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A Special Issue of selected papers from the symposium: 'There's Something About Opisthobranchia', World Congress of Malacology, Ponta Delgada, Azores, July 2013

Introduction

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Some of the more recent phylogenetic studies based on molecular data have demonstrated paraphyly of the taxon Opisthobranchia. Nevertheless, we organizers decided to invite all colleagues working on the well known traditional opisthobranch groups to come together, to present their results and to discuss the future of our 'opisthobranch community'.

Opisthobranch groups do not show the species richness of many other gastropod groups, but in terms of their diverse biological characteristics and charismatic beauty this amalgamation of 'lower heterobranchs' is certainly exceptional in the Animal Kingdom. Out of the 22 talks and 17 posters presented at the symposium, we received 13 contributions to this published collection, many of them from our younger colleagues. This is clear evidence that the opisthobranchs remain a topical focus of active research. The subjects cover many extraordinary aspects of opisthobranchs, especially their ability to incorporate organelles (Cruz *et al*., 2014 and Christa *et al*., 2014) or whole algal cells (Burghardt & Wägele, 2014) in order to use them for their own life strategies. These contributions, together with two others covering taxonomic issues and the evolution of life-history strategies (Jensen *et al*., 2014a and b), show that the details of nutritive and reproductive strategies are often still only vaguely understood. Other contributions show that we are still far from understanding even the taxonomic diversity of species. Descriptions of new species cover various groups, including Sacoglossa (Jensen *et al*., 2014b), Pleurobranchoidea (Alvim *et al*., 2014) and Nudibranchia (Carmona *et al*., 2014, Pola *et al*., 2014 and Padula *et al*., 2014). Phylogenetic studies based on molecular markers are able to refine evolutionary classifications by reassigning species to monophyletic genera (Carmona *et al*., 2014 and Ortigosa *et al*., 2014). Sophisticated methods of anatomical reconstruction and visualization (Brenzinger *et al*., 2014 and Kubilius *et al*., 2014) reveal new morphological structures and novel taxonomic characters. But these novel characters should also lead to questions, such as why they differ in closely related taxa. They imply differences in life strategies, which remain to be studied. Some of the contributions also show the necessity to reanalyse even well known species. Molecular barcoding and DNA taxonomy are now standard methods for species identification and delimitation, challenging established species concepts. In the case of *Tergipes tergipes*, the questioned amphiatlantic distribution is confirmed (Cámara *et al*., 2014).

There is still much to learn about 'opisthobranchs', from the fundamental question of whether they constitute a clade or grade, to their use as model organisms for biomedical research, the evolution of their complex symbioses and their conservation biology. This volume celebrates some of the recent advances in knowledge about these remarkable organisms.

These contributions have been edited by Guest Editor Heike Wägele and Editor David Reid. We thank here all the reviewers for their valuable contributions in improving the papers published in this issue.

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