

DISTRIBUTION OF ZOOPLANKTON COMMUNITY IN THE SEASONAL ICE ZONE ALONG 140°E OF THE SOUTHERN OCEAN, IN PARTICULAR, UNUSUAL ABUNDANCE OF APPENDICULARIANS

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Distribution, abundance, and species composition of the zooplankton communities along 140°E of the Southern Ocean as well as the unusual abundance of appendicularians found were discussed in this study.

During the 43rd Japanese Antarctic Research Expedition cruise in March 2002, plankton net samplings at three stations along a south-north transect, ca. 140°E from 66°S to 61°S in the Indian sector were conducted aboard the Japanese icebreaker *Shirase* to survey zooplankton community structure and abundance in the seasonal ice zone (SIZ) of the Southern Ocean. Net (nylon mesh size 330µm) was vertically hauled from approximately 150 m depth to the surface. A total of fourteen species/taxa were identified from the three stations. While copepods were numerically dominant at two northern stations (79.9% and 93.1% respectively of total abundance), appendicularians were found to be dominant (84.0% of total abundance) at the southernmost station. This dominance of Appendicularia at this station has previously been reported once before in the surveys of the zooplankton communities in the SIZ. The unusual abundance suggested a possibility of Appendicularia being an integral part of the community structure of the ecosystem of the Southern Ocean. Meanwhile, the Southern Boundary (SB) on the 140°E transect was found to be located at ~64.30°S. The southernmost station was located south of the SB while the two other stations were located north of the SB. Some species, such as *Rhincalanus gigas*, *Calanus simillimus*, Amphipoda, Euphausiacea, and Polychaeta, had distribution patterns that correlated with the position of the SB, therefore it is suggested that SB plays a major role in influencing the distribution of the zooplankton and further its community structure in the SIZ.