

## **DIVERSITY OF MARINE FUNGI AND THEIR BIOTECHNOLOGY POTENTIAL**

Varese Giovanna Cristina, Bovio Elena, Garzoli Laura, Gnavi, Giorgio, Perugini Iolanda, Poli Anna, Prigione Valeria, Reale Luisella, Spina Federica, Tigini Valeria

*University of Turin, Turin, Italy*

E-mail: [cristina.varese@unito.it](mailto:cristina.varese@unito.it)

Marine Fungi are of considerable importance as new promising sources of a huge number of biologically active products. Some of these marine microorganisms live in a stressful habitat, under cold, lightless and high-pressure conditions or in association with other organisms like algae, plants or animals (i.e. marine invertebrates such as sponges, mussels, echinoderms, etc) with a strong interaction. Surprisingly, a large number of fungal marine species with high diversity survive under such conditions and produce fascinating and structurally complex natural products. Up till now, only a small number of marine-derived fungal strains have been investigated for bioactive metabolites, yet a huge number of active substances with some of them featuring unique structural skeletons have been isolated. Recently, different publications demonstrate the ability of marine fungi to produce polyketide derived alkaloids, terpenes, peptides and mixed biosynthesis compounds which are representative groups of secondary metabolites produced by fungi. Although Marine Fungi (MF), today, are recognized as an important source of structurally unique secondary metabolites useful in industrial fields such as food, cosmetic and pharmaceutical. The pharmaceutical potential of marine fungi is therefore still substantially untapped, despite their unique structural diversity that provides the opportunity to explore a unique area of the biologically-relevant chemical metabolites.