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FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1970 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 1

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

STAFF

A J Lee	
G C Trout	Until 1 August
J C Cattley	
N Reynolds	
D J Ellett	
J Nichols	
J W Horwood	
E G Shreeve	
L Emerson	From 1 August

DURATION

Left Grimsby 1022 hours 24 July

Arrived Grimsby 0930 hours 8 August

All times are British Standard Time

LOCALITY

Butt of Lewis - Shetlands: Bay of Biscay

AIMS

1. To test the fishing systems installed in CIROLANA
2. To test the hydrographic and biological sampling systems fitted in the ship.
3. To collect flagellate samples in the Barents Sea (Dr Reynolds).
4. To make observations in connexion with finds of dead fish reported by commercial vessels fishing in the central North Sea (Mr Bannister).
5. To collect plankton samples and bottom sediment cores in the Norwegian and Barents Seas (Mr Wiseman, British Museum).

NARRATIVE

Owing to the delay in dry-docking the ship in Hull in order to remedy the 'singing' propeller fault found during the Acceptance Trials, it was not possible to get the ship ready to sail on her maiden cruise until 24 July. The cruise then proceeded as follows:-

24 July: Sailed from Grimsby at 1022 hours with one deck hand too few owing to a man leaving the ship shortly before sailing time.

- 25 July: Arrived at a position 50 nautical miles to the northwest of the Butt of Lewis at 2130 hours. Ran off both trawl warps in deep water and spooled them back on to the drums correctly using the lebus gear.
- 26 July: Made five hauls with the bottom trawl on grounds 50 nautical miles west of Rona starting in 160 m depth and making the final haul in 350 m. Difficulties were experienced with the regenerative braking system of the winch and with the port door jamming on the transom. At 2350 hours steamed for an area to the west of Shetlands in which CLIONE had reported herring shoals, the intention being to test the Elac sonar.
- 27 July: Arrived to the northwest of Foula at 0900 hours and searched for herring shoals but none was found and only two purse seiners were seen. The system for using the Tin Tow Net (TTN) and multiple changing net was then tested and three tows were made. Some changes in the lead of the wires had to be made, but eventually a very good system of launching and recovering over the stern ramp was devised. Both the conductor cable for towing nets etc and the headline transducer cable on the main cable winch were run off and spooled on again correctly. The Expendable Bathythermograph was tried with the vessel under way and found to work correctly, the launcher being sited to fire over the starboard side just aft of the Hydrochemistry Laboratory. At 2045 hours course was set for Lerwick.
- 28 July: Arrived at Lerwick at 0730 hours and berthed at the same quay as CLIONE and CORELLA. Rigged 2000 mesh Engel trawl with the assistance of the members of Gear Section sailing in these two ships. Had telephone conversations with Laurence Scott Electromotors regarding remedial action to correct the faults in the regenerative braking system of the trawl winch.
- 29 July: Left Lerwick at 0701 hours and proceeded to a position about 50 nautical miles northeast of Lerwick. Made five tows with Engel trawl fitted with headline transducer. The initial one was abortive owing to the eye falling out of the starboard weight. This mishap was caused by faulty assembly of the weight. On two tows difficulty was experienced in paying out the headline transducer cable quickly enough, but this problem was solved and final tows were satisfactory, the ultimate one yielding a small catch of haddock and other fish.
- 30 July: Set course for a position 55 nautical miles northwest of Muckle Flugga just after midnight. Arrived there at 1105 hours. Tested the hydrographic winch but ran into difficulties owing to the wire for water bottle casts having been spooled on too loosely in Grimsby. Ran off all 3000 m of wire for the Temperature - Salinity - Depth (TSD) Recorder and spooled it back on to the winch correctly. The lack of deep water, and the springy nature of the wire prevented this action in the case of the water bottle wire. At 1830 hours, by the time the TSD wire was back on the winch, the wind had reached Force 7 and the ship dodged southwards.

- 31 July: Arrived in a position about 50 nautical miles west of Muckle Flugga at 0900 hours. Rigged and tested Boothbay net and devised satisfactory way of shooting and hauling **using the trawl winch**. Tested Bow Thruster and carried out exercises in manoeuvring the ship around a wire hanging overside. Made two lowerings of the TSD, probe but on both the depth record failed at about 550 m. Lowered hydrowire terminal pinger to near bottom in 680 m depth but failed to detect bottom, probably owing to the large wire angle and the bad weather prevailing. Proceeded to Lerwick at 2050 hours.
- 1 August: Reached Lerwick at 0753 hours. Landed Mr Trout and embarked Mr Emerson. Sailed at 1305 hours for the Bay of Biscay, passing to the west of Ireland, in order to find about 5000 m depth of water in which to run off the water bottle wire. This depth could not have been obtained by sticking to the original plan of taking the ship to the Barents Sea for the second half of the cruise.
- 4 August: Reached a position in the middle of the Bay of Biscay at 1310 hours. Ran off all the water bottle wire and re-spooled it on to the winch, but some trouble was experienced with the operation of the spooling gear at the ends of its traverse. Used Nansen water bottle at night in order to test adequacy of overside lighting around hydrographic platform.
- 5 August: Tried to make a TSD lowering but depth sensor was found to be out of action. Made vertical plankton haul using a Nansen net from the hydrographic platform and found that the hydrographic sampling arrangements are also well suited for plankton work. Made another test of the hydrowire terminal pinger in good weather and with a small wire angle received a direct signal from it at 2600 m depth in 4600 depth of water. Sent Work-boat away with three men in order to test launch and recovery system. Made three TTN hauls to collect sample of Biscayan plankton for stock purposes in Plankton Laboratory. Towed GEEK from auxiliary cable winch but found that some modifications are required to provide a satisfactory lead over the stern. Proceeded to Yarmouth at 2230 hours.
- 7 August: Arrived at Yarmouth at 1420 hours. Unloaded scientific equipment for return to the Laboratory. The scientific team and ship's officers had discussions with members of the team for Cruise 2. All scientific staff then returned to Lowestoft and the ship sailed again at 2225 hours.
- 8 August: Arrived in Grimsby at 0930 hours.

RESULTS

Aims 1 and 2: All the fishing systems and hydrographic and biological sampling systems installed in CIROLANA were tested and brought to an operational level, but a certain number of defects have to be put right and modifications carried out in order to make them fully satisfactory.

Aim 3: The change in plan halfway through the cruise prevented Dr Reynolds achieving this aim. However, he was able to make flagellate collections throughout the cruise.

Twenty-four stations were worked. Samples were collected with a Simaca (ship in motion algal collecting apparatus) and even the 2 litre model could be used without difficulty when the ship was travelling at 15 knots. Samples were preserved in glutaraldehyde for examination in the Laboratory. At some stations material was also fixed in Lagöl's iodine, and in osmic acid, for comparison of these fixatives.

100 ml cultures were set up at 18 stations to cover a range round the coasts of Britain, the west of Ireland and in the Bay of Biscay. At 10 stations dilution series of cultures, for counting by the MPM method, were put up.

2 litre samples were filtered through millipore filters and preserved in a deep freeze for chlorophyll analysis, from 10 stations.

Direct preparations were made on EM grids at eight stations.

Some microscope examinations of material were made on board. The ship is sufficiently free from vibration for a x100 oil immersion objective to be used and the Clean Biological Laboratory proved to be very convenient and comfortable for microbiological work.

Aim 4: The need to go to deep water west of Scotland to run off the trawl warps prevented any fishing in the North Sea at the beginning of the cruise and so this aim could not be achieved.

Aim 5: The change in plan halfway through the cruise prevented the collection of cores and plankton samples for Mr Wiseman.

MISCELLANEOUS

5. Dinoflagellate samples were collected for Dr Dodge of Birkbeck College, London and a basket of Chimera were quick frozen for Mr Gerlis, of Grimsby General Hospital. Selected ship observations were made for the Meteorological Office.

A J Lee

12 August 1970

~~SEEN IN DRAFT~~

E A Binnington (Master)

G U Argumont (Fishing Skipper)

DISTRIBUTION

Basic List	D J Ellett
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J G Cattley	E G Shreeve
N Reynolds	L Emerson