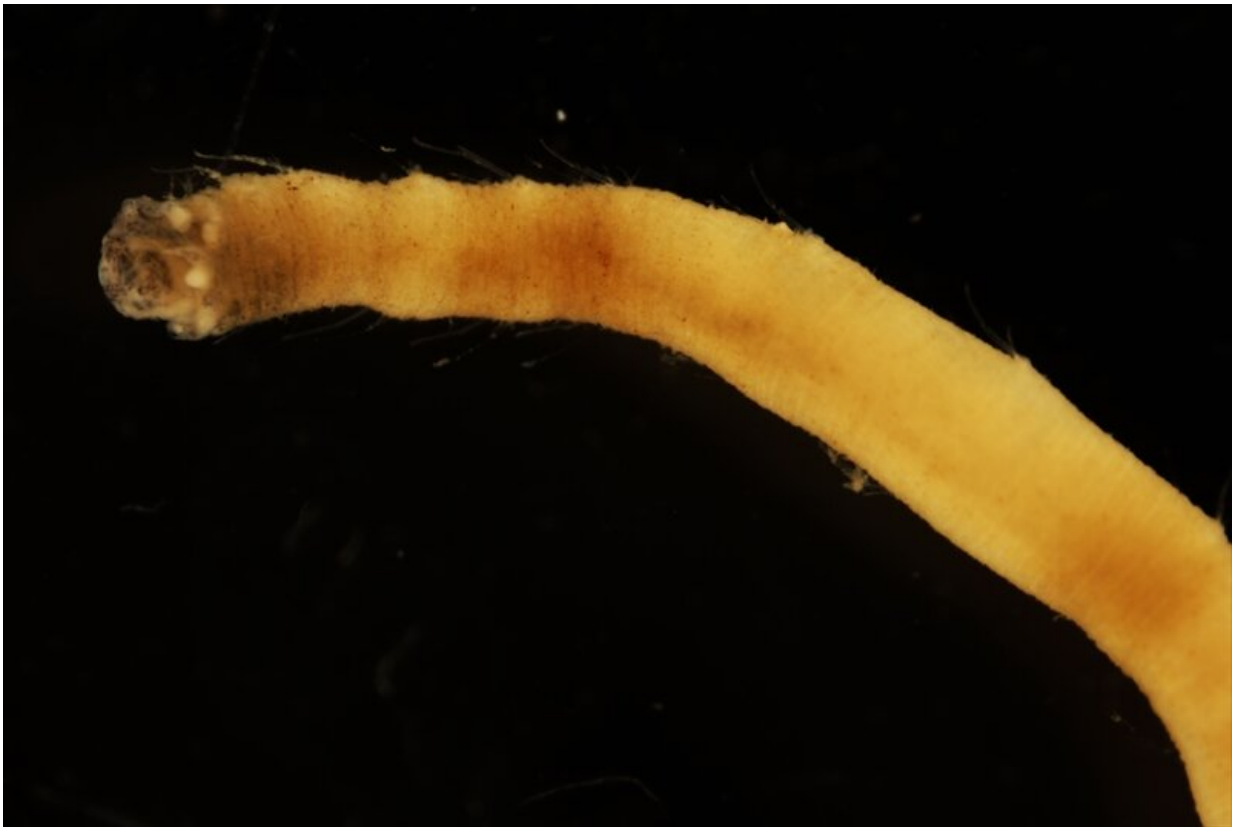


# Japanese biologists discover new species of sea worm in the southern ocean

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The new species of worm is now one of six described species of *Flabelligena*, which are known mainly from the North Atlantic Ocean Credit: Naoto Jimi, National Institute of Polar Research, Japan

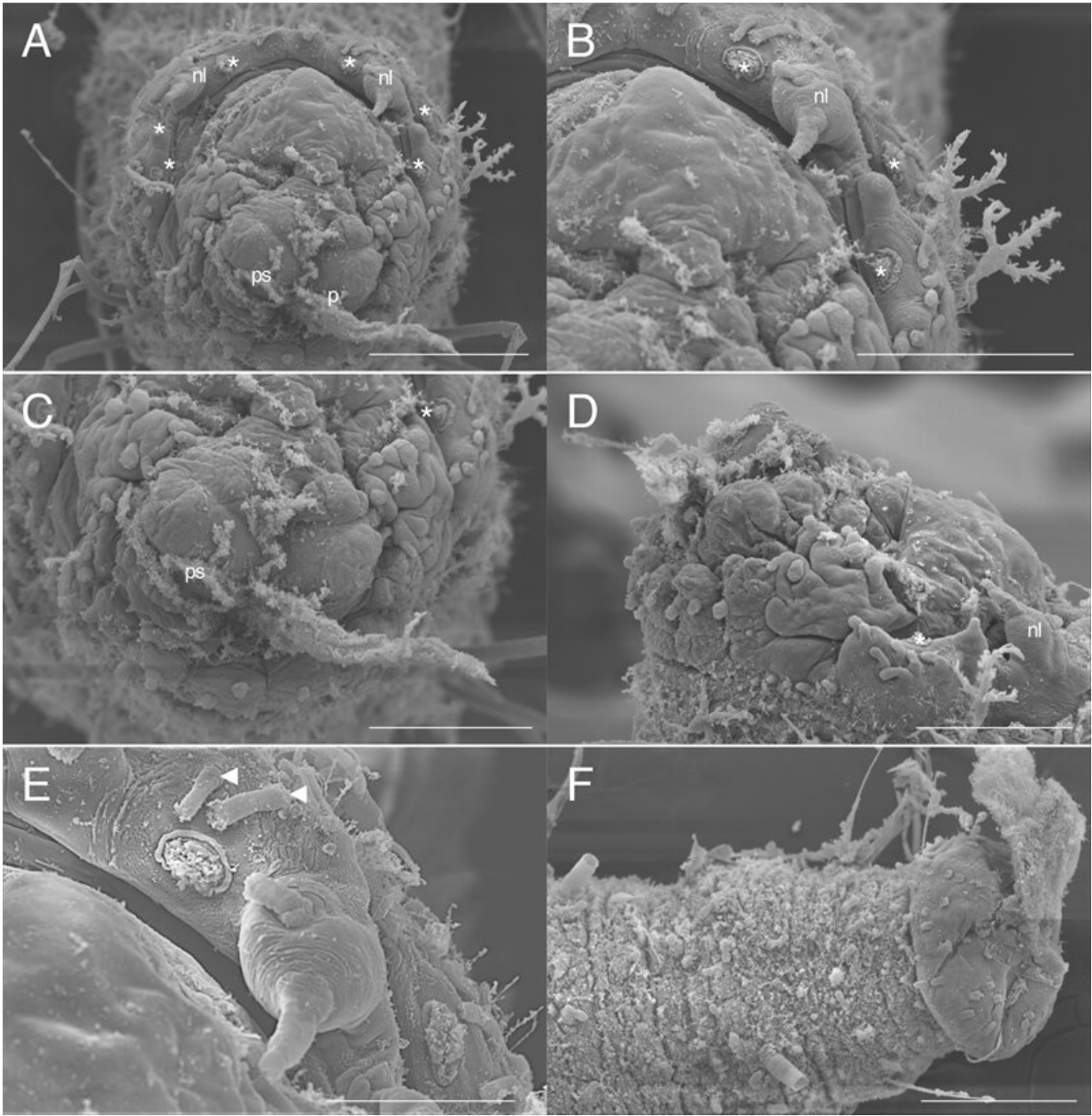
Earlier this year, a team from Japan's National Institute of Polar

Research (NIPR), National Museum of Nature and Science (NMNS), and Kochi University (KU) set out to collect specimens of sea worm near the South Orkney Islands, a remote region of the Southern Ocean about 400 miles northeast of the tip of the Antarctic Peninsula.

The researchers collected material from the sea floor at depths of 2,036 to 2,479 meters, a segment that falls within what oceanographers call the bathyal zone (1,000 to 4,000 meters deep). Among the collected seafloor material, they observed a new *Acrocirridae* *Banse*, a family that now includes 43 [species](#) of worm, all but two of which are bottom dwelling. The team, led by Naoto Jimi, a postdoctoral fellow at NIPR, published their findings in *Biodiversity Data Journal* on June 8, 2020.

The team's process involved extracting rock and silt sediments using a sieve with seawater and fixing them in an ethanol solution. They observed a variety of captured specimens under a microscope and photographed them with a high-resolution digital SLR. The newly-identified worm is named *Flabelligena Gillet, 2001*.

*Flabelligena Gillet, 2001* falls within the broad class of worms called polychaetes, which contains over 10,000 species. "Polychaetes are one of the most diverse groups in marine benthic animals and well-studied in the Southern Ocean," Jimi said. "Many researchers have investigated the Southern Ocean, but our knowledge of small deep-sea invertebrates is still quite limited."



Scanning electron micrographs of the new species of sea worm *Flabelligena*.  
Credit: Naoto Jimi, National Institute of Polar Research, Japan



Left: The image showed the collection gear after sampling off the South Orkney Island in the Southern Ocean. Right: Researchers collected samples to study the species *Flabelligena* in the Southern Ocean. Credit: Naoto Jimi, National Institute of Polar Research, Japan

Jimi and his NIPR, NMNS, and KU co-authors described the *Flabelligena Gillet*, 2001 as having a "minute" body, body papillae (small rounded protuberances), 1-3 pairs of branchiae (gill-like organs), and a pair of frontal palps (segmented appendages usually associated with touch or taste). Its body is about 1.8 centimeters long and 1 millimeter wide and rounded on both ends.

The new species of worm is now one of six described species of *Flabelligena*, which are known mainly from the North Atlantic Ocean. Three species of *Flabelligena* are from the Southwest Atlantic, Mediterranean, and South Indian Oceans. They all live in sandy mud areas, mainly in the bathyal to abyssal depths (1,000 meters and deeper). According to Jimi, the new species are the first records of *Flabelligena* found in the Southern Ocean. Their discovery will also contribute dramatically to the understanding of biodiversity of the Antarctic region.

Jimi and his team hope to discover more species and continue to learn more about the vast Southern Ocean. "This is just the first step in understanding the biodiversity of the Antarctic Ocean," Jimi said. "The next step is to understand the polychaete diversity around Syowa Station. Syowa Station is Japan's Antarctic research station located in East Ongul Island, Antarctica.

**More information:** Naoto Jimi et al, A new deep-sea species of *Flabelligena* from off the South Orkney Islands, the Southern Ocean, *Biodiversity Data Journal* (2020). [DOI: 10.3897/BDJ.8.e53312](https://doi.org/10.3897/BDJ.8.e53312)

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