ANTARCTIC AND SUBANTARCTIC SEABIRD BANDING TOTALS FOR THE PERIOD SEPTEMBER 1983 -- AUGUST 1984

T. B. OATLEY

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INTRODUCTION

One of the functions of the Central Data Bank for Antarctic Bird Banding (CDB) is to publish annual summaries of seabird banding effort at Antarctic and Subantarctic seabird breeding localities The first report covered the 1982-1983 austral summer (Oatley & Cooper 1985). This report covers the period September 1983 to August 1984.

Copies of banding schedules for the review period have been received by the CDB from the Antarctic Division, Australia; the Centro de Estudos de Migraçôes de Aves (CEMAVE), Brazil; the British Antarctic Survey, U.K.; the South African Bird Ringing Unit (SAFRING), South Africa, and the Bird Banding Laboratory, Fish and Wildlife Service, U.S.A. Banding summaries for Subantarctic islands and for island and Antarctic mainland stations were submitted by New Zealand and France respectively. Summaries and primary data have also been received from the German Democratic Republic; these summaries cover seven years of Antarctic banding but are not divisible into discrete austral seasons. For this reason precise figures for the period under review cannot be extracted, though the banding schedules permit the compilation of accurate addenda to the 1982-1983 totals.

METHODS

Species totals from schedules and summaries were coded in SAFRING format and computerized. These data were processed to provide national totals and grand totals of species banded, and were subsequently stored on magnetic tape. Species totals were subdivided into two age groups: birds hatched in the period under review (i.e. known-age birds of the year), and older subadult or adult birds, usually of unknown age.

RESULTS

The provisional total of birds banded in the 1983-1984 year is 10 365 individuals of 31 species. Table 1 gives banding effort at the family level and shows that the penguin, albatross and the petrel - shearwater families have received the most attention, accounting for approximately 93 % of the birds banded. No storm petrels or diving petrels were banded during the review period.

TABLE 1

BANDING EFFORT AT BIRD FAMILY LEVEL

FAMILY	Species banded	Total banded
SPHENISCIDAE - Penguins	7	3 696
DIOMEDEIDAE - Albatrosses	8	2 673
PROCELLARIIDAE - Petrels & Shearwaters	10	3 258
PHALCROCORACIDAE - Cormorants	1	253
CHIONIDIDAE - Sheathbills	1	18
STERCORARIIDAE - Skuas	2	388
LARIDAE - Gulls	1	52
STERNIDAE - Terns	1	27
TOTALS	31	10 365

Table 2 lists the species in descending order of numbers banded. The age groups are fairly evenly divided with 51,8 % of the total being of birds of the year.

Table 3 gives the national contributions to banding totals and lists the banding stations used by each national group. In all, 57,3 % of the birds were banded at Antarctic maritime island and continental mainland localities, with the balance of 42,7 % banded on islands to the north.

DISCUSSION

The totals for the period under review are incomplete because summarized information received from the German Democratic Republic indicates that 2 161 birds of 10 species were banded between December 1983 and April 1985. A proportion of these may have been banded in the period December 1983 to March 1984, and it is hoped that further details will allow an accurate addendum to be published to the present report.

A problem that arose in the extraction of data for this report concerned the ambiguity of age codes used by some banding schemes. It is, of course, difficult to find terms that will unambiguously describe the stage of development of both altricial and precocial birds, especially those that receive long periods of parental care. The term 'juvenile' is ambiguous, especially when used in addition to 'chick' or 'pullus' and in the absence of 'immature' or 'subadult'. The Australian banding summaries seem to offer the best compromise, being subdivided into two age groups: 'pulli and runners' and 'adults and free-flying'. This arrangement has the merit of classifying all unequivocal new recruits into the known-age category. It can be argued that the term 'free-flying' is inappropriate for penguins and that it can include young birds of the year that may still be wholly or partially dependent on parents for food. In practice, this category is used when the bander isn't sure of the age of the bird.

In this report, the Brazilian birds coded as 'Jov' (= 'fledged bird') have been treated as young of the year, along with 'Ninhego' (= young at the nest). Brazilian schedules also provide a code 'SA' for subadult birds; these have been classed as 'full grown birds' in Table 2, meaning adults and all ages other than new recruits. The 'Jov'-coded birds were all penguins.

The New Zealand summary employs four age categories: 'pullus', 'juvenile', 'adult' and 'unknown'; 199 Blackbrowed Albatrosses and 51 Greyheaded Albatrosses coded as juveniles were here placed in the 'full grown' category. The birds might have been fully-feathered young of the year or young of a previous year loafing in the colony.

The important requirement for these annual banding summaries is to be able to indicate what percentage of the banding effort has

TABLE 2

SPECIES BANDED IN 1983-1984, LISTED IN DESCENDING ORDER OF TOTAL NUMBERS

Species	Young of Year	Full-grown	Totals
Chinstrap Penguin *Pygoscelis antarctica*	257	2 907	3 164
Wandering Albatross *Diomedea exulans*	1 272	260	1 532
Southern Giant Petrel *Macronectes giganteus*	907	341	1 248
Pintado Petrel *Daption capense*	497	119	616
Yellownosed Albatross *Diomedea chlororhynchos*	334	192	526
Antarctic Petrel *Thalassoica antarctica*	396	0	396
Subantarctic Skua *Catharacta antarctica*	158*	152	310*
Blackbrowed Albatross *Diomedea melanophris*	75	228	303
Antarctic Fulmar *Fulmarus glacialoides*	255	45	300
Northern Giant Petrel *Macronectes halli*	219	44	263
Imperial Cormorant *Phalacrocorax atriceps*	250	3	253
Snares Crested Penguin *Eudyptes robustus*	199	0	199
Greyheaded Albatross *Diomedea chrysostoma*	0	193	193
Snow Petrel *Pagodroma nivea*	152	21	173
Adélie Penguin *Pygoscelis adeliae*	129	36	165
Blue Petrel *Halobaena caerulea*	0	154	154

* Includes hybrids of Subantarctic and South Polar Skuas

TABLE 2 contd.

Species	Young of Year	Fullgrown	Totals
Macaroni Penguin *Eudyptes chrysolophus*	101	1	102
Whitechinned Petrel *Procellaria aequinoctialis*	12	75	87
Sooty Albatross *Phoebetria fusca*	37	49	86
South Polar Skua *Catharacta maccormicki*	25	53	78
Kelp Gull *Larus dominicanus*	23	29	52
Gentoo Penguin *Pygoscelis papua*	2	28	30
Antarctic Tern *Sterna vittata*	25	2	27
Yelloweyed Penguin *Megadyptes antipodes*	20	0	20
Grey Shearwater *Procellaria cinerea*	0	18	18
American Sheathbill *Chionis alba*	15	3	18
Rockhopper Penguin *Eudyptes chrysocome*	0	16	16
Lightmantled Sooty Albatross *Phoebetria palpebrata*	10	5	15
Royal Albatross *Diomedea epomophora*	0	15	15
Amsterdam Albatross *Diomedea amsterdamensis*	0	3	3
Broadbilled Prion *Pachyptila vittata*	0	3	3
TOTALS	5 370	4 995	10 365
%	51,8	48,2	-

TABLE 3

NATIONAL DISTRIBUTION OF BANDING EFFORT 1983-1984

Country	Banding Localities	Nos. Banded	Percentage of total
AUSTRALIA	Macquarie Island Davis, Antarctica	1 072	10,3
BRAZIL	South Shetland Islands	4 025	38,8
FRANCE	Possession I., Crozets Amsterdam Island Kerguelen Island Terre Adélie, Antarctica	691	6,7
NEW ZEALAND	Snares Islands Campbell Island	570	5.5
SOUTH AFRICA	Gough Island Marion Island	1 844	17,8
UNITED KINGDOM (B.A.S.)	Bird I., S. Georgia Signy I., S. Orkneys	1 972	19,0
UNITED STATES OF AMERICA	King George Island, South Shetlands	191	1,8
TOTAL		10 365	-

been devoted to new recruits which, although they may suffer a high mortality rate, are of known age and therefore potentially likely to yield more useful data in the long term. As can be seen from the above, current coding practices are not all unambiguous and there would appear to be grounds for standardization. In view of the number of different languages involved amongst the national research groups, the descriptive term employed to describe the age of the banded bird is not important provided that it is unambiguously defined.

It is recommended that standardization of aging criteria and codes be discussed at the next meeting of the Scientific Committee on Antarctic Research (SCAR) Bird Biology Subcommittee of the Working Group on Biology.

ADDENDUM TO THE 1982-1983 REPORT

Scientists of the German Democratic Republic, based at Bellingshausen, banded a total of 380 Southern Giant Petrels, *Macronectes giganteus*, consisting of 364 juveniles and 16 adult birds, during January, February and March, 1983. The birds were banded at various sites on the South Shetland islands.

This means that a total of 573 Southern Giant Petrels were banded in the 1982-1983 austral summer and the grand total of all birds banded during that period moves up to 8 563. (c.f. Oatley & Cooper 1985).

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REFERENCE

OATLEY, T.B. & COOPER, J. 1985. Summary of Antarctic and Subantarctic seabird banding, September 1982-April 1983. *Cormorant* 13:35-42.

T.B. Oatley, Central Data Bank for Antarctic Bird Banding, c/o South African Bird Ringing Unit, University of Cape Town, Rondebosch 7700, South Africa.