

In Confidence: Not to be quoted without reference to the Laboratory

FRV "GOLDSEEKER"
CRUISE 3/78
REPORT
4-27 APRIL 1978

Objectives

1. To compare quantity, size and sex composition of Nephrops catches and fish bycatch by trawls of different mesh size (50, 70, 90 mm nominal mesh).
2. To make diving observations on the nets prior to the selectivity assessments.
3. To assess predation on Nephrops from examination of fish stomachs and to preserve any Nephrops remains for later analysis.
4. To look for incidence of the gut parasite Stichocotyle nephropsis.

Narrative

"Goldseeker" left Buckie on April 6 after the completion of Objective 2, by a team of divers on Moray Firth grounds, and arrived at Leith on April 7. A few trial trawl hauls were made on various grounds, the most suitable being the Bass Rock/Craig Leith area where a programme of trawling was carried out during the remainder of the cruise. The behaviour pattern of the Nephrops required fishing to be carried out during the dawn and dusk periods.

Two days fishing were lost because of unsuitable weather conditions and the cruise ended at Leith on April 27.

Methods

Where possible trawl hauls of three hours' duration were carried out using the trawls of 50 mm, 70 mm and 90 mm at the most suitable fishing times which were in the evenings and mornings.

Results

The size ranges, sex composition and mean carapace lengths of Nephrops caught are shown in the attached tables. The fish catch was very poor, consisting mainly of Common Dabs, Long Rough Dabs, Whiting, Plaice and Flounders, along with a few Cod and Saithe. Few fish of commercial size were caught. Cod and Saithe stomachs were examined for Nephrops remains. Of 143 Codling and 25 Saithe only one cod stomach contained remains of Nephrops.

Nephrops guts were examined for the parasite Stichocotyle nephropsis. None were present.

J A Sinclair
21 August 1978

Seen in draft - W B Reid (O/C "Goldseeker")

50 mm Nephrops Trawl 13½ hours fishing

Carapace length (mm)	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	Totals
Males	1	9	482	1149	1530	497	224	56	23	8	2	-	-	3981
%	+	0.2	12.1	28.9	38.4	12.5	5.6	1.4	0.6	0.2	+	-	-	
Females	1	4	410	842	549	140	55	36	8	3	-	-	-	2048
%	+	0.2	20.0	41.1	26.8	6.8	2.7	1.8	0.4	0.1	-	-	-	

Mean C/L Males 30.75 mm, Females 28.47 mm

18 Females (0.8%) were berried

Mean mesh measurements (mm)

Square: 46.5 mm, Belly 47.8 mm, Ext piece 45.2 mm, Wings 42.6 mm, Cod-end 48.0 mm.

70 mm Nephrops Trawl 18 hours fishing

Carapace length (mm)	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	Totals
Males	-	-	87	517	1178	535	310	109	43	6	-	-	-	2785
%	-	-	3.1	18.6	42.3	19.2	11.1	3.9	1.5	0.2	-	-	-	
Females	-	-	55	285	373	119	96	51	27	4	-	-	-	1008
%	-	-	5.5	28.2	37.0	11.8	9.5	5.0	2.6	0.4	-	-	-	

Mean C/L Males 36.07 mm, Females 33.1 mm

37 Females (3.6%) were berried

Mean mesh measurements (mm)

Square: 61.8 mm, Belly 63.9mm, Ext piece 66.4 mm, Wings 64.7 mm, Cod-end 64.3 mm.

90 mm Nephrops Trawl 15 hours fishing

Carapace length (mm)	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	Totals
Males	-	-	1	31	150	93	68	37	19	4	1	-	-	404
%	-	-	0.2	7.7	37.1	23.0	16.8	9.2	4.7	1.0	0.2	-	-	
Females	-	-	4	15	50	32	18	10	17	2	-	-	-	148
%	-	-	2.7	10.1	33.8	21.6	12.2	6.8	11.5	1.3	-	-	-	

Mean C/L Males 36.6 mm, Females 36.7 mm

20 Females (13.5%) were berried

Mean mesh measurements (mm)

Square 81.5 mm, Belly 83.5 mm, Ext piece 80.7 mm, wings 87.08 mm, Cod-end 84.8 mm