Ten remarkable new marine species from 2023

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High-resolution photos available online. See section "Image available at:" with each individual species.

The press release is available online at https://lifewatch.be/en/2024.03.19-WoRMS-LifeWatch-press-release

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- **Falkor's Carnivorous Sponge**, *Abyssocladia falkor*
- **The Bifrost Nemertean**, *Tetranemertes bifrost*
- **Solwarawarriors vestimentiferan**, *Alaysia solwarawarriors*
- **Hannan's Pygmy Squid**, *Kodama jujutsu*
- **The Samoan Nautilus**, *Nautilus samoaensis*
- **Prince Albert's Sea Daisy**, *Xyloplax princealberti*
- **Bouchet's Dorymenia**, *Dorymenia boucheti*
- **Fine Line Nudibranch**, *Halgerda scripta*
- **Fordyce's Giant Penguin**, *Kumimanu fordycei †*
- **St. George's Cross Medusa**, *Santjordia pagesi*

As for previous years, the World Register of Marine Species (WoRMS) has again released its annual list of the top-ten marine species described by researchers during the past year to coincide with World Taxonomist Appreciation Day on March 19th!

If you were unaware of this celebration of all the work that taxonomists do, you can find more here and here.

Every day in labs, museums, and out on fieldwork, taxonomists are busy collecting, cataloguing, identifying, comparing, describing, and naming species new to science. Over 300 taxonomists globally also contribute their valuable time to keeping the World Register of Marine Species up to date. Today is a chance for us at WoRMS to thank our taxonomic editors for this important task. We celebrate the work of taxonomists now with the WoRMS list of the top-ten marine species described in 2023 as nominated and voted for by taxonomists, journal editors and WoRMS users!

This top-ten list is just a small highlight of about 2,000 fascinating new marine species discovered every year (there were almost 2000 marine species described in 2023 and added to WoRMS, including some 330 fossil species).

How were the species chosen?

A call for nominations was announced in December 2023, sent to all editors of WoRMS and editors of major taxonomy journals, and posted openly on the WoRMS website and social media so anyone had the opportunity to nominate their favorite marine species. Nominated species must have been described between January 1st and December 31st, 2023, and have come from the marine environment (including fossil taxa). A small committee of volunteers (including both taxonomists and data managers) was brought together to decide upon the final candidates. The list is in no hierarchical order.

The final decisions reflect the immense diversity of taxonomic groups in the marine environment (including crustaceans, corals, sponges, jellies and worms) and highlight some of the challenges facing the marine environment today. The final candidates also feature some particularly astonishing marine creatures, notable for their interest to both science and the public.

Each of these marine species has a story. This year the chosen species cover the weird, the bewildering and the astonishing! We feature, amongst others, a beautifully colored nemertean, a carnivorous sponge, and a giant extinct penguin.

About the WoRMS top-ten list of Marine Species

After 250 years of describing, naming and cataloguing the species we share our planet with, we are still some way off from achieving a complete census. However, we do know that at least 245,000 marine species have been described because their names are managed in WoRMS by more than 300 scientists located all over the world.

In 2018, to celebrate a decade of WoRMS' existence, we compiled a list of our top marine species, both for 2017 and for the previous decade in order to highlight the fascinating discoveries of the numerous new marine species being made every year (see http://www.lifewatch.be/en/2018.04.23-WoRMS-LifeWatch-press-release).

We decided to continue this process every year as a celebration of the work that taxonomists do and of the fascinating marine species that are discovered each year. Our previous lists of the top-ten marine species described for the decade 2007–2017, for 2017, 2018, 2019, 2020, 2021 and 2022 can be found here:

- https://www.lifewatch.be/en/worms-top10-2007-2017
- https://www.lifewatch.be/en/worms-top10-2017
- https://www.lifewatch.be/en/worms-top10-2018
- https://www.lifewatch.be/en/worms-top10-2019
- https://www.lifewatch.be/en/worms-top10-2020
- https://www.lifewatch.be/en/worms-top10-2021
- https://www.lifewatch.be/en/worms-top10-2022

Between 2008 and 2018, SUNY College of Environmental Science and Forestry (ESF) compiled an annual list of the 'Top Ten Species' described from ALL habitats and taxa. The oceans cover over 70% of the surface of our planet, and yet they still include the least explored regions. Although the ESF list often contained one or two marine species, we decided to pay homage to the 'largest habitat on earth' by producing our own list of the top marine species.

We hope some of our favorites will make it to the global list!

- Ten remarkable new marine species from 2023

The WoRMS Top Ten Marine Species 2023 would not have been possible without the collaboration between the WoRMS Data Management Team (DMT), the WoRMS Top Ten Decision Committee, the WoRMS Steering Committee (SC) and voluntary contributions by many of the WoRMS editors.

The work of the DMT and many WoRMS-DMT-related activities are supported by LifeWatch Belgium, part of the E-Science European LifeWatch Infrastructure for Biodiversity and Ecosystem Research. LifeWatch is a distributed virtual laboratory, which is used for different aspects of biodiversity research. The Species Information Backbone of LifeWatch aims at bringing together taxonomic and species-related data and at filling the gaps in our knowledge. In addition, it gives support to taxonomic experts by providing them logistic and financial support for the organization of meetings and workshops related to expanding the content and enhancing the quality of taxonomic databases.

WoRMS – as ABC WoRMS – is an endorsed action under the UN Ocean Decade.

WoRMS and Ocean Census have a partnership to enhance rapid discovery and identification of marine life.