

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

1985 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 13

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

STAFF

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J M Last
B F Riches
S Milligan
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DURATION

Left Lowestoft 1230h 18 October
Arrived Lowestoft 0830h 31 October
(All times Greenwich Mean Time)

LOCALITY

West Central North Sea

AIMS

1. To complete the fourth (and last) in a series of ICES coordinated herring larval surveys for 1985, off the English east coast, between 53° and 56°N.
2. To continue a study of the drift and mortality of herring larvae started on CIROLANA 8/85.
3. To study the diet of herring larvae, including the availability of food organisms.
4. To collect samples of herring larvae for feeding status and ageing studies.
5. To describe the vertical distribution of herring larvae, their predators and prey.
6. Additional aim. To get a measure of the visual net avoidance by older herring larvae.

NARRATIVE

The weather throughout was perfect. The survey grid of stations was started at 1800h on 18 October and completed at 1700h on 25 October. RV CLIONE then moved to a position close to an Argos buoy, which was released by CIROLANA on 29 September in the centre of a patch of young herring larvae. The preliminary analysis of the samples collected, showed that the buoy was still in the centre of a patch of now older larvae. A site near the Argos buoy was selected with about 60m water depth over an even seabed, for ecological studies. These were discontinued at 1800h on 29 October and the last day used to extend the south-east edge of the grid to close contours of larval distribution.

RESULTS

1. The standard 108 stations plus 9 additional ones to the southeast were sampled. Abundances of herring larvae more than 10mm length, more than 100/m² occurred within the triangle shown on the track plot, but occurred at lower values generally out to 1°20'E. Those of larvae less than 10mm were more restricted and at more than 50m² were situated between 54°20' and 53°40'N, east to 1°E.
2. The drift of the Argos buoy, the position of which we received daily via AEP3, (B on track plot), was restricted and confused, differing markedly from the progressive SE movement in 1984. Maximum abundances in the patch marked by the buoy in late September, fell from 10,000/m² to 230/m², based on preliminary at sea counts. The nett movement of the buoy during this period, was about 50 kms SE.
3. The potential food organisms of the herring larvae were sampled at stations off the Yorkshire coast out to 1°20'E, by a fine mesh "pup" sampler, for comparison with the larval stomach contents.
4. Herring larvae were collected at selected positions, measured and fixed for cytological studies of the organs of food digestion and assimilation.
5. After some preliminary electrical and mechanical problems, the Longhurst-Hardy plankton sampler was used to sample in 10m depth strata over a 24h period, using a dhan with a midwater sea anchor, as marker of tidal drift on a daily basis.

The echo meter which had been running throughout the grid, had shown practically no fish traces and this continued during the ecological studies. The Lowestoft 2m² frame trawl and the Isaacs Kidd trawl were deployed, fitted with the "Scanmar" altimeter and fished at three heights above the seabed. The "Scanmar" acoustic system was easy to use, accurate and reliable. In the absence of fish traces, the frame trawl caught a few G group gadoids, demersal and pelagic goby species, some large Crustacea and Cyanea, whilst the Isaacs Kidd caught only Cyanea. It was considered not worthwhile to deploy the 800 Engels trawl carried.

6. The effect of daylight on catchability, particularly of the larger herring larvae will be measured by the analysis of vertically integrated samples taken with the standard 53cm High speed plankton sampler over a 26hr period. Sampling was carried out near the dhan attached to a sea anchor.

John D Riley
14 November 1985

INITIALLED: DJG

SEEN IN DRAFT: Master - G Sinclair
Fishing Skipper - R C Newrick

DISTRIBUTION:

Basic List +	
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