Annual cycle and opportunistic response of *Oikopleura dioica* (Tunicata) in a semi-closed embayment: tradeoffs between growth and reproduction

Guang-Tao ZHANG and Yong-Jie WANG

Jiaozhou Bay Marine Ecosystem Research Station, Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China

□The gelatinous tunicates with rapid bloom capability can act as a shortcut in the marine food web. Through efficient and non-selective filter-feeding, organic matters was passed on in forms of houses renewed in hours and young generations matured in days. To evaluate the environmental adaptation of the most common appendicularian species *Oikopleura dioica* in the Jiaozhou Bay, its annual variation in abundance and body size was investigated monthly, and the opportunistic response to nutrient variation was observed twice a week in summer. High abundances were recorded mostly in the eutrophicated inner part of the bay in summer. Comparing to other zooplankton taxa, *O. dioica* exhibited the most dramatic response to freshwater input. Its abundance peaked following the phytoplankton bloom in a week, accompanied by a nutrient minimum. Comparing to results in laboratory and open waters, *O. dioica* reached shorter body size in the Jiaozhou Bay, despite the high natural Chl *a* concentrations. The monthly averaged body and gonad lengths varied between 325.3 - 521.4 and 39.8 – 99.2 μm, respectively. During bloom period from July to October, the population was consisted entirely immature stages. In the other months, proportion of mature stages was highest in January (22.5%), and lower than 7% in the others. It was indicated that the growth and population recruitment of *O. dioica* can be limited by competition from other herbivores. Instead of maximum fecundity, early maturation is adopted for quick and opportunistic response to algal blooms

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Corresponding author: gtzhang@qdio.ac.cn