

CRUISE REPORT

F.R.V. "SCOTIA"

27th March - 21st April, 1950.

"SCOTIA" set sail from Aberdeen on Monday 27th March, and returned on Friday April 21st, during which time a trawling, plankton and hydrographic survey was made of the Faroe plateau. Persistent gale-force winds hampered operations on a number of days during the cruise, and it was not possible to repeat the survey of the egg and larval fish concentrations, nor to carry out the scheduled trawling experiment on the diurnal variations in the catches of trawled fish.

HYDROGRAPHY:

Temperatures and salinity samples were taken at 36 stations in the area. Surface temperatures ranged between 6.27°C and 8.66°C, the highest value being obtained in the south of the area to the west of Sydero, and the lowest to the north of the islands. The temperatures at the inshore stations were lower at all depths than at the offshore ones.

Bottom temperatures ranged from 7.80°C and 4.54°C, these groups of readings being obtained at stations off the shelf to the north west and north east of the islands respectively.

Little evidence of a marked change in the temperature structure from one part of the plateau to another was obtained.

Phosphate determinations showed that the values were generally high, averaging 1.2 μ gram-atom PO₄ per litre in the north and 0.9 μ gram-atom /litre in the south. Differences between the values at different depths were small.

Dissolved oxygen values were also high at all stations, an average value of 6.5 cc./litre being obtained.

PLANKTON:

Plankton samples were taken at each station with the Hensen and 2 metre vertical nets.

Cod and haddock egg concentrations were recorded at scattered points over the area. In most cases development was insufficiently advanced for a separation into the two species to be made. Very few cod or haddock larvae were taken, so that it would appear that the peak of hatching of these species had not taken place. The greatest concentrations of eggs were taken between the territorial limits and the edge of the plateau, local centres of greatest density being found on Nolso Bank, to the west of Koltur and to the north of Gødheia and Myling Head.

Saithe and Ammodytes maximus larvae were taken in most hauls, and newly hatched herring larvae were sampled on Sando Bank.

TRAWLING:

Twenty-one hauls were taken at scattered points over the area with the 30ft. otter trawl fitted with a small meshed cover.

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As far as possible trawling was confined to the hours of darkness as reports from commercial vessels indicated that the catches of cod and haddock dropped to an uneconomic level during the daylight hours. Experience gained during the cruise suggests that this phenomenon is connected with the spawning habits of cod and haddock, the dominant species. The catches of the immature age-groups were not markedly less during the day than at night. Echometer traces obtained during the day gave records to suggest that vertical migration takes place during the day.

Haddock: Length measurements and scales were collected and maturity determinations were made of all haddock caught during the survey, and ovaries were collected from all **ripe** females. The results of this survey show that the adult spawning shoals of haddock (4 years of age and older) formed local dense shoals in water of approximately 100 fathoms, whilst the adolescent shoals were more evenly distributed over the plateau. Spawning shoals were located in Nolso Bank, and to the north of Myling Head, whilst the greatest densities of the adolescent age groups were observed in the northern and eastern sections of the area.

Experiments were made to ascertain whether tagging of trawl caught haddock is possible. Encouraging results were obtained, and it is considered that large scale tagging experiments can be carried out.

Cod: Cod were caught at scattered points over the sampling area. As with haddock, the adult spawners were located in the deep water on the edge of the plateau, whilst the immature fish were distributed over the area.

Flatfish: Small numbers of lemon soles and chicken halibut were caught at scattered points in the area.

B. B. PARRISH.

29th April, 1950.

CIRCULATION:

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