

NEW DATA ON DISTRIBUTION OF WINTER INSECTS (MECOPTERA: BOREIDAE; DIPTERA: LIMONIIDAE) IN WESTERN SIBERIA

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Summary. New data on the distribution of the winter insects in Western Siberia are given. Snow scorpionfly *Boreus westwoodi* Hagen, 1866 is recorded from Western Siberia and Asia. *Chionea araneoides* Dalman, 1816 and *Chionea crassipes crassipes* Boheman, 1846 are new for the fauna of Tyumen oblast.

Key words: Mecoptera, *Boreus*, Diptera, *Chionea*, fauna, new record, Tyumen oblast, Russia.

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Резюме. Приведены новые данные по распространению представителей зимней энтомофауны в Западной Сибири. Ледничник *Boreus westwoodi* Hagen, 1866 впервые приводится для Западной Сибири и Азии. *Chionea araneoides* Dalman, 1816 и *Chionea crassipes crassipes* Boheman, 1846 впервые указываются для Тюменской области.

INTRODUCTION

Among the huge variety of insects, only a small assembly group of insects is capable of active lifestyles during the winter period. The most typical representatives of the obligatory winter entomofauna are snow scorpionflies (Mecoptera: Boreidae) and snow flies (Diptera: Limoniidae, *Chionea* spp.). Imagoes of these species are mainly active in winter period and frequently found on snow (Savchenko, 1969; Pavlov, 2006; Oosterbroek & Reusch, 2008).

Several species of the snow scorpionflies are known from the European part and Far East in Russia (Plutenko, 1995; Nikolayev, 2015), but no species were recorded from Siberia (Gabdullina & Nikolajev, 2015; Martynova, 1954).

There are 8 species of the snow flies genus *Chionea* in Russia (Pilipenko *et al.*, 2016; Vertyankin, 2017). Two species has been recorded from Western Siberia, namely *Ch. araneoides* Dalman, 1816 was found at the beginning of the 20th century in the Yamalo-Nenets Autonomous Okrug (Boldyrev, 1913) and *Ch. crassipes* Boheman, 1846 was recently recorded from the *Khanty-Mansi Autonomous Okrug* (Oosterbroek, 2018). New data on distribution of the winter insects in Western Siberia are given in present paper.

NEW RECORDS

Order Mecoptera

Family Boreidae

Boreus (Boreus) westwoodi Hagen, 1866

Figs 1, 2

MATERIAL EXAMINED. **Russia:** Tyumen oblast: Tobolsky district, Vinokurova village, 58°21'N, 68°20'E, siberian pine-spruce-fir forest with green moss, 29.IV 2009, 1♂ (E.V. Sergeeva leg.); same locality, 23.IV.–11.V 2012, 1♂ (D.E. Galich leg.); same locality, 11.IV 2014, 1♀ (D.E. Galich leg.); same locality, 25.IV 2014, 2♂ (D.E. Galich leg.); Tobolsky district, 58°19'N, 68°20'E, pine forest, 23.IV–07.V 2010, 1♂ (D.E. Galich leg.); same locality, 20.III 2015, 1♀ (D.E. Galich leg.); Abramova village, 58°24'N, 68°26'E, bank of the Arenzyanka River, 21.IV 2014, 1♂ (D.E. Galich leg.); Uvatsky district, 58°10'N, 68°17'E, pine forest with sphagnum, 15.IV 2015, 1♂ (D.E. Galich leg.).

DISTRIBUTION. Northern, Central and Eastern Europe (Hagvar & Østbye, 2011), north and the center of the European part of Russia (Dorochova & Martynova, 1987; Nikolajev, 2015).

NOTES. Here this species is firstly recorded from Asia (Western Siberia: Tyumen oblast).

Order Diptera

Family Limoniidae

Chionea (Chionea) araneoides Dalman, 1816

Fig. 3

MATERIAL EXAMINED. **Russia:** Tyumen oblast, Uvatsky district, upstream of the Manguya River, 58°30'N 69°33'E, siberian pine-spruce-fir forest, 02.XII 2017, 1♂ (D.S. Nizovtsev leg.).

DISTRIBUTION. Northern Europe and the mountains of Central Europe and Romania (Oosterbroek & Reusch, 2008). In Russia it is known from the Leningradskaya oblast, Karelia, Kola Peninsula and Siberia (Boldyrev, 1913; Savchenko, 1982, 1989).

NOTES. This species was recorded from Yamburg (Yamalo-Nenets Autonomous Okrug) by Boldyrev (1913). Here it is recorded from Tyumen oblast for the first time.

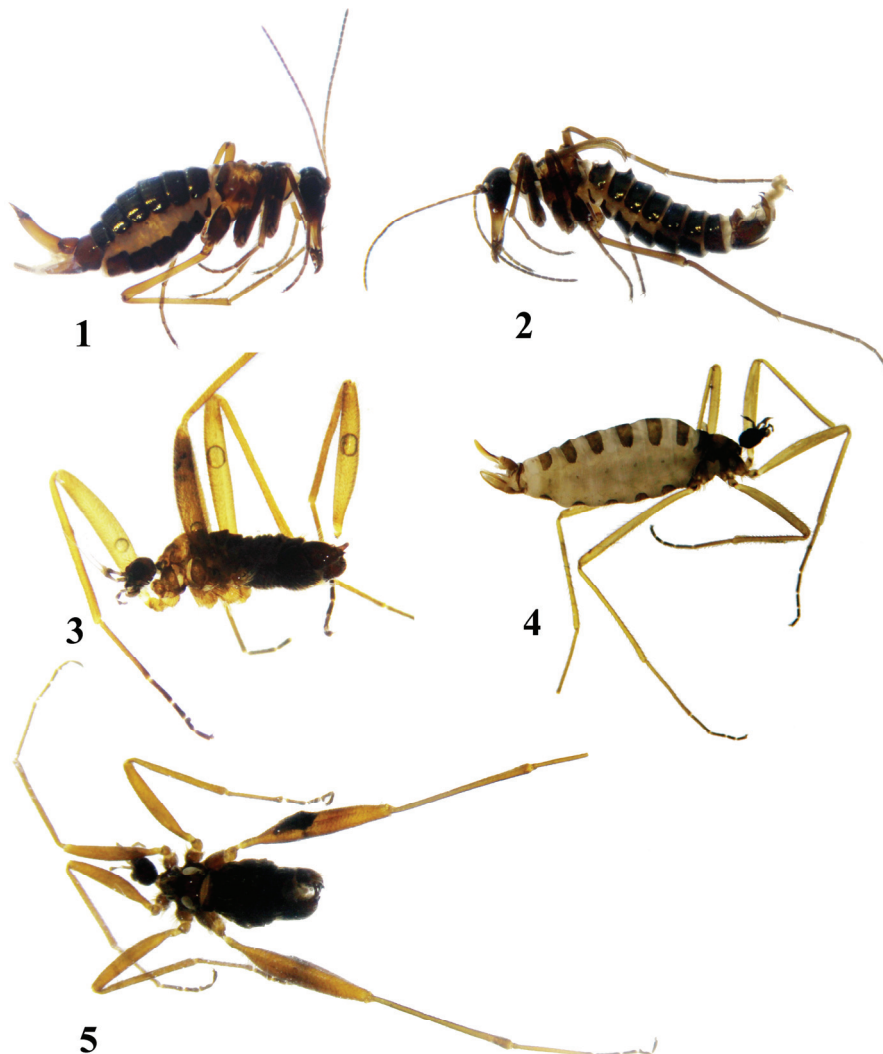
Chionea (Chionea) crassipes crassipes Boheman, 1846

Figs 4, 5

MATERIAL EXAMINED. **Russia:** Tyumen oblast, Uvatsky district, upstream of the Manguya River, 58°30'N 69°33'E, siberian pine-spruce-fir forest, 06.III 2017, 1♂; same locality, 02.XII 2017, 1♀, 1♂ (D.S. Nizovtsev leg.).

DISTRIBUTION. The nominotypical subspecies is distributed in Fennoscandia and Northwest Russia (Oosterbroek & Reusch, 2008). In Russia this subspecies was recorded from Kola Peninsula (Savchenko, 1989) and the environs of Khanty-Mansiysk (Khanty-Mansi Autonomous Okrug) (Oosterbroek, 2018). All other records from Siberia and Russian Far East (Savchenko, 1989; Sidorenko, 2011) apparently refer to another East Palaearctic subspecies (*Ch. c. gracilistyla* Alexander, 1936 and *Ch. c. magadanensis* Narchuk, 1998) (Oosterbroek & Reusch, 2008).

NOTES. Here the nominotypical subspecies is recorded from Tyumen oblast for the first time.



Figs. 1–5. Winter insects of Western Siberia. 1, 2 – *Boreus westwoodi*: 1 – ♀; 2 – ♂; 3 – *Chionea araneoides*, ♀; 4, 5 – *Chionea crassipes crassipes*: 4 – ♀; 5 – ♂.

REFERENCES

Boldyrev, B.F. 1913. On the Diptera of the genus *Chionea* Dalm. observed in Russia (Diptera, Limnobiidae). *Entomologicheskoe Obozrenie*, 13: 308–322. [In Russian]

- Gabdullina, A.U. & Nikolajev, G.V. 2015. A new species of the scorpion-fly of the genus *Boreus* Latreille (Mecoptera, Boreidae) from Altai mountains, Kazakhstan. *Euroasian entomological Journal*, 14(1): 32–34. [In Russian]
- Dorochova, G.I. & Martynova, O.M. 1987. Family Boreidae. P. 99–101. In: Medvedev, G.S. (Ed.). *Key to the Insects of the European part of the USSR, Vol. IV, Part 6*. Leningrad, Nauka. [In Russian]
- Hagvar, S. & Østbye, E. 2011. Distribution of *Boreus westwoodi* Hagen, 1866 and *Boreus hyemalis* (L., 1767) (Mecoptera) in Norway. *Norwegian Journal of Entomology*, 58: 73–80.
- Martynova, O.M. 1954. Mecoptera. Fauna of the USSR. 1. Boreidae. *Proceedings of the Zoological Institute of the USSR Academy of Sciences*, 15: 54–65. [In Russian]
- Nikolajev, G.V. 2015. Problems of studying of Snow Scorpionflies of the genus *Boreus* Latreille, 1816 (Mecoptera: Boreidae) in Russia. *Scientific works of the State Nature Reserve "Prisursky"*, 30(1): 195–197. [In Russian]
- Oosterbroek, P. 2018. *Catalogue of the Craneflies of the World (Diptera, Tipuloidea: Pediciidae, Limoniidae, Cylindrotomidae, Tipulidae)*. URL: <http://ccw.naturalis.nl/detail.php>
- Oosterbroek, P. & Reusch, H. 2008. Review of the European species of the genus *Chionea* (Dalman, 1816) (Diptera, Limoniidae). *Braunschweiger Naturkundliche Schriften*, 8: 173–220.
- Pavlov, A.V. 2006. About structures of species and conditions of collection of Dipterans from snow in biotopes of Northern Meshchera (Vladimir Area). *Eversmannia*, 6: 56–61. [In Russian]
- Pilipenko, V.E., Paramonov, N.M. & Lantsov, V.I. 2016. To the knowledge of snow crane-fly *Chionea* Dalman, 1816 (Diptera, Limoniidae) of the Russia. P. 278–282. *X Russian dipterology Symposium*. Krasnodar. [In Russian]
- Plutenko, A.V. 1995. Mecoptera. P. 68–81. In: Lehr, P.A. (Ed.). *Key to the insects of the Russian Far East. Vol. IV. Neuroptera, Mecoptera, Hymenoptera. Part. I*. Nauka, St. Petersburg. [In Russian]
- Savchenko, E.N. 1969: Family Limoniidae (Limnobiidae). P. 86–112. In: Bey-Bienko, G.Ya. (Ed.). *Key to the Insects of the European part of the USSR, Vol. 5, Diptera and Siphonaptera, Part I*. Leningrad, Nauka. [In Russian]
- Savchenko, E.N. 1982. *Limoniid-flies (subfamily Eriopterinae)*. *Fauna Ukrainy, Vol. 14. Part 3*. Kiev. 335 pp. [In Ukrainian]
- Savchenko, E.N. 1989. *Limoniidae fauna of the USSR*. Kiev. 377 pp. [In Russian]
- Sidorenko, V.S. 2001. The family of Limoniidae – Limoniid crane flies. P. 19–79. In: Lehr, P.A. (Ed.). *Key to the insects of the Russian Far East. Vol. VI. Diptera and fleas. Part 4*. Vladivostok, Dalnauka. [In Russian]
- Vertyankin, A.V. 2017. *Chionea nipponica* Alexander, 1932 (Diptera: Limoniidae) a new species for the fauna of Sakhalin island. *Amurian zoological journal*, 9(1): 17–19. [In Russian]