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CRUISE REPORT

F.R.S. "SCOTIA"

April 1953

"Scotia" sailed from Aberdeen at midnight on 31st March and started to work the productivity stations. Six of these were satisfactorily completed in rapidly deteriorating weather, which by 2200 hours on 1st April had become too bad to allow of any further work. Accordingly, it was decided to proceed to Mid-Yell where the ship lay at anchor for twenty-four hours. On the morning of the third work started on the 60°43'N section across the North Sea. This, and the 61°01'N section, were completed by mid-day on the 5th, although the weather was bad throughout most of the period, and for that reason two trawls had to be omitted. "Scotia" then proceeded to Faroe and started on the southern end of the Faroe grid on the morning of the 6th. Work proceeded smoothly until the evening of the 9th, when the weather deteriorated rapidly and by midnight had become impossible. By this time only six stations of the Faroe survey remained to be done, although four of the trawls had been omitted due to the ground being untrawlable. The ship went to anchor in Vestmannhaven and lay there till the 13th, when, in view of an improvement in the weather forecast, it was decided to attempt to complete the programme. However, weather conditions outside were still unworkable, and the discovery of a broken steam pipe necessitated a return to Vestmannhaven for repair. This was completed by 1700 hours on the 14th when we proceeded to finish the Faroe stations, and a start was then made on the Nolso-Flugga section. This too was completed uneventfully and, after a short call to Lerwick for water and stores, a start was made on the Fair Isle survey. Three days work on this project were carried out under ideal weather conditions, when it became apparent that, due to shortage of fuel, the whole programme would not be completed. It was decided to omit twelve of the most southerly stations of the Fair Isle survey and start the productivity work. This was successfully completed by midnight on the 22nd, when the ship proceeded to dock at Aberdeen.

At 1100 hours on the 3rd April, when "Scotia" was steaming from Mid-Yell to the first station of the 60°43'N section, a Russian parent ship of 5000-7000 tons was sighted at anchor ca. 3 miles off Strandburgh Ness. One small ship was secured alongside it, about six were anchored in the vicinity and another 15 were anchored in Wick of Gruting. There was little sign of activity on board any of these, but the pallets and nets visible looked like those of a normal herring drifter.

At 2000 hours on the 4th, whilst proceeding west on the 61°01'N section at 61°01'N 1°00'E, six of these small ships were sighted 5' to the north, apparently drifting, and 5 miles farther west another two were seen steaming to the east.

Hydrography

On the outward trip temperatures on the productivity stations were very uniform, both with depth and between stations, varying little from 6.6°C. When these stations were done again on the return journey, the situation had undergone little change except at the most southerly group where the surface temperatures were around 1°C. higher than those prevailing at 10 metres. On the 60°43'N and 61°01'N sections, temperatures again showed little variation with depth. Surface temperatures decreased from west to east varying from 8.8-6.2°C. on the northern section and from 8.2-7.5°C. on the southern one. At Faroe temperatures varied between 6.5°C and 7°C. except at a few stations towards the edge of the shelf to the west of the islands, where somewhat higher surface temperatures were encountered. On the Fair Isle survey there was again marked column uniformity in temperature. Surface temperatures ranged from 6.5°C-7.8°C., the highest temperatures being recorded between 1°-2°W, falling off slightly to the west of this and much more sharply to the east.

Plankton

On the two sections across the North Sea, haddock eggs were noted in the collections only between 1°W and 1°E. and the numbers at these stations were small compared with those found at Farøe. Herring larvae were fairly abundant on the 61°01'N section west of 1°E. Calanus was moderately rich in both sections between the prime meridian and 3°E. *Dimophyes arctica* were taken in D21c, C21d and E21d, and *Hippodius hippopus* at D21c, E21d and D20c. *S. elegans* was fairly plentiful at all of these stations.

On the Farøe shelf haddock eggs were considerably more abundant than in any of the North Sea samples. They were present in practically all samples with the highest concentrations on Nolso Bank and towards the edge of the shelf to the north of Enniberg, the west of Myggenaes and to the west of Sydero. Young fish were plentiful and widely distributed, but were too small for haddock to be identified without thorough examination. The zoo-plankton at Farøe was moderately rich for the time of year. The areas of most abundant zoo-plankton generally coincided with the centres of density of haddock eggs. Calanus in various stages made up the overwhelming bulk of the collections. Adult Calanus was the main constituent over the Nolso-Fuglo bank area and to the north of the islands. Elsewhere small copepodites were the dominant stages. Eight divided hauls were done for halibut eggs. None were seen in the resulting collections.

Trawling

Trawl catches were conspicuously poor throughout the cruise. Haddock made up the bulk of all catches in the North Sea, but the largest catch of these consisted of only 120 fish taken in C21d, of which the overwhelming preponderance were 2+ fish. The largest catch of older haddock was made in E20c. 1+ haddock also showed up very poorly in the small mesh catches. Megrims were the only commercial flat fish taken in the North Sea - the largest haul being 7 taken in D21c. Cod and whiting were also extremely scarce. The catches at Farøe were almost equally poor. This may have been partly due to the fact that the majority of hauls were made in daylight; commercial trawlers working the area were lying during hours of daylight. Haddock again made up the bulk of the catches but even the largest haul only yielded 170 fish of which more than half were 2+. The 1+ haddock showed up fairly well at WW22b, XX23d and XX24c where one hour hauls yielded catches of 120, 130 and 220 respectively, but at the other four trawl stations none at all were taken. Only 6 lemon sole, 10 cod and 3 halibut were taken in the seven Farøe hauls. The echo-sounder was not functioning satisfactorily throughout the entire trip. However, by careful nursing it proved possible to get records throughout the Fair Isle survey. These showed a great many distinct fish traces, the heaviest concentrations being located between 59°15'N 1°40'W, and 59°15'N 1°00'W, between 58°35'N 0°20'W and 58°25'N 0°20'W, and between 58°25'N 0°00' and 58°25'N 0°20'E.

ALAN SAVILLE

5th May, 1953.

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