



COVER

Male flowers of *Gurania makoyana*, a Central American plant in the cucumber family, harbor larvae (not visible) of two species of fly; a third fly species infests female flowers of the same species of plant. Some plant species in this family can host as many as 13 different fly species. See page 928.

Photo: Marty Condon

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SCIENCE EXPRESS

www.scienceexpress.org

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Activation of the Cellular DNA Damage Response in the Absence of DNA Lesions

E. Soutoglou and T. Misteli

Protein complexes that usually assemble on and repair damaged DNA can form at undamaged sites to halt the cell cycle if several of the proteins are first tethered there.

10.1126/science.1159051

ASTRONOMY

An Eccentric Binary Millisecond Pulsar in the Galactic Plane

D. J. Champion et al.

A rapidly rotating pulsar has a highly eccentric orbit about its companion star, not the usual circular orbit, challenging ideas on how such binary systems form.

>> *Science Express Perspective by E. P. J. van den Heuvel*

10.1126/science.1157580

PERSPECTIVE: An Eccentric Pulsar: Result of a Threesome?

E. P. J. van den Heuvel

>> *Science Express Research Article by D. J. Champion et al.*

10.1126/science.1158738



MOLECULAR BIOLOGY

Widespread Translational Inhibition by Plant miRNAs and siRNAs

P. Brodersen et al.

Plant microRNAs and small interfering RNAs, thought to inhibit gene expression by cleavage of their RNA targets, also interfere with the translation of these RNAs into protein.

10.1126/science.1159151

PLANETARY SCIENCE

Mars North Polar Deposits: Stratigraphy, Age, and Geodynamical Response

R. J. Phillips et al.

Radar mapping shows that Mars' thick north polar ice cap contains four dust-rich layers recording variation in the planet's orbit and only slightly depresses the underlying crust.

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10.1126/science.1157546

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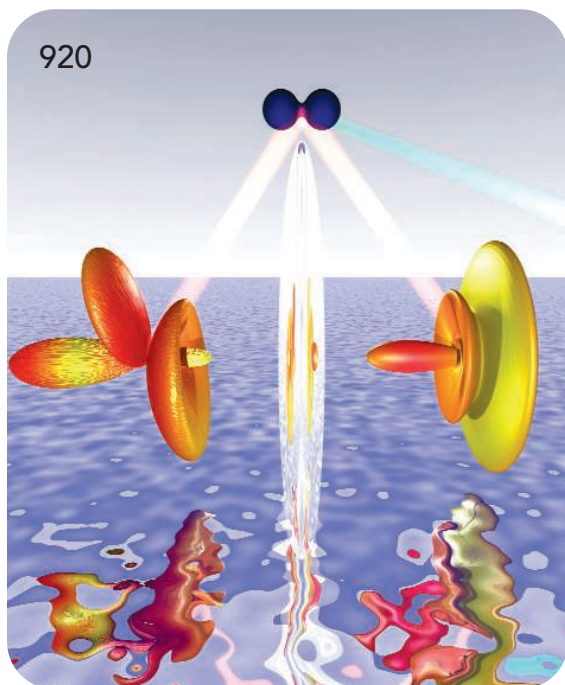
D. C. Cannatella

full text at www.sciencemag.org/cgi/content/full/320/5878/874c

Response to Comment on "Habitat Split and the Global Decline of Amphibians"

C. R. Fonseca, C. G. Becker, C. F. B. Haddad, P. I. Prado

full text at www.sciencemag.org/cgi/content/full/320/5878/874d



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Design Logic of a Cannabinoid Receptor Signaling Network That Triggers Neurite Outgrowth 903

K. D. Bromberg, A. Ma'ayan, S. R. Neves, R. Iyengar

Analysis of transcription data and known signaling networks predict two previously unrecognized regulators of neuronal growth, which were experimentally confirmed.

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Turbulence and Magnetic Fields in the Large-Scale Structure of the Universe 909

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>> *Perspective p. 883*

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M. S. Schöffler et al.

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>> *Perspective p. 884*

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M. A. Condon, S. J. Scheffer, M. L. Lewis, S. M. Swensen

Molecular markers reveal that insect species on plants in the cucumber family are unexpectedly diverse, showing specificity for particular hosts and even certain tissues.

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Surface Tension Transport of Prey by Feeding Shorebirds: The Capillary Ratchet 931

M. Prakash, D. Quéré, J. W. M. Bush

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L. Zhou et al.

A cadherin molecule on the surface of guidepost neurons in the developing brain marks the pathway for axons to follow from the thalamus to the cortex.

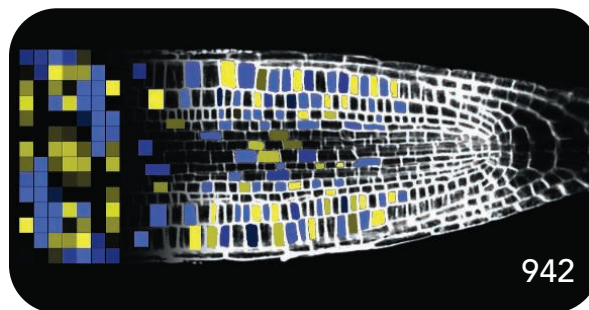
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>> *Perspective p. 879*

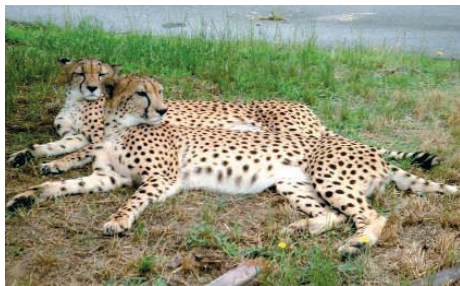


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Captive cheetahs are being besieged.

SCIENCE NOW

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HIGHLIGHTS FROM OUR DAILY NEWS COVERAGE

The Mystery of the Dying Cheetahs

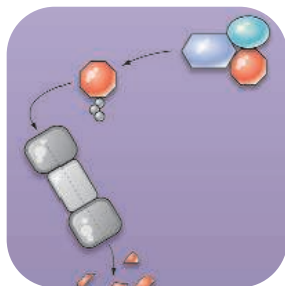
Researchers are closing in on how a version of mad cow disease is decimating captive cheetah populations.

Taking the Young Universe's Temperature

Gas molecules from across the cosmos help to underpin the big bang.

Blame It on the Beetles

Voracious insects ruined a whole lot of dinosaur fossils.



FAK targets p53 for degradation.

SCIENCE SIGNALING

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PERSPECTIVE: Focal Adhesion Kinase Versus p53—Apoptosis or Survival?

W. G. Cance and V. M. Golubovskaya

Focal adhesion kinase acts as a scaffold protein to target p53 for degradation in the nucleus, leading to cell proliferation.

ST NETWATCH: Technical Information

Read entries in a new section that features online information about experimental design, methods, reagents, and data analysis.

GLOSSARY

Find out what BDNF, NICD, and PARL mean in the world of cell signaling.



Maintaining an interest in science.

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FREE CAREER RESOURCES FOR SCIENTISTS

MiSciNet: African Americans in the Scientific Workforce

A. Sasso

Many African American freshmen hope to become science majors, but their numbers decline in subsequent years.

MiSciNet: Betty Mbom

A. Sasso

As an undergraduate, Stanford-bound Betty Mbom started a minority mentoring program at her university.

Coming to Europe

A. Swarup

New policies aim to improve international scientists' mobility into and within Europe.

Science Careers Podcast: European Visa Issues

K. Travis

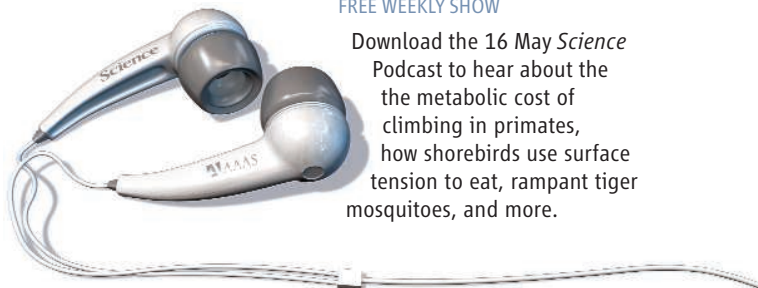
A European policy official talks about coming to Europe to do science.

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