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

1985 RESEARCH VESSEL PROGRAMME

REPORT : RV CIROLANA : CRUISE 3

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

STAFF:

S. J. Lockwood

P. Scholes

A R Child

D R Eaton

J K. Hunton

W. L. Huggins

M J. Boon

S. P. Milligan

J Teasdel

A Astudillo (Spanish observer)

DURATION:

9 March- 2 April

LOCALITY:

Western English Channel, Celtic Sea and Bay of Biscay

AIMS:

1. To carry out a depth stratified trawl survey of the Celtic Sea and Bay of Biscay.
2. To sample juvenile fish concentrations.
3. To sample pelagic fish shoals.
4. To sample cod in the Celtic Deeps over 24h periods.

NARRATIVE:

CIROLANA sailed from Lowestoft at 1030h 9 March and lay for two hours off the East Barnard while the new sonar was calibrated. Members of the Laboratory's electronics section were disembarked early in the afternoon, CIROLANA then made way to Lyme bay where trawling commenced 1300h 10 March. On 12 March trawling in the Celtic Deeps produced very few cod so a 24h series was not completed. The depth stratified trawl survey began in the northern Celtic Sea 13 March and continued without interruption, southwards along the shelf edge into the Bay of Biscay until dusk 21 March when CIROLANA entered Santander (Fig. 1). Daylight trawling resumed at 0900h 23 March just off Santander and continued along the north coast of Spain. On 25 March only one tow was possible before the ship had to steam offshore and dodge in westerly storm for 12 hours before proceeding northeasterly to complete the line of stations west of Lorient. From there CIROLANA continued to Parsons Bank and the central Celtic Sea to trawl at the shallower stations omitted on the outward half of the cruise. Due to southwesterly gales on 29 March CIROLANA could not work and sheltered in St Ives Bay. Three further trawl hauls were made in the lee of the Cornish peninsula on 31 March but continuing gales prevented any other work in the Celtic Sea so the decision was made to finish a day early and set course for Lowestoft. Due to failure of the subsurface floats to appear it was not possible to recover an instrument tetrapod off Southwold, as requested. CIROLANA docked at 1910h 2 April.

RESULTS:

1. A total of 60 trawl hauls (55 valid) were made with the Portuguese high headline trawl on ten transects. In addition to these, 34 hauls (31 valid) were made with the 2m young flatfish beam trawl.

As on previous occasions catches were dominated by mackerel and scad (75% of total catch). The mackerel were widely distributed, locally abundant, between 150m and 250m depth from south of Ireland southwards to the north west coast of Spain. Scad were more widely distributed. Like the mackerel, the larger fish were closely associated with the edge of the continental shelf but juvenile fish were widely distributed, particularly throughout the Bay of Biscay. Juvenile mackerel were also found to be widely distributed, possibly even more so than during December. Although their absolute abundance cannot be quantified it is clear that the 1984 year class of mackerel is considerably more abundant than either the 1982 or the 1983 year classes.

Of the commercially important species, sprats, hake, monk and megrim were caught in appreciable quantities, although sprats were restricted to the inshore water around southwest England. In addition to the normal sampling procedures all monks were returned to Lowestoft for further detailed examination by Mr Elson and half a ton of sprats were returned frozen for FCG.

Blue whiting were widely distributed throughout the area surveyed but it was noticed that there was no sign of the characteristic shelf edge - off shore layer familiar at this time of year in the 1970's. In contrast, echo patterns with the characteristics of scad and mackerel shoals were seen along the shelf edge, a feature not encountered during the 1970's.

2. Juvenile fish were sampled as part of the regular trawl hauls. No mid-water scattering layers were seen which might have been post-larval fish. One tow with the Boothbay net off the Spanish coast did not yield any small fish. In contrast, the young flatfish 2m beam trawl regularly caught flatfish smaller than those taken in the main demersal trawl. Scaldfish, thickback soles and megrims all down to about 4cm length were caught with this trawl. These fish occurred in the deeper water hauls made in the Bay of Biscay. Epi-benthic invertebrates form the greater part of the beam trawl catches.

3. Most of the larger pelagic fish shoals were seen close to the sea bed and were probably adequately sampled with the demersal trawl. Mid-water shoals tended to be smaller and were not viable targets, particularly as the new sonar is not yet fully operational.

4. A 24h sampling series was begun in the Celtic Deeps at the start of the cruise but it was cut short at dusk as there were virtually no cod in the catches. Stomach contents of all fish caught were recorded. Due to the deterioration in the weather conditions at the end of the cruise it was not possible to repeat the exercise.

5. Four berried Nephrops were returned live to the Laboratory for larval development studies.

S J Lockwood  
17 April 1985

SEEN IN DRAFT:

J F  
P M

INITIALLED:

D J G

DISTRIBUTION:

Basic List +	
S J Lockwood	W L Huggins
P Scholes	M J Boon
A R Child	S P Milligan
D R Eaton	J Teasdel
J K Hunton	A Astudillo (Spanish observer)
J Ramster (6 copies)	

TABLE 1: Summary of otoliths collected during CIROLANA Cruise 3/85. Additional samples taken for the Spanish observer are shown in brackets.

DEMERSAL SPECIES	ICES DIVISION						TOTAL
	107e	107f	107g	107h	107j	108	
Cod	2	26	4		16		48
Whiting	35	43	5	14	18	5	120
Ling		8		11	4	14	36
Pollack		5	2		2		9
Hake		23	34	17	88	67	229
	----- (102) -----					(89)	(191)
Plaice	9	22	8		1		40
Megrim		1	11	127	152	132	423
Four spot megrim					68	53	121
Lemon sole	4	38	6	8	26	5	87
Sole		2	1				3
Monks							
Lophius piscatorius		3	6	10	33	37	89
L.budagassa				3	33	10	46
Witch					1		1
Blue whiting							83
Red mullet							53
Spurdog							<u>40</u>
						TOTAL	1616

PELAGIC SPECIES	SAMPLING AREAS					TOTAL
	Celtic Sea	SW England	N Biscay	S Biscay	Spanish Coast	
Mackerel	315	195	179	325 (222)	165	1401
Pilchard		101	69	67		237
Scad	190	92	160	208		650
Anchovey	(37)			----- (71) -----		<u>(108)</u>
				TOTAL		2896

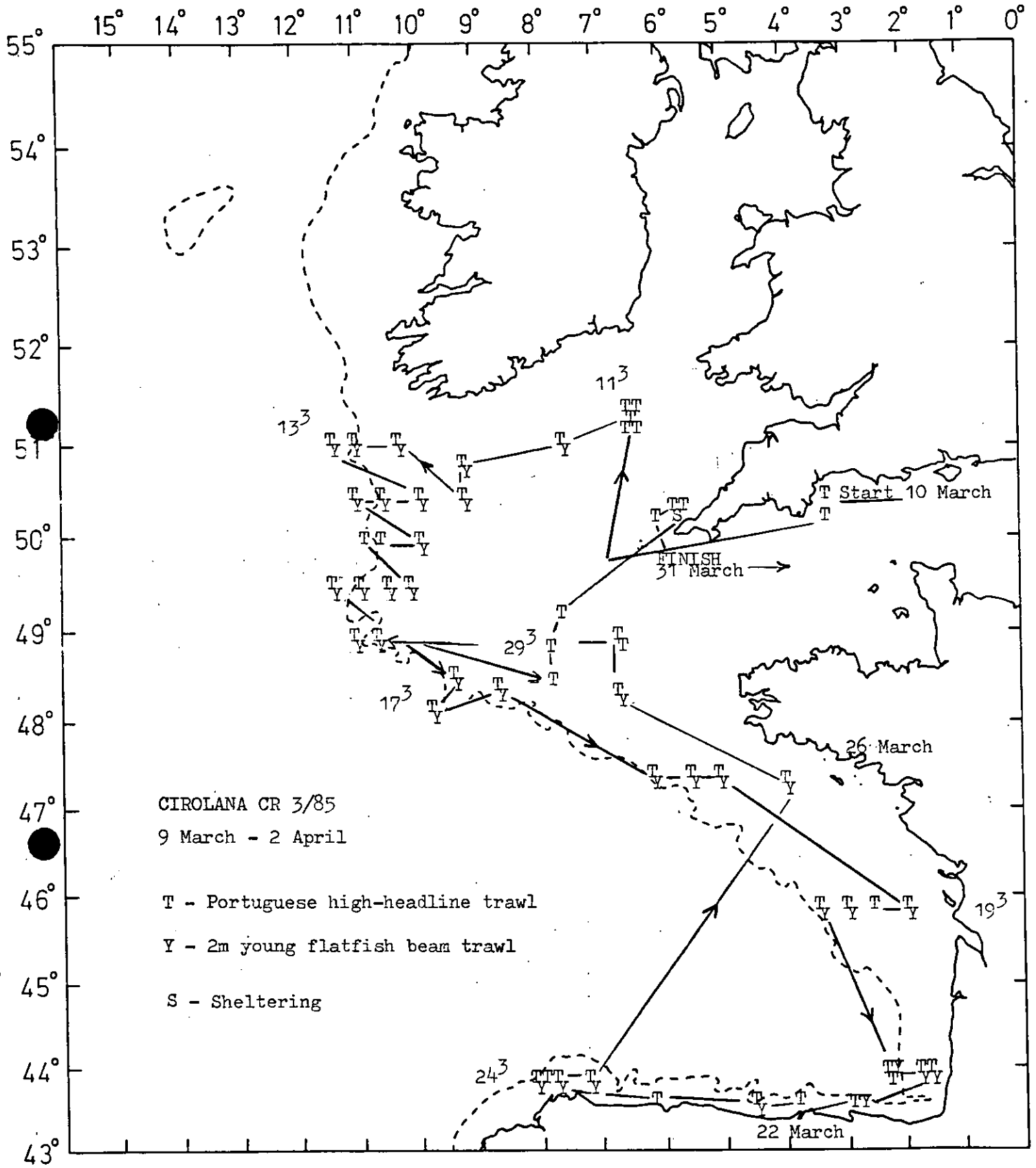


FIGURE 1: Cruise track RV CIROLANA Cruise 3/85.