

R1/12

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FRV *Scotia*

ISR91

Cruise 1/91

REPORT

8-17 January 1991

Personnel

K MacKenzie	PSO
H Williams	Visitor (National Museum of Wales)
B Williams (Miss)	Visitor (National Museum of Wales)
A McCarthy	Visitor (National Museum of Wales)
M McCarthy (Mrs)	Visitor (National Museum of Wales)
A Rowand (Miss)	CASE student
M Koie (Mrs)	Visitor (University of Copenhagen, Denmark)
D Jensen	Visitor (University of Copenhagen, Denmark)

Objectives

1. To collect data on the distribution of parasites selected as possible indicators of pollution.
2. To collect tapeworms from different fish hosts for taxonomic studies.
3. To examine cod and other teleost fish for larval nematodes and other macroparasites.
4. To survey parasites of selected species of fish in the Shetland/Faroe region.
5. To collect water samples for radio-caesium monitoring.

Narrative

Scotia sailed from Aberdeen at 1400 hours on Tuesday 8 January for the east Shetland Basin. On 9 January four hauls were taken from stations previously fished in the summer of 1990. One more station in the east Shetland Basin was trawled in the morning of 10 January before *Scotia* sailed north to make four hauls at depths from 204 to 300 metres. After a delay due to engine trouble on the morning of 11 January, three deep water hauls were made at 600, 700 and 830 metres. Deteriorating weather conditions then forced the abandonment of trawling in this area and *Scotia* sailed south. Three hauls were made on 13 January, at Sumburgh, Fair Isle and Noup Head Ground, and four on 14 January off the north coast. An earlier haul made off Sumburgh was repeated on 15 January, before *Scotia* sailed south into gale-force southerly winds. On 16 January four hauls were made in the southern Moray Firth, after which *Scotia* returned to dock in Aberdeen at 0800 hours on Thursday 17 January.

Samples of water for radio-caesium monitoring by MAFF were taken at three stations: Fair Isle, Cape Wrath and Pentland Firth.

Results

A total of 24 half to one hour hauls was made. Attention was focused on parasites selected during *Scotia* cruise 4/90 as showing marked long term changes in prevalence. Several of these are parasites of whiting, so samples of whiting were deep frozen at every station where this species was caught. Samples of Norway pout and haddock were also deep frozen. The livers of some Norway pout from four stations in the east Shetland basin were frozen in liquid nitrogen as part of the study of liver coccidiosis. In contrast to observations made at one of these stations during the summer, no Norway pout in poor condition or with "red livers" was seen.

The spiral valves of all rays and dogfish were either dissected and any tapeworms removed, or were preserved entire in buffered formal saline. Encysted tapeworm larvae were dissected out of a variety of teleost species and frozen in liquid nitrogen. A two basket sample of *Chimaera monstrosa* taken north of Shetland was deep frozen.

Samples of cod were examined for nematode parasites, while more cod, haddock, ling, tusk, monkfish and long rough dabs were deep frozen for later examination. Live nematodes dissected from cod were refrigerated and returned for experimental studies.

Greenland halibut (*Reinhardtius hippoglossoides*) were caught at three stations north of Shetland, at 600, 700 and 830 metres, seven baskets being taken at the 600 metre station. Other unusual species taken in the deep water hauls were: *Raia fyllae*, *Bathyraila spinicauda*, *Cottunculus* sp. (preserved), *Scopelosaurus lepidus*, *Onogadus argenteus* and *Lycodes esmarkii*. At the Noup Head station, one sardine (*Sardina pilchardus*) and one *Urophycis tenuis* were caught.

K MacKenzie
27 February 1991

Seen in draft: N E McInnes, Commanding Officer

12° 11° 10° 9° 8° 7° 6° 5° 4° 3° 2° 1° 0° 1° 2°

