

FISHING HOOKS ASSOCIATED WITH ALBATROSSES AT BIRD ISLAND, SOUTH GEORGIA,

1992/1993

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SUMMARY

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Six hooks or lines of the types used in longline fishing were removed from or regurgitated by Blackbrowed *Diomedea melanophrys* and Wandering Albatrosses *D. exulans* at Bird Island, South Georgia in 1992/93. Some similar previous observations are reported but this is the highest incidence so far recorded in one season.

INTRODUCTION

Incidental mortality of seabirds, especially albatrosses, in association with longline fisheries is now well-documented (Croxall *et al.* 1990, Brothers 1991, Bartle 1991, Vaske 1992, Murray *et al.* 1993). Observations of fishing lines and hooks being attached to, or regurgitated by, seabirds are made from time to time (e.g. Weimerskirch & Jouventin 1987, W.R. Fraser in SC-CAMLR 1992, paragraph 8.13) but most go unreported. This note is to record observations made at Bird Island, South Georgia in the austral summer of 1992/93 in the hope that the topic will receive more attention and that future records of associations between seabirds and fishing debris at breeding sites may be made and reported on a more systematic basis.

METHODS

The records reported here were made incidentally during other field work at Bird Island and do not represent the results of systematic searches.

However, it is unlikely that other instances involving breeding birds in study colonies (see Croxall *et al.* 1990, Prince *et al.* 1994) would have been overlooked.

RESULTS

With Wandering Albatrosses, the five records were made between the start of field work in late November 1992 and the end of the main annual capture-mark-recapture work on 31 January 1993; during this period 2466 breeding birds were checked, many more than once.

For Blackbrowed Albatrosses, the single record was made during the main annual capture-mark-recapture work, between early October and 31 December, during which a total of c. 850 breeding birds were checked, many more than once.

The data recorded are as follows:

- i. Late November 1992

Fishing hook amongst a pile of regurgitated squid beaks from a Wandering Albatross chick in Wanderer Valley. The barb was bent back on itself, which possibly prevented it from hooking into the chick and allowed it to be expelled.

ii. 11 December 1992

Monofilament nylon fishing line amongst squid beaks regurgitated by a Wandering Albatross chick, Wanderer Ridge Study Area.

iii. 11 December 1992

Fishing hook found on ground, not immediately next to a nest, Wanderer Ridge Study Area.

iv. 20 December 1992

Monofilament nylon fishing line protruding from the throat of a breeding Blackbrowed Albatross *D. melanophris* in colony I. It was suspected that the bird had swallowed a piece of fishing gear that had become lodged in its stomach. The line was trimmed but could not be removed.

v. 31 December 1992

Fishing hook removed from the foot of a breeding male Wandering Albatross, Gony Ridge.

vi. 18 January 1993

Fishing hook found on ground with about 0.6 m of fishing line attached, Wanderer Valley albatross breeding area.

Examples of the hooks involved in records i, iii, v, vi (together with other hooks and a squid jig retrieved in previous seasons) are illustrated in Fig 1.

DISCUSSION

Three fishing hooks of the type illustrated in Fig. 1a have been found beside nests and removed

from adult Wandering Albatrosses in several previous years (since 1987) at Bird Island (J.P. Croxall & P.A. Prince pers. comm.). In addition, four smaller fishing hooks (see Fig. 1c) have been removed from albatrosses since 1987 and two entire squid jigs (and several fragments) have been found associated with regurgitations of squid beaks (see Fig. 1d). In no previous year have more than two observations of hooks or jigs been made (J.P. Croxall & P.A. Prince pers. comm.).

The number of records in a relatively short period in 1992/93 is, therefore, a matter of some concern, even though the proportion of breeding birds so affected is only 0.2% for Wandering Albatrosses (giving a Bird Island total of five birds based on 98% of breeding birds being checked in 1992/93) and 0.1% for Blackbrowed Albatrosses (giving an estimated total of 35 birds from the whole Bird Island breeding population of 14 695 pairs (Prince *et al.* 1994)).

Because all but one of the records refer to hooks removed from birds (which were seen alive subsequently) or hooks successfully regurgitated by birds, we have little evidence that the birds involved were adversely affected. It is not improbable, however, that in at least as many other cases, hooks become lodged internally, cannot be regurgitated and may significantly impair future feeding and survival. Indeed, Weimerskirch & Jouventin (1987) reported Wandering Albatrosses dying on their nests at the Crozet Islands due to hook wounds.

Albatrosses obviously swallow, or become ensnared by, hooks and jigs by associating with fishing vessels. In the present case all hooks are believed to derive from longline fishing for tuna or the Patagonian Toothfish *Dissostichus eleginoides*. The birds involved in our records are likely to have been caught during hauling operations (if caught during setting they would either drown or struggle free leaving the hook behind, see Brothers 1991) and then cut free by



Figure 1

Fishing hooks and jigs removed from or regurgitated by albatrosses at Bird Island, South Georgia; a) hook (sample i) of type referred to in all 1992/93 records (i.e. i, iii, v, vi) in the present paper; b) hook from Japanese Southern Bluefin Tuna long-line, as retrieved from dead Wandering Albatrosses as reported by Brothers (1991). Source: N.P. Brothers, 1992; c) hook, believed to come from a *Dissostichus* longline, removed from throat of Wandering Albatross (WF59) at Bird Island on 3 January 1991; d) squid jig regurgitated with squid beaks beside a Wandering Albatross nest on Gony Ridge, Bird Island, December 1991.

fishermen. Obviously only those birds that survived this treatment, at least temporarily (see Weimerskirch & Jouventin 1987) can be recorded back at the breeding colonies.

Where the albatrosses become hooked is uncertain. In the case of breeding Wandering Albatrosses from South Georgia the birds could have been hooked in areas of the South Atlantic ranging from southern Brazil to Tierra del Fuego and the Falkland Islands, as well as in the vicinity of South Georgia (Croxall & Prince 1990, Prince *et al.* 1992). Breeding Blackbrowed Albatrosses from South Georgia, however, range much less widely and are chiefly associated with the coastal shelf area of South Georgia and the South Orkney Islands (Croxall & Prince 1994, P.A. Prince & A.G. Wood unpubl. data). This bird, therefore, was almost certainly hooked within the CCAMLR Convention Area.

Longlining for tuna in the South Atlantic is confined to low latitudes, extending south to northern Argentina, so breeding birds caught on hooks like those illustrated in Fig. 1a and b are likely to have been caught north of about 40°S. Longlining for *Dissostichus* currently takes place only around southern Chile, the Falkland Islands and South Georgia; birds caught on hooks like those shown in Fig. 1c will have been caught south of about 50°S in one of these three areas. Acquisition of squid jigs is most likely to result from albatrosses associated with the extensive squid fisheries on the Patagonian Shelf (around 45-55°S).

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