

Caddisflies of Russia: Fauna and biodiversity

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Abstract

Analysis of the historical faunistic explorations in Russia demonstrates the gradual improvement of knowledge during the 20th century for this country with variable borders. Recent estimations of the Trichoptera biodiversity in the Russian Federation show the presence of 643 species in 148 genera of 28 families within its limits. The largest family, Limnephilidae, comprises 159 species, followed by Leptoceridae (92 spp.), Hydroptilidae (56), Rhyacophilidae (49), Apataniidae (41), Polycentropodidae (35), Hydropsychidae (33), Phryganeidae (28), Glossosomatidae (23), Psychomyiidae (22), Philopotamidae (19), Lepidostomatidae (18), Goeridae (12), Brachycentridae (9), Molannidae (8), Beraeidae (6), Sericostomatidae (5), Stenopsychidae (5), Arctopsychidae (4), Ptilocolepidae (4), Ecnomidae (3), Uenoidae (3), Calamoceratidae (3), and Odontoceridae (2), with Hydrobiosidae, Dipseudopsidae, Phryganopsychidae, and Thremmatidae each with a single species. The fauna of Far East Russia is the richest with 392 species, whereas European Russia is inhabited by 225 spp., the Caucasus 155, and Siberia 239. Species distribution patterns are not known in detail even in European Russia. New additions to the fauna are expected from the Far East and other regions.

Key words: Trichoptera, fauna, Russian Federation, zoogeography, Russia, caddis-flies, biodiversity

Historical

The first species of caddisflies reported from the Russian territory according to the Trichoptera World Checklist (2009) was *Semblis atrata* (J.F. Gmelin, 1789), described originally in the genus *Phryganea*. Data on the Trichoptera of the former Russian Empire have slowly accumulated in the subsequent decades, mostly by foreign authors (e.g., Hagen, 1858) because of a lack of indigenous caddisfly scientists. The first comprehensive list of the Russian Trichoptera was compiled by V. L. Bianki and published as an integral part of the Neuroptera chapter in the Russian edition of Karl Lampert's manual on freshwater life (Lampert, 1900). This list counts 256 species from the large territory of the former Empire, including countries of Middle Asia, Transcaucasia, and Eastern Europe once belonging to the Russian realm. The species in that list were classified according to natural regions, from European Russia with the best explored fauna to the Far Eastern territories with only 12 species known at that time. Indeed this preliminary list shows the incompleteness of data on the local fauna some 100 years ago.

The large territory of Russia and its neighbouring countries have experienced significant transformations during the last century; hence the older data now have mostly only historical significance. Similarly, the older taxonomy of the order Trichoptera has been much improved and altered so that a direct, detailed comparison of the faunal lists leads to confusion. Nonetheless, the