

Data on the fauna of Scathophagidae (Diptera) of the Volga Region

К фауне Scathophagidae (Diptera) Поволжья

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KEY WORDS: Diptera, Scathophagidae, fauna, Volga Region.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Scathophagidae, фауна, Поволжье.

ABSTRACT: The annotated list of species of the family Scathophagidae (Diptera) of the Volga Region is presented for the first time. This list includes the materials of Zoological Institute RAS expedition to Lower Volga Region during 2003 year (June–July). In addition the specimens of this family from the ZIN RAS collections from the Area under investigation were studied. The material was determined by author mainly. 14 species from 6 genera were found. The brief characteristic of the main localities and the analysis of preferred biotopes of species of Scathophagidae are given.

РЕЗЮМЕ: Впервые приводится аннотированный список видов Scathophagidae (Diptera) для Поволжья. В основе работы лежат сборы экспедиции ЗИН РАН в Нижнее Поволжье в июне–июле 2003 г. Кроме того, включены представители этого семейства из коллекции ЗИН РАН, относящиеся к району исследования. Материал в основном определен автором. Выявлено 14 видов из 6 родов. Даны краткая характеристика основных мест сбора и анализ предпочитаемых видами Scathophagidae биотопов.

Introduction

Scathophagidae are numerous in wetlands. Adults are apparently all predacious on insects or other invertebrates [Vockeroth, 1987]. The larvae of the majority of species with a known immature biology are phytophagous, develop on the water angiosperms, some of them are true leaf-miners, a few breed in vegetable detritus and dung, where they may be predatory on other organisms, some are known to feed on insect eggs. A single species feeds on the frass of caterpillars [de Jong, 2000]. Scathophagidae are predominantly Holarctic. They occur mainly in the arctic and temperate zones of the Palaearctic and Nearctic. About 200 species are known in the Palaearctic Region. Scathophagidae of the Volga Region has been studied insufficiently. Only 3 species: *Scathophaga furcata* (Say, 1823), *Sc. suilla* (Fabricius, 1794), *Sc. stercoraria* (Linnaeus, 1758) were indicated

from the bounders of Volga–Kama basin but without exact localities [Gorodkov, 1978, 1980, 1981].

During the expedition in Lower Volga Region (June–July of 2003 year) the author studied environs of the Salt Lake Baskunchak (Astrakhan Area, Bogdo–Baskunchak National Reserve) and the Salt Lake Elton (Volgograd Area, Elton National Park), Eruslan River valley, Volga tributary, Volga River valley in the south part of Saratov Area. In addition, the ZIN RAS materials were included in the paper. 14 species from 6 genera were found.

The species distribution is presented after Gorodkov [1969, 1986].

Annotated list of the species

Genus *CHAETOSA* Coquillett, 18981. *Chaetosa punctipes* (Meigen, 1826)

MATERIAL: Jaroslavl Area, Berditsino: 17.06.1906, 4 ♀♀, Jakowlew leg., 3.07.1907, 2 ♂♂, Jakowlew leg.; Astrakhan Area, Baskunchak Lake: 8–18.06.2003, 2 ♂♂, Nartshuk leg.; Saratov Area, N. Bannovka Village: 01–02.07.2003, 1 ♂, 2 ♀♀, Ovchinnikov leg.

DISTRIBUTION: European part of Russia, Siberia, Russian Far East. — West Europe, Mongolia, North of North America.

Genus *CORDILURA* Fallén, 1810

Larvae feed as stem miners in culms of *Carex* and *Scirpus* (Cyperaceae) [Wallace & Neff, 1971].

1. *Cordilura picipes* (Meigen, 1826)

MATERIAL: Jaroslavl Area, Berditsino: 20.05.1907, 1 ♂, Jakowlew leg., 29.06.1907, 1 ♂, Jakowlew leg., 13.06.1908, 1 ♂, Jakowlew leg.

DISTRIBUTION: European part of Russia. — Northern and Middle part of West Europe, Mongolia.

2. *Cordilura pubera* (Linnaeus, 1758)

MATERIAL: Jaroslavl Area, Berditsino: 3.07.1907, 1 ♂, Jakowlew leg.; Jaroslavl: 2 ♂♂, Wagner leg.; Saratov Area, N. Bannovka Village: 1–2.07.2003, 1 ♀, Krivokhatsky & Ovtshinnikova leg.

DISTRIBUTION: European part of Russia, Caucasus, Siberia, Russian Far East. — Middle part of West Europe, Central Asia, Mongolia.

3. *Cordilura pudica* (Meigen, 1826)

This rather common species is taken on bogs [Hackman, 1956]. Mature larvae were found in the basal portion of *Carex rostrata* [Wallace & Neff, 1971].

MATERIAL: Jaroslavl Area, Berditsino: 17.06.1906, 3 ♂♂, 3 ♀♀, Jakowlew leg., 8.07.1906, 1 ♀, Jakowlew leg., 17.06.1906, 1 ex. (abdomen broken), Jakowlew leg., 3–9.07.1907, 1 ♂, 1 ♀, Jakowlew leg.

DISTRIBUTION: Northern and Central part of Russia. — Northern and Middle part of West Europe, North America: Alaska to Quebec.

4. *Cordilura umbrosa* (Loew, 1873)

MATERIAL: Saratov Area, N. Bannovka Village: 4–5.07.2003, 13 ♀♀, 8 ♂♂, Ovchinnikov leg., 4.07.2003, 1 ♀, 1 ♂, Nartshuk leg.; Astrakhan Reserve, Dashchinsk District: 7–16.05.1963, 3 ♂♂, Pisarev leg., 7.07.1963, 1 ♀, Pisarev leg.; Astrakhan Reserve, Tishkovo Village: 12.07.1961, 1 ♂, Emelianov & Kerzhner leg.

DISTRIBUTION: Southern part of Russia. — West Europe, Kazakhstan.

Genus *HEXAMITOCERA* Becker, 1894

1. *Hexamitocera loxocerata* (Fallén, 1826)

MATERIAL: Volgograd Area, Sarepta: 12.05.1917, 1 ♀, N. Kuznetsov leg.

DISTRIBUTION: North and South (first record) of Russia. — Northern and Middle part of West Europe.

Genus *PHROSIA* Robineau-Desvoidy, 1830

1. *Phrosia albilabris* (Fabricius, 1805)

MATERIAL: Saratov Area, Diyakovka Village: 24.06.2003, 1 ♀, Ovchinnikov leg.; Volgograd Area, Sarepta: 9.05.1917, 1 ♂, N. Kuznetsov leg.; Jaroslavl: 1 ♂, Wagner leg.

DISTRIBUTION: European part of Russia. — West Europe to North up to Southern Scandinavia.

Genus *POGONOTA* Zetterstedt, 1860

Adults are predators attacking other flies [Hackman, 1956].

1. *Pogonota barbata* (Zetterstedt, 1838)

MATERIAL: Jaroslavl Area, Berditsino: 17.06.1906, 3 ♀♀, 2 ♂♂, Jakowlew leg., 9.07.1907, 3 ♀♀, Jakowlew leg.

DISTRIBUTION: Northern and Central part of Russia, Siberia. — Europe, North America: Alaska, Canada.

Genus *SCATHOPHAGA* Meigen, 1803

1. *Scathophaga furcata* (Say, 1823)

MATERIAL: Jaroslavl Area, Berditsino: 19.09.1907, 1 ♀, Jakowlew leg.

DISTRIBUTION: European part of Russia, West Siberia, Russian Far East. — West Europe, North Kazakhstan, Middle Asia (Tien-Shan), Mongolia, North America: Alaska, Greenland, Mexico.

2. *Scathophaga inquinata* (Meigen, 1826)

MATERIAL: Jaroslavl Area, Borok District: 10.07.1939, 1 ♀, Chernova leg.

DISTRIBUTION: European part of Russia. — West Europe.

3. *Scathophaga lutaria* (Fabricius, 1794)

MATERIAL: Astrakhan Reserve: 23.09.1965, 1 ♂, Negrobov leg.

DISTRIBUTION: European part of Russia, West Siberia. — West Europe, Crimea, Asia: Syria; North Africa: Tunisia.

4. *Scathophaga scybalaria* (Linnaeus, 1758)

Larvae in dung [Ferrari, 1987].

MATERIAL: Jaroslavl Area, Berditsino: 9–17.06.1906, 2 ♀♀, 1 ♂, Jakowlew leg., 1.07.1906, 1 ♀, Jakowlew leg., 29.07.1906, 1 ♀, Jakowlew leg., 3–28.07.1907, 2 ♀♀, 1 ♂, Jakowlew leg.; Jaroslavl: 2 ♀♀, Wagner leg.

DISTRIBUTION: European part of Russia, South Siberia, Russian Far East. — West Europe, Mongolia, North China.

5. *Scathophaga stercoraria* (Linnaeus, 1758)

Larvae occur in cow dung [Wallace & Neff, 1971].

MATERIAL: Jaroslavl Area: 7 ♀♀, 9.05.1881, 2 ♀♀, 27.06.1906, 1 ♂, 18.07.1907, 1 ♂, Jakowlew leg., 1916, 1 ♀, Chestakow leg., 11 ♂♂, 3 ♀♀, 1–17.06.1895, 4 ♂♂, 3 ♀♀, 1896, 1 ♂, 1 ♀, N. Kokouyew leg., Berditsino: 3 ♂♂, 26–29.08.1906, 1 ♂, 2 ♀♀, 8.05.1907, 1 ♂, 1 ♀, 27.06.1907, 1 ♂, 18.07.1907, 1 ♀, 14.08.1907, 1 ♂, 1 ♀, Jakowlew leg.; Volgograd Area, Sarepta: 7 ♂♂, 1869, 1 ♂, 1872, 1 ♀, Becker leg., 13–26.05.1917, 1 ♂, 2 ♀♀, N. Kuznetsov leg.; Kazan Area, Tsvil'sk: 30.05.1875, 2 ♂♂, 1 ♀, Ksenzhopolskiy leg.; Samara Area, Pavlovka Village: 19.07.1907, 1 ♂, Elachich leg.; Volga delta, greenhouse: 11.05.1911, 1 ♀, Lukash leg.; Zhiguli: 15.05.1939, 1 ♂, Novoderezhkin leg., 14.06.1950, 1 ♂, Dmitriev leg.; Astrakhan Area, Baskunchak Lake: 17.06.2003, 1 ♂, Ovchinnikov leg., 18.06.2003, 1 ♂, Krivokhatsky & Ovtshinnikova leg.; Volgograd Area, Elton Lake: 20.06.2003, 1 ♂, Ovchinnikov leg.; Saratov Area, Diyakovka Village: 25–26.06.2003, 3 ♂♂, Ovchinnikov leg., 22–25.06.2003, 1 ♂, Nartshuk leg.

DISTRIBUTION: Holarctic Region (excluding tundra and polar deserts), Africa.

6. *Scathophaga suilla* (Fabricius, 1794)

MATERIAL: Jaroslavl: 1 ♂, Jakowlew leg.

DISTRIBUTION: European part of Russia, West Siberia, Russian Far East. — Northern and Middle part of West Europe, Kazakhstan, Middle Asia, Mongolia, North America: Alaska to Quebec.

Discussion

Salt Lake Baskunchak (Astrakhan Area) and salt Lake Elton (Volgograd Area) are situated in the territory of the Northturanian plane Provinces (Sethian desert zoogeographic Region). The Saratov and Volgograd Area are situated in the intermediate zone between Northturanian plane Provinces (Sethian desert zoogeographic Region) and Westscythian Subregion (Scythian steppe zoogeographic Region) [after Emeljanov, 1974]. Only 7 species were found in the Lower Volga Region. The number of these species is small, because the family Scathophagidae is mainly a holarctic group widespread in arctic and temperate zones of the Palaearctic and Nearctic.

The species of family Scathophagidae were found in azonal and interzonal biotopes for north deserts, steppes and forest-steppes. Most specimens were found in riverside vegetation of desalinated rivers and streams, on the wetlands of the forests, ravines occupied by typical deciduous forest. Therefore the representatives of the family Scathophagidae prefer the interzonal biotopes corresponding to relief features.

This research was financially supported by grant of the Department of industry, science and technology RF (NSh-1667.2003.4).

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