

An Attack by a Polar Bear on a Juvenile Beluga

Cunningham Inlet, Somerset Island, in the Canadian Arctic is frequented each summer by large numbers of beluga (*Delphinapterus leucas*)¹. They migrate to the head of the inlet, and then invade the mouths of the two streams which drain into it. If calving takes place in these fairly warm waters (8-9°C), the shock of birth is lessened, and heat loss reduced during the few days which must pass before the young animals have acquired some subcutaneous fat.²

On 26 July 1974, a sexually-immature female beluga was discovered stranded on a gravel bar at the head of the inlet (Fig. 1). Because it could not be manhandled back to water, and would have died from suffocation and dehydration, the whale was shot. The brown colour, shape of head and length (271 cm) of the animal suggested that it was between three and four years old³, while the five to six growth layers present in the teeth indicated an age of 2½-3 years. The stomach was found to contain a few amphipods and some seaweed.

The carcass carried deep but well-healed scars on the left dorso-lateral aspect caudal to the dorsal ridge (Fig. 2). Their depth, and the fact that they were parallel in three cases, strongly suggested that the animal had been attacked by a large-clawed animal, probably a polar bear (*Ursus maritimus*). Because the wounds had healed, it was apparent that the attack had taken place well before the whale entered Cunningham Inlet.

Suggestions that the cuts were due to contact with rough ice or gravel may be rejected on two counts. First, only a limited area of the body was marked; had the animal rubbed against ice or gravel, more extensive wounding

would have resulted. Secondly, the fact that three sets of scars were smooth and parallel suggests that they had been made by a set of claws; had the animal contacted the substrate, the cuts would not have been so uniform.

Freeman⁴ has pointed out that few actual killings of beluga by polar bears have been recorded, though he cites Kleinenberg *et al.*⁵ as having reported that attacks on beluga by polar bears frequently occur in the Eurasian Arctic; they mention an eyewitness account of how the bear lies on the ice and delivers a blow to the whale's head when one surfaces within range. If this juvenile whale found at Cunningham Inlet had been attacked by a polar bear, as it very likely was, then it may have been a surprise attack rather than a result of lying-in-wait. The whale may unknowingly have surfaced at the edge of the ice close to a bear, which probably just had time to make a grab for the animal and therefore succeeded only in raking its flank as it dove. However, the possibility of an attack in the water cannot be ruled out.

Degerbøl and Freuchen⁶ reported that polar bears were known to attack and kill beluga trapped in small openings in the ice in Baffin Bay. Freeman⁴ reported the killings of three beluga by bears near Grise Fiord, Ellesmere Island, in May 1970. In September 1972, Canadian Press and American Press circulated a report of an attack by a polar bear on three juvenile beluga being held in a tank at Churchill, Manitoba (*e.g.*, *Amherst News*, Amherst, Nova Scotia, 6 September 1972). It was reported that the bear dragged one 500-pound (227-kg) whale for 25 yards (23 m) and severely mauled a second. To our knowledge this paper constitutes only the third documented account of an attack on a beluga by a polar bear in the Canadian Arctic, aside from the above attack on the captive animals at Churchill.



FIG. 1. The senior author kneeling behind the stranded juvenile beluga at Cunningham Inlet, Somerset Island, N.W.T.



FIG. 2. The carcass with its scars:
 (i) grooves of maximum depth 10-15 mm;
 (ii) scratches near ventral surface;
 (iii) grooves about 10 mm deep;
 (iv) other wounds.

ACKNOWLEDGEMENTS

Dr. D. E. Sergeant of the Arctic Biological Station, Ste. Anne de Bellevue, Quebec, kindly determined the age of the stranded beluga on the basis of tooth layer counts.

R. McClung was with K. Hay when the beluga was discovered on 26 July 1974.

J. D. Heyland
 Quebec Department of Tourism,
 Game and Fish
 Biological Research Service
 Orsainville, Quebec, Canada
Keith Hay
 Marine Sciences Centre
 McGill University
 Montreal, Quebec, Canada

REFERENCES

- ¹Heyland, J. D. 1974. Aspects of the biology of *Delphinapterus leucas* Pallas interpreted from aerial photography. In: Thompson, G. E. (ed.), *Second Canadian Symposium on Remote Sensing*, Ottawa: Department of Energy, Mines and Resources, pp. 373-90.
- ²Sergeant, D. E. 1973. Biology of white whales (*Delphinapterus leucas*) in western Hudson Bay. *Journal of Fisheries Research Board of Canada*, 30:1065-90.
- ³Brodie, P. F. 1971. A reconsideration of the aspects of growth, reproduction and behaviour of the white whale (*Delphinapterus leucas*) with reference to the Cumerland Sound, Baffin Island, population. *Journal of Fisheries Research Board of Canada*, 28:1309-18.
- ⁴Freeman, M. F. 1973. Polar bear predation on beluga in the Canadian Arctic. *Arctic*, 26 (2):162-3.
- ⁵Kleinenberg, S. E., Yablokov, A. V., Belkovich, B. M. and Tarasevich, M. N. 1964. *Beluga (Delphinapterus leucas): Investigation of the Species*. Jerusalem: Israel Program for Scientific Translations. p. 292.
- ⁶Degerbøl, M. and Freuchen, P. 1935. Mammals. *Report of the Fifth Thule Expedition 1921-24, Vol. 2 (4-5)*, p. 109.