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

1978 RESEARCH VESSEL REPORT

REPORT: RV CLIONE 12/78

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

STAFF

- K Brander
- T Williams
- T Watson
- J Bedwell
- M Slater (Fleetwood)
- D Fletcher (Menai Bridge)

DURATION

Left Lowestoft 1045 h 21 September

Arrived Lowestoft 1330 h 10 October

All times are Greenwich Mean Time.

AIMS

1. To carry out a preliminary survey of young gadoids using the GOV trawl.
2. To repeat the Granton trawl groundfish survey in the area between St Georges Channel and the Calf of Man.
3. To tag young cod along the Irish coast for studies of recruitment.
4. To repeat the trawl survey on different sediment types in the Bristol Channel.
5. To collect samples of cod blood and Nephrops for immunogenetic studies.
6. To collect water and fish samples for FRL Hamilton Dook.

NARRATIVE

CLIONE sailed from Lowestoft on 21 September and fishing began in St Georges Channel using the GOV trawl on 23 September. A total of six half-hour tows were carried out at depths between 94 and 38 metres, working in towards Cardigan Bay, before switching to the Granton trawl for the remainder of the trip. Trawling continued in Cardigan Bay on 25 and 26 September, but had to be stopped before all the hauls in the area had been completed, due to gales. CLIONE sheltered in Tremadoc Bay until early on 28 September, when with the prospect of further bad weather she steamed to Douglas to put Dr Brander ashore to attend a symposium of the European Marine Biological Organisation.

The next two days were spent sheltering off the east coast of the Isle of Man and work began again off Carlingford Lough on 1 October. Trawling for cod continued all down the Irish coast as far as Blackwater Bank on 1 and 2 October, but no useful concentrations were found and only 34 cod were tagged, most of them fairly big fish. Blood samples were taken from 51 cod and a sample of 50 Nephrops was frozen.

The ship docked in Douglas at 0830 h 3 October and sailed again early on 4 October with Dr Brander on board. Over the next four days trawling continued in Caernarvon Bay, Cardigan Bay and the Bristol Channel, completing the groundfish survey of the area. On 8 October a trawl haul was carried out at 50°36'N 6°51'W, NW of the Scilly Isles to provide a Nephrops sample. 50 Nephrops were frozen but no further hauls were made in the area as the weather outlook was poor. CLIONE sailed for Lowestoft, stopping to trawl for plaice off Newhaven, and docked at 1330 h 10 October.

## RESULTS

1. Six half-hour tows were carried out using the GOV trawl at depths of 94, 50 and 38 metres. Although the gear is more difficult to handle and tow than the Granton trawl it fished very well. A comparison of the numbers caught on the four tows which were fished with both gears showed that the quantity and composition of the catch was very similar even though the GOV trawl was only used for  $\frac{1}{2}$ -hr tows. Considerably more gurnards were taken in the GOV, which may be due to the higher headline, but catches of young cod and whiting were insufficient to judge the relative efficiency of the gear on them. The restriction on the use of the GOV on CLIONE in shallow water or close to the coast may be a serious limitation in surveying for young cod since they occur mainly in depths of less than 20 metres.
2. The trawl survey at different depths and distances from the coast in Cardigan Bay was completed and two hauls were also carried out in Caernarvon Bay. A superficial examination of the results shows little change in the species composition and numbers taken over the past three years.
3. Once again it has proved difficult to locate sufficient quantities of codling for tagging along the Irish coast. Only 34 were tagged in all and the exercise was abandoned after two days.
4. Replicate hauls were carried out on five different sediment types in Barnstaple Bay and off Carmarthen Bay to try to relate species composition to bottom deposit. Grab samples were taken to check on the composition of the substrate.
5. A sample of blood from 51 cod was taken off the Irish coast and flown back to Lowestoft with Mr Houghton. Two samples of 50 Nephrops were frozen for Mr Burfitt.
6. Water samples and frozen fillets of cod, plaice and whiting were collected from the main fishing areas for Mr Steele (FRL).
7. Samples of mixtures of small gadoids and flatfish were frozen for Mr Blacker.
8. 15 live plaice were brought back for Mr Scholes.
9. Mr Fletcher analysed the gut contents and state of digestion of 1500 dabs during the cruise.

10. The total numbers of fish measured and otolithed were as follows and the gut contents of all otolithed fish were recorded:

	<u>Otoliths</u>	<u>Measurements</u>
Plaice	242	1205
Whiting	174	2959
Cod	56	91
Sole	154	281
Brill	26	26
Turbot	11	11
Hake	66	69
Haddock	21	21
L Sole	25	25
Rays		568
Mackerel		126
Horse Mackerel		118
Squid		86
Nephrops		123

Keith Brander  
6 November 1978

INITIALLED: AJL

SEEN IN DRAFT: JRG RG (Skipper)

DISTRIBUTION: Basic List +

K Brander  
T Williams  
T Watson  
J Bedwell  
M Slater (Fleetwood)  
D Fletcher (Menai Bridge)