

Aj 129

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Report of the cruise of R/V "G.O.Sars"  
to West-Greenland in April-May 1963.

Duration: 20:00 hrs. 3.4.1963 - 11:30 hrs. 14.5.1963. (All times in G.M.T.)

Staff: K. H. Palmork,  
O. Bjerke,  
J. Blindheim.  
B. Brynildsen.  
A. Frøland.  
S. Haugland.  
I. Hoff.  
S. Lygren.

Captain onboard was D. Sætre.

Aim of the cruise.

The aim was to participate in the first survey, the Norwestland I, of the ICNAF study of the environment and to collect eggs and larvae of cod and redfish in Greenland waters.

Outline of cruise.

Engine breakdown delayed the sailing from Bergen until the evening on the 3rd of April. The ship sailed at 20:00 hours G.M.T. after having taken on fuel.

Except for a northerly gale across the North Sea, the weather conditions were favourable on the passage.

On the 7th. at 13:00 hours we stopped and worked a station at 61°41'N, 27°00'W to see if all the equipment was working well. We then started towards reference station A at 58°30'N, 43°00'W and reached this station at 11:43 hours on the 9th. of April. We started to work the inner station on the Hydrographical Section IX in the morning of the 10th. In the afternoon on the 11th we stopped and worked a trawling station on the western side of the No Name Bank, 61°38'N, 50°35'W. On the 12th the wind increased to gale force and we had to heave to for 4 hours, from 12:00 hours onward, and we had to omit using the stramin net for the next three stations because of the rough sea. We carried out the program northward until 08:50 hours on the 14th, when we called in at Godthaab to fill fresh water.

The work was continued in the afternoon of the 16th. We met the

edge of the drift ice at 19:10 hours on the 17th. The position was that of our station 189.

The stations 190 - 195 were omitted because of the ice. At station 209 we also worked a trawling station. We were stopped by the ice border near station 218, and had to work this station east of the planned position. Stations 219 - 224 had to be omitted. Approaching station 235 the drifting ice again stopped us and this station also had to be changed to a more easterly position. At section XIII only the inner station could be worked because of the ice. We were not able to proceed further north than  $67^{\circ}04'N$ , where we worked two stations in the narrow passage with open water along the coast.

All together 103 stations were worked, of which 19 were bathy and fishing stations, 57 were bathy and plankton stations and 27 were combined hydrographical and biological stations.

We were working southward from the 22nd of April, doing line and trawl fishing on the different banks.

We called in to Godthaab to fill fresh water the 25th of April. The 29th of April and the 2nd of May we called in to Føringehavn. Further we topped up freshwater in Grønnedal the 4th and stopped fishing the 6th of May.

Ref. station A was worked for the second time the 7th in the evening and ref. station B the 9th in the morning. The weather conditions as far as to the Faeroes were excellent, but we had a heavy gale when crossing the North Sea. We reached Florø the 13th of May at 11:30 hours.

### Hydrography.

The four hydrographic sections worked went south-west and west from the coast and the length varied from 70 to 130 nautical miles. Section IX was taken south-west of Ivigtut, section X south-west of Fredrikshåp, section XI west of Godthaab and section XII in east-west direction across Lille Hellefiskbank. As earlier mentioned, the most westerly stations in section XI and XII were not worked. Section XIII west of Hostensborg and XIV west of Disco could not be worked at all because of the ice. All stations were worked to the bottom.

Section IX. The cold front near the coast was indicated by nearly vertical isotherms in this locality. The water outside this front had temperatures exceeding  $3^{\circ}C$ . From 50 to 300 metres the temperatures were a little above  $4^{\circ}C$ , and from 300 downwards the temperatures decreased

slowly to less than 3°C near the bottom.

Section X showed temperatures down to 0°C near the coast. Further west the temperatures rose quickly to a little above 3°C in the surface layer.

At depths from about 100 to 700 metres were found water with temperatures exceeding 4°C. Below 700 metres the temperature decreased to about 2,5°C near the bottom.

Section XI. The main picture here was as in sections IX and X, but in the surface layer the temperatures were mostly below 1°C. The warm water above 4°C was traced down to 1000 metres.

Section XII. On the most westerly stations the surface layer had temperatures near the freezing point, increasing a bit eastward. At greater depths than 100 to 200 metres the temperatures were above 3°C.

#### Fishing.

On the cruise 10 trawling stations were worked and the catches varied considerably. Bottom temperatures on the trawling stations were between 2,5°C and 4,5°C. Seven stations were also worked with cod bottom long line (approx. 2000 hooks a time). The catches on the long line varied from a few to 300 cod and some redfish and halibut. We also had two halibut long line stations (750 hooks), but the catches were poor. Bottom temperatures on the long line stations were between 2,5°C and 3°C.

Hauls with a 1 meter egg net (no.500) were taken on all fishing stations at the following depths: 50 - 0 metres, 100 - 0 etc. down to the bottom. The temperature was also recorded from surface to bottom.

26 halibut were tagged with yellow plastic disks.

#### Zooplankton and fish eggs.

A Hensen net was used on all stations from 100 - 0 metres, as were the oblique hauls with stramin net from 50 - 0 metres. Caused to lack in staff, the samples could not be worked on board. On occasional stations 1-meter egg net (no.500) hauls were taken for comparison of the method used on the fishing stations and on earlier cruises to Greenland waters.

#### Phytoplankton.

100 ml samples were drawn from the 10 meter Nansen water bottle at each hydrographical station. On either side of the cold front, samples were drawn from all depths to the bottom or maximum 600 metres.

Transparency.

Secci disc observations were taken at all stations in daytime, weather conditions permitting. Continuous recordings of the transparency were made during the whole cruise. (The apparatus is reported in J. Cons. Internal. Vol 149, 1961, and described in Fiskeridirektoratets Skrifter, Serie Havundersøkelser vol 13 no 6. 1963).

Soundings.

Echo-depths were plotted every second mile when the ships position was known with certainty.

Continuous echo-sounding for fish was performed on the entire cruise. The best registrations were obtained on the western side of the Banan Bank, where more trawlers were observed working. Echo soundings of shoals of capelin were made in the Godthaab Fjord.

Sightnings of whales.

A number of whales were observed at different localities.

Bergen, 22nd June 1963.

J. Blindheim.(sign.)

K. H. Palmork.(sign.)