

DATA REGARDING THE PRESENCE OF THE FAMILIES DYTISCIDAE AND HYDROPHILIDAE (INSECTA: COLEOPTERA) IN THE ENTOMOLOGICAL FAUNA OF OLTENIA (ROMANIA) (I)

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Abstract. This paper introduces in the scientific informational circuit new data regarding the presence of the species from Dytiscidae and Hydrophilidae families (Insecta: Coleoptera) in the entomological fauna of Oltenia (Romania). We analyzed 150 specimens collected during the years 1951-2004 by the specialists of the Natural Science Department of the Museum Oltenia Craiova, from 14 collection sites mostly from Dolj County.

Keywords: new data, Dytiscidae, Hydrophilidae, Craiova Oltenia Museum patrimony, fauna of Oltenia.

Rezumat. Date privind prezența familiilor Dytiscidae și Hydrophilidae (Insecta: Coleoptera) în fauna entomologică a Olteniei (România) (I). Lucrarea de față introduce în circuitul informational date noi privind prezența speciilor din familiile Dytiscidae și Hydrophilidae (Insecta: Coleoptera) în fauna entomologică a regiunii Oltenia (România). Am studiat 150 indivizi colectați între anii 1951-2004 de către specialiști ai Serviciului de Științele Naturii a Muzeului Olteniei Craiova, din 14 situri de colectare, majoritatea fiind din județul Dolj.

Cuvinte cheie: date noi, Dytiscidae, Hydrophilidae, patrimoniul Muzeului Olteniei Craiova, fauna Olteniei.

INTRODUCTION

The order Coleoptera is the largest order of insects, which are characterized by the presence of a particular anatomic feature, namely the elytra.

The representatives of Dytiscidae family are aquatic coleopterans and they are common in all ponds; the family Hydrophilidae consists mostly of freshwater beetles, but some of the representatives are terrestrial and live in manure from livestock (IONESCU et al., 1971).

In this paper the author has scientifically processed data of 150 individuals and present new data regarding the presence of the Dytiscidae and Hydrophilidae families, species preserved in the patrimony of the Oltenia Museum, Craiova.

The material was collected by the specialists of the Natural Science Section of the Oltenia Museum, Craiova from Oltenia area, from Dolj and Gorj counties (Fig. 1) between the years 1951 and 2004.

The data provided by the species of the collection were published in several papers (MARCUS, 1928; FIRU, 1982; BOBÎRNAC et al., 1999; CHIMIȘLIU, 2008).

The present paper is a synthesis and intends to introduce in the scientific informational circuit new data regarding the presence of Dytiscidae and Hydrophilidae families in the fauna of Oltenia.

MATERIALS AND METHODS

The analyzed material is represented by 150 individuals preserved in the entomological collections of the museum. The material presented in the paper was collected by the specialists of the Natural Department of the Museum of Oltenia Craiova, during the years 1951-2004 (April - August) from two counties - Dolj and Gorj, from 14 sites (Table 1). The material was collected from of aquatic ponds, lakes etc. Throughout time, ecosystems have undergone changes due to human intervention and climate changes in recent years. The species identification was made by Firu Ion, Cornelia Chimișliu and the determinations were reviewed by Mircea Ienișteștea and Nicolae Săvulescu.

The used nomenclature and the systematics are according to Fauna Europea.

The paper includes the list of species with date of collection, specialists who have collected the material with the abbreviations used in text and a list of the collection sites.

The species are presented in the alphabetical order. For every species, there are rendered the collection sites in the alphabetical order, dates of collection are expressed in chronological order and the collectors' names.

The families, subfamilies, tribe, and species are arranged in alphabetical order.

Names of the collectors (legit.): Bazilescu Elena = B.E., Chimișliu Cornelia = C.C., Dragomir = D., Dumitrescu V. = D. V., Firu Ioan = F. I., Păduraru Galina = P.G., Păunescu Irina = P.I., Popescu M. = P. M., Vasilescu = V., Vasiliu I. = V.I., Zaharia Paul = Z.P.

RESULTS AND DISCUSSIONS

Following data processing (150 specimens), there were identified 12 species belonging to two families: family Dytiscidae with 89 specimens and eight species, and 61 specimens belonging to the family Hydrophilidae with four species.

The species of Family Dytiscidae belong to three subfamilies (Agabinae, Colymbetinae, and Dytiscinae), while the Family Hydrophilidae presents a single subfamily - Hydrophilinae (Table 3, Fig. 2).

Below, we present the identified species, in alphabetical order, the sites - in alphabetical order, date of collection in chronological order, and the collectors (Table 2). The species distribution in the two families is shown in Table 3 and most specimens were collected in the city of Craiova, then from Rânca, Bistreț, Ciuperceni, Desa, Leamna sand Verbicioara (Table 4).



Figure 1. The map of Oltenia area with Dolj and Gorj counties and the sites of collecting. / Figura 1. Harta Olteniei cu județele Dolj și Gorj și siturile de colectare.

Table 1. Collection sites and dates. Tabel 1. Situri și date de colectare.

No.	City / County	Data collection
1	Bălănești (Gorj)	July 17, 1979
2	Bistreț (Dolj)	June 2, 1967
3	Craiova (Dolj)	May 5, 1964 - August 20, 1979
4	Craiova – Craiovița Nouă (Dolj)	April 8, 1951
5	Craiova - Obedeanu (Dolj)	June 7, 1974
6	Craiova-Plaiul Vulcănești (Dolj)	May 8, 1967
7	Cleanov (Dolj)	July 10, 1951
8	Ciuperceni (Dolj)	July 31, 1968, June 1, 2004
9	Desa (Dolj)	August 4, 2001- August 10, 2001
10	Leamna (Dolj)	April 13, 1962
11	Plenița (Dolj)	June 17, 1958
12	Rânca (Gorj)	August 22, 1963- August 25, 1963
13	Rast (Dolj)	June 4, 1967
14	Tg. Logrești (Gorj)	July 10, 1975

Table 2. General data on the collection material. Tabel 2. Datele generale asupra colectării materialului.

No.	Taxa (subfamilies, tribes, species)	New data	
Family DYTISCIDAE			
Subfamily Agabinae			
Tribe Agabini			
1	<i>Agabus (Gaurodytes) nebulosus</i> (FORSTER 1771)	Craiova - July 10, 1951, legit. F.I.	
2	<i>Agabus (Gaurodytes) melanarius</i> (AUBE 1837)	Cleanov - 40 specs. July 10, 1951, legit. F.I. Craiova - June 30, 1951, legit. F.I. Craiova - June 22, 1958, legit. F.I.	Craiova - June 20, 1957, legit. G. P. Leamna - April 13, 1962, legit. P. M. Verbicioara - 23 specs. July 8, 1952, legit. F.I.
Subfamily Colymbetinae			
Tribe Colymbetini			
3	<i>R. (Rhantus) bistriatus</i> (BERGSTRASSER 1778)	Craiova - 22.06.1958, legit. G. P.	
Subfamily Dytiscinae			
Tribe Cybistrini			
4	<i>Cybister (Scaphinectes) lateralmarginalis</i> (DE GEER 1774)	Craiova - July 10, 1964, legit. F.I. Craiova - July 16, 1964, legit. F.I. Craiova - 5 specs. August 10, 1964, legit. F.I. Craiova - June 27, 1965, legit. F.I. Craiova – September 10, 1966, legit. F.I.	Craiova - March 25, 1968, legit. F.I. Craiova - July 10, 1968, legit. F.I. Craiova - July 25, 1968, legit. F.I. Desa - August 10, 2001, legit. C.C.
5	<i>Cybister laterimarginalis</i> (DE GEER 1774)	Bistreț - 4 specs. June 2, 1967, legit. P. M. Ciuperceni - July 31, 1968, legit. B. E. Craiova-Craiovița Nouă, April 8, 1951, legit. F.I. Craiova - May 6, 1960, legit. F.I. Craiova - April 20, 1966, legit. V.	Craiova - June 6, 1967, legit. P. M. Craiova - September 18, 1969, legit. B. E. Craiova - March 28, 1968, legit. I. P. Rast - June 4, 1967, legit. P.Z.
Tribe Dytiscini			
6	<i>Dytiscus marginalis</i> (LINNAEUS 1758)	Craiova - Plaiul Vulcănești, May 8, 1967, legit. P.M. Ciuperceni - June 1, 2004, legit. C.C. Desa - August 4, 2001; August 10, 2001, legit. C.C. Plenița - June 17, 1958, legit. F.I.	
Tribe Hydaticini			
7	<i>Hydaticus (Guignotites) grammicus</i> (GERMAR 1830)	Craiova - 2 specs. June 22, 1958, legit. G. P. Craiova - August 1, 1970, legit. F.I. Craiova - August 20, 1979, legit. F.I. Verbicioara - July 8, 1952, legit. F.I.	
8	<i>Hydaticus (Hydaticus) transversalis</i> (PONTOPPIDAN 1763)	Craiova - June 22, 1958, legit. G.P.	

Family HYDROPHILIDAE Subfamily Hydrophilinae			
Tribe Hydrophilini			
9	<i>Hydrochara (Hydrophilus) caraboides</i> (LINNAEUS 1758)	Craiova Obedeau - June 7, 1974, legit. F.I.	
10	<i>Hydrochara flavipes</i> (STEVEN 1808)	Craiova - 4 specs. May 28, 1964, legit. F.I. Craiova - 2 specs. July 5, 1966 legit. F.I. Craiova - 2 specs. July 10, 1966 legit. F.I.	Craiova - 2 specs. August 1, 1970 legit. F.I. Craiova - 2 specs. May 10, 1967 legit. F.I.
11	<i>Hydrophilus (Hydrophilus) piceus</i> (LINNAEUS 1758)	Bistreț - 8 specs. June 2, 1967 legit. P.M. Craiova - April 14, 1956, legit. F.I. Craiova - November 2, 1961, legit. F.I. Craiova - June 10, 1962, legit. P.G. Craiova-3 specs. July 10, 1964, legit. F.I. Craiova - August 10, 1964, legit. F.I. Craiova - 2 specs. July 15, 1964, legit. F.I. Craiova - July 10, 1964, legit. F.I. Craiova - June 26, 1964, legit. F.I. Craiova - 1965, legit. F.I. Craiova - April 20, 1966, legit. V.I. Craiova - May 16, 1967, legit. D.	Craiova - 3 specs. July 30, 1967, legit. P. Z. Craiova - April 1, 1968, legit. V. D. Craiova - 6 specs. June 27, 1968, legit. I.P. Craiova - 4 specs. February 27, 1968; April 12, 1969, legit. E.B. Craiova - 4 specs. July 10, 1964, legit. F.I. Craiova - 2 specs. July 15, 1964, legit. F.I. Craiova - July 2, 1964, legit. F.I. Leamna - May 16, 1969, legit. P.M..
Tribe Sphaeridiini			
12	<i>Sphaeridium lunatum</i> (FABRICIUS 1792)	Rânca - August 22, 1963, legit. F.I. Rânca - August 24, 1963, legit. F.I.	Rânca - 2 specs. August 25, 1963, legit. F.I.

Table 3. Taxonomic classification of species.
Tabel 3. Incadrarea taxonomică a speciilor.

No.	Families	Subfamilies	Tribe	Genera	Subgenera	No. of species	No. of specs.
1	Dytiscidae	Agabinae	Agabini	Agabus	Gaurodytes	3	68
		Colymbetinae	Colymbetini	Rhantus	Rhantus	1	1
		Dytiscinae	Cybistrini	Cybister	Scaphinectes	1	9
			Dytiscini	Dytiscus		1	5
			Hydaticini	Hydaticus	Guignotites	1	5
				Hydaticus	Hydaticus	1	1
2	Hydrophilidae	Hydrophilinae	Hydrophilini	Hydrophilus	Hydrophilus	1	44
				Hydrochara		2	13
			Sphaeridiini	Sphaeridium		1	4
	Total	4	7	8	7	12	150

After we analyzed the material, we found that most specimens belong to the family Dytiscidae.

Table 4. Frequency of collection sites.
Tabel 4. Frecvența siturilor de colectare.

No.	Collection Sites	No. collecting dates
1	Bistreț	2
2	Ciuperceni	2
3	Cleanov	1
4	Craiova	45
5	Craiova – Craiovița Nouă (Dolj)	1
6	Craiova - Obedeau (Dolj)	1
7	Craiova-Plaiul Vulcănești (Dolj)	1
8	Desa	2
9	Leamna	2
10	Plenița	1
11	Rast	1
12	Rânca	3
13	Verbicioara	2

Table 5. Dominant of the specimens along the months of the year.

Tabel 5. Dominanța exemplarelor de-a lungul lunilor anului.

No.	Months	Frequency
1	February	1
2	March	2
3	April	7
4	May	7
5	June	16
6	July	18
7	August	10
8	September	2
9	November	1
	Total	64

After analyzing data collection, we found that in July were collected most specimens, followed by June, August, May, April etc. (Table 5).

In the consulted literature, there were reported the following taxons: two families, four subfamilies, seven tribes, eight genera, seven subgenera and 12 species, namely: *Agabus (Gaurodytes) biguttatus* (OLIVIER 1795) = *nitidus* (FABRICIUS 1801) – Bahna, *A. nitidus* var. *nigricollis* ZOUHK – Bahna, *A. (Acatodes) congener* (THUNBERG 1794) – Crângu, *Rhantus (Rhantus) notaticollis* (AUBE 1837), *Helephorus griseus* HERBST. – Bahna, *Hidrous piceus* L., *Hydrophilus (Hydrophilus) piceus* (LINNAEUS 1758) - Vârciorova, *Sphaeridium scarabaeoides* (LINNAEUS 1758) - Gura

Văii, *S. lunatum* (FABRICIUS 1792) - Gura Văii, *S. bipustulatum* F. - Gura Văii, *S. substriatum* (FALDERMANN 1838) - Gura Văii, *S. bipustulatum* (FABRICIUS 1781) = *daltoni* (STEPHENS 1829) - Gura Văii, *Cryptopleurum crenatum* (KUGELANN 1794) – Bahna, *Hydrochara flavipes* (STEVEN 1808) – Murgăși (MARCU 1928).

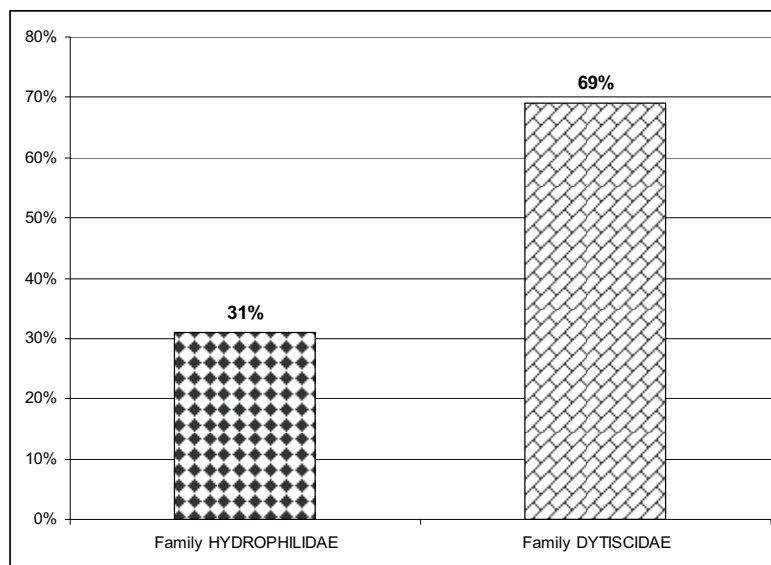


Figure 2. Distribution of species in families.

Figura 2. Distribuția speciilor în familii.

This paper joins the efforts of the specialists who contributed to the knowledge of the entomofauna diversity, taking into account the fact that, though insects have an important role as number of species and individuals in the animal kingdom and contribute to the maintenance of the biological balance of the ecosystems, they are often underestimated, many groups of insects and large areas being unstudied and unknown for experts.

CONCLUSIONS

Starting in spring (April, May) and continuing predominantly in summer (July, June, August), collections were made and in autumn - winter (October, November). Most collections were made in July and June, because in this months stages of adult development.

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