

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

1982 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 11

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

STAFF:

P Scholes
A Urquhart
G Sutton
B Holford

DURATION:

Left Lowestoft at 1000 h 22 July
Arrived Lowestoft at 0530 h 29 July

All times are GMT

LOCALITY:

North Sea Botney Ground

AIMS:

1. To study jointly with RV CLIONE the diurnal movements of plaice on their feeding grounds by midwater trawling.
2. To carry out a benthos survey in the area to correlate food occurrence and distribution with feeding.
3. To continue measurements of irradiance in the sea.

NARRATIVE:

RV CORELLA sailed from Lowestoft at 0900 h 22 July, proceeded to the work area south of Botney Gut and began work at 2000 h the same day. The ship began midwater trawling from position 53°47.4'N 03°05.4'E to 53°42.8'N 02°58.8'E and back again. RV CLIONE fished a bottom trawl along the same track. Originally the tows were planned to include each day a pre and post sunset haul each of 3 h duration but after it was clear that plaice were also being caught from 0000-0300 h the hauls were rearranged and the final pattern of hauls and the plaice catches are shown in Table 1. On 25 July a series of 12 grab stations were worked along the track and measurements of light intensity at different depths in the sea were made in daylight hours on 23, 24 and 25 July. A total of 20 tows each of three hours duration was made finishing at 1030 h 28 July. The ship then steamed to anchor overnight at Corton and docked at 0530 h 29 July.

RESULTS:

1. The fishing results are presented as Table 1 which shows the number of plaice caught in each tow and the timing of each tow during the twenty four hours.

Altogether 50 plaice were caught ranging in size from 26 to 33 cms. Of these 49 were caught in the dark, 16 in the period between midnight and 0300 h and

33 in the post sunset haul from 2000 to 2300. Only one fish was caught in the day. The fish had been feeding mainly on small Ophiuroids and Tellina. In plaice caught between 0000-0300 h 94% of the stomachs were empty, 62% of the guts and 50% of the hind guts. In fish caught in the haul after sunset 2000-2300 h 78% of the stomachs were empty, 21% of the guts and 51% of the hind guts.

2. The twelve grab hauls showed a rich mud ground at the northern and southern ends of the tow with sandy less productive ground in the middle. The muddy ground was characterised by small Ophiuroids identified as Acrocrida brachiata (apparently the same species which the plaice had been feeding on) with some Pectinaria Mactra and large heart urchins (Echinocardium). The sandy ground had more molluscs and nereids with some tubicolous polychaetes.
3. Light measurements. Near surface observations were successfully made but measurements of irradiance in the sea at depth were not possible due to shipboard electrical interference.

P Scholes
4 August 1982

SEEN IN DRAFT:

G Sinclair Master
R C Newrick Fishing Skipper

INITIALLED:

DJG

DISTRIBUTION:

Basic List +

P. Scholes

A Urquhart

G Sutton

B. Holford

Table 1. Number of Plaice caught in midwater at different times of the day.

Dark hauls 2000-2300 h 0000-0300 h GMT

Time of haul	Date - July							Totals
	22	23	24	25	26	27	28	
0000-0300	-	4	-	-	6	5	1	16
0400-0700	-	-	-	0	-	0	1	1
0730-1030	-	-	0	-	-	-	0	0
1200-1500	-	0	-	-	-	0		0
1630-1930	-	0	0	0	0	-		0
2000-2300	2	7	8	10	6	-		33