The effect of temperature on the development of *Neocalanus plumchrus* reared in the laboratory

[修士論文(部分）中間発表]

Neocalanus plumchrus is the most numerous copepods among the three *Neocalanus* species predominate in the subarctic Pacific Ocean Life cycle patterns of *N. plumchrus* have been analyzed based on seasonal samplings, but detail information about the developmental time of each copepodid stage has not been left unknown. I attempted to raise *N. plumchrus* from eggs to late copepodid stages in the laboratory.

Mature females of *N. plumchrus* were caught at Site H in the Oyashio region in March 2006, and brought back to the land laboratory to obtain egg and observe its subsequent development under graded temperature regimes between 2.5 and 10ºC. Egg hatching success was not affected by the temperature and highly varied from 43% to 83%. When Nauplii reached stage 3, a mixture of phytoplankton (*Prorocentrum* sp. *Phaeodactylum tricornutum*, *Chaetoceros gracilis* and *Isochrysis* sp.) was provided as food at final concentration of 1×10^4 cells ml^{-1} (about 3 μg C ml^{-1}). Among a total of 93 specimens of copepodid stage 1 obtained in this study, only 2 reached C3 and only 1 reached C5 (no specimen developed C6). The effect of temperature on the development time of copepodid stages 1 and 2 was expressed as Bélehradék function. The analysis of body size of copepodid stages is in progress and the comparison with those of wild specimens from the Oyashio region will be made to validate extrapolation of the present data of early copepodid stages to the wild populations in the future.

佐藤　健一

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