CONTRIBUTIONS TO THE KNOWLEDGE OF STAPHYLINID FAUNA (COLEOPTERA: STAPHYLINIDAE) FROM THE RIGHT SIDE OF THE DNIESTER RIVER

DERUNKOV Alexander, BACAL Svetlana

Abstract. The paper presents faunal, ecological and distributional data on the family Staphylinidae from the right side of the Dniester River, collected during 2008-2010 years. Totally, 51 species of Staphylinidae were collected.

Keywords: Staphylinidae, fauna, Dniester, Republic of Moldova.

Rezumat. Contribuţii la cunoaşterea faunei de stafilinide (Coleoptera: Staphylinidae) de pe malul drept al Nistrului. Lucrarea prezintă un studiu faunistic realizat asupra familiei Staphylinidae, de pe malul drept al Nistrului, în perioada anilor 2008-2010. Sunt citate 51 de specii de Staphylinidae. Se enumeră lista speciilor colectate cu unele date ecologice.

Cuvinte cheie: Staphylinidae, faună, Nistru, Republica Moldova.

INTRODUCTION

The Dniester River intersects the territory of the Republic of Moldova from north to south. The petrophytic ecosystems are formed along its river valley. The substratum is constituted by calcareous rocks, which emerge on the surface as strips or steep canyons along the river and its tributaries. Climate, relief and substratum cause the formation of these rocky sites. The Nistrean limestones are specific elements of landscape, forming unique ecosystems within the north-western limits of the Black Sea basin. Over 250 petrophytic plant species occur on rocky slopes and on limestone slants, with predominance of the Mediterranean plant species. An important component of this flora is grassy steppe vegetation and sub-arid forests with glades on rocky slopes.

The staphylinid beetles are an important component of the riverine ecosystems. The beetles of this family are very common in the riversides and they are rich in number of species. The staphylinids play an important role as predators most of the terrestrial ecosystems where they are very abundant. The staphylinid fauna of the Dniester River valley was studied insufficiently. During the last three years (2008-2010) we made some collecting trips to different sites in the Dniester River valley to enlarge the list of beetle species. The aim of this paper is to summarize our faunal data on staphylinid beetles in the mentioned region.

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MATERIAL AND METHODS

The staphylinids were collected manually by itinerary method in the Nistrean canyons in 2008 – 2010 from the districts: Soroca (Tătărăuca Nouă village (GPS – N 48°18'; E 27°58)); Rezina (villages of Ţîpova – N 47°37'; E 28°57', Lalova – N 47°34'; E 28°59'; Orhei (Vîşcăuţi – N 47°25'; E 29°03')); Dubăsari (Holercani (GPS – N 47°18'; E 29°04')); Căuşeni (Grădiniţa – N 46°39'; E 29°35', Copanca – N 46°35'; E 29°42', Leuntea – N 46°40'; E 29°36'); Ştefan Vodă (Răscăeţi – N 46°34'; E 29°45'). The taxonomic studies used during the identification were accomplished conformable to the following keys of identification (KRÂJANOVSCHII, 1965; LOHSE, 1964, 1974).

RESULTS AND DISCUSSIONS

During the three-year study (2008-2010), 110 specimens of beetles belonging to 51 species, 31 genera, and 9 subfamilies of staphylinids were collected (Table 1). The highest species diversity is in the subfamily Tachyporinae, with 13 species from 5 genera (more than 25 % of species, Table 2). Subfamilies Aleocharinae and Staphylininae are represented by 10 species each belonging to 9 and 4 genera respectively. The Subfamily Paederinae is represented by 5 species from 5 genera. The Subfamily Oxytelinae is represented by 3 genera with four species and the subfamily Steninae is represented by one genus with one species. The Subfamily Omaliinae is presented by 2 genera and 3 species, while subfamilies Euaesthetinae and Habrocerinae by 1 species each (Table 2).

Nine species are mentioned for the first time in the fauna of the Republic of Moldova: *Euaesthetus bipunctatus*, *Anthobium fusculum*, *Atheta orbata*, *Parocyusa rubicunda, Quedius ochropterus*, *Heterothops niger*, *Mycetoporus baudueri, Leptobium dimidiatum, Scopaeus ryei* (MILLER & ZUBOVSKI, 1917; MEDVEDEV & SAPIRO, 1957). The most interesting of these species is *Leptobium dimidiatum* (GRIDELLI, 1926). This species was described from Romania in the beginning of XIX-th century as *Dolicaon biguttulus* (LACORDAIRE in BOISDUVAL et LACORDAIRE, 1835). Now it is known from Romania, Georgia and Turkmenistan (ASSING, 1995; STAN, 2008). The new point in Moldova enlarges our knowledge of its distribution. *Sepedophilus testaceus* (8 specs), *Tachyporus hypnorum* (8 specs), *Sepedophilus marshami* (7 specs) and *Tachyporus nitidulus* (7 specs) were the most frequently collected species during

the study. *Tachyporus hypnorum* was found in 5 collecting sites, *Sepedophilus marshami* and *Tachyporus nitidulus* were found in 3 collecting sites. Also *Stenus ochropus* and *Tachyporus atriceps* were collected in 3 sites, but only 1 specimen from each site. Ten species were found only in the two sites and the remaining species were recorded only in one site. *Tachyporus hypnorum*, *T. nitidulus, T. solutus*, *Quedius nitipennis, Carpelimus corticinus* and *Anthobium fusculum* can be characterized as species with high level of adaptation to different habitats. *Leptobium dimidiatum* and *Scopaeus ryei* were noted as species with narrow habitat specialization.

The material discussed includes species with large distributional ranges (LÖBL & SMETANA, 2004), such as: Palaearctic, Transpalaearctic, West Palaearctic, Holarctic, European, Euro-Mediterranean, Transholarctic and Cosmopolitan. Most of the species are characterised by a high ecological plasticity, including eurytopous, ripicolous, sylvicolous, phytodetriticolous, humicolous, pholeophilous, hygrophilous, paludicolous, muscicolous, myrmecophilous, mycetophilous, coprophilous and xerophilous species.

Table 1. List of staphylinid species with ecological data from the right bank of the Dniester River.
Tabel 1. Lista speciilor de stafilinide cu date ecologice, identificate pe malul drept al Nistrului.

No.	Taxa	Material	Distribution	Ecological characteristics
	Euaesthetinae GRAVENHORST, 1806			
1.	*Euaesthetus bipunctatus* (LJUNGH, 1804)*	1 specimen (spec), May 8, 2009, Copanca.	Palaearctic	muscicolous, hygrophilous, phytodetriticolous.
	Omaliinae MACLEAY, 1825			
2.	*Omalium caesum* GRAVENHORST, 1806	2 specimens (specs), May 14, 2009, Răscăeți; 1 spec, October 8, 2009, Leuntea.	Palaearctic	humicolous, phytodetriticolous, sylvicolous, hygrophilous.
3.	*Anthobium fusculum* (ERICHSON, 1839)*	1 spec, November 13, 2009, Lalova.	European	sylvicolous, xerophilous, humicolous, mycetophilous, riparian.
4.	*Anthobium atrocephalum* (GYLLENHAL, 1827)	1 spec, May 17, 2010, Vîșcăuți.	Transholarctic	eurytopic, hygrophilous, humicolous, phytodetriticolous.
	Aleocharinae FLEMING, 1827			
5.	*Ocalea badia* ERICHSON, 1837	1 spec, May 17, 2009, Vîșcăuți.	Transpalaearctic	sylvicolous, muscicolous, hygrophilous, phytodetriticolous.
6.	*Acrotona fungi* (GRAVENHORST, 1806)	2 specs, October 29, 2009, Răscăeți; 1 spec, March 6, 2009, Grădinița.	Transpalaearctic, North America (introduced)	ubiquitous, sylvicolous, hygrophilous.
7.	*Atheta orbata* (ERICHSON, 1837)*	1 spec, November 13, 2009, Lalova; 1 spec, October 2, 2009, Răscăeți.	Euro-Mediterranean	hygrophilous, riparian, sylvicolous, humicolous.
8.	*Geostiba circellaris* (GRAVENHORST, 1806)	1 spec, May 17, 2010, Vîșcăuți; 3 specs, May 14, 2009, Răscăeți.	Holarctic	eurytopic, myrmecophilous.
9.	*Drusilla canaliculata* (FABRICIUS, 1787)	6 specs, March 30, 2010, Țîpova.	Palaearctic, North America (introduced)	xerophilous, myrmecophilous, phytodetriticolous.
10.	*Oxypoda opaca* (GRAVENHORST, 1802)	1 spec, October 8, 2009, Leuntea.	Transpalaearctic	eurytopic, sylvicolous, phytodetriticolous.
11.	*Parocyusa rubicunda* ERICHSON, 1837*	1 spec, October 8, 2009, Leuntea.	Russia, Europe, Kazakhstan, Uzbekistan	phytodetriticolous, hygrophilous, psammophilous.
12.	*Gyrophaena joyi* WENDELER, 1924	1 spec, October 16, 2008, Grădinița.	Euro-Meditarranean	eurytopic, sylvicolous, mycetophilous.
13.	*Oxypoda abdominalis* (MANNERHEIM, 1830)	1 spec, November 6, 2008, Grădinița.	Transpalaearctic	eurytopic, xerophilous.
14.	*Zyras haworthi* STEPHENS, 1832	1 spec, April 3, 2009, Grădinița.	Euro-Mediterranean	eurytopic, myrmecophilous, humicolous.
	Staphylininae LATREILLE, 1802			
15.	*Philonthus carbonarius* (GRAVENHORST, 1802)	1 spec, March 6, 2009, Grădinița; 1 spec, May 4, 2009, Leuntea.	Palaearctic, North America (introduced)	coprophilous, sylvicolous, humicolous, phytodetriticolous.
16.	*Philonthus corruscus* (GRAVENHORST, 1802)	1 spec, May 17, 2009, Holercani.	Transpalaearctic	eurytopic, coprophilous.
17.	*Philonthus decorus* (GRAVENHORST, 1802)	1 spec, May 4, 2009, Leuntea.	Transpalaearctic	eurytopic, humicolous, hygrophilous.
18.	*Othius punctulatus* (GOEZE, 1777)	1 spec, November 6, 2009, Grădinița.	Euro-Mediterranean	humicolous, muscicolous, sylvicolous, phytodetriticolous.
19.	*Quedius limbatus* (HEER, 1839)	1 spec, April 3, 2009, Grădinița.	West Palaearctic	humicolous, stenotopic, sylvicolous, hygrophilous.
20.	*Quedius suturalis* KIESENWETTER, 1845	1 spec, October 16, 2008, Grădinița.	European	humicolous, hygrophilous, eurytopic, sylvicolous.
21.	*Quedius nemoralis* BAUDI DI SELVE, 1848	1 spec, May 14, 2009, Răscăeți.	West Palaearctic	xerophilous, sylvicolous.
22.	*Quedius ochropterus* ERICHSON, 1840*	2 specs, October 8, 2009, Grădinița.	Euro-Mediterranean	muscicolous, sylvicolous, phytodetriticolous.
23.	*Quedius nitipennis* (STEPHENS, 1833)	1 spec, August 2, 2010, Tătărăuca Nouă.	Euro-Mediterranean	eurytopic, phytodetriticolous, humicolous, muscicolous, hygrophilous.
24.	*Heterothops niger* KRAATZ, 1868*	2 specs, October 29, 2009, Răscăeți.	European	phytodetriticolous, xerophilous.

	Oxytelinae FLEMING, 1821			
25.	*Platystethus cornutus* (GRAVENHORST, 1802)	1 spec, November 13, 2009, Vîşcăuţi.	Transpalaearctic, Afrotropical, Nearctic, Oriental	eurytoic, riparian, hygrophilous.
26.	*Anotylus rugifrons* (HOCHHUTH, 1849)	1 spec, May 14, 2009, Răscăeţi.	European	hygrophilous, coprophilous, phytodetriticolous.
27.	*Carpelimus corticinus* (GRAVENHORST, 1806)	1 spec, November 13, 2009, Lalova.	Palaearctic, Australian, Nearctic, Neotropical	eurytopic, hygrophilous, paludal, riparian, phytodetriticolous.
28.	*Carpelimus exiguus* (ERICHSON, 1839)	1 spec, October 8, 2009, Leuntea.	Palaearctic, Afrotropical, Australian, Oriental	stenotopic, riparian, phytodetriticolous, hygrophilous.
	Steninae MACLEAY, 1825			
29.	*Stenus ochropus* KIESENWETTER, 1858 = (*erichsoni* RYE, 1864)	1 spec, November 13, 2009, Vîşcăuţi; 1 spec, May 14, 2009, Leuntea; 1 spec, October 29, 2009, Răscăeţi.	Palaearctic	riparian, hygrophilous.
30.	*Stenus longipes* HEER, 1839	2 specs, August 2, 2010, Tătărăuca Nouă.	European	riparian, hygrophilous.
31.	*Stenus boops* LJUNGH, 1810	2 specs, May 17, 2010, Holercani.	Transpalaearctic	eurytopic, riparian, phytodetriticolous, hygrophilous.
32.	*Stenus proditor* ERICHSON, 1839	1 spec, March 30, 2010, Ţîpova.	Transpalaearctic	stenotopic, paludicolous, hygrophilous.
	Tachyporinae MACLEAY, 1825			
33.	*Lordithon exoletus* (ERICHSON, 1839)	1 spec, May 8, 2009, Grădiniţa.	Euro-Mediterranean	eurytopic, sylvicolous, mycetophilous.
34.	*Mycetoporus baudueri* MULSANT & REY 1875* (= *hellieseni* A. STRAND, 1950)	2 specs, May 14, 2009, 1 spec, October 29, 2009, Răscăeţi; 1 spec, October 8, 2009, Grădiniţa.	West Palaearctic	eurytopic, sylvicolous, mycetophilous.
35.	*Mycetoporus forticornis* FAUVEL, 1875	1 spec, October 16, 2008, Grădiniţa.	European	eurytopic, thermophilous, muscicolous, humicolous.
36.	*Mycetoporus eppelsheimianus* FAGEL, 1968 (= *brucki* auct. nec PANDELLE, 1869)	1 spec, April 3, 2009, Grădiniţa.	European	stenotopic, muscicolous, sylvicolous, humicolous.
37.	*Sepedophilus immaculatus* (STEPHENS, 1832)	1 spec, November 6, 2008, 1 spec, March 6, 2009, Grădiniţa.	Transpalaearctic, Oriental	humicolous, sylvicolous.
38.	*Sepedophilus testaceus* (FABRICIUS, 1793)	6 specs, May 8, 2009, Grădiniţa, 2 specs, October 8, 2009, Leuntea.	Holarctic	eurytopic, mycetophilous, phytodetriticolous, humicolous.
39.	*Sepedophilus marshami* (STEPHENS, 1832)	1 spec, November 6, 2008, 1 spec, April 3, 2009, 1 spec, May 8, 2009, Grădiniţa; 1 spec, May 20, 2009, Răscăeţi; 3 specs, October 8, 2009, Leuntea.	Palaearctic, North America (introduced)	eurytopic, mycetophilous, sylvicolous.
40.	*Sepedophilus obtusus* (LUZE, 1902)	1 spec, October 16, 2008, 1 spec, April 3, 2009, Grădiniţa; 1 spec, October 29, 2009, Răscăeţi.	Euro-Mediterranean	xerophilous, sylvicolous.
41.	*Tachyporus atriceps* STEPHENS, 1832	1 spec, November 13, 2009, Lalova; 1 spec, May 8, 2009, Grădiniţa; 1 spec, August 2, 2010, Tătărăuca Nouă.	Palearctic	eurytopic, muscicolous, riparian, hygrophilous.
42.	*Tachyporus hypnorum* (FABRICIUS, 1775)	1 spec, March 6, 2009, 2 specs, October 8, 2009, Grădiniţa; 1 spec, November, 13 2009, Lalova; 1 spec, March 30, 2010, Ţîpova; 2 specs, October 29, 2009, Răscăeţi; 1 spec, August 2, 2010, Tătărăuca Nouă.	Transpalaearctic	ubiquitous, muscicolous, phytodetriticolous, humicolous, hygrophilous.
43.	*Tachyporus nitidulus* (FABRICIUS,1781)	1 spec, November 6, 2008, 1 spec, March 6, 2009, 1 spec, October 8, 2009, Grădiniţa; 1 spec, October 8, 2009, Leuntea; 3 specs, October 29, 2009, Răscăeţi.	Cosmopolitan	ubiquitous, sylvicolous, hygrophilous, muscicolous, phytodetriticolous.
44.	*Tachyporus solutus* ERICHSON, 1839	1 spec, March 6, 2009, Grădiniţa.	Transpalaearctic	eurytopic, xerophilous, muscicolous, detriticolous.
45.	*Tachinus corticinus* GRAVENHORST, 1802	1 spec, April 3, 2009, Grădiniţa; 1 spec, May 20, 2009, Răscăeţi.	Palaearctic, North America (introduced)	ubiquitous, hygrophilous, phytodetriticolous.
	Paederinae FLEMING, 1821			
46.	*Leptobium dimidiatum* (GRIDELLI, 1926) * = *Dolicaon biguttulus* (LAC.)	1 spec, May 14, 2009, Leuntea.	Euro-Mediterranean	halophilous.
47.	*Rugilus subtilis* (ERICHSON, 1840)	1 spec, May 8, 2009, Grădiniţa.	European	sylvicolous, hygrophilous.
48.	*Scopaeus ryei* WOLLASTON, 1872*	1 spec, October 29, 2009, Răscăeţi.	European	xerophilous.

49.	*Sunius fallax* (LOKAY, 1919)	1 spec, October 16, 2008, Grădiniţa; 2 specs, October 8, 2009, Leuntea.	European	sylvicolous, hygrophilous.
50.	*Tetartopeus scutellaris* (NORDMANN, 1837)	1 spec, August 2, 2010, Tătărăuca Nouă.	Euro-Mediterranean	hygrophilous, riparian.
	Habrocerinae, MULSANT & REY 1877			
51.	*Habrocerus capillaricornis* (GRAVENHORST, 1806)	1 spec, November 6, 2008, 1 spec, May 8, 2009, Grădiniţa; 1 spec, October 8, 2009, Leuntea.	Palaearctic, Australian, Nearctic, Neotropical	eurytopic, mycetophilous, humicolous.

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.

Table 2. Percentage and taxonomic structure of stafylinids collected from the right side of the Dniester River, 2008-2010.
Tabel 2. Structura taxonomică şi procentuală a stafilinidelor colectate de pe malul drept al Nistrului, 2008-2010.

No.	Subfamilies	No. of species	%	No.	Subfamilies	No. of species	%
1.	Euaestetinae	1	1.96	6	Steninae	4	7.84
2.	Omaliinae	3	5.88	7	Tachyporinae	13	25.49
3.	Aleocharinae	10	19.61	8	Paederinae	5	9.81
4.	Staphylininae	10	19.61	9	Habrocerinae	1	1.96
5.	Oxytelinae	4	7.84	**Total**	**9**	**51**	**100**

CONCLUSIONS

The staphylinid beetles collected from the right side of the Dniester River belong to 9 subfamilies, 31 genera and 51 species. The species list of this family in the Republic of Moldova was supplemented by 9 species.The examined zone Transpalaearctic, Euro-Mediterranean, European and Palaearctic staphylinid species prevailed. The identified rove beetles belong to the following ecological categories: coprophilous, eurytopic, hygrophilous, humicolous, muscicolous, mycetophilous, myrmecophilous, paludal, phytodetriticolous, psammophilous, riparian, stenotopic, sylvicolous, thermophilous, xerophilous.

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Derunkov Alexander
Scientific-Practical Center of the National Academy of Sciences
of Belarus for biological resources, Akademicheskaia Str. 27, 220072 Minsk, Belarus
E-mail: alex_derunkov@tut.by

Bacal Svetlana
Institute of Zoology, Academy of Sciences of Moldova Academy Str. 1,
2028 Chişinău, Republic of Moldova
E-mail: svetabacal@yahoo.com

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