

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

1972 RESEARCH VESSEL PROGRAMME

REPORT: R V CORELLA: CRUISE 12

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

STAFF

R J Wood  
W G Parnell  
T J Hulme  
G J Howlett  
A M Watson

DURATION

Left Lowestoft 1205 h 30 August

Arrived Lowestoft 1040 h 12 September

All times are Greenwich Mean Time

LOCALITY

Orkney and Shetland Islands

AIMS

1. To carry out a tin tow net survey for herring larvae in the vicinity of the Orkney and Shetland Islands, as part of an international survey of the abundance and distribution of autumn-spawned herring larvae in the North Sea.
2. To release surface and seabed drifters at selected stations within the main areas of herring larval distribution.
3. If time permits, to obtain samples of adult herring from various localities off the north Scottish coasts.

NARRATIVE

After swinging the compass CORELLA sailed from Lowestoft at 1205 h 30 August. Engine trials were carried out between Lowestoft and Great Yarmouth after which course was set northwards at 1500 h. An echo survey was carried out next day, 31 August, between 0200 h and 1600 h over the Whitby and Longstone herring spawning grounds. During the morning of 1 September "Free Flow" calibrations were carried out, using a 20 inch tin tow net (T.T.N.) fitted with an 8 inch nose cone, off the north-east Scottish coast and the ICES herring larvae survey was commenced at 1222 h the same day to the east of Fair Isle. This survey, mainly to the west of the Orkney and Shetland Islands, was continued without interruption until completed at 0743 h 5 September. An extension of the survey further westwards over the herring spawning grounds off Cape Wrath, the Butt of Lewis and west of the islands of Lewis and Harris was then undertaken. Southerly

gale force winds and a heavy swell forced this survey however to be broken off during the afternoon of 6 September and CORELLA proceeded to Stornoway for shelter and water, docking at 1809 h. CORELLA sailed again from Stornoway at 1210 h next day, 7 September, and continued the T.T.N. survey, first in the North Minch and then to the west of the islands of Lewis and Harris, the final station being completed at 2016 h 8 September.

In view of the failure of the English north-east coast herring fishery this year Aim 3 was abandoned and CORELLA then made passage eastwards via the Pentland Firth into the North Sea. The remainder of the cruise was devoted to fishing with the Dutch Herring Trawl on various herring grounds off the English north-east coast. During the 10 September hauls were made to the north-west of the Longstone and in the Farn Deeps, and 11 September was spent fishing off Whitby. The Dutch Herring Trawl was badly ripped in the belly and wings during the final haul off Whitby. Live plankton was collected off Flamborough Head between 1830 and 1930 h after which course was set for Lowestoft where CORELLA docked next morning 12 September at 1040 h.

## RESULTS

### Aim 1.

Herring larvae were found to be abundant at a number of stations both to the north and west of Fair Isle, west of Orkney and off Cape Wrath and the Butt of Lewis. From a visual examination of the preserved sample jars herring larvae would in fact appear to be present at approximately 70% of the total 102 T.T.N. stations worked over the survey area.

### Aim 2.

500 surface and 500 seabed drifters were released at a total of 6 selected stations during the herring larval survey.

### Aim 3.

This was abandoned in favour of fishing off the English north-east coast on the return passage. Substantial samples of herring were obtained from NW of the Longstone, the Farn Deeps and off Whitby. All samples were deep frozen and brought back to the laboratory for full biological examination.

## MISCELLANEOUS

1. During the echo survey carried out at the start of the cruise not a single fish trace was detected over the Whitby herring grounds but a few small 'plume' traces were found in the Longstone area.
2. A Single Depth Plankton Indicator was towed at all T.T.N. stations worked between 1800 - 0600 h for the Institute for Marine Environmental Research Edinburgh.
3. A small sample of sprats for Dr Johnson and a sample of horse mackerel for Mr Macer were deep frozen and brought back to Lowestoft for further examination.

4. Live plankton was brought back to Lowestoft for Mrs Thompson.

R J Wood  
18 September 1972

SEEN IN DRAFT: W Craig (Master)  
C Snowling (Fishing Skipper)

INITIALLED: HAC

DISTRIBUTION

Basic list

Mr R J Wood  
Mr Parnell  
Mr Hulme  
Mr Howlett  
Mr A M Watson