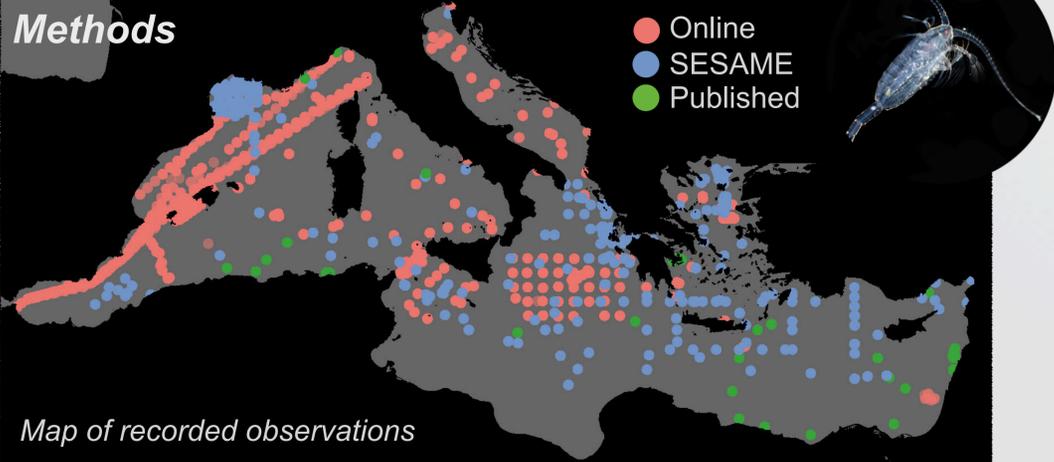


## Introduction

Copepods are the principal component of mesozooplanktonic compartment. As part of subtask 1.1.6 of FP7 PERSEUS and of WP5 of MerMex, we aim to assess the **distribution of copepod diversity and communities**.

A **new large dataset** of punctual occurrences was built to study the spatial distribution of specific richness and its link with sampling effort, but also to detect the main geographical species assemblages. Finally, an environmental niche model allowed us to project the presence probabilities of 168 copepod species under the Mediterranean Sea's environmental conditions, which also allowed us to model copepod diversity over the whole basin.

## Methods



Sources	Genera	Species	Observations	Surface
16	117	369	116 527	77% (1° cells)

Presence only

No temporal variation

### Diversity & Sampling

- Classes of methods
- Fitted 8 species-area models
- Keep the best-fitting

### Communities

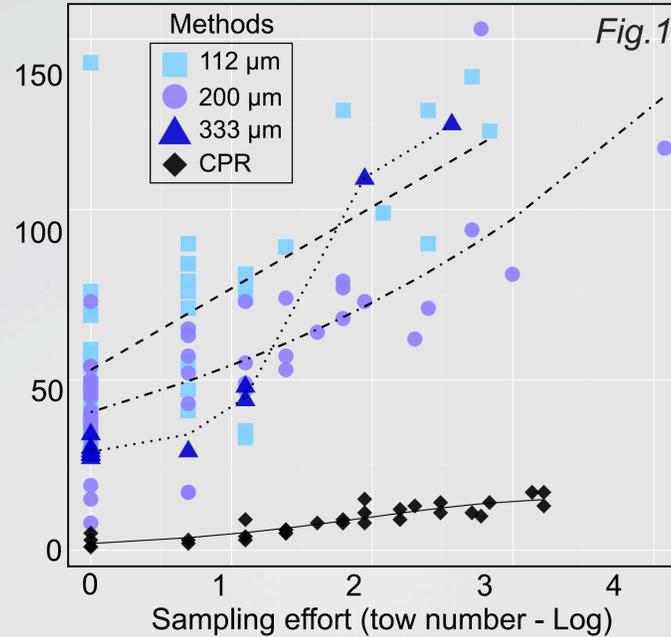
- K-means clustering on 1° cells
- Sørensen similarity index
- *Indicator Value* for characterization

### Modelled diversity

- Environmental Niche Model
- Presence probability as a function of SST, SSS, Chla & Bathym.
- Sum in 0.2° cells

## Results & Discussion

Species richness



**Increase of species richness with sampling effort according to the 4 sampling methods**

Diversity increases differently depending on sampling method

CPR < 200 µm (WP2 net) < 112 µm  
 333 µm : not enough data yet

**Thinnest mesh size is better for sampling diversity**  
**CPR suited for macroecological scale**

Need more data to infer diversity from one tool to another

## Specific communities

West-East division of communities

**West** : Cosmopolitan species  
 Require variable conditions (T°, Chla...)

**East** : More endemic species  
 Adapted to oligotrophic conditions

**Blue** : Deep sea species

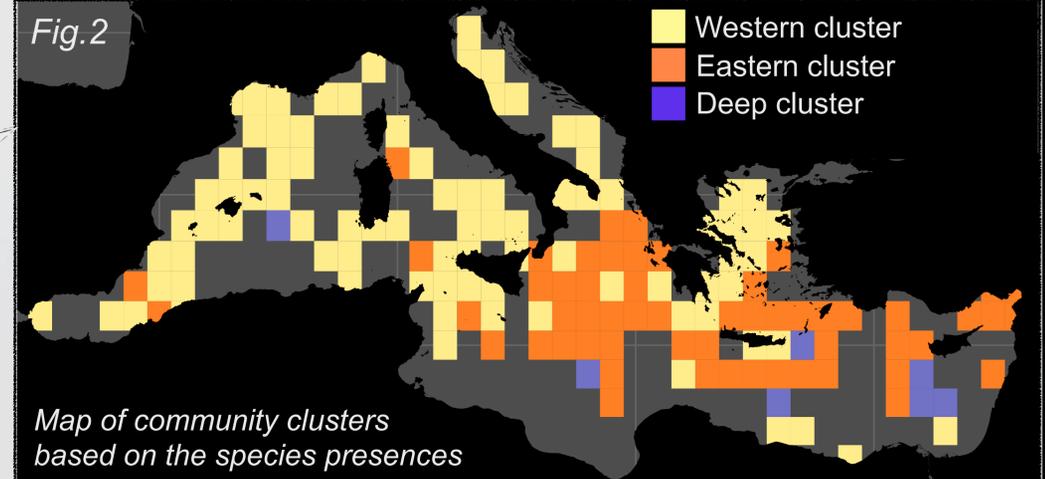
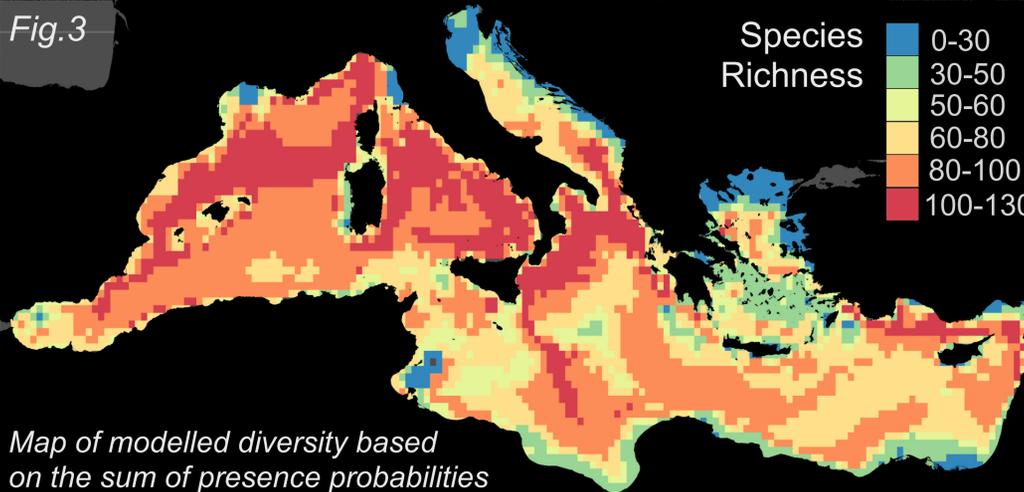


Fig. 3



## Modelled species richness

168 modelled species

West more diverse than East

Link with more variable conditions ?

Or :

Chosen variables +  
 higher sampling in the West ?