

R1/6

FRV 'CLUPEA'

CRUISE 12/78

REPORT

30 October - 10 November 1978

### Objectives

- (1) To study the distribution and abundance of Pandalus borealis stocks on the Farn Deeps.
- (2) To observe the density and behaviour of Pandalus using underwater photography
- (3) To study the distribution and abundance of P. borealis stocks at Fladen.

### Narrative

The scientific staff joined 'Clupea' at Aberdeen, and equipment was loaded on 30 October, but sailing was delayed until 1 November because of a faulty radar. 'Clupea' steamed to the Farn Deeps where a series of ten, one-hour trawl hauls using a Danish shrimp trawl were made. Plankton hauls were made at each trawl station using a metre net.

Tows with the television camera mounted on a sledge were made in both deep and shallow water and on hard and soft substrates.

Increasing SW winds made working off Blyth difficult, on 8 November 'Clupea' steamed north to the Firth of Forth and camera sledge tows were made on the Nephrops grounds there. Because of the prevailing weather conditions Objective 3 was not attempted. The cruise ended at Aberdeen, 'Clupea' docked at midnight on 9 November.

### Results

Trawling: Shrimp catches were good, a total of 500 kg being caught, 10.4% by weight of the total catch. They were most prolific in the area east of Blyth.

Reasonable quantities of Nephrops were taken in most hauls, a large proportion being under 30mm carapace length. A total of 400 kg were caught, of these 100 kg (25%) were examined. The size composition and sex ratios are given in Table I.

Large quantities of small fish were taken, these constituted 79% of the total catch. While Norway pout made up the bulk of these catches in most hauls, in some hauls considerable quantities of whiting in the range 9-31cm was taken. In one haul herring, range 14-26cm was plentiful. Very little commercial sized fish was caught; cod was the predominant species.

Photographic work: Transects were made with the cameras fixed onto a towed sledge. Work was carried out in both deep (90m) and shallow (20m) water. Good results were obtained especially in the latter areas. In deeper water the sledge tended to lift off the bottom, probably because too great a wave height was prevalent at the time.

Other work: A plankton haul using a metre net was made at each trawl station. Plankton catches were very poor.

F G HOWARD  
22 November 1971

Seen in draft: G. Geddes

TABLE I

Size composition of Nephrops taken on Farn Deeps

Carapace length mm.	10-4	15-9	20-4	25-9	30-4	35-9	40-4	45-9	50-4	55-9	Total	Mean
Males	7	80	596	550	428	243	156	77	25	1	2163	29.4
Females	5	86	616	447	604	243	56	18	3		2078	27.7
Berried females			1	21	17	3	1				43	29.8