

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

MR SATE
Mifs Gill

1972 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 3

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

STAFF

R C A Bannister
L Birkett
V Bye
C L Whiting
M W Easey
D J Peek

DURATION

Left Lowestoft 1030 h 16 February

Arrived Lowestoft 0615 h 25 February

All times are Greenwich Mean Time

LOCALITY

North Sea

AIMS

1. To complete the collection of material for the present investigation of North Sea plaice fecundity by sampling for late stage IV gonads from German Bight and Central North Sea grounds.
2. Routine age length sampling.
3. Collection of whole plaice for determination of body constituents.
4. Collection of point estimates of benthic abundance on selected grounds using a Van Veen grab.
5. Collection of material for pineal gland studies.
6. Collection of samples of Asterias, an indicator of damage to the sea bed, from areas not worked by beam trawlers (Mr J F de Veen, IJmuiden).
7. Collection of live plankton for hatchery work (Mrs Thompson).
8. Collection of plaice and cod for the ICES Pollution Baseline Survey (Dr Portman).

NARRATIVE

CLIONE was unable to leave Lowestoft on the morning tide of 15 February owing to a power-cut on the bridge, and was prevented from making an evening departure by high southerly winds and a bad swell on the bar. CLIONE finally left Lowestoft at 1030 h 16 February, and proceeded to the White Bank to trawl for

spawning plaice. Fishing began in fair weather at 0830 h 17 February and continued throughout that and the next day on a number of different tows east, south and west of the White Bank, where there was good fishing. (Four baskets of plaice per hour). On 19 February CLIONE continued the search for spawning plaice at the Lower Scruff, the Tail End and the Coffee Soil, and despite the heavy swell catch rates were maintained, although the proportion of spent fish increased as the ship moved north. The best hauls were at the Tail End. During the night CLIONE steamed to the Outer Rough to commence either grabbing or fishing depending on the weather but had to dodge in a strong easterly wind and very heavy swell which prevented all work that day. Two trawl hauls were completed on the morning of 21 February in easing conditions and after grab trials CLIONE began a grab grid at 1600 h working across to the Coffee Soil and the south side of the Tail End during the night. After completion of the grab grid at 0530 h 22 February, CLIONE steamed south to the Clay Deepes to resume trawling at 0730 h. After three hauls the ship moved to the north edge of the Cleaver rough for a further two hauls before beginning the second grab grid at 2300 h 22 February. This was completed at 0530 h the following morning and fishing recommenced at 0830 h for two hauls south east of the Cleaver Bank. At midday CLIONE steamed south to complete a single haul on the Broad Fourteens before entering IJmuiden at 0215 h 24 February. Gonad samples were collected from the Dutch Laboratory and Asterias samples landed. After the N.I.C. had conducted other business with Mr de Veen CLIONE left IJmuiden at 1230 h, 24 February. The cruise terminated with three trawl hauls and one plankton haul west of the Brown Bank, which were completed by 2330 h that day, and CLIONE docked at Lowestoft at 0650 h 25 February with all major aims completed.

RESULTS:

1. The German Bight spawning season proved to be at its height, with some stage IV females and good numbers of stage V, VI and VII females available. Gonads from 151 plaice were dissected out and preserved in Gilson fluid. Fish between 38 and 46 cm were particularly well represented (1963 year class once again) but fecund fish down to 23 cm were also available. The corresponding sample from the Southern Bight collected by the Dutch laboratory earlier in the season comprised gonads from 226 fish.
2. Comprehensive stratified age-length sampling was completed on the spawning grounds, with recruit size groups well represented, and a total of 1132 plaice were otolithed. CLIONE maintained a good catch rate of plaice, averaging $2\frac{1}{4}$ baskets a haul overall, and 4 baskets a haul in the German Bight. Similar figures were obtained with RV ERNEST HOLT in 1970.
3. For a total of 200 plaice, Mr Birkett preserved separately the livers, guts, gonads and carcase for later determination of water content, nitrogen and fat content.
4. Two grab grids on the north east Dogger and on the Cleaver Bank were carried out using the Petersen Grab. Both the small Van Veen grab and the Smith McIntyre grab operated satisfactorily in the dry but failed to take samples when sent to the sea bed. The Van Veen was undoubtedly too light for work on sand but the difficulty with the Smith McIntyre was surprising in view of its wide use as a standard instrument. In retrospect it is believed that the release mechanism was probably operating while the grab was still on its way to the sea bed, but in any case lack of time prevented serious attempts at on the spot readjustment.
5. A variety of size groups of cod were available in steady but small numbers throughout the cruise and in all, 120 fish were examined and used to obtain

pineal glands.

6. Asterias samples were collected from the Clay Deep, Coffee Soil and Cleaver Bank grounds, preserved in formalin and landed at IJmuiden.
7. Completed satisfactorily.
8. Ten four year old plaice were frozen for Dr Portman. Surplus cod of this age were unavailable.
9. Large plaice and one lumpsucker were preserved in formalin for Dr Greer Walker's studies of fish muscle.
10. Turbot were otolithed and dissected, or kept alive for return to the laboratory, in accordance with standing instructions.
11. R. radiata were measured and their reproductive organs and stomach contents investigated for Mr Holden.
12. One live flounder (Mr Thacker) and a number of live plaice (Dr Greer Walker) were returned to the laboratory.
13. Bottom temperature and salinity observations were made in accordance with standing instructions.
14. Cover catches were consistent at between 1 and 2 baskets throughout the cruise. I group cod and haddock were virtually absent and the catches were mainly of dab, whiting, and a mixture of herring and sprats. A sample of clupeids was preserved.

R C A Bannister
8.3.72

SEEN IN DRAFT: James R French (Master)

A H Button (Fishing Skipper)

INITIALLED: AJL

DISTRIBUTION

Basic List
R C A Bannister
L Birkett
V Bye
C L Whiting
M W Easey
D J Peek