# CONTRIBUTIONS TO SPECIES KNOWLEDGE OF *AMPELISCA* GENUS AT THE BLACK SEA ROMANIAN LITTORAL

Adrian Teaca * and Marian-Traian Gomoiu
1National Institute of Geology and GeoEcology - GeoEcoMar, Constanta Branch, 304 Mamaia Bvd., RO-900581 Constanta, Romania - adrianxteaca@yahoo.com

**Abstract**
Based on the detailed analysis of a huge material collected on the sedimentary bottoms (1-25 m depths) from the Romanian continental shelf during the period 2005-2006, the authors establish, for the first time in the Black Sea, the presence of the amphipod *Ampelisca sarsi*. The paper brings some arguments, which prove the presence on the shallow sedimentary bottoms of the Romanian shelf, of the species *A. sarsi*, which probably had been incorrectly identified before (unfortunately, checking material was not possible, due to the absence of any amphipod collections in the past decades).
*Keywords : Crustacea, Biodiversity, Black Sea.*

In the latter half of the 20th century the Black Sea benthos fauna was relatively well studied, considering particularly the spreading and abundance of populations. With rare exceptions, the issues of systematics were in the background, at that time researchers making use of the few existing identification books, taking the information from the predecessors and keeping the species nomenclature. This situation requires the revision of almost all groups of organisms in the Black Sea. The case analysed in this paper refers to the crustacean amphipod genus *Ampelisca*.
Ampeliscidae represents the genus prevailing in the benthic communities dwelling the sedimentary substrata from the temperate region up to the polar one. In the Black Sea, four species were identified: *Ampelisca diadema*, A. ( *aff. spinipes*) [1], *A. pseudospinimana* (Turkish littoral) and *A. brevicornis* (Bulgarian littoral). The presence of the *A. diadema* was signalled for the majority of sectors, the rest of species having a strictly limited distribution. The high numerical abundance of the genus populations in the Black Sea, comparable with that of the populations formed by similar species living the European seas, as well as its spreading up to the oxic/anoxic zone, compensates for its reduced diversity.
Analysing some *Ampelisca specimens* from the shallow Romanian waters and comparing the results with the data of the literature, a few differences regarding the external morphologic features were observed: form of cephalic extremity, length and number of articles of AI, form of telson, presence and disposition of setae on the surface of each lobe.
It was established that all the more than 1 000 individuals collected in the Romanian littoral inshore waters (1 to 25 m depths), pertained to the *Ampelisca sarsi* (Chevreux, 1888), not to *Ampelisca diadema* as it had been quoted before.
A simple analysis of the species shows important differences comparatively with the classic species quoted at the Romanian littoral - *A. diadema*. The main elements, differentiating the two species are (Table 1) [2].

Tab. 1. Identifications elements of the species *A. diadema* and *A. sarsi.*

| Identification features | *Ampelisca diadema* | *Ampelisca sarsi* |
|---|---|---|
| Cephalic part (female) | Oblique truncate | Elongated and narrower in anterior part |
| Length AI (female) | = or > then peduncle AII | < then peduncle AII |
| Number of articles flagellum AI (female) | 14 | 4 - 5 |
| Telson (female) | Elongated, devoid setae on dorsal surface with 4 pairs of distal and subdistal small spines | Triangular with 2-3 simple small setae on the surface of each lobe, 2 pairs of plumose setae disposed lateral-basal and 1distal spine for each lobe |

However, some external morphologic features of the individuals from the northern sector in front of the Danube Delta and Constanta - Eforie Nord present a few differences comparatively with the species described for the Mediterranean Sea. The individuals collected from the southern sector (Mangalia) totally correspond to the classic description, without evident morphologic differences. The differences identified at the individuals collected in Sf.Gheorghe - Constanta and Eforie Nord areas consist in: variation in number of flagellum articles from antenna I (5-8); presence of different number (among 2 and 4 pairs) of setae and distal and subdistal spines of telson comparatively with only 1 of the Mediterranean species; existence of minor differences between morphology of uropod U3 of female and male (both sexes have plumose setae); both female and male have always 2 pairs of plumose setae on lateral-basal part of the telson, and 2-3 pairs simple setae on dorsal surface (Fig. 1).

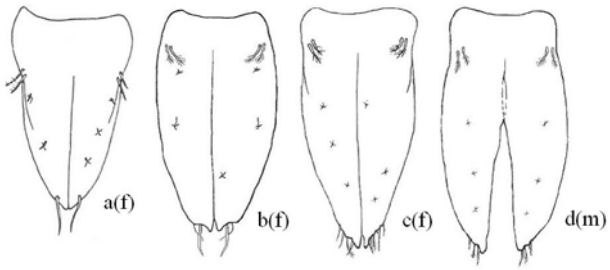


Fig. 1. Morphologic variation of telson at *Ampelisca sarsi* (a - female (f) from Mediterranean Sea [2]; b - female for Romanian southern sector (Mangalia); c, d - female and male (m) for Romanian northern sector (Sf.Gheorghe - Constanta) (original).

The issue of replacement of *A. diadema* with *A. sarsi* described for the Romanian marine waters seems to be very difficult, remaining still an open issue. Our explanation is that either the species was incorrectly determined for NW sector of the Black Sea or a gradual replacement of one species with another one occurred along the last decades. Taking into consideration the references, in the NW Black Sea, the actual presence of *A. diadema* in the benthic biocoenosis is constant. The co-habitation of the two species in mixed populations might be possible, which has to be checked in future. Recently, the analysis of samples collected from 60 m depths bottoms at the Romanian shelf has led to the identification of *A. sarsi* at these depths too, while *A. diadema* was absent.
Thus the presence of the species in NW Black Sea has to be very carefully checked both for the Ukrainian and Bulgarian littorals. The absolute dominance of on a large area of the Romanian shelf represents an element, which gives birth to the following remarks: 1. the difficulty of quick reorganization of the genus in NW Black Sea; 2. an incorrect identification of the amphipod species; 3. the uncertainty of being a new species introduced into the Black Sea and 4. necessity for more attention paid to taxonomy/systematics of benthic species.

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## References

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