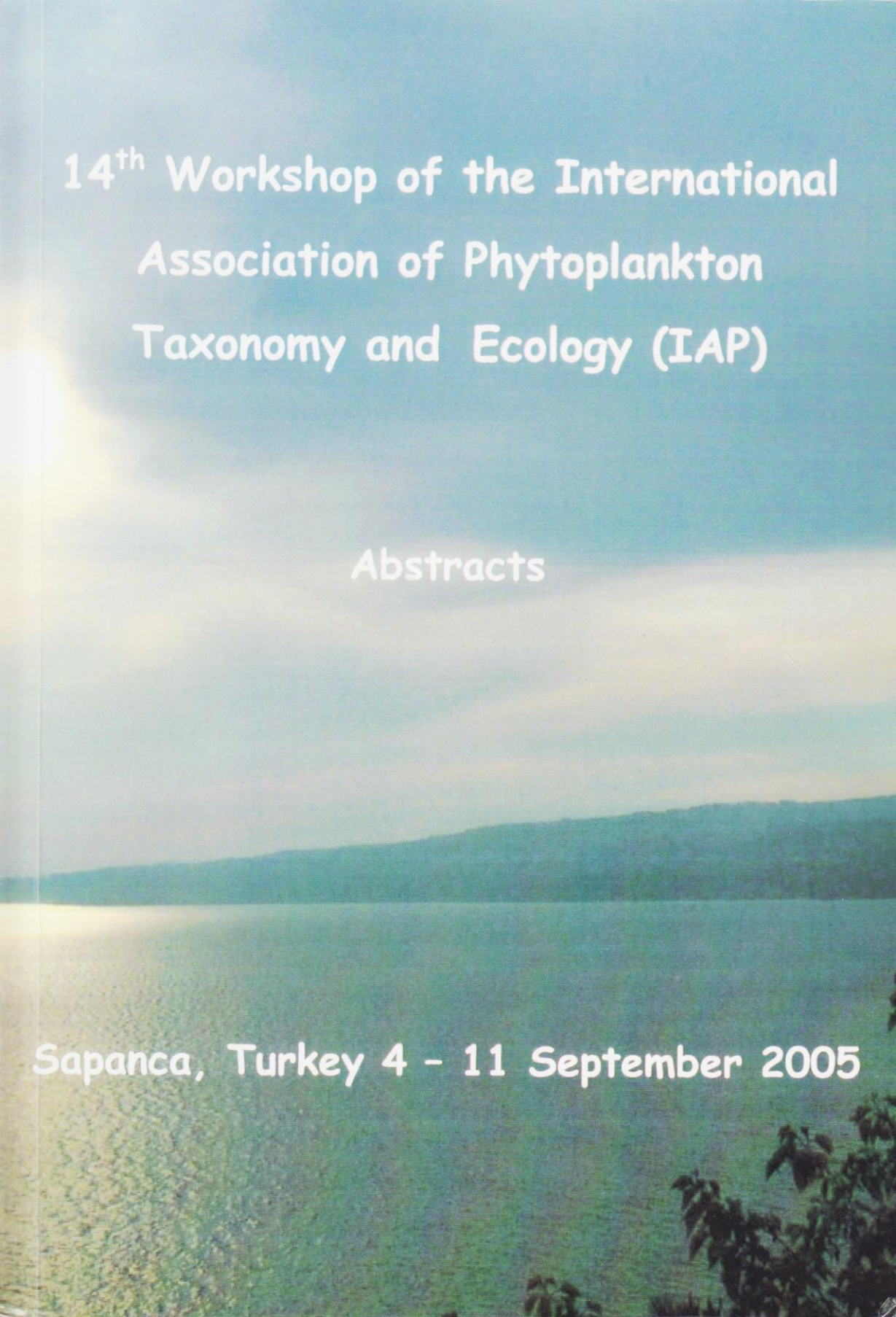
14th Workshop of the International Association of Phytoplankton Taxonomy and Ecology (IAP)

Abstracts



Sapanca, Turkey 4 – 11 September 2005

Quality control of Utermöhl based phytoplankton biovolume estimates – an easy task or an Gordian knot ?

Eugen Rott[1], Nico Salmaso[2] & Eberhard Hoehn[3]

[1] *Institute of Botany, LFU University of Innsbruck, Austria*

[2] *Department of Natural Resources, Istituto Agrario di San Michele all'Adige, Trento, Italy*

[3] *LBH Hoehn, Freiburg i.B., Germany*

Corresponding author: eugen.rott@uibk.ac.at

Since almost 50 years phytoplankton counts and biovolume estimates based on Utermöhl chambers are widely used for both practical water quality monitoring and scientific purposes. However in most cases evaluations are based on a single chamber count and size measurements obtained simultaneously. The scatter of the data and the statistical reliability of the data are hardly tested at all. Often only models from the time of the early invention of the method and or even from similar quantification methods (Lund's method) are applied.

Recently an attempt has been started to define a European Standard for Utermöhl counting in which multiple statistical approaches for improvement of individual taxa counts are made, whereas the biovolume related approach has only be shortly supplemented recently. For practial purpose and easy applicability a number of questions have not been addressed and would need a wider discussion, such as follows:

- How to identify the distribution pattern within a chamber quickly?
- Which statistical models are suitable / applicable / necessary to define / delimit scatter and reproducibility of data obtained, especially for species rich (highly diverse) phytoplankton communities?