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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.

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Abstract

Four species of talitrid amphipods (*Orchestia montagui* Audouin, 1826, *Orchestia stephensi* Cecchini, 1928, *Orchestia xylino* sp. nov. and *Talitrus saltator* (Montagu, 1808)) are reported from a set of fragmented pocket beaches to the east of Heraklion on the north coast of Crete. Aside from a previous record of *O. stephensi* these are the first records of talitrid amphipods from the island of Crete. 2) Along a coastal segment of only 4.36 km, characterised by habitat fragmentation and substrate patchiness, a clear correlation between talitrid species and beach type is indicated. *Talitrus saltator* occurs only on sandy beaches. *Orchestia montagui* and *O. xylino* occur on banquette beaches and *O. montagui*, *O. stephensi* and *O. xylino* occur on mixed sand/gravel and cobble beaches. 3) The genus *Orchestia* is redefined and confined to 15 marine supralittoral species from eastern North America, islands in the North-eastern Atlantic, and western-Europe, including the Baltic and the Mediterranean Seas plus a perplexing group in New Zealand. 4) The new genus *Cryptorchestia* is described, based on nine terrestrial species previously included in the genus *Orchestia* and occurring in western Europe, the Mediterranean Sea and the Azores and Canary islands in the North-eastern Atlantic. 5) The new species *Orchestia xylino* sp. nov. is described. 6) An extensive bibliography for the species in this study is provided.

Key words: Amphipoda, Talitridae, taxonomy, ecology, beaches, new species, *Cryptorchestia*, *Orchestia*, *Talitrus*, bibliography

Introduction

There are currently 14 species of talitrids known from the Mediterranean Sea: *Britorchestia brito* (Stebbing, 1891); *B. ugalinii* (Bellan-Santini & Ruffo, 1991); *Cryptorchestia cavimana* (Heller, 1865); *C. kosswigi* (Ruffo, 1949); *Deshayesorchestia deshayesii* (Audouin, 1826); *Macarorchestia remyi* (Schellenberg, 1950); *Orchestia gammarellus* (Pallas, 1766); *O. mediterranea* A. Costa, 1853; *O. montagui* Audouin, 1826; *O. stephensi* Cecchini, 1928; *O. xylino* sp. nov.; *Platorchestia platensis* (Krøyer, 1845); *Sardorchestia pelecaniformis* (Bellan-Santini & Ruffo, 1986); and *Talitrus saltator* (Montagu, 1808).

The only previous records of a talitrid from Crete is that of *O. stephensi* from a Megalou Nerou beach just east of Heraklion (De Matthaeis *et al.* 1999: 97, table 1, De Matthaeis *et al.* 2000: 1606, table 1). During a recent ecological study of six beaches in the Kokkini Hani, Gournes, Gouves area of northern Crete four species of talitrids were discovered. In this paper these beaches are described in detail; the genus *Orchestia* is redefined to include 15 species; the new species *Orchestia xylino* sp. nov. is described and *O. montagui*, *O. stephensi* and *T. saltator* are documented for the first time from Crete; and the new genus *Cryptorchestia* is described to include nine species previously embedded in *Orchestia*. An extensive bibliography is provided for the taxa reported in this study. It is based on the literature, therefore the species identity for each citation cannot be confirmed.