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CRUISE REPORT

F.R.S. "SCOTIA"

3rd-23rd September, 1957

Narrative

"Scotia" left Aberdeen at 9.30 p.m. on 3rd September and proceeded to the Butt of Lewis where scientific work was commenced on the hydrographic line of stations to Faroe Bank. This was completed under favourable conditions but the extension of the line beyond the Bank towards Iceland had to be abandoned in view of deteriorating weather. After two days' delay due to a north-west gale, a programme of shark and great-line fishing was carried out on eastern and southern Faroese grounds. Bait was obtained by trawling. A severe northerly gale caused a further curtailment of the programme before the hydrographic line from Nolsø to Flugga was undertaken. This was completed successfully on the 20th and the vessel then proceeded to Lerwick where the crew were paid on the 21st. "Scotia" departed from Lerwick on the following day and arrived at Aberdeen about mid-day on the 23rd.

Hydrography

From the Butt of Lewis to the Wyville Thomson Ridge, surface temperatures ranged from 12.93° to 11.92°C and bottom temperatures from 10.48° to 7.82°C. Between the Ridge and Faroe Bank surface temperatures were markedly lower - 11.40° to 11.00°C - while arctic water was encountered near the bottom at the three deep stations on this section. On the Nolsø-Flugga line surface recordings ranged from 11.55° (near Flugga) to 9.28°C (in mid channel). Arctic waters, with temperatures below zero at four positions, were again found in the lower layers at the five deep stations.

Samples of water were preserved as required by the programme for analysis of salt, oxygen and phosphates and water was filtered on a few occasions for chlorophyll estimation.

Drift bottles were liberated in fives according to instructions.

Plankton

Mr. Seaton has prepared the following short report on this aspect of the work:-

"The dominant organism on both lines was Arachnactis albida. On the Butt-Faroe line it was particularly abundant in areas XX17a, WW18d, WW18b and WW19c; being visible at the surface in large numbers. Sulculeolaria biloba was also present at many stations on both lines as was the diphyid, Lensia conoidea. Dolioletta gegenbauri was taken in areas WW18b, WW19c and VV20b. Physophora and Agalma were abundant east of Nolsø where the medusa, Solmaris corona, was also present in fair numbers. Crustaceous plankton was generally scarce, the richest hauls being obtained at the coastal stations at the ends of the lines."

Lining

Shark lines were used on a number of eastern and southern Faroese grounds but, unfortunately, with disappointing results. Only one porbeagle was caught. This is all the more surprising since grounds were selected in the deep water outside positions at which porbeagles had recently been taken by trawlers. All the bait used was freshly caught and a variety of species was used for this purpose. Varying depths of water were fished and quite obviously the lines had been fishing at different depths. Owing to the difficulty of keeping fish fresh on "Scotia" no herring, however, were used as bait on this occasion.

Great-lining produced some good results with tusk the predominant species. Several large halibut were also caught including one fish of $13\frac{1}{2}$ stones in weight.

Under the supervision of Mr. Gatt, the second fishing mate, and with the help of three experienced line fishermen in the crew, lining operations generally were carried out more expeditiously than on most occasions in the past.

Trawling

Although commercial trawlers were reporting poor fishing, "Scotia" obtained good results by trawl in several localities. This information was passed to a number of Aberdeen vessels but it is not known if any action was taken to follow it up.

Catches consisted predominantly of prime fish - including haddock, cod, lemon sole and halibut. The haddock included a large proportion of big fish and ample evidence was obtained from the small mesh catches of a good survival of the 1957 brood.

Jellyfish (Aurelia with occasional Cyanea) were present in the upper water layers at Faroe throughout the cruise but they appeared to present no problem to trawlers until after the middle of the month, when several vessels reported their presence on the bottom with the usual harmful effects on gear and catches.

All "Scotia" catches were treated on routine lines. Notes were kept on the occurrence of Lernaeocera on cod and collections of flatfish heads were made for a study of other gill parasites. Numerous notes were made on the stomach contents of cod, halibut, skate, etc.

Samples of Elasmobranch livers were preserved for Dr. Fisher of the National Institute for Research in Dairying and a number of spiral valves were preserved for Mr. Williams of the University of Wales, who is engaged on a study of their parasites.

No scientific gear was lost on the cruise but defects developed in one of the echosounders and in the electric motor used in the filtration of sea water.

About twenty Norwegian drifters were seen sheltering in Klaksvig. Most of these vessels, which are considerably larger than Scottish drifters, appeared to be of fairly recent construction. Their fishing grounds were understood to be about 100 miles north of Faroe. Some of the vessels were heavily loaded and appeared to be awaiting suitable weather for a return to Norway; others had just arrived back from their home port. No Russian vessels were observed on this cruise.

BENNET B. RAE.
1st October, 1957.