

AQUATIC AND SEMIAQUATIC BUGS (HETEROPTERA: NEPOMORPHA, GERROMORPHA) PRESERVED IN THE OLTENIA MUSEUM CRAIOVA

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Abstract. The collection of aquatic and semiaquatic Heteroptera preserved in the Oltenia Museum Craiova is investigated. The material is represented by 146 specimens belonging to 6 families, 9 genera and 11 species. Eight of the species are mentioned for the first time in the fauna of Oltenia.

Keywords: aquatic bugs, museum collections, *Notonecta*, *Velia*, Romania, true bugs.

Rezumat. Ploșnițe acvatice și semiacvatice (Heteroptera: Nepomorpha, Gerromorpha) conservate în Muzeul Olteniei Craiova. Colecția de Heteroptere acvatice și semiacvatice conservate în Muzeul Olteniei Craiova este investigată. Materialul reprezentat printr-un număr de 146 de exemplare aparține la șase familii, nouă genuri și 11 specii. Opt dintre speciile sunt semnalate pentru prima dată în fauna Olteniei.

Cuvinte cheie: ploșnițe acvatice, colecții muzeale, *Notonecta*, *Velia*, România.

INTRODUCTION

Very little information has been published regarding aquatic and semiaquatic bugs (Heteroptera: Nepomorpha, Gerromorpha) preserved in the Romanian museums. However, natural history museums preserve this kind of material in small or large entomological collections, representing a valuable database for entomologists (SLATER, 1960; KMENT & KOLÍNOVÁ, 2013).

In Romania, SINKIEWICZ (1964) presented data concerning A. L. Montandon's collection preserved at the „Grigore Antip” a Natural History Museum in Bucharest and SCHNEIDER (1973) has published a Catalogue of the collections preserved in the Natural History Museum Sibiu. Heteropterous related material kept in these collections partially reflects the fauna of the area it was collected from.

Oltenia is one of the Romanian historical provinces, being administratively formed by five counties: Dolj, Gorj, Mehedinți, Olt and Vâlcea. It is located between the Southern Carpathians at north and north-west, the Olt River at east and the Danube at south and south-west. At present, water bug fauna of this region is little known compared to Transilvania, Moldova or Dobrogea (PAINA, 1975; DAVIDEANU, 1999; ILIE, 2009; BERCHI, 2013).

The establishment of the entomological heritage of the Natural Sciences Department of the Oltenia Museum Craiova has started in 1951. Nowadays, it exceeds 54,000 pieces and preserves species of at least 18 insect orders, collected especially from Oltenia. The biggest percent is held by Coleoptera followed by Lepidoptera. Heteroptera, including terrestrial species, it is also very well represented, but it has been not scientifically valued yet.

The purpose of this paper is to introduce in the scientific network the information regarding aquatic and semiaquatic Heteroptera, collected along the years by various museum specialists of the Natural Sciences Department of the Oltenia Museum Craiova.

MATERIAL AND METHODS

The material examined is represented by 146 specimens of aquatic and semiaquatic Heteroptera, collected by the department specialists during 1951-2013, in Oltenia.

To identify the specimens we used the work of the following authors: POISSON (1957), TAMANINI (1979), JANSSEN (1986), SOÓS et al. (2009). The systematic order and the nomenclature follow AUKEMA & RIEGER (1995).

For each species, the material examined has been recorded and the following information specified: location, collecting dates, number of specimens and the collector. Locations are presented in alphabetical order, classified by county; collecting information is organized chronologically.

Abbreviations of the collectors: E. B. = Elena Bazilescu, C. C. = Cornelia Chimișliu, I. F. = Ioan Firu, I. P. = Irina Păunescu, P. Z. = Paul Zaharia.

Counties acronyms: DJ = Dolj, GJ = Gorj, MH = Mehedinți, VL = Vâlcea.

RESULTS

Following processing of the material, 11 species were identified out of approximately 70 species mentioned until now in Romania (PAINA, 1975; DAVIDEANU, 1999; ILIE & DAVIDEANU, 2002; BERCHI, 2011, 2013; BERCHI et al., 2012). They belong to 6 families, 7 subfamilies and 9 genera.

The material was collected from 14 different sampling sites, in four counties of the region.

Sampling sites: Amărăștii de Jos (DJ), Bălănești (GJ), Bucovăț (DJ), Cheile Sohodol (GJ), Crângu (VL), Craiova (DJ), Desa (DJ), Guțu (MH), Leamna (DJ), Menții din Față (MH), Podari (DJ), Poiana Mare (DJ), Secui (DJ), Șimnic (DJ).

List of species:

Infraorder **NEPOMORPHA** Popov 1968
Family **NEPIDAE** Latreille 1802
Subfamily **Nepinae** Latreille 1802
Genus *Nepa* Linnaeus 1758

Nepa cinerea Linnaeus 1758

Material examined: **DJ** – Craiova, 14.VIII.1967, 2 specs., leg. P. Z.; Desa, 10.VIII.1981, 6 specs., leg. C. C.; Secui, 26.IV.2008, 1 spec., leg. C. C.; **MH** – Menții din Față, 22.III.1968, 1 spec., leg. P. Z.

Note. First record for Oltenia.

Subfamily **Ranatrinae** Douglas & Scott 1865
Genus *Ranatra* Fabricius 1790
Subgenus *Ranatra* s. str.

Ranatra (Ranatra) linearis (Linnaeus 1758)

Material examined: **DJ** – Desa, 10.VIII.1981, 1 spec., leg. C. C.

Note. First record for Oltenia.

Family **CORIXIDAE** Leach 1815
Subfamily **Corixinae** Leach 1815
Genus *Corixa* Geoffroy 1762

Corixa punctata (Illiger 1807)

Material examined: **DJ** – Podari, 21.VII.1967, 1 spec., leg. P. Z.

Note. First record for Oltenia.

Genus *Sigara* Fabricius 1775
Subgenus *Pseudovermicorixa* Jaczewski 1962

Sigara (Pseudovermicorixa) nigrolineata nigrolineata (Fieber 1848)

Material examined: **GJ** – Cheile Sohodol, 22.VII.1996, 3 specs., leg. C. C.

Note. First record for Oltenia.

Family **NAUCORIDAE** Leach 1815
Subfamily **Naucorinae** Leach 1815
Genus *Ilyocoris* Stål 1861

Ilyocoris cimicoides cimicoides (Linnaeus 1758)

Material examined: **DJ** – Desa, 10.VIII.1981, 1 spec., leg. C. C.

Note. First record for Oltenia.

Family **NOTONECTIDAE** Latreille 1802
Subfamily **Notonectinae** Latreille 1802
Genus *Notonecta* Linnaeus 1758

Subgenus *Notonecta* s. str.

Notonecta (Notonecta) glauca glauca Linnaeus 1758

Material examined: **DJ** – Bucovăț, 12.VI.1980, 1 spec., leg. C. C.; Cheile Sohodol, 22.VII.1996 7 specs., leg. C. C.; Desa 10.VIII.1981, 34 specs., leg. C. C.; Poiana Mare, 10.VIII.1981, 33 specs., leg. C. C.; Șimnic, 15.V.1980, 2 specs., leg. C. C.; **GJ** – Bălănești, 12.VII.1977, 2 specs., leg. E. B.; **MH** – Guțu, 5.IX.1967, 1 spec., leg. P. Z.

Notonecta (Notonecta) meridionalis Poisson 1926

Material examined: **DJ** – Cheile Sohodol, 22.VII.1996, 4 specs., leg. C. C.; **MH** – Guțu, 5.IX.1967, 2 specs., leg. P.Z.

Note. Second record for Oltenia. Third record in Romania (BERCHI, 2013; BERCHI et al., 2012).

Notonecta (Notonecta) viridis Delcourt 1909

Material examined: **DJ** – Amărăștii de Jos, 17.VII.1969, 1 spec., leg. I. P.; Cheile Sohodol, 22.VII.1996, 3 specs., leg. C. C.; Craiova, 10.VII.1951, 6 specs., leg. I. F.; Desa, 10.VIII.1981, 1 spec., leg. C. C.; Poiana Mare, 10.VIII.1981, 3 specs., leg. C. C.; **MH** – Guțu, 5.IX.1967, 17 specs., leg. P. Z.

Infraorder **GERROMORPHA** Popov 1971

Family **GERRIDAE** Leach 1815

Subfamily **Gerrinae** Leach 1815

Genus *Aquarius* Schellenberg 1800

Aquarius paludum paludum (Fabricius 1794)

Material examined: DJ – Desa, 10.VIII.1981, 6 specs., leg. C. C.

Note. First record for Oltenia.

Genus *Gerris* Fabricius 1794

Subgenus *Gerris* s. str.

Gerris (Gerris) thoracicus Schummel 1832

Material examined: DJ – Leamna, 21.VIII.1980, 1 spec., leg. C. C.

Note. First record for Oltenia.

Family **VELIIDAE** Brullé 1836

Subfamily **Veliinae** Brullé 1836

Genus *Velia* Latreille 1804

Subgenus *Plesiovelia* Tamanini 1955

Velia (Plesiovelia) saulii Tamanini, 1947

Material examined: VL – Crîngu, 18.VI.1951, 6 specs., leg. I. F.

Note. First record for Oltenia. Third record in Romania (KECSKÉS, 1997; DAVIDEANU et al., 2000).

DISCUSSIONS

These are the first published data on aquatic and semiaquatic Heteroptera preserved in the Oltenia Museum Craiova that certifies the presence of 11 species in the fauna of Oltenia. Regarding aquatic and semiaquatic Heteroptera fauna of this region, by consulting the literature we found out references for 6 species of the group. Three of these species are also found in the Oltenia Museum collections: *Notonecta glauca glauca*, *N. meridionalis* and *N. viridis*. The other three species are *Hesperocorixa sahlbergi* Fieber 1848, *Plea minutissima minutissima* Leach 1817 and *Velia currens* Fabricius 1794 (HORVÁTH, 1877; 1897; KIS et al., 1974; PAINA, 1975). However, according to BERCHI & KMENT (in press.), *V. currens* does not occur in Romania; all the old records of this species in Romania refer to other species. Therefore, it is obvious that this area was neglected over time by entomologists, and further studies are necessary for an accurate evaluation of the true water bug fauna of the region.

Except *Notonecta meridionalis*, most of the aquatic and semiaquatic Heteroptera preserved in the Oltenia Museum Craiova are relatively common species in Romania (DAVIDEANU, 1999; BERCHI, 2013). *N. meridionalis* was recently recorded for the first time in two localities in southern Romania: Svinița (Mehedinți) (BERCHI et al., 2012) and Negrești (Argeș) (BERCHI, 2013). At present, *V. saulii* is known only from Crișana and Transilvania. It was recorded in Aleșd, Drăgan's Valley (Bihor) and Șaula (Cluj) (KECSKÉS, 1997), and also in Aiud (Alba) (DAVIDEANU et al., 2000). However, data regarding Veliidae in Romania are few and problematic, but according to BERCHI & KMENT (in press.) among Veliinae, *V. saulii* has the widest distribution in Romania and also in Europe (ANDERSEN, 1995).

CONCLUSIONS

Even if the data are few and they are obtained from scattered samples, they improve the knowledge of the distribution of these insects in Romania. Given that so far only 6 species were known in this region, this paper might represent a reference point for future research. Although species such as *Notonecta meridionalis* and *Velia saulii* were recently mentioned in Romania (KECSKÉS, 1997; BERCHI et al., 2012) they existed since decades ago in the Oltenia Museum collections. This highlights once again the importance of studying museum collections.

Currently, in the fauna of Oltenia, 14 species of aquatic and semiaquatic Heteroptera are known, most of them being common.

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