

SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication
Volume 135, No. 15, April 15, 1989

E.G. Sherburne Jr.	Publisher
Patrick Young	Editor
Laurie Jackson	Managing Editor
Janice Rickerich	Production/Design Director
Bruce Bower	Behavioral Sciences
Ivan Amato	Chemistry/ Materials Science
Richard Monastersky	Earth Sciences
Janet Raloff	Environment/Policy
Kathy A. Fackelmann,	Life Sciences/ Biomedicine
Rick Weiss,	
Ingrid Wickelgren	
Ivars Peterson	Mathematics/Physics
Jonathan Eberhart	Space Sciences
Susan Arns	Assistant to the Editor
Faye Flam	Science Writer Intern
Wendy McCarren	Books/Resource Manager
Donald R. Harless	Advertising/Business Manager

Copyright © 1989 by Science Service, Inc.,
Editorial and Business Offices,
1719 N St., N.W., Washington, D.C. 20036.
Republication of any portion of SCIENCE NEWS
without written permission of the publisher is
prohibited.

Subscription Department
231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$34.50; 2 yrs., \$58.00.
(Foreign postage \$6.00 additional per year.) Change of
address: Four to six weeks' notice is required. Please
state exactly how magazine is to be addressed.
Include zip code. For new subscriptions only call
(t) 800-247-2160. Printed in U.S.A. POSTMASTER:
Send address changes to Science News, 231 West
Center Street, Marion, OH 43305. Second class
postage paid at Washington, D.C., and additional
mailing offices. Title registered as trademark U.S. and
Canadian Patent Offices. Published every Saturday by
SCIENCE SERVICE, Inc., 1719 N St., N.W.,
Washington, D.C. 20036. (202-785-2255)
ISSN 0036-8423

Letters

Two-way species

In "Eggs or live young: A thrips'll try both" (SN: 2/18/89, p.110) you state that animal species either lay eggs or have live young. This is not true, as it is well known that many water animals, including *Daphnia pulex* and certain strains of *Artemia salinas*, have winter eggs able to withstand freezing and dessication but have live young in warm weather.

Ralph A. Nichols
Kerrville, Tex.

D. pulex and *A. salinas* do have two reproductive modes, but both modes involve eggs, according to Cornell University ecologist Nelson Hairston Jr. Both *D. pulex*, which holds eggs in an internal brood pouch, and *A. salinas*, which carries eggs in an external egg sac, lay two kinds of eggs. One kind hatches immediately upon release, while the other can remain dormant for a year to decades. The thrips, in contrast, appears to have an actual live-bearing reproductive mode in which no eggs are visible internally or externally. — I. Wickelgren

APRIL 15, 1989

This Week

- 228 Nontoxic Drugs Halt Cancer Spread in Mice
- 228 Ozone hole hikes Antarctic ultraviolet
- 229 NASA to build 'Small Explorer' satellites
- 229 Neanderthals get an evolutionary face-lift
- 229 Cold fusion getting hotter
- 230 Future brightens for conducting polymers
- 230 All-out attack on deadly bone cancer
- 230 Looking well beyond the Great Attractor
- 231 Semiconductor studies get a rise from yeast
- 231 Dying aphids obey wasp's commands

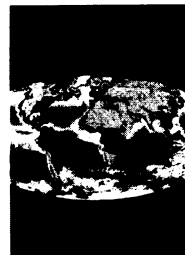
Research Notes

- 237 Biomedicine
- 237 Chemistry
- 238 Food Sciences
- 238 Oncology

Articles

232 Global Change: The Scientific Challenge

Cover: This computer-generated image showing plant distribution is the first attempt to portray the global biosphere. It includes ocean data from the Nimbus 7 satellite and land data from NOAA 7. Ocean colors correspond to concentrations of phytoplankton, the basis of the marine food web. Reds and oranges show high productivity; greens and yellows indicate moderate production. Land colors portray vegetation mass, ranging from dark green rain forests to light green and gold savannas and farmland to yellow deserts. (Image: NASA Goddard Space Flight Center)



Departments

- 227 Letters
- 239 Books

Science Service Institution for the public understanding of science founded 1921; a nonprofit corporation.

Board of Trustees — *President*, Glenn T. Seaborg; *Vice President*, Gerald F. Tape; *Treasurer*, Willis Harlow Shapley; Joseph W. Berg Jr.; Edward Bliss Jr.; Robert W. Fri; David A. Goslin; J. David Hann; Milton Harris; Leon M. Lederman; Elena O. Nightingale; Ben Patrusky; H. Guyford Stever; Deborah P. Wolfe.
Honorary Trustees — Bowen C. Dees; O.W. Riegel; John Troan.

Director: E. G. Sherburne Jr.; **Assistant Director**: Dorothy Schriver; **Business Manager**: Donald R. Harless.

Archaeoastronomical psychology

I am so glad Dr. Tom P. Ray repeated the astronomical survey done by Dr. Jon Patrick in 1980 and announced confirming results ("First light at an Irish tomb," SN: 2/11/89, p.88). Dr. Patrick went one step further: He calculated the statistical probabilities and established that the Newgrange orientation to the winter solstice sunrise was intentional rather than due to chance, and that this phenomenon would continue forever regardless of changes in the ecliptic.

Additional research was done at Newgrange and two other megalithic passage/chambers in 1985-86. I conducted an experiment that involved having archaeologists observe and take pictures inside these structures during the solstice or equinox period to which they are aligned. Certain carved art motifs were found to be spotlighted within general illumination at both Gavrinis and Loughcrew T.

Archaeologist M. Jean L'Helgouach reported that Dissignac, a passage/chamber in his area, is also aligned to the winter solstice.

Dr. Aubrey Burl, English archaeologist and author, reported that West Kinnet and Bryn Celli Ddu are similarly aligned astronomically.

This information has suggested several further hypotheses: (1) the Priteni (this is the name from which "Britain" and "Brittany" derived), the original builders, oriented all such structures to the sunrise or sunset of a solstice or equinox; (2) they intended the buildings to be churches/observatories, not tombs, since large masses of skeletons would have obstructed the carefully arranged lighting effects; and (3) this lumière effect can serve as the starting point for decoding the meaning of the art motifs. It is reasonable to assume that the motifs spotlighted were more important to the builders since they selected them to be spotlighted annually forever.

I am a psychologist, and my particular interest in these structures is in what they can tell us about the behavior, skills and beliefs of these ancient builders.

Jean Hunt
Shreveport, La.

227