

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

1973 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 1B

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

STAFF

C T Macer
W G Parnell
G J Howlett
E G Shreeve
R B Doyle
A Ozcan (Turkey)

DURATION

Left Plymouth 0930 h 12 January
Arrived Great Yarmouth 0930 h 31 January
Left Great Yarmouth 1600 h 31 January
Arrived Grimsby 0330 h 1 February

LOCALITY

1. Celtic Sea & Western English Channel
2. Eastern English Channel & Southern North Sea.

AIMS

1. Echo and trawl survey for pelagic fish resources in locality (1).
2. ICES larval herring survey in locality (2).
3. To make temperature and salinity observations in all areas.
4. To collect samples of mackerel muscle tissue for immunogenetic studies.

NARRATIVE

Mr Macer and Mr Shreeve having previously joined the ship by pilot boat at Plymouth on 9 January, the remainder of the scientific staff embarked at Plymouth on 11 January. During that day, a party of 12 members of the Marine Biological Association's laboratory and also Mr Williams (DI South-west) were shown over the ship and the cruise programme discussed.

The Celtic Sea echo survey started on 12 January, the first leg running from Plymouth out to the 100 fathom line west of Ushant (see cruise track chart attached). The survey proceeded westwards and the end of the main grid was reached at 1100 h 20 January, with periods of dodging for 15 hours on 14 January and 11 hours on 16/17 January. Hauls with the Engel trawl were made whenever sufficient trace was encountered and this amounted to 8 hauls, of which the first 3 were made with the 1600 mesh and the remainder with the 1200 mesh net. On the third haul with the larger net, considerable damage to the square and belly was sustained, though the reasons for this could not be established.

On completion of the main grid, a closer grid was worked covering the Great Sole-Cockburn Bank area and this was completed at 2330 h 22 January, a single trawl haul having been made on this section.

The ship then made for the Plymouth area and an echo survey covering the region Mounts Bay to Start Point out to a distance of 50 n. miles from the coast was started at 1400 h 23 January. Contact was made with several of the pilchard boats and information exchanged. The survey was completed at 0400 h 26 January, 3 trawl hauls having been made on this section, and the vessel proceeded to Plymouth Sound, anchoring at 0730 h the same day. Here, the mate joined by Pilot-boat and two warp meters sent from Lowestoft were delivered.

The ship sailed at 1000 h 26 January and proceeded eastwards to the first tin townet (TTN) station northeast of Cherbourg and, after free-flow calibrations had been made, this was reached at 2215 h 26 January. The TTN survey continued eastwards and thence into the Southern Bight, with a brief interruption for an unproductive Engel haul for herring in the Bay of the Seine on 27 January. The TTN survey was completed at 2250 h 30 January and the ship then made for Great Yarmouth, where she docked as stated. Scientific staff disembarked and equipment was unloaded and the ship returned to Grimsby.

RESULTS

Aim 1. (a) Celtic Sea: The Humber Gear linked to the Simrad echo integrator and to the cycle counting equipment was run continuously, as was the Marconi sounder. No dense echo traces of the type produced by mackerel, horse mackerel or pilchard were located in this area. Scattering layer trace, showing marked diurnal movements, was fairly widespread and fishing on it produced large number of Mauroliscus mülleri of about 5 cm in length, except on one haul in comparatively shallow water when Crystallogobius was caught. On some occasions, small stronger targets occurred, either mixed with the scattering layer or separate, and these were identified as small mackerel, with a modal length of 17.5 cm. The total distance covered during this part of the survey was 1300 n. miles, during which 9 Engel shots were made. Echo survey speed was 8 knots.

(b) Plymouth area: 'Solid' echo trace was much more abundant in this area than in the Celtic Sea. The best traces occurred in two main areas, off the Lizard and Start Point respectively. A tow on the former traces produced $\frac{3}{4}$ basket, mainly pilchard, though the main shoal was not picked up on the tow. Off Start Point, a 10-minute tow at night yielded $16\frac{1}{2}$ baskets of horse mackerel, with a few pilchards, sprats, mackerel and anchovy. Another good trace, thought to be horse mackerel, occurred 50' S x E of the Lizard but there was insufficient time to locate it when the area was returned to.

Information from the fishermen showed that there was a large shoal of pilchards in Mounts Bay. Each pair-boat team was on a quota of 3,500 stones of pilchards, and this was being achieved with a single 10 minute tow. Plymouth boats working about 10' SE of the Eddystone reported lighter traces and variable catches.

Aim 2. The full grid of 80 stations was completed in just under 4 days. Herring larvae appeared to be much more abundant than on last year's survey. The 20" TTN with an 8" nose cone and 60-mesh net was used.

Aim 3. Surface temperature and salinity observations were made in all areas and in addition, bottom observations were made in the Celtic Sea.

Aim 4. Muscle and liver samples from 50 mackerel from the Celtic Sea were deep frozen. Otoliths were collected. 50 whole fish were also frozen.

Miscellaneous: The following samples of pelagic fish were collected:
2 samples of sprats (Lizard and Start Point); 1 sample of pilchards (Lizard);
1 sample of horse mackerel (otoliths only) - sampled on board.

Some squids were collected from the Celtic Sea for MBA, Plymouth.

C T Macer
14 February 1973

SEEN IN DRAFT: T H Finn (Master)

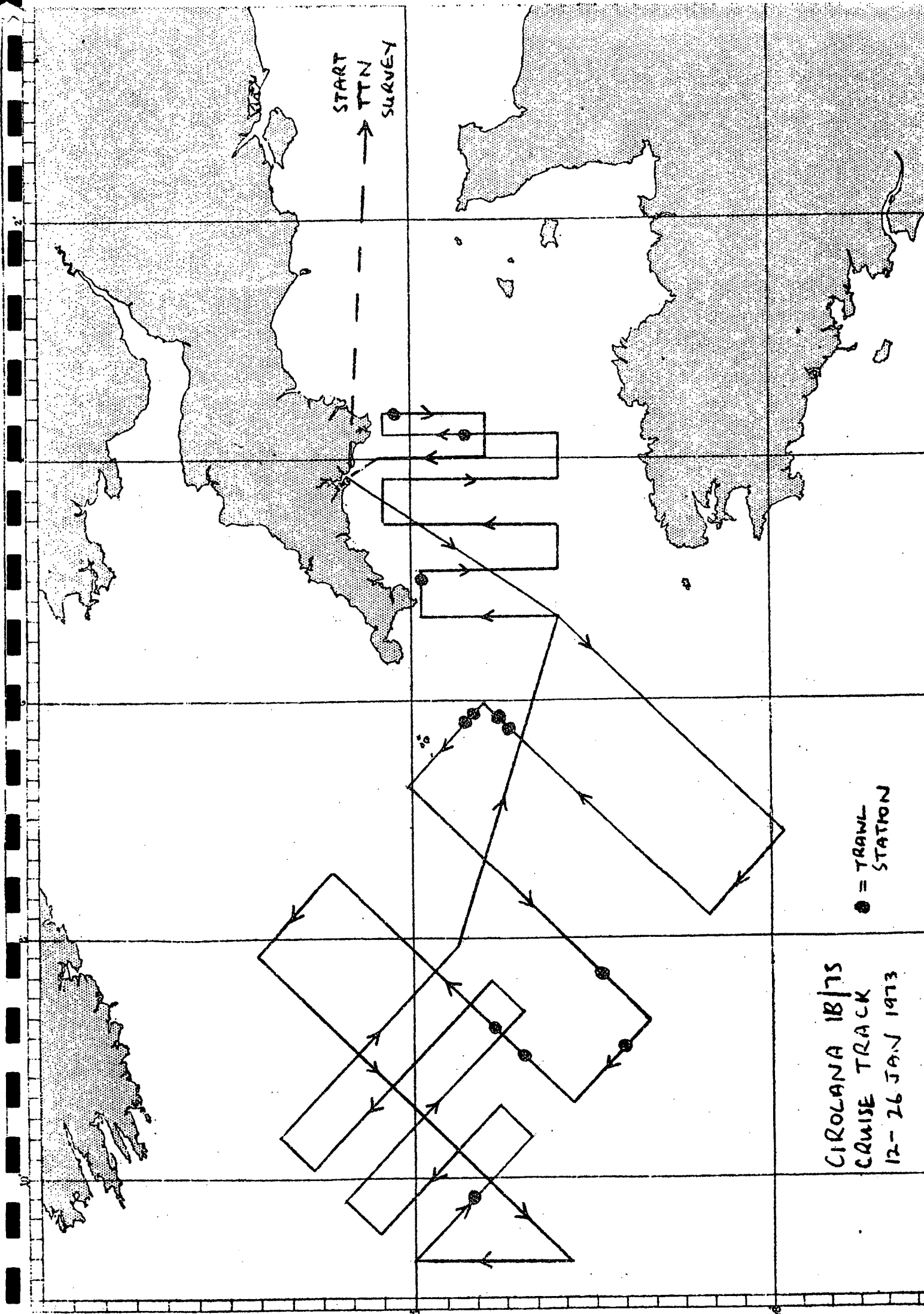
G W Argumont (Fishing Skipper)

INITIALLED: AJL

DISTRIBUTION:

Basic List

C T Macer
W G Parnell
G J Howlett
E G Shreeve
R B Doyle
A Ozcan (Turkey)



START
TTN
SURVEY

● = TRAWL
STATION

CIROLANA 18/75
CRAWL TRACK
12-26 JAN 1973