LifeWatch Data Grant 2015

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

Nematoda: Plectida

Final Report

Oleksandr Holovachov

1. Data grant background

As part of the LifeWatch project, this data grant was given to support the revision and update of the content of the Order Plectida (Nematoda) in both the World Register of Marine Species (WoRMS) and the World Database of Free-Living Marine Nematodes (NeMys). Both databases are synchronized and list 480 species records of nematodes from the order Plectida (September 2015); all these records require revision. At the same time, several hundred name records are entirely missing from both databases.

Thus, the aim of this grant is to revise nomenclatorial information, add missing taxa, update the environmental flag, add original descriptions and type locality data for marine, brackish, fresh water, terrestrial and parasitic species of the nematode order Plectida.

Priority is given to families and genera that include marine and brackish species; genera that are mainly represented by freshwater or terrestrial species are dealt with after all marine taxa are completed. Since many freshwater and terrestrial genera of the order Plectida include some species that are found in marine or brackish environment, it is simpler to add all its species to WoRMS/NeMys database, instead of adding selected marine and brackish species.

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

- Revision of the nomenclatural information and update of the environmental flag for all of the 480 Plectida species available in WoRMS/NeMys at the beginning date of the project.

- Addition of missing original descriptions for about 40% of the current Plectida records in WoRMS/NeMys (ca. 180-200 species).

- Addition of missing type locality information for about 80% of the current Plectida records in WoRMS/NeMys (ca. 380-400 species).

- Addition of an estimated number of 200 valid Plectida species names and 200-400 non-valid Plectida species names to WoRMS/NeMys database.

- Addition to WoRMS of photographs or videos of holotype and representative paratype of the opposite sex (if available), for those species for which type material is housed at the Swedish Museum of Natural History and readily available to the editor (ca. 50 species).

3. Results of the project:

- Nomenclatural information, environmental flag and fossil range were revised for all of the 480 species records available in WoRMS/NeMys.

- 475 species records (285 accepted, 134 unaccepted, 32 *species inquirenda,* 24 *nomena nuda*) were added to WoRMS/NeMys database.

- Together with 480 species records available before the project began, and 21 species records added by other WoRMS editors, the current total number of species records of Plectida in WoRMS/NeMys is 976, including 704 nominal names, 213 recombined names, 35 *nomena nuda*, one *nomen dubium* and 23 misidentified names.

- Environmental flag and fossil range were added to all 475 new species records of Plectida in WoRMS/NeMys. As a result, all Plectida records have their environmental flag and fossil range updated.

Explanation: as described in the section 4, the numbers below refer only to *nominal* species records of the *entire* Plectida of the WoRMS/NeMys.

- Type locality data was added to 583 species, equal to 83% of the current nominal species records of Plectida in WoRMS/NeMys (704).

- Original descriptions were added to 272 species, equal to 39% of the current nominal species records of Plectida in WoRMS/NeMys (704).

- Photographs of holotype and representative paratype of the opposite sex (if available) was added to 40 species from the order Plectida, which type material is housed at the Swedish Museum of Natural History.

4. (Brief) description of the work/methodology

All data was added through the Aphia interface of NeMys. At the first stage, all nomenclatorial information was revised and the environmental flag was updated for species records already present in WoRMS/NeMys. Adding new records and their environmental flags was done at the same time. Original descriptions and type locality data were added to species records later, after finalizing of all nomenclatorial data. Therefore, the report (section 3 above) gives the total number of species for which original descriptions and type locality data were added, without distinguishing between "old" and "new" records.

Original descriptions and type locality data was added only to originally proposed binomial name combinations (nominal names). The same information is usually automatically transferred to recombined names (but see section 5) and does not have to be duplicated.

Type locality data and original descriptions was not added to 35 n*omena nuda,* one *nomen dubium* and 23 misidentified names.

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

In most cases the data on original description and type locality is automatically transferred from unaccepted original names (synonyms) to accepted recombined names (valid). However, it does not always work properly. For example:

- nominal unaccepted name record "*Wilsonema andersoni* Zell, 1985" (AphiaID 870321) includes original description and type locality data;

- new name record "*Plectus bolivianus* Zell, 1985" (AphiaID 870322) is an unaccepted synonym of *Wilsonema andersoni* (*nomen novum* proposed to avoid homonymy) and does not include original description and type locality data;

- accepted name record "*Wilsonema otophorum* (de Man, 1880) Cobb, 1913" (AphiaID 229359) is a senior accepted (valid) synonym of *Wilsonema andersoni* and includes type locality data and original description information from the latter species (*W. andersoni*).

This issue needs to be solved at the programming stage, if possible.

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

In few cases, nominal names are placed outside of the order Plectida, when species was originally described in a different taxon. Type locality data and original descriptions were added to such names too, if necessary.