



SCIENCE NEWS®

The Weekly Newsmagazine of Science

Science Service Publication
Volume 152, No. 7, August 16, 1997

Thomas Peter Bennett	Publisher
Julie Ann Miller	Editor
Blair Burns Potter	Managing Editor
Dan Skripkar	Production/Design Director
David Lindley	Associate Editor
Janet Raloff	Senior Editor
Ivars Peterson	Environment/Policy Online Editor
Bruce Bower	Mathematics/Physics
Richard Monastersky	Behavioral Sciences
Kathleen Fackelmann, Nathan Seppa	Internship Coordinator
Ron Cowen	Earth Science
Christine Mlot	Biomedicine
John Travis	Astronomy
Corinna Wu	Life Sciences
Evelyn Strauss	Biology
Meghan Mitchell	Chemistry/Materials Science
Cait Anthony	Science Writer Intern
Donald R. Harless	Editorial Assistant
	Books/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, 1719 N Street, N.W., Washington, D.C. 20036. Preferred Periodicals 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 © 1997 by Science Service. 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. For permission to photocopy articles, contact Copyright Clearance Center at 508-750-8400 (phone) or 508-750-4470 (fax).

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

Subscription Department
P.O. Box 1925, Marion, Ohio 43305
For new subscriptions and customer service, call 1-800-552-4412.

Visit SCIENCE NEWS ONLINE
for special features, columns,
and references.
<http://www.sciencenews.org>

This Week

- 100 Biological Pest Control Harms Natives
- 100 Top Othello player loses to computer
- 101 United neighbors take a bite out of crime
- 101 Eruption on Montserrat gaining strength
- 102 Nuclear buildup may explain brain disease
- 102 High vacuum produces ultrapure crystals
- 103 Ice crystals promote molecular eruption
- 103 Mutated gene can delay onset of AIDS

Research Notes

- 107 Astronomy
- 111 Science & Society

Articles

- 104 Can Grain Yields Keep Pace?

Cover: Wheat is one of three cereals that together provide half the world's calories. Though global harvests of all three have been growing for decades, their rate of growth has slowed recently—to half the rate at which humanity's numbers are increasing. Scientists are working to reinvigorate those yields, but their success appears threatened by increasing natural and fiscal constraints.

- 108 A Green Clean

Departments

- 98 Books
- 99 Letters



SCIENCE NEWS is published by Science Service, a nonprofit corporation founded in 1921. The mission of Science Service is to advance the understanding and appreciation of science through publications and educational programs.

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; Eve L. Menger; C. Bradley Moore; Ben Patrusky; H. Guyford Stever; Sanford J. Ungar; Deborah P. Wolfe; *Chairman Emeritus*, Glenn T. Seaborg; *Honorary Trustees*, Edward Bliss Jr.; Bowen C. Dees; Elena O. Nightingale; O.W. Riegel; John Troan.

Officers—*President*, Thomas Peter Bennett; *Vice President and Business Manager*, Donald R. Harless.

Letters

Leaving sea life high and dry?

I wonder whether the activity of corticotropin-releasing hormone (CRH) triggered just before the onset of labor in mammals and its importance in the metamorphosis of amphibians when water levels drop could be triggered by some mechanism that measures external pressure ("Mammal birth signal cues tadpole to morph," SN: 5/10/97, p. 286). After all, in both processes, the animal must adapt to living in an environment of low water pressure after having been in aquatic surroundings.

I wonder, too, what role CRH may have played in evolution. Rather than asking what caused life to wander out of the seas and onto dry land, perhaps we should assume that the water went away and life was forced to adapt to living on dry land. Organisms that developed CRH could survive more easily.

Perhaps we shouldn't be looking at lung fish as the intermediate species, but rather

at frogs and other amphibians—particularly those that metamorphose.

*Natasha Aristov
Chemnitz, Germany*

"Pressure changes are certainly a possibility for the environmental cue," says Robert Denver of the University of Michigan in Ann Arbor. —C. Mlot

Dating the dog

I worry about the methods used to infer a domestication date of 100,000 or more years ago for dogs ("Stalking the Ancient Dog," SN: 6/28/97, p. 400). The phylogenetic methods used to obtain this date disregard the action of selection and isolation by the hand of man. Such forces are likely to change drastically the rate of nuclear as well as mitochondrial DNA substitution, destroying both the regularity of the molecular clock used and confidence in the date.

*Steve Schrodi
Irvine, Calif.*

Litigation slows cleanup

Regarding the news brief "Superfund sites and birth defects" (SN: 6/21/97, p. 391), is not one of the reasons it has taken so long for the evaluation and cleanup of Superfund sites the large amount of litigation associated with the process? In fact, has not the Superfund been referred to as the Lawyers Guaranteed Employment Act because of the significant amount of the fund that has gone to attorneys?

*Luis L. Villarruel
Indianapolis, Ind.*

Legal costs associated with the Superfund sites are indeed substantial. A December 1995 report by the Cato Institute said the federal government spends up to \$300 million a year on "lawyering and negotiating," while private parties spend three times as much. Indeed, it notes, "trade gossip reports instances of legal bills that are three or four times the cost of a potentially responsible party's share of a cleanup." —J. Raloff