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CRUISE REPORT

F.R.S. "SCOTIA"

16th August - 1st September.

Narrative

Having left Aberdeen at 1030 hrs on August 16th, "Scotia" sailed for Firth of Forth, where the usual Nephrops survey was carried out between 1830 hrs of that date and 0330 hrs of the following day. Survey completed, the ship sailed for the Dogger Bank area where the first station (to the NE of the bank) was occupied at 0800 hrs on August 18th. In favourable weather and without any interruption the ship worked her way south, taking trawl samples at about 30 miles intervals and covering the area by a series of parallel lines from E. to W. The day of August 23rd was spent steaming in search of a suitable trawling ground at the level of Harwich - Hook of Holland, the search proving unsuccessful.

On August 24th at 1630 hrs, "Scotia" arrived in IJmuiden for water and mail, and remained there till 27th August 0630 hrs. During the two days in IJmuiden the hospitality of the local laboratory's staff was extended to the members of the ship's staff. Mr. Gamble met whiting specialists from Holland, England, Denmark and Germany, with whom he discussed problems of whiting otolith age reading. A report on the results of the meeting will be prepared separately by Mr. Gamble. A discussion with the members of the staff of the local laboratory, concerning parasitological research and its place in the fishery research, was kindly arranged by Dr. Korringa. "Scotia's" visiting scientist, Dr. Williams of the University College, Cardiff, contributed to the discussion with a talk on the cestodes of the elasmobranchs.

Between August 27th and August 31st 2100 hrs, "Scotia" worked lines of trawl stations, proceeding gradually North. Towards the end of that period weather deteriorated progressively, forcing one 15 hrs interruption of work. With strong NW winds the passage back to Aberdeen was expected to take a considerable time and the arrival in Aberdeen was planned for September 2nd. The wind abated later, however, and the ship was able to make better time, arriving and docking in Aberdeen at 2230 hrs on September 1st.

Fishing

During the cruise 47 hauls of 30 minute duration were made. Fishing was reasonably good and sufficient samples of whiting were obtained at 29 localities. Catches varied from $\frac{1}{2}$ basket to 6 baskets, greatest quantities of fish being caught at dusk and dawn. A particularly interesting feature of the cruise was the abundance of weevers caught at some distance south of the Dogger Bank and the presence of several Engraulis encrasicolus and one Alosa finta. Elasmobranchs were conspicuously scarce, only 9 specimens of rays having been caught and several small topes and dogfish. In one haul $2\frac{1}{2}$ baskets of the jellyfish, Rhizostoma octopus, were taken.

Whiting Investigations

In spite of sufficient whiting catches only few fish were tagged. This was due to their poor condition. Most of whiting were almost dead on being brought up on deck. Attempts at line fishing were also unsuccessful, due to technical difficulties (strong tides, etc.) and due to the fact that many of the whiting caught by line swallowed the hook too deeply to allow its removal without harming the fish unduly.

A considerable number of whiting were examined for the vertebral count (749 fish in 25 samples).

Parasitological investigations

During the cruise 1000 whiting gall-bladders were examined for their protozoan fauna. The results of the investigation show quite clearly that the two types of the gall-bladder fauna (dominant Contracoecum and dominant Myxidium) are separated by the Dogger Bank, indicating the existence of two separate stocks of whiting. Northern (Ceratomyxa) stock is found over most of the bank area and to the south-east of it for some distance, but southern (Myxidium) stock is also present in this area, the "mixing area". Some exchanges between two stocks probably take place between the western end of the bank and the British coast. With small exceptions, the results of this cruise confirmed those of the previous cruise of this type (May 1959).

Other Work

Two chemical samples were collected, south and east of Dogger Bank. Three plankton samples were taken, one off Montrose and two in the area of Dogger Bank. These samples are now being examined.

Z. KABATA.

6th September 1960

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