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Review of the Family Attelabidae (Coleoptera) of Western Siberia

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Abstract—The leaf-rolling weevil family Attelabidae is represented in Western Siberia by 9 genera including 19 species (*Auletobius irkutensis, A. sanguisorbae, Pselaphorhynchites nanus, P. tomentosus, Coenorrhinus germanicus, C. interpunctatus, C. pauxillus, Hapiorhynchites pubescens, H. caeruleus, Involvulus cupreus, Rhynchites auratus, Rh. cyanocephali, Byctiscus rugosus, B. betulae, B. populi, Deporaus mannerheimi, D. betulae, Apoderus coryli, A. erythropterus*).

Species of the family Attelabidae (leaf-rolling weevils) play an important part in biocenoses of Western Siberia. Many of them are agricultural and forest pests. The plum weevil *Involvulus cupreus* (L.) in the forest zone of Ob' Region damages up to 20% of buds and 14–18% of fruits of rennet (Babenko, 1982). In the forest zone of Novosibirsk the wrinkled leaf-rolling weevil impairs the decorative properties of poplars and reduces their photosynthesizing surface, gnawing twigs and rolling leaves into leaf-bales. The damage inflicted by leaf-rolling weevils on trees and shrub in Western Siberia has been noticed by many Siberian entomologists (Bassel', 1929; Kulik and Shevtsova, 1940; Mitlyuchenko, 1946, 1951; Egorov, 1958; Prokof'ev, 1966; Opanasenko, 1973, 1987; Kobets and Opanasenko, 1976; Babenko and Krivets, 1981; Babenko, 1982; etc.).

First data on the distribution of leaf-rolling weevils in Siberia were generalized in catalogs of Heyden (1880–1881) and Winkler (1930) where, respectively, 13 and 41 species were described. In a number of faunistic works isolated data on leaf-rolling weevils have been reported (Lavrov, 1926, 1927; Cherepanov and Opanasenko, 1963; Korshunov, 1973; Opanasenko, 1978, 1984; Krivets, 1984; etc.). The biology of some species of Western Siberia has been studied by Mitlyutchenko (1946, 1951), Prokof'ev (1966), Korshunov and Opanasenko (1973), Opanasenko (1973, 1987), and Babenko (1982). Noteworthy are works of Ter-Minasyan (1950, 1955, 1974), concerned with the leaf-rolling weevils of the USSR, where a great body of information was presented on the species from the region we study.

The present work is based on materials from authors' collections and those kept in the Zoological museum of the Biological Institute, Siberian Branch of the Russian Academy of Sciences.

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Six eco-geographical zones occupy the territory of Western Siberia: tundra, forest-tundra, taiga, small-leafed forests, forest-steppe, and steppe. In view of the zonal division with respect to height, mountain zone is singled out in the Altai-Sayany mountain system. Consider the distribution of leaf-rolling weevils over natural zones (Table 1). In tundra, leaf-rolling weevils do not occur owing to unfavorable temperature regime and lack of forage plants. In forest-tundra, 3 species have been found. Six species have been reported from the taiga zone. The widest species diversity is achieved by leaf-rolling weevils in small-leafed forests (13), forest-steppe (17), steppe (15), and mountain regions (14).

The population density of various leaf-rolling weevil species on plants is illustrated by Table 2. The highest number of species were found on willow (8), birch (7), and aspen and poplar (5 each).

The species developing on forest-shrub vegetation constitute the dendrophilous complex consisting of 16 species. Species related to herbaceous vegetation (herbophils) are much fewer in number than dendrophils—3 species. As regards the number, 72.1% of imago were collected from poplar, 8.4% from aspen, 4.3% from birch, and 4.6% of beetles from other plants. Consequently, poplar is subject to the strongest attack of leaf-rolling weevils.