DIVERSIFY - Exploring the biological and socioeconomic potential of new/emerging fish species for the expansion of the European aquaculture industry

Co-funded by the Seventh Framework Programme of the European Union

Rocio Robles
Dissemination leader
CT-AQUA
Cadiz, Spain

Constantinos (Dinos) Mylonas
Project Coordinator
HCMR
Crete, Greece
37 partners:

- 20 Research/Universities
- 9 Small Medium Enterprises
- 2 Large companies
- 5 Professional associations
- 1 NGO

- Enhancing the EU aquaculture through species diversification

2013-2018
11,8 million €, EU-7FP
Problem with Mediterranean species

- Small (plate size), difficult to prepare, w/bones
- Consumers prefer fillets, steaks, ready-to-cook
- Growing fish larger is limited / inefficient (>3 y!)
Choice of new/emerging species

- greater amberjack
- meagre
- Pikeperch (fw, RAS)
- grey mullet (omnivorous, euryhaline)
- wreckfish
- Atlantic halibut
Bottlenecks of the six species

- **meagre** (*limited genetic variation, nutrition, health*)
- **greater amberjack** (*reproduction, juvenile production, parasites*)
- **wreckfish** (*broostock availability, reproduction, juvenile production*)
- **Atlantic halibut** (*reproduction, juvenile production, health*)
- **grey mullet** (*reproduction, larval rearing, nutrition*)
- **pikeperch** (*juvenile production*)
Socioeconomics bottlenecks

- perception of aquaculture products
- market demand, buyer preferences
- new product development, value adding
- market development
Meagre

- Genetic characterization of existing broodstocks in Europe, genetic linkage map and QTL analysis
- Development of methods for selective breeding (*in vitro* fertilization, paired spawning)
- Feeding behaviour to improve grow-out in cages
- Systemic granulomatosis and its relation to nutrition, immune system characterization
Greater amberjack

- Development of broodstock management and spawning induction methods, first spawning of F1 stocks
- Larval rearing methods and production of juveniles
- First commercial on growing trials in sea cages
- Health management (parasites) and immune system characterization
Pikeperch

- Genetic variability of cultured broodstocks and comparison with wild populations for future breeding selection programs
- Effects of various environmental factors (light intensity, water renewal rate, water flow direction and tank cleaning timing) on larval rearing of pikeperch
- Behaviour traits during early development
Atlantic halibut

- Optimize ovulation kinetics and stripping
- Larval rearing using ongrown *Artemia*, early weaning and improvement of juvenile quality
- Production of VNN capsid protein for vaccine development
Wreckfish

- Reproductive cycle in captivity
- Induction of spawning (tank and strip spawning)
- Development of broodstock diet
- Larval rearing (still no success past 28 dph)
Grey mullet

- Development of hormonal therapies to enhance gametogenesis
- Induction of spawning
- Environmental and nutritional aspects of larval rearing, weaning to herbivorous diet
Socioeconomics

- Identification of consumer segments for the candidate fish species
- Organoleptic characterization
- Production of ideas and value-added products, and testing them with consumers
- On line supermarket trials
Dissemination - magazine articles
Access to

- Current updates, newsletters
- Presentations from all annual meetings
- Scientific articles (currently 21)
Species-specific knowledge transfer workshops

- One day workshop for each species
- Presentations from DIVERSIFY work, but also outside
- Open to all stakeholders, first come-first served (60-100 persons)
- Free of charge (no registration costs)
- Spring-Fall 2018

For information consult our website

www.diversifyfish.eu
Species-specific knowledge transfer workshops

- **Grey mullet** (B. Koven, IOLR), June 2018 Bari, Italy
- **Greater amberjack** (N. Papandroulakis, HCMR), May 2018 Athens, Greece
- **Pikeperch** (P. Fontaine, U Lorraine), May 2018 Nancy, France
- **Wreckfish** (B. Alvarez, IEO), July 2018 Vigo, Spain
- **Atlantic halibut** (B. Norber, IMR), Sept 2018 Bergen, Norway
- **Meagre** (A. Estevez, IRTA), October 2018 Barcelona, Spain

[www.diversifyfish.eu](http://www.diversifyfish.eu)
DIVERSIFY—Exploring the biological and socioeconomic potential of new/emerging fish species for the expansion of the European aquaculture industry

Co-funded by the Seventh Framework Programme of the European Union

Rocio Robles
Dissemination leader
CT-AQUA
Cadiz, Spain

Constantinos (Dinos) Mylonas
Project Coordinator
HCMR
Crete, Greece

www.diversifyfish.eu