

# Distribution of anchovy (*Engraulis encrasicolus*) eggs in the Adriatic Sea

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## Abstract

Results of anchovy (*Engraulis encrasicolus*) egg survey carried out in August 2000 in the upper and central Adriatic Sea are reported. A total of 169 stations were sampled. North Adriatic areas showed the highest egg density.

## 1. Introduction

In the framework of a national research project on small pelagics, the Marine Biology and Fishery Laboratory of Fano carries out anchovy (*Engraulis encrasicolus*) and/or sardine (*Sardina pilchardus*) egg sampling campaigns in the upper and central Adriatic during the reproductive season. These campaigns allow the distribution and abundance of the eggs of the two species to be determined, thus providing indications on the areas and intensity of reproduction. If the ichthyoplankton sampling is accompanied by contemporaneous fishing of adult specimens, the biomass of the reproducers can be estimated using the batch fecundity method.

## 2. Material and methods

The most recent campaign was carried out in August 2000 with the vessel Andrea, Figure 1 shows the location of the 169 stations which are 5 miles apart on 17 transects. Every season at each station vertical sampling with the water column from the depth of 100 m, where possible, was carried out using a double Calvet plankton net with 150  $\mu$  mesh, equipped with a depth and temperature recorder. The determination and counting of anchovy eggs was done in the laboratory and the results obtained were processed using Surfer software on a grid of 2.5 miles. The kriging spherical interpolation method was used and the map of anchovy egg distribution was created using ESRI Arc View software.

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### **3. Results and conclusions**

Figure 2 shows egg distribution. It can be seen that the areas of highest anchovy egg density were found in the North Adriatic. It is also clear from such an egg distribution map that information is missing for all the Eastern area. The lack of these data reduces the validity of the work carried out, as the proportion of the anchovy stock in the upper and central Adriatic which reproduces in Croatian and Slovenian territorial waters is not known.

The development of a collaborative project on ichthyoplankton between the scientific institutes of both sides of the Adriatic, in the framework of the Adriamed Project, could significantly improve the knowledge on common resources.

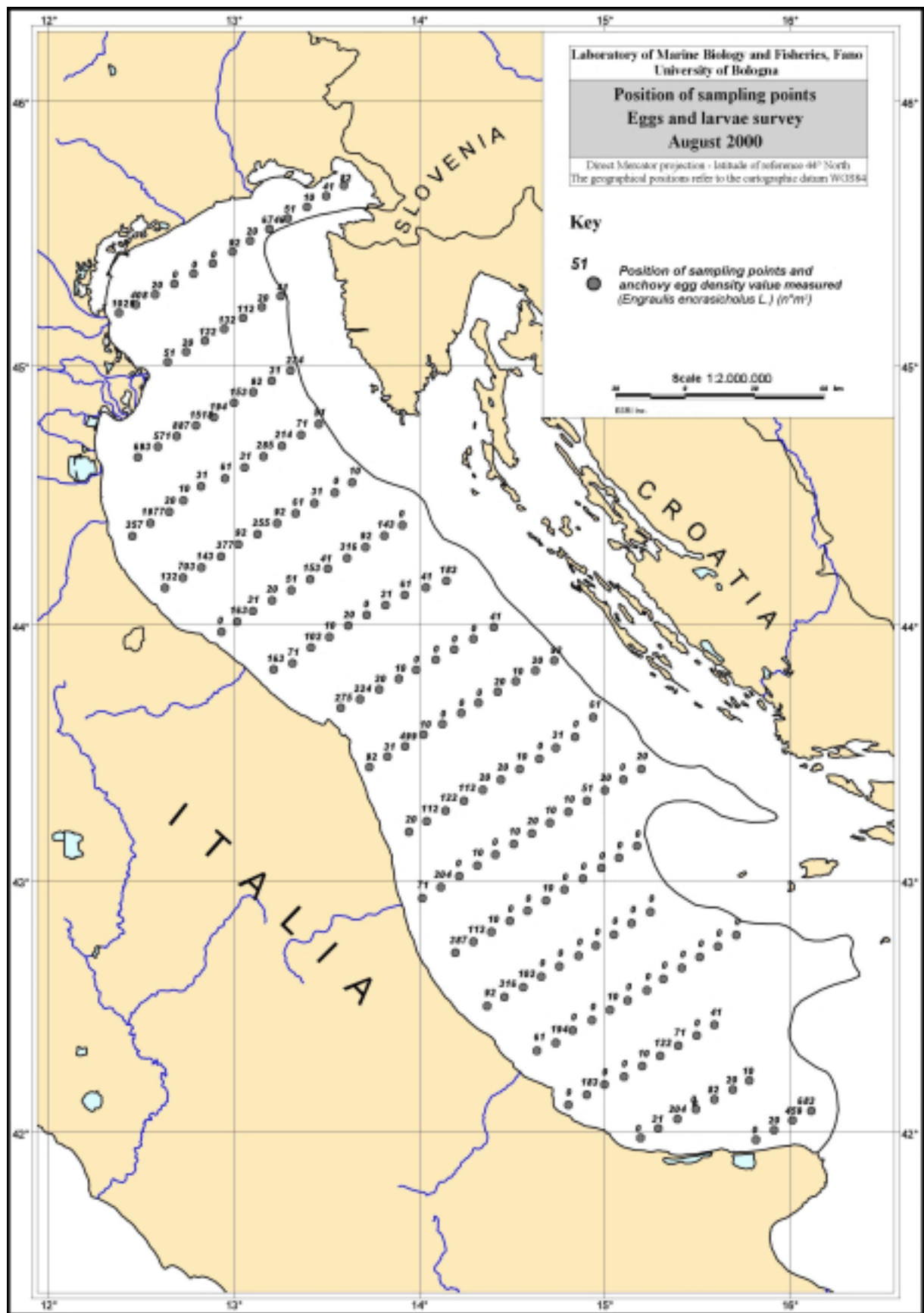


Figure 1. Position of sampling points

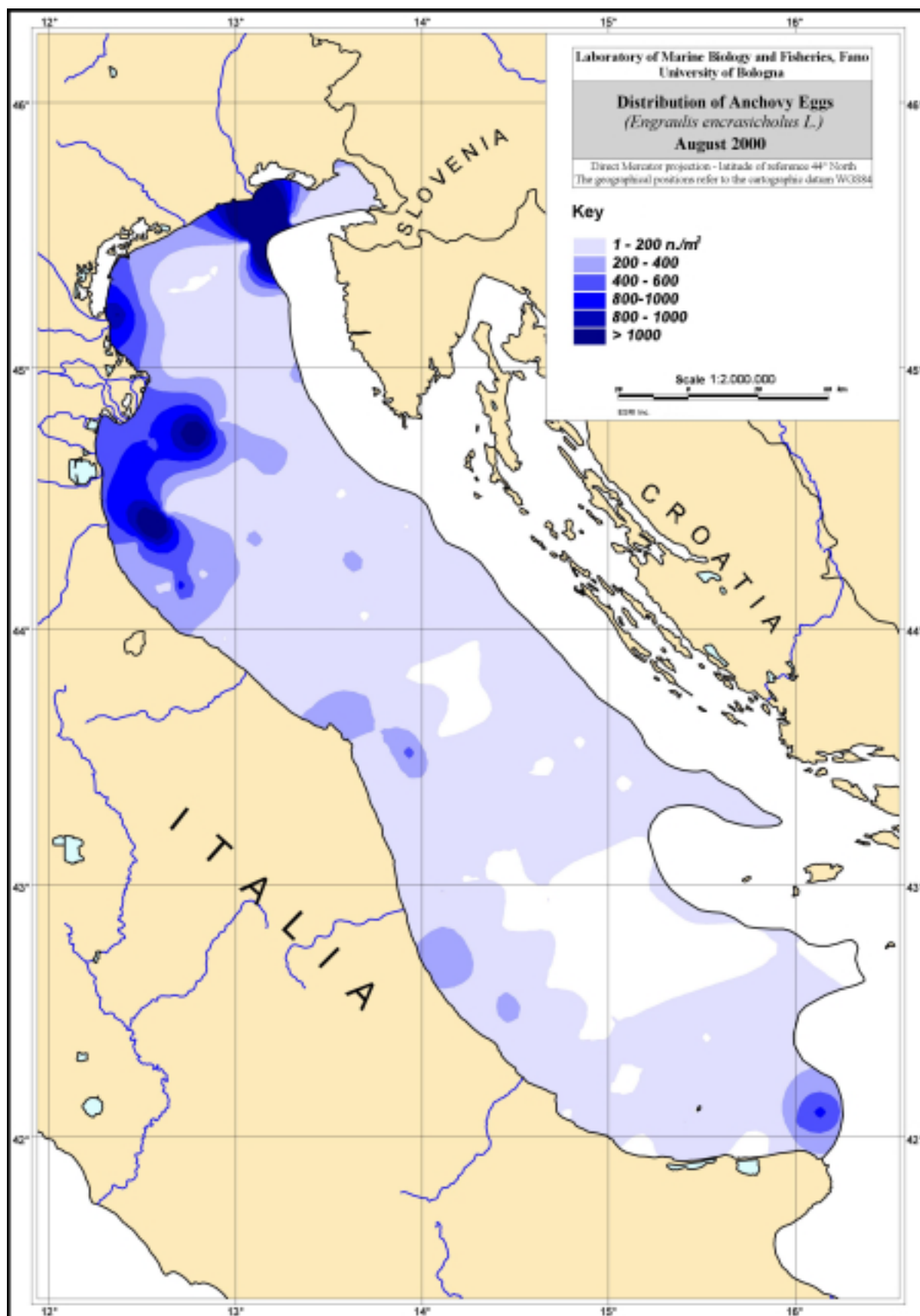


Figure 2. Distribution of Anchovy eggs.