Alvarez-Cobelas, M., Reynolds, C.S., Sanchez-Castillo, P., Kristiansen, J. (ed.): **Phytoplankton and Trophic Gradients**. - Kluwer Academic Publishers, Dordrecht - Boston – London 1998. ISBN 0-7923-5171-1. 372 pp., NLG 340.00, USD 184.00, GBP 116.00.

The proceedings (reprinted from Hydrobiologia, volumes 369/370, 1998) comprise two main parts. The first reviews the progress in ecology: the relation between species composition and the trophic gradient. The second, directed towards taxonomical issues, is concentrated on problems concerning planktonic Chrysophytes, Volvocales, and Euglenophytes living at the extremes of the trophic spectrum.

The contributions to these proceedings of the 10th meeting of the International Association of Phytoplankton Taxonomy and Ecology (IAP), held in June 1996 in Granada, Spain are arranged in sections. In the first of these, two review papers are presented. Rojo provides an analysis of the literature to reveal the extent of, and the significant gaps in our knowledge. Reynolds reviews some past approaches and suggests that no single set of factors (*e.g.*, nutrients) satisfactorily explains the selection of phytoplankton across trophic gradients. Instead, the trophic spectrum appears to be a probabilistic outcome of several dimensions of variability that impinge upon phytoplankton species selection.

Twelve papers comprise the section on community structure. Some of these, *e.g.*, the papers by Dasí *et al.*, Díaz *et al.*, Huszar *et al.*, and Izaguirre *et al.* are regional studies. Collectively they span all latitudes from Antarctica to equatorial Brazil. Spikerman and Coesel present an ecophysiological study distinguishing preferences of desmids characterizing different parts of trophic gradients. Another paper (Vörös *et al.*) considers picoplankton distribution across light- and nutrient-gradients, whereas two papers (Reynolds *et al.*, Romo) describe the responses of phytoplankton communities to raising the pH by artificial enrichment. Komárková reviews her work on top-down effects on phytoplankton in fish-ponds, lakes, and reservoirs, subject to variable fish-stocks.

Temporal dynamics are treated in the next nine contributions. Seasonal studies carried out in lakes (Büsing, Naselli-Flores and Barone, Padisák *et al.*) and rivers (Gosselain *et al.*, Ha *et al.*) are presented. The paper by Wiedner and Nixdorf concentrates on phytoplankton dynamics under ice in temperate lakes of different trophic status. Three long-term studies are analyzed. Juhos and Vörös adopt rank-frequency diagrams to reveal changes in the community responses to contrasted levels of eutrophication in the two basins of Lake Maggiore. Stoyneva presents some interesting effects on the phytoplankton of a lower-Danube flood-plain lake, which arise through changes in the management of the catchment area and the variable connection of the lake to the river.

The section on taxonomy and autoecology includes papers on Volvocales (Angeler, Schlegel *et al.*), Chrysophytes (De Hoyos *et al.* Olrik, Peterfi *et al.*), Euglenophytes (Conforti, Tel), and mixed assemblages (Domingos and Menezes, Nixdorf *et al.*).

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