

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

1983 RESEARCH VESSEL PROGRAMME

REPORT: RV G A REAY: CRUISE 7
(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF

S Lockwood
D Symonds
W Dawson
S Milligan
J Hunton
E Barnwall (Ireland)

DURATION

1-21 July

LOCALITY

West of Ireland, Celtic Sea and Bay of Biscay

AIMS

1. To sample the O-group mackerel population.

NARRATIVE

G A REAY left Aberdeen 1730 h 1 July and steamed to the Minch where trials were carried out with the 2m neuston net during the morning of 3 July. Routine sampling commenced at 1600 h 3 July near Stanton Banks. The ship worked southerly, west of Ireland, sampling at 4 h intervals until conditions deteriorated during the morning of 7 July. With a poor 72 h weather prognosis it was decided to make the port call in Lorient earlier than scheduled. Sampling resumed in ideal conditions due west of Lorient at 1330 h 10 July. The preliminary neuston survey over the main mackerel spawning area was completed near Labadie Bank at 0015 h 13 July. This final station was worked over a 24 h period. On completion the ship steamed overnight and during 15-16 July worked a second 24 h station at the shelf edge where high numbers of mackerel larvae were found during the preliminary survey. During this series, the neuston sampling was interspersed by fishing with the Isaac-Kidd trawl.

On 16 July four trawl hauls were made in ICES division VIIJ, two at the shelf edge north-west of Great Sole Bank, and two on the Great Sole Bank. From there, the ship steamed to the Labadie Bank where sampling with the neuston net was resumed at 0745 h 17 July, but on this occasion the routine sampling was interspersed by fishing with a Boothbay net. A line of stations was worked toward Trevoise Head (north Cornwall) and then eastwards from Mounts Bay along the English Channel. The final samples were taken at 1700 h 19 July off the Isle of Wight, from where G A REAY set course for the Tyne, where she docked at 0930 h 21 July. Staff returned to Lowestoft by train.

RESULTS

1. The cruise track and approximate station positions are shown in Figure 1. All samples were sorted, fish larvae identified and measured on board ship. The numbers of mackerel larvae per 30 min tow with the neuston net are shown by the station positions in Figure 1. Only one 10-group mackerel (36 mm) was caught, south of Plymouth. Larvae up to 27 mm, which is larger than those caught by plankton samplers, were caught in many areas. In common with most other species, the greatest numbers of mackerel were caught between 2000 and 0400 (Table 1).
2. Neither the Isaac-Kidd trawl nor the Boothbay net caught as many species (Table 2) or individuals as the neuston net. This may have been due to these nets having too large a mesh for the size of larvae being caught. All three gears were operated without undue difficulty. On the penultimate station the Boothbay net frame hooked onto an underwater obstruction, 4 fathom above the bottom, and was badly bent. The net itself was not damaged.
3. Surface temperature readings, and salinity samples were taken at every neuston station. In the central Celtic Sea temperatures reached 20°C.
4. All fish taken in the trawl hauls were measured and weighed. Stratified otolith samples were also taken from mackerel (255), pilchard (21), scad (269), blue whiting (85), megrims (27), witch (1), red sea bream (4), and anglerfish (*Lophius piscatorius*, 5; *L. budagassa* 2). The dominant species was scad, but catch rates were never high (less than 10 baskets per hour).

Stephen J. Lockwood
27 July 1983

SEEN IN DRAFT: W E Clark - Master

INITIALLED: DJG

DISTRIBUTION:

Basic List

S Lockwood

D Symonds

W Dawson

S Milligan

J Hunton

E Barnwall (Ireland)

Table 1. Fish and fish larvae frequently caught with the 2 m neuston net.
The maximum number of each species in one 30 min tow is given with
the time (24 h clock) of day taken.

SPECIES	South of 48° N	Western Celtic Sea	Eastern Celtic Sea & English Channel	North of 52° N
Mackerel - <i>Scomber scombrus</i>	2/0000	347/0400	60/2000	233/0400
Turbot - <i>Scophthalmus maximus</i>	8/2000	8/2000	10/0400	4/0200
Rockling - <i>Onos sp</i>	238/0000	41/0400	29/2000	531/1600
Saury pike - <i>Scomberesox saurus</i>	6/0000	99/0000		
Clupeids - <i>Sardina pilchardus</i> / <i>Sprattus sprattus</i>	5/2000	300/0400	152/0000	
Grey mullet - <i>Mugilidae</i>	42/0000	18/0800	1/2000	
Garfish - <i>Belone belone</i>	356/0000	2/0400	79/2000	
Red mullets - <i>Mullidae</i>	98/1600			
Lumpsucker - <i>Cyclopterus lumpus</i>	20/0000			
Scald fish - <i>Arnoglossus sp</i>		642/0000		
Scad - <i>Trachurus trachurus</i>		102/0000		
Blenny - <i>Blennidae</i>			95/0400	
Pearlsides - <i>Maurolicus muelleri</i>		51/0000		10/0000

Table 2. A preliminary comparison of the species composition of catches made with the 2 m neuston net, Isaac-Kidd trawl, and Boothbay net.

xxx Frequently abundant

xx Locally abundant

x Occasional

SPECIES	Neuston net	Isaac-Kidd Trawl	Boothbay net
Mackerel - <i>Scomber scombrus</i>	xxx	x	
Turbot - <i>Scophthalmus maximus</i>	xxx	x	
Rockling - <i>Onos sp</i>	xxx	x	x
Saury pike - <i>Scomberesox saurus</i>	xxx		
Clupeids - <i>Sardina pilchardus</i> / <i>Sprattus sprattus</i>	xx		x
Grey mullets - <i>Mugilidae</i>	xx		
Garfish - <i>Belone belone</i>	xx		
Red mullets - <i>Mullidae</i>	xx		
Lumpsucker - <i>Cyclopterus lumpus</i>	xx		x
Scad - <i>Trachurus trachurus</i>	xx	x	x
Scald fish - <i>Arnoglossus sp</i>	x	x	x
Snipe fish - <i>Macrorhamphosus scoloplax</i>	x		
Gurnard - <i>Triglidae</i>	x	x	x
Sandeels - <i>Ammodytidae</i>	x		x
Lesser weever - <i>Trachinus vipera</i>	x		
Dragonet - <i>Callionymus sp</i>			x
Blennies - <i>Blennidae</i>	x		x
Gobies - <i>Gobiidae</i>	x	x	x
Dab - <i>Limanda limanda</i>			x
Lemon sole - <i>Microstomus kitt</i>		x	x
Sole - <i>Soleidae</i>		x	x
Argentine - <i>Argentina sphyraena</i>		x	
Hake - <i>Merluccius merluccius</i>	x	x	
<u>I-gp fish</u>			
Scad - <i>Trachurus trachurus</i>	x		x
Whiting - <i>Merlangius merlangus</i>			x
Haddock - <i>Melanogrammus aeglefinus</i>			x
<u>II-gp + Fish</u>			
Pearlsides - <i>Maurolicus muelleri</i>	xx	x	
Saury pike - <i>Scomberesox saurus</i>	x		
Pipefish - <i>Entelurus aequoreus</i>	x		
Mohkfish - <i>Lophius piscatorius</i>			x
Butterfish - <i>Pholis gunnelus</i>			x
Lobster larvae - <i>Homarus gammarus</i>	x		

