NEW AND LESS KNOWN TRUE BUG SPECIES (HEMIPTERA: HETEROPTERA) IN THE FAUNA OF THE REPUBLIC OF MOLDOVA

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Abstract. The article presents data for 24 species of heteropteran that are new for the fauna of the Republic of Moldova. Also, it provides information on the collection settlements, habitats, as well as systematic and bioecological comments.

Keywords: Heteroptera, new faunal data, Republic of Moldova.

Rezumat. Specii noi şi puţin cunoscute de heteroptere (Hemiptera: Heteroptera) în fauna Republicii Moldova. În lucrare sunt prezentate date despre 24 specii de heteroptere noi pentru fauna Republicii Moldova. La fel sunt date informații despre localitățile de colectare, habitatele, comentarii sistematice și bioecologice.

Cuvinte cheie: Heteroptera, date faunistice noi, Republica Moldova.

INTRODUCTION

After our previous researches (DERZHANSKY, 1997, 2007, 2010, 2013, 2016; DERJANSCHI & MATOCQ, 2005; DERJANSCHI & ELISOVETSKAYA, 2013, 2017; DERJANSCHI & MOCREAC, 2018; DERJANSCHI & CHIMIŞLIU, 2019), the order Heteroptera is one of the most studied groups on the territory of the Republic of Moldova. Up to present, the number of known species of bugs in literature is 578 belonging to 33 families.

MATERIAL AND METHODS

Field collectings from different biotopes of the Republic of Moldova were used in the present investigations. The true bugs were collected using usual entomological methods. Also, in our studies, light traps with white and ultraviolet lamps installed in the Brînzeni and Lopatna locality were used. The nomenclature of the species and distribution was cited according to AUKEMA and RIEGER (1995, 1996, 1999, 2001, 2006).

RESULTS

Therefore, the researches allowed us to cite in the present work – for the first time in the fauna of the country – 24 species of hetereptera from 8 families. Data about species are presented in the following order: name of the species, village and district area (coordinates are provided in brackets), collecting date, number of collected insects. If the material was not collected by the authors, the collector's name is provided in brackets.

I. Fam. CORIXIDAE

1. *Corixa affinis* Leach, 1817

Material examined. Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E), July 5, 2016, 2 specs. (on ultraviolet light).

Distribution. Is present in the countries of Central and Southern Europe, Northern Africa, Turkey, Iran, Caucasus, south of european part of Russia, Kazakhstan, Turkmenistan, Uzbekistan and Tajikistan (to the Amu Darya river), north India.

Comment. It lives in stagnant water (KANYUKOVA, 2006).

2. *Hesperocorixa sahlbergi* (Fieber, 1848)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), June 22, 2012, 1 spec., July 5, 2013, 1 spec.; Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E), July 19, 2017, 1 spec. (on ultraviolet light).

Distribution. This species is widespread in Europe, Caucasus, Eastern and Western Siberia.

3. *Paracorixa kiritshenkoi* (Lundbland, 1933)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), May 27, 2014, 2 specs. (on ultraviolet light).

Distribution. This species is known from Russia (south-west of the Altai Territory and Khakassia), Kazakhstan, Uzbekistan, Mongolia and North-East China (KANYUKOVA, 2006). Recently, this species was indicated from Dagestan (SHAPOVALOV et al., 2018).

Comment. The indication of this bug for the Republic of Moldova significantly supplements the information on its species-area in the west.

4. *Sigara iactans* Jansson, 1983

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E): total in the period May, 11 – September 14, 2012-2019 was collected on white light 717 specs. and 1894 specs. – on ultraviolet light; Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E): total in the period June, 13 – September 19, 2016-2018 was collected on white light 30 specs. and 34 specs. – on ultraviolet light.

Distribution. Central and south-eastern part of Europe.

Comment. On the territory of the Republic of Moldova, this species, until recently, was mixed with *Corixa falleni* Fieb., taxonomically similar to it; therefore, all previous records should be reviewed. However, it seems that both species are sympatric to our country.

II. Fam. ANTHOCORIDAE

5. *Amphiareus obscuriceps* (Poppius, 1909)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E): total in the period May, 8 – September 18, 2012-2019 was collected on white light 780 specs. and 460 specs. – on ultraviolet light; Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E): total in the period June, 4 – September 25, 2016-2018 was collected on white light 181 specs. and 96 specs. – on ultraviolet light.

Distribution. It seems that this species is widely spread in Europe and Asia.

Comment. Is considered native to Asia, recently introduced to North America (has spread across the eastern half of the US & Canada) and Europe (ROQUES et al., 2010).

6. *Lyctocoris dimidiatus* (Spinola, 1837)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), August 5, 2016, 1 spec. (on ultraviolet light).

Distribution. Present in the fauna of countries of Central and Southern Europe, North Africa, Turkey and Israel.

III. Fam. MIRIDAE

7. *Alloeotomus ghoticus* (Fallen, 1807)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), June 27, 2017, 1 spec. (on ultraviolet light).

Distribution. All Europe and the Asian part of Turkey.

8. *Atractotomus rhodani* Fieber, 1861

Material examined. Boldureşti village, Nisporeni district (47°06′37′′N, 28°05′26′′E), June 28, 2005, 10 specs.

Distribution. Central and south-eastern part of Europe.

Comment. This species was collected at the forest edge on *Hippophae rhamnoides*.

9. *Hadrophyes sulfurella* Puton, 1874

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), June 16, 2017, 1 spec. (on white light).

Distribution. Southern part of Europe, North Africa, Asian part of Kazakhstan and Turkmenistan.

Comment. Lives on plants from the genus *Salsola*. Hibernates in the egg stage, adults appear in June-July (WAGNER & WEBER, 1964).

10. *Hallodapus suturalis* (Herrich-Schäffer, 1837)

Material examined. Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E), July 13, September 17, 2016, 2 specs. (on ultraviolet light).

Distribution. Southern part of Europe, North Africa, Turkey, Caucasus, Central Asia.

11. *Macrotylus elevatus* (Fieber, 1858)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), May 27, June 13, July 18, 2014, 5 specs.

Distribution. So far, the species was known from Spain, France, Hungary, Romania, Bulgaria, Ukraine, south of European Russia and Asian part of Kazakhstan.

12. *Macrotylus quadrilineatus* (Schrank, 1785)

Material examined. Ţîpova village, Rezina district (47°36′30′′N, 28°58′17′′E), June 1, 2005, 1 spec.

Distribution. Central and south-eastern part of Europe.

Comment. Lives in the mountainous regions on *Salvia glutinosa* (WAGNER & WEBER, 1964). We collected this species in the rocky canyon of the Raut River.

13. *Orthotylus interpositus* Schmidt, 1938

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), June 13, 2014, 1 spec. (on white light).

Distribution. It is present in many countries of Central and Southern Europe, also in Siberia and the Far East (Russia), China and Japan.

14. *Orthotylus viridinervis* (Kirschbaum, 1856)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), June 19, 2012, 1 spec. (on white light).

Distribution. Widespread in Europe. Was introduced in North America (AUKEMA & RIEGER, 1999).

15. *Phytocoris incanus* Fieber, 1864

Material examined. Andriașevca Nouă village, Slobozia district (46°49′20′′N, 29°57′09′′E), July 25, 1995, 1 spec. (V. Matsyuk leg.)

Distribution. South of central and eastern part of Europe, Siberia, Asian part of Kazakhstan, Uzbekistan and Kyrgyzstan.

Comment. ESENBEKOVA (2008) signalled this species in West Kazakhstan on plants from genus *Artemisia*.

16. *Pilophorus cinnamopterus* (Kirschbaum, 1856)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), August 11, 2017, 2 specs., August 13, 2019, 1 spec.; Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E): total in the period June, 17 – September 27, 2016-2017 was collected on white light 14 specs. and 21 specs. – on ultraviolet light.

Distribution. Widespread in all Europe, Caucasus (Azerbaijan), Asian part of Turkey, Eastern Siberia.

17. *Psallopsis neglecta* Konstantinov, 1998

Material examined. Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E), August 17, 23, September 3, 2016, 4 specs.; Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), September 12, 2017, 1 spec.; Talmaza village, Ștefan-Vodă district (46°40′21′′N, 29°40′42′′E), June 12, 2019, 1 spec.

Distribution. Ukraine, south of European part of Russia, Kazakhstan, Uzbekistan, West Siberia and Mongolia.

Comment. According to KONSTANTINOV (1997) the host plants are not clarified, but certainly annual Chenopodiaceae. Some specimens from collections are labelled as collected from annual *Suaeda*, *Halogeton* and *Petrosimonia*.

18. *Trigonotylus brevipes* Jakovlev, 1880

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), September 2, 13, 2016, 2 specs., September 4, 2018, 2 specs. (on ultraviolet light).

Distribution. In Europe this species has a "spotted" area: it was indicated from Spain, Ukraine, and the south of the European part of Russia. It occurs in North Africa (Tunisia), in the Caucasus, in South-West and Central Asia.

IV. Fam. TINGIDAE

19. *Tingis ragusana* (Fieber, 1861)

Material examined. Lozova village, Strășeni district (47°06′29′′N, 28°21′44′′E), August 5, 1996, 4 specs.

Distribution. Central and South-Eastern Europe, Caucasus, North Africa (Morocco), Turkey, Cyprus, Iran and Syria.

Comment. Adult bugs were collected in the "Codri" Nature Reserve at the forest edge on *Stachys silvatica*.

V. Fam. LYGAEIDAE

20. *Paraparomius leptopoides* (Baerensprung, 1859)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), August 13, 2019, 1 spec. (on white light).

Distribution. South and south-east Europe, all Turkey, Caucasus, Cyprus, Iran, North Africa (Egypt).

21. *Peritrechus meridionalis* Puton, 1877

Material examined. Lopatna village, Orhei district (47°29′58′′N, 29°02′18′′E), August 5,7, 2016, 2 specs. (on white light).

Distribution. South and south-east Europe, Caucasus, South-West and Central Asia, North Africa.

Comment. Most often noted under plants from genera *Suaeda*, *Salicornia* and *Puccinellia* (PERICART, 1998).

VI. Fam. STENOCEPHALIDAE

22. *Dicranocephalus medius* (Mulsant & Rey, 1870)

Material examined. Brînzeni village, Edineț district (48°04′38′′N, 27°10′51′′E), July 19, 2019, 1 spec. (on ultraviolet light).

Distribution. Widespread in Europe, the Caucasus, in the northern, central and eastern parts of Asia.

VII. Fam. RHOPALIDAE

23. *Maccevethus caucasicus* (Kolenati, 1845)

Material examined. Cîrnăţeni village, Căușeni district (46°37′33′′N, 29°30′26′′E), May 17, 2018, 1 spec.

Distribution. South and south-east Europe, Caucasus, South-West and Central Asia.

Comment. This species was collected at the forest edge on *Carduus* sp.

VIII. Fam. PENTATOMIDAE

24. *Ancyrosoma leucogrammes* (Gmelin, 1790)

Material examined. Ciumai village, Taraclia district (45°47′21′′N, 28°32′52′′E), July 14, 2013, 1 spec.

Distribution. South and south-east Europe, Caucasus, South-West and Central Asia, North Africa.

CONCLUSIONS

The paper mentions 24 species of Heteroptera, new for the fauna of the Republic of Moldova. Till now (2020) 602 species of insects from the order Heteroptera are known in the Republic of Moldova. Also, the data significantly supplement the information on the distribution of recorded species.

ACKNOWLEDGEMENT

The research was carried in the project 20.80009.7007.02. from the State program of the Institute of Zoology.

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Received: March 21, 2020
Accepted: July 19, 2020