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981 How Shape Affects Microtubule and Nanoparticle Assembly
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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

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.

COVER
A portrait of a tawny crazy ant worker (Nylanderia 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
RESEARCH ARTICLES
986 ESCRT Machinery Is Required for Plasma Membrane Repair
A. J. Jimenez et al.
ESCRТ 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 BiVO₄ 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.