Taxonomy, systematics and evolution of meiobenthos

The Greek Taxon Information System in LifeWatchGreece Research Infrastructure: construction of the preliminary checklists of meiobenthic taxa of Greece

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The Greek Taxon Information System (GTIS) is an application developed by the LifeWatchGreece Research Infrastructure (ESFRI) that has resumed efforts to compile a complete checklist of species reported from Greece. In the framework of GTIS, species occurrence data from Greece are initially extracted from different sources, including regional and Global Species Databases, monographs, and scientific literature, and are then validated by taxonomic specialists. In this work we present the preliminary checklists for meiobenthic marine taxa known to occur within the Greek Exclusive Economic Zone (EEZ). The exhaustive literature review revealed that very few studies from this marine sector report meiobenthic taxa to the species level. More specifically, limited information was found for Gastrotricha, Harpacticoida, Nematoda, and Tardigrada and none for most other meiofaunal taxa. The data made available were found scattered in a small number of literature sources and databases, mostly in old publications and grey literature, covering a small geographical range within the Greek EEZ. The preliminary results of the present initiative reflect (a) the locally limited research effort regarding taxonomic studies of meiobenthic organisms, and also (b) highlight regional gaps in the taxonomic expertise on most meiobenthic taxa in the eastern Mediterranean Sea. Preliminary checklists for meiobenthic taxa produced under GTIS will be published in a special collection dedicated to LifeWatchGreece and will be further disseminated through a scratchpad entitled "Species List of Greece (SpeLog)". Taxonomists who validated the preliminary checklists will be authors in the relevant publications and cited as editors for every record in the GTIS database, along with the data managers who produced the initial data files. The long-term aim of GTIS initiative is to stimulate future research on understudied taxa, filling regional gaps, and thus completing the study of the taxonomy for all species present in Greece. The overall GTIS initiative is open

to collaboration with taxonomists from the Greek, European and World scientific community who are interested in contributing to this effort.

P02 World Register of marine Cave Species (WoRCS): a tool for investigating meiofaunal diversity in marine and anchialine subterranean systems

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Marine and anchialine caves are biodiversity reservoirs, harbouring disharmonic faunal communities with high endemism. The study of cave communities is important for understanding the evolutionary history of many taxa; however, our knowledge of cave diversity is highly biased in favour of large-bodied animals, particularly crustaceans. Meiofauna represents an important but often neglected component of cave biodiversity, due to lack of time and expertise for targeted collecting, as well as inadequate taxonomic capacity. Consequently, the significance of meiofauna in cave systems may have been overlooked and so seriously obscuring our understanding of macro-ecological and evolutionary patterns in cave environments. The World Register of marine Cave Species (WoRCS), a Thematic Species Database of WoRMS (www.marinespecies.org/worcs), is here presented as a valuable resource to overcome this problem. The aim of WoRCS is to create a comprehensive taxonomic and ecological database of cave species from worldwide marine and anchialine cave systems, including planktonic and benthic meiofaunal species. The cave-related information is managed by the WoRCS thematic editors in collaboration with the taxonomic editors of WoRMS, who manage the taxonomic content. The database is an open source and includes information on biological, ecological, and occurrence data for all species. Occurrence data are linked to the Gazetteer of the Marine and Anchialine Caves of the World, which is part of the Marine Regions information system and includes geographical and geological information for all studied cave localities. Currently, the database includes approximately 600 meiofaunal species belonging to 21 groups. Most recorded species are amongst hard-bodied meiofaunal groups, such as Podocopida (112 species), Harpacticoida (109 species) and Cyclopoida (96 species). In contrast, few data exist for other groups that are comparatively diverse outside caves, such as Nematoda (41 species) or Platyhelminthes (31 species).