

Scientists establish new genus of deep-sea 'spaghetti worms'

'Sucker worms' among haul of seven deep-sea species new to science



Terebellosuctoria jimii

14 October 2026, Sydney

Scientists have announced a new genus of deep-sea segmented marine 'spaghetti worms' with suction cups on their bodies, showing just how much undiscovered biodiversity is out there in the deep seas around Australia.

Terebellosuctoria is the latest addition to the polychaetes, a class of marine worms with segmented bodies that have appendages called parapodia (side feet) armed with multiple bristles. They may resemble centipedes, but their close relatives are terrestrial earthworms.

The new genus name, *Terebellosuctoria* ('terebellids with suckers') was inspired by the unusual sucker-like structures on the underside of the body.

Australian Museum Senior Research Scientist [Dr Elena Kupriyanova](#) said, when she showed the specimens to co-authors, they realised they belonged to an entirely new genus of 'spaghetti worms.'

"The sucker-like structure is what makes this new genus so interesting and unique," Dr Kupriyanova said.

While finding new deep-sea species is not uncommon, it is rare for scientists to establish a new genus, which is a biological classification above species.

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[The study](#), published in *Records of the Australian Museum* in July, examined marine worm specimens collected on voyages led by Museums Victoria onboard CSIRO research vessel (RV) *Investigator* in 2021 and 2022.

More than 850 marine worms were collected during the deep-sea expeditions to the seamounts of Christmas Island and the Cocos (Keeling) Islands and 13 species, new to science, have already been described.

The paper reveals an additional seven new species of marine worms from three families, two of them from the new genus *Terebellosuctoria* of the family Terebellidae.

One memorable species was collected on a seamount over 670 metres deep near the Cocos (Keeling) Islands.

The numerous branching brown ‘tentacles’ stood out when specimens were brought up by a beam trawl.



Credit: CSIRO

Dr Kupriyanova said she then spotted multiple orange spheres among the ‘branches.’

“I thought that those look suspiciously a lot like polychaete eggs,” Dr Kupriyanova said.

Closer examination and dissection revealed the ‘the branching organism’ was in fact not an animal itself, but the elaborate extensions of a worm’s tubes.

Spaghetti worms build tubes in soft sediments, and are so-called because of their numerous long tentacles, which they use to collect fine food particles on the surface of the sediment.

From the tubes emerged bright orange marine worms, some up to 75 mm long.

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Terebellosuctorina jimii Credit: CSIRO

The scientists named the species *Terebellosuctorina jimii*, after a colleague Dr Naoto Jimi, who had described similar sucker-like structures on another marine worm species.

Back at the Australian Museum in Sydney, Dr Kupriyanova and an international team of taxonomists did morphological, DNA sequencing and scanning electron microscopy analyses before concluding the worms were not just a new species, but a previously unknown genus.

The researchers suggested that the sucker-like structure is an adaptation among sediment-dependent taxa, such as 'spaghetti worms', to living attached in sediment-scarce environments, such as seamount slopes.

Naming species gives them an 'formal identity'

[Dr Pat Hutchings](#), a Senior Fellow at the Australian Museum and a marine worm specialist, said marine worms are some of the most diverse animals on Earth, with the largest species growing up to three metres long.

"Marine worms are among the most abundant and diverse animals living on the seafloor, where many play important roles in recycling nutrients," Dr Hutchings said.

"But marine worms, like many marine invertebrates, are unseen and underappreciated. Only a tiny fraction has been officially named and described."

Taxonomy is a time consuming and meticulous process, and new species are often discovered faster than researchers can describe them.

"An expedition may collect hundreds or thousands of specimens, but discovering what they actually are can take years," Dr Kupriyanova said.

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Commented [EK1]: His last name is Jimi, so the species named after him is jimii

Commented [EK2]: That would be insects I am afraid. Would replace it with In the Ocean

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"The specimens become part of museum research collections, where taxonomists can continue studying them long after the voyage has finished. The seven species described in this paper are another step in working through that remarkable archive."

Dr Hutchings says taxonomy is more than just giving species a name. A taxonomic study requires detailed documentation and analysis, often using multiple lines of evidence such as morphological and molecular data to establish their evolutionary relationships with other species.

-ENDS-

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Read the research 'New species of Annelida of the Australian Indian Ocean Territory (Christmas Island and Cocos (Keeling) Islands) seamount' [here](#).

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Records of the Australian Museum is a peer-reviewed, Open Access journal publishing the results of studies based on Australian Museum collections.

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wonder, inspire debate and drive change. The AM's vision is to be a leading voice for the richness of life, the Earth and culture in Australia and the Pacific and commits to transforming the conversation around climate change, the environment and wildlife conservation; being a strong advocate for First Nations cultures; and continuing to develop world-leading science through the [Australian Museum Research Institute \(AMRI\)](#). The AM is not only a dynamic source of reliable scientific information on the environmental and social challenges facing our region, but also a trusted site of cultural exchange and learning.

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