

The Microbial Taxonomist

A Newsletter Published by Bergey's Manual Trust

INTERNATIONAL SOCIETY FOR MICROBIAL TAXONOMY

James T. Staley, Chair of Bergey's Manual Trust

This issue of The Microbial Taxonomist focuses on the proposed International Society for Microbial Taxonomists. A major topic regards a survey to establish the level of interest in having an international society that is devoted to microbial taxonomy. The survey is included at the end of this issue.

Molecular and genomic research approaches are rapidly leading to a more complete understanding of microbial diversity and transforming the way microbiologists view taxonomy. A great flurry of scientific activity has arisen as microbial taxonomists have begun to classify organisms at higher levels on the basis of molecular phylogeny. For this reason, many microbiologists believe it is timely to consider organizing an international society for microbial taxonomists to promote more active research and to improve communications. The new society would provide a means for better communications among

taxonomists and a place to organize meetings, workshops and social events to enhance international taxonomic research.

Bergey's Manual Trust is considering establishing a global society for microbial taxonomists that treat the *Bacteria* and *Archaea*.

To learn more about the interests and opinions of potential members concerning the formation and operation of this proposed society, there is a brief survey at the end of this issue of *The Microbial Taxonomist* in order to solicit your input and suggestions. If you have other points you wish to make beyond those of the survey, please do so in the additional comments and suggestions section at the end of the survey. The survey can also be submitted online at our website, www.bergeys.org

The Trust will hold a special session at the IUMS meeting on August 8 in Istanbul to enlist further input from the microbial taxonomy

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community. It would be helpful to complete the survey online or return it to me no later than July 15 so that the results can be read, tabulated and included as part of the discussion in Istanbul.

The open discussion will be held at 12:00 on August 8, immediately following the Bergey's Manual Trust session. Everyone is welcome and encouraged to attend.

OUTLINES FOR VOLUMES 4 AND 5

The draft Taxonomic Outline for Volume 4, covering *Bacteroidetes*, *Planctomycetes*, *Chlamydiae*, *Spirochaetes*, *Fibrobacteres*, *Fusobacteria*, *Acidobacteria*, *Verrucomicrobia*, *Dictyoglomi*, and *Gemmatimonadetes* by Wolfgang Ludwig, Jean Euzéby, and William B. Whitman, has now been posted at www.bergeys.org. Our goal is to include all taxa with names validly published before July 1, 2006. We invite constructive criticism from the systematics community, particularly from experts in specific taxa and suggestions concerning the organization of higher taxa. Please address your comments to Barny Whitman (whitman@uga.edu).

The phylogenetic trees for the outline for Volume 5, which will include the *Actinobacteria*, are in preparation. Our goal is to include all taxa with names validly published before 30 June 2007. It will be posted as soon as it is completed.

THE XII INTERNATIONAL CONGRESS OF BACTERIOLOGY AND APPLIED MICROBIOLOGY, ISTANBUL, TURKEY, AUGUST 5–9, 2008

The International Union of Microbiological Societies (IUMS) currently comprises 117 microbiological societies and national committees in 67 countries and one international organization as full members. An additional 7 microbiological societies and 11 multinational organizations are associated members. More information about IUMS can be obtained from www.iums.org and from a recently published article [K.H. Schleifer. The International Union of Microbiological Societies, IUMS. Research in Microbiology 159, 45–48 (2008)].

One of the major activities of IUMS is to arrange and organize international congresses of Bacteriology and Applied Microbiology, Mycology and Virology every three years. The first International Congress of Microbiology took place at the Institute Pasteur in Paris July 21–25, 1930. In 1969 it was agreed to subdivide the microbiology union into three sections (divisions): Bacteriology and Applied Microbiology, Mycology and Virology. The virologists preferred to organize separate international congresses, whereas the bacteriologists and mycologists held their congresses together. The next International Congresses of Bacteriology and Applied Microbiology (BAM) and Mycology will be held back-to-back with the International Congress of Virology over an almost 2-week period in Istanbul (for detailed information see www.iums2008.org).

The BAM congress will start on August 5 with an Opening Lecture by Richard Losick (USA) and finish on August 9 with a Closing Lecture by Philippe Sansonetti (France). There are two Plenary Sessions and five Symposia every day between August 6 and 9. One of the Plenary Sessions (Taxonomy of Prokaryotes) is organized and sponsored by Bergey's Manual Trust and will be held on August 8 from 09:00 to 12:00. A Symposium on "Systematics: The objects and objectives of classification" is scheduled from 15:30 to 18:00 on August 8.

The International Committee on the Systematic of Prokaryotes (ICSP) is an ad hoc committee of BAM. The Committee was founded in 1930 and is responsible for all matters related to nomenclature and taxonomy of prokaryotes. There are 28 Subcommittees dealing with the taxonomy of different groups of bacteria and archaea. The members of this committee and some of its subcommittees will meet regularly at the International BAM congresses. Therefore, they will concur this year in Istanbul. For further information see the homepage of the ICSP, www.the-icsp.org.

Karl-Heinz Schleifer, President IUMS

SPECIAL DISCOUNT FOR CONTRIBUTORS

Springer, our publisher, offers discounts for authors who have contributed to the current (Second) edition of *Bergey's Manual of Systematic Bacteriology*. These discounts, which are a third off list price, apply to all volumes, not only the volume to which the author has contributed. This makes the current edition a good value for many microbiologists. This is particularly true of international microbiologists because the \$US has depreciated considerably against many other currencies.

The 33.3% discount is valid only on online orders made through Springer's website. Please go to springer.com, log in (or register if you are a first-time user), search for the Bergey's volume you are interested in and click on the shopping trolley icon. During the checkout you will need the following SpringerToken to redeem your discount: **TYX3q2A3zBbxQ89**. If you need assistance with the SpringerToken please click on the "Help" link. Springer looks forward to receiving your orders.

NORBERT PFENNIG

Norbert Pfennig, former professor of limnology and microbial ecology at the University of Konstanz, Germany, died on February 11, 2008, at the age of 82 years. Born in 1925, he had to serve in the army during the final years of World War II. After imprisonment in France 1944–1946, he studied biology in Göttingen. Following an interest developed already in his childhood, he soon concentrated on microbiology under the guidance of August Rippel-Baldes. He obtained his doctoral degree in organic chemistry in 1952 with Hans Brockmann, with a study on actinomycin formation by streptomycetes. Norbert Pfennig became an adjunct professor for microbiology in Göttingen in 1964 and later the head of a research group for nutritional physiology of microorganisms, which was funded by a federal research institution (GSF).

External research stays with Thorsten O. Wiken in Zürich, Arturri Vitonen in Helsinki, and Norman Walker in Rothamsted centered on yeast metabolism and amino acid formation by *Rhizobium* and *Streptomyces* species. In cooperation with Holger Jannasch in Göttingen, he used the chemostat as a model system to study bacterial growth under limiting substrate supply to mimic natural growth conditions.

When in 1959 Hans G. Schlegel joined the Göttingen Institute for Microbiology and brought along water samples from a pond with obvious development of purple phototrophic sulfur bacteria, Norbert Pfennig felt encouraged to cultivate them. Within two years, he explored the growth demands and invented a specific technique employing defined media to further enrich and finally isolate these barely cultivable, fastidious bacteria. A research stay with Cornelis B. van Niel at Pacific Grove deepened his interest in phototrophic bacteria. These microorganisms had some decades earlier stimulated basic questions concerning photosynthetic reactions, but were ill-treated at the time from the viewpoint of growth behavior and ecology. Undoubtedly also the broad spectrum of colors of these organisms appealed to the artist's heart. He remained an admirer of Cornelius B. van Niel as a researcher and teacher, and the master's picture looked from his bookshelf all through his active years. Especially after the discovery of the importance of vitamin B12 for the

cultivation of phototrophs, a broad multitude of phototrophic bacteria were isolated in pure culture and characterized in depth. From the days in van Niel's lab, cooperations arose with Germaine Cohen-Bazire and Roger Stanier in Berkeley, leading to detailed electron microscopic studies on the intracellular membrane arrangement and to the discovery of the *Chlorobium* vesicles.

The following years were filled with numerous studies on the physiology, nutrition and ecology of phototrophs and their taxonomic organization, to which especially his first postdoc, Hans Georg Trüper, contributed essentially. This activity also engaged him in the taxonomy of microorganisms in general, and he served Bergey's Manual as a Trustee for many years.

New research fields were opened almost unexpectedly during a study of green phototrophs: from an enrichment culture of *Chlorobium*-like phototrophs on ethanol, the first pure cultures of ethanol- and acetate-oxidizing sulfur reducers were obtained (with Hanno Biebl), along with the discovery of a syntrophic cooperation through a sulfur/sulfide-cycle. These and numerous sulfate reducers (with Friedrich Widdel) were also the basis for a long-lasting friendship with Rudolf Thauer who studied the biochemistry of these novel bacteria. Numerous scientists spent their sabbatical in Norbert Pfennig's laboratory, among them Ralph S. Wolfe, Marvin P. Bryant, Rod Quayle, Jerald C. Ensign, and John A. Breznak.

In 1979, Norbert Pfennig accepted a professorship at the University of Konstanz until his retirement in 1990. As a scientist always searching for holistic explanations, he saw the microorganism not only as a cell or strain with metabolic capabilities, but also as part of the ecosystem with its specific challenges, including limiting substrate supply, light of varying intensity and quality, and metabolic exchange with partner organisms. Inspired by this research philosophy and the new position, he entered a new phase of his academic career, now extending his research on the interaction of microbes with their natural environment. Lake Konstanz at the doorstep and many small lakes and ditches in the surrounding area became the objects of research and teaching, with a focus on the activities of anaerobic bacteria, especially the phototrophs (cooperation with Barbara Eichler and Jörg Overmann), the sulfate reducers (with Fritz Widdel, Heribert Cypionka, and

Friedhelm Bak) and syntrophic methanogenic co-cultures (with Bernhard Schink).

In 1984, Stefan Wagener isolated the first monoxenic culture of an anaerobic ciliate, *Trimyema compressum*, living in syntrophic association with intracellular methanogens.

Unlike many traditional professors, Norbert Pfennig gave an enormous amount of freedom to his scientists and acted more like a colleague, always curious to exchange news. His lectures and courses were characterized by a similar attitude: he did not regard himself as somebody who simply had to transfer knowledge, but to convey the attitude of asking questions, always willing to learn from the microbes. This is also the title of his personal biographical review in *Annual Reviews of Microbiology* 47, 1–29 (1993). He enjoyed discoveries like any graduate student, even the small breakthroughs, and used to express this by his unconstrained laughter noticeable down the hallway.

Norbert Pfennig was awarded the Research Prize of the Deutsche Gesellschaft für Hygiene und Mikrobiologie in 1980; he was a corresponding member of the Academy of Sciences in Göttingen, and an honorary member of the Society for General Microbiology in Britain and of the Vereinigung für Allgemeine und Angewandte Mikrobiologie in Germany. He was awarded the Bergey Medal in 1992 and received an Honorary Doctoral Degree from the University of Bonn.

The microbiological community in Germany and abroad has lost one of its most prominent members and founding fathers, one of the last representatives of a general microbiology based on a specific feeling for the microbes' capabilities and demands from the ecological perspective. Several of his discoveries changed and extended our understanding of the action of microbes in nature and will remain connected with his name in textbooks. Those who were closer with him lost a personal friend of unusual modesty, an honorable personality with an open mind not hiding his very own views. Our sympathies are with his wife, Helga, and his five children and nine grandchildren.

Friedrich Widdel & Bernhard Schink

TOWARDS VOLUMES 3 AND 4

We are progressing slowly but surely in the production of Volume 3, with a good amount of material already having been sent to Springer. There is a small amount of content outstanding still, but we are hopeful of receiving it soon.

Meanwhile, the copy-editing of Volume 4 has started, which is encouraging, and any missing taxa identified from the newly posted outline, will be commissioned shortly.

Aidan Parte, Managing Editor

INTERNATIONAL SOCIETY FOR MICROBIAL TAXONOMY SURVEY

Please complete at www.bergeys.org/survey.html or mail or fax to arrive no later than July 15, 2008 to:

James T. Staley, Department of Microbiology,
University of Washington, Seattle, WA 98195, USA
Email: jtstaley@u.washington.edu
Fax: +1 (206) 543-8297

1. I would like to see the organization of a society for microbial taxonomists.

Yes

No

2. I would be interested in joining an international society for microbial taxonomists as a charter member?

Yes

No

3. What types of features do you believe should be offered for microbial taxonomists by a society?(please place a check mark by each feature you favor)

Newsletter (on a semi-annual basis)

Online chat room for discussion of taxonomy issues

Workshops

Meetings associated with IUMS meetings (i.e., every 3 years)

More frequent meetings

Ad hoc special meetings

4. Should there be an honorific branch of the society to acknowledge taxonomists who have made significant contributions to microbial taxonomy?

Yes

No

5. Should the proposed society consider offering another journal for microbial taxonomists?

Yes

No

6. What other features would you like to see in a society for microbial taxonomists? All suggestions and comments are welcome.

Name (please print):

Email address:
