COVER
Tomato (*Solanum lycopersicum*)
domestication and selection resulted
in an explosion of different fruit shapes
and sizes, as exemplified by heirloom
varieties. Wild ancestors of tomatoes
such as *S. pimpinellifolium*, the smallest
fruit shown here, were round (middle row,
second from left). See page 1527.
*Image: Kelly Krause/Science; photos: Esther van der Knaap*

NEWS OF THE WEEK
Two Papers From Korean Lab Found to Lack
'Scientific Truth'  
$300 Million in Private Money for New Investigators  
Physicist Wins Open Illinois Seat  
Indian Government Offers Helping Hand to
Women Scientists  
Hiding From Biting Insects in Plain Scent
>> *Science* Express Report by M. Ditzen et al.

SCIENCESCOPE
Proposed Frog Ban Makes a Splash  
Spanish Scientists Question Accreditation Plan  
U.K.’s Royal Society Ventures Into Funding
Start-Up Companies

NEWS FOCUS
Dueling Visions for a Hungry World  
NSF Fellowships Called Powerful Tool for Building
the Pipeline  
Blood-Matching Goes Genetic  
Cryptologists Cook Up Some Hash for New 'Bake-Off’
Hash of the Future?

LETTERS
The Right Pitch for Saxophonists P. King  
Second Basket’s Negative Impact C.-C. Carbon  
Going Public with the Scientific Process R. Cronje  
Hoyle’s Role in B²FH G. Burbridge

CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.
Reading Popular Physics Disciplinary Skirmishes
and Textual Strategies E. Leane, reviewed by D. Kaiser  
Elizabeth Blackburn and the Story of Telomeres
Deciphering the Ends of DNA C. Brady,
reviewed by M. A. Goldman

POLICY FORUM
Inappropriate Use and Portrayal of Chimpanzees
S. R. Ross et al.

PERSPECTIVES
Observing Our Origins  
F. J. Ciesla
>> Report p. 1504  
Customized Signaling Circuits
P. M. Pryciak
>> Report p. 1539  
The New Diamond Age?  
P. W. May  
This Coincidence Cannot Be Accidental
D. J. Scalapino
>> Report p. 1509  
Standing on the Shoulders of Giants
F. Coward  
A Quiescent Working Memory
S. Fusi
>> Report p. 1543

EDITORIAL
1457  The IPCC Must Maintain Rigor
by Susan Solomon and Martin Manning
PHYSICS
Coherent Dynamics of a Single Spin Interacting with an Adjustable Spin Bath
R. Hanson, V. V. Dobrovitski, A. E. Feiguin, O. Gywat, D. D. Awschalom
Simulations successfully show how the spin of a nitrogen vacancy in diamond is coupled to those of surrounding nitrogen impurities and how coherence between them is lost.
10.1126/science.1155400

CHEMISTRY
Gate-Variable Optical Transitions in Graphene
F. Wang et al.
Application of electrical biases to single or double layers of graphene change its infrared reflectivity, mimicking aspects of transistors and opening up optoelectronic applications.
10.1126/science.1152793

CLIMATE CHANGE
Impact of Artificial Reservoir Water Impoundment on Global Sea Level
B. F. Chao, Y. H. Wu, Y. S. Li
Accounting for water impounded globally in artificial lakes that were filled during the past 80 years raises estimates of natural contributions to recent sea level.
10.1126/science.1154580

MOLECULAR BIOLOGY
Nutritional Control of Reproductive Status in Honeybees via DNA Methylation
R. Kucharski, J. Maleszka, S. Foret, R. Maleszka
Epigenetic modifications that involve methylation cause female honeybee larvae to become queens rather than workers when they are fed royal jelly.
10.1126/science.1153069

NEUROSCIENCE
Insect Odorant Receptors Are Molecular Targets of the Insect Repellent DEET
M. Ditzen, M. Pellegrino, L. B. Vosshall
The widely used insect repellent DEET acts by inhibiting olfactory neurons that respond to odors such as those that attract insects to their hosts.
>> News story p. 1471
10.1126/science.1153121

REVIEW
ANTHROPOLOGY
The Late Pleistocene Dispersal of Modern Humans in the Americas
T. Goebel, M. R. Waters, D. H. O’Rourke

BREVIA
ECOLOGY
Predators Induce Cloning in Echinoderm Larvae
D. Vaughn and R. R. Strathmann
Sand dollar larvae respond to mucus from fish predators by rapid asexual reproduction, producing an increased number of smaller individuals that may be less visible.

REPORTS
ASTRONOMY
Organic Molecules and Water in the Planet Formation Region of Young Circumstellar Disks
J. S. Carr and J. R. Najita
Simple organic molecules and water are abundant in the inner disk of a star like our early Sun, implying that organic synthesis is occurring there.
>> Perspective p. 1488

PHYSICS
Superconductivity in Hydrogen Dominant Materials: Silane
M. I. Eremets, I. A. Trojan, S. A. Medvedev, J. S. Tse, Y. Yao
Under pressure, the insulator silane (SiH₄) transforms to a metallic phase and, at even higher pressures and low temperatures, becomes superconducting.

PHYICS
Energy Gaps and Kohn Anomalies in Elemental Superconductors
P. Aynajian et al.
High-resolution neutron-scattering experiments reveal behavior in pure lead and niobium superconductors beyond that described by the standard theoretical framework.
>> Perspective p. 1492

CHEMISTRY
Synthesis of Macrocyclic Copolymer Brushes and Their Self-Assembly into Supramolecular Tubes
M. Schappacher and A. Deffieux
A three-block polymer can generate long cyclic polymers in solution, which can be further functionalized to form polymer brushes and tubular assemblies.
Solenoid with a Triangular Hydrophobic Core

A Retrotransposon-Mediated Gene Duplication Underlies Morphological Variation of Tomato Fruit

A structural model of a yeast prion shows that the amyloid fibrils form a left-handed β-solenoid stabilized by hydrophobic and polar interactions and salt bridges.

A media that inhibits a neural signaling pathway linked to behavioral stress may be a useful therapy in preventing relapse in alcoholics.

A drug that inhibits a neural signaling pathway linked to behavioral stress may be a useful therapy in preventing relapse in alcoholics.

The unusual lack of accumulated mutations in asexual Giardia can be explained by the exchange of plasmid DNA between its two nuclei during the cyst phase.

Visualization of DNA exchange between two bacteria reveals that the process is highly efficient, is mediated by the pilus, and occurs about once per replication cycle.

Giardia intestinalis

Direct Visualization of Horizontal Gene Transfer A. Babic et al.

A drug that inhibits a neural signaling pathway linked to behavioral stress may be a useful therapy in preventing relapse in alcoholics.

A structural model of a yeast prion shows that the amyloid fibrils form a left-handed β-solenoid stabilized by hydrophobic and polar interactions and salt bridges.

MAP Kinase Pathway Signaling Dynamics Using Engineered Scaffold Interactions to Reshape

A drug that inhibits a neural signaling pathway linked to behavioral stress may be a useful therapy in preventing relapse in alcoholics.

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Water waster?

SCIENCE NOW
www.sciencenow.org  DAILY NEWS COVERAGE
Future Cars May Save Gas But Waste Water
Plug-in vehicles could strain resources of drought-stricken regions.
He Heard, She Heard
Girls and boys use different parts of their brains to process language.
Mathematicians Debate the Hole Truth
Who was the first to improve on a widely used classic formula?

From drifter to researcher.

SCIENCE CAREERS
www.sciencecareers.org  CAREER RESOURCES FOR SCIENTISTS
From the Archives: The Drifter
I. Chen
After 2 years of wandering, Gary Ruvkun settled into a productive research career.

>> See also Financing Your Research From Industry feature, p. 1548

SCIENCE SIGNALING
www.stke.org  THE SIGNAL TRANSDUCTION KNOWLEDGE ENVIRONMENT

ST NETWATCH: DrugBank
DrugBank is a useful tool for researchers using pharmacological agents to study signaling pathways; in Bioinformatics Resources.

ST NETWATCH: MINT, the Molecular INTeraction Database
Explore your favorite protein’s potential binding partners with the MINT database; in Protein Databases.

ST NETWATCH: Ask a Scientist
This Web site from the Howard Hughes Medical Institute lets users submit their questions directly to scientists; in Educator Sites.

Science Podcast
Download the 14 March Science Podcast to hear about predator-induced sand dollar cloning, the composition of protoplanetary disks, a worldwide assessment of agricultural science, and more.

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Science 319 (5869), 1453-1551.