410

FECUNDITY OF KRILL IN THE INDIAN OCEAN SECTOR: ARE THEY REALLY LESS PRODUCTIVE?

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Antarctic krill (*Euphausia superba*) is vitally important in the Antarctic ecosystem, both ecologically and economically. However, most studies that have focussed on their reproductive ecology have been undertaken in the southwest Atlantic sector, and very few in the Indian Ocean sector. This study examines the egg batch sizes and number of spawning events by staging and counting developing oocytes in ovaries of mature females collected from three surveys in the Indian Ocean (BROKE, Jan-Mar 1996; KACTAS, Jan-Feb 2001; and KAOS, Jan-Feb 2003). The mean egg batch size of average sized (~45 mm) females ranged from 1,382 eggs.batch^{-1} to 1,990 eggs.batch^{-1}. The percentage of younger and developing previtellogenic oocytes in the ovaries was low, indicating that no major spawning events occurred after the timing of the observations. Since it is known that they require a few months to fully develop their ovaries, and the spawning season in the Indian Ocean sector begins in January, we conclude that krill in the Indian Ocean sector produce only one major batch of mature oocytes, with possibly one other smaller batch during the reproductive season. In comparison with the highly productive regions in the Antarctic Peninsula, average sized females (~45 mm) were expected to release 3,770 eggs.batch^{-1} and spawn multiple times. Thus, the overall population fecundity and the potential strength of the year classes were low in the Indian Ocean sector.