Charles Darwin’s abiding interest in the classification of barnacles, illustrated here, was one of the inspirations for his investigations into the origins and diversification of species. Science marks Darwin’s 200th birthday with a special section on speciation beginning on page 727.

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753 The Sea-Level Fingerprint of West Antarctic Collapse
J. X. Mitrovica et al.
An uneven pattern of local sea-level rise would result from the collapse of the West Antarctic Ice Sheet.

REPORTS

754 The Formation of Massive Star Systems by Accretion
M. R. Krumholz et al.
Numerical simulations show that instabilities can channel gas into growing massive stars despite their high radiation pressure.

757 Confined Crystallization of Polyethylene Oxide in Nanolayer Assemblies
H. Wang et al.
Squeezing ultrathin polymer layers can induce crystallization and decrease their gas permeability.

760 Nitrogen-Doped Carbon Nanotube Arrays with High Electrocatalytic Activity for Oxygen Reduction
K. Gong et al.
Carbon atoms in nanotubes are activated by nitrogen doping and catalyze oxygen reduction at high pH.

764 Anomalously Metal-Rich Fluids Form Hydrothermal Ore Deposits
J. J. Wilkinson et al.
The metal contents of the fluid inclusions that create lead-zinc ores have been drastically underestimated.

767 Signature of the End-Cretaceous Mass Extinction in the Modern Biota
A. Z. Krug et al.
Increased rates of marine bivalve speciation after the Cretaceous-Tertiary extinction were most marked in the tropics.

771 A Great-Appendage Arthropod with a Radial Mouth from the Lower Devonian Hunsrück Slate, Germany
G. Kühl et al.
Fossil evidence for the great-appendage arthropods extends to more recent periods by about 100 million years.

773 Two Thresholds, Three Male Forms Result in Facultative Male Trimorphism in Beetles
J. M. Rowland and D. J. Emlen
A clade of dung beetles can alter their reproductive tactics by switching between three male forms.

776 Sequential Sympatric Speciation Across Trophic Levels
A. A. Forbes et al.
A host shift by a fly is causing its wasp parasite to undergo changes leading to speciation.

779 Evolution of the Drosophila Nuclear Pore Complex Results in Multiple Hybrid Incompatibilities
S. Tang and D. C. Presgraves
Nuclear pore complex proteins are involved in lethal gene interactions in Drosophila melanogaster–Q. simulans species hybrids.

782 Queen Ants Make Distinctive Sounds That Are Mimicked by a Butterfly Social Parasite
F. Barbero et al.
Sounds made by queen ants denoting rank are copied by the larvae and pupae of a parasitic butterfly, facilitating their infiltration into ant colonies.

785 Stability Predicts Genetic Diversity in the Brazilian Atlantic Forest Hotspot
A. C. Carnaval et al.
Modeling ecological niches under past climates establishes a method to improve prediction and protection of tropical biodiversity hotspots.

789 Orc1 Controls Centriole and Centrosome Copy Number in Human Cells
A. S. Hemerly et al.
A DNA replication factor ensures that only two centrioles are formed during cell division in animal cells.

793 Function of Mitochondrial Stat3 in Cellular Respiration
J. Wegrzyn et al.
A protein that has a nuclear function as a transcription factor also functions to support respiration in the mitochondria.

797 Platelets Kill Intraerythrocytic Malarial Parasites and Mediate Survival to Infection
B. J. McMorran et al.
Mouse and human platelets bind malarial-infected red cells and kill the parasite within.

800 Changes in Cortical Dopamine D1 Receptor Binding Associated with Cognitive Training
F. McNab et al.
Training of working memory alters brain biochemistry by changing the density of cortical dopamine receptors.

802 Axon Regeneration Requires a Conserved MAP Kinase Pathway
M. Hammarlund et al.
Axon regeneration in adult nematode worms has distinct signals that are independent of earlier developmental programs.
Widespread volcanism and tropical temperatures provided clues to origins of antisocial behavior.

**Perspective:** Bistable Switches for Synaptic Plasticity
H. Ogasawara and M. Kawato
Nearly a decade intervened between theoretical predictions and experimental verification of the mechanisms underlying synaptic plasticity.

**Podcast**
P. P. Pandolfi and A. M. Van Hook
Inactivating mTOR signaling in the adult mouse prostate decreases the incidence of cancer.

**E-Letter:** Microarrays Need Phylogenetics
M. Abu-Arab
Interpreting microarray experiments might benefit from evolution-compatible analytical tools.

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February 2009 Funding News
J. Fernández
Learn about the latest in research funding, scholarships, fellowships, and internships.

Darwin’s Legacy 1: Rich Collections, Deep Expertise
S. Carpenter
Natural history museums have reasserted their scientific relevance in recent years.

Darwin’s Legacy 2: Keeping Order
K. Travis
London entomology curator Erica McAlister is responsible for everything from museum collections to fieldwork.

Darwin’s Legacy: Resources
Science Careers Staff
Here is a collection of resources related to careers in the H.M.S. Beagle’s wake.

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