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BIOLOGICAL CHARACTERISTICS OF THE SHORE AGGREGATIONS OF THE WALRUS IN THE CHUKOTKA PENINSULA

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Biological characteristics of the shore aggregations* of the walrus in the Chukotka Peninsula

Investigators are not yet in agreement as to the causes which make it necessary for walruses to leave the water and establish aggregations on shore, which sometimes contain many thousands of individuals. Smirnov (4) formerly considered that the formation of shore aggregations is associated with the moulting of the animals. In a more recent work (5) he suggests that "walruses readily lie either on shore or on the ice, but sometimes prefer the shore."

Naumov (3), without explaining the causes of the formation of shore aggregations, says that walruses like resting on shore better than on the ice. Leonov (1), believes that shore aggregations serve the walruses as a place of temporary rest at the time of their autumn migrations. Leonov's explanation is very close to the truth; however he does not indicate what migrations he is talking about--whether from south to north (out of the Gulf of Anadyr) or from north to south (when the walruses are leaving the Bering Sea for their winter quarters). As it appears to us, the most correct explanation of the cause of the formation of shore aggregations on Wrangel Island is given by Mineev (2). He writes, "the walruses lying on the shore can be observed only where the ice goes out far from shore to places where the water is deep. (Page 227). By this island the ice is for long periods at a considerable distance from shore, and the walruses haul out there with the greatest pleasure."

Numerous observations by the author (1934-1941) make it possible to explain the cause of the formation of shore aggregations of the walrus.

In contrast to the fur seal (Callorhinus Grey) which spends the winter in the open water of the Pacific Ocean in temperate latitudes and the ribbon seal (Histriophoca fasciata Zimmerm.) which never approaches the shore after the disappearance of the ice, walruses cannot remain in the open water for long without rest on the ice or on shore.

It is well known that the specific gravity of a walrus is significantly greater than the specific gravity of the water, therefore it can remain at the surface of the water either while it is moving around or, when at rest, if it has inflated the air sacs which are present on each side of its neck. However, long periods in the water exhaust the animals and they simply must go to the shore and form resting aggregations if there is no ice in the vicinity. It is certain that walruses prefer the ice, and not the shore, as is indicated by several circumstances.

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* "Lezhbishchi"; this word apparently signifies either the animals hauled out on shore, or the place at which this customarily occurs.

In 1939, at the end of August, walruses were lying on the Inchovyn hauling-out ground (Cape Intsova, Chukotka). For several days a north wind had driven the ice down. The walruses promptly moved onto it and were carried along with the ice into the Bering Sea. In that year the walruses were seen no more on shore. Apparently the ice referred to did not melt up to winter time, but floated and remained in shallow water, permitting the walruses to dive to the bottom for their food. In 1934 and 1937 in Chukotka there were warm autumns, and there was no ice until December. Apparently aware of the approach of winter, the walruses migrated from north to south by swimming through the water. The long migration had an exhausting effect on them, fatiguing the animals so that in the year indicated they came out on shore at many points along the Chukotka Peninsula (near the village of Vankaren, near the village of Neskan, on Koliuchin Island, on Cape Serdtse-Kamen, near the village of Chegitun, at Cape Intsova, near the village of Uelen, on the Big Diomede Island, near the village of Tunitlen, on an island in the Gulf of Laurenty, on the Arakamchechen Islands and on the hauling-out grounds in the Gulf of Anadyr.)

In the years with normal meteorological conditions the walruses go out onto shore only at specific places on the Chukotka Peninsula and form definite shore aggregations. At the present time three such hauling-out sites are known--on Ruder Spit (Gulf of Anadyr), on Arakamchechen Island (Bering Strait), and on Cape Intsova (in the Chukotka Sea.)

In the Gulf of Anadyr every year in spring there are to be found many thousands of walruses which are concentrated in the region of shallow water. After the breaking up of the ice (end of June--beginning of July) the walruses remain for some time on the water. Afterwards, apparently because there is insufficient food for all the animals in this region, a majority of the animals depart along shore to the northward, to their usual hauling-out places--to Arakamchechen Island and Cape Intsova. The remainder regularly come up on shore up to August. In August these latter walruses also leave the Gulf of Anadyr, singly and in small groups. They make their way to the Arakamchechen and Intsova hauling-out sites where they remain until ice appears.

From the end of July to the middle of October, 1941, the author was at the Inchovyn hauling-out site, and conducted observations on the behaviour of the walruses, in the water and on shore.

On August 8 the first walruses were observed. From that day up to the 4th of September, walruses came close to shore almost every day (especially large numbers came on September 3). I must mention that on September 3, the walruses did not come out onto shore because of the presence of some dogs, which had come to feed on walrus meat remaining from the kill of the previous year. On September 10 (probably an error for 4 or 5--W.E.R.), there were 10 animals lying on the shore. They lay there quietly up to 11 o'clock, when some dogs running around again disturbed 5 of them, though the other 5 stayed asleep. On September 6, an airplane flying over

scattered the remainder. On September 10, only one animal came out on shore. He didn't pay any attention to the dogs running around. On September 12, 15 more animals climbed out to join this individual. In the water near shore there was a mass of animals. On September 13, the walruses began to come out on shore (Page 228) to a greater extent. From time to time, more and more groups approached the beach from the sea. Before it would come on shore, each group would swim for about half an hour along the hauling-out site, inspecting the place; then a single individual would separate himself and come in to shore, resting on the shingle and looking things over for a long time. After moving forward another few meters the animal quickly fell asleep. After the leader, the remainder followed and lay down in a row beside him. As a result there was formed the first row of walruses, lying close to one another with their heads pointed towards land. For the newly arriving ones there remained no place near the water's edge; therefore they climbed over the first ones. Not paying any attention to hard blows from the tusks of those they disturb, the new arrivals in turn reach the ground and go to sleep. After the second row, there appears a third, a fourth and so on until the whole beach is covered as far as the cliffs that border it. The number of rows can reach 30 and more. When one part of the site is full, the new arrivals arrange themselves in rows on an unoccupied area, the new rows joining closely to those already lying there. After using all the available flat area the walruses settle themselves among the stones and "kekury".

On September 14 dogs again alarmed all the walruses. On September 15 a few appeared on shore; on September 16 more than 2500 head lay there; by September 19, their number rose to 3000. On September 20 heavy storm waves made all the walruses go into the water and they went out some distance from shore. The storm quieted down by September 23 and there were again many animals on shore. On September 23 they came on shore but a north wind, which increased on September 24, scattered the animals. The storm raged until September 30. On October 1, as soon as the sea calmed down, the walruses came to shore all at one time. Toward evening almost 5000 of them lay there. On October 3 the number out of the water reached 6000-7000. On October 4 the north wind again dispersed all the animals into the sea. When good weather was resumed the shore aggregation reappeared. By October 10, there were about 8000 of them on the hauling-out ground.

At that time observations were terminated.

Conclusions

1. In contrast to certain other pinnipedes (fur seals and ribbon seals) walruses cannot maintain themselves in the open water for long periods of time without resting on the ice or on shore.

2. In regions of shallow water (the Gulf of Anadyr and Bering Strait) where there are plenty of mollusks, worms and other invertebrates, walruses remain for the whole summer, feeding heavily;

and here they haul themselves out on shore, using established hauling-out grounds (Ruder, Arakamchechen and Inchovyn).

3. With the appearance of drifting ice the walruses forsake the shore. They use the ice for resting as long as it is present in the shallow water zone. If the ice thaws or drifts away over greater depths the walruses again come into shore.

4. For further protection of the established hauling-out places for walrus on the Chukotka Peninsula, it is necessary to prohibit killing them on the hauling-out sites.

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(Translator's note: I found all of the geographical names mentioned, except Tunitlen, on the "Morskoi Atlas".)