Melting temperature of the mantle

NEWS & COMMENT

Rocky Road for Federal Research Inc. 496
Curriculum Reform: Project 2061
Offers a Benchmark 498
NSF Gains From NASA Budget Cut 499
Could Coulomb's Experiment Result in
Coulomb's Law? 500
The Ozone Hole Reaches a New Low 501

RESEARCH NEWS

Managing the Genome Data Deluge 502
NIH, DOE Battle for Custody of DNA
Sequence Data 504
Jupiter Hits May Be Palpable After All 505
Nobel Prizes: In Stockholm, a Clean
Sweep for North America 506

POLICY FORUMS

Medical Centers of Excellence and Health
Reform 523
M. E. DeBakey

The Political Debate About Health Care:
Are We Losing Sight of Quality? 525
E. Chelimsky

PERSPECTIVES

Mantle Melting at High Pressure 529
J. M. Brown

The Future of DNA Sequencing 530
L. M. Smith

The Two-Component Pathway Comes
to Eukaryotes 532
D. E. Koshland Jr.

ARTICLE

Germ-Line Gene Modification and Disease
Prevention: Some Medical and Ethical
Perspectives 533
N. A. Wivel and L. Walters

DEPARTMENTS

THIS WEEK IN SCIENCE 485
EDITORIAL 487
The American Research University

LETTERS 489
The NIH Intramural Program: A. N. Schechter:
J. S. Cohen; J. B. Bolen • Sex, Violence, and
Sociobiology: D. P. Barash • Plutonium Policy:
A. D. Rossin • Russian Paleontology: J. A.
Doyle • Breaking the Mold at OSTP: W. R.
Graham • Tree Authentication: R. C. Merkle

WORDS & COMMENTS

American
Association for the
Advancement of
Science
Scanning electron micrograph of the head of the Odontomachus altered to show both cocked and closed mandibles. The mandible strike of this ant is among the fastest movements known (0.33 to 1 millisecond), a reflex of a trap-jaw mechanism that is stimulated when trigger hairs on the inner edge of the mandible (not visible) are touched. See page 561. [Original photo: Ed Selig; additional photo illustration: Elizabeth Carroll]

RESEARCH ARTICLE

Arabidopsis Ethylene-Response Gene

ETR1: Similarity of Product to Two-Component Regulators

C. Chang, S. F. Kwok, A. B. Bleecker, E. M. Meyerowitz

REPORTS

On the Thermodynamic Stability of Confined Thin Films Under Shear

D. J. Dierstler, M. Schoen, J. H. Cushman

Long-Range Attractive Force Between Hydrophobic Surfaces Observed by Atomic Force Microscopy

Y.-H. Tsoa, D. F. Evans, H. Wennerström

A Direct Measurement of the Terrestrial Mass Accretion Rate of Cosmic Dust

S. G. Love and D. E. Brownlee

Melting of (Mg,Fe)SiO3-Perovskite to 625 Kilobars: Indication of a High Melting Temperature in the Lower Mantle

A. Zerr and R. Boehler

3.4-Billion-Year-Old Biogenic Pyrites from Barberton, South Africa: Sulfur Isotope Evidence

H. Ohimoto, T. Kakegawa, D. R. Lowe

Scale Transformation of Magnetic "Bubble" Arrays: Coupling of Topological Disorder and Polydispersity

M. Seul and C. A. Murray

Fast Trap Jaws and Giant Neurons in the Ant Odontomachus

W. Gronenberg, J. Tautz, B. Holldobler

FMR1 Protein: Conserved RNP Family Domains and Selective RNA Binding


A Yeast Protein Similar to Bacterial Two-Component Regulators

I. M. Ota and A. Varshavsky

The Conserved Pre-mRNA Splicing Factor U2AF from Drosophila: Requirement for Viability

R. Kanaar, S. E. Roche, E. L. Beall, M. R. Green, D. C. Rio

U2AF Homolog Required for Splicing in Vivo

J. Potashkin, K. Naik, K. Wentz-Hunter

Potentiation by the β Subunit of the Ratio of the Ionic Current to the Charge Movement in the Cardiac Calcium Channel

A. Neely, X. Wei, R. Olcese, L. Birnbaumer, E. Stefani

Abnormal Behavior Associated with a Point Mutation in the Structural Gene for Monooamine Oxidase A

H. G. Brunner, M. Nelen, X. O. Breakfield, H. H. Kopers, B. A. van Oost

Mutations in the Glucose-6-Phosphatase Gene That Cause Glycogen Storage Disease Type 1a

K.-J. Lei, L. L. Shelly, C.-J. Pan, J. B. Sidbury, J. Y. Chou

TECHNICAL COMMENTS

Cyclic ADP-Ribose in β Cells

M. S. Islam, O. Larsson, P.-O. Berggren; S. Takasawa, K. Nata, H. Yonekura, H. Okamoto; A. Galione