

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

1995 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 4B

STAFF: S Flatman
S P Milligan
J Dann
T Watson
D R Eaton
P R King
R T Harrop
A J Winpenny

DURATION: Left Holyhead 1015 h 22 May
Arrived Lowestoft 1030h 1 June
(All times are Greenwich Mean Time)

LOCALITY: Irish Sea, Bristol Channel

AIMS:

1. To sample fish eggs on a grid of stations, throughout the Irish Sea, using the 76cm unencased high speed plankton sampler.
2. To obtain sole gonads for the determination of atresia and spawning duration.
3. To obtain biological data on sole and plaice populations in the Irish Sea.

NARRATIVE:

Scientific staff joined CIROLANA by Searider at Holyhead at 1000 h on 22 May. After a short delay whilst minor repairs were carried out to the inner tail bearing seal on the shaft, CIROLANA steamed to Liverpool Bay to commence work with the 3m beam trawl (Figure 1). Three stations were completed during the remainder of 22 May, and the ship moved overnight to a position off Fleetwood. A further nine beam trawl stations were worked on 23 May along the Cumbrian coast (Figure 1), before commencement of the plankton survey at 1900 h. Calm weather during the period 24-26 May allowed CIROLANA to complete the northern and eastern sections of the Irish Sea grid (Figure 2) without interruption, but on 27-28 May the wind freshened from the south. CIROLANA completed the remaining 19 stations of the plankton grid, in winds of 25-30 knots, by towing the sampler before the wind. On completion of the last plankton station at 1830 h on 28 May, the ship steamed overnight to a position off Llandudno. Six beam trawl hauls were carried out inside the Constable Bank, before Mr P King was put ashore at Llandudno by Searider at 0930 h on 29 May. Beam trawl sampling was resumed at 1030 h, and another eight tows were made inside the bank. CIROLANA moved to a position outside of the Constable Bank for the remaining three hauls of the day.

CIROLANA steamed overnight to a position south of the Gower peninsula in the Bristol Channel, where a series of ring net tows were carried out on a north-south transect (4°15'W). The 2m ring net was deployed twice at each position, and catches were immediately examined for bass larvae. At 1500 h on 30 May the final station was completed, and the ship set course for Lowestoft.

RESULTS:

Aim 1. All 97 stations of the plankton survey grid were successfully completed, using the 76cm high speed unencased plankton sampler with 40cm nose cone. A 40 mpi net was deployed on the coastal stations where higher concentrations of phyto-plankton affected water flow through the net (45 stations), otherwise a 60 mpi net was used.

Aims 2 and 3. A total of 29 beam trawl stations were completed, 21 in Liverpool Bay and 8 off the Cumbrian coast. At each site the 3m beam trawl, fitted with tickler chains and a 40mm codend liner, was towed for 15 minutes. The first two tows were of 30 minutes duration, but damage was sustained on both occasions so tow length was reduced for subsequent deployments. Deploying the beam trawl from the port quarter was found to be easier (and potentially safer) than over the stern. Catches were generally light, and it was concluded that this gear is not well-suited to the vessel. All fish species caught were identified, weighed and measured, and length-stratified samples of otoliths were taken from selected species:

Species	Liverpool Bay	Cumbrian Coast	Total VIIa
Brill	3	1	4
Angler	2	1	3
Plaice	170	35	205
Sole	54	2	56

All individual otolithed fish were sexed, assigned a maturity stage and weighed.

All plaice and sole caught were separated into immature and mature categories, sampled for length distribution, and length-stratified samples of otoliths were taken for each category.

Ovaries from 6 soles caught in Liverpool Bay were preserved for estimation of atresia levels.

Supplementary aims:

- All rays caught were measured, sexed and assigned a maturity stage (M. Vince).
- All anglerfish caught were weighed, measured, otolithed and assigned a maturity stage. Vertebrae were frozen for ageing studies, and the degree of infestation by the parasite *Spraguea lophii* was recorded (W. Dawson).

- Six bass larvae from the Bristol Channel were preserved (L. A. McEvoy -
University of Stirling)

S Flatman (SIC)
31 May 1995

SEEN IN DRAFT: M J Willcock (Master)
R Graham (Senior Fishing Mate)

INITIALLED: J W H

DISTRIBUTION:

Basic list +
S Flatman
S P Milligan
J Dann
D Eaton
T Watson
R T Harrop
A J Winpenny
P R King
M G Pawson
M Armstrong (DANI)
P Connolly (DOM)
R Nash (PEML)
Sea Fisheries Committees (5)

Cirolana 4b/95

Figure 1 Beam Trawl Stations

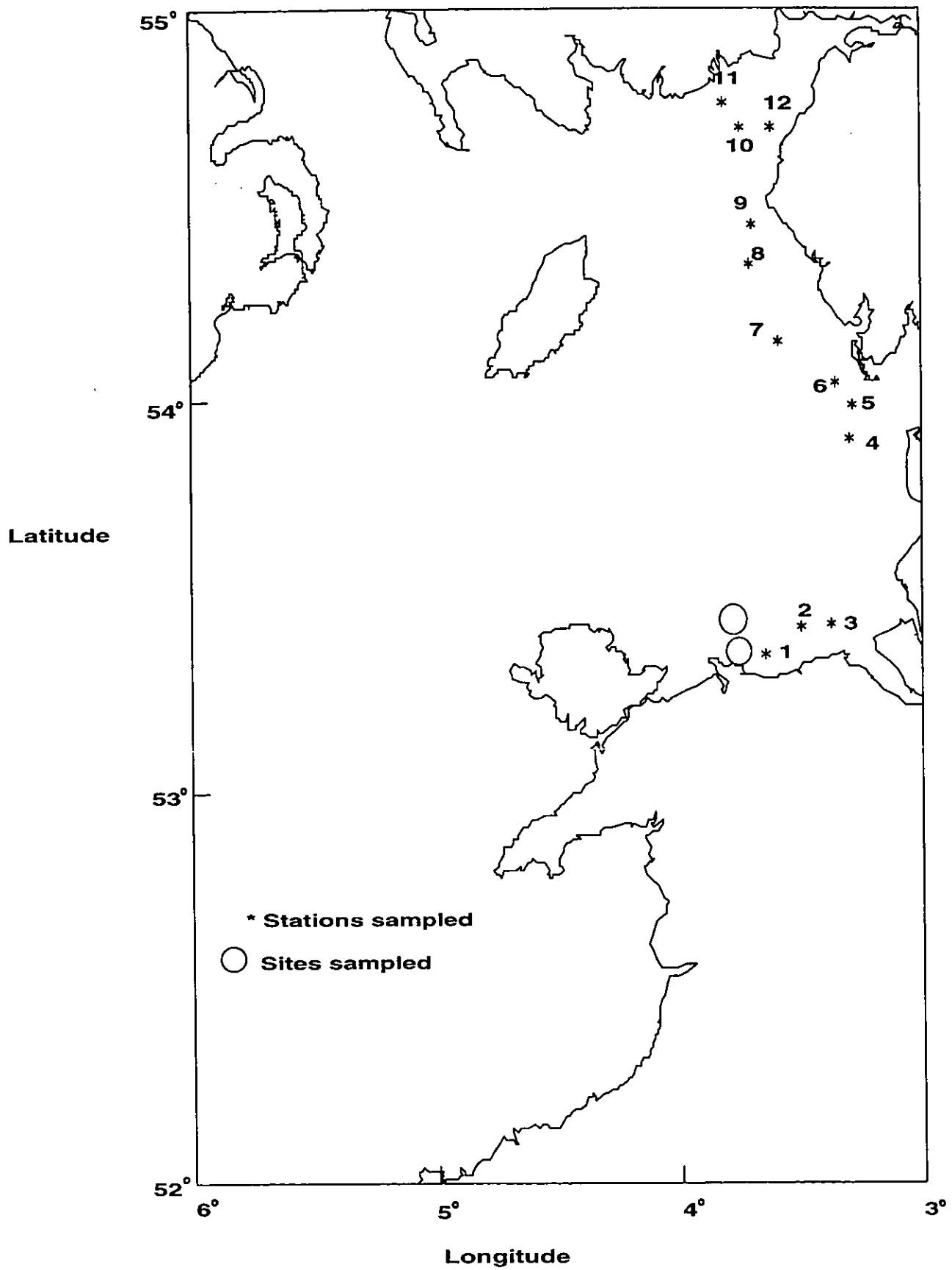


Figure 2

TTN STATIONS CIROLANA 4B/95

SHOWING :
CRUISE TRACK
STATION POSITION
STATION NUMBER

