

Editorial

Little doubt remains that the Earth is currently faced with exceptional, anthropogenically-induced global changes including climate warming and ocean acidification. As a consequence of these major perturbations, the planet is enduring increasing loss of species, with algae not spared from this “6th extinction”. Increasing transportation of marine organisms, associated notably with commercial shipping, is resulting in repetitive introduction of species into non-native ecosystems, and, algae, as primary producers, are often prone to rapid proliferation that can seriously affect native flora. Blooms of algal species that are toxic or otherwise harmful to other components of ecosystems are an ongoing cause for major economic concern in many regions of the world. Recently, algae have also become the subject of intense interest in a variety of biotechnological fields, notably for the promise they hold for exploitation for the production of biofuels.

Like many biological research fields, phycology has embraced the -omics era in recent years through the increasingly accessible use of high-throughput techniques for studying cellular or ecosystem components. Tidal waves of data will soon be washing over phycological communities, with bioinformatic analysis becoming increasingly central to most biological research. In these rapidly evolving environmental, socio-economic, technological and conceptual contexts, we would like to stress that there is currently a more urgent need than ever before to foster studies on algal taxonomy, ecology and evolution in order to provide the essential foundation for state-of-the-art research ranging from environmental monitoring to bio-prospecting. Without the existence of a high-quality, comprehensive reference taxonomic framework linked to robust understanding of evolutionary relationships between taxa, it will clearly not be possible to optimally exploit the vast majority of “next generation” data.

Taxonomy and systematics are viewed in many quarters as outdated sciences (or even not as “real” science), but paradoxically the fact that description of diversity represents a major bottleneck for biological research has been recognized for some time. There are signs that the situation is starting to evolve. During the last International Botanical Congress which was held in Melbourne in July 2011, the International Code of Nomenclature for algae, fungi, and plants (ICN) committed to facilitating the description of newly discovered taxa, notably by allowing diagnosis in either latin or english, as well as by accepting electronic publication as a valid means of describing new species (Knapp *et al.*, 2011). We fully support these measures and we intend to ensure that *Cryptogamie, Algologie* provides the means to swiftly publish studies on algal diversity, without compromising on control of the quality of submissions. We believe that the introduction of standardised and streamlined practices and global initiatives will contribute to promoting modernisation in systematics and we intend to encourage communication and debate on the current and future roles of systematics in modern phycology.

We have the great pleasure and the challenging task of taking on the editorship of *Cryptogamie, Algologie* at this crucial period and with the help of the dedicated team of associate editors, and, of course, of the scientific contributors, we wish to continue the tradition of the journal of publishing high-quality

taxonomic research, but also to provide a dynamic forum for placing descriptive work in ecological and evolutionary contexts in order to better understand algal biodiversity both in its benthic and planktonic, as well as marine and freshwater components.

REFERENCE

KNAPP S., McNEILL J., TURLAND N.J., 2011 — Changes to publication requirements made at the XVIII International Botanical Congress in Melbourne – what does e-publication mean for you? *PhytoKeys* 6: 5-11.

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