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SOME RESULTS OF NORWEGIAN BIOLOGICAL RESEARCH ON NORTH ATLANTIC WHALES IN 1968.

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Introduction.

In 1966 the Norwegian whalers for small whales for the first time extended their whaling operation to Southeast Greenland waters. A further geographical extension took place in 1968 when four of the whaling vessels laid the course for West Greenland, one of them operating in the beginning of the season and the other three in the end of the season. As little is known about the whales occurring in these waters, a research programme was planned the main aim of which was to record whales observed, to mark whales, and to examine the whales being caught.

In July and August 1968, my colleague Mr. I. Christensen, scientific assistant at our Institute, and I embarked in the whaling vessel "Harøybuen". We left Reykjavik on the 4th July and spent some few days in Northwest Icelandic waters before heading for Southeast Greenland, where we arrived on the 13th July. Until 7th August we operated in this area as far north as to 64°03' N, 38°10' V. From 7th to 15th August a quick cruise was made in Southwest Greenland waters, from Cape Farewell to Færingerhavn and return. We then moved northwards off the coast of Southeast Greenland and crossed the Denmark Strait heading for Isafjord in Iceland were we arrived on the 21th August. On the 25th August the cruise was finished in Ålesund, Norway.

I will now try and give a brief description of the work being done, and also mention some of the results achieved. As will be understood, the material in general has not at all been worked up yet, the following account consequently must be regarded as preliminary.

Observation of Whales.

Almost all whales observed during the cruise were recorded. However, especially in East Greenland waters many more whales would have been seen if the visibility had not been extremely poor due to fog almost every day. In addition a great many more of those species of whales which live in the deep waters off the continental shelf would certainly have been seen if we had not mainly been interested in catching minke whales which were more frequently found nearer to the coast.

Fig.1 shows the approximate localities of the different species of Cetaceans commonly observed, viz: fin whales (Balaenoptera physalus), minke whales (Balaenoptera acutorostrata), sperm whales (Physeter catodon), pilot whales (Globicephala melaena), and white-beaked dolphins (Lagenorhynchus albirostris). In addition killer whales (Orcinus orca) and humpback whales (Megaptera novaeangliae) were observed on two and one occassion respectively.

Scattered occurences of fin whales were recorded off Færingerhavn, on the continental shelf off Southeast Greenland and in the Denmark Strait between Greenland and North west Iceland. Greater concentrations of fin whales were also seen, mainly on or just outside the edge of the shelf off Southeast Greenland. As a matter of fact there were surprisingly many of them present in these waters

since fin whale blows always seen on days with serviceable sighting conditions. On the 13th July being in position 63°27'N, 38°15'W as many as 75 fin whales were estimated to be within 6 n. m. from the vessel, and schools of them, evidently feeding on capelin, were seen all around.

In East Greenland waters, minke whales occasionally were seen close to fin whales, however, it was a striking fact that as a rule they were found on the shelf, often near or in the drift ice and sometimes very close to icebergs. Several of them were usually present in limited areas of Southwest Greenland. Only minke whales were seen off the coast between Cape Farewell and Færingerhavn. Fin, sperm and pilot whales, however,were also recorded off Færingerhavn.

Sperm whales were seen by several occassions in almost the same areas as fin whales. They usually occurred in small scattered schools. On the 11th July about 40 sperm whales were seen during 4 hours in the Denmark Strait off Northwest Iceland. On the 19th August 8 sperm whales were observed in a restricted area in position 65°35'N, 30°45'W. In a few cases single sperm whales also were found on the shelf, one for example on the westside of the Sermilik Deep, East Greenland, where the depth was 270 meters.

Great schools of pilot whales were seen in the northeastern part of the Denmark Strait, and on or outside the edge of the shelf off Southeast Greenland and Færingerhavn.

White-beaked dolphins were by far the most common species observed off Southeast Greenland. In areas were fin whales were plentiful, white-beaked dolphins in great numbers were always seen.

This no doubt was connected with their feeding, since it was several times observed that white-beaked dolphins ate capelin out of the mouth of the surfacing fin whales. The dolphins probably in contrast to the fin whales were not able to descend deep enough to catch the capelin. The particular feeding behaviour of white-beaked dolphins in South-east Greenland waters will be described in detail in a future paper.

Two humpback whales were seen on 11th July in position 66°N, 26°30'W. They were moving north along the edge of the ice.

Surprisingly few killer whales were seen. Two animals were observed off West Iceland on 5th July. In addition a school of 10 killer whales including 2 large males were seen off East Greenland in position 63°18'N, 39°35'W. on the 23th July.

Whale marking.

Altogether 19 whales were effectively marked (Fig. 1). A minke whale was marked in the Isafjord, Iceland, a sperm whale and 3 fin whales in the Denmark Strait and 14 fin off Southeast Greenland. The small "Discovery mark" was used for marking the minke whale.

One of the marked fin whales has later been reported caught. This whale was marked off Southeast Greenland on the 13th July in position 63°27'N, 38°15'W and caught by an Islandic catcher on the 20th July in approximate position 65°25'N, 28°30'W. During 7 days this whale had moved 280 n. m., almost crossing the Denmark Strait. The find of the mark in question proves that there is a connection between fin whales inhabiting Southeast Greenland waters and those being caught in the Denmark Strait by the Icelanders.

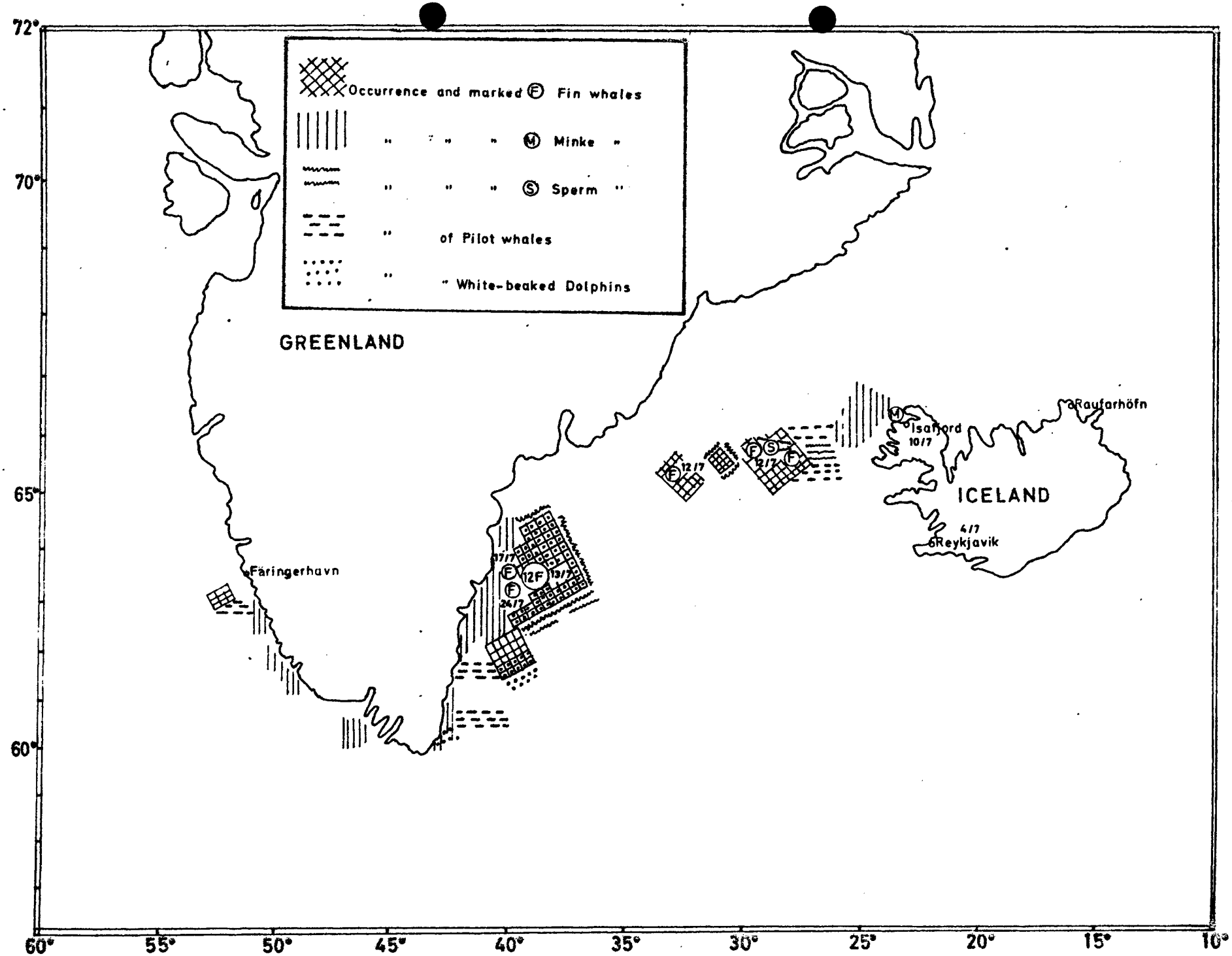
Examination of minke whales.

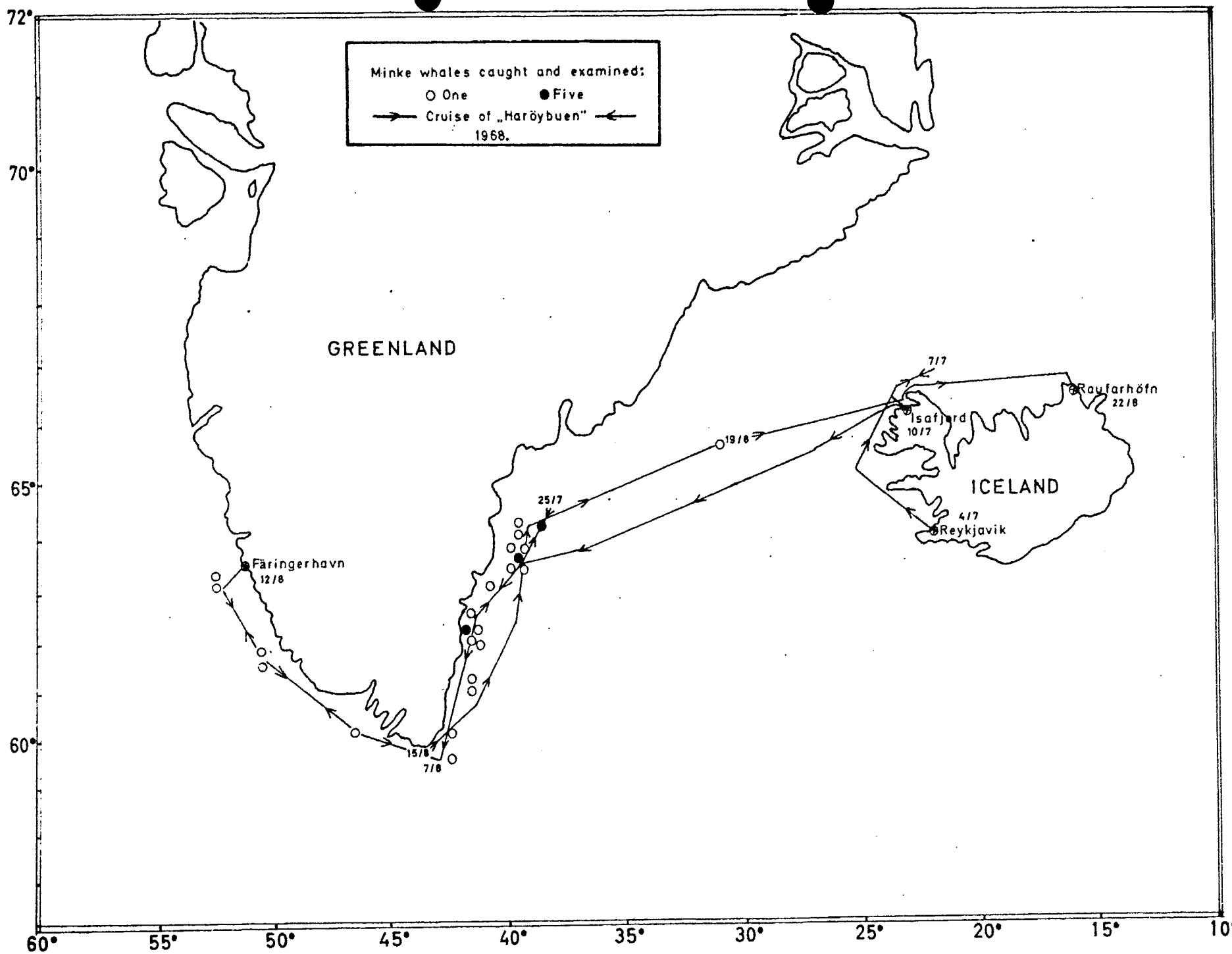
Altogether 36 minke whales were caught during the cruise (Fig. 2). One was taken in the Denmark Strait, 5 off Southwest Greenland and 30 off Southeast Greenland. General biological data including body measurements were achieved from all of them.

With regard to external appearance it was a striking fact that no diatom-film was found on the skin of all whales but one. Some few had external parasites (Penella) or fresh scars from Penella being recently lost. It may therefore be concluded that even as late as in July and August probably a great part of the minke whales inhabiting South Greenland waters are recent immigrants.

Examination of stomach contents showed that all the whales caught on the eastern side of Greenland had fed on capelin. In these waters, there must be enormous quantities of capelin and no doubt the presence of this fish is the main reason why fisheating Balaenopterids like fin and minke whales migrate into the area. On the western side, however, three of the whales had fed on euphausids and the remaining two on sandeel.

Finally, it was found that nine out of ten sexually mature females were pregnant, a fact which confirms earlier statements based upon examination of minke whales in Norwegian coastal waters and in the Spitsbergen area, that this species gives birth every year.


Occurrence and marked Ⓕ Fin whales
" " " Ⓜ Minke "
" " " Ⓢ Sperm "
" of Pilot whales
" " White-beaked Dolphins
GREENLAND
ICELAND
Færingerhavn
Reykjavik
Isafjord
Raufarhöfn
72°
70°
65°
60°
60°
55°
50°
45°
40°
35°
30°
25°
20°
15°
10°


Minke whales caught and examined:
O One
● Five
Cruise of „Haröybuen"
1968.
GREENLAND
ICELAND
Færingerhavn
12/8
25/7
19/8
7/7
Raufarhöfn
22/8
Isafjord
10/7
4/7
Reykjavik
15/8
7/8
72°
70°
65°
60°
60°
55°
50°
45°
40°
35°
30°
25°
20°
15°
10°