

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1975 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 8

(PROVISIONAL: Not to be quoted without prior reference to the author)

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DURATION

Left Grimsby 1745h 20 August

Arrived Grimsby 1022h 13 September

All times are Greenwich Mean Time

LOCALITY

Barents Sea, Norwegian Sea, North Sea

AIMS

1. To participate in the International Barents Sea 0-group fish survey.
2. To release two TWERLE buoys.
3. To take water samples for trace metal analysis and also for Caesium-137 analysis.
4. To take samples of suspended particulate material for trace metal analysis. (Geology Dept., University of Edinburgh).
5. To collect specimens of pycnogonids.

NARRATIVE

The ship left Grimsby at 1745h 20 August, and after bow propeller trials in the river, made course for Bergen where a brief call was made to collect a capelin trawl. The ship then continued northwards to the first TWERLE buoy launching position (69°44'N 16°06'E) where the buoy was successfully launched. As the transmitter of the second buoy was malfunctioning the launch

of that was delayed until the end of the survey. The 0-group survey was commenced on the Norwegian coast at 28°30'E at 2000h 25 August. The most northern section of the survey on 80°40'N (NW of Spitsbergen) was reached on 2 September. The survey was completed on 6 September. The second TWERLE buoy was launched at 72°01'N 14°58'E on 5 September by which time the transmitter fault had been diagnosed and the faulty component replaced. Water samples for Aims 3 and 4 were taken at selected stations along the route from Grimsby to north Spitsbergen. Four bottom trawl hauls were made during the survey to obtain specimens of pycnogonids. CIROLANA called at Hammerfest on 7 September and left on the morning of 8 September. Mr Jones left the ship at Hammerfest to join scientists from the other participating vessels to analyse the results of the 0-group fish survey. On the return journey further stations were worked to obtain water samples for Aims 3 and 4. The ship arrived back at Grimsby at 1022h 13 September.

RESULTS

1. The 0-group fish survey was successfully completed. The other ships participating were G.O. SARS and JOHAN HJORT from Norway, and FRITJHOF NANSEN and POISK from USSR. CIROLANA covered over 2000 miles and made 68 hauls with the capelin trawl. The echo sounder and Simrad Integrator were run throughout the survey. 35 hydrographic stations were worked on six sections.

Results indicated that the 1975 year-class for both cod and haddock was good. The abundance of cod was about half that recorded in 1970 and 1973. The 1970 year-class has since been confirmed as being exceptionally abundant. For haddock the current year-class was the most abundant during the eleven years that international surveys have been carried out. Only two herring were taken during the entire survey and there is no indication of a recovery of this stock in the Barents Sea. Redfish were once again recorded in large numbers but, as the area of high density was less extensive than last year, the overall abundance is somewhat less than the very abundant 1974 year-class. 0-group capelin were once again abundant. Polar cod were very sparse in the eastern Barents Sea, although survey coverage was less extensive than in other years, and the 1975 year-class is considered to be of low abundance. In the Svalbard area however polar cod were more abundant than usual. A joint report of the survey is being submitted to the 1975 Statutory Meeting of ICES.

2. The two TWERLE buoys were launched in approximately 1100m of water at the appropriate sites.

3. Surface samples for Caesium-137 and trace element estimation were collected and processed at 59 stations during the cruise. At 17 of them additional deep samples were taken.

4. Samples of suspended particulate material were taken throughout the water column at 7 stations. Two of the stations sampled during the return passage from Hammerfest were deep ones.

5. Three of the bottom trawls provided live pycnogonids. Specimens of at least four species were taken, and some of the animals were kept alive for experiments at Luton. The rest were preserved for examination by electron and light-microscopy.

MISCELLANEOUS

- (a) Water from the Barents Sea for algal culture purposes was brought back for Dr Reynolds.
- (b) Blue whiting otolith samples were obtained for Mr Blacker.
- (c) Specimens of cod, haddock, catfish, redfish and blue whiting were preserved frozen for Dr Portmann.
- (d) Photographic recordings of fish echoes within the trawl gate were taken at a number of stations.
- (e) Noise levels at the transducer were measured for a range of ships' speed from 0-14 knots.

B W Jones

H R Stewardson
23 September 1975

SEEN IN DRAFT T H F
W J S

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DISTRIBUTION

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