

Provisional: not to be quoted without reference to the author

R.V. CORELLA

Report for cruise 8/1969

Staff:

Duration:

A. Jones  
D. S. Tungate  
I. Lloyd  
B. C. E. Mumford  
C. Lee (Hong Kong)

24 April-5 May

Aims

1. To carry out routine sampling of turbot and brill in the Middle North Sea.
2. To bring back live turbot and brill for laboratory experiments on the incubation and rearing of eggs and larvae.
3. To assess the feasibility of using gill nets and long lines for the capture of turbot.
4. To carry out artificial fertilization at sea, returning fertilized eggs live to the laboratory.
5. Primary production: To determine whether exponential growth can be maintained in a bottle using natural daylight instead of artificial light.
6. To collect live mature dover soles for Mr. Thacker.
7. To collect young flatfish of all species and return live for Mr. Birkett.
8. To collect live echinoderms for Mr. Lockwood.
9. To carry out routine sampling of plaice and dabs for Mr. Bannister and Mr. C. Lee respectively.

Narrative

CORELLA sailed on schedule from Lowestoft at 1400 hours, 24 April, and proceeded to the Cleaver Bank where trawling commenced at 0635 hours, 25 April. Steaming overnight and trawling by day CORELLA covered the grounds at the Tail End and Turbot Bank on 26 and 27 April. While in the region of Turbot Bank it had been hoped that contact would be made with the Danish turbot gill net fleet, and our own gill nets shot. However, no boats were encountered, so at 1130 hours, 28 April CORELLA docked at Esbjerg and two members of the Scientific staff, the Fishing Skipper and the mate travelled to Hvide Sande (the base of the gill net fleet) to obtain information on the grounds which the gill netters were working. On information received from fishermen at Hvide Sande, it was decided not to shoot the gill nets: the reasons for this decision are given later.

CORELLA sailed from Esbjerg at 0800 hours, 29 April and recommenced trawling at 1520 hours on the outer Horn Reef ground. Quantities of dead fish (plaice, dover soles and dabs) and edible crabs were taken on this ground (samples were returned to the laboratory). CORELLA moved from this ground and returned overnight to the Cleaver Bank, fishing here on 30 April. The following day was spent in the Pits and Middle Shoal area. Having obtained sufficient live turbot, CORELLA sailed for the Mablethorpe grounds where trawling was carried out on 2 and 3 May for brill and dover soles. After the desired number of these two species had been caught CORELLA steamed in thick fog to Jim Howe's Bank, where she fished on 4 May, docking at Lowestoft at 1100 hours, 5 May.

### Results

1. Out of a total of 51 stations (duration of tow  $1\frac{1}{2}$  hours except for Mablethorpe area where it was 1 hour) 15 turbot and 74 brill were caught. Catches of both species were lower than those of R.V. CLIONE for the same period in 1968. It is possible that this may be due to temperature: surface temperatures on the Cleaver Bank were between  $5$  &  $6^{\circ}\text{C}$  compared with  $7-8^{\circ}\text{C}$  for the same period in 1968. The low temperatures this year have probably delayed the movement of turbot and brill into the shallow water where they spawn.
2. A total of 15 turbot and 15 brill were returned live to the laboratory.
3. On information received from fishermen at Hvide Sande it was decided not to use the Danish gill nets on this cruise. The reasons for this decision were twofold
  - (i) Although the nets could have been shot from CORELLA, we were told that there would be great difficulty retrieving them with the CARANK in depth of more than 10 fathoms. The Danish boats are equipped with special drum haulers for this purpose.
  - (ii) Apparently the season for turbot is late this year, most of the boats from Hvide Sande are still fishing with small mesh gill nets for cod.

The long lines were used overnight on 30 April on the Cleaver Bank. No turbot or brill were captured.

4. No artificial fertilizations were carried out at sea because no turbot and brill caught had gonads in a sufficiently advanced state of maturation.
5. The Primary productivity experiments indicate that growth may well be constant for up to 3 days when daylight is used and suggests that the decreasing growth rate obtained in the 1968 cruises may be a result of the use of artificial lights which do not simulate natural conditions.
6. Twenty dover soles from the Mablethorpe ground were returned live to the laboratory for Mr. Thacker.
7. Small flatfish of all species were collected for Mr. Birkett. However, these were badly damaged in the trawl and large numbers died in transit.

8. Echinoderms of all species were collected and returned live to the laboratory for Mr. Lockwood.
9. Routine sampling of plaice and dabs for Mr. Bannister and Mr. C. Lee was carried out at most grounds.

A. Jones  
9.5.69

Seen in draft: WC., CNB., AJL

Distribution:

Basic list, plus the following:-

- A. Jones
- D. S. Tungate
- I. Lloyd
- B. C. E. Mumford
- C. Lee (Hong Kong)