

Antarctic depths called possible 'cradle of life'

by Bend_Weekly_News_Sources

Scientists have found hundreds of new sea creatures in a vast, dark deep surrounding Antarctica. Carnivorous sponges, free-swimming worms, crustaceans, and mollusks living in the Weddell Sea provide new insights into the evolution of ocean life, scientists say.

Reporting in the May 17 issue of the research journal *Nature*, investigators described how creatures at the bottom of the South Ocean "source of much of the world's deep ocean waters" are likely related to animals living in both the adjacent shallower waters and in other parts of the deep ocean. A type of sea urchin known as *Ctenodaris*, whose spines can extend more than 3 inches (7.5 cm). (Courtesy Armin Rose/German Center for Marine Biodiversity)

A key question is whether shallow water species colonized the deep ocean or vice versa. The research findings suggest the gradual cycle of advance and retreat of ice led to an intermingling of species that originated in shallow and deep water habitats, researchers said. "The Antarctic deep sea is potentially the cradle of life of the global marine species," said lead author Ange-Lika Brandt of the Zoological Institute and Zoological Museum of the University of Hamburg. "Our research results challenge suggestions that the deep sea diversity in the South Ocean is poor. We now have a better understanding in the evolution of the marine species and how they can adapt to changes in climate and environments." Kathrin Linse of the British Antarctic Survey added: "What was once thought to be a featureless abyss is in fact a dynamic, variable and biologically rich environment. Finding this extraordinary diversity treasure trove of marine life is our first step to understanding the complex relationships between deep ocean and the distribution of marine life." Three research expeditions on a German research ship, as part of a project called Antarctic Benthic Deep-sea Biodiversity, took place between 2002 and 2005. An international team from 14 organizations studied the sea floor, its continental slope rise and changing water depths to build a picture of the little known region. They identified over 700 new species.

Courtesy British Antarctic Survey and World Science

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