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CRUISE REPORT

F.R.S. "SCOTIA"

June 2-21, 1965

Narrative

Shortly before its beginning the programme of the cruise was altered, as part of a general programme adjustment. The Nephrops survey was transferred to the following cruise and the duration of this cruise was cut by five days.

"Scotia" sailed from Aberdeen on 2nd June at 1400 hrs., with the intention to proceed to the eastern part of the survey area, to work on the herring environmental stations in the Skagerrak and in the Norwegian Deep. The first station, off the Moray Firth, was picked up on the same day at 1930 hrs. and the ship worked her way across the North Sea towards Skagerrak. Before commencing the herring environmental grid, two trawling stations were worked. Survey proceeded in good weather, covering the southern part of the grid and three more trawling stations, before the ship went to Stavanger, where she docked at 1000 hrs. on 8th June.

Having taken on supplies of fuel and water, "Scotia" left Stavanger on 9th June at 1300 hrs.; the work on the herring environmental survey was resumed at 1800 hrs., and progressed in the general northerly direction. The herring survey was almost completed (there were still two stations to do), when deterioration in the weather conditions forced the ship to stop working on 11th June at 730 hrs. "Scotia" dodged in the south-westerly direction. By the time weather improved sufficiently for the work to be resumed (12th June, 200 hrs.), the ship was too far away from the remaining two herring stations. They were, therefore, abandoned. The northern part of the trawling survey was covered until June 15th. On that day, with worsening weather conditions and heavy seas running, the work became difficult. In addition, the trawl was damaged at 1830 hrs. Since another delay in work was forced by these circumstances, it was decided to advance the date of the next replenishing of water. On her way to Lerwick, "Scotia" became involved in the search for the missing fishing vessel "Fertile" and was able to assist in locating her whereabouts. Delayed by the search, the ship docked in Lerwick on 16th June at 2115 hrs.

With mail and water aboard, "Scotia" left Lerwick on 17th June at 1400 hrs. and resumed work on the trawl survey. Covering trawling stations in the south-western part of the survey area, the work went on without further interruptions until 21st June, 1500 hrs., when the ship's time-table made it necessary to terminate it and to return to Aberdeen. "Scotia" docked in Aberdeen on the same day, at 1900 hrs.

Fishing

In all, 32 hauls of 1 hr. duration were made. With few exceptions, fishing throughout the area covered was poor. The usual quantity of fish taken in one haul was $1\frac{1}{2}$ - 3 baskets. The only localities where fishing was better, were the stations off the Moray Firth, on the Fladen Ground and the Buchan Deep. In these localities, catches varied from 6 to 10 baskets.

The bulk of the larger catches was made up of haddock, 7 baskets being the largest quantity of this species taken. Whiting was scarce ($1\frac{1}{2}$ baskets was the largest catch per haul) and its catches included some ripe and running females. Cod was also scarce and differed in size from very small to almost 100 cm long. Of the small gadoids, T. esmarkii was most abundant, its catches reaching $2\frac{1}{2}$ baskets. Only isolated individuals of other small gadoid species were encountered.

Flat-fishes were very scarce in the catches, the most common among them being the lemon sole. Occasional plaice was taken, as well as about half a dozen of small halibut and a single turbot. The catches of dab consisted entirely of non-commercial sizes.

Herring was almost entirely absent; never more than 20 fish per haul were caught, usually 2 - 3, or none. Some echosounder traces in the Fladen area coincided with catches of mackerel. The abundance of this species in that area reached about 3 baskets per haul.

Elasmobranchs were represented mainly by Squalus acanthias, with catches reaching 3 baskets per haul and containing some gravid females. The most common of rays and skates was Raja batis, though a few specimens of R. clavata and R. naevus were also taken. A single R. fullonica was caught.

Plankton

Calanus finmarchicus was the dominant species in the samples. It was fairly evenly distributed throughout the surveyed area, but its abundance was much lower in the Norwegian coastal region.

Thysanoessa inermis occurred in small numbers over the whole area, while Meganyctiphanes norvegica was prominent off the coast of Norway.

Spiratella retroversa and Sagitta elegans were distributed in a narrow band, stretching from the Pentland Firth to the Skagerrak.

Hydrography and Chemistry

In the eastern half of the survey area, the surface temperatures varied from 9.3°C at latitude 57°30'N to 12.0°C at latitude 59°00'N. The corresponding bottom temperatures were 6.4 and 6.9°C. In the western half of the survey area the surface temperatures varied between 9.0 and 10.75°C, while the bottom temperatures were within the range 6.55-8.0°C.

As instructed, chemical samples were collected at 79 stations. They have been brought back to the laboratory and are now being studied.

Other work

Mr. Bainbridge (S.M.B.A.) collected multiple plankton indicator samples at each station worked. The cruise afforded him an opportunity of covering the entire northern North Sea and the Skagerrak.

Z. KABATA
29th June, 1965