

Indexed JRG

BA

R1/3

RV "Aora"

Charter Cruise

Report

15-29 August 1987

Personnel

F G Howard	SSO
N Bailey	HSO
H H Mitchell	Craftsman

Objectives

1. To determine trawl catch rates, sex and size composition, growth and maturity of Nephrops on grounds in the Sound of Jura and the Minches.
2. To study Nephrops distribution in relation to sediment characteristics.
3. To obtain sediment samples for particle size, organic carbon and faunal analysis.

Narrative

F G Howard and H H Mitchell joined "Aora" in Millport at 0830 on 15 August; "Aora" sailed at 0900 and proceeded around the Mull of Kintyre then northwards towards the South Minch. One trawl haul in Lynn of Morven was made during the passage, and "Aora" arrived in Mallaig at 1820 on 16 August. On leaving Mallaig, "Aora" made trawl hauls and took grab samples in the Sound of Sleet, north of Eigg and on Maxwell Bank, before arriving in Tobermory at 2030 on 17 August. During the following two days, trawl hauls were made on Hawes Bank, in Tires Passage and off Staffa. Grab samples were obtained at Hawes Bank, but weather conditions prevented use of the grab elsewhere. "Aora" docked in Oban at 1930 on 19 August.

The morning of 20 August was spent in Oban. Sediment samples were despatched for analysis, and arrangements were made with SMBA at Dunstaffnage for the storage of live Eledone cirrhosa prior to their collection by Prof Ian Henderson of Sheffield University. On sailing from Oban, "Aora" made trawl and grab hauls in Loch Linnhe, the Firth of Lorne, and Lynn of Lorne.

F G Howard left the vessel in Oban on 23 August, when N Bailey joined.

"Aora" sailed at 1430 taking trawl and grab samples off Colonsay before making for Crinan docking there at 2000. On 24 August, "Aora" sailed at 0600 and took trawl and grab samples in the Sound of Jura off Gigha and South of Islay arriving Port Ellon at 1650. An early departure on 25 August at 0500 gave sufficient time for sampling to take place off Campbeltown and in Kilbrannan Sound following the passage around the Mull of Kintyre. "Aora" docked in Campbeltown at 1630. "Aora" departed at 0600 on 26 August for grounds off the Holy Isle and Heads of Ayr but weather conditions deteriorated rapidly

producing poor trawl catches and preventing grab samples from being taken at these sites. "Aora" went for shelter in Ayr arriving at 1330. Moderating weather conditions on 27 August permitted additional trawl samples to be taken at the last named sites but grab sampling was still not possible. "Aora" made passage for Millport docking at 1130. "Aora" sailed for the remaining sampling station, off Skelmorlie, at 0700 on 28 August returning to Keppel pier, Millport, at 0930 after trawl and grab samples had been taken. After working up the catch and packing equipment N Bailey and H H Mitchell left the vessel at 1430 and returned to Aberdeen.

Results

Trawling:

Twenty-two trawl hauls with the small mesh net BT126D were made on different grounds in the South Minch, Sound of Jura and the Clyde.

Nephrops catch rates were variable ranging from 1.0 kg/½ hr to 43.0 kg/½ hr in the South Minch, 4.0 kg to 21.0 kg/½ hr in the Sound of Jura, and 0.4 kg to 13.5 kg/½ in the Clyde.

The size and sex ratios of Nephrops catches from the different grounds are shown in Table 1.

Samples of catches from each ground were analysed to determine ovary maturity and pre-moult frequency.

Grab sampling:

Two grab samples were taken along the track of each trawl station where weather conditions permitted use of the grab. Samples were preserved for macro and meio-faunal analysis, and a sediment sample sent for particle size and organic carbon analysis.

F G Howard
N Bailey

9 September 1987

TABLE 1 Size and sex composition of Nephrops catches from the South Minch, Sound of Jura and Clyde

Carapace length (mm)												
Area	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
<hr/>												
Sound of Sleat												
Males			1	1	7	9	7	2				27
				Mean = 37.0								
Females			2	2	7	6	3	1				21
				Mean = 34.3								
Berried				1								1
<hr/>												
Eigg												
Males	7	116	1201	814	456	131	21	6				2752
				Mean = 25.9								
Females	14	266	1708	659	328	34						3009
				Mean = 24.1								
Berried			10	77	50	3						140
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Tiree												
Males		244	1214	866	356	60	11					2751
				Mean = 24.8								
Females	2	262	1430	653	176	7						2530
				Mean = 23.5								
Berried			11	38	14							63
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Oban												
Males		1	1	33	116	90	28	11				280
				Mean = 34.4								
Females		1	2	57	135	60	15	5				275
				Mean = 32.7								
Berried				1	5	2	2	1				11
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Colonsay												
Males	2	301	989	338	145	43	16	4				1838
				Mean = 23.4								
Females	11	403	1090	479	165	15						2163
				Mean = 22.9								
Berried				16	3	3						22
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Sound of Jura												
Males	47	194	236	293	66	26	21	5				888
				Mean = 23.8								
Females	257	273	720	662	98	18						2028
				Mean = 22.5								
Berried		4	103	104	15							226
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Campbeltown												
Males	5	18	11	31	21	5	1					92
				Mean = 25.4								
Females	3	19	17	38	31	1	1					110
				Mean = 25.7								
Berried				2	1							3

Area	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
Kilbrannan Sound												
Males	4	7	7	63	128	26	11					246
				Mean = 30.8								
Females			9	75	136	59	24	3				306
				Mean = 32.4								
Berried				1	1							2
Holy Isle												
Males			1	5	5	2	2	1				16
				Mean = 32.5								
Females				5	10	4						19
				Mean = 31.8								
Berried				1	1							2
Heads of Ayr												
Males	12	20	23	176	113	24						368
				Mean = 27.9								
Females	13	27	40	166	156	81	9	3	1			496
Berried				2	10	7						19
Skelmorlie												
Males				5	16	16	4	-	1			42
				Mean = 34.9								
Females		2	-	4	20	23	7	5	6	2	1	70
				Mean = 37.9								
Berried					1							1