Cannibalism in *Euphausia superba* Dana

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Cannibalistic behaviour was observed in captive Euphausia superba. *The suggestion is made that such behaviour may be utilised under natural conditions to offset low food availability.*

Die kannibaalse gedrag van Euphausia superba *is in 'n laboratorium waargeneem. Daar word voorgestel dat hierdie gedrag in die natuur gebruik word ten tye van voedselskaarste.*

The Antarctic krill, *Euphausia superba* Dana, is considered a selective herbivore (Barkley 1940, Marr 1962). However, it has been suggested that under certain conditions it may become carnivorous, consuming a variety of zooplankton, particularly copepods (Mauchline & Fisher 1969). To date, cannibalism has been observed only once as a method of food selection (McWhinnie *et al.* 1979).

During a recent cruise to the Southern Ocean, krill were maintained for some time in a large aquarium (Miller *et al.* 1983). Cannibalistic behaviour by captive animals was observed on two occasions. In each case, a relatively large, mature animal (body length ca. 45 mm) was seen to consume a smaller live juvenile (body length ca. 20 mm). Chitinous material and eye fragments were later found in the gut of the larger animals when sacrificed, suggesting that prey animals were actually ingested.

It was not possible to ascertain whether the observed behaviour was a result of captive conditions or not. Nevertheless, krill have been shown to exhibit cannibalistic tendencies in their natural environment and it has been suggested that this would provide an alternative food resource during periods of low food availability (Pavlov 1971). For this reason, cannibalistic behaviour in *E. superba* may represent a response to the highly seasonal variation of Antarctic plankton abundance (Foxton 1962), thus providing nourishment during unproductive winter months.

Acknowledgements

The funding of the Sea Fisheries Research Institute and South African National Committee for Oceanographic Research is gratefully acknowledged.

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