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CRUISE REPORT

F.R.S. "SCOTIA"

June 6th-25th 1952

"Scotia" sailed from Aberdeen at 2300 hours on the 6th June, departure having been delayed for a week for the installation of "Loran". Three accumulated temperature stations in the North Sea were worked before a passage was made from Fair Isle to the southernmost station of the Faroe survey. Drift bottles were released at 6 positions enroute. Work on the Faroe grid started at midnight of the 8th and continued uneventfully in poor weather conditions until the 14th when a deterioration in the weather made further work impossible and the ship proceeded to Vestmannhaven for water. By this time all but five stations of the grid had been completed. Departure from Vestmannhaven was delayed till the 16th June by the illness of the second engineer which necessitated his removal to hospital. Work then recommenced and the first grid was completed by mid-day on the 17th when bad weather again stopped work for eighteen hours. The second survey was then begun and rather more than half of it was completed before a broken joint in the engineroom made it necessary to go to anchor to effect repairs. The hydrographic section from Nolso-Flugga was begun on the 21st and completed by the 23rd. The ship then proceeded to Aberdeen, occupying four stations en route and docked there on 25th June.

HYDROGRAPHY

Temperatures were taken at the standard depths at all stations on the first survey and salinity, phosphate and oxygen samples at selected ones. No hydrography was done on the second survey. Over much of the Faroe shelf surface temperatures ranged from 7.5-7.8°C. Higher temperatures of 8.0-8.3°C. occurred towards the edge of the shelf to the north and south of the islands and in the Nolso-Fuglo bank region. Temperature showed little variation with depth bottom temperatures averaging around 0.4°C. lower than those recorded at the surface. On the Nolso-Flugga section surface temperatures ranged around 8.0°C. west of longitude 4°30'W; to the east of this the surface temperatures were considerably higher, varying between 8.7° to 9.9°. On the western part of this section negative temperatures occurred below 600m. but only at depth of 1000m. on the eastern part of the line. It had been intended to use a bathythermograph on this section but it was found that the instrument with which we were supplied was defective so this project had to be abandoned. At the North Sea stations surface temperatures varied between 8.7-9.3°C. on the outward journey and between 9.6 and 10.0°C. on the return journey. At none of the stations sampled during the cruise was there any evidence of a thermocline.

PLANKTON

On the periphery of the Faroe shelf to the north and east of the islands extremely rich plankton collections were taken in which Calanus was overwhelmingly the dominant organism. Over the rest of the area the collections were of a different nature with Aurelia aurita abundant at most of the stations and a smaller crustaceous content of which decapod larvae and Calanus were the dominant forms. Sagitta elegans was present in moderate numbers over much of the Faroe shelf whilst Eukrohnia hamata occurred at a few stations to the north and west of the islands. Themisto was a frequent and widespread constituent of the collections throughout the Faroe area, Calanus hyperboreus was recorded at several of the stations in the north-eastern part of the area and Beroe was noted in several of the collections from the north and west of the islands. To the south of the islands Laodicea was common whilst Halopsis was reported on Sando Bank and Tiaropsis occurred at several of the stations to the west of the islands. Haddock larvae were fairly widespread over the shelf and a cursory examination of the collections would suggest good survival of the 1952 haddock brood.

On the second survey, high-speed tow-netting was carried out. The technique worked well, although our experience would suggest that the life of the nets as constructed at present would be short. Even from a cursory examination of the collections secured there seems no doubt that a higher percentage of the larger fish larvae were captured than by the conventional methods.

On the Nolso-Flugga line, collections were also rich. On the western end of this section the collections were almost pure Calanus. Farther to the east the collections became more diversified with Limacina, Clione limacina, Diacria trispinosa and S. lyra appearing in the collections. Two oblique hauls were made to depths of around 1000 metres, which yielded considerable collections of bathypelagic copepods and myctophid fish. Within the North Sea, both on the outward and return journeys, the plankton collections were rather poor with Aglantha and Pleurobrachia making up the bulk. Fair numbers of Lemon Sole larvae were in evidence in these collections.

TRAWLING

Trawl catches were on the whole disappointing. Lemon sole and halibut were taken in small numbers over most of the area, whilst cod, which were otolithed for the Danish investigations, were best represented to the south of the islands and off the north-western corner of the shelf. No large catches of marketable sized haddock were made, but the 1951 brood was well represented - particularly to the north and east of the islands. At five of the trawl stations at Faroe an additional haul was made with a tickler chain incorporated in the rig. This had no obvious effect on the catch - which is perhaps hardly surprising in view of the fact that there was no evidence of any major flatfish population on the grounds fished. A pair of hauls was also made off Balta Sound where a somewhat larger flatfish population was sampled. Here a somewhat greater catch of lemon sole and common dabs resulted from the use of the tickler chain, but the significance of the difference has not been assessed. One haddock of the 1952 brood at a length of 6 cm. was taken on Sando Bank.

Preliminary trials were made with the new pelagic trawl to see how it behaved in the water. The net was first shot rigged to the Larsen trawl boards. These boards were unsatisfactory, probably because of lack of experience in rigging and handling them; but the net itself showed promise which was borne out when it was shot rigged to normal trawl doors. The net had a good spread, was stable at all projected towing speeds, and gave a warp angle of 15°-18° from the towing block.

GENERAL

The echo-sounder was run practically continuously during the cruise. Several traces believed to be herring were noticed on the return journey from Flugga to Aberdeen. A diffuse trace obtained off Nolso was sampled with a high-speed net which yielded a large catch of Gadus esmarkii 3-4 cm. long. The only cetacea sighted during the cruise was a school of about a dozen dolphins at 61°28'N 03°42'W.

ALAN SAVILLE

3rd July, 1952.

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