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CRUISE REPORT

F.R.S. "SCOTIA"

December 1959

General

"Scotia" left Aberdeen on Friday, 4th December, but after completing only two stations a return to Aberdeen was necessary to repair the valve seating of the main stop valve of the engine. [It was considered unwise to attempt the repair at sea as if an adequate repair proved impracticable the ship could be endangered.] However, the trouble was not serious and the ship left again on the next tide. The weather soon worsened, severely by 10 p.m., and we turned for the shelter of Gamrie Bay where we remained all day, Sunday, 6th December. Monday, 7th December, was spent in severe weather in giving help to the Leith vessel "Servus" lying disabled near the Caithness coast. Tuesday and Wednesday, 8th and 9th, were spent in Cromarty Firth where a sample of halflin herring was obtained from a local drifter and worked up on board. Although the weather was still not good "Scotia" left Cromarty on December 10th but succeeded in working two stations only before it was again necessary to take shelter, and as stores and water were required "Scotia" came to Aberdeen on Friday, 11th, at 2300 hours.

Stores having been obtained and a supply of rockets borrowed (the ones ordered from Schermuly being delayed by the Christmas parcel rush) we left Aberdeen at 2 p.m. on Tuesday, 15th, and worked a series of stations east of Scotland before working the Nephrops stations in the Firth of Forth. This took until Friday, December 18th, when another attempt was made to work the outside grid of stations. Weather was bad, prospects worse, and it was decided to abandon further abortive attempts and we returned to Aberdeen on Sunday, December 20th.

Hydrography

Sea surface temperatures ranged from 10.3° off Aberdeen to 8.1° east of Arbroath and about 40 miles south of Aberdeen. Bottom temperatures were generally fairly close to, but slightly above, the surface temperatures indicating fairly homogenous water.

Plankton

The richest plankton of the cruise was found in C 11 d some 60 miles east of the Forth, where Calanus was fairly abundant with Sagitta elegans, Euphausiid larvae and Tima bairdii, and B 11 d east of May Island where Euphausiid larvae were abundant but with few Calanus. Plankton in the Firth of Forth was extremely poor. Nowhere was there evidence of a legacy of oceanic inflow as often occurs in the area east of Scotland during November and December.

The plankton wire was shortened to remove any fatigue effects caused by the Gulf III during the previous cruise and no trouble occurred. A trial model of an Icelandic pattern made in the laboratory workshop was tried out and towed very well. The catches have not yet been analysed.

Trawling

As the weather was too bad to continue the outside grid of stations the opportunity was taken to work on the Nephrops programme in the Firth of Forth planned by Dr. Thomas for just such an eventuality. This consisted of  $\frac{1}{2}$  hour and  $1\frac{1}{2}$  hour trawl hauls with the 75 mm. cod end and small mesh,

arranged statistically for Nephrops work. Whether or not the bad weather was the cause, Nephrops seemed very scarce indeed in the trawls, so scarce that the planned statistical programme degenerated into a search over a wide area in and outside the Firth to try to find a spot worth working - and failed. However, a useful series of measurements of total length carapace length and width of the fourth abdominal segment were obtained (the abdomen is often the only part available in commercial samples).

Useful data on cod worm and stomach contents were also obtained, and indeed the fish hauls were quite reasonably good for cod, haddock and whiting. Flats were rare.

#### Echo-sounding

Traces were found close to Aberdeen and 30 miles east, NE of Kinnaird, and between Cromarty and Buckie. The rolls have been brought back to the laboratory for further examination.

J. H. FRASER  
23rd December, 1959.

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