



COVER

A male lark bunting in the Pawnee National Grassland, Colorado. The plumage quality of the males determines their reproductive success, but different aspects of the black and white markings are preferred by females in different years. This variability alters the long-term sexual selection dynamics and may favor the evolution of multiple sexual ornaments. See page 459.

Photo: Bruce Lyon

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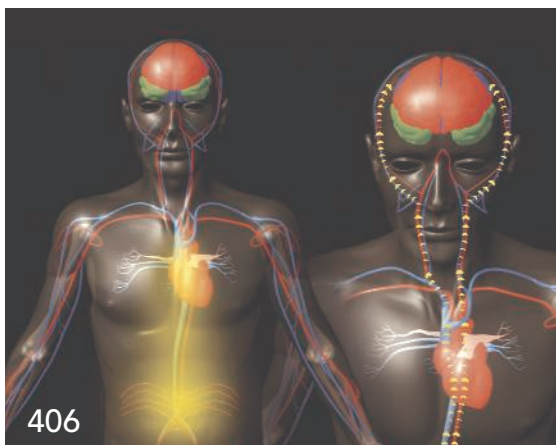
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www.sciencexpress.org

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Chemically Derived, Ultrasmooth Graphene Nanoribbon Semiconductors

X. Li, X. Wang, L. Zhang, S. Lee, H. Dai

Unlike nanotubes, 10-nanometer-wide graphene nanoribbons have smooth edges and can act as semiconductors.

10.1126/science.1150878

IMMUNOLOGY

Innate Immune Homeostasis by the Homeobox Gene *Caudal* and Commensal-Gut Mutualism in *Drosophila*

J.-H. Ryu et al.

A *Drosophila* gene important in development also inhibits the production of harmful antimicrobial peptides that could kill off beneficial gut microbes.

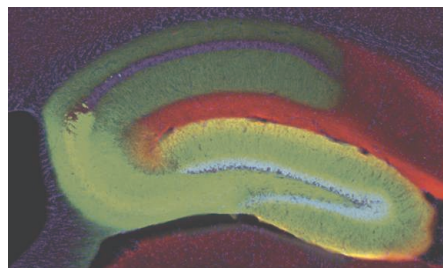
10.1126/science.1149357

IMMUNOLOGY

The Right Resident Bugs

N. Silverman and N. Paquette

10.1126/science.1154209



NEUROSCIENCE

Transgenic Inhibition of Synaptic Transmission Reveals Role of CA3 Output in Hippocampal Learning

T. Nakashiba, J. Z. Young, T. J. McHugh, D. L. Buhl, S. Tonegawa

Blockade of neural activity in the CA3 region of the hippocampus with a reversible, inducible transgenic method inhibits rapid learning but spares certain spatial tasks.

10.1126/science.1151120

MOLECULAR BIOLOGY

Complete Chemical Synthesis, Assembly, and Cloning of a *Mycoplasma genitalium* Genome

D. G. Gibson et al.

A complete bacterial genome is synthesized, assembled, and cloned, providing a method that will be useful for generating large DNA molecules de novo.

10.1126/science.1151721

BREVIA

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R. Jenkins and A. M. Burton

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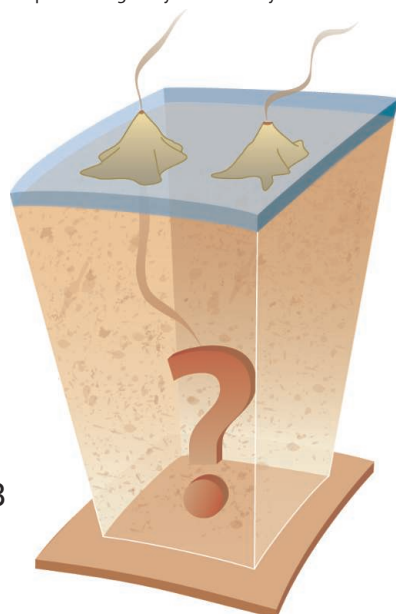
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An isotopic signal thought to be a fingerprint of material from Earth's core in ocean magmas may instead reflect the presence of sulfide mineralization in the melting region.

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U.S. jaguars are in danger.

SCIENCE NOW

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No Recovery Plan for U.S. Jaguars

In controversial decision, Fish and Wildlife Service says plan would not promote conservation.

The Secret Ingredient in Yellowstone's Travertine

Researcher presents first evidence that microbes are key to Mammoth Hot Springs mineralization.

An Eye for Sexual Orientation

People are able to spot a gay or straight face in less than a second.



Human ITPK1.

SCIENCE SIGNALING

www.stke.org THE SIGNAL TRANSDUCTION KNOWLEDGE ENVIRONMENT

PERSPECTIVE: Human ITPK1—A Reversible Inositol Phosphate Kinase/Phosphatase that Links Receptor-Dependent Phospholipase C to Ca²⁺-Activated Chloride Channels

A. Saiardi and S. Cockcroft

Studies of ITPK1 reveal subtle interconnections between simple metabolism and regulation of a signaling event.

GLOSSARY

Find out what NOSIP, SIPK, and STAND mean in the world of cell signaling.



Handling troublesome lab colleagues.

SCIENCE CAREERS

www.sciencecareers.org CAREER RESOURCES FOR SCIENTISTS

Mastering Your Ph.D.: Dealing With Difficult Colleagues

P. Gosling and B. Noordam

Some troublesome types who frequent laboratories require special handling.

MiSciNet: Educated Woman, Postdoc Edition, Chapter 12—Reflections

M. P. DeWhyse

The fog on Micella's steamy mirror starts to clear.

Opportunities: The Curse of Brains

P. Fiske

Effectiveness requires more than just intellectual smarts.

From the Archives: Scientists as Parents

When it comes to the question of balancing parenting and careers, the answers are contingent on one or two (and eventually more) individuals.

SCIENCE PODCAST



Download the 25 January *Science* Podcast to hear about improving improving automatic face recognition, synthesis of a bacterial genome, subtle effects of brain trauma, and more.

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