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Three-Dimensional Super-Resolution Imaging by Stochastic Optical Reconstruction Microscopy
B. Huang, W. Wang, M. Bates, X. Zhuang
Three-dimensional fluorescence images of cellular structures in fixed cells are realized at 20- to 30-nm lateral and 50-nm axial resolution, without scanning.
10.1126/science.1153529

BIOCHEMISTRY
Direct Observation of Hierarchical Folding in Single Riboswitch Aptamers
W. J. Greenleaf et al.
Optical trapping reveals that activation by adenine stabilizes the weakest helix in a riboswitch, after which secondary and tertiary structures are formed sequentially.
10.1126/science.1151298

GENETICS
Mutations in the Pericentrin (PCNT) Gene Cause Primordial Dwarfism
A. Rauch et al.
In humans, an inherited condition with small brain size and near-normal intelligence is caused by mutations that disrupt chromosome separation during cell division.
10.1126/science.1151174

CLIMATE CHANGE
The Spatial Pattern and Mechanisms of Heat Content Change in the North Atlantic
M. S. Lozier et al.
Warming and cooling in different parts of the North Atlantic since 1950 reflect variable atmospheric circulation, complicating our understanding of anthropogenic changes.
10.1126/science.1146436

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M. Buckley et al.
full text at www.sciencemag.org/cgi/content/full/319/5859/33c
Response to Comment on “Protein Sequences from Mastodon and Tyrannosaurus rex Revealed by Mass Spectrometry”
J. M. Asara and M. H. Schweitzer
full text at www.sciencemag.org/cgi/content/full/319/5859/33d

BREVIA
EVOLUTION
Rarity of Males in Pea Aphids Results in Mutational Decay
J. A. Brisson and S. V. Nuzhdin
Genes used preferentially by female pea aphids are under stronger selection than those used by males, probably because females mainly reproduce asexually.

EVOLUTION
Physiological Sex Predicts Hybrid Sterility
Regardless of Genotype
J. H. Malone and P. Michalak
An apparent violation of Haldane’s rule (in hybrid organisms the heterogametic sex tends to be sterile) in frogs can be explained by postulating that males have evolved faster.

RESEARCH ARTICLES
PALEOCLIMATE
Reduced North Atlantic Deep Water Coeval with the Glacial Lake Agassiz Freshwater Outburst
H. F. Kleiven et al.
Data on deep water formation in the North Atlantic indicate that the sudden draining of a huge glacial lake south of Hudson Bay led to dramatic cooling 8200 years ago.

GENETICS
The Physcomitrella Genome Reveals Evolutionary Insights into the Conquest of Land by Plants
S. A. Rensing et al.
Comparison of the moss genome sequence with those of other plants reveals hallmarks of colonization of land, including genes to manage terrestrial stresses such as dehydration.
Science 319 (5859), 11-107.