

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

1981 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 12

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

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DURATION

Left Lowestoft 0904 h 28 September

Arrived Lowestoft 1755 h 13 October

LOCALITY

Central North Sea, NE Coast Berwick to Humber

AIMS

1. To carry out the ICES herring larvae survey between $53^{\circ}30'N$ and $56^{\circ}N$.

2. To carry out comparative hauls with the Dutch vessel ROSEMARIE, each vessel using its high speed plankton sampler in the normal way.

3. To fish the English and Dutch sampler alongside each other in the English manner.

NARRATIVE

On leaving Lowestoft RV CORELLA set course towards Flamborough Head. At 2100 h that evening radio contact was made with ROSEMARIE and it was arranged to rendezvous with her off Robin Hood's Bay ($54^{\circ}25'N$: $00^{\circ}10'W$) the next morning to carry out Aim 2. It had been hoped to spend at least a full day working with ROSEMARIE but as her survey was incomplete only some 9 hours were available for this work. However between 0900 h and 1600 h 29 September 13 comparative hauls were made, the vessels towing on parallel courses 250-400 yards apart at 5 knots. The samplers entered and left the water within 5 minutes of each other. Rough counts of the numbers of larvae caught, ranging from 20-80 per haul, were exchanged and appeared to be comparable. In good weather the end of our towing cable was passed to ROSEMARIE, a spare Dutch sampler attached and brought aboard CORELLA. Having completed the normal calibration runs of our sampler at 4, 5 and 6 knots the ICES grid began at 2200 h 29 September at ICES station 56 ($54^{\circ}25'N$ $00^{\circ}10'W$). Two stations were completed by midnight but nine hours were then lost to bad weather, nine stations being worked on 30 September and a further 17 stations on 1 October. Eleven stations were worked on 2 October but by 2140 h the weather again deteriorated and the vessel dodged until 0500 h 3 October, 13 stations being completed on that day. On 4 October 11 stations were completed by 1630 h when course was set for Blyth to take on water and for repairs to the radar to be carried out. The vessel docked at 1815 h 4 October and left 24 hours later, the wind having dropped but a heavy swell persisted. All 17 stations to the north and east of Blyth were completed by 2030 h 6 October leaving only 27 stations and the comparison of the Dutch and

English samplers (Aim 3) to do. However the weather now took a hand and having rigged the two samplers side by side on a sledge no further work could be done on 7 October, the vessel being forced to seek a lee in Hartlepool Bay until 2345 h. On 8 October the weather improved and the calibration of the two samplers and 15 paired hauls were carried out off the Yorkshire coast between Cowbar Nab and Filey Brigg on an extensive patch of young larvae. Catches again ranged from 10-80 larvae per net per haul. At 2150 h 8 October the ICES grid was re-commenced at 53°55'N:00°50'E but on 9 October the weather became very marginal and only five more stations could be worked before a lee had to be sought in Bridlington Bay. The whole of 10 October was spent anchored there while west to northwest gales prevailed and the next day only one station could be worked before gales again prevented further work. On 12 October a further six stations were worked but by 1920 h further work became impossible and CORELLA dodged westwards yet again. After a very unpleasant night with winds gusting to 45 knots the cruise was terminated and the vessel returned to Lowestoft at 1755 h 13 October.

In contrast to the period 29 September-6 October when only 17 hours work were lost to bad weather during the last six days over 93 hours were spent dodging or anchored in the lee of the Yorkshire coast.

RESULTS

- Aim 1. 91 of the 106 ICES stations were successfully worked. High levels of Phaeocystis, Rhizosolenia and Sagitta made the estimation of herring larvae catches difficult but some indication of the distribution and abundance of clupeid larvae is given in Chart 1. North of 55°N larvae were sparse (under 10 per haul) and the few taken there were late post-larval stages of over 20mm in length. From the Tyne to Filey Brigg and from 6-20 miles off shore larvae were more numerous (10-80 per haul) and smaller, mainly 9-12 mm. To seaward the larvae were scarce except around the SW Patch where fair numbers of post larvae occurred. A further patch of smaller larvae occurred inshore between Flamborough Head and Spurn particularly from the Dowsing L.V. to NXE of the Silver Pit where about 100 larvae were taken at several stations.
- Aim 2. Definite conclusions must await analysis of numbers per volume filtered but no very obvious differences between the catches by ROSEMARIE and CORELLA were apparent.
- Aim 3. The weight in air of the two samplers plus the sledge was some 250 Kg and the maximum strain on the cable occurred during launching when loads amounted to 0.6-0.8 tonnes. While towing at 5 knots the load varied between 0.1 and 0.2 tonnes while veering; 0.2-0.3 tonnes while hauling. Again raw catches looked to be similar despite the fact that the diameter of the Dutch nose cone is smaller than that of the English 192:204mm. Neither set of comparative hauls offer any explanation as to why in past years catches of young larvae by the English sampler have exceeded those taken by the Dutch version.

J. P. Bridger

23 October 1981

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