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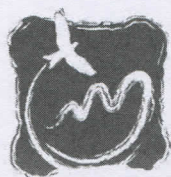
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RE-DESCRIPTION OF *ORCHESTIA STEPHENSENI* (CRUSTACEA: AMPHIPODA: TALITRIDAE) WITH REMARKS ON VARIATION OF THE GN2 AND DNA BARCODING IDENTIFICATION

Marine ecosystem protection needs the development of conservation initiatives based on a correct species delimitation. For such Integrated Taxonomy employs DNA barcoding which has the potential to increase speed, accuracy and resolution of species identification.

Talitrids amphipods are only terrestrial and semi-terrestrial amphipods, which live on sand or leaves stranded of sea-grasses. The knowledge of this family is basic for ecological studies, such as the ones on dispersal mechanisms in intertidal species without a planktonic larval stage, or on the impact of climate change on marine populations. Thus a correct identification at the species level is a pre-requisite in conservation planning.

The talitrid *Orchestia stephensi* Cecchini 1928 was described from samples collected in the Ligurian Sea (Western Italy). Successively, Karaman, in 1973, re-described this species collected in the Adriatic Sea and the Aegean Sea and established *O. stephensi* as a good species. He mentioned a degree of variation, such as the one shown in the *Antenna 1* and *Gnathopod 2*, which made erroneously to place *O. mediterranea* in synonymy of *O. stephensi*. The two species inhabit the same biotope and could be mis-identified.

Here we re-describe *O. stephensi* with remarks on morphological variation and integrate morphological description with DNA barcode.

The species have been sampled along the coast of the Stagnone of Marsala and Trapani (Sicily, southern Italy) from 2011 to 2014, using by pit-fail traps and manual sampling. The individuals were stored in absolute ethanol for genetic analyses. For genetic analysis, LCO-1490 and HCO-2198 primers pairs were used, and successfully amplified a 654bp sequence of the gene *cytochrome c oxidase subunit 1* (COI). For taxonomy description, the specimens were observed through the camera lucida-microscope.

During the course of ontogenesis, a modification of the shape on *Gnathopod 2* was observed, and authenticated with a DNA-based approach. Molecular data strongly supported the species delimitation between *O. mediterranea* and *O. stephensi*.

None types of *Orchestia stephensi* Cecchini 1928 have been designated yet (LOWRY and FANINI, 2013).

A lectotype has been deposited at the Museum of Zoology "P. Doderlein" at the University of Palermo.

References

Lowry JK, L Fanini. 2013. Substrate dependent talitrid amphipods from fragmented beaches on the north coast of Crete (Crustacea, Amphipoda, Talitridae), including a redefinition of the genus *Orchestia* and descriptions of *Orchestia xylino* sp. nov. and *Cryptorchestia* gen. nov. *Zootaxa*, 3709(3): 201-229.