

ON THE BEHAVIOUR OF THE CRABEATER SEAL
LOBODON CARCINOPHAGUS (HOMBRON & JACQUINOT)

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This note records observations made during a voyage to SANAE base in Queen Maud Land, Antarctica, from December 1963 to February 1964 in the relief vessel *RSA*. During the voyage to the base at approximately 70°S 2°W some 800 miles of pack ice was traversed, giving ample opportunity for study of the seals inhabiting it. Nowadays polar exploration is most often conducted in powerful ice-breakers, but for a study of the fauna of pack ice a vessel like the *RSA* (which is ice-strengthened, but not a proper sense ice-breaker) is preferable because of its slower speed. At times the ship was halted by very thick ice, and consequently long periods were spent lying stationary waiting for leads to appear. The seals thus suffered little or no disturbance from the passage of the ship and could be studied at leisure. Because the treacherous nature of the pack ice made it rather hazardous to venture afar, most observations were made from the ship itself, taken at various levels ranging from the crow's nest at about 80 ft. above the sea, down to the cargo deck about 6 ft. up. In thick pack the cargo deck was approximately level with the ice surface. Observations were made throughout the day, as well as during the "night", in most cases with the aid of a pair of 7 x 50 binoculars. The sex of an individual is indicated only when it was determined in seals shot after the observation.

Crabeater seals were encountered throughout the pack ice whether open, near the edges (2/10ths ice cover), or thick pack (9/10ths cover). Altogether 120 seals were identified on the passage through the pack ice, although many more were seen. Seals too far away to be positively identified were not taken into account. The total was made up as follows: 4 leopard seals *Hydrurga leptonyx*, 4 Weddell seals *Leptonychotes weddelli*, 15 Ross seals *Ommatophoca rossi* and the remainder crabeater seals.

ACTIVITY PATTERN AND SLEEP

No difference in the general behaviour of seals on open pack (ice floes) or on very thick or broken pack could be discerned. All but four of the crabeaters observed were found on the pack ice between 6 a.m. and about 10 p.m. G.M.T. Feeding below the ice thus seems to take place during darkness, or in the higher latitudes, during the hours of lesser light intensity. Feeding time can thus be correlated with the vertical movement, and thus greater availability, of the prey (euphasians), which are nearest the surface at dusk and dawn (Wynne-Edwards 1962). Only one peak period of general activity on the ice could be discerned, from about 9 a.m. to noon (G.M.T.). At all other times the seals were usually fast asleep.

The most common sleeping posture is on the side. Although the animals sleep on both sides, the right seems to be preferred. Roughly 10 per cent of those observed were sleeping

on their backs, and a few on their stomachs, the front flippers tucked in under the body. Occasionally seals sleeping on their sides would wave a front flipper a number of times in a rather desultory fashion.

Crabeaters seem to sleep very soundly. Often they woke only when the ship was very close, despite the noise of the ice as the ship forced its way through. Once, when a seal was approached on foot, we came to within three yards before it woke although the ship had come to rest only 50 yards away.

GENERAL BEHAVIOUR

When sleeping seals were approached closely on foot, and then aroused, they raised the front part of their bodies completely off the ice, bared their teeth and hissed loudly. This was the only type of aggression exhibited. No tendency to attack was ever observed, but this could be because they were never unduly provoked. Nor did the seals attempt to flee. As a rule they moved off a few yards, constantly glancing back over their shoulders. When they halted it was usually with the head turned away from the observer. Seals aroused by the passage of the ship exhibited much the same behaviour. In a few cases, however, they moved away until hidden by ice hummocks. Once, on the approach of the ship, a seal turned over onto its back, vibrating the whole body and also the flippers, maintaining this posture for a few minutes before turning back onto its stomach, but it made no attempt to move off. Two other seals were seen rubbing their noses vigorously to and fro in the ice, which may have been a displacement activity (*cf.* Mansfield 1958) or attributable simply to the presence of nasal parasites. Never did any seal try to escape by diving, even with open water close by. This apparent reluctance to take to water was also seen in seals which had been wounded. Such animals made no attempt to escape, but moved around rather haphazardly while looking back at the ship. Crabeater seals seem to be inquisitive animals: even when hiding behind ice hummocks their curiosity generally gets the better of them, as they all raised their heads from time to time to get a good look at the ship. It is possible that their geographical isolation and the virtual absence of natural predators in very thick pack ice could account for this curiosity and apparent lack of fear.

The only noise, apart from hissing, heard from the seals, was a harsh barking when they were disturbed by the approaching vessel.

Twice only could diving behaviour be studied. Submersed times varied between four and 11 minutes. When surfacing the nostrils are everted as a cup-shaped "schnorkel", only the upper part of the head being above water. Once the entire front portion of the body was raised vertically out of the water. This was apparently to allow the animal to watch the ship's passengers on the ice.

The crabeater seal is recorded as gregarious (Bertram 1940, Laws and Taylor 1957 and Scheffer 1958). Five times only were two or more seen together on the ice. A group of three was encountered once: a male with two females (close together) one on either side. Other groups consisted of five individuals (one male and four females) and of two females together. On the two other occasions the sexes of the animals comprising the group could not be

determined. Of the seals observed in the water, one group consisted initially of two individuals with a third joining them later, while 11 were seen in another group.

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