

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

MR BAKE  
*Luís Corrigan*

1972 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 7

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

STAFF

A Jones  
R Alderson  
B C Mumford  
R N Tucker  
J R Clark (FRS)  
D Holder (Sandwich Student)

DURATION

Left Lowestoft 1025 h 15 May

Arrived Lowestoft 0650 h 24 May

All times are Greenwich Mean Time

LOCALITY

Middle North Sea and Lincolnshire Coast

AIMS

1. To collect turbot in an advanced stage of maturation and return them live to the laboratory for larval rearing experiments.
2. To artificially fertilise turbot eggs at sea, returning live eggs to the laboratory.
3. Collection of turbot and brill gills and guts for parasite studies.
4. Collection of live plankton to examine for infective stages of parasites.
5. Collection of mature soles for use in genetics studies and larval rearing experiments. (Dr Purdom, Mr Thacker).
6. Collection of stomachs of small fish for larval predation studies.
7. Collection of live fish for electrophysiology studies (Mr Bye).
8. Collection of small fish for feeding to laboratory stocks of turbot and halibut.
9. Routine sampling of plaice and small gadoids (Dr Bannister).

NARRATIVE

CLIONE sailed from Lowestoft at 1025 h 15 May and commenced trawling for turbot on the Cleaver Bank at 0545 h 16 May. Considerable quantities of heart urchins were taken in the trawl on this ground with the result that

the turbot caught were badly abraded and in poor condition when removed from the net. CLIONE steamed overnight to the Tail End and fished from 0650 h 17 May until 1709 h when strong northeasterly winds prevented any further work. Again overnight the ship steamed to the area of the Middle Rough. The days 18-21 May were spent fishing grounds to the east and west of this area where good catches of turbot were made. The turbot gill nets were successfully fished overnight on 20 May on a ground to the west of the Middle Rough. CLIONE left this area at 1945 h 21 May and steamed to the Hospital Ground where fishing commenced at 0545 h 22 May. Having obtained sufficient live turbot and fertile turbot eggs, CLIONE spent the 23 May fishing for brill and soles off Mablethorpe on the Lincolnshire coast. With all the main aims of the cruise completed CLIONE steamed for Lowestoft at 1730 h, arriving at 0650 h 24 May.

## RESULTS

1. Fifteen turbot (5 males and 10 females) with gonads in an advanced stage of maturation were returned live to the laboratory at Lowestoft.
2. Ripe male and female turbot were caught on the grounds to the east and west of the Middle Rough on 18 and 21 May and eggs were stripped and fertilised artificially. Very large numbers (several hundred thousands) of early and late stage eggs were returned for the turbot larval rearing programme at Lowestoft and Port Erin.
3. A total of 50 turbot (47 caught by trawling and 3 by gill netting) and 75 brill were caught and the distribution of catches by fishing grounds is shown below.

<u>Ground</u>	<u>Number of Tows</u>	<u>Number of Hours Fishing</u>	<u>Number of Turbot</u>	<u>Number of Brill</u>
Cleaver Bank	8	8½	9	6
Tail End	6	8	8	1
East Middle Rough	15	19	10	1
West Middle Rough	12	15½	16	-
Hospital Ground	5	9	4	-
Mablethorpe	5	6½	-	67

Thirty six turbot and all brill were sampled, and gills and guts examined and preserved for studies on the copepod and helminth parasites. Live tapeworms Bothriocephalus scorpii and tapeworm eggs from turbot and brill were returned to the laboratory. In addition the parasite fauna of 5 individuals of each of the following species of fish was examined: dab, whiting, gurnard, dragonet, Dover sole, lemon sole, cod, plaice, angler fish, lump sucker and starry ray.

4. Zooplankton was collected with a fine 200 mpi international net off the Dudgeon light vessel at 2150 h 23 May and returned live to the laboratory to examine for infective stages of parasites and for use in infection trials.
5. Twenty four mature Dover soles were returned live to the laboratory as a spawning stock for larval rearing experiments.
6. Stomachs of small cod, haddock and whiting were collected and preserved in formalin for larval predation studies.

7. A selection of live fish were returned to the laboratory as material for electrophysiology studies. They included the following species; cod, dabs, lump suckers, starry rays and thornback rays.

8. Three baskets of small gadoids were packaged and deep frozen for use as food for laboratory stocks of turbot and halibut.

9. Routine sampling of (a) plaice for age length keys, and (b) small gadoids from the cod end and cover, was carried out on the following grounds; Cleaver Bank, Tail End, West and East Middle Rough and Hospital Ground. Otoliths were taken from 451 plaice, 41 whiting, 23 haddock and 21 cod.

#### MISCELLANEOUS AIMS

Egg numbers and diameters were recorded from 10 mature female thornback rays (Mr Holden). A trial string of 10 turbot gill nets were shot and fished overnight on 20 May on the West Middle Rough. The total catch was 3 turbot and 11 starry rays. Live fertile eggs of the brill and of a brill female turbot male hybrid cross were also returned to the laboratory.

A Jones  
30 May 1972

SEEN IN DRAFT

JF (Master)

AHB (Fishing Skipper)

INITIALLED

AJL

DISTRIBUTION

Basic List

A Jones

R Alderson

B C Mumford

R N Tucker

J R Clark (FRS)

D Holder (Sandwich Student)