

CRUISE REPORTF.R.S. "SCOTIA"7 - 22 May, 1952

NARRATIVE: The departure of "SCOTIA" from Aberdeen was delayed thirty-six hours, until midnight on May 7, owing to necessary repairs to a hydrographic davit damaged in loading operations. Because of this initial delay direct passage to the Butt of Lewis was made, postponing two North Sea stations until the end of the cruise.

Weather and sea conditions became unworkable 20 miles out from the Butt, necessitating a further delay of 24 hours before operations could be resumed. Thereafter, the Butt-Faroe Bank, and Faroe Bank-Sydero sections were completed by midnight on Sunday, 11 May.

The Enniberg hydrographic-plankton section was begun the following morning, but work had to be abandoned during the second station owing to gale conditions. "SCOTIA" remained stormbound in Fugle Fjord, Faroe, until Friday, 16 May. Stores and water taken on board at Klaksvig, a second attempt was made on the Enniberg line, but again weather conditions after the second station rendered further work impracticable.

"SCOTIA" then proceeded to the north-west of Faroe to commence the Faroe Shelf survey. After three stations, proceeding eastward, conditions again became unworkable. It was anticipated that workable conditions would be found further south to the west of Faroe, but this proved not to be the case.

Gales were succeeded by dense fog, despite which the Faroe-Shetland section was begun on Sunday morning, 18 May. The section was completed the following evening and the Flugga line northwards from Shetland was successfully overtaken on Tuesday, 20 May.

"SCOTIA" put into Lerwick at 9.30 a.m. on Wednesday, 21 May. Receipt of instructions from headquarters necessitated leaving Lerwick again at 1 p.m. the same day. One of the three stations en route to Aberdeen had to be omitted for lack of time. "SCOTIA" docked in Aberdeen at 1 p.m. on Thursday, 22 May.

HYDROGRAPHY: The evidence of the temperature distribution on the Butt of Lewis-Faroe Bank hydrographic section is that a strong incursion of oceanic water into the Faroe-Shetland Channel was taking place across the Wyville-Thomson Ridge. A deep upper layer of water along the entire section registered temperatures in excess of 9°C, including a small superficial layer off the Continental Edge in excess of 10°C. These temperatures are over 1°C above the normal value in this region in the month of May. Also, at a depth of about 800 metres the zero isotherm was thus at a lower level than normally, thus again indicating an excessive bulk of oceanic water on the section.

Little more than one week later there was a very marked difference in thermal distribution as between the Faroe-Shetland section then covered and the above section between Faroe Bank and the Butt of Lewis. Only in a narrow band over against Shetland were temperatures in excess of 9°C recorded, and only three-quarters of the length of the section had upper water temperatures greater than 8°C. There would thus appear to have been some resistance between Faroe and Shetland to the northerly flow of the
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Atlantic Current which was flowing strongly over the Wyville-Thomson Ridge.

The short section between Faroe Bank and Sydero, Faroe, yielded evidence once more of Atlantic water coursing eastward into the Faroe-Shetland Channel round the northern boundary of Faroe Bank and of the outflow westward round the southmost island of the Faroe group of colder water from the eastern vicinity of Faroe.

The section due north from Flugga, Shetland, to latitude $62^{\circ}24'N$ appears by the temperatures registered to have almost if not completely crossed the Atlantic Current making towards the Norwegian coast. Salinity values when available will give a more reliable indication of this.

PLANKTON: Over all, the plankton hauls made during the cruise yielded abundant material. On both the major Faroe-Shetland Channel sections Calanus was taken in large quantities. Medusae also appeared in large numbers. Laodicea and Cosmetira were common to many of the collections, but on the other hand Sagitta was conspicuous by its scarcity. Meganictyphanes and other Euphausiids were also scarcely represented. Physophora was taken in surface and midwater townets at several stations. Young fish were well represented, especially in XX23d and ZZ22c where considerable numbers were taken.

By contrast, to the north of Shetland, Calanus was much less abundant than in the Faroe-Shetland Channel, but Sagitta on the other hand, was much more plentiful.

Only one haul was made with the 1 metre closing net, the runners for the trip proving too fragile. The release mechanism also appears to require adjustment. Deep oblique hauls were substituted for the closing net after the first attempt with the latter, and these deep oblique hauls were particularly copious in their yield throughout the cruise.

TRAWLING: Weather conditions prohibiting the Faroe Shelf survey, trawling operations of the cruise were restricted to only two hauls, one on the Butt of Lewis ground and the other to the north-west of Faroe in WW24d. Haddock bulked largest in the Butt of Lewis catch, with some whiting, hake, dogfish, lemon soles and megrim. Probably to some extent owing to the rough weather the catch off north-west Faroe was a small one, numbering only a few haddock, seabastes, and Gadus osmarkii.

GENERAL: Water samples for chemistry were taken throughout as per the cruise programme and drift-bottles liberated as intended. No whales were seen.

The entire period spent in the Faroe region was marked by persistent and strong north-east to south winds, often of gale force and accompanied by very heavy swell and rough sea.

J. B. TAIT
29 May, 1952

CIRCULATION:

Mr. W. Russell	Dr. G. Reay	Mr. J. A. Pope
Capt. C. H. Champness	Dr. H. Wood	Mr. S. D. E. Devlin
Mr. M. Graham	Dr. J. B. Tait	Mr. L. D. Seaton
Dr. J. N. Carruthers	Dr. J. H. Fraser	Circulation
Dr. A. V. Tåning	Dr. A. Ritchie	Library
Dr. F. Devold	Dr. B. B. Rae	Dr. Fridrikson
Mr. F. S. Russell	Capt. E. A. Bruce	Dr. Einarson
Mr. E. Ford	Capt. G. B. McLaren	File
Mr. K. M. Rae	Mr. J. H. Steele	Spare 4.