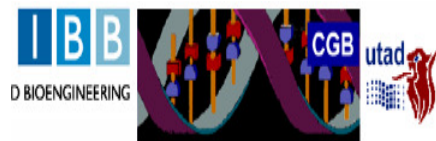


PROJECTO PTDC/MAR/103550/2008

Genetic variation of the carpet shell-clam *Ruditapes decussatus* in North Atlantic and Mediterranean Sea (GENECLAM)



Instituto de Biotecnologia e Bioengenharia, Centro de Genómica e Biotecnologia da Universidade de Trás-os-Montes e Alto Douro (CGB-UTAD/IBB)



Instituto Nacional de Recursos Biológicos, I. P./L-IPIMAR (INRB/L-IPIMAR)

PI: Frederico Batista

Start: 1 de Abril de 2010

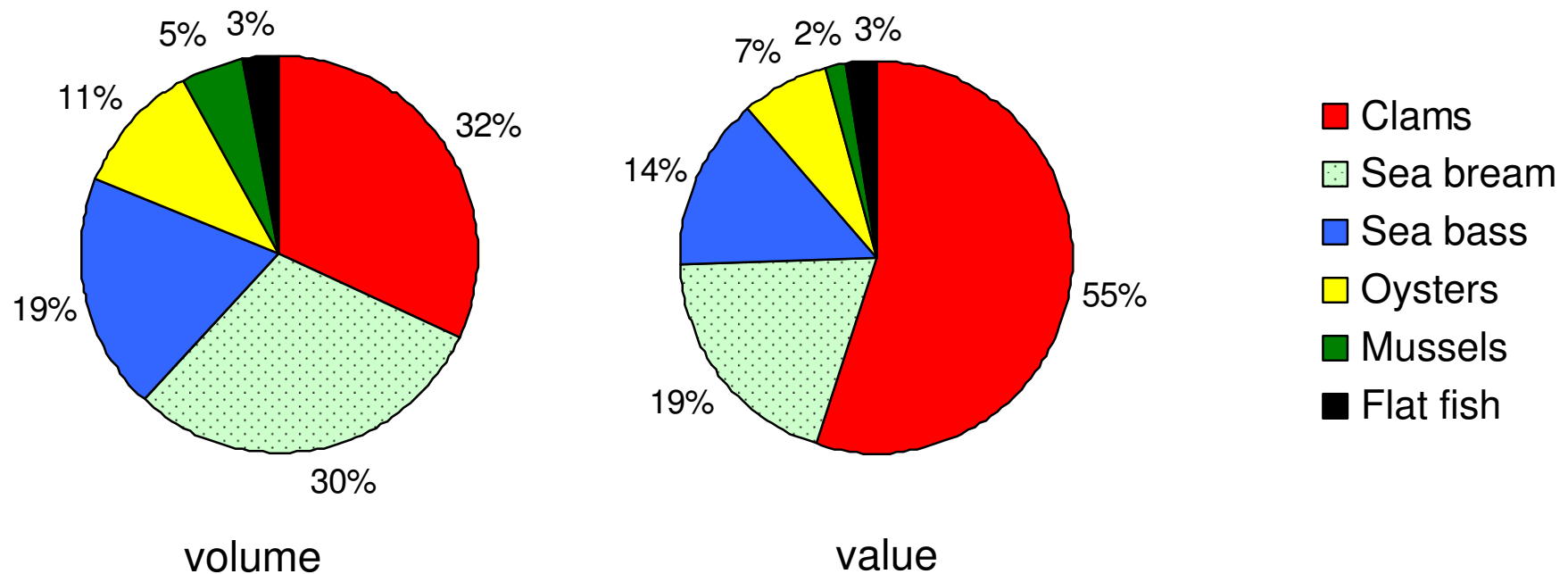
End: 31 de Março de 2013

Team: H. Guedes-Pinto, R. Chaves, S. Gomes, S. Santos, A. Leitão, D. Matias, A. Grade, T. Drago, M. Teixeira,

Collaborators: Deborah Power (CCMAR/Universidade do Algarve)

FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR Portugal

Aquaculture production in Portugal (DGPA, 2008)



Some problems that affect the production of *R. decussatus*:

- ➡ high annual fluctuation in the availability of natural seed
- ➡ high mortalities of juvenile and adults often associated with parasitic diseases
- ➡ the expansion of the culture of the manila clam *Ruditapes philippinarum*.

Genetic variation of the carpet shell-clam *Ruditapes decussatus* - GENECLAM

Main objective: provide essential information about the genetic resources of *R. decussatus* in the North Atlantic and Mediterranean Sea

The expected results of this project are to:

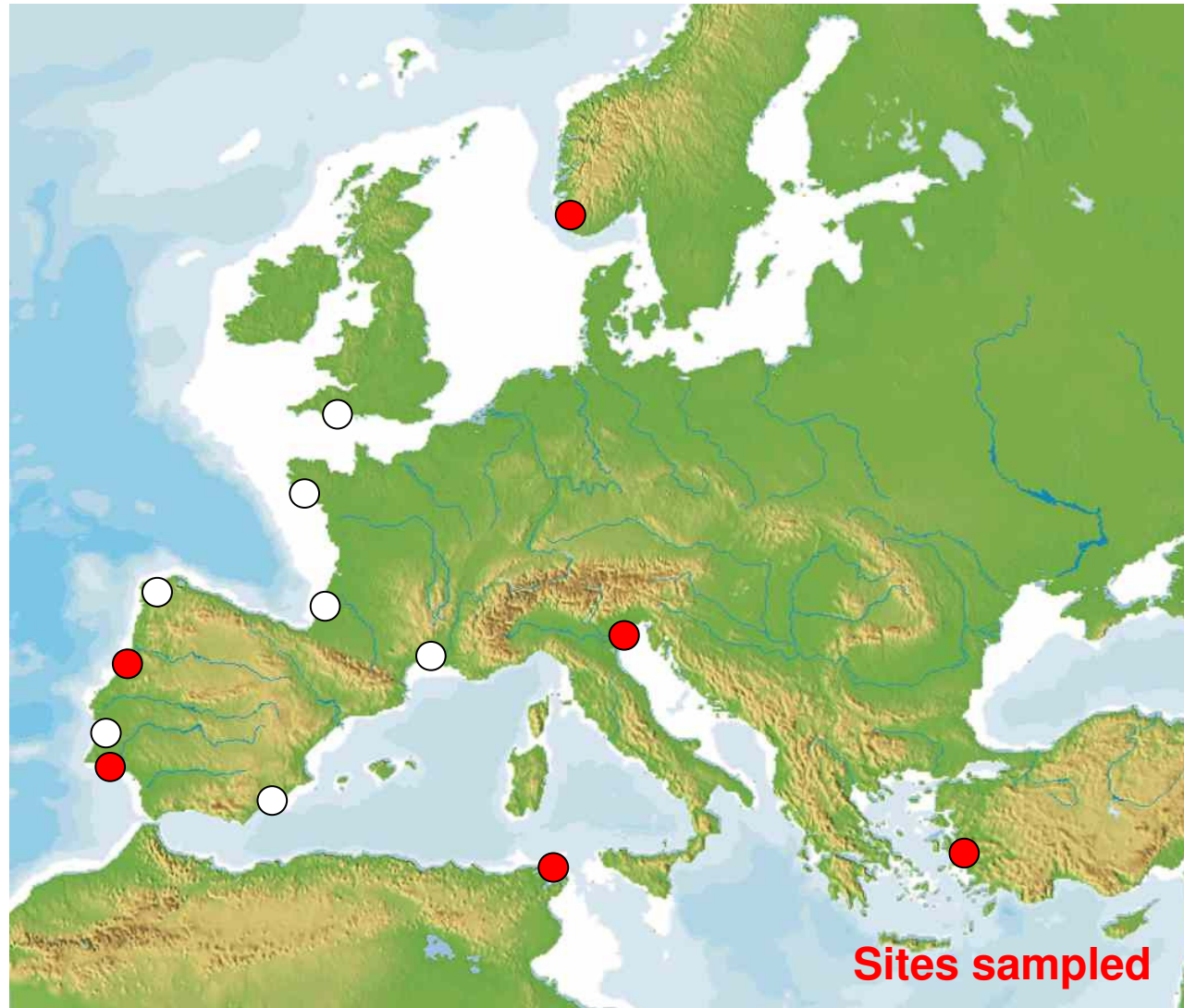
- (1) develop microsatellite and SNP markers for *R. decussatus*;
- (2) determine the genetic diversity and structure of *R. decussatus* populations in North Atlantic and Mediterranean Sea;
- (3) document the geographic distribution of different genealogical lineages of *R. decussatus*;
- (4) analyze the reproductive success of *R. decussatus* in different locations and settlement periods.

Examples of applications to *R. decussatus* aquaculture:

- ➡ Genetic structure (e.g. more than one species, strains/lines?)
- ➡ Traceability (e.g. catch fraudulent labeling of clams)
- ➡ Certification (e.g. Ria Formosa “ameijoa-boia” DOP)
- ➡ Genetic characterization of broodstock (e.g. identification and genetic variability)
- ➡ Parental assignments and reproductive contribution
- ➡ Linkage maps \Rightarrow quantitative trait loci \Rightarrow Marker-assisted selection
(e.g. selection of disease resistant lines)

Genetic variation of the carpet shell-clam *Ruditapes decussatus* - GENECLAM

Work going on - sampling



- Norway
- UK
- France
 - Arcachon
 - Etang de Thau
- Spain
 - Galicia
 - Ebro
- Portugal
 - Ria de Aveiro
 - Mira
 - Ria Formosa
 - Açores
- Italy
- Tunisia
- Turkey

Genetic variation of the carpet shell-clam *Ruditapes decussatus* - GENECLAM

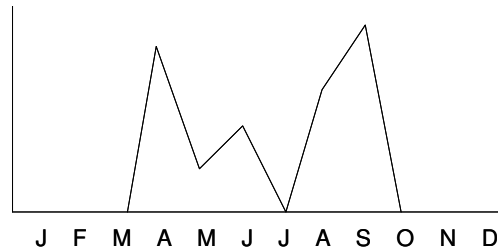
Work going on – Sampling on Ria Formosa



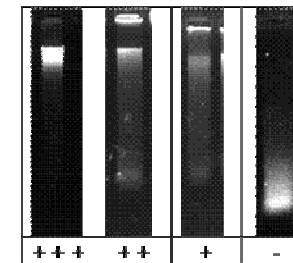
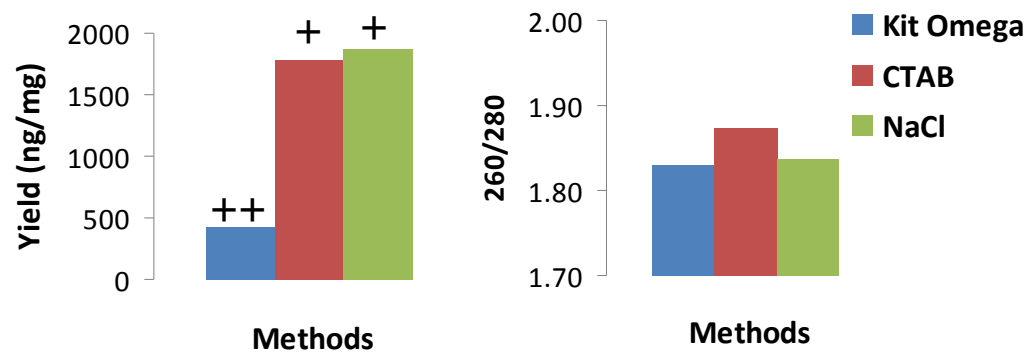
Genetic variation of the carpet shell-clam *Ruditapes decussatus* - GENECLAM

Work going on

- ➡ Collection of *R. decussatus* post-larvae (monthly)



- ➡ Optimization of DNA extraction methods



- ➡ Development and testing of molecular markers (cross-species of amplification of microsatellites, EPIC-PCR markers, EST derived microsatellites, mtDNA sequencing)

Genetic variation of the carpet shell-clam *Ruditapes decussatus* - GENECLAM

Thank you for your the attention!



***R. decussatus* from Aveiro Lagoon**