

Provisional: Not to be quoted without prior reference to the author

R. V. ERNEST HOLT

REPORT FOR CRUISE 4/1969

Staff

Duration

- | | |
|-------------------------|-----------------------|
| A. Jamieson | 19 March-8 April 1969 |
| B. C. Bedford | |
| A. E. Howard | |
| J. R. J. Tipple | |
| A. Warlow (Student) | |
| S. Arnasson (Part-time) | |

Aims:

1. To analyse the genetic composition of the population of cod at Iceland using:
 - (a) blood proteins
 - (b) chromosome preparations
2. To bring back live plaice to Lowestoft for hatchery experiments.
3. To collect plankton samples for oil pollution studies at the Admiralty Materials Laboratory.
4. To collect rays for Dr. G. Kearn, University of East Anglia.
5. To photograph and collect redfish for Dr. P. Miller, University of Bristol.

Narrative

The vessel sailed from Grimsby at 1930 hours, 19 March. Plankton hauls were started on the way to Iceland and were repeated daily throughout the cruise. On 23 March trawling commenced at the Whaleback, S. E. Iceland, the Grimsby office having reported good fishing there. Cod bloods and otoliths were taken together with length, sex and maturity data on a representative sample. This same cod sampling method was repeated on 34 occasions over a return journey covering Selvogsbanki, Eldeyjarbanki, Jökulbanki, Kolluáll, Breidifjörður and the North Western fjords. The latter outward limit being defined by the packice west of Isafjord. Fishing was not possible after the weather deteriorated on 2 April. The return journey started at midnight 4-5 April. Grimsby was reached at 1000 hours on 8 April.

As previously arranged, ERNEST HOLT called at Rykjavik on 25 March to coordinate contemporary cod blood sampling efforts on the Research Vessels HAFTHOR, ANTON DOHRN, WALTHER HERWIG and ERNEST HOLT. In temporary exchanges of scientific staff between certain vessels, the ERNEST HOLT gained one experienced Iclander. Fresh blood samples were despatched by air to Lowestoft and sampling tubes and needles were allocated to the four vessels.

An additional short call at Rykjavik on 31 March allowed the ERNEST HOLT to pick up more fresh bloods from the HAFTHOR and to arrange the handling and transport of blood samples anticipated on the WALTHER HERWIG.

Results

1. (a) Cod blood samples taken on ERNEST HOLT totalled 1200, bringing the grand total of samples obtained at Iceland to 3158, excluding the WALTHER HERWIG's anticipated contribution. About half of this material is already under test at Lowestoft and the remainder is secure. The assistance volunteered by the Icelandic and German teams simultaneously in the area, effectively doubled the scale of the survey.

1. (b) White cells were extracted from 32 cod spread equally over four regions. The cells were cultured, fixed and mounted on microscope slides for Dr. Purdom's chromosomal studies.

2. A dozen live plaice were brought back to Grimsby. This was fewer than requested, gales prevented plaice fishing at the end of the cruise.

3. The plankton samples were obtained as requested.

4. The appropriate numbers of Raia batis and R. radiata were obtained.

5. Although Sebastes marinus was plentiful S. mentella and S. vivparus were not observed. No photograph was obtained.

Miscellaneous

The cod at S.E. Iceland and at N.W. Iceland were large but immature. About half of the cod at West Iceland had sexually mature gonads. Practically all of the cod at S.W. Iceland had mature gonads, many of the males and some females were in running condition. Artificial fertilization of cod eggs were successfully achieved but the containers were washed out of the deck tanks during a storm.

Large spawning coalfish were conspicuous in the earlier hauls at S.W. Iceland, whereas spawning haddock were prominent in the same area on the return journey.

Selected ship meteorological observations were made, and transmitted by radio during the cruise, instrumental wave recorder observations were made.

A. Jamieson
10.4.69

Initialled: AJL

Seen in draft: EAB
GWA

Distribution:

Basic list, plus the following:-

A. Jamieson	Mr. Jón Jónsson	} Marine Research Institute, Reykjavik
B. C. Bedford	Mr. Oskar Inkmarrsson	
A. E. Howard	Dr. Gunnar Jónsson	
J. R. J. Tipple	Mr. Haldor Dagsson	
A. Warlow	Mr. Sigurd Arnasson	

Dr. G. Thordarson, University of Iceland
Dr. H. H. Reinsch } Bremerhaven, Germany
Dr. F. Mombeck }

Dr. G. Kearn, University of
East Anglia

Dr. P. Miller, University of
Bristol