

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

1973 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 4

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

STAFF

J D Riley
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DURATION

Left Lowestoft 1000 h 20 February

Arrived Lowestoft 0930 h 5 March

All times are Greenwich Mean Time

LOCALITY

North Sea

AIMS

1. To carry out an inshore survey of the English East Coast for fish eggs and larvae using a 20" naked High Speed Tow Net.
2. To collect stomachs of all species of fish found on the plaice spawning grounds of the Southern Bight using an Engel 800 midwater trawl with headline transducer.
3. To sample a small grid of plankton stations using a high speed plankton Sampler in the same area as Aim 2.
4. To measure escape of copepod nauplii using paired 200 and 400 meshes per inch nets mounted on a 30" Sampler.
5. To test a new 30" unenclosed net.
6. To collect live copepods for laboratory use.
7. To sample plaice larvae by means of fast and slow hauls in daylight and darkness for nutrition studies (Ehrlich).
8. To collect samples of dab and plaice for histological studies.
9. To make a transect to the Dutch Coast using of fluorometer to measure phytoplankton densities.
10. To collect plaice eggs for hatchery use.

NARRATIVE

The inshore survey (Aim 1) was to be carried out from North Foreland to the Scottish Border and on the way south on 20 February calibrations of the sampling gear were completed. The survey started at 2100 h, 20 February and was completed by 1600 h, 26 February after one interruption due to weather on 22 February. After receiving a radio message from the laboratory on 26 February the CORELLA proceeded to a position 54°15.9'N 00°02.4'E to find and recover JONSIS Rig A which had been reported by a fishing vessel. The recovery was effected between 0730 and 1000 h 27 February but the surface "doughnut" and the upper flowmeter were missing. The damaged lower flowmeter, A frames, subsurface float and anchoring wires and chain were brought back to the laboratory.

On the way south again to the Brown Ridges for the second half of the programme the opportunity to repair a turbidity meter was taken, staff from Electronics Section coming aboard from the Great Yarmouth Pilot boat.

Live copepods were landed at this time. On 28 February a grid of plankton stations was sampled on the Brown Ridges and subsequently the Engel trawl was used to sample the fish in an area of relatively high plaice larval density.

The live material was collected during the evening of 4 March after which course was set for Lowestoft, docking at 0930 h, 5 March.

RESULTS

Aim 1. 50 samples were collected on the inshore survey, the vessel proceeding up the Thames as far as Gravesend and the Humber as far as Hull. Temperature, Salinity, % Oxygen saturation, turbidity, chlorophyll and pH of the sea water was monitored throughout the cruise and recorded automatically onto a Cambridge recorder. Of these only the pH meter failed to function satisfactorily.

Aims 2, 3 and 4. An area at the northern end of the Brown Ridges was found to have most plaice larvae although numbers of mid and late stage larvae were very low. During the survey to locate the patch of larvae samples to measure copepod nauplii escape (Aim 4) were collected. Subsequent fish sampling with the Engel trawl caught on average of less than one basket of fish per hour's haul, consisting mainly of sprat and whiting although some cod, gurnard, dab, herring, flounders and plaice were also caught. Satisfactory numbers of stomachs were obtained for whiting. Sprat samples were preserved entire. Stomachs were taken from the herring, gurnard and cod caught.

Aim 8. The dabs caught were preserved for histological studies.

Aim 5. The new 30" unenclosed net was not available at the time of sailing.

Aim 6. In addition to the copepods landed live on 27 February a further quantity were collected on the Brown Ridges on 4 March and landed at Lowestoft on 5 March.

Aim 7. Samples of plaice larvae were obtained but the absence of adequate numbers of the later larvae meant that the samples obtained would not be adequate for the nutrition studies envisaged.

Aim 9. During the night of 2-3 March a triangular course from the Brown Ridges to IJmuiden, south to the mouths of the Maas and back to the Brown Ridges was made with the sea water sampling recorder running (as in Aim 1). No large increase on phytoplankton was indicated by the fluorometer record.

Aim 10. Plaice eggs were collected in a 2m Ring Trawl and transported back to Lowestoft in low density in polythene bags held in plastic dustbins.

John D Riley
16 March 1973

SEEN IN DRAFT: W Craig (Master)

E T Bridge (Fishing Skipper)

INITIALLED: AJL

DISTRIBUTION:

Basic List

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