

EDITORIAL

- 1396 Mobilizing Scientific Societies
Bruce Alberts

NEWS OF THE WEEK

- 1400 A roundup of the week's top stories

NEWS & ANALYSIS

- 1404 Japan Stands Alone in Bid for \$10 Billion Collider
1405 NIH Offers to Help Universities Improve Training, Boost Diversity
1406 Turing Pattern Fingered for Digit Formation
>> Report p. 1476
1407 University of Texas Revamps Conflict Rules After Critical Review

NEWS FOCUS

- 1408 The Tale of the TALEs
Beyond TALENs
1412 How to Build a Smarter Rock
>> Science Podcast
1414 A Controversial Close-Up of Humanity's Health
1417 Experimental Landscapes Raise Stakes at Biosphere 2

LETTERS

- 1419 Cloudy Forecast for Weather Satellite Data
D. J. Baker
Big Brains, Little Bodies
W. T. Wcislo
Response
M. Balter
Pushing the Planetary Boundaries
K.-H. Erb et al.
Response
S. W. Running and W. K. Smith

- 1420 CORRECTIONS AND CLARIFICATIONS

BOOKS ET AL.

- 1421 Signals and Boundaries
J. H. Holland, reviewed by C. Adami
1422 Networked Life
M. Chiang, reviewed by L. A. Stein

POLICY FORUM

- 1424 The Greening of Insurance
E. Mills

PERSPECTIVES

- 1426 Is Science Mostly Driven by Ideas or by Tools?
F. J. Dyson
1427 The Revolution in the Life Sciences
S. Brenner
1428 Who Speaks with a Forked Tongue?
J. B. Losos et al.
1430 EZH2 Goes Solo
G. Cavalli
>> Report p. 1465
1431 A Genetic Intervention Stands a Skip Away from Clinical Tests
J. S. Chamberlain
1432 Relay Reactions That Trap Organometallic Intermediates
S. R. Gilbertson
>> Report p. 1455
1434 Sub-Nanosized Gold Catalysts
A. S. K. Hashmi
>> Report p. 1452

CONTENTS continued >>



page 1412



page 1428



COVER

Arachnoscelis magnifica, a predaceous katydid (Orthoptera: Tettigoniidae), on a leaf in the San Lorenzo forest of Panama. This attractive insect is but one of the ~25,000 arthropod species likely to live in this 6000-hectare forest, confirming the formidable diversity of arthropods, which appears to be 300 times that of mammals in tropical rainforests. See page 1481.

Photo: Maurice Laponce, Royal Belgian Institute of Natural Sciences

DEPARTMENTS

- 1395 This Week in Science
1397 Editors' Choice
1399 Science Staff
1485 New Products
1486 Science Careers

REVIEW

1435 Epigenetic Regulation by Long Noncoding RNAs

J. T. Lee

>> Report p. 1469

RESEARCH ARTICLE

1440 Aggravating Genetic Interactions Allow a Solution to Redundancy in a Bacterial Pathogen

T. J. O'Connor et al.

Insertional mutagenesis and depletion dissects the interplay between intracellular *Legionella pneumophila* and its host.

REPORTS

1445 A Universal Scaling for the Energetics of Relativistic Jets from Black Hole Systems

R. S. Nemmen et al.

Jets from black holes of differing masses show the same energy-dissipation efficiency, suggesting similar production mechanisms.

1448 Texture of Nanocrystalline Nickel: Probing the Lower Size Limit of Dislocation Activity

B. Chen et al.

A metal subjected to high pressures retains the activity of dislocations, even for very small grain sizes.

1452 Small Gold Clusters Formed in Solution Give Reaction Turnover Numbers of 10^7 at Room Temperature

J. Oliver-Meseguer et al.

Three- to ten-atom gold clusters formed from gold salts and complexes are highly active catalysts for organic reactions.

>> Perspective p. 1434

1455 Enantioselective Heck Arylations of Acyclic Alkenyl Alcohols Using a Redox-Relay Strategy

E. W. Werner et al.

A widely used coupling reaction is adapted by pairing formation of a carbon-carbon bond with oxidation of a nearby alcohol.

>> Perspective p. 1432

1458 Rapid Folding of DNA into Nanoscale Shapes at Constant Temperature

J.-P. J. Sobczak et al.

Complex DNA nanoscale objects may be assembled within minutes in high yields through a process resembling protein folding.

1462 Pheromonal Induction of Spatial Learning in Mice

S. A. Roberts et al.

A male sex pheromone rapidly stimulates learning of place preference that is remembered for about 2 weeks.

>> Science Podcast

1465 EZH2 Oncogenic Activity in Castration-Resistant Prostate Cancer Cells Is Polycomb-Independent

K. Xu et al.

An epigenetic regulator positively regulates gene expression in cell-based models of hormone-resistant prostate cancer.

>> Perspective p. 1430

1469 *Airn* Transcriptional Overlap, But Not Its lncRNA Products, Induces Imprinted *Igf2r* Silencing

P. A. Latas et al.

A very long noncoding RNA acts to silence its target gene cluster through transcriptional interference.

>> Review p. 1435

1472 A Steroid Receptor-MicroRNA Switch Regulates Life Span in Response to Signals from the Gonad

Y. Shen et al.

The mechanism by which removal of signals from the reproductive organs promotes longevity in nematodes is elucidated.

1476 *Hox* Genes Regulate Digit Patterning by Controlling the Wavelength of a Turing-Type Mechanism

R. Sheth et al.

Mouse genetics and computer modeling suggest that a reaction-diffusion mechanism defines digit pattern.

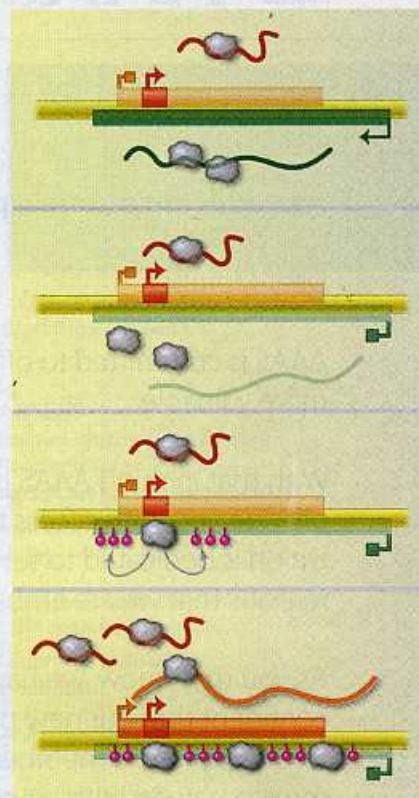
>> News story p. 1406

1481 Arthropod Diversity in a Tropical Forest

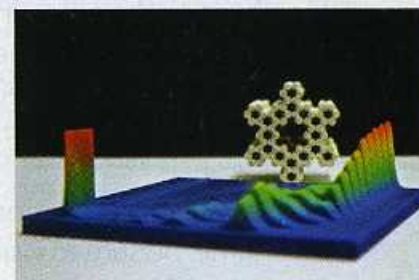
Y. Basset et al.

Total arthropod species richness in a tropical rainforest can be best predicted by plant diversity.

>> Science Podcast



pages 1435 & 1469



page 1458

CONTENTS continued >>