

Aerial Census of Weddell Seal (*Leptonychotes weddelli* LESSON) in Lützow-Holm Bay, Antarctica

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南極リュツォ・ホルム湾におけるウェッデルアザランの
航空機による個体数調査

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要旨: 1975年10月24および26の両日、セスナA185Fにより、南極、リュツォ・ホルム湾内のウェッデルアザラン (*Leptonychotes weddelli* LESSON) 個体数の調査を行った。高度約450mから、肉眼でアザランの個体数を算定した。

見出されたアザランの総個体数は956頭で、成獣および若獣が572頭、仔獣は384頭であった。アザランは沿岸に沿って多く分布し、とくに、宗谷海岸に散在する島しょの周辺に集中していた。

Abstract: Aerial population census of the Weddell seal (*Leptonychotes weddelli*) in Lützow-Holm Bay, Antarctica was conducted with a Cessna A 185F on October 24 and 26, 1975. Total number of seals observed was 956, which consisted of 572 adults and subadults and 384 pups. The seals were concentrated in the coastal area, in particular around the islands which lie adjacent to the Sôya Coast, the east coast of Lützow-Holm Bay.

The Weddell seal (*Leptonychotes weddelli* LESSON) is one of the important animals which occupy the fourth trophic level in the Antarctic pack ice ecosystem which was illustrated diagrammatically by KNOX (1970). Therefore, it is necessary to know the number and biomass of the Weddell seal in order to study the ecosystem as a whole in the Antarctic coastal regions. However, information on the population of the Weddell seal is insufficient in the area between 20°W and 110°E (ERICKSON and HOFMAN, 1974). In Lützow-Holm Bay, extending from about 35° to 40°E, the population size of the Weddell seal was not determined because of the bad sea ice condition in the bay and the logistic difficulties during spring to summer. However, a Cessna A 185F was available for the population census of the Weddell seal in Lützow-Holm Bay in the spring of 1975. Two flights were performed on October 24 and 26. In the vicinity of Lützow-Holm Bay, the pup of the Weddell seal is born in early October. Therefore, the observations were carried out in the pupping period.

The first observation was done from 10:50 to 16:30 of the 24th and the second

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flight was made between 11:10 and 13:50 of the 26th. The weather was fine during the observations. Air temperature was above -15°C . Wind direction and speed were SSW and below 5.5 m/s on the 24th and WNW and below 0.9 m/s on the 26th. The seal observations were carried out with the naked eye through the window of the aircraft at about 450 m in altitude. Consequently, the determination of sex and the discrimination between adult and subadult were impossible. The count of the seals was done at 84 sites on the 24th and 7 sites on the 26th, which are plotted along the air routes in Fig. 1. The distribution of the seals observed is shown in Table 1. Total number of the seals was 956, which consisted of 572 adults and subadults and 384 pups. As seen in Fig. 2 and Table 1, the seals were concentrated near the coast of the bay. In particular, dense populations were found along the Sôya Coast, where there are the islands which are surrounded by the shallow sea less than 400 m deep (MORIWAKI, 1979). The same distribution pattern was reported from the west coast of Ross Island and it was suggested that the distribution of the Weddell seal on the sea ice in the spring might be governed by the availability of food in the shallow water (STIRLING, 1969).

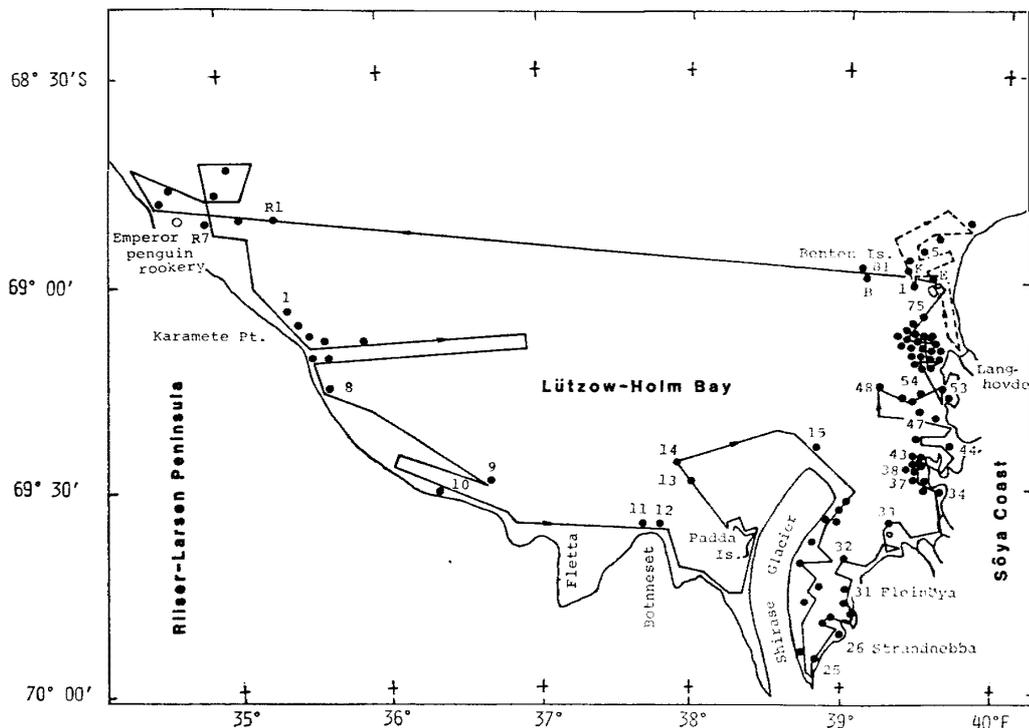


Fig. 1. Aerial census routes on October 24 and 26 are shown by solid line and broken line, respectively. Solid circles show the sites of observations. For the statistical convenience, appropriate sites are designated by arabic numerals or alphabetical letters.

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