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R. V. CLIONE

Report for Cruise 8/67

Staff

Duration

R. J. Wood
W. G. Parnell
E. G. Shreeve
A. M. Watson
W. M. Blacknell

6th-16th September

Aims

1. To carry out a tin tow net survey for herring larvae in the vicinity of the Shetland Islands, as part of an international survey of the abundance and distribution of autumn-spawned herring larvae in the northern and central North Sea.
2. To examine the vertical distribution of herring larvae by day and night using the changing net.
3. To echo survey the herring spawning grounds in the Shetland area.
4. To collect samples of herring larvae for Dr. Khalil (Fisheries Helminthology Unit), and if time permits, also samples of adult herring from the Shetland and Longstone areas.

Narrative

CLIONE sailed from Lowestoft at 1005 hours, 6th September, and set course northwards. Two hours were spent next evening calibrating the 20 inch tin tow net in deep water off the Moray Firth, and the herring larval survey commenced at 0633 hours the next day, 8th September, at a position approximately 5 miles north-west of Fair Isle. The grid, which consisted of forty-one stations, was completed by 1910 hours on 11th September. The remainder of 11th September, and most of the 12th, were spent in investigating the vertical distribution of herring larvae near Fair Isle with the 30 inch changing net. This work was rendered extremely lengthy and tedious as the net depth indicator would not function due to a break in one of the wires in the 6-core cable. This break probably resulted from damage sustained during a previous cruise. One haul with the Dutch herring trawl was made north of Fair Isle, on good traces near the seabed, before leaving the area at 1722 hours, 12th September.

Passage southwards was made at full speed overnight and CLIONE reached the N.E. Bank at 1400 hours, 13th September. During the next twenty-four hours an extensive echo survey was made covering both the N.E. Bank and the Farn Deep, and three hauls were made with the Dutch herring trawl. Further hauls were also made with the 30 inch changing net near the N.E. Bank before CLIONE left the area at 2100 hours, 14th September, and proceeded overnight via the western end of the Dogger Bight to the Flamborough Ground, carrying out a short echo survey on the way. Further hauls were made with the Dutch herring trawl on the Flamborough Ground and in Skate Hole. CLIONE left Skate Hole at 1845 hours, 15th September, and tied up in Lowestoft at 0815 hours next morning.

Results

1. Herring larval survey

Herring larvae in the Shetland area were found to be most abundant between approximately 6-40 miles north-west of Fair Isle, but significant numbers were also caught in almost all the inshore stations around the islands.

2. Vertical distribution of herring larvae

(a) Fair Isle

The vertical distribution here was fairly similar to that in the Hebrides area in October 1965. The bulk of the larvae by day were found at 30 fathoms, with few above or below this depth. At night the larvae were distributed throughout most of the water column, although in this instance the majority occurred close to the bottom, which was at a depth of 42 fathoms.

(b) N.E. Bank

In hauls made at dusk most larvae were caught at 10 fathoms, although some were taken at all depths except very close to the bottom indeed at 41 fathoms.

Bathythermograph lowerings showed that there was no thermocline at Fair Isle, but a marked one at about 14 fathoms at N.E. Bank.

3. Echo surveys

(a) Shetland area

Fairly abundant plume traces occurred to the south-west, roughly between Foula and Fair Isle, where a number of foreign trawlers were working, and also to the east from between the Outer Skerries and Fair Isle out to 0°15'E longitude (i.e. to the most easterly line of stations worked).

(b) Farn Deeps - N.E. Bank

Extensive fleck and plume trace was found over most of the area, particularly round the edges of the N.E. Bank. Two fleets of foreign vessels were observed working in the Farn Deeps, presumably for herring, but none round the N.E. Bank.

(c) S.W. Dogger area

The best plume traces were found on the Flamborough Ground, but a few small ones were also seen in Skate Hole.

4. Herring samples for the Fisheries Helminthology Unit

Samples of herring larvae were collected from east of the Moray Firth, Fair Isle and N.E. Bank. Samples of adult herring were preserved deep frozen from Fair Isle and the Farn Deeps.

5. Miscellaneous

Observations of bottom temperature were taken at a number of stations in the Shetland area. Herring larvae occurred at stations where this temperature ranged between 10.9°C and 12.4°C.

Two samples of sprats were deep frozen for Dr. Johnson from the Farn Deeps and Skate Hole. One sample of horse mackerel was deep frozen for Mr. Macer from the Flamborough Ground.

Four samples of herring were examined for length, sex, maturity, and V.S. from the N.E. Bank, Farn Deeps, Flamborough Ground, and Skate Hole.

R. J. Wood

19th September 1967

Initialled: ACB

Seen in draft: TAS
AHB

Distribution

Dr. Cole	Mr. Reynolds (N.I.C. next cruise)
Mr. Lee	Mr. Simpson
Captain Aldiss	Dr. Reynolds
Dr. Cushing	Chief Inspector
Mr. Burd	All District Inspectors
Mr. Garrod	Fisheries Registry
Mr. Hill	Captain Sutton
Mr. Bolster	CLIONE file (Captain Sutton)
Mr. Cattley	Mr. Sutcliffe Mr. Postill
Mr. Corlett	Skipper Button
Dr. Harden Jones	The British Trawlers' Federation
Mr. Margetts	Limited
Mr. Trout	Mr. Buchanan Wollaston
Mr. Iles	Mr. W. Baird, D.A.F.S.
Mr. Holden	Director, Dublin
Dr. Jamieson	Mr. Glover
Dr. Purdom	Hydrographic Department
Mr. Bridger	Dr. Lucas
Mr. Mitson	Director, N.I.O.
Mr. Tungate	Dr. Peachey
Mr. Williams	Mr. Shelbourne
Mr. Wood	W.F.A.
Mr. Adams	Director, Charlottenlund
Mr. Mills	Director, IJmuiden
Mr. Kay	
General Lab.	Mr. Parnell
Lab. Registry	Mr. Shreeve
Library (2)	Mr. Watson
Mr. Whiting	Mr. Blacknell