozhanchikov, 1923; Yanovsky, 1996]; Serebryany Klyuch, 01.VI.2016, 5 specimens, S. Pokoreeva (RMA).

Family Crambidae

5893 *Catoptria fenestratella* (Caradja, 1928) - Lubimoe, 30.VI.2017, 1 specimen, R. Maksimov (RMA).

6046 *Metaxmeste schrankiana* (Hochhenwarth, 1785) - Saylig-Khem-Taiga, 05.VII.1999, 2♂, 1♀, R. Maksimov (RMA).

6028 *Paraponyx stratiotata* (Linnaeus, 1758) – Parnaya, Krasnoyarsk, 04.VIII.2010, 3 specimens, M. Ivanov (MIK).

Family Drepanidae

6495 *Sabra harpagula* (Esper, [1786]) - Maliy Kyzikul, at light, 10.VI.2017, 4♂, 1♀, R. Maksimov (RMA); Krasnoyarsk, 11.VI.2015, 1 specimen, M. Ivanov (MIK).

Family Geometridae

6601 *Selenia dentaria* (Fabricius, 1775) - [Dyakonov, 1926]: *Selenia bilunaria* (Esper, 1795); Krasnoyarsk, 19.V.2015, 1 specimen, M. Ivanov (MIK); Tyoia, at light, 17.VI.2017, 2♂, 1♀, R. Maksimov (RMA).

6679 *Spilopera debilis* (Butler, 1878) - [Dyakonov, 1926]; Snezhnitsa, 18.VI.1989, 1 specimen, M. Ivanov (MIK); Ivanovskie lakes, 03.VII.2016, 4♂, R. Maksimov (RMA); Tyoia, 30.VI.2018, 2♂, 1♀, R. Maksimov (RMA).

6726 *Macaria signaria* (Hübner, 1809) - [Dyakonov, 1926; Yanovsky, 1996]; Snezhnitsa, 22.VI.2008, 1 specimen, M. Ivanov (MIK); Podlunnaya, at light, 13.VII.2018, 2♂, 1♀, R. Maksimov (RMA); Tyoia, at light, 17.VI.2017, 1♂, R. Maksimov (RMA).

6738 *Narraga fasciolaria* (Hufnagel, 1767) – [Yakobson, 1901; Kozhanchikov, 1923; Djakonov, 1926; Wehrli, 1928]; Krasnoyarsk, 18.VI.2015, 1 specimen, M. Ivanov (MIK).

6739 *Narraga tessularia* (Metzner, 1845) – Minino, 30.V.2019, 1♂, M. Ivanov (MIK).

6792 *Synopsia strictaria* Lederer, 1853 – Krasnoyarsk, 24.VI.2008, 1♂, M. Ivanov (MIK).

6847 *Pterygnophos ochrofasciata* (Staudinger, 1896) - [Djakonov, 1926]: *Gnophos ochrofasciata* (Staudinger, 1896); Chernoye Ozero, 06.VIII.2002, 1 specimen, E. Akulov (MIK).

6921 *Alcis repandata* (Linnaeus, 1761) - [Tshugunov, 1912; Djakonov, 1926; Wnukovsky, 1930]: *Boarmia repandata* (L.); Krasnoyarsk, 8.VII.2017, 1 specimen, M. Ivanov (MIK); Saylig-Khem-Taiga, at light, 29.VI.2017, 3♂♂, R. Maksimov (RMA).

6952 *Ascotis selenaria* ([Denis et Schiffermüller], 1775) - [Djakonov, 1926]: *Boarmia selenaria* ([Denis et Schiffermüller], 1775); Lugavskoye, at light, 19.VI.2018, 2♂, R. Maksimov (RMA); Serebryany Bor, at light, 13.VII.2019, 1♀, R. Maksimov (RMA).

6996 *Biston strataria* (Hufnagel, 1767) – Abakan, at light, 06.V.2017, 6♂; Bograd, at light, 11.V.2018, 3♂; Maliy Kyzkykul, at light, 29.IV.2018, 3♂, R. Maksimov (RMA); Krasnoyarsk, 25.IV.2017, 1♂, M. Ivanov; Katcha, 14.V.2004, 1♂, I. Zakharzhevsky (MIK).

7003 *Lycia zonaria* (Denis & Schiffermüller, 1775) - Lugavskoye, at light, 28.IV.2017, 2♂; Bidja, at light, 08.V.2018, 1♂; Bograd, at light, 11.V.2018, 1♂, R. Maksimov (RMA).

7210 *Holarctias rufinaria* (Staudinger, 1861) - Ust-Erba, 13.VI.2015, 1♂, R. Maksimov (RMA).

7336 *Costaconvexa polygrammata* (Borkhausen, 1794) - Snow Leopard, at light, 30.VI.2017, 1♂, R. Maksimov (RMA).

7343 *Catarhoe rubidata* (Denis & Schiffermüller, 1775) - [Djakonov, 1926]: *Cidaria rubidata* (Denis & Schiffermüller, 1775); Efremkino, at light, 11.VI.2017, 1 specimen, R. Maksimov (RMA).

7365 *Xanthorhoe aridela* (Prout, 1937) - Krasnoyarsk, 19.VI.2003, 1 specimen, E. Akulov (MIK).

7411 *Earophila badiata* ([Denis & Schiffermüller], 1775) - [Djakonov, 1926]: *Cidaria badiata* ([Denis & Schiffermüller], 1775); Krasnoyarsk, 24.IV.2015, 1 specimen, M. Ivanov (MIK); Katcha, 15.V.2009, 1 specimen, I. Zakharzhevsky (MIK); Pulankol, at light, 02.V.2018, 1 specimen; Bidja, at light, 08.V.2018, 1 specimen; Bograd, at light, 11.V.2018, 3 specimens, R. Maksimov (RMA).

7420 *Pelurga taczanowskiaria* (Oberthür, 1880) - Krasnoyarsk, 16.VI.2019, 3♂; Pugatshevo, 01.VII.2017, 1♀, M. Ivanov (MIK);

7427 *Larentia clavaria* (Haworth, 1809) - Efremkino, at light, 05.VIII.2017, 2 specimens, R. Maksimov (RMA).

7510 *Heterothera serraria* (Lienig, 1846) - [Kozhanchikov, 1923; Djakonov, 1926]: *Cidaria serraria* (Lienig, 1846); Katcha, 27.VI.2010, 1 specimen, I. Zakharzhevsky (MIK).

7688 *Perizoma bifaciata* (Haworth, 1809) - Chernoye Ozero, 25.VII.2002, 1 specimen, E. Akulov (MIK).

7722 *Eupithecia abietaria* (Goeze, 1781) – [Yakobson, 1901; Kozhanchikov, 1923; Djakonov, 1926]: *Eupithecia abietaria analoga* (Djakonov, 1926); Krasnoyarsk, 21.VI.2018, 1 specimen, M. Ivanov (MIK).

7863 *Eupithecia venosata* (Fabricius, 1787) – Krasnoyarsk, 20.VI.2015, 1 specimen, M. Ivanov (MIK).

7930 *Trichopteryx polycommata* ([Denis & Schiffermüller], 1775) - *Nothopteryx polycommata grisea* [Djakonov, 1926]; Pugatshevo, 01.V.2019, 10 specimens, M. Ivanov (MIK).

Family Lasiocampidae

7945 *Poecilicampa populi* (Linnaeus, 1758) - Maliy Kyzkykul, at light, 11.IX.2018, 2♂, R. Maksimov (RMA); Katcha, 20.IX.2010, 1 specimen; same locality, 16.IX.2012, 1 specimen, M. Ivanov (MIK).

7986 *Phyllodesma ilicifolium* (Linnaeus, 1758) - Katcha, 15.VII.2010, 1 specimen, M. Ivanov (MIK).

7987 *Phyllodesma japonicum* (Leech, [1889]) - Gladenkaya, at light, 27.V.2018, 1 specimen, R. Maksimov; Efremkino, at light, 16.VI.18, 1 specimen, R. Maksimov (RMA); Katcha, 4.VI.2000, 1 specimen; 30.V.2004 – 1 specimen, M. Ivanov (MIK).

8006 *Odonestis pruni* (Linnaeus, 1758) – Krasnoyarsk, 2.VII.2015, 1 specimen; Katcha, 15.VII.2008, 1 specimen, M. Ivanov (MIK).

Family Spingidae

8101 *Laothoe populi* (Linnaeus, 1758) - [Yanovsky, 1996]: *Amorpha populi* (Linnaeus, 1758); Krasnoyarsk, 17.VI.1986, 1♂, I. Zakharzhevsky; Katcha, 13.VII.2007, 1♀, I. Zakharzhevsky; Snezhnitsa, 18.VI.2008, 1♂, M. Ivanov (MIK); Tyoia, 17.VI.2017, at light, 1♂, 1♀; Maliy Kyzkykul, 16.VI.2018, at light, 2♂, R. Maksimov (RMA).

8136 *Hyles chuvilini* (Eitschberger, Danner & Surholt, 1998); Chernoye ozero, 20.VII.1993, 2 caterpillars, A. Chuvilin; Bidja, 21.VI.2015, 1♂; Oglahy, at light, 03.VII.2018, 4♂, 1♀, R. Maksimov (RMA).

Family Notodontidae

8201 *Notodonta tritophus* ([Denis & Schiffermüller], 1775) –Katcha, at light, 12.VI.1985, M. Ivanov (MIK); [Yanovsky, 1996].

8269 *Odontosia sieversii* (Ménétriés, 1856) - Yuferovskoye, at light, 30.IV.2018, 25♂, S.A. Knyazev (SKO); Maliy Kyzkykul, at light, 29.IV.2018, 2 specimens, R. Maksimov (RMA); Pulankol, at light, 02.V.2018, 2 specimens, R. Maksimov (RMA); Krasnoyarsk, at light, 24.IV.2017, 1 specimen, M. Ivanov (MIK).

8296 *Gluphisia crenata* (Esper, 1785) - Podsinee, at light, 07.VI.2017, 2♂♂; Lugavskoye, at light, 19.VI.2018, 2 specimens, R. Maksimov (RMA); Krasnoyarsk, at light, 2.VII.2018 – 1 specimen M. Ivanov (MIK); Katcha, 5.VII.2007, 1 specimen, M. Ivanov (MIK).

8301 *Furcula furcula* (Clerck, 1759) - Tyoia, at light, 17.VI.2017, 4♂, 3♀, R. Maksimov (RMA, SKO); Katcha, 11.VI.2003, 1 specimen; Krasnoyarsk, 2.VII.2010, 1 specimen; Snezhnitsa, 8.VI.2011, 1 specimen, M. Ivanov (MIK).

8305 *Cerura erminea* (Esper, 1783) - [Kozhanchikov, 1923]: *Dicranura erminea* (Esper, 1783); Snezhnitsa, 15.VII.2010, 1♂, M. Ivanov; Krasnoyarsk, 18.VI.2015, 1♂, M. Ivanov; Katcha, 29.VII.2013, 1♂, I. Zakharzhevsky; same locality, 11.VII.2010, 1♀, I. Zakharzhevsky (MIK); Efremkino, at light, 11.VI.2017, 1♂, R. Maksimov (RMA).

Family Noctuidae s.l.

8419 *Nola karelica* (Tengström, 1869) - Snow Leopard, at light, 30.VI.2017, 1♂, R. Maksimov (RMA).

8486 *Earias clorana* (Linnaeus, 1761) – [Kozhanchikov, 1925]; Katcha, 25.VI.2009, 1 specimen, M. Ivanov (MIK); Maliy Kyzkykul, 16.VI.2019, at light, 1 specimen, R. Maksimov (RMA).

8521 *Eublemma amasina* (Eversmann, 1842) – [Kozhanchikov, 1923]: *Porphyrinia amasina* (Eversmann, 1842); Katcha, 28.VI.2003, 1 specimen, M. Ivanov (MIK).

8537 *Eublemma rosea* (Hübner, 1790) – Chernoye Ozero, 16.VII.2018, 1 specimen, E. Akulov (MIK).

- 8553 *Trisateles emortualis* ([Denis & Schiffermüller], 1775) [Kozhanchikov, 1923]: *Aethia emortualis* ([Denis & Schiffermüller], 1775); Krasnoyarsk, 20.VI.2015, 1 specimen, M. Ivanov (MIK).
- 8617 *Simplicia rectalis* (Eversmann, 1842) - [Tshugunov, 1913; Kozhanchikov, 1923]; Pugatshevo, 10.VII.2017, 1 specimen, M. Ivanov (MIK); Oglahy, at light, 03.VII.2018, 1♀, R. Maksimov (RMA).
- 8628 *Zanclognatha tarsipennalis* (Treitschke, 1835) - Pugatshevo, 07.VIII.2019, 1 specimen, M. Ivanov (MIK).
- 8648 *Herminia tarsicrinalis* (Knoch, 1782) – Pugatshevo, 12.VIII.2017, 1 specimen, M. Ivanov (MIK).
- 8692 *Colobochyla salicalis* ([Denis & Schiffermüller], 1775) – Pugatshevo, 9.VIII.2018, 1 specimen, M. Ivanov (MIK).
- 8699 *Laspeyria flexula* ([Denis & Schiffermüller], 1775) – Stolby, 8.IX.2016, 1 specimen, M. Ivanov (MIK).
- 8938 *Macdunnoughia confusa* (Stephens, 1850) - [Kozhanchikov, 1923]: *Phytometra confusa* (Stephens, 1850); Krasnoyarsk, 18.VIII.2014, 1 specimen, M. Ivanov (MIK); Ust-Kaspa, 02.VIII.2016, at light, 2♂; Ergaky, 04.VI.2017, at light, 1♂; Oglahy, 28.IV.2017, at light, 1♀; Maliy Kyzikul, 27.VIII.2016, at light, 1♂, R. Maksimov (RMA).
- 8950 *Diachrysia stenochrysis* (Warren, 1913) – Efremkino, at light, 05.VIII.2017, 2♂; Maliy Kyzikul, 16.VI.2018, at light, 1♂, 1♀, R. Maksimov (RMA); Krasnoyarsk, 24.VI.2008, 1 specimen, M. Ivanov (MIK).
- 8956 *Euchalcia consona* (Fabricius, 1787) – Khudonogovo, 20.VII.2006, 1 specimen, V. Golovizin (MIK); Oglahy, at light, 07.VIII.2018, 2 specimens; Serebryany Bor, at light, 13.VII.2019, 2 specimens, R. Maksimov (RMA).
- 8968 *Polychrysia splendida* (Butler, 1878) - [Kozhanchikov, 1923]: *Chrysoptera splendida* (Butler, 1878); Krasnoyarsk, 25.VII.2015, 1 specimen, M. Ivanov (MIK); Galdja, at light, 31.VII.2017, 2 specimens; Sugesh, at light, 11.VIII.2018, 2 specimens, R. Maksimov (RMA).
- 8970 *Panchrysia deaurata* (Esper, 1787) – [Kozhanchikov, 1923]: *Phytometra deaurata* (Esper, 1787); Krasnoyarsk, 2.VII.2010, 1 specimen, M. Ivanov (MIK); Podlunnaya, at light, 27.VII.2019, 1 specimen, R. Maksimov (RMA).
- 8981 *Autographa bractea* (Denis & Schiffermüller, 1775) - [Zolotareno, 1969]; Katcha, 3.VIII.2013, 1 specimen, I. Zakharzhevsky (MIK); Podlunnaya, at light, 13.VII.2018, 2 specimens, R. Maksimov (RMA).
- 9008 *Plusia festucae* (Linnaeus, 1758) - [Kozhanchikov, 1928]: *Phytometra festucae* (Linnaeus, 1758); Khudonogovo, 20.VII.2006, 1 specimen, V. Golovizin (MIK); Efremkino, at light, 14.VII.2017, 1 specimen; Podlunnaya, at light, 27.VII.2019, 1 specimen, R. Maksimov (RMA).
- 9124 *Acronicta alni* (Linnaeus, 1767) – [Kozhanchikov, 1923; Zolotareno, 1969]; Krasnoyarsk, 18.VI.2015, 1 specimen, M. Ivanov (MIK); Efremkino, at light, 16.VI.2018, 2 specimens; Tyoia, at light, 30.VI.2018, 2 specimens; Maliy Kyzikul, 21.VII.2018, at light, 1 specimen, R. Maksimov (RMA).
- 9130 *Acronicta conceperpta* Draudt, 1937 - Krasnoyarsk, 18.VI.2015, 1 specimen, M. Ivanov (MIK); Tyoya, at light, 17.VI.2017, 1♀ & 30.VI.2018, 2♂; Ergaky, 19.VI.2019, at light, 1♂, R. Maksimov (RMA);
- 9138 *Acronicta lutea* (Bremer et Grey, 1852) - [Kozhanchikov, 1928]: *Chamaepora lutea* (Bremer et Grey, 1852); Sayanogorsk, 22.II.1982 (ex larva), 1 specimen, I. Zakharzhevsky (MIK); Efremkino, at light, 16.VI.2018, 1 specimen; Ergaky, 19.VI.2019, at light, 1 specimen, R. Maksimov (RMA).
- 9139 *Acronicta major* Bremer, 1861 – Katcha, 1 specimen, I. Zakharzhevsky (MIK); Chernoye Ozero, 11.VII.2003, 1 specimen, E. Akulov (MIK).
- 9145 *Acronicta rumicis* (Linnaeus, 1758) – [Kozhanchikov, 1923]: *Chamaepora rumicis* (Linnaeus, 1758); Krasnoyarsk, 18.VI.2015, 1 specimen, M. Ivanov (MIK); Tyoia, 22.VI.2019, at light, 1 specimen, R. Maksimov (RMA).
- 9153 *Simyra nervosa* ([Denis et Schiffermüller], 1775) - [Kozhanchikov, 1923]; Krasnoyarsk, 5.VI.2007, 1 specimen, M. Ivanov; Avraz, 05.VIII.2009, 1 specimen, I. Zakharzhevsky (MIK); Efremkino, at light, 14.VII.2017, 2 specimens, R. Maksimov (RMA).
- 9206 *Cucullia absinthii* (Linnaeus, 1761) – Khudonogovo, 20.VII.2006, 1 specimen, V. Golovizin (MIK).
- 9211 *Cucullia asteris* ([Denis et Schiffermüller], 1775) - [Kozhanchikov, 1923; Tshetverikov, 1925]; Galdja, at light, 31.VII.2017, 2 specimens; Oglahy, at light, 07.VIII.2018, 2 specimens, R. Maksimov (RMA).
- 9239 *Cucullia pustulata* Eversmann, 1842 – Snezhnitsa, 20.V.2000, 1 specimen, M. Ivanov (MIK); Lugavskoye, at light, 19.VI.2018, 1 specimen, R. Maksimov (RMA).
- 9268 *Cucullia virgaureae* Boisduval, 1840 – Katcha, 9.VII.2009, 1 specimen, M. Ivanov (MIK); Oglahy, at light, 07.VIII.2018, 1 specimen, R. Maksimov (RMA).
- 9281 *Sympistis heliophila* (Paykull, 1793) – Chernoye Ozero, 8.VII.2005, 1 specimen, E. Akulov (MIK).
- 9290 *Oncocnemis senica* (Eversmann, 1856) – Shira, 4.VIII.2009, 1 specimen; Krasnoyarsk, 25.VII.2013, 1 specimen, M. Ivanov (MIK); Podlunnaya, at light, 04.VIII.2018, 1 specimen, R. Maksimov (RMA).
- 9303 *Phidrimana amurensis* (Staudinger, 1892) – Krasnoyarsk, 8.VIII.2018, 1 specimen, M. Ivanov (MIK).
- 9312 *Amphipyra pyramidea* (Linnaeus, 1758) - Maliy Kyzikul, at light, 12.VIII.2015, 1 specimen, R. Maksimov (RMA).
- 9314 *Amphipyra sergei* (Staudinger, 1888) – Katcha, 22.VII.2000, I. Zakharzhevsky (MIK).
- 9316 *Amphipyra tragopoginis* (Clerck, 1759) – [Kozhanchikov, 1923]; Pugatshevo, 12.VIII.2017, 1 specimen, M. Ivanov (MIK).
- 9322 *Brachionycha nubeculosa* (Esper, 1785) - [Kozhanchikov, 1923]; Krasnoyarsk, 24.IV.2017, 1 specimen, M. Ivanov (MIK); Bidja, at light, 08.V.2018, 2 specimens; Gladenkaya, at light, 27.V.2018, 2 specimens; Oglahy, at light, 05.V.2019, 2 specimens, R. Maksimov (RMA).
- 9373 *Helicoverpa armigera* (Hübner, [1808]) – Pugatshevo, 1.X.2018, 1 specimen, M. Ivanov (MIK).
- 9385 *Acosmetia caliginosa* (Hübner, [1813]) – [Kozhanchikov, 1923]; Krasnoyarsk, 8.VI.2016, 1 specimen, M. Ivanov (MIK).

- 9442 *Victrix umovii* (Eversmann, 1846) – Katcha, 28.VI.2003, 1 specimen, I. Zakharzhevsky (MIK).
- 9444 *Athaumasta expressa* (Lederer, 1855) – Efremkino, 16.VI.2018, 1♂, R. Maksimov (RMA).
- 9447 *Athaumasta siderigera* (Christoph, 1893) – Efremkino, at light, 11.VI.2017, 1♂, R. Maksimov (RMA).
- 9466 *Caradrina albina* Eversmann, 1848 – Katcha, 14.IX.2002, 1 specimen, I. Zakharzhevsky (MIK).
- 9492 *Hoplodrina blanda* ([Denis & Schiffermüller], 1775) – Krasnoyarsk, 24.VI.2015, 1 specimen, M. Ivanov (MIK).
- 9521 *Athetis lepigone* (Möschler, 1860) – Krasnoyarsk, 8.VI.2016, 1 specimen, M. Ivanov (MIK); Podlunnaya, at light, 13.VII.2018, 1 specimen, R. Maksimov (RMA).
- 9524 *Athetis pallustris* (Hübner, [1808]) – Katcha, 15.VI.2009, 1 specimen, I. Zakharzhevsky; Krasnoyarsk, 7.VI.2017, 1 specimen, M. Ivanov (MIK); Efremkino, at light, 16.VI.2018, 1 specimen, R. Maksimov (RMA).
- 9529 *Ipimorpha contusa* (Freyer, 1849) – [Kozhanchikov, 1928]; Krasnoyarsk, 24.VI.2015, 1 specimen; Stolby, 22.VII.2015, 1 specimen, M. Ivanov (MIK).
- 9541 *Cosmia pyralina* ([Denis & Schiffermüller], 1775) – [Kozhanchikov, 1928]: *Calymnia pyralina* (View.); Krasnoyarsk, 10.VII.2017, 1 specimen, M. Ivanov (MIK).
- 9605 *Hyppa rectilinea* (Esper, 1788) – [Kozhanchikov, 1923]: *Lithomoia rectilinea* (Esper, 1788); Krasnoyarsk, 25.VI.1985, 1 specimen, I. Zakharzhevsky; Snezhnitsa, 22.VI.2008, 1 specimen, M. Ivanov; Katcha, 24.VI.2005, 1 specimen, I. Zakharzhevsky (MIK); Tyoia, 30.VI.2018, at light, 2 specimens; Podlunnaya, at light, 13.VII.2018, 2 specimens, R. Maksimov (RMA).
- 9608 *Actinotia polyodon* (Clerck, 1759) – [Kozhanchikov, 1923]; Katcha, 28.VI.2008, 1 specimen, I. Zakharzhevsky (MIK); Efremkino, at light, 16.VI.2018, 1 specimen; Ergaky, 19.VI.2019, at light, 1 specimen, R. Maksimov (RMA).
- 9659 *Gortyna flavago* ([Denis & Schiffermüller], 1775) – Krasnoyarsk, 15.VIII.2017, 1 specimen, G. Kuleshov; Katcha, 27.VIII.2002, 1 specimen, I. Zakharzhevsky; Pugatshevo, 28.VIII.2018, 1 specimen, M. Ivanov (MIK).
- 9666 *Hydraecia mongoliensis* Urbahn, 1967 – Krasnoyarsk, 25.VII.2015, 1 specimen, M. Ivanov (MIK); Oglahy, at light, 07.VIII.2018, 1♀, R. Maksimov (RMA).
- 9669 *Hydraecia petasitis* (Doubleday, 1847) – Maliy Kyzikul, at light, 12.VIII.2017, 2 specimens; Sugesh, at light, 19.VIII.2017, 1♂, 1♀, R. Maksimov (RMA).
- R. Maksimov (RMA).
- 9692 *Fabula zollikoferi* (Freyer, 1836) – [Kozhantshikov, 1926]: *Sidemia zollikoferi ab internigrata* Warr.
- 9694 *Rhizedra lutosa* (Hübner, [1803]) – Khudonogovo, 20.VII.2006, 1 specimen, V. Golovizin; Chernoye Ozero, 28.VII.2005, 1 specimen, E. Akulov (MIK); Podsinee, at light, 23.IX.2018, 1♂, 1♀; Oglahy, at light, 28.VIII.2019, 5♂, 1♀, R. Maksimov (RMA).
- 9699 *Nonagria typhae* (Thunberg, 1784) – Maliy Kyzikul, at light, 27.VIII.2017, 1♂ & 11.IX.2018, 1♀ R. Maksimov (RMA); Snezhnitsa, 21.VIII.2004, 1 specimen, M. Ivanov; Katcha, 14.IX.2012, 1 specimen, I. Zakharzhevsky (MIK).
- 9721 *Hypocoena stigmatica* (Eversmann, 1855) – [Kozhantshikov, 1925]: *Coenobia stigmatica* (Eversmann, 1855); Yezagash, 5.VII.1984, 1 specimen, M. Ivanov (MIK).
- 9737 *Capsula sparganii* (Esper, 1790) – [Kozhantshikov, 1923]: *Archanara sparganii* (Esper, 1790); Parnaya, 4.VIII.2010, 1 specimen, M. Ivanov (MIK).
- 9739 *Pabulatrix pabulatricula* (Brahm, 1791) – [Kozhantshikov, 1923]: *Parastichtis pabulatricula* (Brahm, 1791); Krasnoyarsk, 05.VIII.2010, 1 specimen; Sarala, 3.VIII.2008, 1 specimen, M. Ivanov (MIK).
- 9746 *Apamea illyria* (Freyer, 1846) – Snezhnitsa, 22.VI.2007, 1 specimen, M. Ivanov (MIK); Tyoia, 30.VI.2018, at light, 1♂; Ergaky, 06.VII.2019, at light, 1 specimen, R. Maksimov (RMA).
- 9759 *Apamea ingloria* (Bang-Haas, 1912) – Saylig-Khem-Taiga, at light, 29.VI.2017, 5 specimens, R. Maksimov (RMA, SKO).
- 9772 *Lateroligia ophiogramma* (Esper, 1794) – [Kozhantshikov, 1928]: *Parastichtis ophiogramma* (Esper, 1794); Minino, 19.VII.2017, 1 specimen, M. Ivanov (MIK).
- 9793 *Mesapamea secalis* (Linnaeus, 1758) – [Kozhantshikov, 1923]: *Parastichtis secalis rava* (Haw.); Krasnoyarsk, 27.VII.2017, 1 specimen, M. Ivanov (MIK).
- 9806 *Oligia latruncula* ([Denis & Schiffermüller], 1775) – Krasnoyarsk, 24.VI.2015, 1 specimen, M. Ivanov (MIK); Maliy Kyzikul, 10.VIII.2019, at light, 1 specimen, R. Maksimov (RMA).
- 9809 *Oligia strigilis* (Linnaeus, 1758) – [Kozhantshikov, 1923]: *Oligia strigilis aethiops* (Haw.); Katcha, 15.VII.2012, 1 specimen, I. Zakharzhevsky (MIK).
- 9902 *Lithophane lamda* (Fabricius, 1787) – Krasnoyarsk, 15.V.2010, 1 specimen, M. Ivanov (MIK); Karynzul, at light, 08.V.2019, 1 specimen; Sugesh, at light, 31.VIII.2019, 1 specimen, R. Maksimov (RMA).
- 9926 *Eupsilia transversa* (Hufnagel, 1766) – [Kozhantshikov, 1923]: *Eupsilia satellitia* (L.); Krasnoyarsk, 24.IV.2015, 1♂; same locality, 06.IX.2018 - 1♀, M. Ivanov (MIK); Podsinee, at light, 16.IV.2018, 1 specimen; Pulankol, at light, 21.IV.2018, 1 specimen; Mayna, at light, 18.IX.2019, 1 specimen, R. Maksimov (RMA).
- 9959 *Antitype chi* (Linnaeus, 1758) – [Kozhantshikov, 1923]; Katcha, 30.VIII.2011, 1 specimen, I. Zakharzhevsky; Krasnoyarsk, 16.VIII.2015, 1 specimen, M. Ivanov (MIK).
- 10004 *Orthosia cerasi* (Fabricius, 1775) – Krasnoyarsk, 24.IV.2017, 1 specimen, M. Ivanov (MIK).
- 10015 *Orthosia opima* (Hübner, [1809]) – Bidja, at light, 08.V.18, 2, R. Maksimov (RMA); Krasnoyarsk, 16.IV.2011, 1 specimen, M. Ivanov (MIK).
- 10017 *Orthosia populeti* (Fabricius, 1775) – Katcha, 25.V.2009, 1 specimen, I. Zakharzhevsky (MIK).

- 10023 *Anorthoa munda* ([Denis et Schiffermüller], 1775) - Lugavskoye, at light, 26.IV.2018, 3 specimens, R. Maksimov (RMA); Abakan, at light, 06.V.2017, 1 specimen, R. Maksimov (RMA); Bidja, at light, 08.V.2018, 3 specimens, R. Maksimov (RMA); Bograd, at light, 11.V.2018, 7 specimens, R. Maksimov (RMA); Yuferovskoye, at light, 30.IV.2018, 4 specimens, S.A. Knyazev (SKO); Krasnoyarsk, 13.IV.2011, 1 specimen, M. Ivanov (MIK).
- 10042 *Cerapteryx graminis* (Linnaeus, 1758) - Salbyksky kurgan, at light, 18.VII.2018, 1 specimen; Efremkino, 15.VII.2017, 1♂; Tyoia, at light, 29.VII.2017, 1 specimen, R. Maksimov (RMA); Stolby, 22.VII.2015, 1 specimen; Tuim, 2.VIII.2008, 1 specimen, M. Ivanov (MIK).
- 10050 *Anarta imperspicua* Hacker, 1998 - Saylig-Khem-Taiga, at light, 29.VI.2017, 3 specimens; Balankul, at light, 08.VI.2018, 2 specimens; Efremkino, at light, 16.VI.18, 1 specimen; Bidja, at light, 26.VI.18, 3 specimens, R. Maksimov (RMA); Krasnoyarsk, 2.VI.2011, 1 specimen, M. Ivanov (MIK).
- 10072 *Polia conspicua* (A.Bang-Haas, 1912) - Saylig-Khem-Taiga, at light, 29.VI.2017, 4 specimens; Podlunnaya, at light, 13.VII.2018, 2 specimens; Gladenkaya, at light, 10.VII.2018, 2 specimens, R. Maksimov (RMA, SKO).
- 10077 *Polia malchani* (Draudt, 1934) - Ergaky, at light, 11.VI.2018, 2 specimens; same place, at light, 19.VI.2019, 1 specimen, R. Maksimov (RMA).
- 10117 *Hada plebeja* (Linnaeus, 1761) - [Kozhanchikov, 1923]: *Harmodia nana* (Rott.); Ergaki, 17.VII.2009, 1 specimen, M. Ivanov; Krasnoyarsk, 25.VI.2008, 1 specimen, M. Ivanov (MIK); Snow Leopard, at light, 02.VI.2016, 1♀; Saylig-Khem-Taiga, at light, 29.VI.2017, 2♂, R. Maksimov (RMA).
- 10136 *Sideridis turbida* (Esper, 1790) - [Kozhanchikov, 1923]: *Trichoclea albicolon* Hübner, [1813]; Shira, 6.VIII.2009, 1 specimen, M. Ivanov; Krasnoyarsk, 12.VI.2003, 1 specimen, E. Akulov (MIK); Efremkino, at light, 16.VI.2018, 2 specimens; Oglahy, at light, 03.VII.2018, 1 specimen, R. Maksimov (RMA).
- 10154 *Conisania suaveola* (Draudt, 1950) - Krasnoyarsk, 29.V.2001, 1♂, E. Akulov (MIK).
- 10158 *Hecatera bicolorata* (Hufnagel, 1766) - [Tshugunov, 1913]: *Larentia bicolorata* Hufn.; [Kozhantshikov, 1923]: *Polia serena leuconota* (Ev.); Krasnoyarsk, 20.VI.2015, 1 specimen, M. Ivanov; Katcha, 18.VI.2008, 1 specimen, I. Zakharzhevsky (MIK).
- 10160 *Hecatera dysodea* ([Denis & Schiffermüller], 1775) - Krasnoyarsk, 18.VI.2007, 1 specimen; same locality, 28.VI.2018, 1 specimen, M. Ivanov; Khudonogovo, 20.VII.2006, 1 specimen, V. Golovizin (MIK).
- 10167 *Hadena albimacula* (Borkhausen, 1792) - [Kozhanchikov, 1923]: *Harmodia albimacula* (Borkhausen, 1792); Efremkino, at light, 05.VIII.2017, 1 specimen, R. Maksimov (RMA).
- 10185 *Hadena perplexa* ([Denis & Schiffermüller], 1775) - Oglahy, at light, 07.VIII.2018, 2 specimens, R. Maksimov (RMA); Krasnoyarsk, 18.VI.2015, 1 specimen, M. Ivanov (MIK).
- 10217 *Mythimna opaca* (Staudinger, 1900) - Podsinee, at light, 22.V.2017, 2 specimens; Efremkino, at light, 11.VI.2017, 4 specimens; same locality, at light, 15.VII.2017, 1 specimen, R. Maksimov (RMA, SKO); Krasnoyarsk, 7.VII.2011, 1 specimen, M. Ivanov (MIK).
- 10221 *Mythimna pudorina* ([Denis & Schiffermüller], 1775) - Katcha, 23.VII.2007, 1 specimen, I. Zakharzhevsky (MIK).
- 10236 *Leucania obsoleta* (Hübner, 1803) - Podsinee, at light, 07.VI.2017, 1♂, R. Maksimov (RMA).
- 10242 *Lasionycta alpicola* Lafontaine & Kononenko, 1988 - Ergaki, 17.VII.2009, 1 specimen, M. Ivanov (MIK); Saylig-Khem-Taiga, at light, 01.VII.2017, 1 specimen; Manysh, at light, 25.VIII.2018, 1 specimen; Ergaky, 19.VII.2019, at light, 3 specimens, R. Maksimov (RMA);
- 10246 *Lasionycta hampsoni* Varga, 1974 - Saylig-Khem-Taiga, at light, 29.VI.2017, 6 specimens, R. Maksimov (RMA, SKO).
- 10247 *Lasionycta hospita* A.Bang-Haas, 1912 - [Kozhantshikov, 1923; Filipyev, 1925]: *Lasionycta ardua* (Filipyev, 1925); Saylig-Khem-Taiga, at light, 29.VI.2017, 1 specimen, R. Maksimov (RMA).
- 10250 *Lasionycta leucocycla* (Staudinger, 1857) - Saylig-Khem-Taiga, at light, 30.VI.2017, 1 specimen; Efremkino, 16.VI.2018, 1 specimen; Efremkino, at light, 16.VI.2018, 1 specimen, R. Maksimov (RMA).
- 10252 *Lasionycta proxima* (Hübner, 1809) - [Kozhantshikov, 1925]: *Polia proxima extensa* (Ev.); Snow Leopard, at light, 30.VI.2017, 1 specimen; Efremkino, at light, 14.VII.2017, 1 specimen; same locality, at light, 05.VIII.2017, 1 specimen; Ergaky, 19.VII.2019, at light, 3 specimens, R. Maksimov (RMA); Krasnoyarsk, 2.VII.2010, 1 specimen; Tuim, 6.VIII.2009, 1 specimen, M. Ivanov (MIK).
- 10307 *Dichagyris vallesiaca* (Boisduval, 1837) - Oglahy, at light, 07.VIII.2018, 2 specimens, R. Maksimov (RMA).
- 10312 *Euxoa aquilina* ([Denis & Schiffermüller], 1775) - Novoselovo, 28.VII.2009, 1 specimen, M. Ivanov (MIK).
- 10330 *Euxoa eruta* (Hübner, [1827]) - Shira, 4.VIII.2009, 1 specimen, M. Ivanov (MIK).
- 10353 *Euxoa sibirica* (Boisduval, 1832) - [Kozhantshikov, 1927]: *Rhyacia sibirica* (Boisduval, 1832); Otchury, 01.VIII.2009, 1 specimen; Krasnoyarsk, 07.VIII.2015, 1 specimen, M. Ivanov (MIK).
- 10407 *Diarsia mendica* (Fabricius, 1775) - Katcha, 13.VII.2010, 1♂, I. Zakharzhevsky (MIK).
- 10452 *Chersotis cuprea* ([Denis & Schiffermüller], 1775) - Ingol', 3.VIII.2010, 1 specimen; Krasnoyarsk, 4.VIII.2018, 1 specimen, M. Ivanov (MIK).
- 10472 *Noctua interposita* (Hübner, 1790) - Krasnoyarsk, 20.VIII.2015, 1 specimen, M. Ivanov (MIK); Saylig-Khem-Taiga, at light, 29.VI.2017, 2 specimens; Gladenyaya, at light, 10.VII.2018, 3 specimens; Salbyksky kurgan, at light, 18.VII.2018, 2 specimens; Oglahy, at light, 03.VII.2018, 3 specimens, R. Maksimov (RMA).
- 10504 *Xestia albonigra* (Kononenko, 1981) - Katcha, 24.VII.2010, 1♂, I. Zakharzhevsky (MIK).

10505 *Xestia albuncula* (Eversmann, 1851) - Gladenykaya, at light, 10.VII.2018, 4 specimens; same locality, at light, 28.VII.2018, 4 specimens; Podlunnaya, at light, 13.VII.2018, 2 specimens, R. Maksimov (RMA).

10508 *Xestia atrata* (Morrison, 1874) - Podlunnaya, at light, 13.VII.2018, 1 specimen; Gladenykaya, at light, 10.VII.2018, 2 specimens, R. Maksimov (RMA).

10510 *Xestia banghaasi* (Corti & Draudt, 1933) - Podlunnaya, at light, 13.VII.2018, 6 specimens, R. Maksimov (RMA).

10550 *Xestia sincera* (Herrich-Schäffer, 1851) - Podlunnaya, at light, 13.VII.2018, 1 specimen, R. Maksimov (RMA).

10554 *Xestia subgrisea* (Staudinger, 1897) - Tyoia, at light, 29.VII.2017, 1 specimen, R. Maksimov (RMA); Katcha, 10.VIII.2011, 1♂, I. Zakharzhevsky (MIK).

10596 *Naenia typica* (Linnaeus, 1758) - Katcha, 1.IX.2000, 1♂, I. Zakharzhevsky (MIK).

Family Arctiidae

10651 *Acerbia alpina* (Quensel, 1802) - Saylig-Khem-Taiga, 18.VI.2000, 1♂, R. Maksimov (RMA). The species has been marked for 22-nd region as requiring confirmation in the Catalogue of the *Lepidoptera* of Russia [2008]. During the years of observation, we have collected only one specimen. It was caught in the daytime on the stones, in high mountain tundra. However, we confirm the presence of this species in Khakassia.

10788 *Manulea complana* (Linnaeus, 1758) - Pugatshevo, 10.VII.2017, M. Ivanov (MIK); Saylig-Khem-Taiga, at light, 28.VII.2002, 1 specimen; same locality, at light, 30.VI.2017, 1 specimen; Gladenykaya, at light, 28.VII.2018, 2 specimens; same locality, at light, 07.VIII.2019, 3 specimens, R. Maksimov (RMA).

Discussion

Thus, we reported 147 species from Khakassia and South of Krasnoyarsk region for the first time. Though some species were presented in publications earlier, however they were not related to 22 Region in Catalogue (2008). The main part of the material was collected during the period from 1999 to 2018. The great share of the reported species is fairly common and sometimes attracted to the lights in large numbers. We suggested that the regional list of Heterocera of Khakassia and South of the Krasnoyarsk region should be considerably revised. Our research and observations will be continued and expanded to the new localities during the forthcoming field seasons. The most part of the specimens mentioned in the text are presented on the web-site "The Nature of South Siberia" by the following link: www.ermak24.com/animalia-insecta.html/.

Acknowledgements

We thanked our wives Svetlana Pokoreeva (Abakan) and Helen Knyazeva (Omsk) for invaluable help and understanding during all the stages of our work; E. Akulov, S.M. Loshev, Uchevatov I.B., V. Golovizin, G.V. Kuleshov, and I.S. Zakharzhevsky (Krasnoyarsk) for the collected materials they provided for our study. We are also thankful to Dr. V.V. Shurkina (Abakan), Deputy Director of Research State Natural Reserve "Khakassky", Director & Deputy Director of Research Ergaki Nature Park I.V. Gryazin and Prof. N.V. Stepanov (Krasnoyarsk) for their support during our research in these reserves. The first author acknowledged Dr. T.A. Maksimova (Abakan) for generous field assistance during the trip.

References

- Annotated catalogue of the insects of Russian Far East. Volume II. Lepidoptera. 2016. Vladivostok: Dalnauka. (In Russian).
 Catalogue of the Lepidoptera of Russia. 2008. SYu. Sinev (Ed.). Saint Petersburg-Moscow: KMK Scientific Press Ltd.
 Djakonov AM. 1926. Zur Kenntniss der Geometriden Fauna des Minussinsk Bezirks. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) IV(I): 1-78. (In Russian).
 Djakonov AM. 1927. Berichtigungen und Zusatzze zur Geometriden Fauna des Minussinsk Bezirks. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) V(I): 54-58. (In Russian).
 Filipiev NN. 1924a. Microheterocera des Minussinsk Bezirks. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) II(III): 1-44. (In Russian).
 Filipiev NN. 1924b. Microheterocera des Minussinsk Bezirks. Nachtrag 1. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) II(III): 45-61. (In Russian).
 Filipiev NN. 1925. Neue und wenig bekannte Noctuiden aus dem Minussinsk Bezirks. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) III(I): 59-67. (In Russian).
 Filipiev NN. 1927. Microheterocera des Minussinsk Bezirks. Nachtrag 2. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) V(I): 1-32. (In Russian).
 Filipjev NN. 1930. Lepidopterologische Notizen. V. Microheterocera von Munku-Sardyk (Ost-Sajan-Geberige) Annuaire du Musee Zoologique. Academie des Sciences URSS XXX: 1-15.
 Koshantshikov WD. 1923. Materialjen zur Macrolepidopteren fauna des Minussinsk Bezirks. (Sibirien, Ienissei Gov.) Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) I(I), I-VII:1-50. (In Russian).
 Koshantshikov WD. 1925. Materialjen zur Macrolepidopteren fauna des Minussinsk Bezirks III. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) III(I): 68-82. (In Russian).

- Koshantshikov WD. 1926. Materialjen zur Macrolepidopteren fauna des Minussinsk Bezirks IV. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) IV(I): 79-82. (In Russian).
- Koshantshikov WD. 1927. Materialjen zur Macrolepidopteren fauna des Minussinsk Bezirks V. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) V(I): 51-52. (In Russian).
- Koshantshikov WD. 1928. Materialjen zur Macrolepidopteren fauna des Minussinsk Bezirks VI. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) VI(I): 64-82. (In Russian).
- Korshunov YP, Viidalepp JR. 1980. Pyadenitsy (Lepidoptera, Geometridae) Khakassii. Soobshenie 1. Fauna & ecology rastitelnoyadnyh & hyshnyh nasekomyh Sibiry. Novosibirsk: Nauka. Sibirskoye otdelenye. (In Russian).
- Korshunov YP, Viidalepp JR. 1982. Pyadenitsy (Lepidoptera, Geometridae) Khakassii. Soobshenie 2. Fauna & ecology rastitelnoyadnyh & hyshnyh nasekomyh Sibiry. Novosibirsk: Nauka. Sibirskoye otdelenye. (In Russian).
- Lostchev SM. 2015. Entomofauna zapovednika "Stolby". Trudy gosudarstvennogo zapovednika "Stolby" 21: 1-216. (In Russian).
- Meinhard AA. 1912. Obzor entomologicheskikh zborov, proizvedennykh v Zapadnykh Sayanach I na Yenissee s 5-go avgusta po 8-e sentyabria 1903 goda. Tomsk. (In Russian).
- Pittaway AR. 1993. The Hawkmoths of the Western Palaearctic. Colchester: Harley Books.
- Pittaway AR. [Internet]. 2019. Sphingidae of the Western Palaearctic (including Europe, North Africa, the Middle East, western Siberia and western Central Asia); [cited 2019 Nov 28]. Available from: <http://tpittaway.tripod.com/sphinx/list.htm/>.
- Sushkin PP, Tshetverikov SS. 1907. Lepidoptera Minusinsk district, West Sayan & West part Uryanhayskaya steppe. Russian Entomology Society works XXXVIII: 3-34. (In Russian).
- Tshetverikov SS. 1925. Beitrage zur Systematik der Noctuiden des Minussinskischen Bezirks. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) III(I): 53-58. (In Russian).
- Tshugunov SM. 1912. Lepidopteres chasses en ete 1909 pres du lac Ingol dans le gouvernement Enisej. Revue Russe d`Entom XII(2): 216-219. (In Russian).
- Tshugunov SM. 1913). Les Lepidopteres collectionnes pendant l`ete 1912 dans le district Minussinsk gouvernement Jenissejsk. Revue Russe d`Entom XIII(2): 360-367. (In Russian).
- Viidalepp JR. 1996. Checklist of the Geometridae of the former USSR. Stenstrup: Apollo Books (In Russian).
- Volynkin AV. 2012. Noctuidae of the Russian Altay (Lepidoptera) Proceedings of the Tigirek State Natural Reserve. V. Barnaul.
- Wehrli E. 1928. Beitrag zur Geometriden fauna von Minussinsk Bezirks. Jarbuch des Martjanovischen Staatsmuseums in Minussinsk (Siberien) VI(I): 8-30.
- Wnoukovsky WW. 1930. Revisia nekotorykh rabot Meyngarda A.A. & Chugunova S.M. po faune cheshuekrylykh Altaya, Minusinskogo kraya, Sayan & Zapadnoy Mongolii. Trudy Sibirskogo Instituta selskogo hozyaystva & lesovodstva. p. 275-285. (In Russian).
- Yakobson A. 1901. Poyezdka v Abakanskye gory. Trudy Russkogo entomologicheskogo obshestva XXXV(1-2): 5-14. (In Russian).
- Yanovsky VM. 1996. Lesnaya entomofauna Sayano-Shushenskogo biosfernogo zapovednika. Krasnoyarsk. Institut lesa im. V.N. Sukatcheva SO RAN (In Russian).
- Zolotareno GS. 1969. K faune sovok (Lepidoptera, Noctuidae) Vostochnogo Sayana. Trudy gosudarstvennogo zapovednika "Stolby" 7: 204-219. (In Russian).

Citation:

Maksimov RE, Ivanov MA, Knyazev SA. 2019. New records of Heterocera (Insecta, Lepidoptera) from the Republic of Khakassia and South of Krasnoyarsk region (South Siberia, Russia). *Acta Biologica Sibirica* 5(4): 12-20.

Submitted: 12.10.2019. **Accepted:** 23.11.2019

crossref <http://dx.doi.org/10.14258/abs.v5.i4.6803>



© 2019 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).