

## **Bacterial symbionts in aquatic colonial invertebrates: example of the phylum Bryozoa**

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Many secondary metabolites isolated from invertebrates have been shown to be synthesized by mutualistic microorganisms living in association with the host. These symbiont-produced natural products play an important role in the survival of the host by either satisfying nutritional requirements or defending the host against pathogens, parasites, and predators. Else, the substances with biological activities produced by microbial symbionts are of particular interest as a possible source of new therapeutic agents for medicine, veterinary, agri- or aquaculture.

Bryozoans are aquatic colonial invertebrates—filter-feeders constituting an important part of bottom communities. As well as other sessile organisms they constantly face with the impact of foulers, both pro- and eukaryotes. During last decades a wide range of substances (depsipeptides, amides, isoprenoids, ethylenes, polyketides, etc.) with broad spectrum of possible biological activities, including antifouling, antimicrobial and antitumor activities, was isolated from the tissues of different bryozoan species. It is not much known, however, about their symbionts as well as their role in the life of the host. A seminar talk aims to make a general picture of these relationships based on the latest data obtained.