

## BOOK REVIEW

**M. Kreutz & W. Foissner, 2006. *The Sphagnum Ponds of Simmelried in Germany: A Biodiversity Hot-Spot for Microscopic Organisms. Protozoological Monographs*, Vol. 3, 267 p. Shaker Verlag, Aachen. ISBN 3-8322-2544-7. ISSN 1437-7012. Price: ~30.00 EUR.**

*Protozoological Monographs* was initiated in 2000 by Prof. Dr. Wilhelm Foissner as an international journal whose scope is to publish “significant and pertinent reviews and monographs on all kind of heterotrophic protists, free-living and parasitic.” Volume 1 (ISBN 3-8265-8036-2) was a set of collected papers edited by Dr. Foissner. This was followed in 2001 by Volume 2 (ISBN 3-8265-8599-2), *Wörterbuch der Protozoologie*, written by Rudolf Röttger. The third volume of *Protozoological Monographs* was issued in April of this year with the publication of the above title, which provides a stunning photographic record of 12 years (1994–2005) of investigations by the authors. Kreutz and Foissner isolated, cultivated, and photographed the bacteria, protist fauna and flora, and some micrometazoans of Simmelried wetland. This ~3-ha wetland, located in southern Germany, about 2 km from Lake Constance, was formed after the last ice age, 14,000–15,000 years ago. It is spring-fed, and dominated by *Sphagnum* moss and *Caricetum* sedge mosses, which surround a large pond of ~0.5 ha and five smaller ponds. The wetland includes some coniferous trees and is surrounded by a second-growth forest of beech, oak, and spruce.

The authors sampled a variety of microhabitats, including the muds, open waters, mosses, floating plants, and other debris. Samples were examined immediately upon return to the laboratory and were also cultivated for at least 3–4 wk and further investigated. Organisms were typically removed from the initial sample or cultures, transferred to a microscope slide, and photographed with an Olympus BX50 microscope equipped with bright field and differential interference contrast (DIC) optics and flash apparatus. The authors document photographically over 650 species of bacteria, protists, and micrometazoans, which they estimate represents two-thirds of the taxa actually observed. Some common species (e.g. the ciliate *Colpidium colpoda*, the euglenids *Phacus pleuronectes* and *Euglena viridis*, rotifers of the genera *Proales*, and *Floscularia*) were not observed, suggesting that colonization of these habitats by protists can take considerable lengths of time. On the other hand, very many species appeared to be new and rare, and might represent “regional or local endemics.”

After a description of the habitat and methods, Table 1 presents a listing of the 202 species of ciliates identified, a listing that excludes at least 40 undescribed species. After this table and beginning on p. 14 with a stunning full-plate photomicrograph of the ciliate *Histiobalantium natans*, there follows page after page of

stunning images of bacteria, microalgae, flagellates, amoebae, ciliates, and micrometazoans, ending on p. 243 with some images of dipteran larvae! Protist plates, often four to six images per page, include representatives from the chrysophytes, diatoms, euglenids, dinoflagellates, cryptomonads, flagellated chlorophytes, xanthophytes, chlorophytes, amoebae, heliozoa, pseudoheliozoa, and ciliates. Words cannot describe the superb quality of these images, many of them DIC images, but also bright field and some scanning electron micrographs, which truly represent the broad diversity of eukaryotic microbes. Following these images is a Literature section and an Index, which is organized by both genus and species epithets.

This must be the most comprehensive set of photomicrographs published of a European pond setting, and to my knowledge is certainly the richest record of diversity ever published at such a high level of photographic quality. It would truly be a gift to the community if a CD-ROM of these images was eventually made available for teaching purposes. The figure legends are generally carefully written. However, I was sometimes frustrated by inconsistencies in their presentation. It would have been more helpful if the authors had consistently identified the species name immediately after the figure number(s), and then followed that with the details for that particular image. Regrettably, the Abstract does not indicate that a new genus and species, *Kreutzophrya sphagnicola* Foissner in Kreutz and Foissner, 2006, is seemingly proposed herein (p. 149, Fig. 1–4), and it is also listed in Table 1 but not designated as new there. Furthermore, it is not entirely clear what features characterize this genus as new, nor to what family it should be assigned. Therefore, readers should be aware that it is technically a nomen nudum.

But, these small editorial points pale in comparison with the richness and drama of the images that dominate over 200 pages of this small format (24 cm × 17 cm) book. The book can be ordered from the publisher, Shaker Verlag (FAX: +0049-2407-9596-9; www.shaker.de; info@shaker.de) for the very reasonable price of ~30.00 EUR (plus shipping and handling). I highly recommend that every protistologist have two copies—one for the bedside table and one for the teaching lab! And, we can only hope that the images will perhaps be made available in another format to encourage even broader dissemination.—**DENIS H. LYNN**, Department of Integrative Biology, University of Guelph, Guelph, ON, Canada N1G 2W1.