



PhD Students Coffee Time

JUEVES 16/01/2020

Sala de Reuniones SEMISOTANO

15:00

Eric Puche Franqueza

Ecología Integrativa

He says:

Ecological entanglement: tackling multi-interaction networks influenced by charophytes in shallow freshwater ecosystems.

Shallow freshwater ecosystems are the main waterbodies in the Mediterranean Region and are very vulnerable to the current global change. These systems harbor a huge complexity, with planktonic and periphytic elements highly coupled among them (e.g. trophic relationships zooplankton-phytoplankton). Furthermore, charophytes meadows occupy a central influencing position as they fulfill crucial roles, mainly by means of non-trophic relationships (e.g. provide refuge to zooplankton, compete allelopathically against phytoplankton or serve as life support for periphytic organisms). Thus, in a global change context and to better understand how these systems will respond to the foreseeable environmental changes, is decisive to tackle the multi-interaction network of trophic and non-trophic relationships. Following this, we have performed a mesocosm experiment, recreating a shallow freshwater ecosystem dominated by charophytes and submitting it to different environmental scenarios. We have assessed the network through parameters at different scales (from global to local). These analyses highlighted the structural importance of a tandem formed by charophytes and zooplanktonic large herbivores, as well as the strongly influential role played by the periphytic community attached to charophytes. Furthermore, these roles are affected by changes in the environment. Hence, we reaffirm the need for the network approach to understanding the functioning of ecosystems facing the global change.