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AQUATIC FAUNAL BIODIVERSITY OF MEDITERRANEAN TEMPORARY PONDS IN SARDINIA

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Invertebrate and amphibian biodiversity of Mediterranean temporary ponds has been studied in the island of Sardinia (Italy). Thirty-six temporary ponds have been sampled between 2007 and 2014. All the ponds were small (less than 8 ha), shallow (less than 2 m depth) and presented low human impacts (the main disturbance was the presence of livestock). The specimens collected have been identified to species level whenever possible. The microcrustacean and chironomid fauna was identified from a subset of 17 ponds.

Overall, 225 taxa were identified, of which 55 were referred to Diptera (24%), 52 to Coleoptera (23%), 29 to Cladocera (13%) and 18 to Ostracoda (8%). Moreover, some Turbellaria, Oligochaeta, Hirudinea, Gastropoda, Anostraca, Copepoda, Hydracarina, Ephemeroptera, Odonata, and Trichoptera taxa were identified. Finally, three species of amphibians were also found. It is interesting to note the presence the ostracod *Paralimnocythere* cf. *messanai*, first record in Sardinia; the corixid *Cymatia rogenhoferi*, third record in Italy; and the cladoceran *Leydigia korovchinskyi*, first record in Italy.

Four types of ponds were identified by a MDS using macroinvertebrate and amphibian characteristic species. The presence of *Lestes barbarus*, *Notonecta meridionalis*, *Bidessus goudoti* and water mites (*Arrenurus* sp., *Eylais* sp. and *Hydrachna* sp.) determined a type of pond with high total taxonomic distinctness ($S\Delta^+$). On the other hand, ponds with the presence of *Limnephilus vittatus*, *Lestes barbarus* and water mites had high Shannon-Wiener diversity (H'), taxonomic distinctness (Δ^*) and average taxonomic distinctness (Δ^+). *Hydroporus pubescens* and *Hydroporus tessellatus* characterized ponds with low H' , evenness and Δ^+ , but high total abundance. Finally, two ponds with low taxa richness, total abundance and $S\Delta^+$ did not have characteristic species.