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## CRUISE REPORT

F.R.S. "SCOTIA"

14th - 31st October 1962.  

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Narrative

The ship left Aberdeen at 1330 hrs on the 14th of October, and the Rattray-Fladen line was started later that day. This had been completed by 1030 hrs on the 15th and the second part of the programme was commenced. Eleven stations were occupied, in excellent weather conditions, between then and 0050 hrs on 18th October when work had to be cancelled due to a warning of an imminent gale. Work was resumed on the morning of the 19th and continued until 2100 hrs on the 22nd when the ship proceeded to Lerwick for water, a further 13 stations having been completed.

The ship left Lerwick at 1000 hrs on the 24th, but due to a gale no work was possible and the ship sheltered first at Pierowall, then at Shapinsay, until the afternoon of the 26th. A move to the Moray Firth area was then made, and one station was occupied on the morning of the 27th, but bad weather again forced the ship to an anchorage. The ship remained at this anchorage - in the Dornoch Firth - until work was recommenced on the morning of the 29th. However only 2 stations had been completed when the ship had to shelter off Pennan. Conditions had not altered by the afternoon of the 30th, and in view of the weather forecast the ship returned to Aberdeen, docking at approximately 0100 hrs on the 31st.

ResultsHydrography.

Full serial  $t^{\circ}\text{C}$  observations, and  $S\text{‰}$  samples were taken at a number of selected stations, while at the remainder bottom and surface observations only were made. Uncorrected surface temperatures ranged from above  $11^{\circ}\text{C}$  in the Moray Firth, over the Coral Bank and north of Shetland, to less than  $10.5^{\circ}\text{C}$  in the north-eastern area of the northern North Sea. Bottom temperature observations showed the normal core of colder water - below  $7^{\circ}\text{C}$  - in the central area of the northern North Sea.

Drift bottles were released at 14 stations and 500 bottom current markers released on the Fair Isle Bank.

Chemistry

Surface samples for oxygen, phosphate, nitrate and silicate were taken at all stations, and at a number of selected positions bottom samples were also taken.

Productivity

Chlorophyll and carbon samples were obtained from 10, 30, 50m and bottom at a number of stations, while at others the pumped water supply was used.

## Plankton

Gulf III samples were taken at all stations, while additional sampling with 1 metre 26 mesh nets and standard nets was obtained at selected positions.

The most striking feature of the zooplankton was the salps which were present in large numbers near the Fair Isle-Shetland Channel and in the area east of 00°30'E and north of 59°00'N. Outside these areas Calanus was well represented in the collections. Surface hauls with the 1 metre 26 mesh were characterised by large numbers of Anomalocera pattersoni.

Indicator samples were also obtained for the Edinburgh Laboratory.

Three zooplankton feeding experiments were carried out but results must await laboratory analysis of the filters.

## Trawling

A Vinge trawl with a small mesh cod-end was used throughout. Haddock, whiting and Gadus esmarkii were the dominant species caught and 0+ (1962 brood) haddock were well represented.

Herring were caught in small numbers, and apart from a few in the Moray Firth, were confined to water of over 100m depth. The largest catches, 442 and 233 per hour haul were from F15a and E20d respectively.

Sixty cod, mainly in the 45-70 cm range, were tagged and also 49 haddock - mainly 25-45 cm in length.

Whiting gall-bladders were preserved and notes on the occurrence of nematodes in the flesh of cod kept.

Due to weather severely curtailing the latter half of the cruise it was only possible to work one of the Nephrops stations (57°54'N 2°52'W) where the catch was 217 per hour haul.

## General

The echosounder was run as continuously as possible, but nothing of particular interest was seen.

The water transparency meter is still not working perfectly due to the difficulty of stabilising the ships A.C. supply. However encouraging results were obtained before a major breakdown in the A.C. generator brought an end to the tests.

The usual laboratory contacts were maintained.

JAMES A. ADAMS

1st November, 1962.