

SCIENCE NEWS®

The Weekly Newsmagazine of Science

Science Service Publication
Volume 145, No. 18, April 30, 1994

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SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for \$39.50 for 1 year or \$68.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, DC 20036. Second-class postage paid at Washington, DC, and additional mailing office. POSTMASTER: Send address changes to SCIENCE NEWS, P.O. Box 1925, Marion, OH 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided.

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Editorial and Business Offices:
1719 N St., N.W., Washington, DC 20036
(202-785-2255)

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Subscription Department:
P.O. Box 1925, Marion, OH 43305
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Letters

What was that masked planet?

Your Feb. 19 cover was dramatic, but I soon began to realize something was wrong. The Jupiter photo has a perfectly circular mask on it in order to surround it with black sky. The real Jupiter has a very pronounced and easily visible ellipticity, second only to Saturn's. Its equatorial diameter is around 7 percent greater than its polar diameter. In short, your cover picture conveys a grossly wrong impression of Jupiter!

William K. Hartmann
Tucson, Ariz.

How much biodiversity is enough?

The experimenters in "Biodiversity helps keep ecosystems healthy" (SN: 2/5/94, p.84) missed a significant factor that should affect their conclusions.

In any given zone, there is a natural recovery sequence of species that reestablish them-

This Week

- 276 At Last, Evidence of the Top Quark
- 276 Engineered mice make human antibodies
- 277 More data flaws mar breast cancer trials
- 277 ASCA probes the X-ray universe near and far
- 278 Seismologists track tremors in Tennessee
- 278 Clinton emissions program under fire
- 279 Maya beginnings extend back at Belize site
- 279 Blocking multiple sclerosis in a mouse model

Research Notes

- 287 Biomedicine
- 287 Earth Science

Articles

- 282 Breast Cancer Research on Trial
- 284 Gone Batty

Cover: A fruit bat, *Artibeus jamaicensis*, nabs a ripe fig off a tree in Panama. With new technology and much patience, biologists are sorting out how these nocturnal creatures shape the world around them. (Photo: Elisabeth K. V. Kalko, University of Tübingen, Germany)



Departments

- 274 Books
- 275 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*.

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selves in a damaged or overcropped area. All members of the local sequence are necessary, because a damaged plot cannot recover naturally if any one is missing. However, once this criterion is met, there is no special magic in further biodiversity.

Peter Vokac
Tucson, Ariz.

Confusing emergence, expansion

The article "Savannas leave signs of slow takeover" (SN: 1/15/94, p.38) by B. Bower states that the emergence of C_4 plants, as reported by M. Morgan *et al.*, challenges the theory we presented last year that "savanna environments rapidly took hold and expanded in regions throughout the world between 7 million and 5 million years ago. A relatively sudden drop in atmospheric carbon dioxide — which favored plants that use carbon dioxide efficiently during energy production — sparked the spread of savannas, argued Thure E. Cerling . . . and his co-workers."

Morgan has confused the issue of the emergence of C_4 plants with the expansion of C_4 ecosystems. We have repeatedly stated that we observed isotopic evidence of C_4 plants before the expansion of C_4 plants began in both North America and Asia about 7 million years ago.

Furthermore, although we have favored a gradual decline in atmospheric carbon dioxide, we have never stated the rate of the decline. It is Bower who suggests a "relatively sudden drop in atmospheric carbon dioxide."

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