Notornis, 2008, Vol. 55: 207-208
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SHORT NOTE

Southern royal albatross (*Diomedea epomophora*) dies from ingesting a porcupine fish

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On 12 Nov 2006, PFB and SJM found the carcass of a southern royal albatross (*Diomedea epomophora*) on Kariotahi Beach, South Auckland, New Zealand (37°18′S, 174°40′E). The bird's abdomen was open and empty, indicating that the carcass had been scavenged, but the bird was still flexible and the flesh of the neck was not decomposed. Further investigation revealed 2 points of interest: 1st, the bird was banded (RA-2321); 2nd, the outline and spines of an inflated porcupine fish (*Allomycterus jaculiferus*) were visible under the skin of the throat where the feathers had come off (Fig. 1A). After the skin of the throat was cut back, a porcupine fish could be seen clearly (Fig. 1B). The partly decomposed fish measured 270 mm from tip of the snout to the base of its tail fin.

The choice of a sizeable porcupine fish for a meal was doubly unfortunate for the albatross. Porcupine fish inflate themselves with water when threatened, expanding their volume greatly. This would have blocked the bird's throat and probably choked it. Furthermore, the skin of the porcupine fish contains tetrodotoxin, a paralysing toxin that interferes with nerve impulse transmission and would probably have killed the bird even if the fish's expanded body did not choke it.

The albatross had been banded initially (R-48543) as a chick by PJM at the "Col" study area on Campbell I (52°33′S, 169°09′E, 1748 km from Kariotahi Beach) on 29 Sep 1996. It had been rebanded (RA-2321) as a breeding 9-year-old bird at the Col study area on 15 Jan 2005. Its breeding failed at the egg stage and it bred again with the same partner in 2005/06. It was last seen on 11 Feb 2006 incubating a "starring" (initial stage of hatching) egg. That RA-2321 was still in New Zealand waters in Nov suggested that

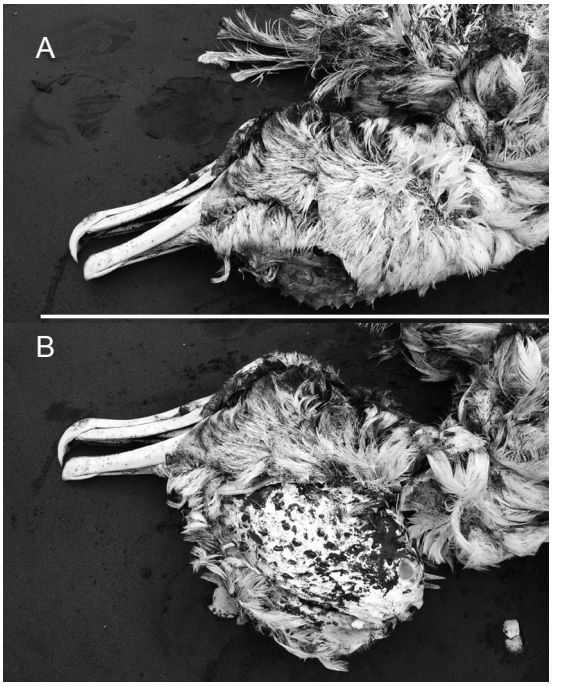

Fig. 1 A, Southern royal albatross (*Diomedea epomophora*) with spines of a porcupine fish (*Allomycterus jaculiferus*) visible in the exposed bare skin of the throat. **B,** The skin of the bird's throat peeled back, revealing more of the porcupine fish. The black material on the fish is beach sand. Photos: Phil Battley.

Received 17 Jun 2006; accepted 31 March 2007

Fig. 2 Southern royal albatross (*Diomedea epomophora*) banded RA-2321 at its nest on Campbell I, Jan 2005. Photo: Peter Moore.

Fig. 3 Large fish skull found near a southern royal albatross (*Diomedea epomophora*) nest on Campbell I. Photo: Stacy Moore.

the breeding may have been successful, as the chick would have fledged in Oct, a supposition that was corroborated by the presence of downy feathers at the nest-site in Jan 2007 (PJM).

Banded adult southern royal albatrosses have been found before during beach patrols on the west coast of northern New Zealand (Moore & Bettany 2005). Coastal records of royal albatrosses increase in Nov-Jan, coinciding with the end (Nov) and beginning (Jan) of the breeding seasons (Powlesland 1985).

Most royal albatrosses feed on items taken at the surface (Marchant & Higgins 1990); post-spawning squid are preferred, but fish are also eaten (Imber 1999). They mostly take dead or dying prey (Imber 1999). Albatrosses can dislocate their jaws and expand their gape and throat to ingest large items, including large, and often spiny fish whose skulls and skeletons have been found near albatross nests on Campbell I (Fig. 3). These remains were probably indigestible parts regurgitated by adults, chicks, or both. Albatrosses also ingest man-made objects such as plastics, which indicates that they feed indiscriminately on items at the sea surface. Hence, the birds are subject to mortality by their ingestion of problematic natural prey as well as human refuse.

ACKNOWLEDGEMENTS

We thank Paul Sagar for helpful comments on the manuscript.

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Keywords southern royal albatross; *Diomedea epomophora*; porcupine fish; cause of death