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PRELIMINARY RESULTS OF A TAGGING EXPERIMENT  
ON THE SPIDER CRAB (Maia squinado) IN THE  
ENGLISH CHANNEL



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E Edwards  
Ministry of Agriculture, Fisheries and Food  
Directorate of Fisheries Research  
Fisheries Laboratory, Burnham-on-Crouch  
Essex, CMO 8HA, England

ABSTRACT

The preliminary results of a tagging experiment in a new fishery for Maia squinado on the south coast of England are presented. Recapture rates varied from 12-17% in the main fishery to as low as 1% in other areas. Results show that this species can undertake movements in excess of 50 nautical miles\*, although the majority of spider crabs were recaptured near their release area.

INTRODUCTION

New marketing opportunities on the Continent have encouraged the exploitation of stocks of spider crabs along the south and south-west coasts of England. Since little was known about the biology and life-cycle of this crab in English waters a new study initiated in 1977 included the collection of various biological parameters and the conduct of tagging experiments to evaluate the movements of Maia (Edwards, 1979a).

Observations by fishermen suggest that the crabs move close inshore into shallow waters in late April or early May and then move offshore to deeper water in September/October. De Kergariou (1971) undertook some tagging experiments off the north coast of France and Bussani and Zuder (1977) tagged Maia in the Adriatic near Trieste. Both workers recorded some movements but, unlike the edible crab Cancer pagurus (Edwards, 1979b; Bennett and Brown, 1976), no definite or extensive migration patterns were identified.

METHODS

In the autumn of 1978 a total of 1987 tagged spider crabs was released at five stations in the English Channel (Figure 1). All the releases were

\* 1 nautical mile = 1.85 km

made within a few nautical miles of the shore. Each crab was marked by attaching a yellow numbered plastic disc with wire to one of the chelae. This tagging technique was considered suitable since all the Maia marked, were mature adults and so had passed their terminal moult. Loss of the tag due to moulting should not therefore occur.

## RESULTS

Recaptures of tagged crabs still continue: this paper presents a summary of the results up to the end of May, 1980. By that date, 192 (10%) of the tagged spider crabs had been recaptured (Table 1). Recapture rates varied at the five stations depending on the level of exploitation in the area. At present, due to better marketing opportunities, most fishing for Maia is centred around the Poole/Portland area (Figure 1), where recapture rates of 12% and 17% were recorded (Table 1). A greater proportion of males were recaptured than females. Farther east off Selsey and Newhaven, where the fishery for Maia has not yet developed, recapture rates were low (1-5%).

Recaptures suggest that Maia undertakes considerable movements, some exceeding 50 nautical miles. So far 52 males and 13 females have moved distances exceeding 10 nautical miles, although 59% of the recaptured males and 80% of the females had not moved from their original area of release (Table 2). A higher proportion of the crabs which moved more than 10 nautical miles were males (Table 2).

The longest movements so far recorded are:

- (a) male released off Poole caught Fowey Harbour after 9 months - moved 109 nautical miles;
- (b) male released off Poole caught Rame Head after 8 months - moved 103 nautical miles.

The majority of the long-distance movements by both sexes were in a westerly direction down the English Channel (Figures 2 and 3).

Some of the recaptures during the winter months were caught offshore in the deeper water of the Channel (> 60 m) and these observations tend to confirm fishermen's opinions that the species moves offshore and disperses at that time of year. However, because of the limited fishing effort from November to March, any more extensive offshore movements that may have taken place have not been assessed by this tagging experiment.

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Table 1 Recaptures\* of spider crabs released in the English Channel:  
25 Sep-6 Oct 1978

Station	Release area	Numbers released			Numbers recaptured		
		Male	Female	Total	Male	Female	Total
1	Weymouth Bay	324	375	699	67 (21%)	51 (14%)	118 (17%)
2	Poole Bay	353	149	502	50 (14%)	9 (6%)	59 (12%)
3	3 nautical miles SE Royal Sovereign Tower Newhaven	112	183	295	1 (1%)	3 (2%)	4 (1%)
4	2 nautical miles off Selsey	102	83	185	8 (8%)	1 (1%)	9 (5%)
5	1 nautical mile off Nab Tower Portsmouth	154	152	306	2 (1%)	0 (0%)	2 (1%)
Totals		1045	942	1987	128 (12%)	64 (7%)	192 (10%)

\* Up to 31 May 1980

Table 2 Distance (nautical miles) and direction  
moved by tagged spider crabs

Nautical miles	Males	%	Females	%
< 10*	76	59	51	80
West 10-30	40	31	11	17
West 30+	8	6	1	2
East 10-30	4	3	1	2
East > 30	0	-	0	-
Total	128		64	

\* Includes a few returns where full recapture  
details were not known.

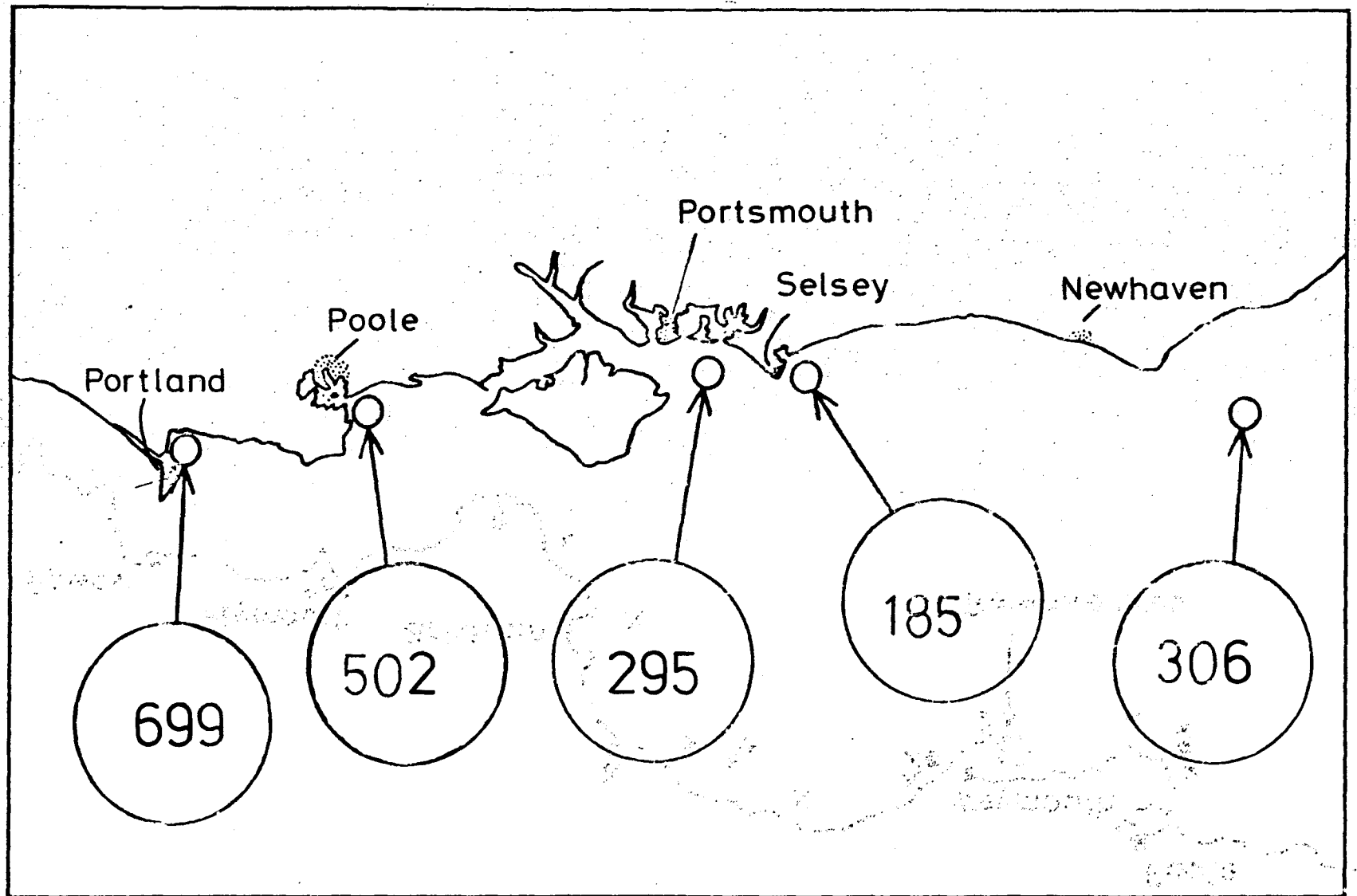


Figure 1 Position and numbers of tagged spider crabs released September/October 1978 in the English Channel.



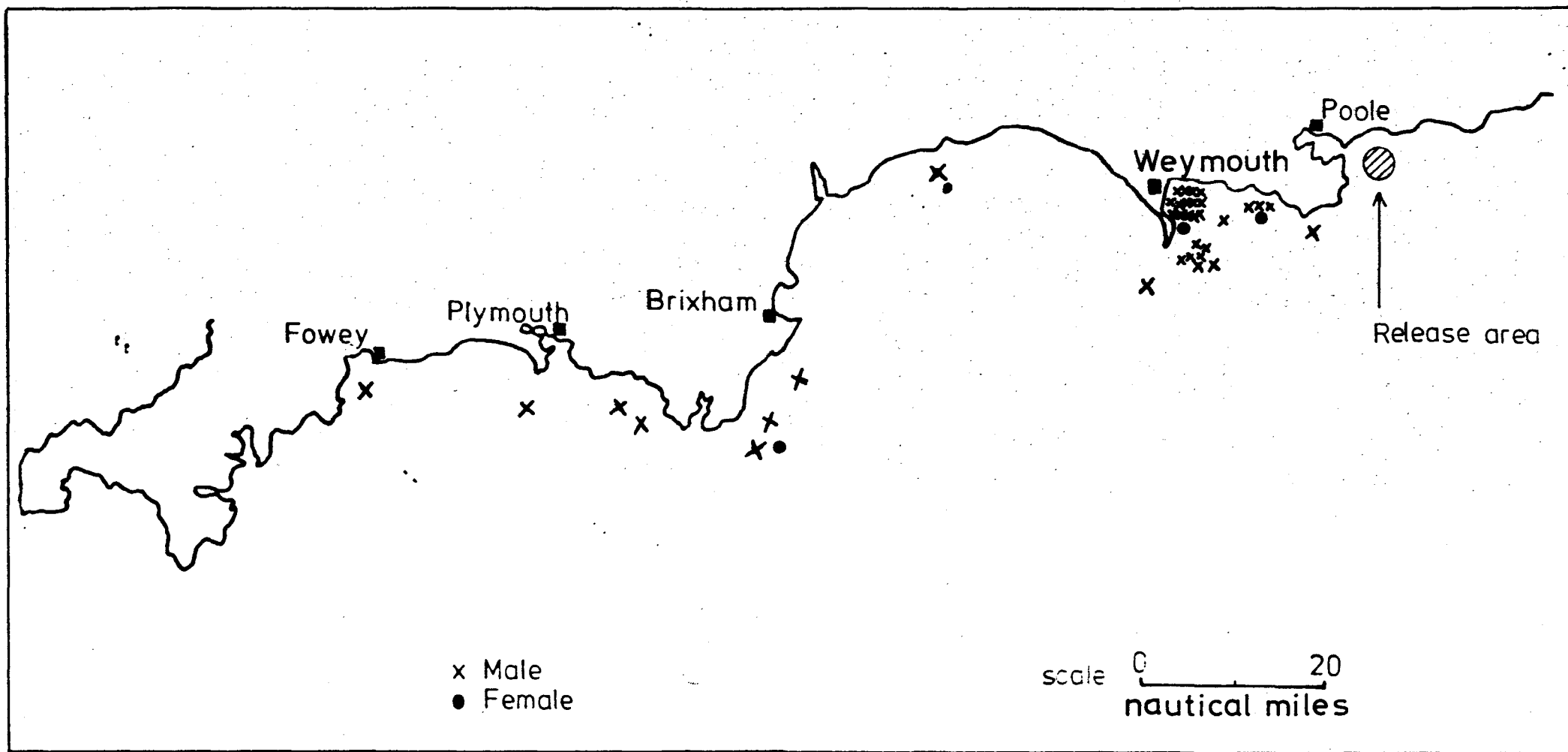


Figure 3 Recaptures of tagged spider crabs released off Poole in 1978.