

CRUISE REPORT

F.R.S. "SCOTIA"

August 5th - 23rd 1961

Objectives

The principal objective was the location of concentrations of G. esmarkii. These were to be fished with a view to -

- 1) assessing the catching rates
- 2) mapping the extent and distribution of the concentration
- 3) testing for any diurnal variation in availability
- 4) assessing the extent of the catch of other fish.

Narrative

The ship sailed from Aberdeen on 5th August at 0900 hours and steamed to the Devil's Hole area. Three trawl hauls from there to the Gut yielded no small gadoids so it was decided to try further North on the Witch Ground. G. esmarkii were caught in small quantities and became abundant as the ship went further North. Bad weather forced the ship to dodge for two days on 9th and 10th August. Work was resumed late on the 10th and trawling was continued from the edge of the Norwegian Deeps to the mouth of the Skagerrak. On 13th August "Scotia" called into Esbjerg for water and stores and the scientific staff took the opportunity to visit one of the cooperative fish meal factories there. The ship sailed from Esbjerg on 15th August but immediately hit bad weather and had to dodge until 17th August. Three trawl hauls were made across the Tail End of the Dogger and on Great Fisher Bank, and on 18th August trawling started on the Fladen Ground and continued until 22nd August. The ship then undertook the Firth of Forth Nephrops survey which was completed on the 24th and the ship docked in Leith on the 25th.

Trawling

All trawling was undertaken with the Vinge trawl and all hauls were of 1 hour's duration.

Fishing during the first half of the cruise on the Witch Ground, Gut and Swatchway, yielded poor catches of G. esmarkii. Somewhat higher catches were taken on the edge of the Norwegian Deeps and here some good hauls of small Sebastes and G. poutassou were made.

A larger concentration of G. esmarkii was located just North of the Fladen Ground in the second half of the cruise and was trawled night and day for five days. The boundaries of the concentration were sharp and catches dropped from over 5 baskets to less than $\frac{3}{4}$ of a basket within a distance of 5 miles. In the centre of the concentration regular catches of nine and ten baskets were made. At its widest the patch measured 15 miles in an East and West direction. No Northern boundary was established.

A total of 6 trawling positions were duplicated by night and day and considerable diurnal variation in catches was found. The day/night ratio varied from 1.5 to 2.5, with an average of 1.8.

Nephrops

In addition to the routine sampling of Nephrops during the trawling survey, the Firth of Forth Nephrop survey was completed.

Hydrography

Surface and bottom temperatures and salinities were taken at most trawl stations. All standard depths were sampled at least twice in each area fished. Drift bottles were released at positions 30-40 miles apart.

Plankton

The Gulf III sampler was used at all hydrographic stations. Plankton quantities were small, the dominant species being Calanus, Sagitta setosa was taken in hauls in the southern part of the area surveyed but no specimens of this species were taken to the North of Latitude 57°15'N.

D.F.S. RAITT
26th October, 1961.

Circulation

Mr. Engholm
Dr. Graham
Dr. Cole
Dr. Carruthers
Mr. Gordon
Capt. MacCallum
Mr. Glover
Dr. Leloup
Dr. Furnestin
Dr. Ancellin
Dr. Korringa
Dr. Höglund
Dr. Bertelsen
Prof. Dr. Dietrich
Mr. Rollefson
Mr. Le Mare, W.F.A.
Mr. Gault, W.F.A.
F.O. Aberdeen
Peterhead
Fraserburgh
Dr. H.H. Williams

Capt. Bruce
Capt. Finlayson
Mr. Taylor
Mr. Jappy
Dr. Lucas
Dr. Tait
Dr. Fraser
Dr. Rae
Mr. Parrish
Mr. Grant (2)
Library (2)
File
Spare (4)
Mr. W.B. Hall
Mr. McPherson
Mr. Raitt
Mr. Sinclair
Mr. Murison