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Plant Metabolism

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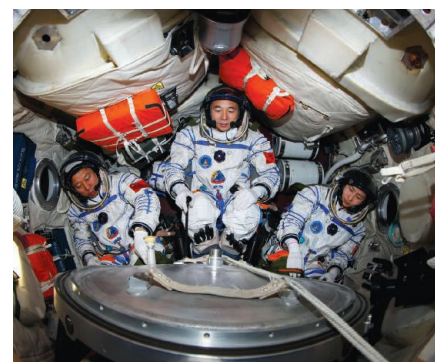
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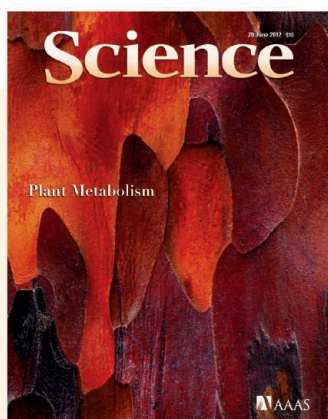
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Wet bark of a Pacific yew tree (*Taxus brevifolia*) in Union, Washington, USA (vertical dimension ~15 centimeters). Wild Pacific yew thrives in the damp coastal forests of northwestern North America, with thin bark ranging in color from rose to auburn. The anticancer agent paclitaxel was originally derived from yew trees. Such complex and useful compounds are just one of the many outputs from plant metabolic networks, as analyzed in the special issue beginning on page 1657.

 Photo: Don Paulson, www.donpaulson.com
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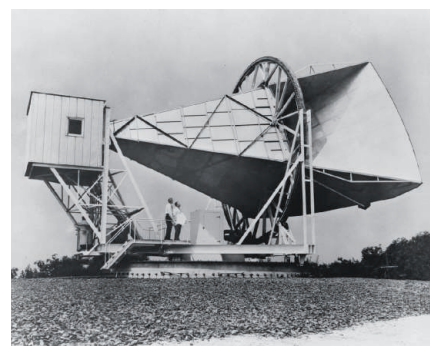
- 1683 Hesperian Age for Western Medusae Fossae Formation, Mars
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Counts of impact craters provide age for a region on Mars close to the landing site of rover Curiosity.

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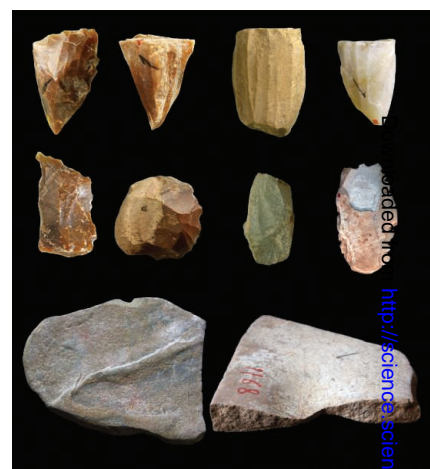
- 1684 Synthesis of Self-Pillared Zeolite Nanosheets by Repetitive Branching
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Single-step synthesis of pillared zeolite nanosheets is achieved with a common structure-directing agent.
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An elementary chemical reaction manifests unexpectedly complex rotational dynamics.
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Evidence of past earthquakes from sediments along New Zealand's Alpine Fault improves seismic hazard estimates.
- 1693 Bilaterian Burrows and Grazing Behavior at >585 Million Years Ago
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- 1704 A *Papaver somniferum* 10-Gene Cluster for Synthesis of the Anticancer Alkaloid Noscapine
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- 1708 Structural Basis for Preceptor Modulation of Plant Hormones by GH3 Proteins
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- 1711 Uniform ripening Encodes a Golden 2-like Transcription Factor Regulating Tomato Fruit Chloroplast Development
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D. Floudas et al.
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A. Mayer et al.
Phosphorylation of a tyrosine inhibits the binding of termination factors and promotes the binding of elongation factors.
- 1726 Elastic Coupling Between RNA Degradation and Unwinding by an Exoribonuclease
G. Lee et al.
Rrp44 stores the energy from snipping off four bases and then uses it to unwind duplex RNA spasmodically.

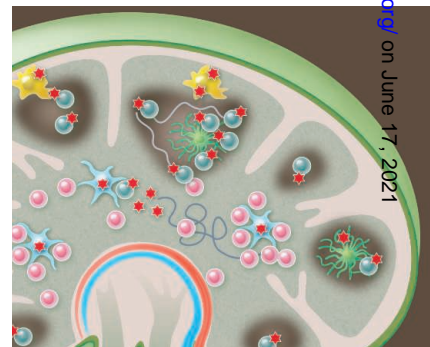
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SCIENCEONLINE

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The Tides of Titan

L. Less et al.

Gravity measurements by the Cassini spacecraft suggest that Saturn's moon Titan hosts a subsurface ocean.

10.1126/science.1219631

>> *News story p. 1629*

Synthesis and Structure of a Terminal Uranium Nitride Complex

D. M. King et al.

A uranium triple bond to nitrogen makes use of the heavy element's f orbitals.

10.1126/science.1223488

An Overlapping Protein-Coding Region in Influenza A Virus Segment 3 Modulates the Host Response

B. W. Jagger et al.

A previously unidentified influenza protein, partly old and partly new, turns off the expression of host genes.

10.1126/science.1222213

Landscape of Somatic Retrotransposition in Human Cancers

E. Lee et al.

Whole-genome sequencing provides evidence for somatic insertions in colorectal, prostate, and ovarian cancers.

10.1126/science.1222077

Regional Astrocyte Allocation Regulates CNS Synaptogenesis and Repair

H.-H. Tsai et al.

Astrocytes are not as interchangeable as previously thought.

10.1126/science.1222381

Programmable Dual-RNA-Guided DNA Endonuclease in Adaptive Bacterial Immunity

M. Jinek et al.

A prokaryotic RNA-directed targeting system can be designed to cleave any DNA sequence.

10.1126/science.1225289

TECHNICAL COMMENTS

Comment on "Global Correlations in Tropical Tree Species Richness and Abundance Reject Neutrality"

R. S. Etienne and J. Rosindell

Full text at www.sciencemag.org/cgi/content/full/336/6089/1639-b

Comment on "Global Correlations in Tropical Tree Species Richness and Abundance Reject Neutrality"

C. Mora

Full text at www.sciencemag.org/cgi/content/full/336/6089/1639-c

Comment on "Global Correlations in Tropical Tree Species Richness and Abundance Reject Neutrality"

A. Chen et al.

Full text at www.sciencemag.org/cgi/content/full/336/6089/1639-d

Comment on "Global Correlations in Tropical Tree Species Richness and Abundance Reject Neutrality"

F. Munoz et al.

Full text at www.sciencemag.org/cgi/content/full/336/6089/1639-e

Response to Comments on "Global Correlations in Tropical Tree Species Richness and Abundance Reject Neutrality"

R. E. Ricklefs and S. S. Renner

Full text at www.sciencemag.org/cgi/content/full/336/6089/1639-f

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<http://scim.ag/Social-Networks>

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http://scim.ag/Elephant_Womb

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The Signal Transduction Knowledge Environment

26 June issue: <http://scim.ag/ss062612>

RESEARCH ARTICLE: Selective Effects of PD-1 on Akt and Ras Pathways Regulate Molecular Components of the Cell Cycle and Inhibit T Cell Proliferation

N. Patsoukis et al.

PODCAST

V. A. Boussiotis and A. M. VanHook

An inhibitory receptor blocks proliferation of autoreactive T cells.

PERSPECTIVE: How Plant Lysin Motif Receptors Get Activated—Lessons Learned from Structural Biology

R. Willmann and T. Nürnberger

A plant immune receptor is activated by chitin fragments that trigger receptor dimerization.

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Integrating Medicine and Science

27 June issue: <http://scim.ag/stm062712>

RESEARCH ARTICLE: Oxygen Gas-Filled Microparticles Provide Intravenous Oxygen Delivery

J. N. Kheir et al.

FOCUS: Boosting Oxygenation During Acute Respiratory Failure

R. C. Koehler

A foam containing oxygen gas-filled microparticles delivers oxygen during asphyxia.

STATE OF THE ART REVIEW: Fresh Approaches to Anti-Infective Therapies

C. Nathan

Characterization of resistant pathogens, new government policies, and creative discovery efforts are needed to maintain an effective antibacterial arsenal.

RESEARCH ARTICLE: Engineering a Prostate-Specific Membrane Antigen-Activated Tumor Endothelial Cell Prodrug for Cancer Therapy

S. R. Denmeade et al.

A prostate-specific membrane antigen-activated prodrug is being tested in patients with advanced cancer.

RESEARCH ARTICLE: AAV-Directed Persistent Expression of a Gene Encoding Anti-Nicotine Antibody for Smoking Cessation

M. J. Hicks et al.

Gene therapy with an anti-nicotine monoclonal antibody limits nicotine access to the brain in mice.

RESEARCH ARTICLE: Transplantation of Genetically Corrected Human iPSC-Derived Progenitors in Mice with Limb-Girdle Muscular Dystrophy

F. S. Tedesco et al.

Genetically corrected mesoangioblasts contribute to muscle in mice with limb-girdle muscular dystrophy.

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Experimental Error: Will That Be Trash or Credit?

A. Ruben

If scientists just want to make the world better, why do they expend energy clamoring for credit? <http://scim.ag/TrashOrCredit>

New Technology Pollinates Plant Science

S. Webb

Advances in genetics and molecular biology are providing fresh tools for solving agricultural problems. http://scim.ag/SWebb_PlantScience

>> *Plant Metabolism section p. 1657*

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