



**Prof. Dr. Brent R. Copp**

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**Marine chemical ecology of New Zealand  
shallow water organisms**

Our interest in marine natural products is driven by the desire to discover new classes of secondary metabolites that can act as inspiration for the development of new treatments for human diseases. To achieve this we make use of a combination of bioassay-directed purification protocols and NMR/MS directed isolation of 'novel' chemistry. In many instances, knowledge of the structure of the isolated natural product, and its structural similarity to previously reported metabolites, prompts speculation as to its potential ecological role(s). A recent example from our lab involves the isolation of janolusimide B from the common fouling bryozoan *Bugulina flabellata*. Structural similarity to janolusimide reported from the Mediterranean nudibranch *Janolus cristatus* led us to investigate the chemical ecology of the bryozoan and relevant NZ predators, using LC-MS as a screening tool. We've recently determined there is in-fact a NZ species of *Janolus* that is a predator of *B. flabellata* and that the janolusimides, and unidentified congeners, are present in nudibranch egg masses. Similar trophic cascades were observed for local collections of *Bursatella leachii*, a sea hare that preys upon cyanobacteria.

In addition to isolation-based chemistry, we also use synthesis to enable additional studies of the medicinal and ecological roles of marine natural products. One of our ongoing efforts in this area is to examine the potential biomimetic role played by the toxic mollusc metabolite onchidal.

Datum: Thursday, 21th July 2016, 1:15 pm  
Ort: GEOMAR Westshore, Düsternbrooker Weg 20, Lecture Hall  
Host: Prof. Dr. Deniz Tasdemir