

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

1990 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 8C

STAFF:

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DURATION:

Left Falmouth 0805 h 20 July
Arrived Lowestoft 1100 h 26 July
All times are GMT

LOCALITY: English Channel

AIMS:

1. To carry out a plankton survey using the 53 cm High Speed Tow Net fitted with a Guildline CTD monitoring system; to determine the abundance of crab (Cancer pagurus) larvae in selected areas of the English Channel.
2. To take additional plankton samples in areas of high abundance of larvae to estimate haul to haul and spatial variability.
3. To study the vertical distribution of crab larvae using a LHPR sampler.
4. To take discrete sub-surface sea water samples for salinity determination at each plankton station and to monitor continuously the chlorophyll 'a' fluorescence temperature and salinity of subsurface sea water.

NARRATIVE:

RV CORYSTES sailed from Falmouth at 0805 h on 20 July and steamed to the first station of the plankton survey grid in Mounts Bay ($50^{\circ}3.17'N$ $05^{\circ}22.37'W$). Sampling began at 1123 h and continued in good weather until completion of the grid at 1155 h on 22 July (Fig. 1). RV CORYSTES then steamed to a position $50^{\circ}07.5'N$ $04^{\circ}52.75'W$ to begin vertical distribution studies of crab larvae using the LHPR sampler and CTD profiling system. Sampling began at 2010 h on 22 July and continued until 0430 h on 23 July when 30-35 knot easterly winds caused work to cease. Sampling was resumed at 2010 h on the same day but was again interrupted by 30 knot winds at 0430 h on 24 July. Work began again at 1440 h and the final sampling station was completed at 1815 h on 24 July. Course was then set for Lowestoft.

RESULTS:

1. A total of 32 stations was completed using the 53 cm Tow Net. Preliminary examination of the samples showed that crab larvae were not abundant and indicated that the majority of larvae had developed beyond the planktonic megalopa stage.

Thermal stratification of the water column was evident at all stations and was most pronounced with a stratification parameter in excess of $100 \text{ joules m}^{-3}$ at positions furthest from the English coast, south of Mounts Bay.

2. Aim 2 was not completed as an area of sufficiently high abundance of crab larvae was not located.
3. Eight one-hour tows were made using the LHPR sampler to study the vertical distribution of crab larvae at a station where reasonable numbers of larvae had been found earlier in the cruise. The tows were timed to coincide with periods of full daylight, dusk, darkness and dawn. Discrete samples were taken at depths of 3 m, 10 m and then at 5 m intervals down to 55 m.

Three CTD profiles were logged, two of which showed thermal stratification with a temperature of 17°C at the sea surface and 12.7°C near the sea bed (60 m). The stratification appeared to have broken down after the easterly gales.

4. Discrete sub-surface sea-water samples for salinity determination were taken at each plankton station.

Chlorophyll 'a' fluorescence, salinity, temperature, and surface light values were monitored continuously.

Brenda M Thompson
1 August 1990

SEEN IN DRAFT: RT, MGCR

INITIALLED: GPA

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CORYSTES 8C/90

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