New records of Lycaenidae and Nymphalidae (Lepidoptera, Papilionoidea) from Altai Mountains

R.V. Yakovlev1, 2, P. Huemer3, B. Wiesmair3, S.Yu. Sinev4, Ch. Wieser5, A.V. Kulak6, A.G. Inozemzev1, V.V. Doroshkin7, A.E. Naydenov1

1 Altai State University, Lenina 61, 656049, Barnaul, Russia. E-mail: yakovlev_asu@mail.ru
2 Tomsk State University, Laboratory of Biodiversity and Ecology, Lenina pr. 36, 634050 Tomsk, Russia.
3 Tiroler Landesmuseen-Betriebsgesellschaft m.b.H., Naturwissenschaftliche Sammlungen, Feldstraße 11a, 6020 Innsbruck, Austria, E-mail: p.huemer@tiroler-landesmuseum.at, b.wiesmair@tiroler-landesmuseum.at
4 Zoological Institute of the Russian Academy of Sciences, Universitetskaya naberezhnaya 1, Sankt-Petersburg, 190034, Russia, E-mail: sergey.sinev@zin.ru
5 Landesmuseum Kärnten, Zoologische Abteilung, Museumsasse 2, A-9021, Klagenfurt am Wörthersee, Austria, E-mail: christian.wieser@landesmuseum.ktn.gv.at
6 The Scientific and Practical Center for Animal Breeding of NAS of Belarus, Academicisheskaya 27, BY-220072, Minsk, Belarus. E-mail: bel_lepid@mail.ru
7 Chelyabinsk, Brat’ev Kashirinykh str., 151-49, 454004, Russia. E-mail: ural@kros-china.ru

Submitted: 07.09.2017. Accepted: 12.11.2017

For the first time Agriades glandon (de Prunner, 1798) and Issoria eugenia (Eversmann, 1847) are reported from Altai region (Altai Krai, Russian Federation). We also specify the distribution of Lycaena violacea (Staudinger, 1892), Boloria aquilonaris roddi Kosterin, 2000 and Clossiana angarensis (Erschoff, 1870) in the Altai Republic (Russian Federation), Glaucopsyche argali and Palaeophylotes svetlana (Yakovlev, 2003) on the Mongolian Altai territory (Mongolia, Khovd aimak, Dzun-Dzhargalant-Khairkhan and Bajtag-Bogd-Uul Mountains Ranges).

Key words: Papilionoidea; Altai; fauna; records

Introduction

The butterflies (Lepidoptera, Papilionoidea) of the Altai mountains are relatively well studied. There were detailed works in the taxonomy and faunistics of North Asian Papilionoidea (Lukhtanov & Lukhtanov, 1994; Korshunov & Gorbunov, 1995; Tuzov et al., 2000; Gorbunov, 2001; Korshunov, 2002; Gorbunov & Kosterin, 2007, Sinev, 2008; Tshikolovets et al., 2009a, 2009b), which also included detailed data on Altai, several works were focused on particular territories of Altai (Lukhtanov et al., 2007; Yakovlev, 2012; Rubin & Yakovlev, 2013; Toropov & Zhdanko, 2013). During the last two years we got new data clarifying the distribution of certain species on the territory of Russian and Mongolian Altai.

New records

Family Lycaenidae

Lycaena violacea (Staudinger, 1892) (Figs. 1, 6)
This species was recorded for Russian Altai after only in a small number of localities near the villages Chemal, Shebalino and Aktash of the Altai Republic (Korshunov & Gorbunov, 1995; Churkin, 2004). However, the note of Churkin (2004) was based on a is identified female of L. dispar (Haworth, 1803) from the collection of B. Khramov (St.-Petersburg). The species is also known in eastern Sayan, eastern Kazakhstan (rd. Sarym-Sakty and Narym) (Korshunov & Gorbunov, 1995; Zhdanko, [2015]) and it is widely distributed in Mongolia (Tshikolovets et al., 2009a). In August 2016, one specimen was caught in Kosh-Agach region of the Altai Republic.

Material examined. 1 male, Russia, Altai Republic, Kosh-Agach distr., 10 km NE Kosh-Agach vill., Kurai Mts. Range, valley of Tabozhok river, 50°05'N; 88°44'E, h= 2100 m, 02-04.08.2016., leg. A. & R. Yakovlev (coll. Yakovlev, Barnaul, Russia).
**Agriades glandon** (de Prunner, 1798) (Figs. 2, 6)

In the studies of A. Naydenov in Tigiretsky reserve (western Altai, Altai Krai) a couple of *Agriades glandon* was collected. This species was previously known in Altai Krai only near the village Belyoye of the Altai region (Korb et al., 2000). In the Altai territory, this species is also widely distributed in the Altai Republic (Tshikolovets et al., 2009b), Mongolian Altai (Tshikolovets et al., 2009a; Yakovlev, 2012), certain ridges (Kholzun, Listvyaga, Ivanovskiy, Sarym-Sakty, southern Altai, Narym and Saur) of Mongolian Altai (Tshikolovets et al., 2009a; Yakovlev, 2012), and eastern Kazakhstan (Lukhtanov & Lukhtanov, 1994; Zhankin, 2005).

Material examined. 1 male, 1 female, Russia, Altai Krai, Tigiretsky ridge, Mount. Razrabotnaya, 1920 m., 51°01′46 N; 83°01′43 E, leg. Naydenov A.E. 13.07.2016 (coll. Roman Yakovlev, Barnaul).

**Glaucopsyche argali** (Elwes, 1899) (Figs. 3, 6)

Rare and local species, endemic of Altai, recorded in several localities of Russian Altai (rd. Chikhachev, Kurai, Taldauair, South-Chuya and North-Chuya) (Lukhtanov & Lukhtanov, 1994; Korshunov & Gorbunov, 1995; Tshikolovets et al., 2009b). In eastern Kazakhstan, it was reported only from the ridges Saur and Kurchum (Lukhtanov, 1990; Lukhtanov & Lukhtanov, 1994), in Mongolia – only from one locality in Khazhingin Nuruu Mts., 35 km SE Tzetzeg somon (Churkin, 2005), found by V. Doroshkin on the ridge Dzun-Dzhargalant-Khairkan.

Material examined. 1 male, W Mongolia, Hovd Aimak, Dzun-Dzhargalant-Khairkan, Ar-Shatyn-Gol river Valley (47°44′N; 92°27′E), 2100 m, 03.06.2015., leg. V. Doroshkin (coll. Doroshkin, Chelyabinsk, Russia)

**Palaeophyloites svetlana** (Yakovlev, 2003) (Figs. 4, 6)

Rare and local species, endemic of southern part of the Mongolian Altai, known only from the type series from the Bulgan river valley, rd. Arshantyn-Nuruu (Yakovlev, 2003). Discovered southwards by V. Doroshkin on the ridge Baytag-Bogdo. We recommend this species to be included into the Red Book of the Mongolian People’s Republic as one of the rarest butterfly species.

Material examined. 1 male, SW Mongolia, Hovd Aimak, Baytag-Bogd-Uul Mts., Barun-Khargail-Gol river Valley (45°16′N; 90°57′E), 1900–2000 m, 18–21.05.2015, leg. V. Doroshkin (coll. Doroshkin, Chelyabinsk, Russia).

**Family Nymphalidae**

**Issoria eugenia** (Eversmann, 1847) (Figs. 5–6)

This species is mostly connected with humid habitats, widely spread in the Altai Republic (Tshikolovets et al., 2009b), locally – in the Chinese Altai (the Blue Irtysh river valley) (Meinhard, 1910) and the Kazakh Altai (Kholzun, Sarym-Sakty, Kurchum, Maljy Tarbagatay, Narym and Azatua) (Lukhtanov & Lukhtanov, 1994; Lukhtanov et al., 2007). It was collected as first record for Altai Kraj by A. Inozemtsev, when examining Baschelaksky reserve.


**Boloria aquilonaris roddi** Kosterin, 2000 (Fig. 6)

Rare and local subspecies, endemic of Altai and Tuva, recorded in several localities of Russian and Kazakh Altai (rd. S.-Chuya, Katun’, Azatua, Chikhacheva, Western Tannu-Ola, and Ukok plateau) (Kosterin, 2000; Tshikolovets et al., 2009b). It was collected as first record for Kurai Mountains Range (Altai Republic).

Material examined. 4 males, Russia, Altai Republic, Kosh-Agach distr., 10 km NE Kosh-Agach vill., Kurai Mts. Range, valley of Tabozhok river, 50°05′N; 88°44′E, h= 2100 m, 02-04.08.2016, R. Yakovlev leg. (coll. Roman Yakovlev, Barnaul).

**Clossiana angarensis** (Erschoff, 1870) (Fig. 6)

This species is mostly connected with humid habitats, locally spread in the Altai Republic (Tshikolovets et al., 2009b). It was collected in Agulak Mountains Range.

Material examined. 1 male, Russia, Altai Republic, Ulagan distr., 11 km NNW Aktash vill., Agulak Mts. Range, 50°25′N; 87°34′E, h=1900 m, 28-30.07.2016, leg. R. Yakovlev (coll. Roman Yakovlev, Barnaul).

**Discussion**

The clarification on the distribution of Papilionoidea on the Altai territory is an inevitable task for us. It is a very poorly studied territory, especially the Mongolian Altai. The alpine belt of mountains in the south of the Altai Krai (Border with the Republic of Altai) is poorly studied as well, and we expect several new discoveries there.

**Acknowledgements**

We express our gratitude to Prof. A.I. Shmakov for his assistance in organizing the expeditions in Altai, and also to our colleagues who assisted in the research: Alexander Matsyura and to our expedition drivers A. Cherpanov, V. Evdoshenko and M. Sidorov. The reported study was funded by RFBR according to the research project No. 16-54-00118 Бел а.
New records of Lycaenidae and Nymphalidae

Ukrainian Journal of Ecology, 7(4), 2017

Fig. 1. *Lycaena violacea* (Staudinger, 1892) male, Russia, Altai Republic, Kosh-Agach distr., 10 km NE Kosh-Agach vill., Kurai Mts. Range, valley of Tabozhok river, 50°05′N; 88°44′E, h= 2100 m, 02–04.08.2016., leg. A. & R. Yakovlev (coll. Yakovlev, Barnaul, Russia).

Fig. 2. *Agriades glandon* (de Prunner, 1798) male, Russia, Altai Krai, Tigiretsky ridge, Mount. Razrabotnaya, 1920 m., 51°01′46 N; 83°01′43 E, leg. Naydenov A.E. 13.07.2016 (coll. Roman Yakovlev, Barnaul).

Fig. 3. *Glaucopsyche argali* (Elwes, 1899) male, W Mongolia, Hovd Aimak, Dzun-Dzhargalant-Khairkhan, Ar-Shatyn-Gol river Valley (47°44′N; 92°27′E), 2100 m, 03.06.2015., leg. V. Doroshkin (coll. Doroshkin, Chelyabinsk, Russia).

Fig. 4. *Palaeophylotes svetlana* (Yakovlev, 2003) male, SW Mongolia, Hovd Aimak, Bajtag-Bogd-Uul Mts., Baruun-Khargaityn-Gol river Valley (45°16′N; 90°57′E), 1900–2000 m, 18–21.05.2015, leg. V. Doroshkin (coll. Doroshkin, Chelyabinsk, Russia).

Fig. 5. *Issoria eugenia* (Eversmann, 1847) male, Russia, Altai krai, Charysh distr., Bastchelak Mts., valley of Kirsanika river, 19.07.1999, leg. A. Inozemtsev (Zoological Museum of Altai State University).

Fig. 6. Map of collecting localities.

**Citation:**

This work is licensed under a Creative Commons Attribution 4.0. License