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FRV *Scotia*

Cruise 0705S, Part 2

**REPORT**

28-31 May 2005

**Personnel**

David Bruno (SIC)
Alistair McIntosh
Stuart Wallace
Campbell Pert
Rachel Kilburn
Elaine Moore
Alison McIntosh
Gillian Packer
Margaret McKenzie

**Fishing Gear**

BT 101 (48' Aberdeen trawl) with tickler chain and small mesh cod end.

**Objectives**

To perform a fish disease survey in the Moray Firth, east of Orkney, Bell Rock and St Abbs using standard ICES protocols.

To perform a fish (haddock, dab) disease survey at Moray Firth, east of Orkney, Bell Rock, Marr Bank, Wee Bankie and St Abbs using standard ICES protocols for external fish diseases. Collect dab liver samples for light microscopy (50 per region, 20-24cm group).

To collect copepod parasites of the genus Lernaeocera from the gills of gadoid fish, (principally cod, haddock and whiting), as well as flatfish (principally flounder and lemon sole). Collect and preserve parasites for morphological and genetic analysis to determine degree of specificity of parasite with host.

To collect tissues from common dab for mixed function oxidase activity and PAH bile metabolites.

To conduct a pilot study on the prevalence and culture potential of the copepod parasite Clavella adunca from haddock.

To conduct baseline study on liver and other tissue histopathology from dragonet, *Callionymus lyra*.

To conduct baseline survey of external diseases of whiting (*Merlangius merlangus*) for possible monitoring purposes i.e. epidermal hyperplasia, Lernaeocera branchialis, Diclidophora merlangi and Clavella adunca.

To examine Lernaeocera infected and uninfected gadoids for infection of protozoan parasites i.e. trypanosomes.

To prepare images of parasites from the examination and dissection of gadoids and other fish species.

To collect X cell material for Stirling University.

**Procedure**

FRV *Scotia* will work in the Moray Firth, east Orkney, Bell Rock, St Abbs, Wee Bankie and Marr Bank obtaining fish samples by trawling. The cruise will start and terminate in Aberdeen.

Out turn days per project: 2.7 days AE11a; 1.3 days AE08o

**Narrative/Results**

FRV *Scotia* sailed from Aberdeen on 28 May at 0815 hours and commenced trawling in the vicinity of the Beatrice oil platform during the late afternoon. As a result of severe weather in the Fair Isle region and advice from the captain sailing to this station was not attempted. Sampling was started at Bell Rock on 29 May followed by St Abbs Head. Two additional stations were sampled in the St Abbs area to obtain haddock for molecular biology studies involving, *Lernaeocera branchialis*. Sampling at Marr Bank and Wee Bankie was completed on the 30 May, followed by two additional hauls at Montrose Bank. A total of 10 trawls were successfully completed.

All common dab, *Limanda limanda* were examined for external disease by standardised ICES methods. Sufficient fish were present in the middle length classes for a full data set to be completed for the long term monitoring positions. Liver tissue from 50 fish from each area were sampled for light microscopy for liver abnormality. No neoplastic lesions from livers from common dab (<25 cm) were recorded. At each area, 20 common dab (10 male, 10 female) were sampled for mixed function oxidase function activity, PAH bile metabolites and PAH concentration in liver and flesh. Liver and flesh was collected from 25 fish (common dab) per area. These tissues will be examined for brominated flame retardants in the laboratory. Only a few market-sized haddock were caught and hence data on vertebral deformities not recorded for 2005. Blood films were prepared from all *Lernaeocera* infected haddock and whiting and these will be examined later for infection of protozoan parasites i.e. trypanosomes. External diseases of whiting, *Merlangius merlangus* i.e. epidermal hyperplasia, *Lernaeocera branchialis*, *Diclidophora merlangi* and *Clavella adu*nca was recorded from 50-100 fish per area. Samples of *Clavella* were removed for fecundity study. Samples of X cell from common dab were collected and preserved for University of Stirling. All tissues from dragonet, *Callionymus lyra* were sampled for light microscopy. Selected lesions and parasites were photographed.

High levels of diseased common dab reported from the recently opened Buzzard field might be considered next year.

The programme was successful thanks to the excellent co-operation of the officers and crew of the FRV *Scotia*. *Scotia* docked in Aberdeen late on 30 May.

David Bruno
31 May 2005

Seen in draft: P Barratt