

## Preface: phytoplankton responses to human impacts at different scales

### 16th Workshop of the International Association of Phytoplankton Taxonomy and Ecology (IAP)

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The 16th workshop of the International Association for Phytoplankton Taxonomy and Ecology (IAP) on phytoplankton responses to human impacts was held at the Agricultural Institute of S. Michele all'Adige—Fondazione E. Mach from 21st to 28th August 2011. The stated IAP objectives are to get together pre-

eminent as well as young scientists and students working on various aspects of phytoplankton taxonomy and ecology to discuss topics of current interest, to jointly examine water samples under the microscope and practice species identification under the guidance of leading experts, and to encourage young scientists to engage in taxonomy research—a field where expertise is vanishing.

No doubts that these objectives were achieved in the current workshop with 91 participants from 23 countries (Argentina, Australia, Austria, Brazil, Bulgaria, Canada, China, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Israel, Italy, New Zealand, Spain, Sweden, Switzerland, Turkey, UK, Uruguay) attending the workshop, more or less equally divided between professional scientists and students. Grants were provided to encourage the participation of students. The hostel of the institute where the meeting was held provided a spectacular site located in the Adige Valley and surrounded by the Alps. The microscopy sessions in the afternoons were guided by established taxonomists and attended by keen-to-learn young scientists who jointly examined fresh and preserved samples brought by the participants.

The IAP was established in 1979, and since then held 16 workshops at different locations (Kristiansen, 1997). Since 1991, each workshop had a well-defined ecological theme, and taxonomic topics. Proceedings of all these workshops have been published as peer-reviewed articles. Since the early 1990s these appeared in dedicated volumes of *Hydrobiologia*:

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- 1991: Baja, Hungary (Padisák et al., 1993)  
 1993: Mont Rigi, Belgium (Descy et al., 1994)  
 1996: Granada, Spain (Álvarez-Cobelas et al., 1998)  
 1998: Shrewsbury, England (Reynolds et al., 2000)  
 1999: Delta Marsh, Canada (Hamilton et al., 2000)  
 2002: Castelbuono, Italy (Naselli-Flores et al., 2003)  
 2005: Sapanca, Turkey (Albay et al., 2007)  
 2008: Golan Heights, Israel (Zohary et al., 2010)

As tradition in all IAP workshops, the 2011 meeting had two main foci, one was ecological, the other taxonomic. The ecological theme was *Phytoplankton responses to human impacts at different scales*, the taxonomic topics were: *Chlorophyta*, *Dinophyta* and selected taxa of *Cyanobacteria*.

Apart of the foreword, this volume presents a selection of 26 reviews and original research papers. It is structured around the ecological theme of the workshop with many papers addressing global impacts like climate change and local influences like land-use on phytoplankton structure. Other papers addressed the trait concepts and, analyzed wax and wane, ecological responses, or physiological properties of individual species in the context of the central topics. Taxonomic papers review present state of the systematics of coccoid green algae (Krienitz & Bock, 2012), and provide an update to modern (2011) taxonomy of planktic heterocytous cyanobacteria (Komárek & Mareš, 2012). Zapomělová et al. (2012) while discussing biogeographically interesting nostocalean species revised taxonomic positions of two formerly *Anabaena* species and Zhu et al. (2012) provided a taxonomic and phylogenetic evaluation of *Limnothrix* strains.

The IAP participants are grateful to the Autonomous Province of Trento, which contributed to fund the workshop. We are also grateful to the Agrarian Institute—E. Mach Foundation for providing the access to the facilities of the campus. We thank the Regione Trentino Alto Adige, the APT—Azienda Promozione Turistica (Trento), Uwitech (Mondsee, (A), and Corr-Tech (S. Giovanni Lupatoto, VR) for their support. We are grateful to the Leica Microsystems BM Medical (Padova) for loaning us the Leica microscopes for the duration of the meeting. The assistance of the directorate, the staff members and the students of the IASMA Research and Innovation

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