

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

1972 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 4

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

STAFF:

M J Holden
J Pope (from 17.3.72)
C N Humphreys
M Macdonald
B Knights
K Brander (FRS)
R Osae (Ghana, to 17.3.72)

DURATION:

Left Lowestoft 1355 h 7 March

Arrived Lowestoft 1730 h 26 March.

All times are Greenwich Mean Time

LOCALITY

Irish Sea and Bristol Channel

AIMS

1. To carry out a tin tow net survey in the northern Irish Sea.
2. To obtain cod for biological studies from the Lough Carlingford - Isle of Man area.
3. To collect hydrographic data and release sea bed drifters.
4. To attempt artificial fertilization of cod (Mr Riley).
5. To collect live turbot for the Port Erin hatchery (Dr Shelbourne).
6. To collect ray material.
7. To carry out a tin tow net survey for plaice larvae in the western English Channel (Mr Houghton).
8. To collect samples for pollution monitoring (Dr Portmann).

NARRATIVE

Calibration of the tin tow net started at 1430 h/8 March and the grid in the western English Channel at 1600 h/9 March. It was completed without interruption by 0942 h/9 March when the ship proceeded to the Irish Sea where the tin tow net grid was begun at 1017 h/10 March. It was continued until 1510 h/11 March, when increasing easterly winds prevented further work.

The ship then steamed to a position 12 miles SW of St Bees Head to fish for cod. Here, in the lee of the land, fishing continued in strong to gale force easterly winds until 1155 h/14 March when the wind had abated and the tin tow net grid could be resumed. This was re-started at 1422 h/14 March and completed by 0210 h/16 March. The ship then proceeded to St Johns Point where fishing re-commenced at 0941 h/16 March after a delay due to dense fog; 42 small fishing vessels were working in the area. Fishing continued until 1730 h/16 March, following which a surface temperature and salinity grid was run across the North Channel. The ship then proceeded to Holyhead to obtain fresh water and exchange scientific personnel berthing at 0915 h/17 March. The ship sailed again at 2325 h/17 March for the Lough Carlingford fishing grounds where trawling re-started at 0740 h/18 March and continued until 0818 h/19 March. The final haul was made off Portavogie in an attempt to obtain 1 year old codling. The trawl was badly damaged in this haul; the tows worked in 1971 could not be accurately followed because the Decca red-slave station is out of action. As information about clear tows could not be obtained either from local vessels or from the Fisheries Department, Northern Ireland, it was decided to steam to Caernarvon Bay to obtain ray data. A single tow here resulted in trawl damage and as few ray were caught an overnight steam was made to the Arklow Bank where two very successful hauls for Raja clavata, R. montagui and R. naevus were made on 20 March. A third haul off Tuskar to obtain R. brachyura was unsuccessful. Overnight the ship returned to the Lough Carlingford area to trawl for cod for blood samples. One haul here at 0820 h/21 March was sufficient to meet requirements. The ship then steamed to the St Bees fishing ground, calling en route to deliver one live turbot at Port Erin. One haul was again sufficient to obtain exactly the 50 cod required for a blood sample. Leaving this ground at 1900 h/21 March the ship made passage to the Bristol Channel where fishing started at 1532 h/22 March. Because the first two hauls produced only 5 cod an overnight survey of the area was made to see whether any concentration of trawlers could be found, but the majority of those seen were off Trerose, presumably fishing for soles. The ship therefore returned to the outer Bristol Channel, 30 miles west of Hartland Point, where 3 trawlers had been seen working, and obtained catches averaging 30 cod per haul throughout the 23rd. Fishing was much slacker on 24 March, averaging only 17 cod per haul. Trawling ceased at 1830 h/24 March when the passage home was started. Live plankton was collected off Weymouth Bay at 1020 h/25 March.

RESULTS

Aims 1 and 7 were completed successfully

Aim 2. A total of 1553 cod were tagged, of which 950 were released off St Bees, 370 off Lough Carlingford and 222 in the Bristol Channel. 98 cod blood samples were collected and otoliths, vertebral counts, length and weight measurements taken from a total of 833 cod, 445 from the St Bees area, 222 from off Lough Carlingford and 113 from the Bristol Channel. The other samples came from Caernarvon Bay and the Arklow-Tuskar region; the other 11 cod were tagged in the two areas.

Aim 3. Sea surface temperature and salinity samples were taken at all the tin tow net stations. In addition bottom temperature and salinity samples were taken in the Irish Sea at stations selected as important in relation to current movements and cod spawning. These observations were supplemented to complete a grid of samples taken at 30 mile intervals to conform with ICES requirements.

File surface and 50 seabed drifters were released in each of the two main cod spawning areas, off St Bees and between Lough Carlingford and the Isle of Man.

Aim 5. One live turbot was taken to Port Erin. In addition two turbot were brought back from the Bristol Channel to the Lowestoft hatchery.

Aim 6. Length, width and pectoral fin width measurements, sex, maturity and stomach contents were recorded for 198 Raja clavata, 166 R. naevus, 177 R. montagui, 11 R. brachyura and 1 R. micro ocellata. In addition ovarian egg numbers and volumes were recorded from 9, 21, 9 and 2 mature females of each of these species respectively. Colour photographs were taken for future inclusion in the ray identification key.

Aim 4, was cancelled before the start of the cruise because the cod rearing programme in the laboratory's hatchery was proceeding satisfactorily.

Aim 8. No fishing was carried out in areas from which Dr Portmann required samples.

Miscellaneous aims.

The following were collected: guts, gill chambers and otoliths from 32 brill and 1 turbot, together with length, weight and sex data; 92 pairs of sole and 57 pairs of haddock otoliths; 80 lots of food fish for the hatchery; 1 diseased liver from a Raja clavata (Dr Shelton); whiting samples for age validation studies; records of the frequency of occurrence of diseased plaice (Dr Bannister); live plankton for Mrs B Hudson; 1 sprat sample (Dr Johnson); 1 herring sample (Mr Burd); 2 bass were also tagged. Colour photographs of miscellaneous species were taken for inclusion in the laboratory's records.

M J Holden
30 March 1972

SEEN IN DRAFT JEMB
 AHB

INITIALLED DHC

DISTRIBUTION

Basic list
M J Holden
J Pope
C N Humphreys
M Macdonald
B Knights
K Brander
R Osae