Antarctic depths called possible 'cradle of life'

by Bend_Weekly_News_Sources

SciÂ-enÂ-tists have found hunÂ-dreds of new sea creaÂ-tures in a vast, dark deep surÂ-roundÂ-ing AntÂ-arcÂ-tiÂ-ca. CarÂ-nivÂ-oÂ-rous sponges, free-swimÂ-ming worms, crusÂ-taceans, and mollusks livÂ-ing in the WedÂ-dell Sea proÂ-vide new inÂ-sights inÂ-to the evÂ-oÂ-luÂ-tion of ocean life, sciÂ-enÂ-tists say.

ReÂ-portÂ-ing in the May 17 isÂ-sue of the reÂ-search jourÂ-nal NaÂ-ture, inÂ-vesÂ-tiÂ-gaÂ-tors deÂ-sÂ-cribed how creaÂ-tures at the botÂ-tom of the SouthÂ-ern Oceanâ€”source of much of the worldâ€™s deep ocean waÂ-tersâ€”are likeÂ-ly reÂ-latÂ-ed to anÂ-iÂ-mals livÂ-ing in both the adÂ-jaÂ-cent shalÂ-lower waÂ-ters and in othÂ-er parts of the deep ocean. A type of sea urÂ-chin known as CtenoÂ-ciÂ-daÂ-ris, whose spines can exÂ-tend more than 3 inches (7.5 cm). (CourÂ-teÂ-sy ArÂ-min Rose/GerÂ-man CenÂ-ter for MaÂ-rine BioÂ-diÂ-verÂ-sity)
A key quesÂ-tion is whethÂ-er shalÂ-low waÂ-ter speÂ-cies colonized the deep ocean or viÂ-ce versa. The reÂ-search findÂ-ings sugÂ-gest the glaÂ-cial cyÂ-cle of adÂ-vance and reÂ-treat of ice led to an inÂ-terÂ-minÂ-gling of speÂ-cies that origÂ-iÂ-natÂ-ed in shalÂ-low and deep waÂ-ter habiÂ-tats, reÂ-searchÂ-ers said.â€œThe AntÂ-arcÂ-tic deep sea is poÂ-tenÂ-tialÂ-ly the craÂ-dle of life of the globÂ-al maÂ-rine speÂ-cies,â€• said lead auÂ-thor AnÂ-geÂ-lika Brandt of the ZoÂ-oÂ-logÂ-iÂ-cal InÂ-stiÂ-tute and ZoÂ-oÂ-logÂ-iÂ-cal MuÂ-seÂ-um of the UnÂ-iverÂ-sity of HamÂ-burg. â€œOur reÂ-search reÂ-sults chalÂ-lenge sugÂ-gestions that the deep sea diverÂ-sity in the SouthÂ-ern Ocean is poor. We now have a betÂ-ter unÂ-derÂ-standÂ-ing in the evÂ-oÂ-luÂ-tion of the maÂ-rine speÂ-cies and how they can adapt to changes in cliÂ-mate and enÂ-viÂ-ronÂ-ments.â€• KaÂ-trin Linse of the BritÂ-ish AntÂ-arcÂ-tic SurÂ-vey added: â€œWhat was once thought to be a feaÂ-tureÂ-less abyss is in fact a dyÂ-namÂ-ic, varÂ-iÂ-aÂ-ble and biÂ-oÂ-logÂ-icÂ-ally rich enÂ-viÂ-ronÂ-ment. FindÂ-ing this exÂ-traÂ-orÂ-diÂ-nary treasÂ-ure trove of maÂ-rine life is our first step to unÂ-derÂ-standÂ-ing the comÂ-plex reÂ-laÂ-tionÂ-ships beÂ-tween deep ocean and the disÂ-triÂ-buÂ-tion of maÂ-rine life.â€•Three reÂ-search exÂ-peÂ-diÂ-tions on a GerÂ-man reÂ-search ship, as part of a projÂ-ect called AntÂ-arcÂ-tic BenÂ-thic Deep-sea BiodiverÂ-sity, took place beÂ-tween 2002 and 2005. An inÂ-terÂ-naÂ-tionÂ-al team from 14 organizations studÂ-ied the sea floor, its conÂ-tiÂ-nenÂ-tal slope rise and changÂ-ing waÂ-ter depths to build a picÂ-ture of the litÂ-tle known reÂ-gion. They idenÂ-tiÂ-fied over 700 new speÂ-cies.

Courtesy British Antarctic Survey and World Science