

First record of *Anisops sardeus* (Hemiptera: Heteroptera: Notonectidae) in Romania

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Abstract. Two adult specimens of *Anisops sardeus sardeus* Herrich-Schaeffer 1849 were collected in a small pond during an inventory campaign of aquatic and semiaquatic Heteroptera in the North-East of Romania. The species is widespread in tropical and subtropical Africa and South-West Asia, but in Europe it is limited to the Mediterranean zone. Here, the species is recorded for the first time in Romania.

Key words: *Anisops sardeus*; Heteroptera; new record; Notonectidae; Romania.

In Romania, the first data on water bugs Heteroptera were published by Fuss (1853, 1855). Recently, entomologists such as Paina (1975), Davideanu et al. (2004) and Ilie (2009, 2010) have also made faunistic contributions. However, data referring to the occurrence of true bugs in Romania are sparse and majority being faunistic (Kecskés 1997). No species of the genus *Anisops* Spinola 1837 has been recorded from Romania until now.

Anisops sardeus sardeus Herrich-Schaeffer 1849 (Fig. 1) belongs to the infraorder Nepomorpha, family Notonectidae, and subfamily Anisopinae (Polhemus 1995). The representatives are quite unlike *Notonecta* Linnaeus 1758 species, which is the only genus of Notonectidae recorded from Romania so far. *Anisops s. sardeus* can be recognized according to the following characters: coloration of body yellow; body length 8.5-9 mm, distinctly smaller than in *Notonecta* but larger than in other Mediterranean *Anisops*; male frons with large conical protuberance of one-half to one third of the width of the eye in lateral view; the foreleg of the male and particularly the tibia and tarsus have a species-specific chaetotaxy; viewed from above, the outline of the head of the female is rounded; the foretibiae have two tarsal joints (Brooks 1951, Tamanini 1979). The identification of female *Anisops* is often difficult to obtain when more species co-occur (Poisson 1957). Regarding the mating behavior, species of Anisopinae stridulate, contrary to Notonectinae, where the female is found visually by the male (Papáček 2001). *Anisops* species live in fresh and salt water ponds, lakes and springs with aquatic vegetation, but *A. sardeus* is adapted to marine life as well (Brooks 1951). The small-bodied backswimmer is found in temporary pools (Lahr et al. 1999) and also in permanent

pools (Barry 1997).

Anisops s. sardeus has a wide distribution including tropical Africa, Arabian peninsula, Transcaucasia, Iran, Iraq, Turkmenistan, India and Burma as well as the Mediterranean countries (Polhemus 1995, Protić 1998, Katbeh et al. 2000, Linnavuori & Hosseini 2000, Fent et al. 2011, Kment & Beran 2011, Linnavuori et al. 2011). Recently the species has been reported from southern Russia and Hungary (Khatukhov et al. 2008, Soós et al. 2010). The second subspecies, *Anisops sardeus madagascariensis* Poisson 1937 is endemic to Madagascar (Polhemus 1995).

In September 1 2010, during an inventory campaign of aquatic and semiaquatic Heteroptera in Vânători Neamț Natural Park (47°15'07" N / 26°14'36" E; 469 m altitude) in North-East of Romania, two individuals of *Anisops s. sardeus* (1♂ and 1♀) were collected in a pond. The pond contained scattered *Juncus* and *Typha* vegetation as well as other aquatic and semiaquatic macrophytes. Average depth of water was cca. 30 cm. The species which were collected along with *A. sardeus* were *Microvelia reticulata* (Burmeister 1835) (Veliidae), *Sigara nigrolineata* (Fieber 1848), *Corixa punctata* (Illiger 1807) (both Corixidae), *Gerris odontogaster* (Zetterstedt 1828), *G. thoracicus* (Schummel 1832) and *Limnoporus rufoscutellatus* (Latreille 1807) (all Gerridae).

Body measurements were: length ♂ 8.9 mm, ♀ 8.9 mm; width of the largest abdominal segment ♂ 2 mm, ♀ 2.1 mm; width of pronotum ♂ 1.8 mm, ♀ 1.9 mm.

Thus far, only *Notonecta glauca* Linnaeus 1758, *Notonecta viridis* Delcourt 1909 and *Notonecta lutea* Muller 1776 were listed from Romania (Ilie 2009), but other common European species of *Notonecta*

may well be discovered in the country. The record of *A. sardeus* is interesting from a zoogeographical point of view, since it is the northernmost observation in Europe. More records are necessary to evaluate if this is only an incidental occurrence or part of a trend of northward spreading of the species. Such a shift of the distribution range to the north was recently observed in the Pannonian lowland and Central Europe, and referred to as mediterrization (Rabitsch 2008).

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Figure 1. *Anisops sardeus sardeus*: A) male; B) female; C) male foreleg.

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