

## **LifeWatch Data Grant 2014**

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

*HOLOTHUROIDEA*

## **Final Report**

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### 1. Data grant background

The aim of this grant project was to make the content of the Holothuroidea (Echinodermata) group within the World Register of Marine Species (WoRMS) more complete, and addition of taxonomic and distribution data to the INDEEP deep-sea species portal within WoRMS (WoRDSS), a taxonomic database of deep-sea species based on the World Register of Marine Species (WoRMS).

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

- Provide taxonomic editorship to WoRMS on approximately 450 taxa. There are currently ca.330 species in the WoRDSS list of species of Holothuroidea. A revision will be done of the existing list of species, removing errors and adding at least 100 more species to the WoRDSS context.
- Provide original description references, synonyms, depth and geographical distribution of all Holothuroidea species within WoRDSS.
- Provide references to published keys to genera/family.
- Provide the best available image for all family level taxa and higher.

### 3. Results of the project:

- Species included into the WoRDSS list were revised.
- 6 species were removed as non deep-sea or duplication.
- 234 species were added to WoRDSS. Among them 214 species were added from the WoRMS list and 20 were newly added.
- ~150 species with "unaccepted" status (synonyms) added to WoRDSS.
- Geographical distribution has been added to 85 species; bathymetric distribution has been added to 78 species.
- Taxonomical status was edited for 55 species. Year of original description, authorship, references, notes, links were edited/added for number of species.
- Classification of the following genera was revised: *Elpidia*, *Enypniastes*, *Mesothuria*, *Zygothuria*, *Pseudostichopus*.
- 40 references to published identification sources (keys to families) were supplied.
- 43 photographs of holothurians were provided.
- Editions were made for some literature references.

#### 4. (Brief) description of the work/methodology

This project began on April 15, 2014 and finished on October 1, 2014. Main source of data included published references dating back to at least 1885 (~500 literature sources). Some data were obtained from online Invertebrate Zoology Collection database of NMNH, Smithsonian Institution <http://collections.nmnh.si.edu/search/iz/>. Also I used original data of my own 12-year experience in taxonomical studies of deep-sea Holothuroidea.

This work was done with help of Dr. Gustav Paulay. Editing work was assisted by WoRMS data management team.

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

Main problems were related to poor taxonomic knowledge (especially taxonomic ambiguity) and lack of reliable distribution data for some taxa. This can be improved by further maintenance of the list and addition of newly published data.