

STOMACH CONTENTS OF A GREYBACKED STORM PETREL *GARRODIA NEREIS* FROM SUBANTARCTIC MARION ISLAND

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Greybacked Storm Petrels *Garrodia nereis* are small seabirds with a circumpolar breeding distribution in the Subantarctic (Warham 1990). These birds are not often seen, and even fewer have been collected, at Marion Island (46°54'S, 37°45'E), where less than 100 pairs are believed to occur but breeding has not been proven (Williams *et al.* 1979, Cooper & Brown 1990). On 9 February 1994 in foggy conditions a Greybacked Storm Petrel flew against a building of the meteorological station in Transvaal Bay and broke its neck. The bird had a body mass of 36 g, wing and culmen lengths were measured as 122 mm and 13 mm, respectively. The stomach of the bird was filled to capacity with 2.7 g of food (equivalent to 8.1% of body mass), consisting almost entirely of cypris larvae of the stalked barnacle *Lepas australis*. The only other item found was one very damaged specimen of a euphausiid crustacean, tentatively assigned to the genus *Euphausia* because of its spherical (not bilobed) eyes. The sizes (greatest length) of the cypris larvae ranged from 2.05–2.70 mm (n=24), with a mean of 2.34 mm (SD=0.18 mm) (Fig. 1). A subsample of 211 cypris larvae was weighed on an analytical scale and gave a wet mass of 0.4184 g, SD=0.0012 g (mean of four weighings). Given that the total stomach mass was 2.7 g and subtracting 0.05 g (an estimate) for the mass of the euphausiid, the bird consumed a minimum of $211(2.7-0.05)/0.4184 = 1336$ cypris larvae during its final foraging trip.

Ridoux (1994) has recently shown that *Lepas australis* larvae also formed the bulk of the diet of the Greybacked Storm Petrel at all other localities where it has been sampled, including the only four food samples that have been collected previously at Marion Island (Grindley & Lane 1979, Imber 1981). Cypris sizes reported by Ridoux (1994) from three stomach contents were iden-

tical to the measurements obtained from our sample. Ridoux (1994) identified the euphausiid *Euphausia vallentini* and the hyperiid amphipods *Themisto gaudichaudii* and *Cylopus lucasii* in the Crozet diet.

The Greybacked Storm Petrel obtains its food from the surface of the ocean, employing the feeding methods of pattering and dipping without alighting (Warham 1990). The species is thought to forage preferentially over drifting kelp rafts and other floating debris, where dense elongated swarms of the free-living cyprid larvae of *Lepas australis* find shelter before metamorphosis into sessile stalked thoracic crustaceans (Ridoux 1994). The new data presented here support this concept since the storm petrel would have to find a cypris larva almost every 30 seconds during the 12 hours of daylight prevailing at that time to collect this number of prey.

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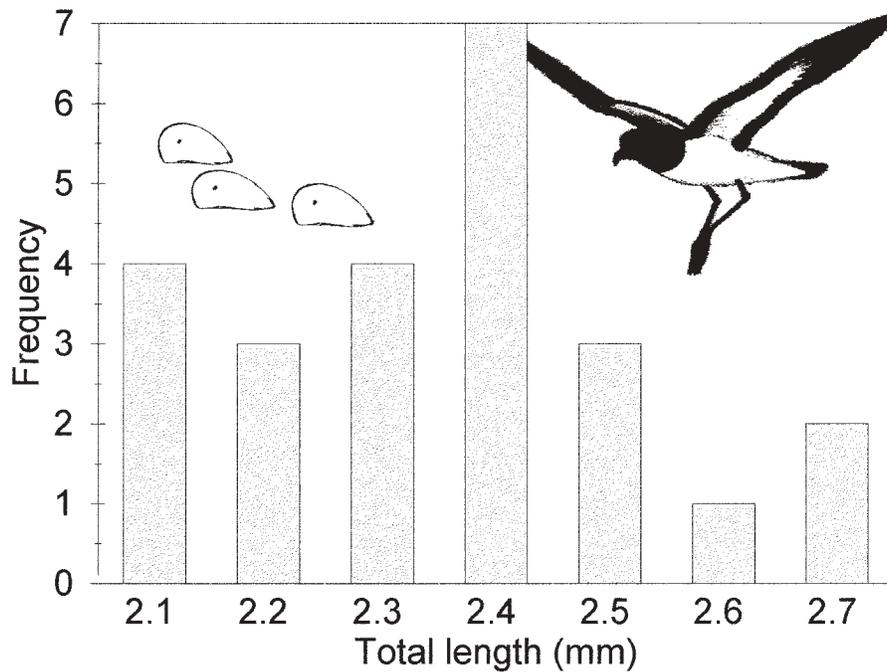


Figure 1. Size distribution of cypris larvae of *Lepas australis* consumed by a Greybacked Storm Petrel from Marion Island.

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