FAUNA AND ECOLOGY OF THE WEEVILS FAMILIES NEMONYCHIDAE, URODONTIDAE, ANTHRIBIDAE (COLEOPTERA: CURCULIONOIDEA) FROM THE REPUBLIC OF MOLDOVA

NATALIA MUNTEANU

Abstract. *The work dedicated to the study of the weevil species belonging to the families Nemonychidae, Urodontidae, Anthribidae (Coleoptera: Curculionoidea) from the Republic of Moldova, their biodiversity, ecology and particularities of distributions. Only one species from Nemonychidae family have been identified for the fauna of Republic of Moldova. Beetles from family Anthribidae includes 7 species from 6 genera Brachytarsus, Dissoleucas, Phaeochrotes, Platyrhinus, Tropideres and Rhaphitropis. Urodontidae family includes 6 species from genus Bruchela.*

Keywords: *fauna, ecology, weevil, Nemonychidae, Urodontidae, Anthribidae, Republic of Moldova.*

Rezumat. Fauna şi ecologia coleopterelor din familiile Nemonychidae, Urodontidae, Anthribidae (Coleoptera: Curculionoidea) din Republica Moldova. *Lucrarea este dedicată studierii curculionidelor familiilor Nemonychidae, Urodontidae, Anthribidae (Coleoptera: Curculionoidea) din Republica Moldova, biodiversităţii lor, ecologiei şi particularităţilor de răspândire. Pentru fauna republicii Moldova a fost identificată doar o singură specie din familia Nemonychidae. Familia Anthribidae include 7 specii din 6 genuri Brachytarsus, Dissoleucas, Phaeochrotes, Platyrhinus, Tropideres and Rhaphitropis. Curculionidele Urodontidae conţin 6 specii din genul Bruchela.*

Cuvinte cheie: *faună, ecologie, curculionide, Nemonychidae, Urodontidae, Anthribidae, Republica Moldova.*

INTRODUCTION

Curculionoidea are one of the richest species groups of highly specialized phytophagous insects (KOROTYAEV, 2000), about 60 thousand species have been known from the world fauna (ALONSO-ZARAZAGA, LYAL, 2005). A huge specific diversity is determined by the evolution of mutual relationship between weevils and their host plants.

Weevils are ubiquitous and often numerous, populate different biotopes and participate in formation of ecosystems, being an important component of biodiversity. Among weevils are known dangerous pests of forest and agricultural crops, some species are of interest as perspective biological agents for suppression of weed plants. All this causes permanent interest to studying this group of insects.

The first faunistic data about weevils families *Nemonychidae*, *Anthribidae, Urodontidae* (Coleoptera: *Curculionoidea*) from researched region have been recorded by MILLER & ZUBOVSKII (1906, 1917), later information on a presence of some weevils species from researched region and adjacent areas of Ukraine have been marked by MEDVEDEV and SAPIRO, 1957. Newer and thoroughly revised checklists of weevils from Republic of Moldova have been recorded by POIRAS, 2006.

The aim of the present paper is to provide updated study of the weevil species belonging to the families *Nemonychidae* BEDEL, 1882, *Anthribidae* BILLBERG, 1820, *Urodontidae* THOMSON, 1959 (Coleoptera: *Curculionoidea*) from the Republic of Moldova, their biodiversity, ecology and distributions particularities.

MATERIAL AND METHODS

The study is based on the collections of the Zoological Institute, Academy of Science of Moldova, published data and material collected during 2005-2007 years. For investigations were used field collections from different biotopes of Republic of Moldova. Weevils were collected using standard entomological methods.

RESULTS AND DISCUSSIONS

Nemonychidae is a small family of weevils, in the world fauna is known only 20 species, for Republic of Moldova fauna was identified only one species *Nemonyx lepturoides* F. Beetles from the family *Anthribidae* includes 6 genera and 7 species from *Brachytarsus* (*B. scapularis* GEBLER, 1833 and *B. nebulosus* FOERSTER, 1771), *Dissoleucas* (*D. niveirostris* FABRICIUS, 1798), *Phaeochrotes* (*Ph. cinctus* PAYKULL, 1800), *Platyrhinus* (*P. resinosus* SCOPOLI, 1763), *Tropideres* (*T. albirostris* HERBST, 1783) and *Rhaphitropis* (*R. marchicus* HERBST, 1797). *Urodontidae* family includes 6 species from genus *Bruchela* (*B. canus* KUSTER, 1848, *B. conformis* SUFFRIAN, 1845, *B. concolor* FAHRAEUS, 1839, *B. suturalis* FABRICIUS, 1792, *B. rufipes* OLIVIER, 1790 and *B. pygmaeus* GYLLENHAL, 1833).

In such rich group as *Curculionoidea* was revealed quite large and unusual trophic spectrum, the species of this suprafamily feed practically upon all parts of the plants (bud, leaves, seeds, fruits, branches, trunks, roots, bark and dead wood). A single species *Nemonyx lepturoides* F. from family *Nemonychidae* from Republic of Moldova fauna trophically is associated to plants from *Delphinium* genus, feed upon the pollen. Concerning family *Urodontidae,* it is a

highly specialized group of insects, tropically associated to plants from *Reseda* genus (POIRAS, 1998). The larvae of species from families *Nemonychidae* and *Urodontidae* identified from Republic of Moldova live in the seeds and fruits of their host plant and form the vital form of carpobionts (ARNOLIDI et al. 1965).

Curculionoidea beetles take part in the feed circuits not only as consumers of phytomass (the first order consumers), but also like regulators of other species of insects number (the second order consumers), for example, entomophagous in fauna of Republic Moldova was revealed two species, from family *Anthribidae* (*Brachytarsus scapularis* GEBL. and *B. nebulosus* FOERST.), feed upon the *Coccidae* insects (ANGHELOV, 1981), and also like reducers, processing dead wood *(Dissoleucas niveirostris* F., *Phaeochrotes cinctus* PAYK., *Platyrhinus resinosus* SCOP., *Tropideres albirostris* HERBST and *Rhaphitropis marchicus* HERBST).

After the analyses of weevil *Nemonychidae*, *Anthribidae*, *Urodontidae* (Coleoptera: *Curculionoidea*) from the Republic of Moldova fauna according to area types, were identified 4 groups: euro-mediterranean (6 species), european (4), euro-siberian (3) and west-palearctic (1).

Table 1. Species richness of the families *Nemonychidae*, *Anthribidae*, *Urodontidae* of the Republic of Moldova.

№	Species	Trophic specialization			Types of areas
		phytophagous	saprophagous	entomophagous	
	Family NEMONYCHIDAE BEDEL, 1882				
	Subfamily Nemonychinae BEDEL, 1882				
	Genus *Nemonyx* REDTENBACHER				
1.	*N. lepturoides* (FABRICIUS, 1801)	+			european
	Family ANTHRIBIDAE BILLBERG, 1820				
	Genus *Brachytarsus* SCHOENHERR, 1823				
2.	*B. nebulosus* (FOERSTER, 1771)			+	euro-siberian
3.	*B. scapularis* (GEBLER, 1833)			+	euro-siberian
	Genus *Dissoleucas* JORDAN, 1925				
4.	*D. niveirostris* (FABRICIUS, 1798)		+		european
	Genus *Phaeochrotes* PAYKULL, 1800				
5.	*Ph. cinctus* (PAYKULL, 1800)		+		european
	Genus *Platyrhinus* CLAIRVILLE, 1798				
6.	*P. resinosus* (SCOPOLI, 1763)		+		west-palearctic
	Genus *Tropideres* SCHOENHERR, 1833				
7.	*T. albirostris* (HERBST, 1783)		+		euro-siberian
	Genus *Rhaphitropis* REITTER, 1916				
8.	*R. marchicus* (HERBST, 1797)		+		european
	Family URODONTIDAE				
	Subfamily URODONTINAE THOMSON, 1959				
	Genus *Bruchela* DEJEAN, 1921				
9.	*B. canus* (KUSTER, 1848)	+			euro- mediterranean
10.	*B. conformis* (SUFFRIAN, 1845)	+			euro- mediterranean
11.	*B. concolor* (FAHRAEUS, 1839)	+			euro- mediterranean
12.	*B. pygmaeus* (GYLLENHAL, 1833)	+			euro- mediterranean
13.	*B. rufipes* (OLIVIER, 1790)	+			euro- mediterranean
14.	*B. suturalis* (FABRICIUS, 1792)	+			euro- mediterranean

REFERENCES

ALONSO-ZARAZAGA M. & C. LYAL. 1999. *A world catalogue of families and genera Curculionoidea (Insecta: Coleoptera) (excepting Scolytidae and Platypodidae)*. Entomopraxis, Barcelona: 315 pp.

АРНОЛЬДИ Л., ЗАСЛАВСКИЙ В., ТЕР–МИНАСЯН М. 1965. *Семейство Curculionidae долгоносики* in: Определитель насекомых европейской части СССР. М.–Л. **2**. вып. 89: 485-621.

АНГЕЛОВ П. 1981 *Coleoptera, Rhynchophora* (*Urodonidae, Anthribidae, Brenthidae, Rhinomaceridae, Attelabidae*) in: Фауна на България. Т. XI. София: 112 pp.

КОРОТЯЕВ Б. 2000. *О необычно высоком разнообразии долгоносикообразных жуков (Coleoptera, Curculionidae) в степных сообществах Северного Кавказа* Зоолог. Журнал. **79**(2): 242-246.

МЕДВЕДЕВ С. & Д. ШАПИРО. 1957. *К познанию фауны жуков (Coleoptera) Молдавской ССР и сопредельных районов Украины* in: Тр. НИИ биологии. **30**. Харьков: 173-206.

МИЛЛЕР Э., Н. ЗУБОВСКИЙ. 1917. *Материалы по энтомологической фауне Бесарабии* in: Труды Бессараб. о-ва естествоиспыт. и любит. Естествознания. **6**: 119-150.

POIRAS A. 1998. *Catalogue of the weevils (Coleoptera, Curculionoidea) and their host plants in the Republic of Moldova*. Pensoft Publishers: Sofia-Moscow: 156 pp.

Munteanu Natalia
Institute of Zoology, Academy of Sciences of Moldova Republic of Moldova,
Chisinau 2028, Academiei 1
E-mail: natalia_v_munteanu@yahoo.com