

## **12 years of bryozoan research**

### **- what soft body morphology can tell us about the evolution of bryozoans**

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Bryozoans are a group of colonial, sessile suspension feeders with over 6.000 recent and 15.000 fossil known species. Despite their high diversity and importance in aquatic ecosystems, little is known in certain research aspects like physiology of soft body morphology. Current specialists predominantly focus on taxonomy, mineralogy or for instance colonial complexity. Fortunately, molecular phylogenies have started to appear for this phylum in the past which confirm old notions that the freshwater Phyclatolaemata are sister to the remaining two clades, the Cyclostomata and the Gymnolaemata, which themselves are in a sister-group relationship. The sparsity of broader morphological analyses called for a systematic allocation of characters for each of the given clades. Consequently, I summarized my main field of research on soft body morphology in a review that soon will be submitted. This review consists of thorough literature analysis, but also original observations and ideas especially from numerous serial sections and confocal laser scanning microscopy stacks. In this talk I will address few selected examples of what soft-body morphology can help us in defining clades, in giving evolutionary trends in organ systems and what key novelties are in the evolution of this phylum. Also some examples will show where the challenges and problems are in conducting these analyses.