

substantially in the past decade due to changing ways of life; the estimated annual hunter kill was 12,500 or 4 per cent of the population. A total of 94 wolves was sighted during the aerial survey work; however, these were concentrated in the area of the Bathurst No. 1 herd which was located east of Great Bear Lake. It was estimated that at least 200 wolves were in the vicinity of this herd of 93,000.

Four methods were used to obtain estimates of caribou numbers in the major herds: 1) a total count, 2) a strip census, 3) aerial photography, and 4) a ratio method to account for missed sex and age components. There is considerable discussion of each of the methods employed and justification for their use. This should be of value to others undertaking population counts of caribou. One of the major criticisms of the report, however, is that there is no adequate basis presented for evaluation of the reliability of the various methods used and in addition, final herd estimates are often adjusted on a subjective basis to account for missed animals. This raises the question of the reliability of the final estimates of herd size. For example on page 23 the author assumed that 20 per cent of the caribou in a timbered area of a strip census were not seen by the observers. His reference to surveys conducted under different conditions and reported by other authors does not seem to be adequate justification for selecting the 20 per cent value. Similar estimates of numbers of caribou that were outside of areas of the census appear equally speculative. On page 29, the Bathurst No. 3 herd, which was not included in the census, is estimated at 25,000 to 30,000 on the logic that this herd was composed almost exclusively of adult bulls assumed to be missing from herds 1 and 2.

It is encouraging that the Canadian Wildlife Service is continuing to make available, through their Report Series of publications, research information on wildlife species. The high quality of the map and figure reproductions in these publications is particularly noteworthy. The liberal use of maps to show distribution and movements of caribou and census routes in Thomas' report add considerable clarity to the presentation. In fact, the lengthy discussion on late winter distribution and spring migration routes appears unnecessary in view of the effective use of the maps. Other excessive detail throughout the report, for example in the narrative of the census procedure, while appropriate for an "in house" administrative report, seems unessential to the published report.

David R. Klein

THE SEVENTH CONTINENT: A WOMAN'S JOURNEY TO ANTARCTICA. By DAPHNE MACHIN GOODALL. *Royston, Hertfordshire, England: The Priory Press Ltd., 1969. 7 x 10 inches, 74 pages; colour, black and white illustrations. 42s.*

For the last few years 'Animals' magazine has been organising 'package tours' to Antarctica for members of the public with £1,500 to spare. Party members are supposed to have some basic interest in wildlife — to look at which is the primary purpose of the trip — but this may be of the slenderest: a mere membership of a natural history society.

Daphne Machin Goodall was one of the lucky 61 who paid out their money in January 1967 and this book is the story of the trip as she saw it. The title is misleading, the text making no pretence to be about "The Seventh Continent". There are 74 pages to the book, 8 of them blank and many more partly so. Not until p. 31 is the party setting sail from the South American mainland for Tierra del Fuego and arrival in Antarctica is not until p. 53. Chapter VII (five and a half pages in all) is about the party's experiences on the edge of the Grahamland Peninsula and their brief dip south of the Antarctic Circle, then, after a cursory look at modern antarctic research teams, the reader finds himself on the way North again.

The author was favourably impressed by the icecaps, but not by the personnel, who are described as "A typically masculine organised community . . . guilty of appalling untidiness".

Some of the photographs are excellent; others less so. One of two giant petrel chicks, the tubular nostrils plainly visible on their massive beaks, is entitled "Giant Skuas"! On the page opposite to this we read that the exclusively ocean-feeding black-browed albatrosses are "quite shamelessly taking penguins' eggs"!

This, unfortunately, is the general standard of the natural history information throughout, and one wonders that the publishers did not get a natural history reader to check on obvious spelling errors such as "zooplankton", "protoza", "fulmer", "guanacho" and "ornothologist"; to change those mysterious "antipods" on which the krill are said to feed, into something more edible and to point out that the first reptiles did *not* evolve during the Cambrian period.

The author has no conception of the meaning of the term 'baleen or whalebone whale' — listing these among a number of others, most of which *are* baleen whales. Nor does

she know what a species might be. After mentioning right and killer whales she writes "Others in the species are the baleen, the blue, the humpback, etc . . .".

Penguins fare little better, one appearing at the beginning and end of the same list under its alternative names of 'chinstrap' and 'ringed'. On p. 53 we learn that king and emperor penguins "are about 4 feet tall" but, by p. 67, even the emperor (which the party did not, of course, see) had dwindled to 3 feet. Some inaccuracy might be excused if the reader was able to enthuse over the thrill of a first meeting with these anthropomorphic birds, but this is denied him. Instead he learns that "the stench is quite unbearable. This takes the romance out of those unflappable birds and the men whose job it is to live among them are really to be admired". Another interesting thought for the Scots and Welsh is that, should the melting of the antarctic ice cause sea level to rise, the Pennines would be the only part of Britain left above water!

It would be tedious to continue in this vein, as one might. Suffice it to say, this is *not* a book for naturalists, although the party was led by such ardent disseminators of natural history information as Peter Scott and Jeffrey Boswall.

A book for the armchair traveller, perhaps, but the writer is so generally frustrated throughout by the lack of facilities and comforts, the time taken up by preliminary health checks, the difficulties of getting cocktail dresses into 44 lbs. of luggage and the lack of heating on the ship, where "the four berth cabins were primitive in the extreme", that even the would-be tourist might have his ardour dampened.

The party "endured a tour" of the town of Punta Arenas, "should have been spared" the visit to a zoo and finished by "having to

endure another four days' cruising among the desolate islands of the West coast of Chile . . . feeling of anticlimax and frustration unrelieved by the rather deadly scenery".

One cannot help thinking that it is the wrong people with the £1,500 to spare. How many enthusiastic would-be travellers could we all name who would have absorbed this unparalleled opportunity through very different eyes? Perhaps the author pinpoints the answer herself, when she says of a visit to a cave in South Chile where the giant sloth was found "It would have been a deal more rewarding to wait till return to London and inspect the skeleton (in the museum) at leisure." Next time, perhaps, she will do this, and pass her £1,500 on to some deserving youngster.

They "played cards and chess, read and watched films", yet she discounts the press' statement of "Tourists in Antarctica", as "tourists would demand more comfort and more information. No one person had undertaken this long, tiring and even hazardous journey for a joy ride". Disallowing "tourists" she describes the passengers as "discoverers"!

Towards the end there is much about the pity of not letting women join the antarctic scientific teams. She is apparently unaware that women scientists have been going south on the icebreakers for most of the last decade — and writing books and papers on their findings there. They write because they have information to divulge or because they were so thrilled with the experience that they were unable to keep it to themselves.

Extravagantly produced (and priced) there is little to recommend this book except that it is easy reading (if one is prepared for some slightly odd grammar and spelling) and it can be got through in a couple of hours.

Mary E. Gillham

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