



Alexander Ventura - Early Stage Researcher No. 10

Assessing adaptation potential and selection of resilient strains.

My name is Alexander Ventura and I am a PhD student and part of the CACHE network. The purpose of my project is to understand if and how bivalves of high commercial value in Europe may adapt to environmental change. I am particularly interested in bivalves' evolutionary responses to ocean acidification, which is an increase in ocean acidity linked to human-induced rise in atmospheric CO₂ concentrations. The effects ocean acidification has on sea water chemistry may negatively impact organisms with calcium carbonate shells such as mussels and oysters, which may find it more challenging to produce and/or maintain their shells.

However all species are able to adapt to changes in their environment through evolution based on the survival of the fittest individuals within a population which will then pass on their genes to the next generation and so on.

The problem may arise if changes in environmental parameters are too abrupt as this may not allow a species to adapt in time, which is what I am interested in finding out through my PhD project. I would also like to explore the possibility of artificially selecting ocean acidification resilient bivalve strains. This will be attempted by picking out those individuals in a population that better withstand low pH conditions in the lab. I believe this work could be highly beneficial to the aquaculture industry.

How to contact Alex: alexander.ventura@bioenv.gu.se  [@xela3185](https://twitter.com/xela3185)