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AUTUMN MOTHS AND BUTTERFLIES (LEPIDOPTERA) NEW FOR THE FAUNA OF KUNASHIR ISLAND

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Summary. Three species, *Epinotia autumnalis* Oku, 2005 (Tortricidae), *Deuterogonia kamonjii* Fujisawa, 1991 (Oecophoridae) and *Blenina senex* (Butler, 1878) (Nolidae), are recorded from Russia for the first time. Thirty four moth and butterfly species are new for the fauna of Kunashir Island.

Key words: moths, butterflies, fauna, new records, Kuril Islands, Russian Far East.

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Резюме. Впервые для фауны России приводятся два вида: *Epinotia autumnalis* Oku, 2005 (Tortricidae), *Deuterogonia kamonjii* Fujisawa, 1991 (Oecophoridae) и *Blenina senex* (Butler, 1878) (Nolidae). Впервые для острова Кунашир указывается тридцать четыре вида чешуекрылых насекомых.

INTRODUCTION

Autumn flying moths and butterflies are very poorly known in Kunashir. One species was reported by Kuwayama (1967), namely, *Epirrita autumnata* (Borkhausen, 1794) (as *Oporinia autumnata*) (Geometridae). The single modern study of early autumn moths was made by S. Rybalkin (2020a, b) on 1-22 September, 2019. He published newly observed species only: *Garaeus specularis* (Moore, 1868), *Ennomos nephotropa* (Prout, 1930), *Gigantalcis flavolinearia* (Leech, 1891), *Dysstroma korbi* (Heydemann, 1929) (Geometridae), *Bombyx mandarina* (Moore, 1872) (Bombycidae), *Caligula jonasii* (Butler, 1877) (Saturniidae), *Agrius convolvuli* (Linnaeus, 1758) (Sphingidae), *Phalerodonta manleyi* (Leech, 1889) (Notodontidae), *Orgyia thyellina* (Butler, 1881), *Lymantria (Nyctria) mathura* (Moore, 1866) (Lymantriidae), *Hypostralia cinerea* (Butler, 1878) (Erebidae), *Ctenoplusia albostriata* (Bremer et Grey, 1853), *C. ichinosei* (Dufay, 1965), *Thysanoplusia intermixta* (Warren, 1913),

Macdunnoughia hybrida L. Ronkay, 1986, *Amphipyra livida* ([Denis et Schiffermüller], 1775), *Triphenopsis lucilla* (Butler, 1878), *Pyrrhidivalva sordida* (Butler, 1881), *Cosmia restituta* (Walker, 1857), *Hydraecia mongoliensis* (Urbahn, 1967), *Ipimorpha retusa* (Linnaeus, 1761), *Spodoptera depravata* (Butler, 1879), *Daseochaeta viridis* (Leech, 1889), *Edentelorta edentata* (Leech, 1889), *Antivaleria viridimacula* (Graeser, 1889), *Dryobotodes pryeri* (Leech, 1890), *Conistra fletcheri* (Sugi, 1958), *Lithophane socia* (Hufnagel, 1766), *Mniotype melanodonta* (Hampson, 1906), *Diarsia ruficauda* (Warren, 1909), *Euxoa karschi* (Graeser, 1890), *Spaelotis ravida* ([Denis et Schiffermüller], 1775), and *Xestia efflorescens* (Butler, 1879) (Noctuidae). However, one determination looks incorrect, the report of *Gortyna basalipunctata* (Graeser, 1889) (*sensu* Rybalkin *et al.*, 2020a) was in fact based on dark specimens of *G. fortis* (Butler, 1878), that were common in Kunashir in September-October, 2022. Few overwintering Noctuidae species were collected in spring, 2021 (Rybalkin *et al.*, 2022): *Conistra (Dasycampa) albipuncta* (Leech, 1889), *C. (D.) castaneofasciata* (Motschulsky, 1861), *C. (s. str.) griseescens* (Draudt, 1950), *Teratoglaea pacifica* (Sugi, 1958), *Lithophane consocia* (Borkhausen, 1792), *L. plumbealis* (Matsumura, 1926), *L. socia* (Hufnagel, 1766), and *L. venusta* (Leech, 1889). Thus, the number of autumn-flying species known from Kunashir till 2021 was forty three. Some August-flying species might also be collected at autumn, but their number is still unknown. Such species were discovered in 2022 on Kunashir in Tretyakovo: *Catocala dula* Bremer, 1861, *C. lara* Bremer, 1861, *C. dissimilis* Bremer, 1861 (Spitsyna & Spitsyn, 2023), and in Andreevskii kordon: *Calyptra hokkaidae* (Wileman, 1922), *Catocala agitatrix* Graeser, 1889, *C. deuteronympha* Staudinger, 1861, *C. lara* Bremer, 1861 (in different localities), *C. fraxini* (Linnaeus, 1758), *C. dissimilis* Bremer, 1861, *C. nupta* (Linnaeus, 1767), *C. dula* Bremer, 1861 (in different localities). Some of these species, *Calyptra hokkaidae* (Wileman, 1922), *Catocala dissimilis* Bremer, 1861, *C. fraxini* (Linnaeus, 1758), *C. nupta* (Linnaeus, 1767) we collected at Danilovskii kordon in Late September.

V.V. Dubatolov and V.K. Zinchenko studied autumn insects, including Lepidoptera, from 13 September till 26 October 2022. During this time only late summer, early and middle autumn species were collected, without late autumn flying *Erannis*, *Larerannis*, *Pachyerannis*, *Alsophilinae*, *Operophtera* (Geometridae), and probably some noctuids. Two main localities (in addition to Yuzhno-Kurilsk) were studied using light and bait trapping (butterflies were scarce, with few common species, *Colias erate poliographus* Motschulsky, 1860 (Pieridae), *Inachis io* (Linnaeus, 1758), and *Vanessa cardui* (Linnaeus, 1758)):

1) Danilovskii kordon (43°57'14" N, 145°35'35" E), western side of Kunashir, a meadow; the neighbouring slope covered by an oak forest, mixed forest is located about one km away; catching by light at the kordon house was not rich and light trapping in forests is very poor; however, bait trapping on nearby *Morus* bush was successful;

2) Andreevskii kordon (43°53'16" N, 145°37'29" E), eastern side of Kunashir, a meadow near mainly alder forest on neighbouring slope and mixed forest apart on the plateau; light trapping was not rich but bait trapping was also successful; some species were caught in forest with a net at night time;

3) Yuzhno-Kurilsk, Nature Reserve administration section (44°02'26" N, 145°51'37" E), waste land between buildings and surrounding meadows; light trapping was not rich.

NEW RECORDS

Family Yponomeutidae

Xyrosaris lichneuta Meyrick, 1818

MATERIAL. Russia: Kunashir Island, Danilovskii kordon, 22-23.IX, 8-9.X, 11-12.X 2022, 3 ♀.

DISTRIBUTION. Russia: southern part of Khabarovskii krai, Primorskii krai, Sakhalin (Ponomarenko & Sinev, 2019); Japan (Hokkaido, Honshu, Sikoku, Kyushu, Yonaguni), Korea, China, India (Assam) (Yamauchi & Hirowatari, 2013; Ponomarenko, 2016).

Family Ypsolophidae

Ypsolopha albistriata (Issiki, 1930)

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 30.IX-1.X 2022, 1 ♂, 1 ♀.

DISTRIBUTION. Russia: Primorskii krai (Ponomarenko, Sinev, 2019); Japan (Hokkaido, Honshu, Kyushu); China (Henan, Sichuan) (Yamauchi & Hirowatari, 2013; Ponomarenko, 2016).

Ypsolopha strigosa (Butler, 1879)

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 17-19.IX 2022, 1 ♂, 1 ♀.

DISTRIBUTION. Russia: Primorskii krai, Sakhalin (Ponomarenko & Sinev, 2019); Japan (Hokkaido, Honshu); Korea, China (Liaonin, Tianjin, Shanxi, Henan) (Yamauchi & Hirowatari, 2013; Ponomarenko, 2016).

Family Peleopodidae

Acria emarginella Donovan, 1804

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 16-19.IX, 22-25.IX 2022, 12 ♂, 11 ♀.

DISTRIBUTION. Russia: southern part of Khabarovskii krai, Primorskii krai (Lvovsky, 2019), Japan (Hokkaido, Honshu, Shikoku, Kyushu); China, India, Sri Lanka (Sakamaki, 2013). The species is easily identified by a deep notch of a forewing costal margin.

Family Oecophoridae

Deuterogonia kamonjii Fujisawa, 1991

Fig. 1

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 16-17.IX 2022, 1 ♀.

DISTRIBUTION. The species is known from the Japanese island Honshu only; it is flying in July-August (Ueda, 2013a). The species is easily identified from two other Russian species: *D. chionoxantha* (Meyrick, 1931) from Kuril Islands and the Transpaleartic *D. pudorina* (Wocke, 1857) by contrast white spots at a forewing costal margin. It is recorded from Russia for the first time.

Family Gelechiidae

Hypatima rhomboidella (Linnaeus, 1758)

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 25-27.IX, 14-15.X, 23.X 2022, 2 ♂, 2 ♀, 1 spm.

DISTRIBUTION. The species is widely distributed in Northern Eurasia, east to Sakhalin, Japan (Hokkaido, Honshu) and Taiwan (Ueda, 2013b; Ponomarenko, 2016).

Family Pterophoridae

Stenoptiloides taprobanes (R.Felder et Rogenhofer, 1875)

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 22-23.IX 2022, 2 ♂; Andreevskii kordon, by a bait trap, 30.IX 2022, 1 ♂.

DISTRIBUTION. The species is widely distributed in Southern Palearctic, Afrotropics, Oriental and Australian Regions, North and South America (Gielis, 2003). In Russia it is known from Crimea, Dagestan and the Far East: south part of Khabarovskii krai and Primorskii krai (Ustjuzhanin & Kovtunovich, 2019; Ustjuzhanin *et al.*, 2022). In Japan occurs in Hokkaido, Honshu, Shikoku, Kyushu, Tsushima, Okinawa, Ishigaki, Iriomote, Yonagumi (Mano, 2013).

Family Tortricidae

Archips breviplicanus Walsingham, 1900

MATERIAL. **Russia:** Kunashir Island, Ivanovskii cape, 2-3.VIII 1989, 2 ♂; Danilovskii kordon, 22-23.IX 2022, 1 ♂, 1 ♀.

DISTRIBUTION. Russia: Jewish Autonomous Region (Dubatolov, 2012), southern part of Khabarovskii krai, Primorskii krai, South Sakhalin (Sinev *et al.*, 2019), also NE China, Korea and Japan: Hokkaido, Honshu, Shikoku, Kyushu (Jinbo, 2013).

Archips fumosus Kodama, 1960

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 23-24.IX 2022, 1 ♀; Andreevskii kordon, 30.IX-1.X 2022, 1 ♂.

DISTRIBUTION. Russia: southern part of Khabarovskii krai (Dubatolov & Syachina, 2007), Primorskii krai (Kuznetsov, 2001), Sakhalin (Dubatolov & Titova, 2022), also China and Japan: Hokkaido (Jinbo, 2013).



Figs 1, 2. Micromoths from Kunashir Island, dorsal view. 1 – *Deuterogonia kamonjii* Fujisawa, 1991, ♀ (Oecophoridae); 2 – *Epinotia autumnalis* Oku, 2005, ♀ (Tortricidae).

Epinotia autumnalis Oku, 2005

Fig. 2

MATERIAL. **Russia:** Kunashir Island: Yuzhno-Kurilsk, Nature Reserve “Kurilsky” administration territory, at light, 13-14.IX 2022, 1 ♂; Danilovskii kordon, 16-17.IX, 22-25.IX, 9.X 2022, 7 ♂, 1 ♀; Andreevskii kordon, 25.IX-5.X, 14-17.X, 21-22.X 2022, 22 ♂, 74 ♀.

DISTRIBUTION. The species was described from Japan, where it is known from Hokkaido and Honshu; the moths are flying in August-October (Nasu, 2013). On Kunashir Island the species is on the wing in autumn time also. It is recorded from Russia for the first time.

***Epinotia ramella* (Linnaeus, 1758)**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 18-19.IX, 22-25.IX, 9-10.X 2022, 5 ♀.

DISTRIBUTION. The species is widely distributed in Northern Eurasia, east to Sakhalin (Sinev *et al.*, 2019) and Japan (Hokkaido, Honshu) (Nasu, 2013).

***Zeiraphera argutana* (Christoph, 1881)**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 16-17.IX 2022, 1 ♀; Andreevskii kordon, 14-15.VIII 2019, 1 ♂.

DISTRIBUTION. Russia: southern part of Khabarovskii krai, Primorskii krai; occurring in Amur Province, Sakhalin and Kuril islands in Russia was questionable (Sinev *et al.*, 2019), but Japanese lepidopterologists reported the species from Southern Kuril Islands without any exact data; Japan (Hokkaido, Honshu, Shikoku, Kyushu); Korea, North-Eastern China (Nasu, 2013). Now the species is affirmed from Kuril Islands.

***Notocelia incarnatana* (Hübner, 1800)**

MATERIAL. **Russia:** Yuzhno-Kurilsk, Nature Reserve “Kurilsky” administration territory, at light, 13-14.IX 2022, 5 ♂; Kunashir Island, Danilovskii kordon, 16-17.IX 2022, 2 ♂.

DISTRIBUTION. A widely distributed transpalearctic species; in the Pacific region it is known from Sakhalin (Sinev *et al.*, 2019) and Japan: Hokkaido (Nasu, 2013).

***Matsumuraees falcana* (Walsingham, 1900)**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 13-14.X, 16-17.IX 2022, 1 ♂, 1 ♀; Andreevskii kordon, 19-20.X 202, 1 ♀.

DISTRIBUTION. In Russia the species is known from the southern part of Primorskii krai (Kuznetsov, 2005) (however, Sinev *et al.*, 2019 mistrust this) and Southern Sakhalin (Dubatolov & Titova, 2022); it is widely distributed in South-East Asia from Himalaya to Japan, north to Hokkaido (Komai, 2013).

Family Crambidae

Subfamily Spilomelinae

***Maruca vitrata* (Fabricius, 1787)**

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 29-30.IX 2022, three visual observations. The species is easily recognizable by the wing pattern.

DISTRIBUTION. Russia: Amur Province, the southern part of Khabarovskii krai, Primorskii krai, Sakhalin (Sinev & Streltzov, 2019); the species is widely distributed from South Asia to Australia; also is known from Britain (Streltzov, 2016). In Japan it is known from Hokkaido south to Ryukyu Islands (Sasaki & Yamanaka, 2013).

Family Drepanidae

Subfamily Thyatirinae

***Epipsestis nigropunctata* (Sick, 1941), ssp. *perornata* Inoue, 1972**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 16-17.IX, 23-24.IX 2022, 1 ♂, 1 ♀.

DISTRIBUTION. Russia: southern part of Primorskii krai (Tshistjakov & Dubatolov, 1988; Dubatolov & Mironov, 2019); Japan: Hokkaido, Honshu, Shikoku (Nakajima, 2011),

North Korea, China, North India (Sikkim), Nepal (Tshistjakov *et al.*, 2016). The region of SE Russia, Korea, NE China, and Japan are inhabited by the northern-eastern subspecies *E. n. perornata* Inoue, 1972 (Zolotuhin & Nedoshivina, 2021).

Family Lasiocampidae

Poecilocampa tamanukii (Matsumura, 1928)

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 25.X 2022, 1 ♂ (Dubatolov); Yuzhno-Kurilsk, in a porch, 6.XI 2022, 1 ♂ (photo) (Ragimov).

DISTRIBUTION. Russia: Southern Sakhalin; Japan: Hokkaido, Honshu, Shikoku, Kyushu (Kishida, 2011). Presence of the species on Kunashir was supposed by V. Zolotuhin (Tshistjakov & Zolotuhin, 1994; Zolotuhin, 2015).

Family Sphingidae

Macroglossum stellatarum (Linnaeus, 1758)

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 1.X 2022, 1 ♂.

DISTRIBUTION. The species is widely distributed from Europe (including Azores) and NW Africa via Arabia and South Asia towards Amur River basin, Primorskii krai and Sakhalin in Russia, China, Korea, and Japan (Pittaway, 2022); vagrant specimens were observed from Gambia (West Africa), South India, Hong Kong, Vietnam, Malaysia, Kamchatka in Russia, North America (Pittaway, 2022). It is recorded from Kuril Islands for the first time.

REMARK. The moth was caught on *Taraxacum* flowers at sunny daytime.

Family Saturniidae

Caligula japonica Moore, 1862

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 17-18.IX 2022, 1 ♂; several specimens on photos: Yuzhno-Kurilsk, Nature Reserve “Kurilsky” administration territory, at light, 25.VIII 2022 (A. Yakovlev), 1 ♀; Yuzhno-Kurilsk, at light, 4.IX 2022, 2 ♂ (A. Kisleiko); Iturup Is.: airport Yasnyi, 26.VIII 2022, 1 ♀ (E. Kartashova); Kurilsk, 27.VIII 2022, 1 ♀ (O. Tsiplakov); Gornoe, 5.X 2022, 1 ♂.

DISTRIBUTION. Russia: SE part of Amuraskaya oblast', south part of Khabarovskii krai, Primorskii krai, Southern Sakhalin; presence on Kuril Islands was supposed by Zolotuhin (2019); Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima, Yaku, Amami, Okinawa; Korea, China, including Taiwan (Kishida, 2011). Until 2021, nobody discovered the species in Southern Kuril Islands during the flight time, but in 2022 several findings were made both in Kunashir and Iturup. Unfortunately, most of these findings were photographic only, but the single male in poor condition was caught at western coast of Kunashir.

Family Notodontidae

Ptilophora jezoensis (Matsumura, 1920)

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 19-24.X 2022, 7 ♂, 6 ♀.

DISTRIBUTION. Russia: south part of Primorskii krai (Schintlmeister, 2008); Japan: Hokkaido, Honshu, Shikoku, Kyushu; Korea (Kobayashi, 2011).

***Himeropteryx miraculosa* (Linnaeus, 1758)**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 22-24.IX, 7-12.X 2022, 4 ♂, 2 ♀; Andreevskii kordon, 25-26.IX, 30.IX-1.X, 14-17.X, 21-23.X 2022, 8 ♂, 11 ♀.

DISTRIBUTION. Russia: southern part of Amurskaya oblast', Jewish Autonomous Oblast', southern part of Khabarovskii krai, Primorskii krai, Sakhalin (Barma & Dubatolov, 2012; Matov & Dubatolov, 2019); Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima; Korea, Central and North-Eastern China, including Taiwan (Shintlmeister, 2008; Kobayashi, 2011).

Family Nolidae
Subfamily Bleninae

***Blenina senex* (Butler, 1878)**

Fig. 3

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 21.X 2022, 1 ♀.

DISTRIBUTION. The species was formerly known from Japan: Honshu, Shikoku, Kyushu, Tsushima, Yaku, Amami, Okinawa; Korea, China, including Taiwan (Kishida, 2011). New for Russia; on Kunashir this species is occasionally vagrant.



Figs 3–4. Noctuids from Kunashir Island, dorsal view. 3 – *Blenina senex* (Butler, 1878), ♀; 4 – *Euplexidia angusta* Yoshimoto, 1987, ♀.

Family Erebidae

***Thyas juno* (Dalman, 1823)**

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 26.IX, 30.IX-6.X, 14-24.X 2022, 12 ♂, 6 ♀, 2 visual observations; Danilovskii kordon, 7-10.X 2022, 4 ♂, 2 ♀.

DISTRIBUTION. Russia: SE Transbaikalia (vagrant), Amur Province (vagrant), Jewish Autonomous Oblast', the southern part of Khabarovskii krai, north to river Tummin (vagrant), Primorskii krai, Sakhalin; Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima, Yaku, Tokara, Amami, Okinawa, Ishigaki, Iriomote (Kishida *et al.*, 2011); Korea, China, Taiwan, Phillipines, Indonesia, Malaysia, Indochina, Thailand, India, Nepal (Kononenko, 2010).

REMARK. The species is common in Kunashir, but is very poorly attached by light (just 4 specimens); most specimens were attached by gyle wine with sugar, including bait traps.

Family Eutelidae

***Eutelia geyeri* (Felder et Rogenhofer, 1874)**

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 30.IX-1.X, 16-18.X 2022, 3 ♂, 2 ♀; Danilovskii kordon, 8-12.X 2022, 5 ♂, 4 ♀.

DISTRIBUTION. Russia: southern part of Primorskii krai and Southern Kuriles, where it was known from Shikotan only (Kononenko, 2010). Also occurs in Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima (Kishida, 2011), Korea, China, including Taiwan, Indonesia, Indochina, India, Nepal (Kononenko, 2010).

Family Noctuidae

Trichoplusia ni (Hübner, [1803])

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 26-27.IX 2022, 2 ♂.

DISTRIBUTION. A cosmopolitan species ranging in tropical and subtropical regions of all continents (Kononenko, 2010). In Russia: south part of European Russia, south part of West Siberia, Primorskii krai (vagrant); in Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima, Yaku, Ishigaki (Kobayashi, 2011).

REMARK. Few specimens were caught on an ocean beach with scarce flowering *Senecio pseudoarnica*.

Arcte coerula (Guenée, 1852)

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 16-18.X, 21-22.X 2022, 2 ♂, 1 ♀.

DISTRIBUTION. In Russia a vagrant species, known from Middle Amur, Primorskii krai, and Southern Sakhalin; usually worn overwintered migrant females appear in June and Early July; a new generation appears from local caterpillars in mid- late August, and continue flying to October (Kononenko, 2010). Most probably, the same life cycle takes part in Sakhalin and Kuhashir. So, including the species in the Red Book List of Sakhalinskaya oblast was not correct.

REMARK. Three specimens were attached by gyle wine with sugar; one male was found in a wooden lavatory.

Belosticta extensa (Butler, 1879)

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 26.IX, 29.IX-2.X, 14-22.X 2022, 10 ♂, 6 ♀; Danilovskii kordon, 7-10.X 2022, 1 ♂, 2 ♀.

DISTRIBUTION. Russia: south part of Khabarovskii krai, Primorskii krai, Sakhalin (Kononenko, 2016); Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima (Shikata, 2011); Korea, China.

Euplexidia angusta Yoshimoto, 1987

Fig. 4

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 23-24.X 2022, 1 ♀.

DISTRIBUTION. The species was formerly known from Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima, Yaku; Korea, China, including Taiwan (Shikata, 2011) but not long ago it was reported from Primorskii krai (Koshkin *et al.*, 2021; Matov *et al.*, 2021).

Mesoligia furuncula ([Denis et Schiffermüller], 1775)

MATERIAL. **Russia:** Kunashir Island, Yuzhno-Kurilsk, Nature Reserve “Kurilsky” administration territory, dry specimens at window, 13.IX 2022, 2 ♂.

DISTRIBUTION. A widely distributed transpaleartic species; in the Pacific region it is known from Sakhalin and Japan: Hokkaido, Honshu (Shikata, 2011).

***Cirrhia tunicata* (Graeser, 1890)**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 16-24.IX, 8-14.X 2022, 7 ♂, 12 ♀, 2 ex.; Andreevskii kordon, 25.IX-5.X 2022, 6 ♀, 4 ex.

DISTRIBUTION. Russia: Transbaikalia, Amur province, Jewish Autonomous Oblast', the southern part of Khabarovskii krai, north to the northern limit of broad-leaved forests and the Tumnin River, Primorskii krai (Kononenko, 2016), Sakhalin (Dubatolov *et al.*, 2020); Kyrgyzstan, Kazakhstan, Mongolia, China, Korea, Japan: Hokkaido, Honshu.

***Telorta divergens* (Butler, 1879)**

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 18-25.IX, 29.IX-7.X, 15-19.X, 25.X 2022, 8 ♂, 17 ♀, 6 spm.; Danilovskii kordon, 25-27.IX, 2.X, 7-14.X 2022, 3 ♂, 4 ♀, 3 spm.; Yuzhno-Kurilsk, 27-29.IX 2022, 1 ♂, 1 ♀.

DISTRIBUTION. Russia: Jewish Autonomous Oblast', south part of Khabarovskii krai, north to Komsomolsk-na-Amure, Primorskii krai (Kononenko, 2016), Sakhalin (Dubatolov *et al.*, 2020); Japan: Hokkaido, Honshu, Shikoku, Kyushu; Korea, China (Eda & Shikata, 2011).

***Eupsilia contracta* (Butler, 1878)**

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 21.X 2022, 1 ♂.

DISTRIBUTION. Russia: Khabarovsk suburbs, Primorskii krai; Japan: Hokkaido, Honshu, Shikoku, Kyushu (Eda & Shikata, 2011); Korea, China.

The species was caught by a net in a defoliated alder forest during a night excursion with a petit light.

***Eupsilia transversa* (Hufnagel, 1766)**

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 6-7.X, 15-25.X 2022, 14 ♂, 24 ♀, 5 spm.; Danilovskii kordon, 9-14.X 2022, 3 ♂, 2 ♀.

DISTRIBUTION. A widely distributed transpalearctic species; in the Pacific region it is known from Sakhalin and Japan: Hokkaido, Honshu (Eda & Shikata, 2011).

***Blepharita amica* (Treitschke, 1825)**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 8-13.X 2022, 4 ♂; Andreevskii kordon, 14-24.X 2022, 9 ♂, 1 ♀.

DISTRIBUTION. One more widely distributed transpalearctic species; the easternmost localities are: Sakhalin, Japan: Hokkaido, Honshu (Eda & Shikata, 2011).

***Lithophane pruinosa* (Butler, 1878)**

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 13.X 2022, 1 ♂; Andreevskii kordon, 19-23.X 2022, 3 ♂, 2 visual observations.

DISTRIBUTION. Russia: Amur Province, Khabarovsk suburbs, Primorskii krai, Sakhalin; Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima; Korea, China (Eda & Shikata, 2011).

***Diarsia deparca* (Butler, 1879)**

MATERIAL. **Russia:** Kunashir Island, Andreevskii kordon, 16-17.X 2022, 1 ♂.

DISTRIBUTION. Russia: the southern part of Primorskii krai (Kononenko, 2003); Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima (Kobayashi, 2011); Korea, China, North India, Nepal (Kononenko, 2003).

Family Lycaenidae

Favonius ultramarinus (Fixsen, 1887)

MATERIAL. **Russia:** Kunashir Island, Danilovskii kordon, 15.IX 2022, 1 ♀.

DISTRIBUTION. Russia: the southern part of Primorskii krai (Khasan Region). Not long ago, one male specimen was caught in South Sakhalin: Pionery (Asahi *et al.*, 1999). In Japan, the species is distributed in Kyushu, Honshu and Hokkaido, including all northern coast (Hasegawa, 2020). So, the finding of this species in Kunashir is very expected.

REMARK. Female genitalia structure is typical for this species.

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REFERENCES

- Asahi, J., Kanda, S., Kawata, M. & Kohara, Y. 1999. *The butterflies of Sakhalin in nature*. Hokkaido Shim bun Press, Sapporo. 310 pp. [In Japanese]
- Barma, A.Yu. & Dubatolov, V.V. 2012. Notodontidae. P. 130–135. In: Streltzov A.N. (Ed.) *Fauna of Bastak Nature Reserve*. BGPU Press, Blagoveschensk. 242 pp. [In Russian]
- Beljaev, E.A. 2016. Geometridae. P. 518–666. In: Beljaev, E.A., Ponomarenko, M.G. & Shabalina, S.A. (Eds.) *Annotated catalogue of the insects of Russian Far East. Vol. II. Lepidoptera*. Dalnauka, Vladivostok. 812 pp. [In Russian]
- Beljaev, E.A. & Knyazev, S.A. 2021. New discoveries of Geometridae (Lepidoptera) from the extreme southwest of the Russian Far East – result of climate impact? *Acta Biologica Sibirica*, 7: 559–572.
- Beljaev, E.A. & Mironov, V.G. 2019. Geometridae. P. 235–281, 385–388. In: Sinev S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Dubatolov, V.V. 2012. Tortricidae. P. 82–88. In: Streltzov A.N. (Ed.) *Fauna of Bastak Nature Reserve*. BGPU Press, Blagoveschensk. 242 pp. [In Russian]
- Dubatolov, V.V., Matov, A.Yu. & Titova, O.L. 2020. New data to the Noctuoidea fauna of Sakhalin Island (Lepidoptera: Arctiidae, Erebidae, Noctuidae). *Euroasian Entomological Journal*, 19(5): 250–255. [In Russian]
- Dubatolov, V.V. & Titova, O.L. 2022. New data on the fauna of leaf-rollers (Lepidoptera: Tortricidae) of Sakhalin Island, Russia. *Euroasian Entomological Journal*, 21(2): 113–122. [In Russian] DOI: 10.15298/euroasentj.21.2.09
- Gielis, C. 2003. Pterophoroidea & Alucitoidea. In: *World Catalogue of Insects. Vol. 4*. Apollo Books, Stenstrup. 198 pp.

- Mironov, V.G. & Dubatolov, V.V. 2019. Drepanidae. P. 232–234. In: Sinev S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Eda, K. & Shikata, K. 2011. Xyleninae. P. 88–104, 323–367. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Hesegawa, T. 2020. Subtribe *Theclinae* of *Japan* (*Lycaenidae*). Mushi-Sha, Tokyo. 176 pp.
- Jinbo, U. 2013. Tortricinae. P. 24–37, 156–195. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 4*. Gakken Education Publishing, Tokyo. 553 pp. [In Japanese]
- Kishida, Y. 2011. Lasiocampidae. P. 85–89, 317–321. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 1*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kishida, Y. 2011. Saturniidae. P. 91–100, 323–326. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 1*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kishida, Y. 2011. Bleninae. P. 43, 187–188. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kishida, Y. 2011. Euteliinae. P. 71, 266–267. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kishida, Y., Yanagita, Y., Seino, A. & Ishizuka, K. 2011. Catocalinae. P. 61–70, 244–264. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kishida, Y., Yanagita, Y. & Seino, A. 2019. Calpinae. P. 58–60, 238–244. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kobayashi, H. 2011. Notodontidae. P. 10–21, 115–138. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kobayashi, H. 2011. Plusiinae. P. 72–74, 268–281. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Kobayashi, H. 2011. Noctuinae. P. 110–114, 385–400. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Komai, F. 2013. Grapholitini. P. 50–52, 259–272. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 4*. Gakken Education Publishing, Tokyo. 553 pp. [In Japanese]
- Kononenko, V.S. 2003. Noctuinae. P. 518–591. In: Kononenko, V.S., Kupyanskaya, A.N. & Lelej, A.S. (Eds.) *Key to the insects of Russian Far East. Vol. V. Trichoptera and Lepidoptera. Pt. 4*. Dalnauka, Vladivostok. 688 pp. [In Russian]
- Kononenko, V.S. 2010. *Noctuidae Sibiricae. Micronoctuidae, Noctuidae: Rivulinae – Agaristinae (Lepidoptera)*. Pt. 2. Entomological Press, Sorø. 475 pp.
- Kononenko, V.S. 2016. *Noctuoidea Sibiricae. Noctuidae: Cuculliinae – Noctuinae, part (Lepidoptera)*. Pt. 3. Munich-Vilnius. 497 pp.
- Koshkin, E.S., Benedek, B. & Golovizin, V.A. 2021. New for the Russian fauna species of the families Erebidae and Noctuidae (Lepidoptera). *Far Eastern Entomologist*, 427: 25–28. DOI: 10.25221/fee.427.3

- Koshkin, E.S., Kostynin, A.E. & Bezborodov, V.G. 2023. An addition to the fauna of Macroheterocera (Lepidoptera) of Kunashir Island (Kuril Islands, Russia). *Amurian Zoological Journal*, 15(1): 170–177. [In Russian] DOI: 10.33910/2686-9519-2023-15-1-170-177
- Kuwayama, S. 1967. *Insect fauna of the Southern Kurile Islands*. Sapporo. 226 p., pl. 1–3. [In Japanese]
- Lvovsky, A.L. 2019. Peleopodidae. P. 57, 373. In: Sinev S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. [In Russian]
- Mano, T. 2013. Pterophoridae. P. 54–56, 284–301. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 4*. Gakken Education Publishing, Tokyo. 553 pp. [In Japanese]
- Matov, A.Yu. & Dubatolov, V.V. 2019. Notodontidae. P. 289–294, 389. In: Sinev S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Matov, A.Yu., Kononenko, V.S. & Sviridov, A.V. 2021. Noctuidae. P. 320–370, 390–394. In: Sinev S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Nasu, Y. 2013. Olethreutinae, except Grapholitini. P. 38–49, 198–258. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 4*. Gakken Education Publishing, Tokyo. 553 pp. [In Japanese]
- Pittaway, A.R. & Kitching, I.J. 2022. *Sphingidae of the Eastern Palaearctic (including Siberia, the Russian Far East, Mongolia, China, Taiwan, the Korean Peninsula and Japan)*. Available at: <http://tpittaway.tripod.com/china/china.htm> (visited 25 December 2022)
- Ponomarenko, M.G. 2016a. Yponomeutidae. P. 60–63. In: Beljaev, E.A., Ponomarenko, M.G. & Shabalina, S.A. (Eds.) *Annotated catalogue of the insects of Russian Far East. Vol. II. Lepidoptera*. Dalnauka, Vladivostok. 812 pp. [In Russian]
- Ponomarenko, M.G. 2016b. Ypsolophidae. P. 66–69. In: Beljaev, E.A., Ponomarenko, M.G. & Shabalina, S.A. (Eds.) *Annotated catalogue of the insects of Russian Far East. Vol. II. Lepidoptera*. Dalnauka, Vladivostok. 812 pp. [In Russian]
- Ponomarenko, M.G. 2016c. Gelechiidae. P. 115–139. In: Beljaev, E.A., Ponomarenko, M.G. & Shabalina, S.A. (Eds.) *Annotated catalogue of the insects of Russian Far East. Vol. II. Lepidoptera*. Dalnauka, Vladivostok. 812 pp. [In Russian]
- Ponomarenko, M.G. & Sinev, S.Yu. 2019. Ypsolophidae. P. 49–50, 373. In: Sinev, S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Rybalkin, S.A. 2020a. New data on Lepidoptera of Kuril Islands. *Far Eastern Entomologist*, 401: 18–24. DOI: <https://doi.org/10.25221/fee.401.4>
- Rybalkin S.A. 2020b. On the knowledge of Lepidoptera of Kunashir Island, Russia. *Amurian Zoological Journal*, 12(2): 98–105. DOI: 10.33910/2686-9519-2020-12-2-98-105
- Rybalkin, S.A., Benedek, B. & Dubatolov, V.V. 2022. New for the fauna of Kunashir Island moths and butterflies (Lepidoptera: Carposinidae, Zygadenidae, Tortricidae, Geometridae, Notodontiae, Erebidae, Nolidae, Noctuidae, Lycaenidae). *Far Eastern Entomologist*, 457: 13–32. DOI: <https://doi.org/10.25221/fee.457.3>
- Sakamaki, Y. 2013. Peleopodidae. P. 43, 253. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 3*. Gakken Education Publishing, Tokyo. 361 pp. [In Japanese]
- Sasaki, H. & Yamanaka, A. 2013. Spilomelini. P. 77–84, 433–478. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 4*. Gakken Education Publishing, Tokyo. 553 pp. [In Japanese]

- Schintlmeister, A. 2008. *Palaearctic Macrolepidoptera. Vol. 1: Notodontidae*. Stenstrup, Apollo Books. 482 pp.
- Shikata, K. 2011. Psaphidinae. P. 84–85, 310–312. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 2*. Gakken Education Publishing, Tokyo. 417 pp. [In Japanese]
- Sinev, S.Yu., Nedoshivina, S.V. & Dubatolov, V.V. 2019. Tortricidae. P. 120–156, 377–379. In: Sinev S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Sinev, S.Yu. & Streltsov, A.N. 2019. Crambidae. P. 178–196, 381–382. In: Sinev, S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Spitsyna, E.A. & Spitsyn, V.M. 2023. First records of six species of Lepidoptera from Kunashir Island (Russia). *Acta Biologica Sibirica*, 9: 105–112. DOI: 10.5281/zenodo.7725416
- Streltzov, A.N. 2016. Pyraloidea. P. 265–307. In: Beljaev, E.A., Ponomarenko, M.G. & Shabalina, S.A. (Eds.) *Annotated catalogue of the insects of Russian Far East. Vol. II. Lepidoptera*. Dalnauka, Vladivostok. 812 pp. [In Russian]
- Tshistjakov, Yu.A. & Dubatolov, V.V. 1988. Thyatirids of the genus *Epipsestis* Matsumura, 1921 (Lepidoptera, Thyatiridae) of the USSR fauna. P. 133–137. In: Lehr, P.A. & Storozheva, N.A. (Eds.) *New data on systematics of insects from the Far East*. DVO AN USSR, Vladivostok. [In Russian]
- Tshistjakov, Yu.A., Dubatolov, V.V. & Beljaev, E.A. 2016. Drepanidae. P. 511–517. In: Beljaev, E.A., Ponomarenko, M.G. & Shabalina, S.A. (Eds.) *Annotated catalogue of the insects of Russian Far East. Vol. II. Lepidoptera*. Dalnauka, Vladivostok. 812 pp. [In Russian]
- Tshistjakov, Yu.A. & Zolotuhin, V.V. 1994. Lasiocampids of the genus *Poecilocampa* Stephens, 1828 (Lepidoptera, Lasiocampidae) of Russia and neighbouring territories. *Entomologicheskoe Obozrenie*, 73(2): 321–330. [In Russian]
- Yamauchi, T. & Hirowatari, T. 2013. Yponomeutidae. P. 26–29, 156–169. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 3*. Gakken Education Publishing, Tokyo. 361 pp. [In Japanese]
- Yamauchi, T. & Hirowatari, T. 2013. Ypsolophidae. P. 30–31, 170–174. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 3*. Gakken Education Publishing, Tokyo. 361 pp. [In Japanese]
- Ueda, T. 2013a. Deuterogoniidae. P. 37, 210–211. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 3*. Gakken Education Publishing, Tokyo. 361 pp. [In Japanese]
- Ueda, T. 2013b. Gelechiidae: Aristotelinae, Dichomeridinae. P. 47–50, 293–316. In: Hirowatari, T., Nasu, Y., Sakamaki, Y. & Kishida, Y. (Eds.) *The Standard of Moths in Japan. Vol. 3*. Gakken Education Publishing, Tokyo. 361 pp. [In Japanese]
- Ustjuzhanin, P.Ya. & Kovtunovich, V.N. 2019. Pterophoridae. P. 113–118, 376. In: Sinev S.Yu. (Ed.) *Catalogue of the Lepidoptera of Russia. Ed. 2*. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]
- Ustjuzhanin, P.Ya., Teimurov, A.A., Anikin, V.V., Matov, A.Yu., Naydenov, A.E., Streletsov, A.N. & Yakovlev, R.V. 2022. Materials on the Lepidoptera fauna of the Dagestan Republic (Northeastern Caucasus, Russia): autumn aspect (Insecta: Lepidoptera). *SHILAP Revista de lepidopterologia*, 50(198), 213–228.
- Zolotuhin, V.V. 2015. *Lappet Moths (Lepidoptera: Lasiocampidae) of Russia and Adjacent Territories*. Korporaciya Technologiy Prodvizheniya, Ulyanovsk. 384 pp. [In Russian]

- Zolotuhin, V.V. 2019. Saturniidae. P. 285–286, 388–389. In: Sinev S.Yu. (Ed.) Catalogue of the Lepidoptera of Russia. Ed. 2. Zoological Institute, St.-Petersburg. 448 pp. [In Russian]

Zolotuhin, V.V. & Nedoshivina, S.V. 2021. *Drepanoid lepidopterans (Lepidoptera: Drepanoidea) of Russia and Adjacent Territories*. Korporaciya Technologiy Prodvizheniya, Ulyanovsk. 408 pp. [In Russian]