

In Confidence: Not to be quoted without reference to the laboratory.

## CRUISE REPORT

FRS "Clupea"

18 May - 20 June 1970

### Objectives

- (1) Herring tagging from purse-seine catches.
- (2) Aggregation of fish by underwater light.

### 1st Part, 18 May - 4 June

"Clupea" sailed from Buckie about 2200 hours on 18 May and made a passage to Lerwick where arrangements had been made to pick up and install a part for the engine on 19 May. Gale force west to north-west winds further delayed the start of the work of the cruise until the morning of 21 May when the ship sailed from Lerwick.

Since conditions were still unsuitable for working grounds on the west side of Shetland, where the fishing fleet was operating, an intensive echo search was carried out along the east side of the islands from Bard Head to Balta but no concentrations of herring were located in the area surveyed.

The steering gear which had been giving trouble intermittently finally broke down off Bard Head on the evening of 22 May. "Clupea" was towed into Lerwick by "Explorer". After the fault in the steering gear had been rectified "Clupea" sailed from Lerwick on 25 May to continue the echo search. The survey was extended to grounds north of Balta and off the west coast of Shetland.

Weather conditions deteriorated during the echo survey. "Clupea" was forced to return to more sheltered waters on the east side of the islands where the purse-seine was shot on 26 May. The cork and footrope of the purse seine broke during this haul and "Clupea" returned to Lerwick to make repairs to the gear. When the ship left Lerwick on 29 May weather conditions were still unfavourable for working the western grounds and the echo survey work was continued in the area off the Skerries and south of Bard Head. Very few suitable traces were found but the purse-seine was shot on two occasions. The catch was two haddocks and three dogfish.

After carrying out an echo search for herring traces on grounds off Orkney and Wick, without success, the ship berthed in Buckie on the evening of 4 June.

During this part of the cruise attempts were made to aggregate fish with underwater lights on two occasions without any success.

### 2nd Part, 8 - 19 June

After exchange of scientific staff, "Clupea" sailed from Buckie on the afternoon tide of Monday 8 June and made for the Shetland fishing grounds.

During the passage north an intermittent fault developed in the steering gear and the ship put into Lerwick at 1100 hours on 9 June for repairs. The repairs to the steering gear were completed in the evening of 11 June when "Clupea" sailed from Lerwick. The work of the cruise continued until the evening of 15 June when the purse seine became entangled in the bow thruster while a haul was being made about 60 miles NW x W of Sumburgh Head. "Clupea" was forced to return to Lerwick to clear the net from the bow thruster.

"Clupea" sailed from Lerwick in the evening of 16 June and work continued in the Shetland area until the morning of 18 June when the ship set a course for Buckie. The scientific staff disembarked at Buckie on the following morning and returned to Aberdeen.

#### Tagging

While repairs were being made to the steering gear between 9 and 11 June the scientific staff joined the purse-seiner MV "Vigilant" and made a trip to the fishing grounds off Flugga. 236 herring were tagged from a haul made 64 miles W x N of Muckle Flugga in the morning of 10 June. On 18 June live fish were obtained by keep net from a catch made by MV "Heritage" 60 miles W x N Ramna Stacks. 224 herring and 4 mackerel were tagged from this haul using Scottish Combination tags.

#### Underwater lights

An experiment was carried out with underwater lights about midnight on 18 June off Burra Haaf where several good traces had been located by sonar. There was no apparent reaction by the traces to the underwater lights.

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