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CYANONEWS

Volume 3 Number 1

April 1987

CYANONEWS is intended to provide cyanobacteriologists with a forum for rapid informal communication, unavailable through journals. Everything you read in this newsletter is contributed by readers like yourself. If you have a new result, if you know of an interesting meeting, if you have a post-doctoral opening, if you want strains, if you've published/submitted an article,... why not tell us about it? It's news to us. Please send all contributions to the address listed on the last page. DEADLINE for the next issue is JULY 1, 1987.

The name of the CORRESPONDENT for each item in this newsletter is capitalized, so you know who to write to for more information. The CORRESPONDENT'S ADDRESS appears at the end of the newsletter.

The 1987 DIRECTORY OF CYANOBACTERIOLOGISTS will be distributed with the next issue. If your address, telephone number, or research interests have changed, please let me know by JULY 1, 1987.

MEETINGS*MEETINGS*MEETINGS*MEETINGS*MEETINGS*MEETINGS*MEETINGS*MEETINGS*MEETINGS*MEETINGS*MEET

Meetings this summer:

- June 8-10 MOLECULAR BIOLOGY OF PHOTOSYNTHETIC PROCARYOTES. Madison, Wisconsin, U.S.A.
Contact: Photosynthetic Prokaryote Symposium, Department of Biochemistry, University of Wisconsin at Madison, 420 Henry Mall, Madison, WI 53706 U.S.A.
- July 17-19 WORKSHOP ON THE MOLECULAR BIOLOGY OF CYANOBACTERIA. St. Louis, Missouri, U.S.A.
Contact: Lou Sherman, Div. of Biological Sciences, University of Missouri, Tucker Hall, Columbia, MO 65211 U.S.A.
- July 20 GENETIC AND MOLECULAR GENETIC STUDIES ON CYANOBACTERIA. St. Louis, Missouri, U.S.A.
(Part of the annual meeting of the American Society of Plant Physiologists).
- Sept 20-25 EMBO WORKSHOP ON OXYGENIC AND UNOXYGENIC ELECTRON TRANSPORT SYSTEMS IN CYANOBACTERIA (BLUE-GREEN ALGAE). Cape Sounion Beach Resort (near Athens), Greece. Contact: G.C. Papageorgiou, EMBO Workshop, NRC Demokritos, Dept. of Biology, Athens 153 10, Greece.

Here are details on the September EMBO WORKSHOP:

PROGRAM: I. Molecular biology and genetics

II. Energy coupling and pigment organization.

III. Photosynthetic and respiratory electron transport.

IV. Localization of electron transport systems and their relation to C, H, and N metabolisms.

V. Response of cyanobacteria to environmental stress.

VI. Biotechnological prospects of cyanobacteria.

SPEAKERS: D.S. Bendall G.A. Codd W. Lockau G.C. Papageorgiou H. Zuber
P. Böger A.R. Holzwarth L.R. Mur L.A. Sherman
H. Bothe F. Joset N. Murata E. Tel-Or
N.G. Carr D.W. Krogmann L. Packer J.G.K. Williams

FEES: A registration and accommodations fee of \$200 US in the form of a bank draft made to Dr. George C. Papageorgiou must accompany each application. The fee covers sleeping (2 per bungalow) breakfast and lunch for 5 days (20 through 24 September) and airport transportation. Accompanying persons pay the same fee. Fees will be returned if for any reason the applicant is not accepted (registration will be limited to 60 participants). Single rooms cost \$50 US extra. A limited number of fellowships covering partial costs is available. Application should include biographical and scientific documentation and the title of the poster presentation.

DEADLINES: Applications: May 31, 1987. Abstracts: June 30, 1987.

and Infectious Diseases), and Memorial Sloan Kettering Cancer Hospital, New York is planning a large clinical trial of phycotene as a treatment for cancer of the colon.

REMARKABLE OSCILLATORIA

BEN DE WINDER sent in news about a special cyanobacterium. It is a flat cyanobacterium isolated from a sandcrust. This flat band-shaped cyanobacterium was isolated from a cyanobacterial crust on a dune-sand from the inner coast of The Netherlands. The organism is sheathless and non-motile. Its breadth is 8-10 μ and trichome extends up to 100 μ . The thickness of the organism is about 2 μ . According to the Rippka system it should belong to the Oscillatoria group (Section 3). He is studying the physiological responses of the organism to conditions found in its natural habitat. If anyone knows anything more about such extraordinary cyanobacteria, please contact Ben.

NORSE MEETING ON TOXIC CYANOBACTERIA SUMMARIZED

Twenty-two scientists (one of which was correspondent OLAV SKULBERG) gathered on 24-25 September 1986 to present the results of research on toxic cyanobacteria. The meeting took place at Husö Biological Station, the field station on Åland belonging to Åbo Akademi and was a follow-up to an Oikos symposium on the same theme, held in Copenhagen in 1984.

During the workshop results from recent national surveys were presented, as well as papers dealing with toxin production of cyanobacteria, the toxicology of the toxins, and the ecological impact of toxic cyanobacteria. The national surveys demonstrated that toxic cyanobacteria are quite common in lakes in Norway, Sweden, and Finland. Forty to fifty percent of the samples from lakes with cyanobacterial blooms contained toxic strains. These have been found in the genera Microcystis, Anabaena, Oscillatoria, Nodularia, and Aphanizomenon. In Denmark, Norway, Sweden, and Finland, toxic cyanobacteria have been implicated in several cases of illness and death among domestic and wild animals. The toxins of several strains have been isolated and investigations have been started to clarify the mode of action of these toxins.

The following were appointed members of a Nordic committee for further cooperation in this research field: Hanne Kaas (Denmark), Per-Edvin Person (Finland), Olav Skulberg (Norway; coordinator), and Torbjö Willén (Sweden).

The workshop was sponsored by Åbo Akademi and Stiftelsen för Forsknings-institut. The abstracts of the papers read during the workshop can be ordered from John Eriksson (Dept. of Biology, Åbo Akademi, SF-20500 Åbo, Finland).

UPDATED DIRECTORY TO TOXIC CYANOPHYTE LITERATURE

OLAV M. SKULBERG has updated a directory to toxic cyanophyte literature from the Nordic countries (Denmark, Finland, Norway, and Sweden). Entries range from 1933 to 1986.

IMPROVED SHUTTLE VECTOR FOR FREMYELLA DIPLOSIPHON

JOHN COBLEY, Edward Zerweck, and Heidi Jaeger describe an improved shuttle vector designed for the chromatically adapting cyanobacterium *Fremyella diplosiphon*. The vector totally lacks sites for the known restriction enzymes of *F. diplosiphon* and is efficiently transferred by conjugation from *E. coli*. A fragment from Tn903 provides strong selection for neomycin- or geneticin-resistance. Selection for chloramphenicol-resistance (also determined by the vector) is only adequate, but expression of the gene can be easily quantitated in extracts of *F. diplosiphon*, thus may serve as a reporter of gene expression. The lab intends to use the vector to identify and characterize genes that complement mutations in *F. diplosiphon* defective in chromatic adaptation.

MUTANT OF PHOTOHETEROTROPH CONSTRUCTED THAT LACKS Q-B PROTEIN OF PHOTOSYSTEM II

CHRISTER JANSSON tells us that he along with Rick Debus, Heinz Osiewacz, Mickey Gurevitz, and Lee McIntosh have managed to construct a well-defined mutant of the cyanobacterium *Synechocystis* PCC6803 that lacks the Q-B-binding polypeptide encoded by *psbA*. This is a major step towards understanding the function of the polypeptide and its interaction with other photosystem II components. *psbA* appears in three copies in *Synechocystis* PCC6803. Each gene was inactivated by in vitro insertion of drug

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