

SHORT NOTES

ADELIE PENGUINS AND LEOPARD SEALS — A FURTHER NOTE

At the time of writing the review of the predation of Leopard Seals on Adelie Penguins presented earlier this year (Dawson 1974), I had not been able to see the edited journal of Edward Wilson's experiences on the *Terra Nova* expedition (Wilson 1972) in which he gave some records of the numbers of Leopard Seals seen at this time, which is relevant to the figures quoted on page 52 of my account.

Wilson wrote on 20 December 1910 (p. 82): "We saw two Sea Leopards . . . which were the first we had come across . . ." and noted the ship's position as 68° 41' S, 179° 29' W. On 29 May 1911, he wrote (pp. 130-131):

"The Owner [i.e. Captain Scott] and Bowers and I went out on skis to Inaccessible Island [about one mile south of Cape Evans, McMurdo Sound]. We found and killed a young Sea Leopard on the sea ice. I followed its tracks and found that it had come about a mile over the ice from the tide crack. This was a great piece of luck as we haven't had one before. After lunch skinned it with Cherry [i.e. Cherry-Garrard] and buried it with the skeleton in the big drift behind the hut [at Cape Evenas]." Later, on 24 October 1911, he summarised the work of the expedition and noted (p. 188): "We were lucky in securing several Crabeaters and one Sea Leopard during the winter, otherwise vertebrate zoology has been unsuccessful."

Apparently, therefore, Wilson's dramatic pencil sketch of a Leopard Seal in pursuit of an Emperor Penguin (Scott Polar Research Institute 67/4/3), as shown on p. 85 of his *Diary*, is but a rather delightful figment of his imagination rather than a record of an actual field observation.

Some more recent figures of the relative abundance of Leopard Seals in the Antarctic are given in a report from a University of Idaho project on the status and population dynamics of Antarctic seals led by Dr Albert W. Erickson which completed aerial censuses of seals along 249 nautical miles of pack ice. It was reported (NSF 1974: 54) that —

"The density of seals observed this year [i.e. January 1974] in 10 traverses between 122° E and 136° E was 8.32 per square nautical mile of pack ice. This density is twice that observed in 1973 and one-third greater than density values developed for the Amundsen and Bellingshausen seas in 1972. Species composition this year was 81.5% crabeater, 4.9% leopard,

8.7% Weddell and 4.9% Ross . . . Eight shipboard censuses for 50.7 square nautical miles were also performed . . . These resulted in a density value of 12.04 per square nautical mile."

Crabeater seals formed 93% of the observations, and the relative rarity of the Leopard Seal is again demonstrated, as well as the implied caution that some seasonal and geographic variation may be expected.

In a recent description of an Antarctic journey, *The Sea and the Ice* by Professor L. J. Halle (1973), some further comments on predation by Leopard Seals are given which are worth adding here to be read in conjunction with what has been said already (Dawson 1974) —

(pp. 155-156). ". . . the individual penguins find a relative security in numbers. This makes individuals reluctant to be the first into the water at rookeries where seals are waiting. They gather along the edge of the ice blocks that constitute the remains of the ice-foot, where the sea-ice was once attached to the shore, crowding ever more against the brink as more birds arrive, until at last one is crowded over the edge, whereupon the others leap in after it. The seal is presented with a sudden shower of penguins, an embarrassment of riches."

(pp. 241-242): "The Leopard Seal also spends the greater part of its life among the floes of the pack-ice, although many individuals, at least, pass a season along the shores of the continent, attaching themselves, like the skuas, to the Adelie Penguin colonies on which they feast."

(p. 242): "I suppose that Killer Whales, although they hunt in packs, must at least hesitate to attack the most formidable of seals as long as there is any other prey available. This may explain why the Sea Leopard is not as exclusively attached to the vicinity of the ice as the other true Antarctic species. For the fact is that stragglers are recorded north of it. The availability of penguins, rather than its own safety, may well be the chief factor that keeps it about the pack-ice. Who can say that inside the head of a Sea Leopard there is not an intelligence equal to that of a dog, of a Sea Lion, or of a dolphin?"

The most original of Halle's statements is the account on p. 154 of a visit to Cape Crozier on 6 January 1971 where, with Dr & Mrs Muller-Schwarze who were engaged in "a study of the adaptations that enable the Adelie Penguin to cope with the predation of the Leopard Seal," he witnessed a Leopard Seal catching a penguin and shaking another "a moment later."

Here, once again, we see that curious mixture of "history, legend and fact" as documented in my previous account.

I referred, then (p. 43), to Sir Raymond Priestley as the "last surviving member of Scott's Northern Party." A link with the heroic era of Antarctic exploration has now been broken with Sir Raymond's death on 24 June at the age of 87. An even older "last survivor," Hugh Blackwell Evans (briefly mentioned by me on p. 41), now in

his 100th year, has recently provided his own account of the *Southern Cross* Expedition led by Borchgrevink (Evans 1974) and some interesting sidelights on the expedition itself and the personalities involved in it are revealed.

LITERATURE CITED

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E. W. DAWSON

N.Z. Oceanographic Institute,
DSIR,
Wellington



NON-BREEDING ADELIE PENGUINS FEEDING CHICKS

On two occasions in January 1973 observations were made on non-breeding Adelie Penguins (*Pygoscelis adeliae*) feeding chicks at Hallett Station, Antarctica (72° 19' S, 170° 13' E). Both non-breeding birds involved were known to be two years old (banded as chicks in 1971), and in both cases subsequent observations proved they were not the parents of the chicks.

On 5 January 1973 a two-year-old penguin that was guarding a scrape was approached by a chick. The two-year-old bird began displaying and vocalizing to the chick using typical penguin behaviour (Penney 1968). The chick then assumed the food-begging posture and was fed. The chick was fed only once and then returned to its creche. During the next two days the chick was not observed to approach the two-year-old bird again.

On 17 January 1973 two different individuals were similarly observed. The chick approached the non-breeding bird, and after displays and calls by the two-year-old bird, the chick assumed the food-begging posture. The chick was fed four times within three minutes and then returned to its creche. It returned a short time later but was not fed again.