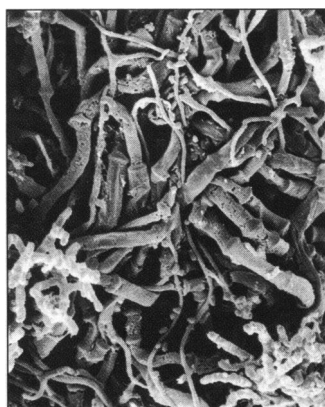


161 & 216

Balanced polymorphisms



154 & 214

Taxol from a fungus

NEWS & COMMENT

- Genome Project Plans Described 152
- Clinton Asks for a Greener DOE 153
- Surprise! A Fungus Factory for Taxol? 154
- At Tokyo University, a Parting Shot 155
- The Cost of Scientific Pork Keeps Going Up 156

RESEARCH NEWS

- Ulcers as an Infectious Disease 159
- Why Some Fishes Are Hotheads 160
A Balancing Act in Predatory Fishes
- Biologists Visit New Orleans (Under an Assumed Name) 162
- A New Supernova in the Northern Sky 163
- Tribe of Brown Dwarfs Discovered? 163
- Condensed Matter Physicists Shrink Their Horizons 164

PERSPECTIVES

- Forging an Asteroid-Meteorite Link 167
M. J. Gaffey
- Measuring Single Protein Motors at Work 169
R. D. Vale

ARTICLES

- Near-Field Investigations of the Landers Earthquake Sequence, April to July 1992 171
K. Sieh, L. Jones, E. Hauksson, K. Hudnut, D. Eberhart-Phillips, T. Heaton, S. Hough, K. Hutton, H. Kanamori, A. Lilje, S. Lindvall *et al.*
- A Nickel Metal Hydride Battery for Electric Vehicles 176
S. R. Ovshinsky, M. A. Fetcenko, J. Ross

RESEARCH ARTICLES

- Regulation of Gene Expression in Hippocampal Neurons by Distinct Calcium Signaling Pathways 181
H. Bading, D. D. Ginty, M. E. Greenberg
- Chips off of Asteroid 4 Vesta: Evidence for the Parent Body of Basaltic Achondrite Meteorites 186
R. P. Binzel and S. Xu

DEPARTMENTS

- | | |
|--|---|
| THIS WEEK IN SCIENCE 141 | SCIENCESCOPE 151 |
| EDITORIAL 143 | RANDOM SAMPLES 158 |
| Science and Society | BOOK REVIEWS 244 |
| LETTERS 145 | <i>Dynamic Biological Networks</i> , reviewed by C. L. Sahley • <i>Terrestrial Ecosystems Through Time</i> , J. W. Valentine • <i>Wealth and Hierarchy in the Intermediate Area</i> , W. Creamer • Vignettes • Books Received |
| Audit at Woods Hole: C. E. Dorman • Drugs from Third World Plants: Creative Approaches: I. S. Johnson • No Lack of NO Activity: F. T. Bonner and M. N. Hughes; T. Michel • Tyrolean Paraphernalia: M. L. Grant; R. Temple; N. Denman; K. A. Klar • Sociological Discourse: J. A. Witkowski | PRODUCTS & MATERIALS 248 |

AAAS Board of Directors

F. Sherwood Rowland
*Retiring President,
Chairman*
Eloise E. Clark
President
Francisco J. Ayala
President-elect

Robert A. Frosch
Florence P. Haseltine
William A. Lester, Jr.

Alan Schriesheim
Jean'ne M. Shreeve
Chang-Lin Tien
Warren M. Washington
Nancy S. Wexler

William T. Golden
Treasurer
Richard S. Nicholson
Executive Officer

John Abelson
Frederick W. Alt
Don L. Anderson
Stephen J. Benkovic
David E. Bloom
Floyd E. Bloom
Henry R. Bourne
James J. Bull
Kathryn Calame
C. Thomas Caskey
Dennis W. Choi

John M. Coffin
Bruce F. Eldridge
Paul T. Englund
Richard G. Fairbanks
Douglas T. Fearon
Harry A. Fozzard
Victor R. Fuchs
Theodore H. Geballe
Margaret J. Geller
John C. Gerhart
Roger I. M. Glass

Stephen P. Goff
Corey S. Goodman
Stephen J. Gould
Ira Herskowitz
Eric F. Johnson
Stephen M. Kosslyn
Michael LaBarbera
Charles S. Levings III
Harvey F. Lodish
Richard Losick
Anthony R. Means

Mortimer Mishkin
Roger A. Nicoll
William H. Orme-Johnson III
Stuart L. Pimm
Yeshayau Pocker
Dennis A. Powers
Ralph S. Quatrano
V. Ramanathan
Douglas C. Rees
Erkki Ruoslahti
Ronald H. Schwartz

Terrence J. Sejnowski
Thomas A. Steitz
Richard F. Thompson
Robert T. N. Tjian
Emil R. Unanue
Geerat J. Vermeij
Bert Vogelstein
Harold Weintraub
Zena Werb
George M. Whitesides
Owen N. Witte
Keith Yamamoto

Board of Reviewing Editors

COVER

Fishes of the suborder Scombroidei, like this school of *Euthynnus affinis* in the Red Sea, are capable of endothermy. A molecular phylogeny of this suborder (which includes mackerels, bonitos, tunas, and billfishes) indicates that endothermy has evolved three

times within Scombroidei. Comparison of endothermic scombroids with their closest living ectothermic relatives provides a further understanding of how endothermy evolved. See page 210 and the News story on page 160. [Photo: Jeffrey L. Rotman/Peter Arnold, Inc.]



REPORTS

Silica Precipitation in Fractures and the Evolution of Permeability in Hydrothermal Upflow Zones 192

R. P. Lowell, P. Van Cappellen, L. N. Germanovich

Production of Metallo-Carbohedrenes in the Solid State 195

S. F. Cartier, Z. Y. Chen, G. J. Walder, C. R. Sleppy, A. W. Castleman, Jr.

Metastability of Superconducting Compounds in the Y-Ba-Cu-O System 196

E. L. Brosha, P. K. Davies, F. H. Garzon, I. D. Raistrick

Electrostatic Screening of Charge and Dipole Interactions with the Helix Backbone 198

D. J. Lockhart and P. S. Kim

Pressure-Induced Amorphization of R-Al₂Li₃Cu: A Structural Relation Among Amorphous Metals, Quasi-Crystals, and Curved Space 202

R. R. Winters and W. S. Hammack

Velocity Structure of a Gas Hydrate Reflector 204

S. C. Singh, T. A. Minshull, G. D. Spence

Impairment of V(D)J Recombination in Double-Strand Break Repair Mutants 207

G. E. Taccioli, G. Rathbun, E. Oltz, T. Stamato, P. A. Jeggo, F. W. Alt

Evolution of Endothermy in Fish: Mapping Physiological Traits on a Molecular Phylogeny 210

B. A. Block, J. R. Finnerty, A. F. R. Stewart, J. Kidd

Taxol and Taxane Production by *Taxomyces andreanae*, an Endophytic Fungus of Pacific Yew 214

A. Stierle, G. Strobel, D. Stierle

Frequency-Dependent Natural Selection in the Handedness of Scale-Eating Cichlid Fish 216

M. Hori

Distinct Functions of SR Proteins in Alternative Pre-mRNA Splicing 219

A. M. Zahler, K. M. Neugebauer, W. S. Lane, M. B. Roth

Spatially Resolved Dynamics of cAMP and Protein Kinase A Subunits in *Aplysia* Sensory Neurons 222

B. J. Bacsikai, B. Hochner, M. Mahaut-Smith, S. R. Adams, B.-K. Kaang, E. R. Kandel, R. Y. Tsien

Increased Frequency of Calcium Waves in *Xenopus laevis* Oocytes That Express a Calcium-ATPase 226

P. Camacho and J. D. Lechleiter

Acceleration of Intracellular Calcium Waves in *Xenopus* Oocytes by Calcium Influx 229

S. Girard and D. Clapham

Force of Single Kinesin Molecules Measured with Optical Tweezers 232

S. C. Kuo and M. P. Sheetz

Decreased Expression of Myotonin-Protein Kinase Messenger RNA and Protein in Adult Form of Myotonic Dystrophy 235

Y.-H. Fu, D. L. Friedman, S. Richards, J. A. Pearlman, R. A. Gibbs, A. Pizzuti, T. Ashizawa, M. B. Perryman, G. Scarlato, R. G. Fenwick, Jr., C. T. Caskey

Regulation of CREB Phosphorylation in the Suprachiasmatic Nucleus by Light and a Circadian Clock 238

D. D. Ginty, J. M. Kornhauser, M. A. Thompson, H. Bading, K. E. Mayo, J. S. Takahashi, M. E. Greenberg

TECHNICAL COMMENTS

Effect of Scale on Food Web Structure 242

N. D. Martinez; K. Havens



167 & 186
Meteorite origins

■ Indicates accompanying feature

■ **SCIENCE** (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Second-class postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 1993 by the American Association for the Advancement of Science. The title **SCIENCE** is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$87 (\$47 allocated to subscription). Domestic institutional subscription (51 issues): \$205. Foreign postage extra: Mexico, Caribbean (surface mail) \$50; other countries (air assist delivery) \$95. First class, airmail, student and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. **Change of address:** allow 6 weeks, giving old and new addresses and 11-digit account number. **Postmaster:** Send change of address to *Science*, P.O. Box 2033, Marion, OH 43305-2033. **Single copy sales:** \$6.00 per issue prepaid includes surface postage; Guide to Biotechnology Products and Instruments, \$20.

Bulk rates on request. **Authorization to photocopy** material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1 per copy plus \$0.10 per page is paid directly to CCC, 27 Congress Street, Salem, MA 01970. The identification code for *Science* is 0036-8075/93 \$1 + .10. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

■ The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objectives are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, to advance education in science, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.

Science

260 (5105)

Science **260** (5105), 141-248.

ARTICLE TOOLS

<http://science.sciencemag.org/content/260/5105>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.

Copyright © 1993 The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works.