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Museum of Nature Hamburg

EuroWorm: Leibniz funding for LIB project on marine worms

The Leibniz Association is funding a new collaborative project to untangle European marine annelids. Led by Dr Jenna Moore at the Leibniz Institute for the Analysis of Biodiversity Change (LIB), the project *EuroWorm: Accelerating Global Marine Annelid Biodiversity Research With Open Genomic Data For European Species* will start in 2026 as part of the Leibniz Cooperative Excellence programme. The project is a dynamic cooperation between annelid experts and genomics researchers at the LIB, the Senckenberg Society for Nature Research and the Georg August University of Göttingen.

Species around the world are being lost at an alarming rate due to human impacts like climate change, habitat loss and invasive species — and in poorly-known groups like worms, this often occurs before they have even been described. Marine annelids (segmented worms) are ecologically important in every marine habitat: they mix sediments, recycle nutrients, serve as bioindicators of pollution, and play important roles in the food web. At the same time, their true species diversity remains unknown. Modern biodiversity classification began in Europe, and open, comprehensive data on European species is the key to unlocking biodiversity research worldwide.

Searching for clues in European seas

EuroWorm steps in right here: The project team plans to sample key type localities in Europe, where hundreds of species were originally described. The newly collected animals will be morphologically identified by experts, imaged in high resolution and examined using modern genomic and morphological methods. The specimens will be linked to these open imaging and genomic data and stored in the collections of the LIB (Museum of Nature Hamburg) and the Senckenberg Research Institute and Natural History Museum Frankfurt.

Genome data as key to the evolution of annelids

Objectives:

Establish a specimen-linked genomic inventory of European marine annelids.



- Resolve the classification of groups that have been difficult to place in the annelid evolutionary tree.
- Use comparative genomics to investigate how body structure, reproduction and lifestyle have changed over the course of annelid evolution.

'With EuroWorm, we want to create open, informative resources for European marine annelid species, and answer key questions about annelid evolution. Through providing comparative data on European species, we hope to accelerate species discovery and biodiversity research worldwide, and reduce the "silent extinction" of marine species,' explains project leader Dr Jenna Moore from the LIB.

Open data for global biodiversity research

All data will be compiled into open, freely accessible resources for international research, alongside loanable specimens housed in museum collections. In this way, *EuroWorm* aims to facilitate access to European reference material, particularly for researchers in the Global South, and contribute to the development of species discovery and biodiversity characterization worldwide.

At the same time, the project strengthens the role of natural history museums as modern research infrastructures: The open, fully digitised collection data is made available via the LIB and Senckenberg portals as well as via international platforms such as GBIF, forming an important basis for future biodiversity and nature conservation research.

Leibniz Programme Cooperative Excellence

With its *Leibniz Cooperative Excellence* programme, the Leibniz Association promotes particularly innovative research projects whose success is based on close cooperation between various Leibniz Institutes and other partners. The focus is on networked projects that provide new methods, data and infrastructures for research.

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About the LIB

The LIB is dedicated to researching biodiversity and its changes, the results of which are disseminated to the wider society in an educational manner. In order to better understand the current mass extinction of flora and fauna, researchers are looking for connections and causes of – often – man-made changes. The goal is to develop solutions for the preservation of ecosystems and species in order to maintain the basis of current life.

About the Leibniz-Association

The Leibniz Association combines 96 independent research institutes. Their focus ranges from the natural, engineering, and environmental sciences to the humanities and the business, space, and social sciences. The Leibniz institutes focus on relevant social, economic, and ecological issues. They perform knowledge-oriented and applied research (also among the cross-disciplinary Leibniz research alliances), are or support scientific infrastructures, and offer research-based services.



Caption: Dr Jenna Moore at the Museum of Nature Hamburg (Leibniz Institute for the Analysis of Biodiversity Change, LIB)

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Caption: Annelid worms in the collection of the Museum of Nature Hamburg (Leibniz Institute for the Analysis of Biodiversity Change, LIB)

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