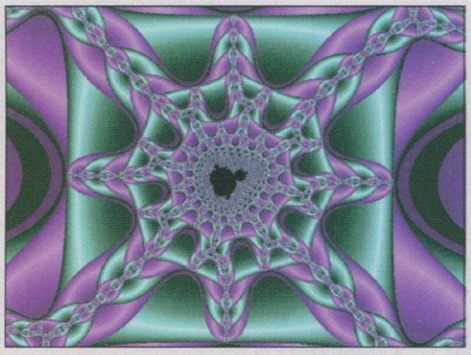
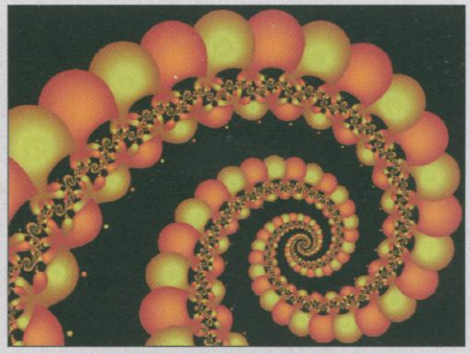
# NETWATCH

edited by JOCELYN KAISER





**Fractal fever.** Given that fractal geometry combines computers, math, and images, it's perhaps no surprise that fractals have a huge following on the Web. Discovered in the 1970s by mathematician Benoit Mandelbrot, the technique involves repeatedly applying a mathematical formula to generate structures. Fractal geometry has been used to model natural systems ranging from snowflakes to blood vessels—and to make stunning pictures. One of the oldest fractal art sites is mathematician Frank Roussel's, started in 1993 at the Conservatoire National des Arts et Métiers in Paris (**www.cnam.fr/fractals.html**). The images here, created by Paul Carlson, are among some 600 on the site, which also includes more than 200 animated fractal movies and links to other artists' Web sites. Elsewhere on the Net, fractal fans can discuss techniques on a Usenet group, sci.fractals, or embark on a tour of more than 70 fractal sites at **www.fractalus.com/ifl/**

NET PICS

**Protein family trees.** Wondering where the protein you're studying fits into the larger scheme of things? Try ProtoMap, a database launched earlier this year at Hebrew University of Jerusalem that offers an "automatically generated hierarchical classification of all known proteins ... based on sequence comparisons." **www.protomap.cs. huji.ac.il**

HOT PICKS

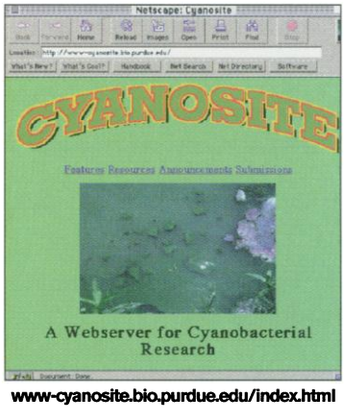
**Biodiverse views.** Put in your two cents about what research is needed to maintain biodiversity in Europe, during an electronic conference from 4 May to 14 June sponsored by the European Working Group on Research and Biodiversity. **www.gencat.es/mediamb/biodiv/**

## Cyano Cache

SITE VISIT

Researchers who study cyanobacteria are a diverse crowd, ranging from plant biologists probing photosynthesis to ecologists investigating toxic algal blooms. Pulling together resources for all these parties is Cyanosite, started in 1995 by University of Notre Dame microbiologist Mark A. Schneegurt. "It's aimed at everybody," he says.

The centerpiece of Cyanosite is a bibliography of more than 5300 cyanobacteria references that one can freely download, sort, and search. That setup may seem cumbersome, but searchable online databases with the same breadth of coverage (such as BIOSIS) aren't free, notes Schneegurt, who put the bibliography online last summer with Jeff Elhai of the University of Richmond in Virginia. The growing site also offers experimental protocols; Elhai's CyanoNews, a biannual newsletter; taxonomy lists; cyanobacteria images, 100 and counting; announcements of books and meetings; and 135 outside links, from other researchers' home pages to a Japanese database with the entire DNA sequence of the cyanobacterium *Synechocystis*.




**www-cyanosite.bio.purdue.edu/index.html**

Boston University biologist Stjepko Golubic calls Cyanosite "very good," although he thinks a useful addition would be critiques of the links, some of which are better than others, he says. Such a ranking might be welcomed by Cyanosite, which carries the message: "Please contribute."

## Second Network for Speed Demons

NEWS

Scientists who need superfast computing networks now have a new way to get their fix. Vice President Al Gore, along with a university consortium and three companies, last week announced the creation of an academic network with the speediest data lines yet. It should make it easier for scientists to do everything from operating a telescope remotely to hitching together far-flung computers.

Right now, most scientists who need fast data transmission turn to the National Science Foundation's very high performance Backbone Network Service run by MCI, which moves data at up to 622 megabits per second (Mbps) (*Science*, 7 March 1997, p. 1412). The new network, called Abilene, will be four times faster—2.4 giga-bps, which can transmit the *Encyclopedia Britannica* in 1 second. Universities will decide whether to link to an Abilene node.

Developing the network is the University Corporation for Advanced Internet Development, a group of over 120 research universities which runs Internet2, a project helping to create the federal Next Generation Internet. Abilene's infrastructure, however, is a gift: It will start operating this year on 26,000 kilometers of fiber-optic lines, a service worth an estimated $500 million donated by Qwest, a Denver company that wants to show off its network to potential business customers. Cisco Systems and Nortel are chipping in other equipment.

**SCIENCE ONLINE** Readers outside North America can now enjoy faster access to *Science* Online, thanks to a contract with Digital Island, whose network provides a direct pipeline to our online collaborator, Highwire Press. And starting this week, a Japanese-language version of *Science*'s table of contents will appear on the Web site of Tanabe Seiyaku, a Japanese pharmaceutical company. For more info, go to **www.sciencemag.org**

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