

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

1979 RESEARCH VESSEL PROGRAMME

REPORT: R V CLIONE: CRUISE 7

STAFF: J D Riley NIC
A Child
Dr B Thompson
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A Watson

DURATION: Left Lowestoft 1100 hrs 13 June
Arrived Lowestoft 0530 hrs 4 July

LOCALITY: Irish Sea and Lyme Bay

AIMS:

- 1 To study the distribution of young gadoids using the Lowestoft frame trawl and otter trawls
- 2 To tag 1-group cod
- 3 To collect cod larvae for morphometric studies
- 4 To study the development of sprat and/or pilchard eggs at a range of temperature, if running ripe adults can be obtained.
- 5 To collect and deep freeze fish larvae for electrophoretic genetical studies.
- 6 To collect and freeze dry turbot larvae for DNA/RNA estimates.
- 7 To collect line turbot larvae for laboratory DNA/RNA studies.
- 8 To collect otoliths from plaice, sole, cod and whiting.
- 9 Additional aim (not in programme) to collect and preserve in formalin lemon sole for Dr Sakamoto, Hokkaido University, Japan.

Narrative

During the passage to the Irish Sea, trawl hauls were made in Lyme Bay with the aim of obtaining ripe sprat or pilchard for egg incubation experiments. The start of the frame trawl survey for pelagic 0-group gadoids was delayed until the evening of 15 June due to poor weather near Land's End. Between 15 and 22 June the survey covered the seas off the Welsh and Lancashire coasts and the Isle of Man. At the same time searches were made with the Boris Box trawl for ripe sprat and 1-group cod on suitable grounds.

A mid-cruise break was taken at Peel (IOM) from the evening of 22 June until the morning of 24 June when water, mail and some stores were taken aboard.

The survey (aim 1) was resumed on 24 June off the Irish coast on 25-26 June. 1-Group cod were tagged from a concentration located in a position 54°N, 04°W. The survey off the Irish coast was continued on 27 June and revealed a concentration of 0-group cod and whiting offshore in 20 to 70 m of water. On 28 June in this concentration a series of tows was made to measure the vertical distribution of the fish. Samples of cod and other gadoids were obtained (Aims 3 and 5) in the same area.

At 0500 hrs 28 June a fire broke out in the midships accommodation and although potentially serious and necessitating the use of several extinguishers and a fire hose by personnel equipped with breathing apparatus, it was quickly and efficiently controlled by the ship's staff, to such effect that the scientific programme was unaffected.

Overnight CLIONE steamed to Cardigan Bay to search for late pelagic turbot larvae (Aims 6 and 7). This was unsuccessful and on the evening of 29 June the frame trawl survey was resumed southwards to the Scilly Isles. After an additional search for ripe sprat or pilchard in Lyme Bay on 2 July CLIONE steamed for Lowestoft arriving early on 4 July.

Results

1 The frame trawl survey based on a minimum of one sample per half ICES rectangle revealed discrete concentration of cod and whiting. The 0-group cod occurred between the Isle of Man and Galloway, off the Irish coast north of 53°N and in lower concentrations off Cardigan Bay and Liverpool Bay. The whiting occurred to the west of the Isle of Man, off the Eire coast north of 53°N, in Caernarvon Bay, off Cumbria and north Lancashire, off north Cornwall and the Scilly Isles.

The depth distribution (during daylight) of both cod and whiting was in the upper half of the water column but not in the surface 3 m.

2 476 I-group cod were tagged at a position approximately 54°N, 4°W.

3 Cod larvae in perfect condition were collected using the frame trawl towed at 0.25 m/sec.

4 No 'running' sprat or pilchard were caught and so the incubation experiments were not started.

5 Adequate numbers of 0-group cod were collected in the Frame trawl and deep frozen for genetical studies.

6 and 7 No turbot late larvae were caught. Water temperatures off Cardigan Bay were < 11°C compared with an expected value of 12.5 - 13°C and will have contributed to the late arrival of the larvae which normally recruit to the beaches during July and August.

8 Otolith samples were collected as follows:

	Whiting	Cod	Plaice	Sole
Area VII E & F	50	1	4	-
Area VII A	54	46	38	14

9 Lemon sole within the size range 15-30 cm were preserved for dispatch to Dr Sakamoto, Japan.

J D Riley NIC
13 July 1979

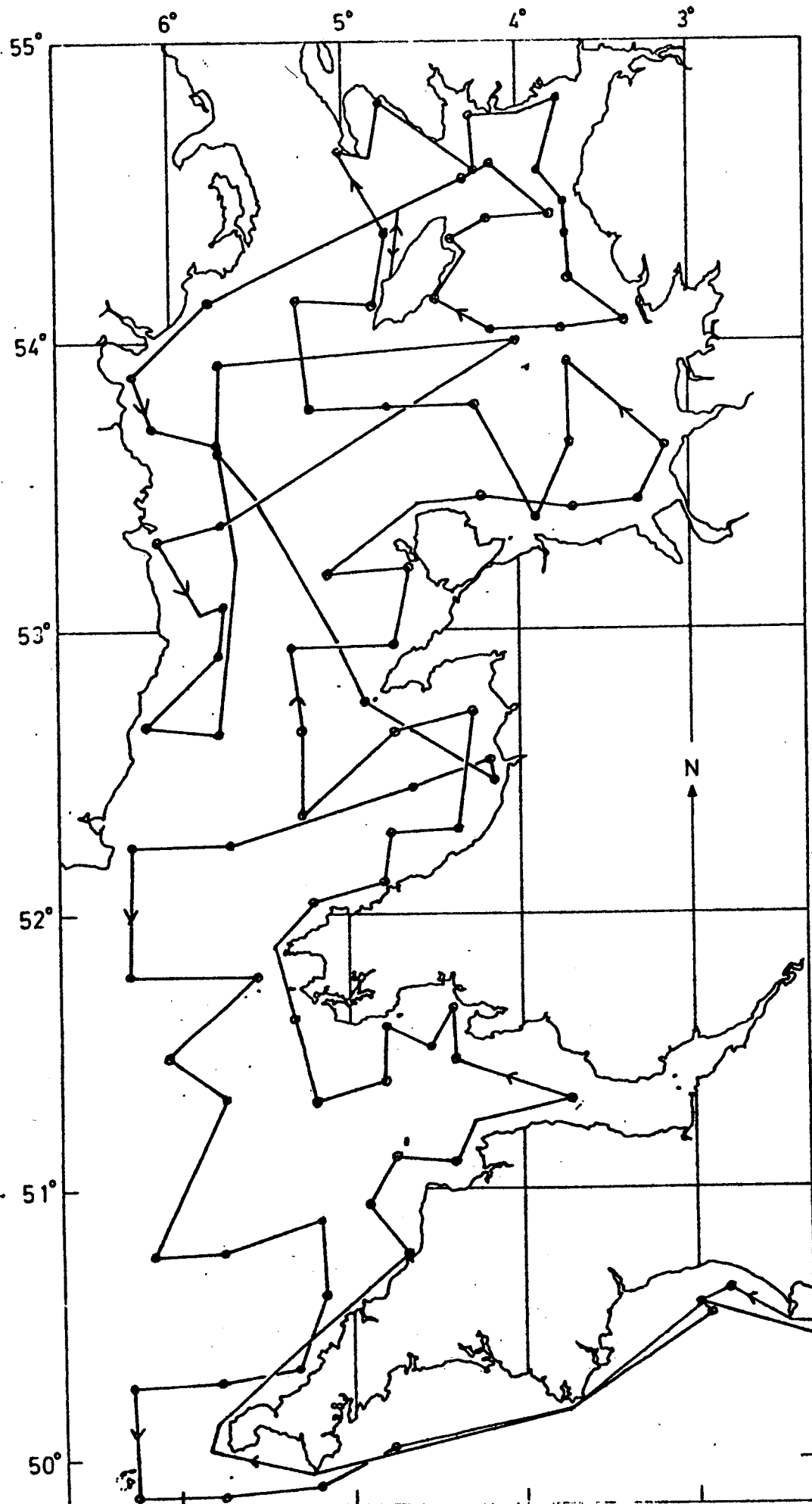
Seen in draft: JRF Master
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DISTRIBUTION:

Basic List

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Track Chart R.V. Clione 7'79 13 June - 4 July '79