

SCIENCE NEWS®

The Weekly Newsmagazine of Science

Science Service Publication
Volume 149, No. 10, March 9, 1996

Alfred Scott McLaren Publisher
Julie Ann Miller Editor
Blair Burns Potter Managing Editor
Dan Skripkar Production/Design Director
David Lindley Associate Editor
Janet Raloff Senior Editor
Environment/Policy
Ron Cowen Astronomy
Bruce Bower Behavioral Sciences
Richard Lipkin Chemistry/
Materials Science
Richard Monastersky Earth Science
John Travis Biology
Kathleen Fackelmann,
Steve Sternberg Biomedicine
Tina Adler Life Sciences
Ivona Peterson Mathematics/Physics
Damaris Christensen Editorial Assistant
Cait Anthony Books/Resource Manager
Donald R. Harless Advertising/Business
Manager

SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for \$49.50 for 1 year or \$88.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, D.C. 20036. Second-class postage paid at Washington, D.C., and additional mailing office. **POSTMASTER:** Send address changes to SCIENCE NEWS, P.O. Box 1925, Marion, Ohio 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided. Copyright © 1996 by Science Service, Inc. Title registered as trademark U.S. and Canadian Patent Offices. Printed in U.S.A. on recycled paper. ♻️ Reproduction of any portion of SCIENCE NEWS without written permission of the publisher is prohibited.

Editorial and Business Offices:
1719 N St. N.W., Washington, D.C. 20036
202-785-2255; scinews@scisvc.org

Advertising Representative:
Lewis Edge & Associates, Inc.
366 Wall St., Princeton, N.J. 08540
609-683-7900

Subscription Department:
P.O. Box 1925, Marion, Ohio 43305
For new subscriptions only, call 1-800-247-2160.
For customer service, call 1-800-347-6969.

This Week

- 148 Bidding Bye-Bye to the Black Sheep?
- 148 One-man band: X-ray source plays two tunes
- 149 Pesticides may challenge human immunity
- 150 Fine points of melting in plasma crystals
- 150 The worm turns—into a source of new drugs
- 151 Rapid X ray opens window to arteries
- 151 Drop in ozone killers means global gain

Research Notes

- 155 Astronomy
- 155 Behavior
- 159 Biology
- 159 Biomedicine

Articles

- 152 Artificial Spider Silk

Cover: The dragline silk of the golden orb-weaving spider constitutes one of nature's finest high-performance materials. Now, scientists are closing in on the genes and methodology for synthesizing the strong but elastic material. (Photo: Lynn W. Jelinski/Cornell University)

- 156 Electron Pairs and Waves

Departments

- 146 Books
- 147 Letters



Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921. It gratefully accepts tax-deductible contributions and bequests to assist its efforts to increase the public understanding of science, with special emphasis on young people. More recently, it has included in its mission increasing scientific literacy among members of underrepresented groups. Through its Youth Programs it administers the International Science and Engineering Fair, the Science Talent Search for the Westinghouse Science Scholarships, and publishes and distributes the *Directory of Student Science Training Programs for Precollege Students*.

Board of Trustees — *Chairman*, Dudley Herschbach; *Vice Chairman*, Gerald F. Tape; *Secretary*, David A. Goslin; *Treasurer*, Willis Harlow Shapley; Joseph W. Berg Jr.; Robert W. Fri; J. David Hann; Shirley M. Malcom; C. Bradley Moore, Elena O. Nightingale; Ben Patrusky; Peter H. Raven; H. Guyford Stever; Sanford J. Ungar; Deborah P. Wolfe. Honorary Trustees — *Chairman Emeritus*, Glenn T. Seaborg; Edward Bliss Jr.; Bowen C. Dees; O.W. Riegel; John Troan.

President: Alfred Scott McLaren; Vice President and Business Manager: Donald R. Harless.

Letters

Makin' copies

In "When not to photocopy" (SN: 12/2/95, p. 374), you state that a classroom instructor who copies an article from a journal he subscribes to and distributes the copies to students might be in violation of the fair use statute. How can anyone distinguish this case from one in which the instructor tells the students to go to the library and copy the article for themselves, each individual case of which does not violate the fair use statute?

Publishers are just going to have to get used to the idea that they can't recover every instance of use of material, fair or not.

Wayne McCoy
Poolesville, Md.

At present, there are many interpretations of the fair use statute. One of the factors that has gone into court decisions is whether the user had time to obtain permission—the difference between coming across an article in the library 10 min-

utes before the lecture and realizing 3 weeks earlier that the article would be useful. — J. Raloff

Your article caused me serious concern. Many of my faculty colleagues routinely photocopy material from journals, and sometimes they even distribute photocopies to classes or to their research groups. They are not aware, I am sure, that they may be in hot water.

Therefore, I photocopied your article and distributed it in all the faculty and staff mailboxes in our department.

Jimmie G. Edwards
Professor of Chemistry
University of Toledo
Toledo, Ohio

Invitation to disaster?

Newly available satellite data revealing features of the seafloor ("A New View of Earth," SN: 12/16/95, p. 410) may be a boon to marine geologists but bad news for some marine populations.

Your report mentions the discovery of

Wahoo Guyot, a large seamount in the mid-Pacific whose flat-topped summit supports a rich habitat for fish and lobster. It reminds me of a similar discovery in the early 1960s, when Columbia University oceanographers (using an echo sounder) charted the largest seamount in the Atlantic, some 500 nautical miles west of Capetown, South Africa.

Rising nearly 500 meters from the seafloor, this flat-topped volcanic cone reached to within 40 meters of the sea surface. It was named Vema Seamount after the research vessel which discovered it and soon became a focus of frenzied commercial fishing. After a few years of heavy harvesting of lobsters, dredging had scraped it bare, and the site has remained unproductive ever since.

In the absence of effective fisheries controls in international waters, the charting of newly discovered undersea features attractive to commercial fishermen is an invitation to ecological disaster.

Robert Gerard
Patisades, N.Y.

MARCH 9, 1996

SCIENCE NEWS, VOL. 149

147