

LifeWatch Data Grant 2015

Filling the gaps in the World Register of Marine species (WoRMS)

Amphipoda-Niphargidae

Final Report

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1. Data grant background

This data grant is issued in the framework of LifeWatch project, to update and improve the current content of Amphipod Crustaceans within the World Register of Marine Species (WoRMS) and World Amphipoda database (WAD). The Niphargidae is a large family of freshwater Amphipods living almost exclusively in subterranean waters of W Palearctic. The original lists of genera (9 accepted genera) and species (274 accepted species) in the WAD were outdated and incomplete.

This work aimed to revise and update the list of genera and species, and to add to the database additional information including documentation of basionyms, missing authorships, original descriptions, type localities and type specimens, but also documentation of the environment, distribution and identification resources, all of which would be supported by published literature sources.

2. Agreed deliverables (as specified in the Data Grant contract)

The expected results at the end of project were:

1. Addition of 50-70 new species, or revision of subspecific rank.
2. Documentation of original names for more than 330 accepted *Niphargus* species.
3. Documentation of missing authorships for more than 330 accepted *Niphargus* species.
4. Documentation of original descriptions for more than 330 accepted *Niphargus* species.
5. Documentation of type localities and type specimens for more than 330 accepted *Niphargus* species.
6. Documentation of environment for more than 330 accepted *Niphargus* species.
7. Documentation of distribution supported by published resources for more than 330 accepted *Niphargus* species.
8. Documentation of identification resources, supported by literature for more than 330 accepted *Niphargus* species.

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| 3. Results of the project: |
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The summary of additions and changes in WAD are as follows.

1. One genus (*Niphargopsis*) was moved to *Niphargus*, two new genera (*Exniphargus*, *Niphargobatoides*) were added.
2. 111 subspecies were raised to species rank, the change of taxonomic rank is backed by published taxonomic literature sources.
3. 34 new species were added, 2 species were moved into synonymy.
4. The original names for 377 species (subspecies) out of 382 species (subspecies) were documented and original description sources linked. One duplicate was removed from the list, 3 type-setting errors were corrected.
5. The authorities are now completed for all taxa, and years of publication were revised where necessary.
6. Original descriptions for 377 species (subspecies) out of 382 species (subspecies) were documented. In addition, we documented re-descriptions or other important taxonomic studies for 67 species (subspecies). This results in a collection of a total of 240 pdf files to be uploaded and linked to their respective reference sources in the WAD.
7. Type or neotype localities for 379 species (subspecies) out of 382 species (subspecies) were documented.
8. The information on deposition of type, lectotype or neotype material has been documented for 91 species (subspecies). The list of collections and museums is incomplete as information on collections is lacking in original descriptions.
9. Etymology for 219 species (subspecies) was documented.
10. The environmental requirements were revised for all species.
11. The distribution for 379 species (subspecies) out of 382 species (subspecies) was documented at the level of country and FADA biogeographical regions. Distributional data are linked either to publications (non-European species, species described after 2012) or to the BIOFRESH meta-database available at <http://atlas.freshwaterbiodiversity.eu/index.php/maps/maps?map=1.1.8-european-patterns-of-species-richness-and-range-size-in-groundwater-crustaceans> . The database on European Groundwater Crustaceans is still under construction. When complete and publicly available, it will be directly linked to WAD and WoRMS providing full distributional data for Niphargid taxa.

12.No comprehensive identification resource for the Niphargidae exists. Local identification keys (France, Italy, Germany) were scanned and are ready to be uploaded as pdf to website. Similarly, a link to ongoing taxonomic database in program package DELTA is provided.

At the end of the contract, we are still waiting for some original articles in hope to fully complete the Niphargidae section in WAD.

4. (Brief) description of the work/methodology

We browsed the original descriptions and other available published works on taxonomy and distribution, including articles, monographs and museum catalogues; relevant information was compiled in the excel worksheet template.

5. Problems encountered and how it was solved (or expected solutions).

We encountered no technical problems. The encountered problems relate to incomplete information in literature, especially in older literature. The information on deposition of type material is highly incomplete and inaccurate. The problematic cases are discussed in the notes field of the Excel file.

6. Other: remarks, suggestions, other information, bibliography,

All the data were collected in the excel sheet. The same sheet will be submitted also to Fauna Europea in order to make Niphargidae checklists compatible with each other.