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R.V. CLIONE  
Report for Cruise 7/1968

<u>Staff</u>	<u>Duration</u>
D. Harding	1200 hours, 16 May to
J. L. Henry	1930 hours, 24 May
P. Scholes	
E. G. Shreeve	(All times are B.S.T.)
J. C. Adamson	
J. R. T. Tipple	
P. Griffiths (part-time)	

Aims

1. To survey the Southern Bight and Borkum spawning areas for fish eggs and larvae.
2. To monitor continuously the Chlorophyll-A content, temperature, transparency and turbidity of the surface sea water and to obtain water samples for nutrient salt analyses.
3. To carry out productivity studies using the Coulter Counter.
4. To investigate the vertical distribution of fish larvae.
5. To test the data logging system.
6. To collect small fish for stomach content analysis.
7. To carry out gear tests with (a) the Boothbay net and (b) the standard 30-inch tin tow net.

Narrative

CLIONE sailed from Lowestoft on the afternoon tide on 16 May and commenced calibrating the standard 30-inch tow net fitted with electric flowmeter and depth gauge as soon as the ship reached deep water. Mr. Griffiths spent this period linking-up and testing the data logger and after trials on the first two lines of stations in the Southern Bight he was put ashore by pilot boat at Yarmouth at 1630 hours, 17 May.

Work on the grid recommenced at 1848 hours at Station 14 and continued until 1200 hours, 19 May when the ship was diverted to sample hydrograph stations along the Haisborough gas pipeline route. At this stage one of the crew, Mr. Stone, was found to be seriously ill and was put ashore by R.A.F. helicopter.

The sampling on the grid restarted at 2252 hours at Station 55 and continued uninterrupted until the Borkum survey was completed at Station 131 at 0730 hours, 23 May. Trawling for young fish predators of other fish eggs and larvae was carried out at 2025 hours near ST3 buoy and live zooplankton were also collected for Mr. Wyatt at this station.

The cruise was concluded when CLIONE docked at Lowestoft at 1930 hours, 24 May.

## Results

1. Both sea areas were surveyed adequately for fish eggs and larvae. Late stage larvae were abundant on all the eastern and northern stations and some eggs, possibly cod and whiting, were present in samples taken in the Borkum area.
2. All the hydrographic monitoring equipment worked well throughout the cruise and produced a continuous series of records of Chlorophyll-A, temperature, transparency and turbidity of the surface sea water. Samples for nutrient salt analyses were taken at all tow net stations in the Southern Bight and Borkum areas, while intermediate stations in the Borkum area were also sampled for salinity only.
3. Two productivity experiments, each of three days' duration, were completed successfully.
4. The electric cable for the vertical layer samples proved faulty after use on the standard grid and could not be repaired at sea. Thus vertical distribution studies were not carried out.
5. The data logging system worked well for about thirty stations, after which the paper tape punch ceased to function and could not be repaired.
6. Small fish were collected and preserved for stomach content analysis.
7. Since the electric cable broke during the standard survey the gear testing could not be carried out.
8. Live zooplankton were collected for Mr. Wyatt in position  $52^{\circ}56'00''N$   $03^{\circ}03'00''E$ .
9. The echo sounder was used to record fish traces throughout the whole area surveyed.

D. Harding

5 June 1968

Initialed: AJL

Seen in draft: MRS

## Distribution

Basic list, plus the following:

D. Harding	}	Scientific staff on cruise
J. L. Henry		
P. Scholes		
E. G. Shreeve		
J. C. Adamson		
J. R. T. Tipple		
P. Griffiths (part-time)	}	