

EDITORIAL

- 276 Standards for Postdoc Training
Alan I. Leshner

NEWS OF THE WEEK

- 280 A roundup of the week's top stories

NEWS & ANALYSIS

- 283 Dread Citrus Disease Turns Up in California, Texas
>> Science Podcast
- 284 Texas Medical Board Approves Rules for Controversial Treatments
- 285 Will Dutch Allow 'Export' of Controversial Flu Study?
>> See all H5N1 coverage online at <http://scim.ag/h5n1>
- 286 Nanoparticle Treatment Reverses Cerebral Palsy in Rabbits
>> Science Translational Medicine Research Article by S. Kannan et al. and Focus by S. Tan; News story p. 292
- 287 Saving Money Essential for Next Census, Says Departing Director

NEWS FOCUS

- 288 Trouble on the Yangtze
Evidence Mounts for Dam-Quake Link
- 292 American Chemical Society Spring Meeting
Nanoparticles Offer 'Open Sesame' Keys to New Drugs and Vaccines
Biofuels and City Air: A Marginal Effect
New Genetic Letters Augment DNA, and Soon Perhaps Life
>> News story p. 286; Report p. 341

LETTERS

- 295 Environment-Friendly Reform in Myanmar
E. L. Webb et al.
India's Science: Elitism Prevails
S. P. Bhat
India's Science: Excellence Unrecognized
T. Abbasi and S. A. Abbasi
- 296 CORRECTIONS AND CLARIFICATIONS
- 296 TECHNICAL COMMENT ABSTRACTS

BOOKS ET AL.

- 297 Am I My Genes?
R. L. Klitzman, reviewed by M. A. Goldman
- 298 Environmental Literacy in Science and Society
R. W. Scholz et al., reviewed by H. A. Mieg

POLICY FORUM

- 299 FDA's Approach to Regulation of Products of Nanotechnology
M. A. Homburg

PERSPECTIVES

- 301 A Dive to Challenger Deep
R. A. Lutz and P. G. Falkowski
- 302 Solution-Processible Electrodes
M. G. Helander
>> Report p. 327
- 303 Tapping into the Wisdom of the Crowd—with Confidence
R. Hertwig
>> Report p. 360
- 304 Heterogeneity and Tumor History
D. Shibata
- 306 Making Waves for Segments
S. Roth and K. A. Panfilio
>> Report p. 338
- 307 Toward an Alternative Biology
G. F. Joyce
>> Report p. 341
- 308 Visualizing Amyloid Assembly
D. Eliezer
>> Report p. 362

CONTENTS continued >>



page 288



page 297



COVER

A young polar bear (*Ursus maritimus*) on a piece of ice that is drifting in the Barents Sea, northeast of Svalbard, Norway. Polar bears depend on sea ice as a platform for hunting seals, but current melting and retreat of sea ice is increasingly forcing them onto land. A recent study has found polar bears to be evolutionarily older and genetically more distinct than was previously thought. See page 344.

Photo: Florian Schulz, www.visionsofthewild.com

DEPARTMENTS

- 274 This Week in Science
277 Editors' Choice
278 Science Staff
367 New Products
368 Science Careers



page 301



page 310



pages 348 & 351

REVIEW

- 310 The State and Fate of Himalayan Glaciers
T. Bolch et al.

RESEARCH ARTICLE

- 315 Oxidation of the Guanine Nucleotide Pool Underlies Cell Death by Bactericidal Antibiotics
J. J. Foti et al.
Several antibiotics kill bacteria by causing oxidative damage to guanine nucleotides, which then damage nucleic acids.

REPORTS

- 320 Interplay of Intra- and Intermolecular H-Bonding in a Progressively Solvated Macrocyclic Peptide
N. S. Nagornova et al.
The main conformational changes associated with the hydration of a peptide ring ensue upon the addition of just two water molecules.
- 324 Enantioselective C-H Crotylation of Primary Alcohols via Hydrohydroxyalkylation of Butadiene
J. R. Zbieg et al.
A catalyst facilitates complex carbon-carbon bond formation using a bulk commodity feedstock compound.
- 327 A Universal Method to Produce Low-Work Function Electrodes for Organic Electronics
Y. Zhou et al.
Air-stable, physisorbed polymers containing aliphatic amine groups can improve the efficiency of organic electronic devices.
>> *Perspective p. 302*
- 332 Dislocation Damping and Anisotropic Seismic Wave Attenuation in Earth's Upper Mantle
R. J. M. Farla et al.
Stress built up from plate tectonic collisions dissipates at dislocations in mantle minerals.
- 335 Dynamic Causes of the Relation Between Area and Age of the Ocean Floor
N. Coltice et al.
Numerical simulations show that the presence of continents influences the area of old sea floor.
- 338 A Segmentation Clock with Two-Segment Periodicity in Insects
A. F. Sarrazin et al.
Oscillating gene expression, a key feature of vertebrate segmentation, is shown to occur during segmentation in beetles.
>> *Perspective p. 306*

- 341 Synthetic Genetic Polymers Capable of Heredity and Evolution
V. B. Pinheiro et al.
Artificial polymers of nucleic acid-like subunits not found in nature can mimic the functions of DNA and RNA.
>> *News story p. 292; Perspective p. 307; Science Podcast*
- 344 Nuclear Genomic Sequences Reveal that Polar Bears Are an Old and Distinct Bear Lineage
F. Hailer et al.
Genomic analyses show that polar bears as a species are older and genetically more distinct than previously estimated.
- 348 A Common Pesticide Decreases Foraging Success and Survival in Honey Bees
M. Henry et al.
Honey bees cannot find their way home after exposure to sublethal doses of a widely used insecticide.
- 351 Neonicotinoid Pesticide Reduces Bumble Bee Colony Growth and Queen Production
P. R. Whitehorn et al.
Bumble bee colonies produce many fewer queens after exposure to a widely used insecticide.
- 353 Recent Plant Diversity Changes on Europe's Mountain Summits
H. Pauli et al.
European mountaintop flower species richness is increasing on northern summits but decreasing on southern summits.
- 355 A Yeast Prion, Mod5, Promotes Acquired Drug Resistance and Cell Survival Under Environmental Stress
G. Suzuki et al.
Conversion of a soluble prion protein to an aggregated state generates heritable resistance to antifungal drugs.
- 360 When Are Two Heads Better than One and Why?
A. Kariat
Group decisions may reflect the confidence of individual choices rather than accuracy.
>> *Perspective p. 303; Science Podcast*
- 362 Structure of an Intermediate State in Protein Folding and Aggregation
P. Neudecker et al.
A folding intermediate of a protein SH3 domain is prone to aggregation, which competes with native folding.
>> *Perspective p. 308*