

CYANO NEWS

Volume 2 Number 3

December 1986

CYANO NEWS is intended to provide cyanobacteriologists with a forum for rapid, informal communication, unavailable through journals. It relies entirely on news provided by its readers. Please send news, requests, publications, reports, etc. to the address listed on the last page. DEADLINE for the next issue is MARCH 1, 1987.

The name of the CORRESPONDENT for each item in this newsletter is capitalized, so you know who to write to for reprints or whatever. The CORRESPONDENT'S ADDRESS appears at the END OF THE NEWSLETTER. Copies of the 1986 Directory of Cyanobacteriologists are still available for those in need.

*NEWS*NE

There will be a WORKSHOP titled "OXYGENIC AND UNOXYGENIC ELECTRON TRANSPORT SYSTEMS IN CYANOBACTERIA (BLUE-GREEN ALGAE)", sponsored by EMBO. The most likely time for the workshop is Sept. 20-25, 1987 and the most likely place Chios, Greece. The workshop is being organized by P. Böger (Konstanz), F. Joset (Marseille), L. Packer (Berkeley), and G. PAPAGEORGIOU (Athens).

A symposium entitled "MOLECULAR BIOLOGY OF PHOTOSYNTHETIC PROCARYOTES" has been set for June 8-10, 1987 at the University of Wisconsin, Madison. The program has not been finalized, but the organizing committee is split 69%:31% purples:blue-greens (Mary Lynn Collins, Stephanie Curtis, Timothy Donohue, Robert Haselkorn, Paul Ludden, Barry Marrs, Ed Stevens, and Judy Wall). There will be presentations by a limited number of invited speakers as well as several open poster sessions. Costs will be approximately \$50-\$75 housing, + about \$60 registration fee. If interested in receiving further information, contact: Photosynthetic Procarvotope Symposium, Department of Biochemistry, University of Wisconsin at Madison, 420 Henry Mall, Madison, WI 53706 U.S.A. Indicate also if you are interested in making an oral or poster presentation, and its title.

Commendations are due to LOU SHERMAN and Himadri Pakrasi who have put together a WORKSHOP ON THE MOLECULAR BIOLOGY OF CYANOBACTERIA to be held in St. Louis, July 17-19, 1987. This is the second annual workshop and hopes to recapture the spirit of the first annual workshop (in Chicago, 1984) by providing an opportunity for graduate students and post-docs, as well as laboratory heads, to speak on their work. Housing can be coordinated, if desired, with the meeting of the American Society of Plant Physiologists (see below). Housing costs will range from \$20 per night (triple occupancy) to \$55 per night, plus a registration fee of about \$20. It is not clear if there will be any money available for travel. There will probably be some money for foreign travel at least. If you wish to attend and have not yet indicated your interest, contact LOU SHERMAN. Suggestions for the meeting are welcome.

The AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS will hold its annual meeting in St. Louis immediately after the Molecular Biology Workshop, July 19-23. As part of the ASPP meeting, Peter Wolk has organized a symposium entitled, "Genetic and Molecular Genetic Studies on Cyanobacteria". Speakers are: Don Bryant (cyanobacterial photosynthetic apparatus), John Williams (site-directed mutants in the D2 polypeptide of PSII), Stephanie Curtis (ATP synthase genes), Jim Golden (rearrangement of nif genes), and Peter Wolk (genetic studies of N-fixers). Other symposia at the meeting include: Signals and Mechanisms in Plant-Microbe interactions, Climate and Vegetation Responses to Rising Atmospheric CO₂, and The Shikimate Pathway in Plants: Compartmentation, Regulation, and Genetic Manipulation. Costs haven't been fixed yet, but will probably be close to \$90 registration fee for members (anyone can join for \$35 or

\$15 for students). Deadline for abstracts: February 2, 1987. Contact: ASPP, 15501-A Monona Drive, Rockville, MD 20855, U.S.A.

BORIS GROMOV announces the publication of a book edited by himself entitled "Functional Ultrastructure of Cyanobacteria". The book is in Russian and is intended mainly for teaching.

*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS*REPORTS

SEQUENCE OF CYTOCHROME c550 FROM MICROCYSTIS

DAVID KROGMANN and coworkers have completed the amino acid sequence of the low potential cytochrome c550 from *M. aeruginosa* and it is unlike any of the hundreds of "c" type cytochromes described to date. The accumulation of sequences of cytochrome c553 from different genera of cyanobacteria indicates a radical evolutionary change in the isoelectric point of this protein. A bloom of *M. aeruginosa* on the Potomac River provided a huge quantity of pure cells for protein isolation and prompted a look at the history of bloom occurrences in this river. Blooms have occurred in years of drought during July and August. In 1986, there was a severe drought in the Spring through July and the water was rich with *M. aeruginosa* but the first signs of a surface scum accumulation in early August were dispersed by rain and occasional rains thereafter may have suppressed bloom formation.

*PUBLICATIONS*PUBLICATIONS*PUBLICATIONS*PUBLICATIONS*PUBLICATIONS*PUBLICATIONS*PUBLICATIONS*PUBLICATIONS*PUBLICATIONS

- Lawry, N.H.; JENSEN, T.E. (1986). Condensed phosphate deposition, sulfur amino acid use, and unidirectional transsulfuration in *Synechococcus leopoliensis*. *Arch. Microbiol.* 144:317-323.
- Baxter, M.; JENSEN, T.E. (1986). Cell volume occupied by polyphosphate bodies during the polyphosphate overplus phenomenon in *Plectonema boryanum*. *Cytobios* 45:147-159.
- METTING, B.; Pyne, J.W. (1986). Biologically active compounds from microalgae. *Enzyme Microb. Technol.* 8:386-394.
- REYNAUD, P.A. (1986). Control of the *Azolla* pest *Limnea natalensis* with molluscicides of plant origin. *IRRN* (in press).
- REYNAUD, P.A. (1986). Ecology of nitrogen-fixing cyanobacteria in dry tropical habitats of West-Africa: a multivariate analysis. *Plant & Soil* (Oct.).
- Franche, C.; REYNAUD, P.A. (1986). Characterization of several tropical strains of *Anabaena* and *Nostoc*: morphological and physiological properties and plasmid content.. *Ann. Inst. Pasteur/Microbiol.* 137A:179-197.
- REYNAUD, P.A.; Laloe, F. (1985). The serial-dilution technique adapted to the estimation of algal population in a rice field [French]. *Ecol. Biol. Sol.* 22:161-192.
- REYNAUD, P.A. (1985). Growth of *Azolla africana* and nitrogen fixation: environmental conditions and plots inoculation assays. In: *Role of Isotopes in Studies on Nitrogen Fixation and Nitrogen cycling by Blue-green Algae and their Association*. IAEA, Vienna. TECDOC 325:39-52.
- REYNAUD, P.A. (1985). Application of the serial-dilution technique to estimate the biomass of N₂-fixing blue-green algae under field conditions. In: *Role of Isotopes in Studies on Nitrogen Fixation and Nitrogen cycling by Blue-green Algae and their Association*. IAEA, Vienna. TECDOC 325:119-129.

- BULLERJAHN, G.S.; Sherman, L.A. (1986). Immunological characterization of Photosystem II chlorophyll-binding proteins from the cyanobacterium, *Aphanocapsa* 6714.. *J. Bioenerg. Biomb.* 18:285-293.
- Apte, S.K.; THOMAS, J. (1984). Effect of sodium on nitrogen fixation in *Anabaena torulosa* and *Plectonema boryanum*. *J. Gen. Microbiol.* 130:1161-1168.
- Apte, S.K.; THOMAS, J. (1985). Effect of sodium on membrane potential, uptake of phosphate, nucleoside phosphate pool and synthesis and expression of nitrogenase in *Anabaena torulosa*. *Indian J. Exp. Biol.* 23:518-522.
- Apte, S.K.; THOMAS, J. (1986). Membrane electrogenesis and sodium transport in filamentous nitrogen-fixing cyanobacteria. *Eur. J. Biochem.*
- JÜTTNER, F.; Höflacher, B.; Wurster, K. (1986). Seasonal analysis of volatile organic biogenic substances (VOBS) in freshwater phytoplankton populations dominated by *Dinobryon*, *Microcystis* and *Aphanizomenon*. *J. Phycol.* 22:169-175.
- Houmard, J.; Mazei, D.; Mogeut, C.; Bryant, D.A.; TANDEAU DE MARSAC, N. (1986). Organization and nucleotide sequence of genes encoding core components of the phycobilisomes from *Synechococcus* 6301. *Molec. Gen. Genet.* in press.
- Karreman, C.; TANDEAU DE MARSAC, N.; de Waard, A. (1986). Isolation of a deoxycitidylate methyl transferase capable of protecting DNA uniquely against cleavage by endonuclease R.AquI (isoschizomer of *AvaI*). *Nucl. Acids Res.* 14:5799-5205.
- Castets, A.-M.; Houmard, J.; TANDEAU DE MARSAC, N. (1986). Is cell motility a plasmid-encoded function in the cyanobacterium *Synechocystis* 6803?. *FEMS Lett.* in press.
- Rebiere, M.-C.; Castets, A.-M.; Houmard, J.; TANDEAU DE MARSAC, N. (1986). Plasmid distribution among unicellular and filamentous cyanobacteria: occurrence of large and mega-plasmids. *FEMS Lett.* in press.
- Cohn, C.L.; Alam, J.; KROGMANN, D.W. (1985). Multiple ferredoxins from cyanobacteria. *Physiol. Veg.* 23:659-667.
- KROGMANN, D.W.; Butalla, R.; Sprinkle, J.R. (1986). Blooms of cyanobacteria on the Potomac River. *Plant Physiol.* 80:667-671.
- Sprinkle, J.R.; Hermodson, M.; KROGMANN, D.W. (1986). The amino acid sequences of cytochromes c553 from *Porphyridium cruentum* and *Aphanizomenon flos-aquae*. *Photosyn. Res.* 10:63-74.
- Padgett, M.P.; KROGMANN, D.W. (1986). Large scale preparation of pure phycobiliproteins. *Photosyn. Res.* in press.
- SCHMETTERER, G.; ELHAI, J.; Wolk, C.P. (1986). Expression of luciferase from *Vibrio* in *Anabaena*. *J. Bacteriol.* 167:411-414.
- Cangelosi, G.A.; Joseph, C.M.; Rosen, J.J.; MEEKS, J.C. (1986). Cloning and expression of a *Nostoc* sp. leucine biosynthetic gene in *Escherichia coli*. *Arch. Microbiol.* in press.
- Kalinichenko, T.S.; Nesterova, N.V.; Mankaeva, K.A.; Mendzhul, M.I. (1985). Intracellular development of cyanophage AS-1L in *Synechococcus cedrorum* cells. *Mikrobiol. Zhurn.* 47:57-62 [Russian with English summary] [Contact B.GROMOV].

Sharipova, M.Yu. (1985). Alteration in the fluorescent spectrum of the blue-green alga *Synechocystis aquatilis* as a consequence of thermal and acid shock. *Vestnik LGU* 17:119-121 [Russian with English summary] [Contact B.GROMOV].

*ADDRESSES*ADDRESSES*ADDRESSES*ADDRESSES*ADDRESSES*ADDRESSES*ADDRESSES*ADDRESSES*ADDRESSES*ADDRESSES*ADD

CONTRIBUTERS (see also addresses of clearinghouses below):

BULLERJAHN, David	Division of Biological Sciences, University of Missouri, Tucker Hall, Columbia, MO 65211 U.S.A.
GROMOV, Boris	Biological Institute of Leningrad University, Oranienbaumskoye sch.2, Stary Peterhof, Leningrad 198904 U.S.S.R.
JENSEN, Thomas	Dept. of Biological Science, Herbert H. Lehman College of City University of New York, Bedford Park Blvd. West, Bronx, New York, NY 10468 U.S.A.
JÜTTNER, Friedrich	Inst. Chem. Pflanzenphysiol., Corrensstr. 41, D-74 Tübingen, FRG-WEST GERMANY
KROGMANN, David	Dept. of Biochemistry, Purdue University, W. Lafayette, IN 47907 U.S.A.
MEEKS, Jack	Dept. of Bacteriology, University of California, Davis, CA 95616 U.S.A.
METTING, Blaine	R&A Plant-Soil, Inc., #24 Pasco-Kahlotus Rd., Pasco, WA 99301, U.S.A.
PAPAGEORGIOU, George	National Research Center Demokritos, Department of Biology, Athens, GREECE 153 10
REYNAUD, Pierre	R&A Plant-Soil, Inc., #24 Pasco-Kahlotus Rd., Pasco, WA 99301, U.S.A.
SHERMAN, Lou	Division of Biological Sciences, University of Missouri, Tucker Hall, Columbia, MO 65211 U.S.A.

If you wish to be included in the mailing list, send your name, address, telephone number, and a brief description of your research interests to:

Jeff Elhai
MSU/DOE Plant Research Laboratory
Michigan State University
East Lansing, MI 48824 U.S.A.

or contact one of the cyanobacteriologists below, who are serving as clearinghouses for the newsletter in their region:

AUSTRALIA/NEW ZEAL./SE.ASIA	Steve Delaney	Department of Biotechnology, The University of New South Wales, P.O. Box 1, Kensington, New South Wales, AUSTRALIA 2033
CANADA	Neil Strauss	Dept. of Botany, University of Toronto, Toronto, Ontario CANADA M5S 1A1
P.R.CHINA	Shang-Hao Li	Laboratory of Phycology, Institute of Hydrobiology, Academia Sinica, Wuhan, P.R.CHINA
FRANCE	Nicole Tandeau de Marsac	Physiologie Microbienne, Institut Pasteur, 28 rue du Dr. Roux, 75724 Paris Cedex 15, FRANCE
FRG-W.GERMANY	Wolfgang Lockau	Institut für Allgemeine Biochemie, Universitätsstr. 31, 8400 Regensburg, FRG-W.GERMANY
GDR-E.GERMANY	J.-G. Kohl	Section Biology at Humboldt-University, Department Ecology, Invalidenstrasse 43, Berlin 1040, GDR-E.GERMANY
INDIA	Joe Thomas	Biology and Agriculture Div., Modular Labs, Bhabha Atomic Research Centre, Trombay, Bombay 400 085 INDIA
NETHERLANDS	Luuc Mur	Laboratorium voor Microbiologie, Universiteit voor Amsterdam, Nieuwe Achtergracht 127, 1018 WS Amsterdam, THE NETHERLANDS
NORWAY	Olav Skulberg	Norwegian Institute for Water Research, P.B. 333, Blindern, N-0314, Oslo 3 NORWAY
U.K.	Tony Walsby	Dept. of Botany, University of Bristol, Bristol BS8 1UG, U.K.