

**MINISTRY OF AGRICULTURE, FISHERIES AND FOOD  
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND**

**1981 RESEARCH VESSEL PROGRAMME**

**REPORT: RV CIROLANA: CRUISE 3**

(PROVISIONAL: Not to be quoted without prior reference to the author)

**STAFF:**

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**DURATION:**

Left Grimsby 0925 h, 26 February

Arrived Grimsby 1620 h, 17 March

(All times are Greenwich Mean Time)

**AIMS:**

1. To fish for and sample mackerel from the northern N. Sea, W of Scotland, W of Ireland, Celtic Sea, Biscay and English Channel.
2. To obtain samples of mackerel blood and muscle from the same areas.
3. To obtain samples of saithe from W of Scotland.
4. To obtain samples of blue whiting and scad.
5. To obtain blood samples of haddock from N W Britain.
6. To attempt electrophoretic separation of fish tissues at sea.

**NARRATIVE**

RV CIROLANA left Grimsby at 0925 h 26 February and on passing Spurn Head course was set for the Viking Bank. The weather steadily deteriorated and by 2100 h 27 February a SE gale of 40-45 knots forced the vessel to dodge at 60°26'N: 02°33'E. The whole of the next day was spent alternately running before the gale and dodging back. The echosounder however was kept running, some fish shoals located and three unsuccessful attempts made to identify the shoals by the use of 'feathers' (plastic lures).

On 1 March the wind eased, these shoals were re-located and the 105 ft headline 'Portuguese' high headline trawl shot. No mackerel were caught; the two baskets of haddock taken were feeding on small sand eels which were presumably the major trace makers.

Course was then set for the deep water of the Norwegian Renne and the 100 fm isobath followed northward for some 30 miles. No shoals were located. Turning west again on to the Viking Bank the only shoal located yielded no catch on

feathers. The N.E. North Sea was then vacated in favour of the 100 fm line to the west of Shetland. The echosounder was run until 2000 h 1 March at 60°57'N: 01°51'E but no shoals were located.

Arriving on the grounds to the west of Muckle Flugga at 0455 h 2 March a small echo survey was carried out in 80-120 fms and the Portuguese trawl shot twice for 18 and 11 baskets of fish respectively but no mackerel were caught. Following the 100 fm line to the SW no large shoals were recorded but at 2300 h 2 March a fleet of vessels was encountered about 65 miles WNW of Noup Head, Orkney. No shoals were found on the fringe of this fleet of vessels which were sonar searching in a very restricted area. At day break on 3 March we ran through this fleet of some 32 Norwegian purse seiners. Many were heavily laden but only one was actually seen to be fishing. Good bottom shoals were recorded and a half hour tow with the Portuguese trawl yielded 17 baskets of haddock and some Norway pout etc but neither mackerel nor herring. A number of haddock and saithe stomachs were examined but none contained any pelagic fish species. Later that day the first mackerel were taken on feathers some 30 miles N x W of Rona and a few more by trawl in the same area.

Thereafter the search moved south, the vessel crossing and re-crossing the 100 fm line with trawl hauls and/or feathering stations being worked whenever echo traces were recorded.

On 4 March mackerel were caught to the WNW of Barra including many immature fish.

On 5 March a sample of saithe was taken on Coll Bank but no mackerel were caught either there or to the SW of Barra. Strong winds interrupted work for 5 hours that evening.

On 6 March small numbers of mackerel were taken on feathers off Rathlin o'Birne and 75 baskets in a trawl haul off Eagle Island.

The next day was spent dodging a SSW gale with a heavy confused swell, which no doubt broke up the shoals but on 8 March 32 baskets of mackerel were taken some 70 miles SSW of Mizen Head in a 30-minute haul.

On 9 March the shelf edge between the Little Sole Bank and La Chapelle Bank was fished yielding 2 and 9½ baskets of mackerel. The following day an 80-basket haul of mackerel and scad was taken in thirty minutes about 100 miles W x N of Belle Ile.

The 11 March was spent off Cap Ferret where one haul produced 5 baskets of mackerel and 12 of scad. The most southerly point reached was 44°25'N 02°04'W. From La Chapelle Bank to Cap Ferret mixed pelagic fish traces were almost continuous in depths of 140-200 m. The return journey was made keeping 10-20 miles east of the south bound track to establish the E-W extent of this fish concentration. On 12 March a 30-basket haul of scad was made some 80 miles W x N of Ile d'Yeu in 145 m.

A leak on the inner oil seal of the stern tube, first noted on 11 March, got somewhat worse on the 12th and arrangements were made to call at Falmouth for supplies of the appropriate oil. However by 0400 h 13 March a westerly gale and heavy swell prevented further progress until 1700 h when course was set for Falmouth. Having collected the necessary oil at 1000 h 14 March an echo sounding and feathering survey of the Moracles area was followed by another of all the likely areas in Mounts Bay where a small number of mackerel were taken.

On 15 March a haul of 125 baskets of mackerel was taken SSE of the Wolf Rock and a 60 basket haul of scad SSW of the Eddystone. Running eastwards from this last position the scad shoals shortly ceased and although the echosounder was run until entering the Dover Strait on 16 March no further shoals were recorded.

After a fair passage the vessel docked at 1620 h 17 March. In all some 79 hours were lost due to bad weather during the cruise, a round trip of 3400 nautical miles.

## RESULTS

1. 23 trawl hauls and 24 feathering stations were worked between the Viking Bank and Cap Ferret in south Biscay (see Fig). Adequate samples of mackerel, 17 in all, were obtained for all sea areas except the Northern North Sea. The presence of Norwegian purse seiners to the west of Orkney strongly suggests a lack of pelagic fish off the Norwegian coast.
  2. Mackerel muscle and blood samples were obtained at 11 stations between the west of Scotland and Biscay.
  3. One saithe muscle sample was taken in the N. Sea and two from the W. of Scotland.
  4. Five scad samples were taken in Biscay and one in the English Channel. Two blue whiting samples were taken in the Celtic Sea and three from Biscay; stratified length samples were also frozen whole for the length/weight relationship.
  5. A blood sample from 40 haddock was taken from the W of Scotland as well as an age/length/sea/maturity sample of 70 fish.
  6. Electrophoretic separation was carried out successfully in heavy swells and no difficulties were encountered in pouring gels using the gimballled table.
- All saithe samples were scored for the two polymorphic systems GPI and LDH. In addition haddock blood samples were run and stained for GPI. Blue whiting muscle samples were stained for the polymorphic PGM system.
7. Samples of herring, sprat, pilchard, norway pout, hake, blue whiting, mackerel, spanish mackerel, scad, mediterranean scad, lemon sole and plaice were collected for Aylton Tiexera.
  8. Numerous specimens and colour photographs thereof were obtained for Mr Blacker's fish identification courses.
  9. Some 30 boxes of small gadoids were deep frozen for Fish Cultivation Unit.

Three important points to bear in mind on any future cruises of this type are:-

- (a) When searching or fishing for mackerel it is essential to use a high gain setting on the echosounders (Gain 7-9 on the Plotting room MS44; Gain 6-7 on the Bridge MS44). On this cruise bags of 30-150 baskets were taken from shoals which barely registered at lower gain settings.
- (b) Plastic lures, 'feathers', were often successful but failed to catch a single fish at several stations where large bags of mackerel and scad were taken by trawl.
- (c) Up to Beaufort force 8 or 9 'feathering' is possible if the vessel is kept head to wind by use of the bow thruster.

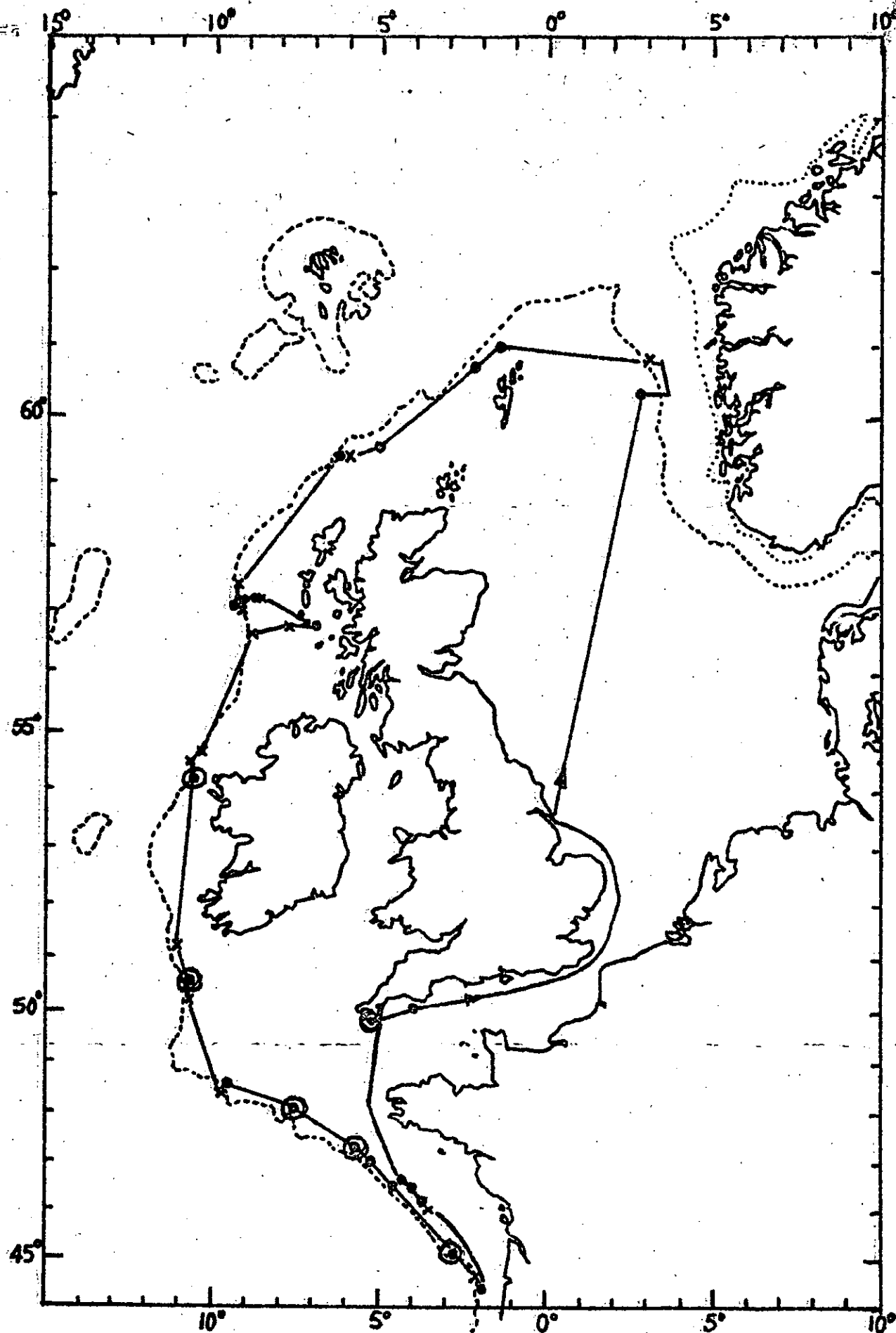
J P Bridger  
23 March 1981

SEEN IN DRAFT: MJW  
WJS  
INITIALLED: DJG

DISTRIBUTION:

Basic List  
Mr Bridger  
Mr Child  
Mr Howlett  
Mr Easey  
Mrs Dawson  
Mr Garrod  
Mr Stone

F.C.O. for Norway, Ireland, France and Spain



# CRUISE TRACK CIROLANA 3/81

- TRAWL STN. ⊙ MAJOR MACKEREL CATCHES
- x FEATHER STN.