

ICES/PICES 6ZPS 2016/+

Zooplankton community structure in the continental slope of the South China Sea in Autumn, 2014

Xiaoxia SUN, Shan ZHENG, Junhua LIANG, Wenjing ZHANG, Juan DU, Mingliang ZHU

Institute of Oceanology, Chinese Academy of Sciences

7 Nanhai Road, Qingdao, 266071, China, email: xsun@qdio.ac.cn

In order to study the relationship between zooplankton and mesopelagic fish, the zooplankton community structure was investigated in the continental slope area of the South China Sea in October, 2014. The spatial distribution of zooplankton dominant groups, the diel vertical migration pattern, and the normalized biomass size spectra (NBSS) were analyzed. The surveyed area was divided into continental shelf, continental slope and deep water in order to compare the characteristics of different waters. The abundance of total zooplankton was 850, 650 and 840 ind/m³ in the shelf, slope and deep water, respectively. Food zooplankton, especially copepods, dominated zooplankton in the 3 areas. For the vertical distribution, the maximum zooplankton abundance occurred in the waters shallower than 100 meters, especially 50-100 meters. For the diel vertical migration, the abundance and biovolume of zooplankton in the 50m layer reached maximum at 20:05. The zooplankton abundance at daytime of 8:05 and 13:25 have a relatively high abundance but low biovolume, indicating that the mesopelagic fish went up to the upper layer to predate the larger zooplankton at night and migrated to deep water at daytime. The slope of the normalized biomass size spectra, varied from -0.67, -0.68 to -0.79 from the shelf, slope to deep water, indicating the energy transfer is more efficient in the deep water than shelf area.

Key words: continental slope, the South China Sea, zooplankton community

Contact author: Dr. Xiaoxia Sun, Institute of Oceanology, Chinese Academy of Sciences, 7 Nanhai Road, Qingdao, 266071, China, email: xsun@qdio.ac.cn