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3GR79

JA

RL/10
FRV GOLDSEEKER
CRUISE 3/79 (Revised Programme)
REPORT

12 - 23 February 1979

Objectives

1. To compare magnitude and composition of catches of Nephrops and fish taken by 70 mm. Nephrops trawl fished with or without sweeps
2. To assess predation on Nephrops by analysis of fish stomach contents. To measure size composition of Nephrops prey in relation to predator size
3. To take sea bed temperature measurements in the area of tagged Nephrops releases in 1978
4. To collect live Nephrops for aquarium growth experiments

Narrative

Because of severe icing conditions in the Caledonian Canal GOLDSEEKER was unable to proceed on passage to the West Coast. An alternative programme based at Buckie of Nephrops trawling was drawn up involving the use of various lengths of sweeps for comparison. Continuous gales of N to NW winds made it impossible for any fishing to be done during the first week of the trip. The second week was more successful and a short programme of trawling was carried out until on Thursday, hull damage on the waterline was discovered. This necessitated the vessel being slipped for repair.

On Wednesday 21 February staff rejoined to carry out objectives 3 and 4 but again weather conditions restricted operations to Thursday only and an unsuccessful attempt was made at fishing on Friday. GOLDSEEKER returned to Buckie where the cruise ended.

Method

Hauls were made with a 70 mm Nephrops trawl using 20 fm sweeps and 20 ft sweeps these were of 1 1/2 hours duration.

Results

Size and sex composition and mean carapace lengths of Nephrops caught by the different rigs are shown in the attached Tables. The fish catch was small. A few Cod were taken along with Haddock, Whiting, Dabs and Plaice. Bottom temperatures were taken off Cromarty Firth. Eight positions were sampled giving a mean temperature of 3.895°C in depths ranging from 16.5 fms to 18.5 fms. Fish stomachs were examined and only Cod showed any evidence of predation: from 81 stomachs 4 (4.95%) contained Nephrops remains.

Seen in draft W Smith o/c GOLDSEEKER

J A SINCLAIR
9 August 1979

TABLE 1 70 mm Nephrops trawl using 20 fm sweeps
(3 x 1 1/2 hour hauls)

Carapace length mm	15/19	20/24	25/29	30/34	35/39	40/44	45/49	Total
Males No	10	120	202	124	56	26	2	540
%	1.85	22.2	37.4	22.9	10.3	4.8	0.4	
Females No	7	116	117	93	19	9	-	361
%	1.9	32.1	32.4	25.4	5.26	2.5		

Mean C.L. Males 28.9 mm Females 27.9 mm

TABLE 2 70 mm Nephrops trawl using 20 ft sweeps
(6 1 1/2 hour haul)

Carapace length mm	15/19	20/24	25/29	30/34	35/39	40/44	45/49	Total
Males No	23	229	294	184	51	32	6	819
%	2.8	27.9	35.8	22.4	6.2	3.9	0.7	
Female No	11	187	166	94	20	9	-	487
%	2.2	38.3	34.0	19.3	4.1	1.8	-	

Mean C.L. Males 27.9 mm Females 26.7

Net measurements were carried out giving the mean mesh sizes as follows

Cod end 67.2 mm Belly 64.08 mm Wings 62.8 mm