

CHECK LIST OF NOCTUID MOTHS (LEPIDOPTERA: NOCTUIDAE AND EREBIDAE EXCLUDING LYMANTRIINAE AND ARCTIINAE) FROM THE SAUR MOUNTAINS (EAST KAZAKHSTAN AND NORTH-EAST CHINA)

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The paper contains data on the fauna of the Lepidoptera families Erebidae (excluding subfamilies Lymantriinae and Arctiinae) and Noctuidae of the Saur Mountains (East Kazakhstan). The check list includes 216 species. The map of collecting localities is presented.

Key words: *Lepidoptera, Noctuidae, Erebidae, Asia, Kazakhstan, Saur, fauna.*

INTRODUCTION

The fauna of noctuid moths (the families Erebidae and Noctuidae) of Kazakhstan is still poorly studied. Only the fauna of West Kazakhstan has been studied satisfactorily (Gorbunov 2011). On the faunas of other parts of the country, only fragmentary data are published (Lederer, 1853; 1855; Aibasov & Zhdanko 1982; Hacker & Peks 1990; Lehmann *et al.* 1998; Benedek & Bálint 2009; 2013; Korb 2013). In contrast to the West Kazakhstan, the fauna of noctuid moths of East Kazakhstan was studied inadequately. Until now, only some reports are presented in several publications (Bubnova, 1980; 1982; Volynkin & Matov, 2011; Volynkin & al., 2014; Volynkin & al., 2015).

The Saur is a mountain massif on the border between Eastern Kazakhstan and China south-eastwards from Zaisan Lake and southwards from the Kara-Irtysh River valley. It is bordered by the Zaisan depression in the north, and the Chiliky depression separates it from the Tarbagatai Mountain massif in the south-west. In the west the Saur is in contact with the small Manrak Ridge, and with the Saikan Ridge (China, Xinjiang) in the north-east. The Saur stretches 140 km from the west to the east, and its highest point is the Mustau Mt. (3816 m). The biogeographic affiliation of the Saur is controversial. The most traditional opinion is that biota of the Saur and Tarbagatai massifs have intermediate positions between biotas of the mountains of Siberia and Central Asia (Yakovlev & Guskova 2012; Rubin & Yakovlev, 2013).

The first collecting of Lepidoptera in the Saur Mts. was made by J. Haberhauer in 1877–1878. The Noctuidae and Erebidae materials collected by Haberhauer are deposited in the Staudinger's collection (Naturkunde Museum, NKMB, Berlin, Germany), and has been published by Staudinger (1881; 1882). In the beginning of the 20th century, two expeditions by S. Tshetverikov and P. Sushkin in 1904 and A. Jacobson in 1910 collected an extensive Noctuidae and Erebidae material. Specimens collected on these

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trips are deposited in the collection of Zoological Institute of the Russian Academy of Sciences (ZISP, St. Petersburg, Russia), and mainly are not published. Only some *Drasteria* materials has been published by O. Iohn (1910). The senior author of the present paper revised the materials deposited in the ZISP collection as well as the modern materials collected in the Saur Mts. by R.V. Yakovlev in July 2011 (deposited in the private collection of Anton Volynkin, AVB, Barnaul, Russia). In 2011 the second author collected an extensive Noctuidae and Erebidae material in the Saur Mts. within the framework of the international project 'Forest regeneration and biodiversity at the forest-steppe border of the Altay and Khangay Mountains under contrasting developments of livestock numbers in Kazakhstan and Mongolia' (material deposited in AVB and the private collection of Sergey Titov, STP, Pavlodar, Kazakhstan). In addition, authors of the paper collected an extensive Noctuidae and Erebidae material 2013 (deposited in the private collections of authors). All these materials are a basis of the check list presented below and comprising 216 species.

In the present paper we have accepted the classification proposed in Noctuidae Europaeae, Vol. 13 (Yela & al., 2011) with some changes (Troubridge, 2008), but the subfamilies Lymantriinae and Arctiinae are not included in the present study.

MATERIAL AND METHODS

The moths were collected using ultraviolet and mercury light-traps. Photos of imago were taken using the camera Nikon D3100/AF-S Nikkor, 18–55 mm, and processed in Adobe Photoshop CS4® software.

RESULTS

Alphabetical list of the collecting localities abbreviated (Fig. 1):

- D1 – Big Dzhemenei river out of Saur Mts.;
- D2 – Saur Mts. between Big Dzhemenei and Small Dzhemenei rivers;
- D3 – Dzhem Mt., 1600 m;
- D4 – upper stream of Big Dzhemenei river;
- K – Kishkine-Tau foothills, confluence of rivers Small Dzhemenei and Big Dzhemenei;
- M1 – Maigat, foothills of Mustau Mt.;
- M2 – Mustau Mt., Ulken-Ulasty river;

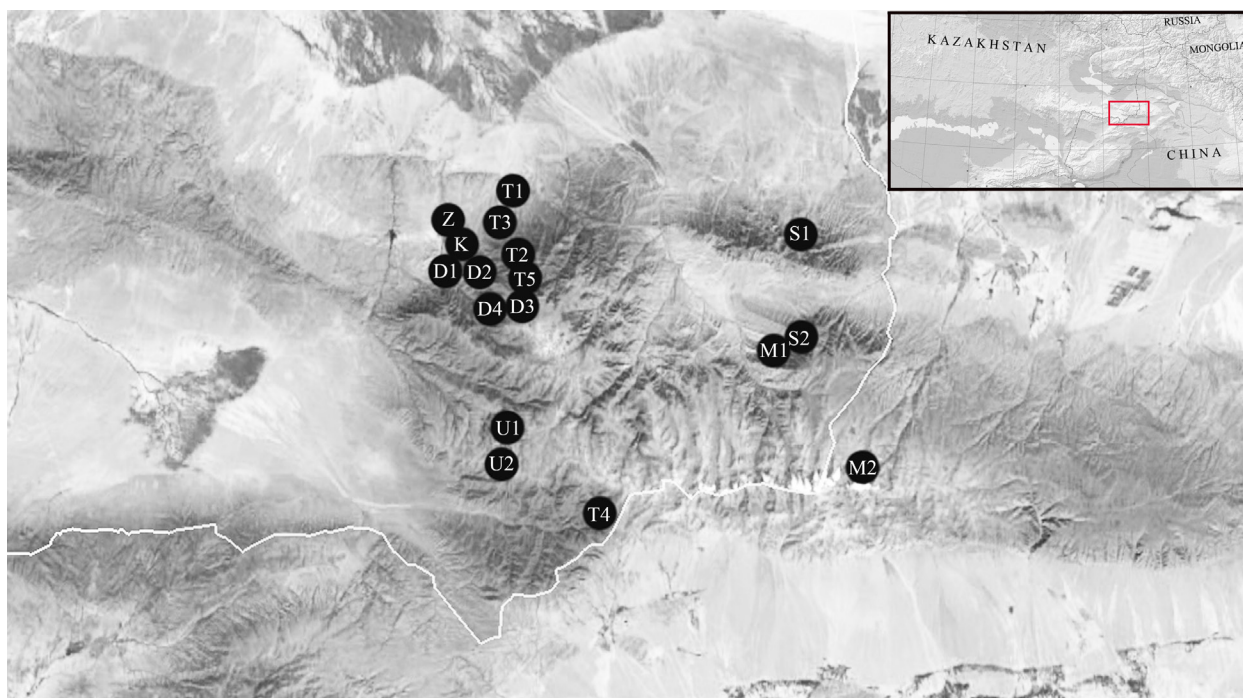


Figure 1. Map of collecting localities.

- S1 – Sary-Bulak gorge in Sajkan Mts.;
 S2 – Sartylogai Mt., foothills of Mustau Mt.;
 T1 – Terekty river out of Saur Mts.;
 T2 – upper reaches of the Terekty river;
 T3 – Temir-su river out of Saur Mts.;
 T4 – Tik-Bulak spring, S slope of Saur Mts.;
 T5 – Tas Mt., 2350–2600 m;
 U1 – upper stream of Uidene river;
 U2 – watershed of Uidene and Chagan-Obo rivers;
 Z – southern vicinities of Zaisan town, rocky foothills of Saur Mts.

Check list of noctuid moths from the Saur Mts.

Family EREBIDAE Leach, [1815]

Subfamily SCOLIOPTERYGINAE Herrich-Schäffer, [1852]

Scoliopteryx libatrix (Linnaeus, 1758) – D1, K, T1, T3, Z.

Subfamily HYPENINAE Herrich-Schäffer, 1845

Hypena obesalis Treitschke, 1828 – T3, Z.

Subfamily HERMINIINAE Leach, 1815

Paracolax tristalis (Fabricius, 1794) – D1.

Polypogon tentacularia (Linnaeus, 1758) – D4, T2.

Subfamily CALPINAE Boisduval, 1840

Calyptra thalictri (Borkhausen, 1790) – T2.

Subfamily TOXOCAMPINAE Guenée, 1852

Lygephila lubrica (Freyer, 1846) – D1, K, Z.

Lygephila ludicra (Hübner, 1790) – D1, D4, T3.

Lygephila pastinum (Treitschke, 1826) – D4.

Lygephila viciae (Hübner, [1822]) – D4, K.

Autophila glebicolor (Erschov, 1874) – U2.

Autophila rasilis (Püngeler, 1900) – D4.

Apopestes phantasma (Eversmann, 1843) – T1, Z.

Subfamily BOLETOBIINAE Grote, 1895

Tribe PHYTOMETRINI Hampson, 1913

Phytometra viridaria (Clerck, 1759) – S2, T3.

Tribe EUBLEMMINI Forbes, 1954

Eublemma porphyrinia (Freyer, 1845) – S1, T2.

Odice arcuinna (Hübner, 1790) – Z.

Subfamily EREBINAE Leach, [1815]

Tribe MELIPOTINI Grote, 1895

Drasteria cailino (Lefebvre, 1827) – D4.

Drasteria obscurata (Staudinger, 1888) – D2, D4, S1, T2.

Drasteria catocalis (Staudinger, 1882) – S2.

Tribe CATOCALINI Boisduval, [1828]

Catocala neonympha (Esper, 1805) – D1, K, Z.*Catocala nupta* (Linnaeus, 1767) – D4, Z.*Catocala deducta* Eversmann, 1843 – Z.*Catocala lupina* Herrich-Schäffer, 1851 – Z.

Tribe EUCLIDIINI Guenée, 1852

Euclidia (Euclidia) glyphica (Linnaeus, 1758) – D4, M1, S2, T2, T3.**Family NOCTUIDAE Latreille, 1809**

Subfamily PLUSIINAE Boisduval, [1828]

Tribe ABROSTOLINI Eichlin & Cunningham, 1978

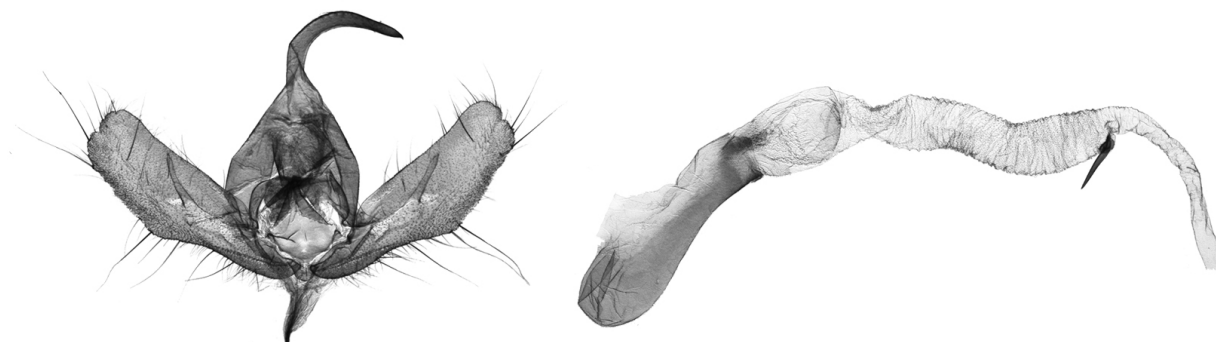
Abrostola tripartita (Hufnagel, 1766) – D4.

Tribe PLUSIINI Boisduval, [1828]

Macdunnoughia confusa (Stephens, 1850) – Z.*Diachrysia chrysitis* (Linnaeus, 1758) – D4.*Diachrysia stenochrysis* (Warren, 1913) – D4, S1.*Euchalcia herrichi* (Staudinger, 1861) (Figs 2, 3) – D4, T5. Northernmost known locality of the species.*Polychrysia esmeralda* (Oberthür, 1880) – D4.*Panchrysia (Panchrysia) deaurata* (Esper, 1787) – D4.*Panchrysia (Panchrysia) ornata* (Bremer, 1864) – D4.*Plusidia cheiranthi* (Tauscher, 1809) – D4.*Autographa gamma* (Linnaeus, 1758) – Z.*Autographa buraetica* (Staudinger, 1892) – D4, Z.*Autographa pulchrina* (Haworth, 1809) – D4.*Autographa mandarina* (Freyer, 1845) – D4.*Autographa camptosema* (Hampson, 1913) – D4;*Autographa bractea* (Denis & Schiffermüller, 1775) – D4.*Syngrapha venustula* Volynkin & Matov, 2011 (Fig. 4) – M2, U1, U2. A main part of the species' type series has been collected in the Saur Mts. (Volynkin & Matov, 2011).*Syngrapha hohenwarthii* (Hochenwarth, 1785) – D3, D4, M1, M2, U2.*Syngrapha ain* (Hochenwarth, 1785) – D4, M1.*Plusia festucae* (Linnaeus, 1758) – Z.

Subfamily ACONTIINAE Guenée, 1841

Tribe ACONTIINI Guenée, 1841

Acontia (Acontia) lucida (Hufnagel, 1766) – K, M1, Z.*Acontia (Emmelia) trabealis* (Scopoli, 1763) – Z.**Figure 2.** *Euchalcia herrichi*, male genitalia, Saur Mts., Tas Mt., slide AV0888 Volynkin.

Subfamily **ACRONICTINAE** Heinemann, 1859

- Simyra nervosa* ([Denis & Schiffermüller], 1775) – Z. Reported by Staudinger (1881).
Acronicta (Triaena) psi (Linnaeus, 1758) – D4, Z.
Acronicta (Viminia) auricoma ([Denis & Schiffermüller], 1775) – D4.
Acronicta (Viminia) rumicis (Linnaeus, 1758) – D4.
Acronicta (Viminia) cinerea (Hufnagel, 1766) – Z. Reported by Staudinger (1881) as *A. euphorbiae* (Hufnagel, 1766).
Acronicta (Subacronicta) concerpta (Draudt., 1937) – K.

Subfamily **CUCULLINAE** Herrich-Schäffer, 1850

- Cucullia absinthii* (Linnaeus, 1761) – Z.
Cucullia artemisiae (Hufnagel, 1766) – Z.
Cucullia splendida (Stoll, 1782) – Z.
Cucullia infusata Tshetverikov, 1925 – Z.
Cucullia gnaphalii (Hübner, [1813]) – D4.
Cucullia pustulata Eversmann, 1842 – Z.
Cucullia lucifuga ([Denis & Schiffermüller], 1775) – D4.
Cucullia santonici (Hübner, [1813]) – Z.
Cucullia xeranthemi Boisduval, 1840 – D4.

Subfamily **ONCOCNEMIDINAE** Forbes & Franclemont, 1954

- Sympistis strioligera* (Lederer, 1853) – Z2.

Subfamily **AMPHIPYRINAE** Guenée, 1837

- Amphipyra tragopogonis* (Clerck, 1759) – K, T3, Z.
Amphipyra tetra (Fabricius, 1787) – K, Z.
Amphipyra sergei Staudinger, 1888 – Z.

Subfamily **HELIOTHINAE** Boisduval, 1828

- Pyrrhia umbra* (Hufnagel, 1766) – D1.
Pyrrhia exprimens (Walker, 1857) – D4.
Heliothis ononis ([Denis & Schiffermüller], 1775) – M1, S1, S2.
Heliothis adauca Butler, 1878 – D; T1, T2, Z.

Subfamily **BRYOPHILINAE** Guenée, 1852

- Cryphia fraudatricula* (Hübner, [1803]) – D4.
Bryophila (Bryoleuca) orthogramma (Boursin, 1954) – Z.
Bryophila (Scythobrya) plumbeola Staudinger, 1881 – The species has been described from “Saisan-Gebiet” (Staudinger, 1881). No further records are known.
Athaumasta expressa (Lederer, 1855) – Z. Reported by Staudinger (1881).

Subfamily **XYLENINAE** Guenée, 1837Tribe **CARADRININI** Boisduval, 1840

- Caradrina (Caradrina) morpheus* (Hufnagel, 1766) – D1, D4, T1.
Caradrina (Platyperigea) albina Eversmann, 1848 – K, T1, Z.
Caradrina (Paradrina) wullschlegeli Püngeler, 1903 – Z.
Hoplodrina octogenaria (Goeze, 1781) – D4, T2.
Hoplodrina blanda ([Denis & Schiffermüller], 1775) – D4.
Athetis (Athetis) gluteosa (Treitschke, 1835) – D4, T1, T2, Z.
Athetis (Athetis) furvula (Hübner, [1808]) – Z.
Athetis (Hydrillula) pallustris (Hübner, [1808]) – D4.

Tribe ACTINOTIINI Beck, 1996

Actinotia polyodon (Clerck, 1759) – D4.

Tribe PHLOGOPHORINI Hampson, 1918

Auchmis detersina (Staudinger, 1896) (Fig. 5) – D4, Z.

Tribe APAMEINI Boisduval, 1828

Calamia tridens (Hufnagel, 1766) – Z.

Bryoxena centralasiae (Alpheraky, 1882) – D4, U1.

Hydraecia mongoliensis Urbahn, 1967 – Z.

Fabula zollikoferi (Freyer, 1836) – Z.

Photedes fluxa (Hübner, 1809) – D1, T2.

Apamea monoglypha (Hufnagel, 1766) – D4.

Apamea ferrago (Eversmann, 1837) – D4, Z.

Apamea furva ([Denis & Schiffermüller], 1775) – D1, D4, K, M1, S1, T2, T3, Z.

Apamea lateritia (Hufnagel, 1766) – D1, D4, K, T2, T3, T4, Z.

Apamea ingloria (A. Bang-Haas, 1912) (Fig. 7) – T4, T5, U1.

Apamea kaszabi Varga, 1982 (Fig. 6) – T5.

Apamea oblonga (Haworth, 1809) – D1, D4, Z.

Apamea sordens (Hufnagel, 1766) – K, T1, Z.

Apamea anceps ([Denis & Schiffermüller], 1775) – T1.

Apamea leucodon (Eversmann, 1837) – S1, S2, T1, Z.

Apamea remissa (Wileman, 1911) – D4.

Apamea crenata (Hufnagel, 1766) – D4, Z.

Resapamea hedeni (Graeser, [1889]) – T4.

Litoligia literosa (Haworth, 1809) – D4.

Tribe XYLENINI Guenée, 1837

Brachylomia viminalis (Fabricius, 1777) – D4.

Hyppa rectilinea (Esper, 1788) – D4.

Apterogenum ypsilon ([Denis & Schiffermüller], 1775) – Z.

Cirrhia icteritia (Hufnagel, 1766) – Z.

Cirrhia ocellaris (Borkhausen, 1792) – Z.

Mesogona acetosellae ([Denis & Schiffermüller], 1775) – T3.

Agrochola (Anchoscelis) helvola (Linnaeus, 1758) – T3, Z.

Agrochola (Leptologia) lota (Clerck, 1759) – Z.

Conistra (Conistra) vaccinii (Linnaeus, 1761) – Z.

Xylena (Xylena) exsoleta (Linnaeus, 1758) – Z.

Xylena (Xylena) vetusta (Hübner, [1813]) – Z.

Eupsilia transversa (Hufnagel, 1766) – Z.

Rhiza (Rhiza) commoda Staudinger, 1889 – S1.

Rhiza (Gryphadena) indigna (Christoph, 1887) – S1, T1.

Orohadena (Orohadena) xanthophanes (Boursin, 1943) – K.

Palaeagrotis inops (Lederer, 1853) – D4. Reported from the Saur Mts. by Volynkin & al. (2015).

Ammoconia caecimacula ([Denis & Schiffermüller], 1775) – K, T3, Z.

Polymixis (Parabrachionycha) trisignata (Ménétriés, 1848) (Fig. 8) – K, Z. Easternmost known locality of the species.

Mniotype adusta (Esper, 1790) – D4. Reported from Saur by Volynkin & al. (2014).

Mniotype dubiosa (A. Bang-Haas, 1912) – D4. Reported from Saur by Volynkin & al. (2014).

Subfamily HADENINAE Guenée, 1852

Tribe ORTHOSIINI Guenée, 1837

Orthosia (Orthosia) incerta (Hufnagel, 1766) – Z.

Orthosia (Cororthosia) opima (Hübner, [1809]) – Z.
Orthosia (Semiophora) gothica (Linnaeus, 1758) – Z.
Perigrapha (Perigrapha) circumducta (Lederer, 1855) – Z.

Tribe THOLERINI Beck, 1996

Cerapteryx graminis (Linnaeus, 1758) – D4.

Tribe HADENINI Guenée, 1852

Anarta (Calocestra) odontites (Boisduval, 1829) – D4.
Anarta (Calocestra) schneideri (Staudinger, 1900) (Fig. 9) – D4. First record from Kazakhstan.
Anarta (Calocestra) colletti (Sparre-Schneider, 1876) – D4.
Anarta (Calocestra) dianthi (Tauscher, 1809) – Z.
Anarta (Calocestra) trifolii (Hufnagel, 1766) – D4, K, Z.
Polia bombycina (Hufnagel, 1766) – D1, D4, M1, T1, T2.
Polia nebulosa (Hufnagel, 1766) – D1, D4.
Polia lama (Staudinger, 1896) – D4.
Polia serratilinea (Treitschke, 1825) – D1, D4, T2.
Polia altaica (Lederer, 1853) – D4, T2, T4, U1.
Pachetra sagittigera (Hufnagel, 1766) – S1, T1, Z.
Haderonia arshanica (Alphéraky, 1882) (Fig. 10) – T4, T5. Northernmost known locality of the species.
Lacanobia (Lacanobia) w-latinum (Hufnagel, 1766) – D4, T1.
Lacanobia (Dianobia) thalassina (Hufnagel, 1766) – D1, D4.
Lacanobia (Dianobia) contigua ([Denis & Schiffermüller], 1775) – D1, D4, T1.
Lacanobia (Dianobia) suasa ([Denis & Schiffermüller], 1775) – T1, Z.
Lacanobia (Diataraxia) oleracea (Linnaeus, 1758) – Z.
Lacanobia (Diataraxia) aliena (Hübner, [1809]) – D1, T1.
Ceramica pisi (Linnaeus, 1758) – D4.
Papestra biren (Goeze, 1781) – D4.
Hada plebeja (Linnaeus, 1761) – D4, T5.
Mamestra brassicae (Linnaeus, 1758) – D4, Z.
Sideridis (Sideridis) turbida (Esper, 1790) – D4, K, T1.
Heliophobus mongoliensis Simonyi, 2015 – D1, D4, T1, T5. One paratype specimen was collected in the Saur Mts. (Simonyi & al., 2015).
Hecatera bicolorata (Hufnagel, 1766) – T2.
Hadena (Hadena) compta ([Denis & Schiffermüller], 1775) – D4.
Hadena (Hadena) variolata (Smith, 1888) – D4.
Hadena (Hadena) albimacula (Borkhausen, 1792) – D4.
Hadena (Hadena) dsungarica Hacker, 1996 (Fig. 11) – Z. The species was described from northern foothills of the Saur Mts. (Hacker, 1996).
Hadena (Hadena) filograna (Esper, [1788]) – D4.
Hadena (Anepia) perplexa ([Denis & Schiffermüller], 1775) – K.

Tribe LEUCANINI Guenée, 1837

Mythimna (Mythimna) conigera ([Denis & Schiffermüller], 1775) – D4, T2, T3.
Mythimna (Mythimna) pallens (Linnaeus, 1758) – D4, Z.
Mythimna (Mythimna) deserticola (Bartel, 1902) – S1.
Mythimna (Mythimna) impura (Hübner, [1808]) – D4.
Mythimna (Sabilia) anderreggii (Boisduval, 1840) – D4.
Mythimna (Hyphilare) ferrago (Fabricius, 1787) – D4, T2.
Mythimna (Hyphilare) l-album (Linnaeus, 1767) – K, Z.
Leucania (Leucania) comma (Linnaeus, 1761) – D4, S2, T2, Z.

Tribe ERIOPYGINI Fibiger & Lafontaine, 2005

Lasionhada proxima (Hübner, 1808) – D4, T2.

Lasionhada orientalis (Alphéraky, 1882) – D4.

Eriopygodes imbecilla (Fabricius, 1794) – D1, D4, T2, T4.

Subfamily **NOCTUINAE** Latreille, 1809

Tribe AGROTINI Rambur, 1848

Actebia (Actebia) fennica (Tauscher, 1837) – D4.

Actebia (Protexarnis) squalida (Guenée, 1852) – D1, D4, M1, S1, T1, U1, Z.

Actebia (Protexarnis) confusa (Alphéraky, 1882) – U1, U2.

Dichagyris (Albocosta) juldussi (Alphéraky, 1882) (Fig. 12) – T5. Northernmost known locality of the species.

Dichagyris (Albocosta) ulrici (Corti & Draudt, 1933) (Fig. 13) – D4. Northernmost known locality of the species.

Dichagyris (Albocosta) musiva (Hübner, [1803]) – D4.

Dichagyris (Albocosta) flammata ([Denis & Schiffermüller], 1775) – Z. Reported by Staudinger (1881).

Dichagyris (Dichagyris) melanuroides Kozhantshikov, 1930 (Fig. 14) – T5.

Dichagyris (Dichagyris) himalayensis Turati, 1933 – Z.

Dichagyris (Dichagyris) orientis (Alphéraky, 1882) – Z.

Dichagyris (Dichagyris) plumbea (Alphéraky, 1887) – T5.

Euxoa (Chorizagrotis) adumbrata (Eversmann, 1842) – T5, Z. Reported by Staudinger (1881).

Euxoa (Euxoa) conspicua (Hübner, [1824]) – D4, K, U1, U2, Z.

Euxoa (Euxoa) ochrogaster (Guenée, 1853) – U1, Z. Reported by Staudinger (1881) as *Agrotis islandica* var. *rossica* Staudinger, 1881.

Euxoa (Euxoa) distinguenda (Lederer, 1857) – U1, Z.

Euxoa (Euxoa) nigrofusca (Esper, [1788]) – Z.

Euxoa (Euxoa) nigricans (Linnaeus, 1761) – Z. Reported by Staudinger (1881).

Euxoa (Euxoa) recussa (Hübner, [1817]) – Z.

Agrotis exclamationis (Linnaeus, 1758) – D4, K, S1. Reported by Staudinger (1881).

Agrotis clavis (Hufnagel, 1766) – D4.

Agrotis ipsilon (Hufnagel, 1766) – Z.

Tribe NOCTUINI Latreille, 1809

Diarsia mendica (Fabricius, 1775) – D1, D4, T5.

Cerastis rubricosa ([Denis & Schiffermüller], 1775) – Z.

Cerastis leucographa ([Denis & Schiffermüller], 1775) – Z.

Rhyacia junonia (Staudinger, 1881) – D4, T5. Described from Saur Mts. (“Saisan-Gebiet”) (Staudinger, 1881).

Rhyacia similis (Staudinger, 1881) (Fig. 15) – D4, T5. Described from “Saisan” (Staudinger, 1881).

Chersotis andereggi (Boisduval, 1840) – D4, T2, T4.

Chersotis transiens (Staudinger, 1896) – D4, T2, Z.

Chersotis leucostola Varga & L. Ronkay, 1996 (Fig. 16) – D4. Northernmost known locality of the species.

Chersotis deplanata (Eversmann, 1843) – D4.

Noctua interposita Hübner, 1790 – D4.

Cryptocala chardinyi (Boisduval, 1829) – D4.

Spaelotis ravidata ([Denis & Schiffermüller], 1775) – D1, D4. Reported by Staudinger (1881) as “*Agrotis obscura* Brahm.”

Spaelotis deplorata (Staudinger, 1896) – D4.

Spaelotis suecica (Aurivillius, 1889) – D4.

Eurois occulta (Linnaeus, 1758) – D4.

Graphiphora augur (Fabricius, 1775) – D1.

Anaplectoides prasina ([Denis & Schiffermüller], 1775) – D4.

Xestia (Xestia) baja ([Denis & Schiffermüller], 1775) – D1, D4, Z.



Figures 3–16. Noctuidae from Saur Mts., adult specimens: 3. *Euchalcia herrichi*, male, Tas Mt. (AVB); 4. *Syngrapha venustula*, paratype male, Mustau Mt., Ulken-Ulasty river (ZISP); 5. *Auchmis deterrenta*, male, Tas Mt. (AVB); 6. *Apamea kaszabi*, male, Tas Mt. (AVB); 7. *Apamea ingloria*, male, Tas Mt. (AVB); 8. *Polymixis trisignata*, male, vic. of Zaisan town (ZISP); 9. *Anarta schneideri*, female, “Saisan Gebiet” (ZISP); 10. *Haderonia arshanica*, male, Tas Mt. (AVB); 11. *Hadena dsungarica*, holotype male, “Zaisan” (coll. W. Speidel, Munich, Germany; photo by W. Speidel); 12. *Dichagiris juldussi*, male, Tas Mt. (AVB); 13. *Dichagiris ulrici*, female, upper stream of Big Dzhemenei river (AVB); 14. *Dichagiris melanuroides*, female, Tas Mt. (AVB); 15. *Rhyacia similis*, male, Tas Mt. (AVB); 16. *Chersotis leucostola*, male, upper stream of Big Dzhemenei river (AVB).

- Xestia (Megasema) c-nigrum* (Linnaeus, 1758) – D4, Z. Reported by Staudinger (1881).
Xestia (Megasema) ditrapezium ([Denis & Schiffermüller], 1775) – D4.
Xestia (Megasema) triangulum (Hufnagel, 1766) – D4.
Xestia (Megasema) wockei (Möschler, 1862) – U1.
Xestia (Pachnobia) senescens (Staudinger, 1881) – M1. Described from “Saisan” and “Margelan” (Staudinger, 1881).
Eugraphe sigma ([Denis & Schiffermüller], 1775) – D1.
Eugnorisma ignoratum Varga & L. Ronkay, 1994 – Z. Reported by Staudinger (1881) as *E. chaldaica* (Boisduval, 1840).
Eugnorisma insignata (Lederer, 1853) – Z.
Eugnorisma eminens (Lederer, 1853) – Z. Reported by Staudinger (1881).
Isochlora viridis Staudinger, 1882 – M1, T5. The species has been described from the Saur Mts. (“Saisan”) (Staudinger, 1882).
Isochlora viridissima Staudinger, 1882 – D4, M1.

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REFERENCES

- Aibasov, Kh.A. & Zhdanko, A.B. (1982). The fauna of Lepidoptera of North Kazakhstan. *The manuscript deposited by VINITI, No. 360-82*. Alma-ata. (In Russian)
- Benedek, B. & Bálint, Zs. (2009). Data to the Lepidoptera fauna of Kazakhstan: early summer collectings in 2007. *Folia entomologica hungarica*, 70, 1–10.
- Benedek, B. & Bálint, Zs. (2013). Data to the Lepidoptera fauna of Kazakhstan: high summer collectings in 2009. *Folia entomologica hungarica*, 74, 137–145.
- Bubnova, T.V. (1980). The fauna of the noctuids (Lepidoptera, Noctuidae) of West Altai. In G.S. Zolotareno (Ed.), *Fauna i ekologiya rastitel'noyadnykh i khishchnykh nasekomykh Sibiri*. (pp. 52–121). Novosibirsk, Nauka. (In Russian)
- Bubnova, T.V. (1982). New data on the noctuid fauna (Lepidoptera, Noctuidae) of Western Altai. In G.S. Zolotareno (Ed.), *Poleznye i vrednye nasekomye Sibiri* (pp. 113–116). Novosibirsk, Nauka. (In Russian)
- Gorbunov, P.Yu. (2011). *Macrolepidoptera of deserts and southern steppes of West Kazakhstan. The fauna review*. Ekaterinburg: Lisitsyna. (In Russian)
- Hacker, H. (1996) Revision der Gattung *Hadena* Schrank, 1802 (Lepidoptera: Noctuidae). *Esperiana*, 5, 1–696.
- Hacker, H. & Peks, H. (1990). Beitrag zur Kenntnis der Noctuidenfauna Russisch-Zentralasiens. *Esperiana*, 1, 403–420.
- John, O. (1910). Eine Revision der Gattung *Leucanitis* Gn. *Horae Societatis Entomologicae Rossicae*, 39, 585–633.
- Korb, S.K. (2013). Additional data to the Noctuoidea (Insecta: Lepidoptera) fauna of South-East Kazakhstan. *The Kharkov Entomological Society Gazette*, 21(1), 26–32.
- Lederer, J. (1853). Lepidopterologisches aus Sibirien. *Verhandlungen des Zoologisch-Botanischen Vereins in Wien*, 3, 351–386.
- Lederer, J. (1855). Weiterer Beitrag zur Schmetterlings-Fauna des Altaigebirges in Sibirien. *Verhandlungen des zoologisch-botanischen Vereins in Wien*, 5, 97–120.
- Lehmann, L., Hacker, H., Kallies, A. & Kljutschko, Z.F. (1998). Noctuoidea aus Centralasien. *Esperiana*, 6, 472–532.
- Rubin, N.I. & Yakovlev, R.V. (2013). Checklist of the butterflies (Papilionoidea) of the Saur Mountains and adjacent territories (Kazakhstan), including systematic notes about the *Erebia callias* group. *Nota lepidopterologica*, 36 (2), 137–170.
- Simonyi, S.J., Ronkay, L. & Gyulai, P. (2015). A revision of the genus *Heliophobus* Boisduval, 1828 (Lepidoptera, Noctuidae, Hadeninae). *Acta Zoologica Academiae Scientiarum Hungaricae*, 61 (2), 147–188.
- Staudinger, O. (1881). Beitrag zur Lepidopteren-Fauna Central-Asiens. *Stettiner Entomologische Zeitung*, 42, 253–300.

-
- Staudinger, O. (1882). Beitrag zur Lepidopteren-Fauna Zentral-Asiens. *Stettiner Entomologische Zeitung*, 43, 35–78.
- Troubridge, J.T. (2008) A generic realignment of the Oncocnemidini sensu Hodges (1983) (Lepidoptera: Noctuidae: Oncocnemidinae), with description of a new genus and 50 new species. *Zootaxa*, 1903, 1–95.
- Volynkin, A.V., Gyulai, P. & Behounek, G. (2015). A review of the genus *Palaeagrotis* with description of a new species from South Mongolia (Lepidoptera, Noctuidae). *Zootaxa*, 3956 (1), 113–120.
- Volynkin, A.V. & Matov, A.Yu. (2011). A new *Syngrapha* Hübner, [1821] from the Altai Mountain Country (Lepidoptera Noctuidae). *Zootaxa*, 3110, 46–52.
- Volynkin, A.V., Matov, A.Yu., Behounek, G. & Han, H.-L. (2014). A review of the Palaearctic *Mniotype adusta* (Esper, 1790) species-group with description of a new species and six new subspecies (Lepidoptera: Noctuidae). *Zootaxa*, 3796 (1), 1–32.
- Yakovlev, R.V. & Guskova, E.V. (2012). Saur and Tarbagataj biogeographically: part of Altai, part of Dzhungaria or transition zone between Siberia and Middle Asia? *Materials of the conference "Animal world of Kazakhstan and adjacent territories"*, Almaty, 186 – 187. (In Russian).
- Yela, J.L., Zilli, A., Varga, Z., Ronkay, G., Ronkay, L. (2011). Check list of the quadrifid Noctuoidea of Europe. In Witt, T.J. & L. Ronkay (Eds), *Noctuidae Europaeae*, 13. *Lymantriinae and Arctiinae* (pp. 23–44). Sorø: Entomological Press.