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Martedì 25 Ottobre 2016 - ore 12 SALA RIUNIONI SEMINARIO



"Influence of environmental conditions at different time scale on feeding and early life history traits of an inshore notothenioid fish from the South Shetland Islands"

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ABSTRACT

Feeding plasticity and growth rate during the early ontogeny are key factors in unpredictable, highly seasonal and harsh environments such as the Antarctic inshore waters. We studied the biophysical interactions in the early life stages of the Antarctic spiny plunderfish *Harpagifer antarcticus*, a common component of the littoral benthic fish community distributed along the southern Scotia Arc. In this study, we tested the hypothesis that variability of phyto- and microzooplankton abundance determined by meteorological and oceanographic forcing occurs at different time scale (tidal, weekly), affecting in turn feeding habits, selectivity and life history traits linked to growth. As a result, the early life history strategy of this species consists of a spring-summer hatching of small, faster growing larvae, which develop into a demersal juvenile stage before their first winter of life; in addition, larvae exhibit a striking feeding behaviour plasticity ensuring higher feeding rates after major changes triggered by meteorological conditions.