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Università degli Studi di Napoli "Parthenope"

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Topic: Marine biology and ecology

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ABSTRACT Subject :

Larval and juvenile fish community in the Bay of Whales (eastern Ross Sea): species composition, relative abundance and spatial distribution

Abstract 15/02/2023 10:44:53

Early life stages of fish represent a key component in the food chain of the pelagic ecosystem of the Southern Ocean, connecting producer trophic levels to those of higher predators. In particular, pelagic larvae and early juveniles of notothenioid fishes overwhelmingly dominate the ichthyoplankton community living on the continental shelf. Scientific research surveys targeting early life stages of fish in the pelagic realm have been mainly carried out in the western Ross Sea, whereas the eastern side can be considered unexplored. As source of high primary production, the presence and timing of formation of wide ice-free areas throughout the year (polynyas) in the Ross Sea play a fundamental role in structuring larval fish community. The Ross Ice Shelf Polynya (RISP) is a large coastal polynya, which is driven and maintained by local prevailing winds and oceanic currents. RISP is located in the southern Ross Sea, extending eastwards from Ross to Roosevelt Islands. In the present study we report the first data on species composition, relative abundance and spatial distribution of larval and juvenile fish community found off the Bay of Whales in the eastern Ross Sea. As reported for other areas of the Ross Sea, the Antarctic silverfish *Pleuragramma antarcticum* was by far the most abundant species, followed by other nototheniids and channichthyids in smaller amounts, all mainly distributed in the upper water layers. In addition, consistent aggregations of early larvae of *P. antarcticum* seem to confirm the presence of a potential nursery area in proximity of the Bay of Whales, as hypothesized in a previous study. Present results strongly advocate for future investigations in these poorly known and remote areas.

