
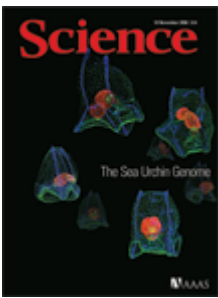


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**Brevia** **Predators Accelerate Nutrient Cycling in a Bromeliad Ecosystem**

Jacqueline T. Ngai and Diane S. Srivastava

*Science* 10 November 2006: 963.

Because insects in tiny pools within bromeliads export nitrogen when they emerge, predation by damselflies unexpectedly increases the nitrogen available to the plant.

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**Reports** **Low-Field Magnetic Separation of Monodisperse Fe<sub>3</sub>O<sub>4</sub> Nanocrystals**

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*Science* 10 November 2006: 964-967.

Single-domain magnetite nanocrystals aggregate at relatively modest magnetic field strengths, allowing them to be successfully separated from solution.

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 **Localized Temporal Change of the Earth's Inner Core Boundary**

Lianxing Wen

*Science* 10 November 2006: 967-970.

Published online 28 September 2006 [DOI: 10.1126/science.1131692] (in *Science Express Reports*)

Seismic waves bouncing off Earth's inner core traveled back faster in 2003 than in 1993, suggesting that the rotating inner core has an irregular surface or is expanding.

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**Transcrystalline Melt Migration and Earth's Mantle**

Pierre Schiano, Ariel Provost, Roberto Clocchiatti, and François Faure  
*Science* 10 November 2006: 970-974.

Temperature gradients allow small amounts of melt to migrate through mantle minerals, affecting melt segregation and the composition of residual melt inclusions.

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**Selective Etching of Metallic Carbon Nanotubes by Gas-Phase Reaction**

Guangyu Zhang, Pengfei Qi, Xinran Wang, Yuerui Lu, Xiaolin Li, Ryan Tu, Sarunya Bangsaruntip, David Mann, Li Zhang, and Hongjie Dai  
*Science* 10 November 2006: 974-977.

A plasma and annealing treatment eliminates only the metallic nanotubes that typically form along with the useful semiconducting ones, facilitating nanotube electronic manufacture.

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**Metamaterial Electromagnetic Cloak at Microwave Frequencies**

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*Science* 10 November 2006: 977-980.

Published online 19 October 2006 [DOI: 10.1126/science.1133628] (in *Science Express Reports*)

A specially designed array of split-ring resonators is used to demonstrate the principle of cloaking an object from electromagnetic radiation.

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**Isotopic Evidence for Dietary Variability in the Early Hominin *Paranthropus robustus***

Matt Sponheimer, Benjamin H. Passey, Darryl J. de Ruiter, Debbie Guatelli-Steinberg, Thure E. Cerling, and Julia A. Lee-Thorp  
*Science* 10 November 2006: 980-982.

Carbon isotope data from teeth of an early hominin reveal that its diet switched seasonally, unlike that of chimps but similar to that of later tool-using *Homo* species.

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**Human Hair Growth Deficiency Is Linked to a Genetic Defect in the Phospholipase Gene *LIPH***

Anastasiya Kazantseva, Andrey Goltsov, Rena Zinchenko, Anastasia P. Grigorenko, Anna V. Abrukova, Yuri K. Moliaka, Alexander G. Kirillov, Zhiru Guo, Stephen Lyle, Evgeny K. Ginter, and Evgeny I. Rogaev  
*Science* 10 November 2006: 982-985.

Families with an inherited form of hair loss carry a defective enzyme that disrupts lipid signaling and thus provides a potential therapeutic target.

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**Microtubule-Severing Activity of *Shigella* Is Pivotal for Intercellular Spreading**

Sei Yoshida, Yutaka Handa, Toshihiko Suzuki, Michinaga Ogawa, Masato Suzuki, Asuka Tamai, Akio Abe, Eisaku Katayama, and Chihiro Sasakawa  
*Science* 10 November 2006: 985-989.

Once inside a host cell, a pathogenic bacterium secretes a protein-degrading enzyme that destroys the host cytoskeleton, easing its passage and facilitating infection.

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***HTRA1* Promoter Polymorphism in Wet Age-Related Macular Degeneration**

Andrew DeWan, Mugen Liu, Stephen Hartman, Samuel Shao-Min Zhang, David T. L. Liu, Connie Zhao, Pancy O. S. Tam, Wai Man Chan, Dennis S. C. Lam, Michael Snyder, Colin Barnstable, Chi Pui Pang, and Josephine Hoh  
*Science* 10 November 2006: 989-992.

Published online 19 October 2006 [DOI: 10.1126/science.1133807] (in *Science Express Reports*)

People who have one of the normal variants of a protein-degrading enzyme are at

increased risk of developing an aggressive form of age-related macular degeneration.

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**A Variant of the *HTRA1* Gene Increases Susceptibility to Age-Related Macular Degeneration**

Zhenglin Yang, Nicola J. Camp, Hui Sun, Zongzhong Tong, Daniel Gibbs, D. Joshua Cameron, Haoyu Chen, Yu Zhao, Erik Pearson, Xi Li, Jeremy Chien, Andrew DeWan, Jennifer Harmon, Paul S. Bernstein, Viji Shridhar, Norman A. Zabriskie, Josephine Hoh, Kimberly Howes, and Kang Zhang

*Science* 10 November 2006: 992-993.

Published online 19 October 2006 [DOI: 10.1126/science.1133811] (in *Science Express Reports*)

People who have one of the normal variants of a protein-degrading enzyme are at increased risk of developing an aggressive form of age-related macular degeneration.

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**5'-Triphosphate RNA Is the Ligand for RIG-I**

Veit Hornung, Jana Ellegast, Sarah Kim, Krzysztof Brzózka, Andreas Jung, Hiroki Kato, Hendrik Poeck, Shizuo Akira, Karl-Klaus Conzelmann, Martin Schlee, Stefan Endres, and Gunther Hartmann

*Science* 10 November 2006: 994-997.

Published online 12 October 2006 [DOI: 10.1126/science.1132505] (in *Science Express Reports*)

A host protein that can bind to the uncapped, single-stranded RNA genomes of many viruses triggers an antiviral response and may be a useful drug target.

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**RIG-I-Mediated Antiviral Responses to Single-Stranded RNA Bearing 5'-Phosphates**

Andreas Pichlmair, Oliver Schulz, Choon Ping Tan, Tanja I. Näslund, Peter Liljeström, Friedemann Weber, and Caetano Reis e Sousa

*Science* 10 November 2006: 997-1001.

Published online 12 October 2006 [DOI: 10.1126/science.1132998] (in *Science Express Reports*)

A host protein that can bind to the uncapped, single-stranded RNA genomes of many viruses triggers an antiviral response and may be a useful drug target.

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**Direct Measurement of the Full, Sequence-Dependent Folding Landscape of a Nucleic Acid**

Michael T. Woodside, Peter C. Anthony, William M. Behnke-Parks, Kevan Larizadeh, Daniel Herschlag, and Steven M. Block

*Science* 10 November 2006: 1001-1004.

Complete free-energy landscapes for folding single DNA hairpins have been determined experimentally and agree well with theoretical calculations.

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**Ion Selectivity in a Semisynthetic  $K^+$  Channel Locked in the Conductive Conformation**

Francis I. Valiyaveetil, Manuel Leonetti, Tom W. Muir, and Roderick MacKinnon

*Science* 10 November 2006: 1004-1007.

A mutant potassium channel stuck in the open position still conducts  $K^+$  but not  $Na^+$ , indicating that its conformation and the presence of  $K^+$  in the pore confer selectivity.

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Peter D. Roopnarine, Kenneth D. Angielczyk, and Rachel Hertog

*Science* 10 November 2006: 925.

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Gregory P. Dietl and Geerat J. Vermeij



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**Response to Comments on "Statistical Independence of Escalatory Ecological Trends in Phanerozoic Marine Invertebrates"**

Joshua S. Madin, John Alroy, Martin Aberhan, Franz T. Fürsich, Wolfgang Kiessling, Matthew A. Kosnik, and Peter J. Wagner

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