Chemical Ecology of Marine Fungi

Soizic Prado*†[1]

[1]Unité Molécules de communication et Adaptation des Microorganismes (MCAM) – UMR 7245 – Sorbonne Université, Muséum national d'Histoire naturelle, CNRS, CP 54, 57 rue Cuvier, 75005 Paris, France

Abstract

Marine fungi have long been considered as exotic microorganisms only interesting a small proportion of scientists. However, over the last two decades, there has been an increase in the interest in sea-dwelling fungal communities, which led to significant advances in our understanding of marine fungi ecology.
Macroalgae, as other eukaryotic organisms, harbor associated microorganisms and there are increasing evidences that macroalgae interact with microbial communities for their growth, defense, development and nutrient supply. Out of these findings, the concept of holobionte, defined as a "superorganism" encompassing algae and their associated microbial communities, thus emerged.

Moreover, algae constitute a very important source of fungi which are producing a huge diversity of secondary metabolites. The biotic interactions between fungi and their host-algae are highly diverse, ranging from parasitism to symbiosis. However, our current understanding of algal-fungus relationship is quite limited and the ecological role of fungi associated to algae in their health and function is speculative and remain largely unknown.
We will present our combining multidisciplinary approaches which provides new insights in the ecological roles of the chemical mediation between fungi and their host-algae as well as possible uses in aquaculture.

Keywords: chemical

*Speaker
†Corresponding author: sprado@mnhn.fr