

New records of moths and butterflies (Lepidoptera) from Kunashir Island (Russia)

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Academic editor: R. Yakovlev | Received 27 August 2024 | Accepted 18 September 2024 | Published 22 September 2024

<http://zoobank.org/8C62F059-F3CF-49E9-A660-170A976780C0>

Citation: Spitsyna EA, Koshkin ES, Kostyunin AE, Bezborodov VG, Spitsyn VM (2024) New records of moths and butterflies (Lepidoptera) from Kunashir Island (Russia). *Acta Biologica Sibirica* 10: 1025–1032. <https://doi.org/10.5281/zenodo.13801417>

Abstract

This paper presents new records of six species of moths and butterflies from Kunashir Island. We report on the first records of *Nymphalis* (*Kaniska*) *canace* (Linnaeus, 1763), *Araschnia levana* (Linnaeus, 1758) (Nymphalidae), *Archiearis parthenias* (Linnaeus, 1761) (Geometridae), *Bastilla maturata* (Walker, 1858) (Erebidae), *Xylena* (*Lithomoia*) *solidaginis* (Hübner, 1803), and *Orthosia aoyamensis* (Matsumura, 1926) (Noctuidae) from Kunashir Island.

Keywords

Biodiversity, island biogeography, Kurile Islands, Russian Far East, first record

Introduction

Despite the active research of the Lepidoptera fauna of Kunashir Island in the last decade (Rybalkin and Yakovlev 2017; Rybalkin et al. 2018, 2019, 2022; Dubatolov 2019; Rybalkin 2020a, b), it is still insufficiently studied, and new records are reported from the island annually. This paper is a continuation of a series of publications on new records of moths and butterflies from Kunashir Island (Koshkin et al. 2023; Spitsyna and Spitsyn 2023a, b).

Materials and methods

The specimens were collected using an ultraviolet lamp or a butterfly net. The images of the specimens were taken with a Canon EOS 7D camera with a Canon EF 100mm f/2.8L Macro IS USM lens and a Sony SLT-A65 digital camera with a Sony 2.8/50 Macro lens. This study is based on materials from the collection of the Russian Museum of Biodiversity Hotspots (RMBH), N. Laverov Federal Center for Integrated Arctic Research of the Ural Branch of the Russian Academy of Sciences (Arkhangelsk, Russia) and the private collection of Evgeny S. Koshkin (Khabarovsk, Russia).

Results

Family Nymphalidae Rafinesque, 1815

Subfamily Nymphalinae Rafinesque, 1815

Nymphalis (Kaniska) canace (Linnaeus, 1763)

Figure 1A

Material examined. RUSSIA, Kunashir Island: Tretyakovo village, cottages on the edge of coniferous and broad-leaved forest and seaside meadows, 43°59'13"N, 145°39'12"E, 26-31.v.2024, V.M. Spitsyn & E.A. Spitsyna leg., 1♂.

Remarks. The first record from Kunashir Island and the Kuril Islands. The species is widely distributed from Pakistan to Russian Far East (Primorsky Krai), Japan, Indonesia, and the Philippines (Korshunov 2002; Bozano and Floriani 2012; Tshikolovets and Streltsov 2019). Records from the south of Khabarovsk Krai require confirmation. The species was repeatedly observed by E. Spitsyna and V. Spitsyn in the Tretyakovo village from 14 May to 2 June 2024. Since there are difficulties with catching this butterfly, only one specimen was collected.

***Araschnia levana* (Linnaeus, 1758)**

Figures 1B–C

Material examined. RUSSIA, Kunashir Island: Tretyakovo village, cottages on the edge of coniferous and broad-leaved forest and seaside meadows, 43°59'13"N, 145°39'12"E, 14-15.v.2024, V.M. Spitsyn & E.A. Spitsyna leg., 1♂1♀; Tretyakovo village, coniferous and broad-leaved forest, 43°58'52"N, 145°39'12"E, 02.vi.2024, V.M. Spitsyn & E.A. Spitsyna leg., 2♂.

Remarks. The first record from Kunashir Island and the Kuril Islands. The species is widely distributed from Spain to Japan (Hokkaido Island) (Korshunov 2002; Bozano and Floriani 2012; Tshikolovets and Streltsov 2019). The population of this species on Kunashir Island are local and sparse.

Family Geometridae Leach, 1815**Subfamily Archiearinae Fletcher, 1953*****Archiearis parthenias* (Linnaeus, 1761)**

Figures 1D–E

Material examined. RUSSIA, Kunashir Island: territory surrounding the airport, coniferous-birch forest with Kurile bamboo (*Sasa kurilensis*), 43°58'22"N, 145°41'03"E, 15.iv.2024, V.M. Spitsyn & E.A. Spitsyna leg., 2♂1♀; Tretyakovo village, coniferous and broad-leaved forest, 43°58'52"N, 145°39'12"E, 11.v.2024, V.M. Spitsyn & E.A. Spitsyna leg., 1♀.

Remarks. The first record from Kunashir Island and the Kuril Islands. The species is widely distributed from Europe to Mongolia, China, Russian Far East (Amur Oblast, Khabarovsk Krai, Primorsky Krai, Sakhalin Island, Magadan Oblast, Kamchatka Peninsula), and Japan (Hokkaido and Honshu Islands) (Beljaev 2016; Beljaev and Mironov 2019).

Family Erebidae Leach, 1815**Subfamily Erebinae Leach, 1815*****Bastilla maturata* (Walker, 1858)**

Figure 1F

Material examined. RUSSIA, Kunashir Island: Tretyakovo village, cottages on the edge of coniferous and broad-leaved forest and seaside meadows, 43°59'13"N, 145°39'12"E, 07-08.ix.2023, A.E. Kostyunin leg., 1♀.

Remarks. The first record from Kunashir Island and the Kuril Islands. Previously, the species was known from Russia (the south of Sakhalin Island and Primorsky Krai) based on findings of migrant specimens. Undoubtedly, specimens of *Bastilla maturata* (Walker, 1858) occurring on Kunashir and Hokkaido Islands are migrants from the south (Kishida et al. 2011). The permanent populations of this species range in China, Korea, Japan, Nepal, India, Thailand, Malaysia, Indonesia, and the Philippines (Kononenko 2010; Kishida et al. 2011).

Family Noctuidae Latreille, 1809

Subfamily Noctuinae Latreille, 1809

Xylena (Lithomoia) solidaginis (Hübner, 1803)

Figure 1G

Material examined. RUSSIA, Kunashir Island: Andreevsky cordon, coniferous and broad-leaved forest, 43°53'15"N, 145°37'28"E, 16-18.ix.2023, A.E. Kostyunin leg., 1♀.

Remarks. The first record from Kunashir Island and the Kuril Islands. The species is distributed from France to Russian Far East (Amur Oblast, Khabarovsk Krai, Primorsky Krai, Sakhalin Island, Magadan Oblast, Kamchatka Peninsula), China, Korea, and Japan (Hokkaido Island, mountain areas of Honshu Island) (Shikata 2011; Kononenko 2016).

Orthosia aoyamensis (Matsumura, 1926)

Figures 1H–I, 2

Material examined. RUSSIA, Kunashir Island: Tretyakovo village, cottages on the edge of coniferous and broad-leaved forest and seaside meadows, 43°59'13"N, 145°39'12"E, 26.iv.2024, V.M. Spitsyn & E.A. Spitsyna leg., 1♂; the same locality and collectors, 28.iv.2024, 5♂; the same locality and collectors, 30.iv.2024, 1♂; the same locality and collectors, 2-5.v.2024, 8♂1♀; the same locality and collectors, 11.v.2024, 1♂; the same locality and collectors, 26-31.v.2024, 1♀; territory surrounding the airport, coniferous-birch forest with Kurile bamboo (*Sasa kurilensis*), 43°58'22"N, 145°41'03"E, 14-15.v.2024, V.M. Spitsyn & E.A. Spitsyna leg., 1♂1♀.

Remarks. The species is widespread in Japan (Hokkaido, Honshu, Shikoku, and Kyushu Islands) (Yoshimatsu 2011) and has recently been found in Russia in the south of Sakhalin Island (Koshkin et al. 2021). It is recorded for the Kuril Islands for the first time. The specimens from Kunashir do not differ significantly in appearance and genital structure from Japanese and Sakhalin specimens (Figs. 1H–I, 2).

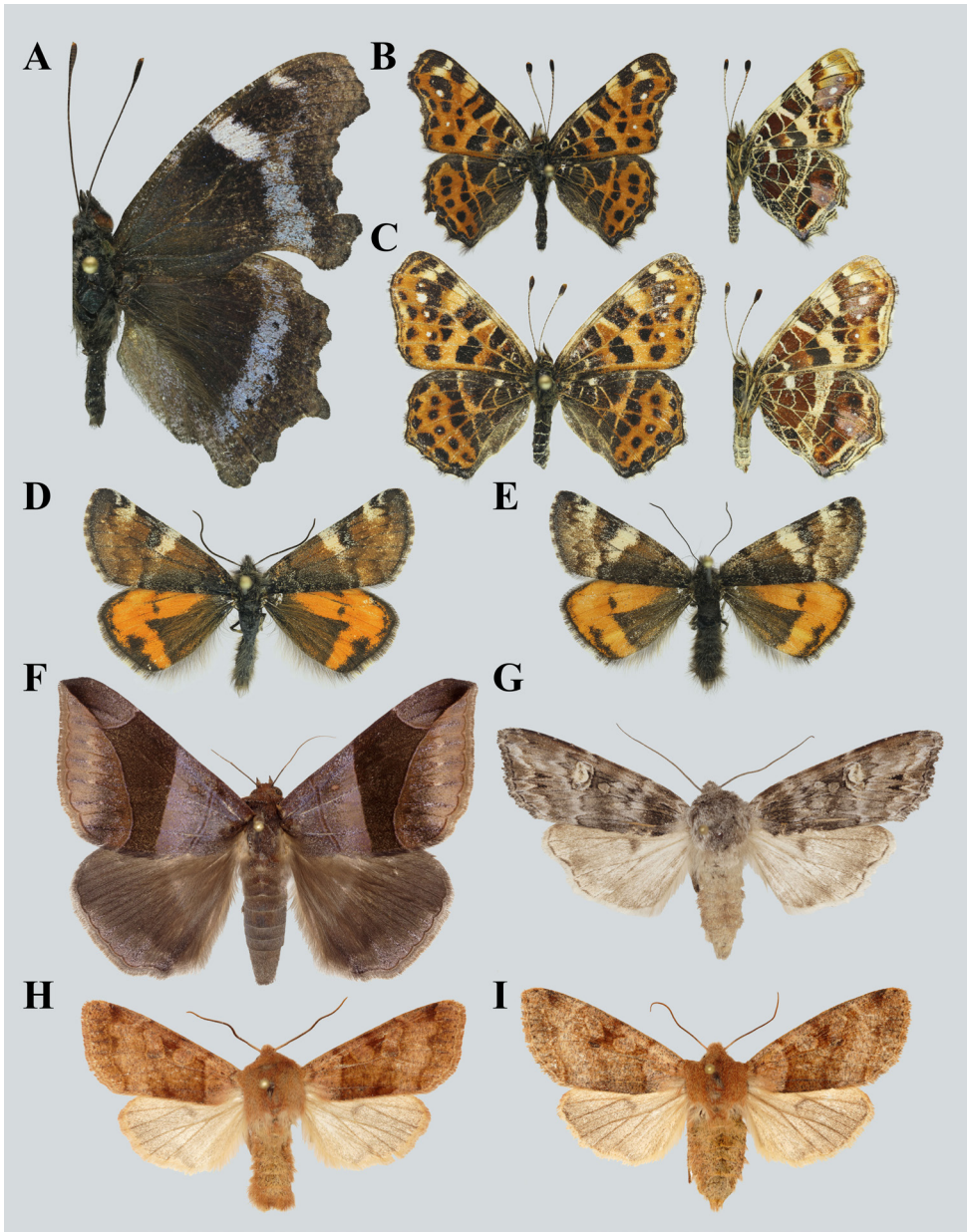


Figure 1. The specimens of moths and butterflies species from Kunashir Island: **A** – *Nymphalis (Kaniska) canace* (Linnaeus, 1763), male; **B** – *Araschnia levana* (Linnaeus, 1758), male; **C** – *A. levana*, female; **D** – *Archiearis parthenias* (Linnaeus, 1761), male; **E** – *A. parthenias*, female; **F** – *Bastilla maturata* (Walker, 1858), female; **G** – *Xylena (Lithomoia) solidaginis* (Hübner, 1803), female; **H** – *Orthosia aoyamensis* (Matsumura, 1926), male; **I** – *O. aoyamensis*, female.

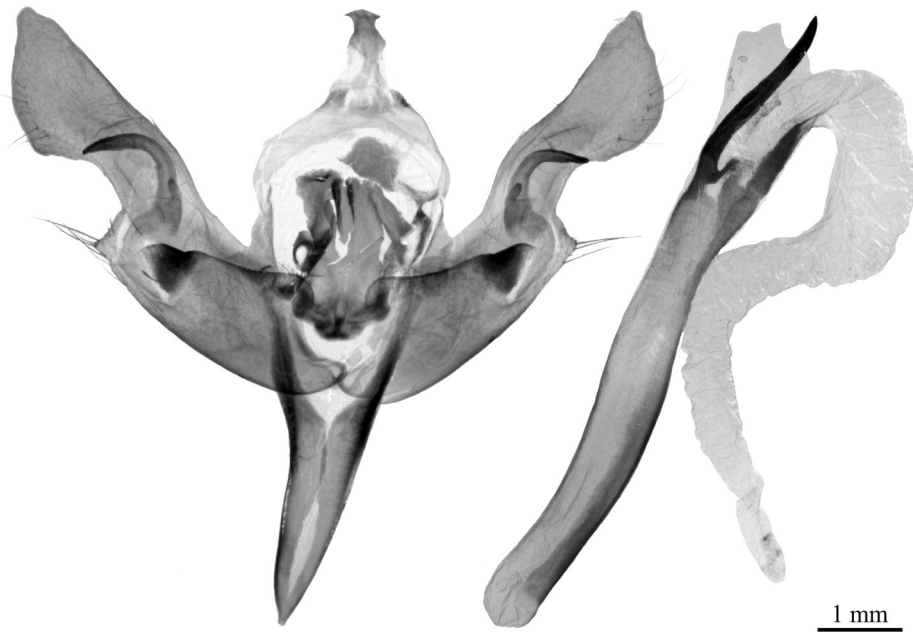


Figure 2. The male genitalia of *Orthosia aoyamensis* (Matsumura, 1926) from Kunashir Island.

Acknowledgement

This study was supported by the Russian Ministry of Science and Higher Education (projects No. FUUW-2023-0001 to E.A.S. and V.M.S., No. 121021500060-4 to E.S.K., and No. 122040800085-4 to V.G.B.). We are grateful to the staff of the Kurilsky Nature Reserve for their help during this study.

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