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DISTRIBUTION OF SALPS NEAR THE SOUTH SHETLAND ISLANDS DURING AUSTRAL SUMMER, 1990–1991 WITH SPECIAL REFERENCE TO KRILL DISTRIBUTION (ABSTRACT)

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The distribution and biomass of salps and Antarctic krill (*Euphausia superba*) was investigated near the South Shetland Islands during the austral summer, 1990–1991. During the cruise, these macrozooplankton were the most dominant components in the net samples; their mean biomass accounted for more than 90% of the total plankton biomass in wet weight. Salp biomass ranged between 0 and 556 $mgC \cdot m^{-3}$ and was greatest at a station in the Bransfield Strait in late December 1990. The mean biomass of salps was similar to that of *E. superba* at the wet weight level, however much lower in the form of carbon. Two species of salps, *Salpa thompsoni* and *Ihlea racovitzai*, were found; the former was dominant numerically. The generational composition of these two species was different; the solitary zooid to aggregate zooid ratio was lower in *S. thompsoni* (the Mann-Whitney *U*-test, $p < 0.05$). Spatial distributions of *S. thompsoni* and *E. superba* did not overlap, particularly over the January-February period. While *E. superba* was found mainly in the coastal area where high-chlorophyll *a* values were observed, *S. thompsoni* exhibited high biomass in the oceanic area of low chlorophyll *a* concentration. We discuss the reason for their contrasting distribution patterns, in particular the reason why low numbers of krill occurred in salp-rich stations, using our results, combined with previous knowledge on gut contents, carbon budgets, the clearance rate of *S. thompsoni* and primary production in this area (see NISHIKAWA *et al.*, 1994, Polar Biol. in press).

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