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MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND, NR33 0HT

1987 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 2
(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF

A P Scott (SIC)
P A Scholes
P Walker
P Witthames
R Turner
A Canario (PhD Student)

DURATION

Left Lowestoft 0900 h, 28 January 1987
Arrived Lowestoft 1150 h 4 February 1987
All times are Greenwich Mean Time

LOCALITY

Sea

Mainly North Hinder Grounds, North/(ca 52° 17'N 02°55'E)
and also Smiths Knoll, North Sea.

AIMS

1. The collection of stage IV female plaice gonads from the Hinder Grounds for a study of year by year fecundity variation (sub-project DDB2).

2. Twenty four hour collections of gonads and blood samples from stage IV to VII female plaice to establish whether there is a diurnal periodicity of ovulation of egg batches which matches the known diurnal periodicity in the appearance of stage I eggs in the plankton (DDB4).

3. Bulk collections of blood and pituitaries from mature plaice (or dab) to support Canario's PhD project on the hormonal control of meiotic maturation and ovulation in flatfishes (DDB4).

4. Collection of live mature plaice for Canario's work (DDB4), of live spent plaice for Annular tank experiments (DDE2) and of cod for pancreatic islet experiments (Prof. N Hales, Cambridge).

5. Collection of cod guts for Dr M Thorndyke, Royal Holloway and Bedford College.

6. Collection of frozen pancreatic islets for Prof. N Hales, Cambridge.

7. Collection of gadoid and plaice gonads, and of fresh cod blood for genetic DNA studies, for Dr P Smith of the University of Birmingham.

NARRATIVE

RV CLIONE reached the North Hinder Ground at ca. 1400 h on the first day and commenced the twenty four hour collection of stage IV-VII female plaice immediately. It had been originally intended to trawl every four hours using a three man watch system, but because the first haul (Granton trawl with three tickler chains attached for 1 hour) yielded 20 female plaice (which was 3 times our expectations) it was decided to trawl at 6 hourly intervals with no watch system. Four more hauls were made finishing at 1545 h on 29 January. The scientific staff caught up on their sleep that night and commenced a second twenty four hour collection at 0930 h on 30 January. This finished at the same time the next day. After an afternoon's rest, two more night time collections were made, bringing the total of hauls made at each time slot to three.

During the course of these 6-hourly hauls, material was collected in support of the other aims of the cruise. A two hour haul, specifically to collect plaice ovaries for Dr P Smith, and to collect further plaice stage IV ovaries for fecundity estimation, was made at 1600 h on 1 February.

On 2 February, two hourly hauls were made in the morning and evening and a one hour haul at midday in order to build up fish numbers. Some live fish were selected from the midday haul. The catch rate of female plaice in all three hauls was very high. As frozen storage space for carcasses had reached saturation and most of our blood sampling gear had been used up, it was decided that we should steam to Smiths Knoll to look for stage VII plaice on their northward migration and also to return to port early.

Several hauls were made in the region of Smiths Knoll on 3 February, but they yielded very few plaice.

RESULTS

Because of the exceptionally good weather, all the aims of the cruise were more than completed. The unexpectedly high catches of spawning female plaice on the Hinder ground could probably be attributed to the use of tickler chains on the Granton trawl, Dr Harden-Jones not having dep oyed any on previous sorties to this ground.

1. Forty stage IV female plaice gonads were collected for fecundity estimation.

2. Altogether 320 mature (ie stages IV-VII) female plaice were sampled. From the rough staging results, it appeared that the numbers of ripe running females reached a peak in the late afternoon. Ovarian samples were taken from all the fish and from these it will be possible to count the numbers, the sizes and exact maturational stages of granular and hydrated eggs which are still in their follicles and those which have been released (ie ovulated). Blood samples were also taken from all the fish and from these we hope it will be possible to learn a fair deal about the endocrine control and timing of the ovulation process.

3. Approximately 500 ml of plasma and 500 pituitaries were collected from mature male and female plaice.

4. Several live plaice and three live cod were taken back to the laboratory.

5. Approximately 100 cod guts were collected for Dr M Thorndyke.

6. Approximately 100 cod pancreatic islets were collected for Prof N Hales.

7. Between 20 and 30 plaice, cod and whiting gonads, and ca. 200 ml cod blood were collected for genetic studies.

A P Scott (SIC)
4 March 1987

SEEN IN DRAFT: G Sinclair (Master)
R C Newrick (Fishing Skipper)

INITIALLED: DJG

DISTRIBUTION:

Basic List
A P Scott
P A Scholes
P Walker
P Witthames
R Turner
A Canario (PhD student)

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MIAS 3378

CLIONE2 TRACK

SHOWING :
CRUISE TRACK

COASTLINE