

SIL news

Volume 46 - September 2005

The International Association of Theoretical and Applied Limnology works worldwide, to understand lakes, rivers and wetlands and to use knowledge, gained from research, to manage and protect these diverse, inland aquatic ecosystems.

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*Robert G. Wetzel in Spain.
The photo was taken by an unknown colleague.
When it was taken is also unknown.*

Material for the January 2006 issue should be sent to the Editor for:

October 1, 2005

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Contributions on a PC formatted disk, in any standard word processor or DOS (ASCII) text, or as email attachments, will assist the Editor.

Professor Robert G. Wetzel

*by
Gene E. Likens*

continued on next page

From rather humble beginnings, Professor Robert G. Wetzel's ever-increasing knowledge and expertise touched countless colleagues, students and lay persons around the world. Bob was born on 16 August 1936 in Ann Arbor, Michigan, to German immigrant parents. He received his Ph.D. from the University of California, Davis with Professor Charles Goldman. Starting his professional career in 1965 as an Assistant Professor of Botany at Michigan State University, he progressed through the academic ranks to Professor in 1971. He moved only a short distance and became Professor of Biology at the University of Michigan from 1986 to 1990. In 1990 he moved to the University of Alabama as the Bishop Professor of Biology, and in 2001 became Professor and in 2003 the William R. Kenan, Jr. Professor in the Department of Environmental Sciences at the University of North Carolina, Chapel Hill.



Robert G. Wetzel in the field. The location of the photograph, when it was taken and by whom are unknown.

At the time of his death (18 April 2005), Professor Wetzel was one of the foremost limnologists in the world. His academic credentials were impeccable and his scholarship impressive. He received many awards and accolades, including an honorary Doctor of Philosophy degree from the University of Uppsala, Sweden (1984), election to the American Academy of Arts and Sciences, the International Water Academy, the Royal Danish Academy of Sciences, the Hungarian Academy of Sciences, as Fellow of the American Association for the Advancement of Science (AAAS), and was the first Tage Erlander National Professor of Sweden (1982-1983). He was awarded the G. Evelyn Hutchinson Medal from the American Society of Limnology and Oceanography (ASLO) (1992), the Baldi Memorial Award (1989) and the Einar Naumann-August Thienemann Medal (1992) from the International Association of Theoretical and Applied Limnology (SIL), the Society of Wetland Scientists (SWS) Lifetime Achievement Award (2000),

the Award of Distinction from the University of California, Davis (1988), the Burnum Distinguished Faculty Award from the University of Alabama (1994), Aquatic Ecologist of Year 2002 Award from the Russian Academy of Sciences, and the Russian, Hutchinson Science Laureate Award (2005).

Wetzel was a preeminent freshwater ecologist. With a passion for wetlands, he increasingly was concerned and wrote about the need to protect freshwater ecosystems because he understood their vital importance to all life on Earth. His studies on the nature and role of dissolved organic matter in aquatic ecosystems led to new concepts and understandings of how lakes and wetlands function. His lifelong work uniquely delineated and clarified the important ecological role of macrophytes in aquatic ecosystems. He was author or co-author of 23 books and more than 420 articles in scientific journals and books. His classic and scholarly textbook, *Limnology: Lake and River Ecosystems* (this 3rd Edition had been completely revised and expanded with a new title), published in 2001, has been translated into four languages besides English, and has been instrumental in training students worldwide since 1975.

His talents for leadership were recognized by his election as president of the American Society of Limnology and Oceanography, as the first president of the International Association of Aquatic Vascular Plant Biologists, and to Honorary Life Member of the Asociacion Argentina de Limnologia. His service to his professional interests was totally unselfish and massive, serving on a prodigious number of editorial boards, advisory committees, and examining committees, and giving lectures throughout the world. He also trained a large number of graduate students and postdoctoral associates, many of whom also became leaders in the field of freshwater ecology.

His dedicated leadership was the guiding force for the International Association of Theoretical and Applied Limnology (SIL) for several decades, serving as its elected General Secretary and Treasurer for some 37 years. Colleagues around the world are deeply in his debt for his devotion to, and admiration for, SIL, the international professional society for the study of inland waters.

Bob was also known for his love of family (wife, Carol of 45 years, four children, and nine grandchildren), reading books, listening to classical music, and painting. His quick, but gentle, smile was a welcome greeting to all, or a friendly invitation to engage in conversation. Nevertheless, it was his passion for aquatic ecosystems and scholarly work, his boundless energy, attention to

detail, lack of sleep-time, and especially his kind, generous, and gentle spirit that defined his life. His standards of scholarship were exceptionally lofty, setting the bar high for all students and colleagues. He never “cut corners” in his science.

His death is a momentous loss for family, friends, colleagues, many past students and postdoctoral associates, and the entire aquatic and limnological research community. Robert Wetzel will be greatly missed, but his dedication to scholarship and to limnology will continue to inspire well into the future. He was an outstanding colleague and a dear friend.

Reference cited:

Wetzel, R.G. 2001. *Limnology – Lake and river ecosystems*. Academic Press, San Diego.

Gene E. Likens

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Message from the President

Prof. Dr. Robert G. Wetzel, General Secretary and Treasurer of SIL, died of cancer on 18 April 2005. Dr. Wetzel carefully considered the welfare of SIL soon after the diagnosis of his illness. Together, he and I, and with the approval of the Executive Board, arranged for his SIL responsibilities to be transferred to Prof. William Lewis of the University of Colorado on a temporary basis, and until SIL can have an election for the General Secretary and Treasurer through its usual election procedures at the upcoming Montreal Congress.

During Prof. Wetzel’s illness, Prof. Lewis was doing part of the work of General Secretary and Treasurer. Now that Prof. Wetzel is gone, Prof. Lewis will assume the full responsibilities of General Secretary and Treasurer for SIL and his title will be “Acting General Secretary and Treasurer”. He has received detailed instructions from Prof. Wetzel and is prepared to carry through on Prof. Wetzel’s work until we elect a replacement.

I wanted to inform you of this arrangement as soon as possible to maintain an orderly transition for our society, and in accordance with the final wishes of Prof. Wetzel.

Gene E. Likens

President, SIL

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Robert G. Wetzel. The location of the photograph, when it was taken and by whom are unknown.

The Robert G. Wetzel Memorial Fund

SIL announces formation of the Robert G. Wetzel Memorial Fund of SIL and solicits your contribution to it. This fund honors the memory of Bob Wetzel and his extraordinary efforts on behalf of SIL.

The Wetzel Memorial Fund will be devoted to Bob’s dearest cause, which was support of young limnologists throughout the world who might otherwise be unable to participate in SIL activities. SIL already has a well-developed system for distributing this type of support. It has had a great effect but it needs to be expanded.

Our goal is to make the fund large enough to be self-sustaining, so that it will be a long-standing reminder of Bob’s contributions to SIL and to limnology in general.

William M. Lewis, Jr.

Acting General Secretary and Treasurer

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Please clip and mail to:

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Amount of my contribution to the SIL Wetzel Memorial Fund \$ _____.

_____ I enclose my check payable to SIL (US dollars drawn on US bank).

_____ Charge my: _____ VISA _____ Mastercard

Card No.: _____

Expiration: _____ Month/Year _____

Security Code _____

Signature: _____

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Working Groups

Report on the activities of the SIL Working Group on Saline Lakes

At the recent SIL meeting in Finland, 17 papers were presented in two sessions, 'Inland Saline Waters: Biodiversity, conservation and management', chaired by Robert Jellison in my absence. Most of these papers have been submitted to the proceedings. The SIL group has no other activities apart from the triennial sessions associated with SIL meetings. However, most scientists interested in the field are associated with the 277-strong International Society for Salt Lake Research (ISSLR) which holds its own triennial symposia, the next to be this September in Perth, Australia. I also chair this group and Robert Jellison is its secretary-treasurer, so that there is good liaison between both entities and similar clientele. ISSLR maintains a website (www.isslr.org) which has six megabyte traffic daily. Besides current news items and a forum contributed by members, directory of members and salt lakes, it has regular literature updates to its extensive bibliography that is a very popular feature.

Our group realizes the danger of considering salt lake research apart from the rest of limnology and a group at the Finland meeting discussed the need to integrate or at least place our research in the broader limnological context. One particular aspect of concern is how plankton dynamics of saline lakes fit into the conceptual model fostered by the Plankton Ecology Group. The forum of SIL meetings in promoting integration of our speciality is invaluable. The recent launch of a new online journal 'Saline Systems' (www.salinesystems.org) edited by Shiladitya DasSarma and with an editorial board of many SIL members, brings together limnologists and bacteriologists interested in the extreme environments provided by saline waters.

We miss our founder, Bill Williams. To honour his life and work a special volume of *Hydrobiologia* will soon be published, focussing on Australian salt lakes and including many papers by SIL members.

Brian V. Timms

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Aquatic Primary Productivity (GAP)

After a number of years as Chairperson, Aquatic Primary Productivity (GAP) Richard Robarts has retired. In his place John Beardall of Monash University (John.B Beardall@sci.monash.edu.au) and Vivian Montecino of University of Chile (clorofil@uchile.cl) have been elected as co-chairs.

In a following issue of SILnews John and/or Vivian will indicate the composition of the Organizing Committee, which will include new members, and the dates and location for the next GAP Workshop.

Aquatic Invasive Species: history and present activities

The SIL Working Group on Aquatic Invasive Species (WGAIS) was established in 1998 by the decision of the 27th SIL Congress. Initially the main goal of WGAIS was stated as "The working group could seek to develop an information system on invasive species on a worldwide basis. In addition, the working group shall provide an expert forum for development of strategies to combat further introductions". Detailed materials on the WGAIS activities are available at the working group web site (www.zin.ru/rbic/projects/sil_wgaiss/).

During 1999-2000, WGAIS under the chairpersonship of Dr. David Reid, focused on preparation of the international workshop, "Invasions of European and North American Ecosystems by Ponto-Caspian Species", which was held in association with the ASLO2000 Conference in Copenhagen, Denmark and was convened on June 2-3, 2000 at the H.C. Orsted Institute in Copenhagen. The purpose of this WGAIS activity was to bring together scientists from Europe and North America to discuss the recent predominance of successful Ponto-Caspian aquatic species invasions in the Laurentian Great Lakes and Baltic Sea, and to examine the potential for future scientific collaborations on research studies and information exchange (more information in the WGAIS 2000 Report at www.zin.ru/rbic/projects/sil_wgaiss/SIL2000Report).

In 2001, after the WGAIS chairmanship changed to Dr. Vadim Panov, WGAIS activities focused primarily on development of international cooperation on aquatic invasive species issues in geographic Europe because of limited available resources. During this period, the European Research Network on Aquatic Invasive Species (ERNAIS) was developed as a WGAIS initiative (www.zin.ru/rbic/projects/ernais/). Because of increased international activities on invasive species worldwide, a new perspective and goal were discussed and agreed upon at the last WGAIS meeting at the SIL XXIX Congress in Lahti in August 2004. The goal is "to facilitate development of interlinked subregional and regional thematic networks and information hubs of a Global Invasive Species Informational Network" (specifically contribute relevant information on freshwater and brackish water invasive species, including primary data for online GIS and species entries, publications, project descriptions, expert contacts, etc.).

Currently, WGAIS is developing a new concept for a regional information system linked to an e-journal on aquatic invasive species, covering both inland and coastal waters, which can be effectively used for management purposes in different regions of the world over the long-term (www.zin.ru/rbic/projects/aquainvader/). Timely information incorporation into this system of geo-referenced data on invasive species records (for early warning functions), which usually are not published or published with significant delay, is considered by WGAIS to be a critical issue for fast publication of primary field survey/monitoring data in an electronic journal. The e-journal may have strong advantages in its ability to publish large technical reports, extensive primary datasets (usually not acceptable by international journals) and very short communications of records of species range extensions. The concept of an e-journal has been discussed already at several international meetings (please see - www.zin.ru/rbic/projects/ernais/ernais_journal.asp). This new specialized e-journal (tentative title "Aquatic Invasions" - The International Journal of Aquatic Invasive Species Research and Management) is planned as a formal SIL electronic publication in association with the International Council for the Exploration of the Sea (ICES) Working Group on Ballast Water and Other Ship Vectors (currently chaired by Dr. Stephan Gollasch, e-mail: sgollasch@aol.com), with first online issue to be released by the end of 2005.

Vadim E. Panov

Chairperson, Aquatic Invasive Species
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Aquatic Birds

During the SIL Congress in Munich, Germany in 1989, it became apparent to a small group of participants that the time was ripe for waterbirds to be treated in a limnological context. This led to an *ad hoc* Symposium, “Aquatic Birds in the Trophic Web of Lakes”, held in Sackville, New Brunswick, Canada, in August 1991. The proceedings of this symposium were published in *Hydrobiologia* (1994) and *Developments in Hydrobiology* (1994). The success of this symposium led to the formation of the Working Group on Aquatic Birds during the XXV SIL Congress in Barcelona, Spain, in 1992. The main objective of the Working Group is to integrate waterbirds into hydrobiology and treat waterbird studies in a limnological context. The conferences of the Working Group facilitate communications among limnologists interested in aquatic birds and ornithologists interested in the aquatic habitat.

The first conference of the newly formed SIL Working Group on Aquatic Birds was held in Sarród/Sopron, Hungary in November 1994. These proceedings were published by Wetlands International (1997, Special Publication #43). The second conference was convened in Mérida, Yucatan, Mexico in November 1997 (Proceedings by Universidad Autonoma de Yucatan, Mérida, Mexico). The third conference took place in Trébon, Czech Republic in May 2000 (Abstracts published in *Sylvia*). These conferences are held at least once every three years between SIL Congresses. The most recent conference, “Limnology and Water Birds 2003” was held in Sackville New Brunswick, Canada, August 3-7, 2003. Over 110 persons were in attendance, 69 papers were presented. (Proceedings are in press: *Hydrobiologia and Developments in Hydrobiology*).

The Aquatic Birds WG also held workshops and paper sessions during the SIL Congresses in São Paulo, Brazil (1995), Dublin, Ireland (1998), Melbourne, Australia (2001) and recently in Lahti, Finland (2004).

Joseph Kerekes

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The Academy of Sciences for the Developing World

TWAS, the Academy of Sciences for the Developing World, (formerly the Third World Academy of Sciences) which operates under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO), represents the best of science in the developing world. Its principal aim is to promote scientific capacity and excellence for sustainable development in the Southern Hemisphere.

TWAS is an autonomous international organization, founded in Trieste, Italy (<http://ale2ts.ts.infn.it:6163/TS/TS.html>) in 1983 by a distinguished group of scientists from the Southern Hemisphere under the leadership of the late Nobel Laureate Abdus Salam (<http://www.ictp.trieste.it/ProfSalam/index.html>) of Pakistan. Originally named “Third World Academy of Sciences”, it was officially launched by the then-Secretary General of the United Nations, Javier Perez de Cuellar, in 1985. Since its inception, TWAS’s operational expenses have largely been covered by generous contributions by the Italian government.

The Academy’s more than 700 Fellows and Associate Fellows are elected from among the world’s most distinguished scientists. Fellows are citizens of the Southern Hemisphere; Associate Fellows are citizens of the Northern Hemisphere who either were born in the Southern Hemisphere or have made significant contributions to the advancement of science in the Southern Hemisphere. About 80 percent of TWAS’s membership are Fellows representing more than 70 countries in the Southern Hemisphere. (See TWAS Membership (<http://www.ictp.trieste.it/~twas/mbrs/Members.html>) page for more information).

A Council, (<http://www.ictp.trieste.it/~twas/Council.html>) elected by members every three years, is responsible for supervising all Academy affairs. A small secretariat headed by an Executive Director assists the Council in the administration and coordination of the programmes (contacts) (<http://www.ictp.trieste.it/~twas/Contacts.html>). The secretariat is located on the premises of The Abdus Salam International Centre for Theoretical Physics (ICTP) (<http://www.ictp.it/>) in Trieste, Italy.

Since 1986 TWAS has supported scientific research in 100 countries in the Southern Hemisphere through a variety of programmes (<http://www.ictp.trieste.it/~twas/Activities.html>). More than 2,000 eminent

scientists worldwide, including TWAS members, peer review proposals free-of-charge for research grants, fellowships and awards that are submitted to the Academy by scientists and institutions in developing countries.

Partnerships:

TWAS works in close collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO), Abdus Salam International Centre for Theoretical Physics (ICTP), International Council for Science (ICSU), International Foundation for Science (IFS) and International Science Programme (ISP).

In 1988 TWAS facilitated the establishment of the Third World Network of Scientific Organizations (TWNSO) (<http://www.twnso.org/>), a non-governmental alliance of 149 scientific organizations in the Southern Hemisphere. TWNSO's goal is to help build political and scientific leadership in the Southern Hemisphere for science-based economic development and promote sustainable development through South-South Hemisphere and South-North Hemisphere partnerships in science and technology. TWAS provides the secretariat for TWNSO and co-sponsors a number of its activities.

TWAS also played a key role in the establishment of the Third World Organization for Women in Science (TWOWS). TWOWS, launched in 1993, now has more than 2,500 members representing over 90 countries in the Southern Hemisphere. Its main objectives are to promote women's leadership in science and technology in the Southern Hemisphere and to strengthen their participation in science-based development and decision-making processes. The TWOWS secretariat is hosted and assisted by TWAS.

Since May 2000, TWAS has served as the secretariat for the InterAcademy Panel on International Issues (IAP), a global network of 92 science academies worldwide established in 1993. IAP's primary goal is to help member academies work together to inform citizens and advise decision-makers on the scientific aspects of critical global issues.

Since November 2004, TWAS has served as the secretariat for the InterAcademy Medical Panel (IAMP), a global network of academies of medicine and medical divisions within science academies. IAMP, which currently has 52 members, is committed to improving health worldwide; building scientific capacity for health; and, providing independent scientific advice on health issues to decision makers.

TWAS and TWNSO together have played a major role in the establishment of COMSATS, the Commission on Science and Technology for Sustainable Development in the Southern Hemisphere, whose membership consists of heads of state or heads of government in the Southern Hemisphere and whose aims are to bring awareness to developing countries of the pivotal role science and technology have in the process of development, and to support major initiatives for promoting indigenous capacity in science and technology for science-led sustainable development.

Objectives:

- ◆ To recognize, support and promote excellence in scientific research in the Southern Hemisphere;
- ◆ To provide promising scientists in the Southern Hemisphere with research facilities necessary for the advancement of their work;
- ◆ To facilitate contacts between individual scientists and institutions in the Southern Hemisphere;
- ◆ To encourage South-North Hemisphere cooperation between individuals and centres of scholarship; and,
- ◆ To encourage scientific research on major Third World problems.

Main Contributors to TWAS's Current Activities:

- The Direzione Generale per la Cooperazione allo Sviluppo, Ministry of Foreign Affairs, Italy;
- The Department for Research Co-operation (SAREC) of the Swedish International Development Cooperation Agency (Sida) (<http://www.sida.se/Sida/jsp/polopoly.jsp?d=10&t=1>);
- The UN Educational, Scientific and Cultural Organization (UNESCO) (<http://portal.unesco.org>);
- The OPEC Fund for International Development (<http://www.opecfund.org/>);
- The Kuwait Foundation for the Advancement of Sciences (KFAS); and,
- The Governments of Brazil, China, Egypt, India, Nigeria, Pakistan and Syria.

Daniel Schaffer

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Ecraft on Lake Kinneret

Lake Kinneret is a major source of Israel's drinking water. Thus, continuous monitoring of its water quality is a national priority.

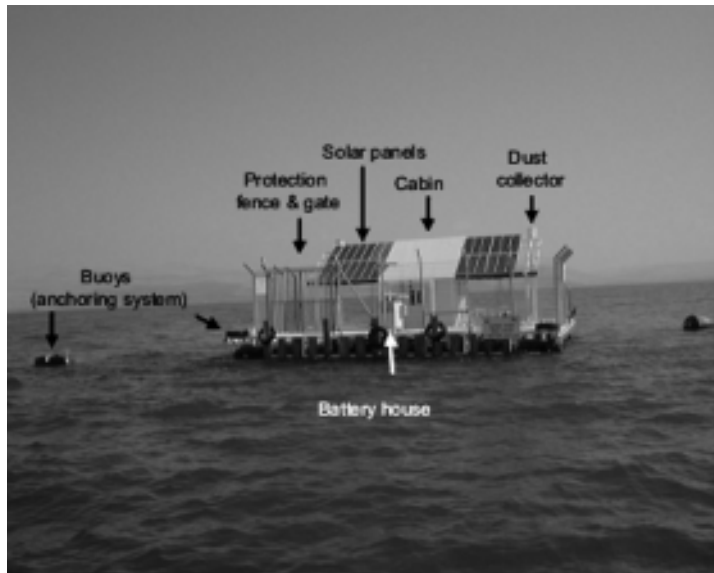


Figure 1. The ecraft at the center of Lake Kinneret, Israel, 21 July 2002 (photo is courtesy of Udi Wagner).

The ecraft (Fig. 1), an acronym for “ecological monitoring raft”, was installed and equipped with the objective of creating the capability to follow limnological processes and changes in water quality parameters as they occur in real time.

The ecraft is a 10 x 7 m 10-metric tonne catamaran-type steel raft, anchored at the center of Lake Kinneret since February 2002. It provides a platform for continuous monitoring using automated instrumentation, telecommunication with our shore-based lab, and space for additional on-lake monitoring and research activities. Solar panels in the roof of the raft are attached to a battery supply which provide the energy required for the uninterrupted operation of the scientific instruments. A cabin provides shelter for sensitive equipment and a bench for sample processing. A fence, providing protection from vandalism, was also found essential.

The ecraft is equipped with the following scientific functions:

- ◆ A commercially made water column profiling unit (RUSS, [Remote Underwater Sampling Station] Apprise Technologies) equipped with a set of YSI probes, capable of automatically in-situ monitoring of depth, temperature, conductivity, dissolved oxygen, pH, chlorophyll fluorescence and turbidity. This RUSS is usually programmed to conduct four profiles daily at 2 m depth intervals between 3 – 39 m, although other

time-depth schedules are possible. Data collected by the RUSS profiling unit are sent by telemetry to a computer at the Kinneret Limnological Lab in near-real time.

- ◆ An automatic water sampler, designed and manufactured at the Kinneret Limnological Lab. This system automatically collects water from different depths at prescribed times into sample bottles that are stored refrigerated on the raft, until a boat arrives to transport them to the lab for further chemical or biological analyses.
- ◆ A full meteorological station, installed and maintained by the Israel Meteorological Services
- ◆ Dust collectors for monitoring aeolian nutrient loading.
- ◆ An Acoustic Doppler Current Profiler (RD Instruments).
- ◆ A thermistor chain with 40 thermistors spread over the 42 m water column, recording water temperature at 20 s.

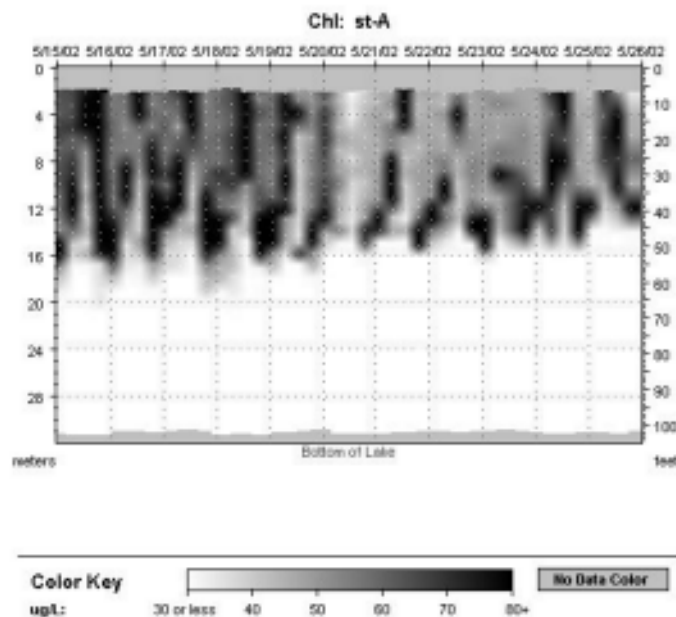


Figure 2. Calibrated time-depth map of Chl (mg L^{-1}), 15-25 May 2002, showing daily vertical migration of the dominant organism, *Peridinium gatunense*. *Peridinium* concentrates in the uppermost 6 m during the day, then migrates to the thermocline (at 15 m) at night. Date tick-marks indicate 00:00 h.

With the ecraft and the RUSS profiler installed on it, the Kinneret Limnological Laboratory is collecting a near-continuous record of water quality data spanning the entire water column and the full diel cycle, seven days a week including holidays. In particular, sampling is continued during wind- and rain-storms. Collecting such a record was never possible previously when sampling depended on sending out a boat and technicians. The ability to simultaneously follow and correlate the behavior of different parameters, at a time resolution never available to us in the past, is exciting. See for example

the diel pattern of vertical migration of chlorophyll observed during the peak of a dinoflagellate bloom in May 2002 (Fig. 2). Monthly raw data from the RUSS (2002 – recent) and also the most recent weekly data can be viewed at <http://kin-model.ocean.org.il/>

In order to achieve a coherent continuous chlorophyll record, post-calibration is required. This is done regularly by comparing the RUSS data with weekly chlorophylls determined on 10-12 discrete depth water samples, covering the full water column, using acetone extraction and fluorometer, as explained by Ousviatsov and Zohary (in press). After post-calibration, the continuous chlorophyll record documents the major events in phytoplankton abundance, seasonal succession, depth-distribution and vertical migration (Ousviatsov and Zohary, in press).

The dust collectors enable us to quantify for the first time the potentially important aeolian inputs of particles, phosphorus and iron to the lake. As a result, we are now learning to appreciate the major role of dust as a (previously unaddressed) external source of nutrients.

We invite and welcome scientists and students from all over the world to collaborate with us in making use of the data from the ecraft, preferably with a contribution towards the maintenance costs. Funding for the construction, installation and initial operation of the ecraft was by the Israel Water Commission, as part of the ‘Kinneret Modeling Project’.

Reference:

Ousviatsov, S. and Zohary T. (in press). Lake Kinneret continuous time-depth chlorophyll record highlights major phytoplankton events. *Verh. int. Ver. Limnol.* 29.

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Letter to the Editor

I refer to the article “The Systematics and Biogeography of Ciliated protozoa” written by Prof. Nanney, published in *SILnews* Vol. 44/2005. I will present my view points to assist solving these scientific problems.

Indubitably, Protozoa represent a very important category of aquatic organisms, from both systematical and ecological considerations. At the same time, they are of interest for genetic studies, an individual representing concomitantly a cell and an organism.

From my experience as a limnological researcher in varied aquatic ecosystems, I can affirm that investigations of protozoan species are very difficult because the identifications must be accomplished in a short time (i.e., within 24 hours as the initial number of individual changes and other species can appear).

Perfection of new specialists in this domain needs many years, which is not possible in every country. Current experts cannot remotely help younger colleagues as protozoans can change their morphology. As a new method I propose the use of photography and video film. The latter since the type of movement is an important criteria for systematics. In this way, the scientific data can be transmitted worldwide, even to biosystematical collection banks.

I agree with the idea that it is now time to establish biogeographical systematics for the whole globe, considering the rapid extinction of many of the actual species.

Simona Apostol

Romania

Are you moving? Please send your change of address to:

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Book Reviews

Cladocera - The Genus *Daphnia* including *Daphniopsis* (Anomopoda:Daphniidae) (Zooplankton Guides. No. 21)

by John A.H. Benzie
376 pp., 2005, paper bound
Backhuys Publishers, Leiden, Netherlands and Kenobi
Productions, Ghent, Belgium
ISBN 90-5782-15-6
Euro 90.00

Crustaceans of the genus *Daphnia* are found on all continents, often in abundance and are among the most familiar of all freshwater animals. This does not mean that they are always easily identified, or properly understood. Indeed the opposite is the case. Identification is sometimes complicated by local, seasonal, or other ecologically determined variability, or by hybridization and their functional morphology and lifestyles are often scarcely understood. All are often deemed to be constituents of the plankton - possibly the most mis-used term in limnology - which many are emphatically not. Habits and habitats range from truly planktonic to largely bottom frequenting and from large lakes to small puddles; their functional morphology is exceedingly complex and involves amazing mechanical and neural co-ordination, while their reproductive habits which seemed to have been elucidated after more than 200 years of investigation (and persistent bewilderment) have produced further surprises in recent years.

John Benzie's excellent volume is much more than a guide to identification. It deals with structure, life histories, ecology, geographical distribution and phylogenetic relationships within the genus, as well as with things that make identification difficult. In the taxonomic section, about 80% of the whole, he recognizes the three well established sub-genera *Daphnia*, *Hyalodaphnia* and *Ctenodaphnia* and incorporates *Daphniopsis* within *Ctenodaphnia*. Molecular methods are now applied to *Daphnia* taxonomy. This is a welcome development but has also led to confusion. New species have been named without adequate morphological descriptions - or even without any description - and others 'described' on compact discs. When possible, as by use of photographs on CDs, Benzie has described the latter as well as can be done from such sources: others defy definition. There is a key to the 74 recognized species. A description of *D. gelida* that formerly masqueraded under *Simocephalus*, was added in proof but not to the key. Each is described and there is a copious bibliography. More than 1,400 taxonomic illustrations, clearly drawn in a uniform style, should prove extremely useful. Nowhere else has such a comprehensive taxonomic survey been undertaken.

A few small errors were noted. For example, Schaeffer did not describe *D. magna* as *D. pulex* - the genus was not then defined, nor was binomial nomenclature yet used in zoology. Others concern morphology and function, are minor blemishes and in no way detract from the value of the major achievement of the volume, which is to provide a means of identifying these animals from all parts of the world. This well produced work should prove extremely useful to students of these important and beautiful animals and deserves a warm welcome.

Geoffrey Fryer
United Kingdom

Aquatic Ecology of Rice Fields

Edited by C. H. Fernando, F. Göltenboth and J. Margraf
472 pp., 2005
A Third Millennium Book, printed by Volumes Publishing,
Kitchener, Ontario, Canada
ISBN 0-9737503-0-8, US \$60.00 (incl. postage) for developed
countries / US \$30.00 for other countries (incl. postage),
(Obtainable from: www.volpub.com. - Visa and MasterCard
accepted)

The title reveals fascinating facets and the complexity of limnology. This volume enhances and adds new aspects to the ecology of rice fields. It is based on work by 19 specialists with wide expertise, from many geographical regions, except Africa. The contents of the book are well integrated with a summary, introduction and 15 chapters that cover a large range of topics. One of its great merits is that it brings together a large amount of scattered information from various journals, many of them inaccessible to the international scientific community. For the first time Soviet research and practices on rice field ecology associated with fish culture are fully discussed.

I was impressed by the theoretical and practical aspects related to rice field aquatic ecology presented. The holistic presentation is a good example to follow. The rice field is not just a monoculture, or a marsh in which a simple assemblage of species is encountered. It is a part of a larger integrated system including irrigation canals, adjacent reservoirs, refuge ponds, the adjacent terrestrial habitats, and even other distant ecosystems. The temporary nature of such a system with regular changes from wet to dry conditions, influence many structural and functional aspects: such as, nutrient cycling, demineralization processes, the flow of organic matter, life cycles of species, bacterial activities, prey-predator relations, etc., resulting in their having different characteristics from lakes and ponds. Those interested in economic aspects related to increased food supply will benefit from the data and the debates on sustainability - conservation, as well as on the practice of rice-fish culture discussed in many chapters. The impact of fertilizers, herbicides and pesticides on communities as well as integrated pest management are discussed in several chapters.

I am also convinced that many facts discussed in this book will enhance traditional ecology and limnology texts with new examples of functioning mechanisms in nature, with new insights on such concepts: for example, ecotone, integrated systems, community succession and ecological equivalents.

Despite some inconsistencies in the editorial standard of the volume, this is the first comprehensive book on rice field ecology and it is a necessary reference volume for those practising rice field fish culture, for limnologists and ecologists as well as for rice cultivation management agencies. The book will also be an educational tool for those ecologically minded who study theoretical and applied ecology in a "natural laboratory" such as a rice field.

Claudiu Tudorancea
Aquatic Bioservices
Canada
limnos1939@yahoo.ca

**20% discount offered
by Taylor and Francis Books, USA**

Taylor and Francis Books, USA is offering the SIL membership a 20% discount on their new book, Restoration and Management of Lakes and Reservoirs, Third Edition by G. Dennis Cooke, Eugene W. Welch, Spencer Peterson and Stanley A. Nichols. 2005.

The book can be found at:

http://www.crcpress.com/shopping_cart/products/product_detail.asp?sku=L1625&parent_id=&pc=

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Calendar of Events

North American Diatom Symposium 2005 (NADS).

31 October - 4 November 2005

Mobile, Alabama USA

Contact: Charles A. Stapleton, III

Department of Marine Sciences

LSCB 25

Univ. of South Alabama

Mobile, Alabama 36688 USA

castap@jaguar1.usouthal.edu

nads2005@jaguar1.usouthal.edu

Cell: 251 402-8018

Phone: 251 460-7317 - paleoecology lab

Fax: 251 460-7357

www.nads2005.org

5th International Rhine Symposium - Up- and Downstream Fish Migration.

2 - 4 November 2005

Bonn, Germany

Contact: Postfach 200253

56002 Koblenz, Germany

anita.thome@iksr.de

Phone: +49 (0) 261-94252-0

Fax: +49 (0) 261-94252-52

<http://www.iksr.org>

2005 International Symposium of the North American Lake Management Society - Lake Effects: People/Water Exploring the Relationship.

9 - 11 November 2005

Madison, Wisconsin USA

Contact: Dr. Jeffrey A. Thornton, Chair

Host Committee in Waukesha, Wisconsin

jthornton@sewrpc.org or iems@aol.com

Phone: +1 262 547-6721 x 237

Fax: +1 262 547-1103

www.nalms.org

Fourth Conference International Water History Association (IWhA) - Water and Civilization.

1 - 4 December 2005

Paris, France

Contact:

post@iwha.net

<http://www.iwha.net>

2006

8th CILEF (International Conference of French-Speaking Limnologists).

17 - 21 March 2006

Hammamet, Tunisia

Contact: Habib AYADI, Sfax (Tunisia)

habib.ayadi@fss.rnu.tn

Web site: <http://www.ait.org.tn/cilef>

Registration at first price until 30 November

2005.

54th Annual Meeting of the North American Benthological Society.

4 - 9 June 2006

Anchorage, Alaska, USA

Additional information is posted on Society

website: www.benthos.org

The 5th Conference of the Aquatic Birds Working Group of the International Association of Limnology "Limnology and Waterbirds 2006".

26 - 30 August 2006

Eger, Hungary

Conf. information: <http://aquabird.ektf.hu/>

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Canada

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Phone: 1 902 426-6356

Fax: 1 902 426-4457

Speciation in Ancient Lakes - 4 (SIAL - 4).

4 - 8 September 2006

Berlin, Germany

Contact: Chairman and organizer -

Prof. Dr. Frank Riedel

paleobio@zedat.fu-berlin.de

Phone: +49-30-838-70-283

The Tenth International Symposium on Aquatic Oligochaeta.

16 - 26 October 2006

The Institute of Hydrobiology

Chinese Academy of Sciences

Wuhan, China

Contact:

Dr. Hongzhu Wang, D.Sc.

Associate Professor

Institute of Hydrobiology

Chinese Academy of Sciences

Hubei, Wuhan 430072

People's Republic of China

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Phone: +86 27 87647719

Fax: +86 27 87647664

Inquiries requesting additional symposium

information should be sent to both of the

following email addresses: ISAO2006@ihb.ac.cn

and ISAO2006@yahoo.com.cn

Official symposium website:

<http://www.ihb.ac.cn/isao2006/index.htm>

Symposium information is also presented here:

<http://www.inhs.uiuc.edu:80/~mjwetzell/ISAODir.html>

2007

SIL2007 in Montréal.

Preparations for the next SIL Congress in

Montreal are continuing. The local organizing

committee is working towards an exciting

scientific program with several special sessions

as well as a series of excursions. Please visit the

congress' website for more complete information

and updates at <http://www.uqam.ca/SIL2007>

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For Your Information

SILnews is now on the SIL web site in PDF format. The newsletter is created in Adobe Acrobat, Version 5. To open, use Adobe Acrobat Reader.

Attention: Manufacturers of Limnological Equipment and Publishers

SILnews accepts *advertisements* for equipment and publications that will be of interest to SIL members.

SILnews is distributed three times a year to more than 3,000 members and libraries world-wide. If your company is interested in acquiring advertising space in SILnews, please contact the Editorial office for rates at clara.fabbro@ec.gc.ca or use the mailing address indicated on the front page.

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Notices on the availability of limnologically-oriented jobs and graduate student opportunities are now accepted for publication in SILnews and displayed on the SIL web site at www.limnology.org. There is no charge for the service at this time, which is available to SIL members and non-members.

Persons submitting notices should note the four month lead-time for the print edition of SILnews; those advertisements with short deadlines should be directed to the web site only.

Submissions should include:

- a short title describing the position (job or studentship);
- location and duration of the position;
- closing date for applications;
- a short paragraph describing the position, including any citizenship, educational or employment prerequisites; and,
- information on where potential applicants may obtain further information, including names of contact persons, telephone numbers, fax numbers, e-mail addresses, and web site addresses, where appropriate.

Submissions may be edited for length and clarity. Those deemed inappropriate to the SIL mandate will be rejected at the discretion of the SILnews Editor or the Webmaster. Submissions for the print edition of SILnews should be sent to the editor at the address on the cover of this issue.

Submissions for the SIL web site should be sent by e-mail to webmaster@limnology.org or by fax to the attention of Gordon Goldsborough at: +1 (204) 474-7618.