CONTRIBUTIONS TO THE KNOWLEDGE OF MELOIDAE FAUNA (COLEOPTERA: MELOIDAE) IN THE REPUBLIC OF MOLDOVA

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Abstract. This paper presents a synthesis of the data concerning the species belonging to the Meloidae family of the coleopterans fauna from the Republic of Moldova and mentions the reporting for the first time in the fauna of Moldova of two new species: *Meloe variegatus* DONOVAN 1776 and *Oenas crassicornis* ILLIGER 1800.

Keywords: Meloidae, fauna, Republic of Moldova.

Rezumat. Contribuţii la cunoaşterea faunei de meloide (Coleoptera: Meloidae) din Republica Moldova. Lucrarea prezintă o sinteză a datelor cu privire la prezenţa speciilor din familia Meloidae în fauna de coleoptere a Republicii Moldova şi menţionează semnalarea pentru prima dată în fauna republicii a două specii noi: *Meloe variegatus* DONOVAN 1776 şi *Oenas crassicornis* (ILLIGER 1800).

Cuvinte cheie: Meloidae, faună, Republica Moldova.

INTRODUCTION

The family of Meloidae GYLLENHAL 1810, is a family of coleopterans with a wide spread area. According to the literature data, the representatives of this family can be found worldwide, except for New Zealand. As regards the economic significance, it is known that the adults have a trophic phytophagous regime; they are found on flowers or leaves and certain species can cause damages to the vegetable crops and forestry ecosystems. Larvae have a predatory lifestyle. Some live in bee nests and eat eggs, larvae, and the host's food storage, and others feed on grasshoppers eggs. Particularly, they prefer the warm climate areas. Till now, in the fauna of the Republic of Moldova, there are cited 24 species belonging to two subfamilies: Meloinae DENIER 1935 and Zonitidinae MULSANT 1857.

Those 24 Meloidae species were described for the first time in the fauna of the Republic of Moldova by MILLER & ZUBOWSKY in 1917, and the results were published in the paper „Materials about the entomological fauna from Bassarabia", which constitutes an overview of 1,208 coleopteran species from this region. Subsequently, in 1957 it was republished by MEDVEDEV & ŠAPIRO, (1957) in the paper *The knowledge of coleopteran fauna (Coleoptera) of MSSR and of adjacent areas of Ukraine*. Unfortunately, the species cited in these papers are not reflected in the beetle collections of the Institutes of Zoology and the Research for Plant Protection and Ecological Agriculture of the ASM. In the rich collection of the Research Institute for Plant Protection and Ecological Agriculture, the specimens of Meloidae collected from the Republic of Moldova are not present. The Meloidae family has been mentioned in some papers with ecological aspect by the researchers VEREŜAGIN & PLUGAR (1960) and OSTAFIČUK (1983, 1990).

This paper aims to update existing information in the literature and also to help the knowledge new species of Meloidae in the Republic of Moldova.

MATERIAL AND METHOD

Based on our own materials collected during 2003-2009, from the forest of landscape reserve Codrii Tigheci, some forests from the flooded region of the Lower Dniester and materials derived from the collections of some entomologists of the Institute of Zoology of ASM, it was possible to set up a small collection of Meloide. A total of 38 specimens were analysed. Coleopterans were collected directly from plants or soil.

In this paper, specialists who collected and identified the material are cited; there are also presented the data from the ecological etiquette. For identification of the species, we used the next taxonomic source, CRÎJANOVSKII (1965).

RESULTS AND DISCUSSIONS

According to the literature data on the territory of the Republic of Moldova, there were signaled the species *Lydus syriacus*, *Lydus trimaculatus*, *Lytta vesicatoria*, *Mylabris variabilis*, and *Meloe proscarabaeus* (VEREŜAGIN & PLUGAR, 1960; OSTAFIČUK, 1983, 1990). After processing the collected materials, there were identified 9 species of Meloidae. These results confirm the presence of 12 species cited in the previous publications. Also there were identified two new species, which were not mentioned in the fauna of the Republic of Moldova.

That is why, I shall present a comparative analysis of coleopteran list published by the authors Miller & Zubowsky and the real list with specimens of Meloidae from the collection of the Entomologic Museum of ASM. (Academy of Sciences of Moldova).

Table 1. The general list of all species of the family Meloidae identified in the Republic of Moldova.
Tabel 1. Lista generală a speciilor din familia Meloidae semnalate în Republica Moldova.

No	List of species	The place of collection, date and person	Reference papers
1.	*Cerocoma muehlfeldi* GYLLENHAL 1817	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
2.	*Cerocoma schaefferi* (LINNAEUS 1758)	leg. Plugaru, Ivancia locality, 1 spec., June 17, 1958; leg. Stepanov, Ivancia, 1 spec., June 3, 1963.	MILLER & ZUBOWSKY, 1917 (Bender, May 29, 1904); MEDVEDEV & ŠAPIRO 1957.
3.	*Cerocoma schreberi* (FABRICIUS 1718)	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
4.	*Epicauta rufidorsum* (GOEZE 1777)	-	MILLER & ZUBOWSKY, 1917 (Chişinău, 22 spec., May 23, 1905); MEDVEDEV & ŠAPIRO, 1957.
5.	*Euzonitis bifasciata* SCHWARZ 1803	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
6.	*Euzonitis sexmaculata* (OLIVIER 1789)	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
7.	*Lydus chalybaeus* (TAUSCHER 1812)	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
8.	*Lydus halbhuberi* ESCHERICH 1896	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
9.	*Lydus syriacus* (LINNAEUS 1764)	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957; OSTAFICIUC 1990.
10.	*Lydus trimaculatus* FABRICIUS 1775	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957; OSTAFICIUC 1990.
11.	*Lytta vesicatoria* (LINNAEUS 1778)	leg. Vereŝagin, Vatici locality, 1 spec., May 20, 1958; leg. Plugaru, Ivancia locality, 1 spec., June 11, 1958; 1 spec., June 14, 1959; Bahmut locality, 1 spec., June 17, 1960; leg. Stepanov, Hârboveţ locality, 1 spec., June 1963; Chişinău locality, 1 spec., June 1965; leg. Chiriac, Costiujeni locality, 9 spec., June 10, 1997; leg. Bacal, Codrii Tigheci, 8 spec., June 4, 2006.	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957; VEREŞCIAGHIN, 1960; OSTAFICIUC 1990.
12.	*Meloe decorus* BRANDT & ERICHSON 1832	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
13.	*Meloe hungarus* SCHRANK 1776	leg. Stepanov, Comrat locality, 1 spec., April 29, 1953.	MILLER & ZUBOWSKY, 1917 (Cornești locality, April 21, 1902); MEDVEDEV & ŠAPIRO, 1957.
14.	*Meloe proscarabaeus* LINNAEUS 1758	leg. Stepanov, Ivancia locality, 1 spec., April 24, 1967, Cebanca locality, 1 spec., April 30, 1969 leg. S. Bacal, Codrii Tigheci, 2 spec., June 14, 2006, Grădiniţa locality, 2 spec., April 3, 2009.	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957; OSTAFICIUC 1990.
15.	*Meloe rugosus* MARSHAM 1802	-	MILLER & ZUBOWSKY, 1917 (Chişinău locality, April 23, 1902); MEDVEDEV & ŠAPIRO, 1957.
16.	*Meloe scabriusculus* BRANDT et ERICHSON 1832	leg. Stepanov, Ivancia locality, 1 spec., March 31, 1977.	MILLER & ZUBOWSKY, 1917 (Chişinău locality, March 23, 1902); MEDVEDEV & ŠAPIRO, 1957.
17.	*Meloe violaceus* MARSHAM 1802	leg. Stepanov, Ivancia locality, 1 spec., May 1962; leg.B. Vereŝagin, Trebujeni locality, 1 spec., May 1958.	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
18.	*Mylabris decempunctata* FABRICIUS 1781	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
19.	*Mylabris polymorpha* (PALLAS 1771)	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
20.	*Mylabris pusilla* OLIVIER 1811	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
21.	*Mylabris variabilis* (PALLAS 1782)	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
22.	*Sitaris muralis* (FORSTER 1771)	leg. Stepanov, Vatici locality, 1 spec., August 25, 1968.	MILLER & ZUBOWSKY, 1917 (Bender locality, July 17, 1908); MEDVEDEV & ŠAPIRO, 1957.
23.	*Stenoria apicalis* (LATREILLE 1804)	-	MILLER & ZUBOWSKY, 1917 (Bender locality, July 17, 1908); MEDVEDEV & ŠAPIRO, 1957.
24.	*Stenodera caucasica* (PALLAS 1781)	-	MILLER & ZUBOWSKY, 1917; MEDVEDEV & ŠAPIRO, 1957.
25.	**Meloe variegatus* DONOVAN 1776	leg. Stepanov, Congaz locality, 1 spec., April 1965.	-
26.	**Oenas crassicornis* (ILLIGER 1800)	leg. Stepanov, Străşeni locality, 1 spec., July 1953.	-

Legend: The species with (*) are mentioned for the first time in the Republic of Moldova.
Legendă: Speciile marcate cu asterisc (*) - sunt menţionate pentru prima dată în fauna Republicii Moldova.

The obtained results confirm that in the Republic of Moldova fauna there are 26 Meloidae species that belong to 11 genera and 2 subfamilies. The biotopic distributions revealed 2 forest species (*Lytta vesicatoria* and *Meloe*

proscarabaeus), the other species being more characteristic to the steppe area. In the Entomologic Museum collection there are only 9 species; the rest of species are mentioned in different bibliographic sources (Table 1). From bibliographic analysis and according to the existent materials, it is observed that in the collection, the majority of species was collected at the beginning of the century. The following step in the beetles' fauna research and especially of Meloidae family was in the period 1953 – 1965; after that it followed a pause. Unfortunately, till now in the Republic of Moldova there was not undertaken special research concerning this beetles family, which deserves a great attention, on the one hand, as being phytophagous coleopterans in the adult stage, and on the other hand, due to the predatory status during the larva stage.

CONCLUSIONS

In the Republic of Moldova, the Meloidae fauna is represented by 26 species. The processed materials have permitted the identification of two new species in the republic fauna: *Meloe variegates* and *Oenas crassicornis*. By strengthening research, which began in 1917 and have continued so far according to literature data, this paper updates the knowledge level of this coleopteran family. The subsequent research would contribute to the completion both of fauna list and of the museum collection.

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