

## EDITORIAL

- 949 Festival Lessons  
*Leszek Borysiewicz and Nicola Buckley*

## NEWS OF THE WEEK

- 954 A roundup of the week's top stories

## NEWS & ANALYSIS

- 956 Science Misused to Justify Ugandan Antigay Law
- 957 New Review Slams Fusion Project's Management
- 958 Twitter Offers Entire Data Pool, but Some Wary of Diving In
- 959 E.U. Privacy Protection Bill Would Hamper Research, Scientists Warn
- 960 New Look at Ancient Mineral Could Scrap a Test for Early Oxygen

## NEWS FOCUS

- 961 Welcome to Beringia  
*>> Perspective p. 979*
- 964 Can Down Syndrome Be Treated?  
*>> Science Podcast*

## LETTERS

- 968 Raw Data: Access to Inaccuracy  
*A. C. J. W. Janssens*
- Raw Data: Research and Health Care Goals Differ  
*W. J. Dondorp et al.*
- Response  
*J. E. Lunshof et al.*

- 969 CORRECTIONS AND CLARIFICATIONS

## BOOKS ET AL.

- 970 The New Science of Cities  
*M. Batty, reviewed by M. Szell*
- 971 Pests in the City  
*D. D. Biehler, reviewed by F. R. Davis*

## POLICY FORUM

- 972 A Better Route to Tech Standards  
*J. Lerner and J. Tirole*

## PERSPECTIVES

- 974 Meet the New Boss, Same as the Old Boss  
*M. Kaspari and M. D. Weiser*  
*>> Report p. 1014*
- 975 The Surface Mobility of Glasses  
*F. Chen et al.*  
*>> Report p. 994*
- 976 The Tropical Pacific Ocean—Back in the Driver's Seat?  
*A. Clement and P. DiNezio*
- 978 The Neural Code That Makes Us Human  
*Y. Grodzinsky and I. Nelken*  
*>> Report p. 1006*
- 979 Out of Beringia?  
*J. F. Hoffecker et al.*  
*>> News story p. 961*
- 981 How Shape Affects Microtubule and Nanoparticle Assembly  
*M. J. Stevens*
- 982 Signaling Shifts in Allergy Responses  
*M. Daëron*  
*>> Report p. 1021*

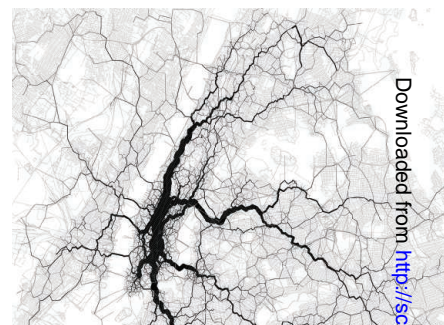
## REVIEW

- 985 Solar Synthesis: Prospects in Visible Light Photocatalysis  
*D. M. Schultz and T. P. Yoon*  
*Review Summary; for full text:*  
<http://dx.doi.org/10.1126/science.1239176>

CONTENTS continued >>



pages 961 & 979



page 970

Downloaded from <http://science.sciencemag.org/> on March 18, 2019

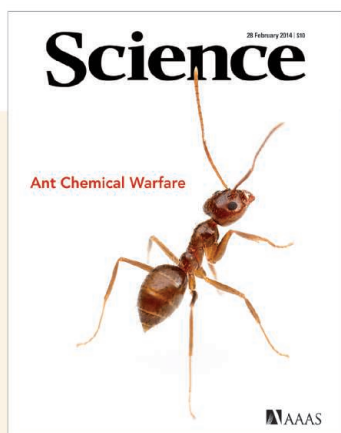
## ON THE WEB THIS WEEK

### >> Science Podcast

This week's show features a segment on recent research into treatments for Down syndrome and a roundup of shorts from our daily news site.

### >> Find More Online

Check out the latest in a series of Perspectives on Challenges in Climate Science at [www.sciencemag.org/extra/climate](http://www.sciencemag.org/extra/climate).



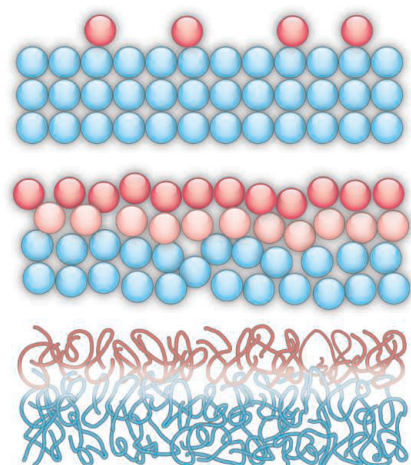
## COVER

A portrait of a tawny crazy ant worker (*Nylanderina fulva*). Tawny crazy ants, native to central South America, are invading the southeastern United States and, in some places, displacing the current dominant South American ant invader, red imported fire ants (*Solenopsis invicta*). A notable ability to detoxify the venom of imported fire ants apparently underlies the success of tawny crazy ants. See pages 974 and 1014.

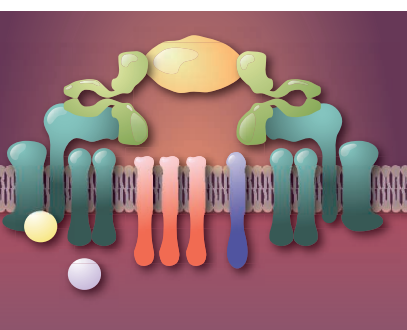
Photo: ©Alex Wild/alexanderwild.com

## DEPARTMENTS

- 947 This Week in *Science*
- 950 Editors' Choice
- 952 *Science* Staff
- 984 AAAS News & Notes
- 1029 New Products
- 1030 *Science* Careers



pages 975 & 994



pages 982 & 1021

RESEARCH ARTICLES

- 986 **ESCRT Machinery Is Required for Plasma Membrane Repair**  
A. J. Jimenez et al.  
ESCRT proteins repair small wounds in the plasma membrane by shearing off damaged portions.  
*Research Article Summary; for full text:*  
<http://dx.doi.org/10.1126/science.1247136>
- 987 **Lost in Transition: Start-Up of Glycolysis Yields Subpopulations of Nongrowing Cells**  
J. H. van Heerden et al.  
One source of nongenetic variation in yeast can be traced to distinct steady-state levels of glycolysis.  
*Research Article Summary; for full text:*  
<http://dx.doi.org/10.1126/science.1245114>

REPORTS

- 988 **Global Anisotropies in TeV Cosmic Rays Related to the Sun's Local Galactic Environment from IBEX**  
N. A. Schwadron et al.  
Local interstellar conditions play a role in ordering very-high-energy cosmic rays in the Sun's immediate environment.
- 990 **Nanoporous BiVO<sub>4</sub> Photoanodes with Dual-Layer Oxygen Evolution Catalysts for Solar Water Splitting**  
T. W. Kim and K.-S. Choi  
A high-surface-area morphology of bismuth vanadate enhances the proportion of photogenerated holes that can oxidize water.
- 994 **A Direct Quantitative Measure of Surface Mobility in a Glassy Polymer**  
Y. Chai et al.  
A step geometry is used to probe the behavior of a glassy polymer above and below its glass transition temperature.  
>> *Perspective p. 975*
- 999 **Rapid Thinning of Pine Island Glacier in the Early Holocene**  
J. S. Johnson et al.  
Pine Island Glacier in Antarctica thinned rapidly, as it is doing now, at least once before in the past 8000 years.

- 1002 **Promoter-Bound Trinucleotide Repeat mRNA Drives Epigenetic Silencing in Fragile X Syndrome**  
D. Colak et al.  
An abnormal activation of gene silencing underlies fragile X syndrome.
- 1006 **Phonetic Feature Encoding in Human Superior Temporal Gyrus**  
N. Mesgarani et al.  
The human auditory cortex encodes what speech sounds like.  
>> *Perspective p. 978*
- 1010 **Detection of a Recurrent DNAJB1-PRKACA Chimeric Transcript in Fibrolamellar Hepatocellular Carcinoma**  
J. N. Honeyman et al.  
A rare form of liver cancer affecting young adults expresses a chimeric kinase that may contribute to pathogenesis.
- 1014 **Chemical Warfare Among Invaders: A Detoxification Interaction Facilitates an Ant Invasion**  
E. G. LeBrun et al.  
After fire ants invade, they can be invaded in turn by tawny crazy ants.  
>> *Perspective p. 974*
- 1017 **Resurrecting Surviving Neandertal Lineages from Modern Human Genomes**  
B. Vernot and J. M. Akey  
Ancestral Neandertal sequences within extant humans reveal that positive and purifying selection has occurred.
- 1021 **Molecular Editing of Cellular Responses by the High-Affinity Receptor for IgE**  
R. Suzuki et al.  
One receptor uses different signals to achieve different outcomes.  
>> *Perspective p. 982*
- 1025 **Cell Surface ABP1-TMK Auxin-Sensing Complex Activates ROP GTPase Signaling**  
T. Xu et al.  
An alternate signaling route for the plant hormone auxin goes directly inside from the cell surface.

SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals Mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2014 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$149 (\$74 allocated to subscription). Domestic institutional subscription (51 issues): \$990; Foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery) \$85. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. Publications Mail Agreement Number 1069624. Printed in the U.S.A.

Change of address: Allow 4 weeks, giving old and new addresses and 8-digit account number. Postmaster: Send change of address to AAAS, P.O. Box 96178, Washington, DC 20090-6178. Single-copy sales: \$10.00 current issue, \$15.00 back issue prepaid includes surface postage; bulk rates on request. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that \$30.00 per article is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923. The identification code for Science is 0036-8075. Science is indexed in the Reader's Guide to Periodical Literature and in several specialized indexes.

Downloaded from <http://science.sciencemag.org/> on March 18, 2019

# Science

**343 (6174)**

*Science* **343** (6174), 947-1029.

**ARTICLE TOOLS**

<http://science.sciencemag.org/content/343/6174>

**PERMISSIONS**

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

---

*Science* (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.