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Nephrops norvegicus distribution off Galician Coast (NW of Spain)

by

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#### SUMMARY

Distribution of Norway lobster population is given in this paper for the Galician fishery. Distribution is clearly associated with muddy bottoms, being the same for the whole population, younger individuals or berried females.

#### INTRODUCTION

On the northwest coast of Spain there is an important fishery for Norway lobster. It is carried out by trawlers ranging from 100 to 250 TRB, Yielding about 1.200 metric Tons. Mesh size of codend, usually employed, is 40mm, and the ground rope is heavily chained to digg well in the bottom.

It is not exactly known if the population is overfished. The author has been working on biological data for this species during several years and beginning to publish his results.

#### MATERIAL AND METHODS

For the study of Nephrops distribution data obtained from 514 trawls, carried out from september 1970 to november 1976 are used. Trawls were done mainly between 100 and 500 metres depth, none at night. No fishing was done in those places with rocky bottoms.

Fishing was done on board R/V "Cornido de Saavedra", on commercial vessels hired for research cruises, and also on vessels fishing commercially. The trawling time was one hour on research hauls and between 2 and 4 hours on commercial hauls.

On every haul carried out, inicial and final position, depth, hour and quantity of Norway lobster fished were registered.

As Nephrops norvegicus is a species clearly associated with the bottom, a grid was drawn for all the platform, for each minute of geographic degree. The medium point of each trawl was assigned to its corresponding square, assuming that represented presence of norway lobster in that point, if individuals were fished. This was done for all the 514 trawls.

## RESULTS

In figures 1, 2 and 3 the results obtained can be observed. Also are given some places where only males or females were caught, usually very few individuals. White circles means places where no individuals were caught.

Figure 1 represents that part of the shelf, from river Miño to  $43^{\circ}16'$  N. There are only few patches without Nephrops. It was covered 75% of the area of the platform, and on 89% of the area covered, Norway lobster were caught. Muddy bottom is found on 60,3% of the area, sandy on the 26,7% and rocky on the 13%.

Figura 2 represents the platform from  $43^{\circ}16'$  N to  $8^{\circ}$ W. The distribution is also with some patchiness. Trawling covered 22% of the area with individuals caught on 80% of it. Muddy bottoms are on 21,3% of the area, sandy on 56,2% and rocky on 22,5%.

Figure 3 covers the platform from  $8^{\circ}$ W to  $6^{\circ}47'$ W. It is obvious that Nephrops is poorly represented. In this area was covered 26% of the total of the platform. Only 14% registered catches of Norway lobsters. The bottom is of mud only on 6,5%, 68,3% is sandy and 25,2% rocky.

Juvenile lobsters (less than 80mm total length), showed analogous distribution than whole population. Neither was found any trend to found them at shallower or at deeper waters. Differential distribution because of sex was not found and in a few cases were captured only males or only females, usually very few individuals. The same can be said about ovigerous females. Generally more males than females were caught, being low the proportion of ovigerous females in the catches. From 8°W to the east, none ovigerous females were found.

The principal factor on Nephrops distribution on Galician coast must be the type of bottom. More area of distribution is found where there is more muddy bottom. Other factors that could affect Nephrops distributions, as temperature and salinity, are within values usually found for Norway lobster populations. Bottom temperature is usually from 11°C to 15°C. Salinity values are usually 35‰. Depth distribution is from 40 to 500m depth.

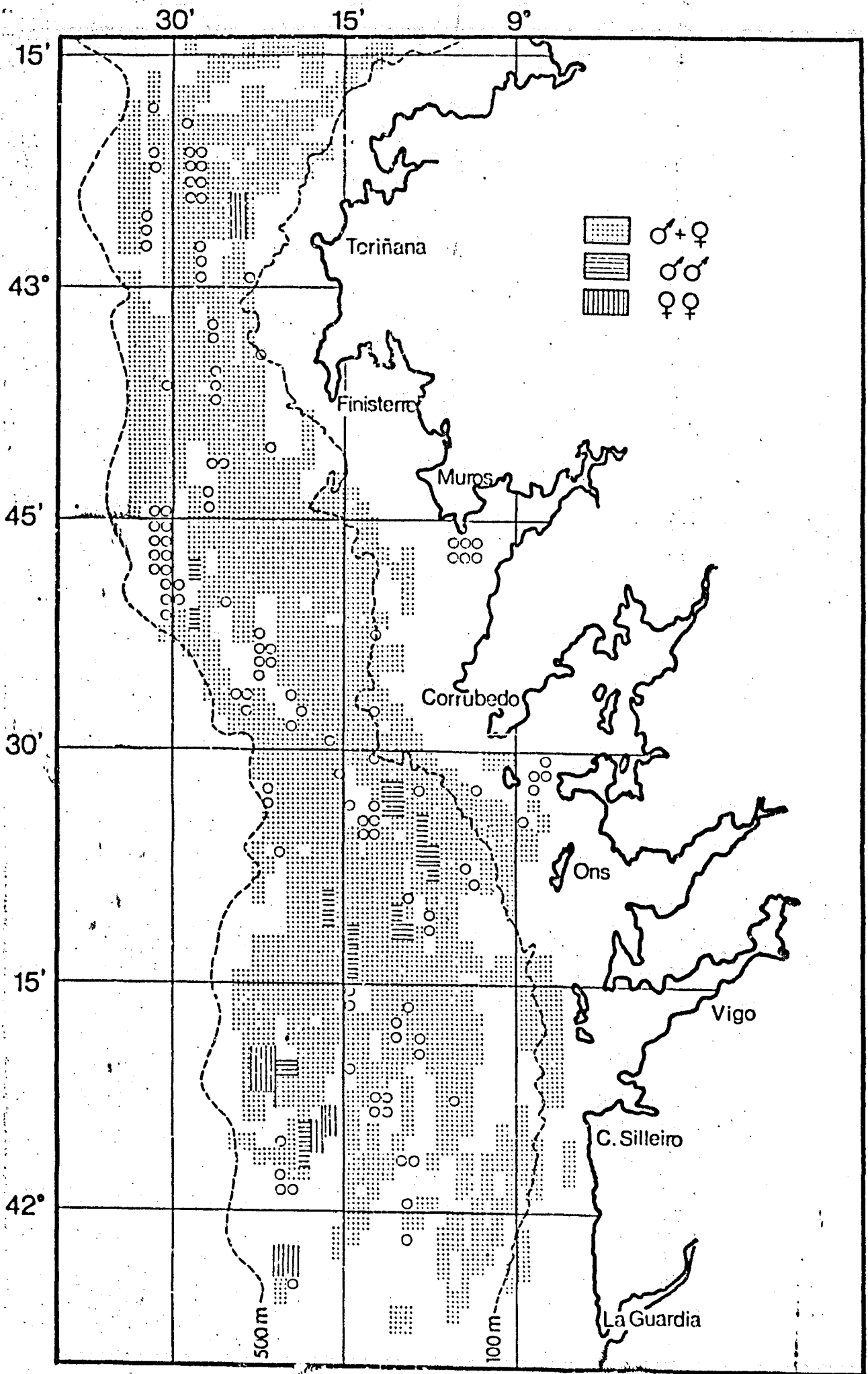


Figure 1

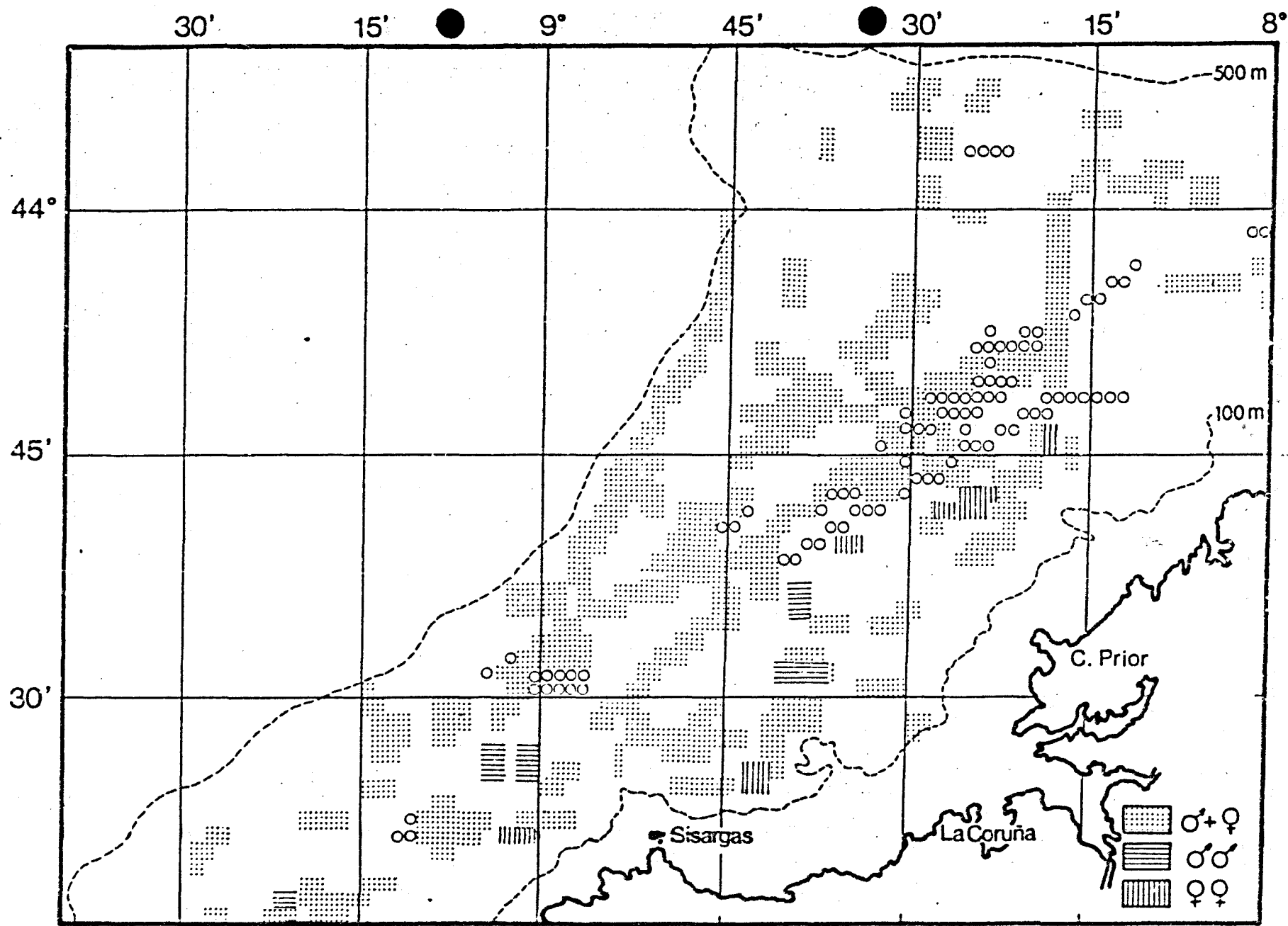


Figure 2

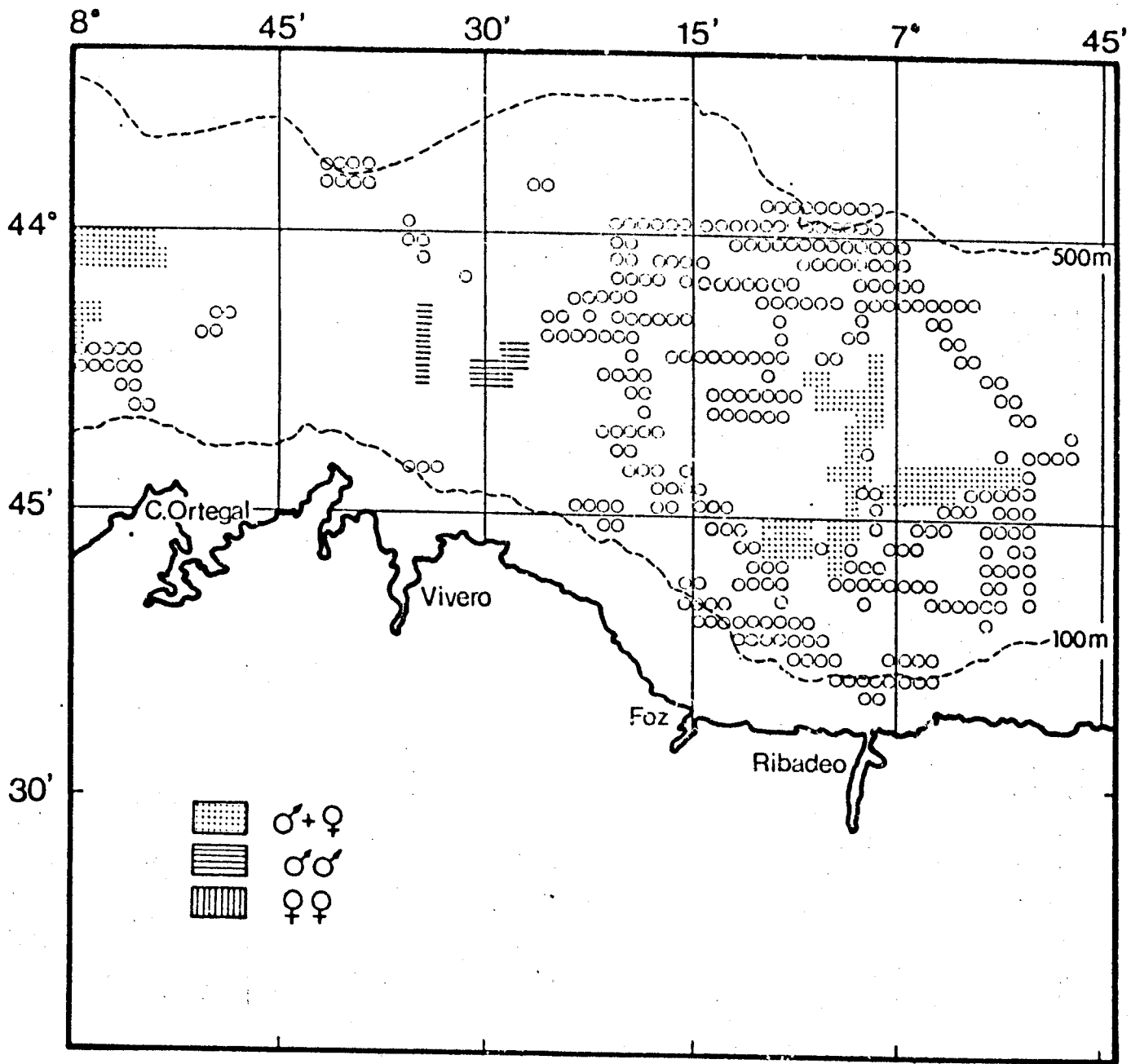


Figure 3