

FRV Goldseeker"

Cruise 6/78

REPORT

3-27 July 1978

Objectives

1. To sample juvenile ('O'-group) Nephrops and make observations on their distribution and behaviour.
2. To release suture-tagged Nephrops in order to study growth rate.
3. To make ship-board observations on the behaviour of juvenile Nephrops.

Narrative

"Goldseeker" left Buckie on 3 July and on the evening of the 4th arrived at Granton Harbour where scientific staff joined the ship. No time was lost through bad weather and the cruise ended at Methil on 25 July. "Goldseeker" then returned to Buckie on 26 July.

Results

Plankton sampling

Seventeen hauls were made with a WP3 plankton net and six hauls with a half-size 'Isaac's Kidd' trawl. Most Nephrops larvae were at Stage III and these were caught over most of the area sampled between Kincaig Point and May Island. Very few post-larvae ('O'-group) were caught suggesting that the cruise was too early for the main period of post-larval metamorphosis. The numbers of 'O'-group Nephrops caught were insufficient to meet requirements for objective 3. Detailed examination of the plankton samples will be carried out in the laboratory.

Tagging

Four fleets of 24 creels were fished for periods of 1-4 days using salt herring bait. Several positions were tried but only moderate catches were obtained. 863 Nephrops were caught in about 1000 creel hauls giving a catch rate of roughly 0.9 Nephrops/creel. The size and sex composition of the catches is given in Table I. Females accounted for 58% of the catch and 12% of them were berried.

765 (424 females, 341 males) creel-caught Nephrops were marked with 'streamer' tags inserted between carapace and abdomen. These were released in two areas, SE of May Island (100 animals) and off Elie Ness (665 animals). 27 tagged Nephrops were retained in a cage on the sea bed to determine the survival rate. Unfortunately the netting of the cage was found to be torn at the end of the cruise so that some of the animals had escaped. There were 6 dead Nephrops in the cage and one alive. Assuming that those escaping would be likely to survive, the estimated survival rate from this experiment is 78%. At the time of writing 18 tagged Nephrops have been recaptured by fishermen and all of these have been caught in the area of release. Two recaptures (both males) had moulted, increasing in size by 3.1 and 3.3 mm respectively.

Table I Length and sex composition of creel catches

Carapace length(mm)	25/29	30/34	35/39	40/44	45/49	50/54	55/59	60/64	65/69	Total caught	Total tagged
Males	-	14	43	94	91	70	36	12	2	362	341
Females	2	47	95	167	137	46	7	-	-	501	424
Both sexes	2	61	138	261	228	116	43	12	2	863	765

C J Chapman
29 September 1978

Seen in draft: W B Reid