

SPECIAL SECTION

Ardipithecus ramidus

INTRODUCTION

60 Light on the Origin of Man

RESEARCH ARTICLES

Ardipithecus ramidus and the Paleobiology of Early Hominids

Tim D. White et al.

Authors' Summary p. 64, Full Text p. 75

The Geological, Isotopic, Botanical, Invertebrate, and Lower Vertebrate Surroundings of *Ardipithecus ramidus*

Giday WoldeGabriel et al.

Authors' Summary p. 65, Full Text Online*

Taphonomic, Avian, and Small-Vertebrate Indicators of *Ardipithecus ramidus* Habitat

Antoine Louchart et al.

Authors' Summary p. 66, Full Text Online*

Macrovertebrate Paleontology and the Pliocene Habitat of *Ardipithecus ramidus*

Tim D. White et al.

Authors' Summary p. 67, Full Text p. 87

The *Ardipithecus ramidus* Skull and Its Implications for Hominid Origins

Gen Suwa et al.

Authors' Summary p. 68, Full Text Online*

Paleobiological Implications of the *Ardipithecus ramidus* Dentition

Gen Suwa et al.

Authors' Summary p. 69, Full Text p. 94

Careful Climbing in the Miocene: The Forelimbs of *Ardipithecus ramidus* and Humans Are Primitive

C. Owen Lovejoy et al.

Authors' Summary p. 70, Full Text Online*

The Pelvis and Femur of *Ardipithecus ramidus*: The Emergence of Upright Walking

C. Owen Lovejoy et al.

Authors' Summary p. 71, Full Text Online*

Combining Prehension and Propulsion: The Foot of *Ardipithecus ramidus*

C. Owen Lovejoy et al.

Authors' Summary p. 72, Full Text Online*

The Great Divides: *Ardipithecus ramidus* Reveals the Postcrania of Our Last Common Ancestors with African Apes

C. Owen Lovejoy et al.

Authors' Summary p. 73, Full Text p. 100

Reexamining Human Origins in Light of *Ardipithecus ramidus*

C. Owen Lovejoy

Author's Summary p. 74, Full Text Online*

>> Editorial p. 17; News Focus section pp. 36–43;

*Full text and related online content at www.sciencemag.org/ardipithecus/



page 33

33 ORIGINS
On the Origin of Ecological Structure
>> Science Podcast

NEWS FOCUS

36 A New Kind of Ancestor: *Ardipithecus* Unveiled
Habitat for Humanity

41 The View From Afar
>> *Ardipithecus ramidus* section p. 60

LETTERS

44 Think Big, Eat Small
E. Dewailly and P. Rouja
Public Trust Doctrine: Too Limited
R. K. Craig
Public Trust Doctrine: Too Broad
F. E. Guerra-Pujol
Public Trust Doctrine: In Need of Integration
M. E. Portman
Response
M. Turnipseed et al.

46 CORRECTIONS AND CLARIFICATIONS

CONTENTS continued >>

EDITORIAL

17 Understanding Human Origins
Bruce Alberts
>> *Ardipithecus ramidus* section p. 60

NEWS OF THE WEEK

26 Surprising AIDS Vaccine Success Praised and Pondered

27 Mars Mission Delayed as Mad Dash to Prep Probe Falls Short

28 What Happened to Global Warming? Scientists Say Just Wait a Bit

28 Lawmakers Signal Tougher Controls on Pathogen Research

29 From the *Science* Policy Blog

30 Scientists Decry Isotope, DNA Testing of 'Nationality'

31 From *Science's* Online Daily News Site



COVER

Partial skeleton of *Ardipithecus ramidus*, a hominid species living about 4.4 million years ago in Ethiopia. This female stood about 1.2 meters high. Eleven papers from an international team of authors published in print and online in this special issue describe the anatomy of this species and its habitat and discuss the implications for understanding human evolution. One result is that extant great apes are poor models for our last common ancestor with chimpanzees. See page 60 for an introduction.

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DEPARTMENTS

13 This Week in *Science*
19 Editors' Choice
22 *Science* Staff
25 Random Samples
157 New Products
158 *Science* Careers

BOOKS ET AL.

- 47 Social and Economic Networks
M. O. Jackson, reviewed by D. Krackhardt
- 48 Can Poetry Save the Earth?
J. Felstiner, reviewed by G. Garrard
- 49 Poetry: Influenced by Darwin

POLICY FORUM

- 50 Rethinking Influenza
R. Rappuoli et al.

PERSPECTIVES

- 51 Pushing Back Amber Production
D. Grimaldi
>> Report p. 132
- 52 Poison-Tolerant Fuel Cells
J. R. Selman
>> Report p. 126
- 53 The Coordinates of Truth
G. J. Nabel
- 55 Aging is RSKy Business
M. Kaerberlein and P. Kapahi
>> Report p. 140
- 56 Nitrous Oxide: No Laughing Matter
D. J. Wuebbles
>> Report p. 123
- 57 A Revolving Door for Calcium
N. Demaurex and D. Poburko
>> Report p. 144

REVIEW

- 108 Quantum Simulators
I. Buluta and F. Nori

BREVIA

- 112 Global Surface Wave Tomography Using Seismic Hum
K. Nishida et al.
Long-period surface waves from oceanic or atmospheric disturbances can be used for seismic mapping of the upper mantle.

REPORTS

- 113 Fluxonium: Single Cooper-Pair Circuit Free of Charge Offsets
V. E. Manucharyan et al.
Circuit engineering was used to mitigate the effects of quantum noise in superconducting quantum circuits.
- 116 Preferential Growth of Single-Walled Carbon Nanotubes with Metallic Conductivity
A. R. Harutyunyan et al.
Reaction conditions that alter catalyst particles can bias the chirality and electronic properties of nanotube products.

- 120 Chiral Organic Ion Pair Catalysts Assembled Through a Hydrogen-Bonding Network
D. Uraguchi et al.

A small cluster of hydrogen-bonded molecules acts as a highly selective asymmetric catalyst.

- 123 Nitrous Oxide (N₂O): The Dominant Ozone-Depleting Substance Emitted in the 21st Century
A. R. Ravishankara et al.

Nitrous oxide causes more stratospheric ozone destruction than any other ozone-depleting substance.

>> Perspective p. 56

- 126 Enhanced Sulfur and Coking Tolerance of a Mixed Ion Conductor for SOFCs: BaZr_{0.1}Ce_{0.7}Y_{0.2-x}Yb_xO_{3-δ}
L. Yang et al.

A barium zirconate-cerate doped with yttrium and ytterbium can transport both protons and oxygen ions at high temperatures.

>> Perspective p. 52

- 129 Rapid Resurgence of Marine Productivity After the Cretaceous-Paleogene Mass Extinction
J. Sepúlveda et al.

Preserved lipids imply that primary production recovered perhaps within 50 years of the end-Cretaceous extinction.

- 132 Identification of Carboniferous (320 Million Years Old) Class Ic Amber
P. S. Bray and K. B. Anderson

Carboniferous amber has a chemistry similar to that of amber from angiosperms that evolved about 150 million years later.

>> Perspective p. 51

- 134 Immune Activation by Life-Shortening *Wolbachia* and Reduced Filarial Competence in Mosquitoes
Z. Kambris et al.

A bacterial infection in mosquitoes impairs their capacity to transmit human pathogens.

- 137 Genetic Discontinuity Between Local Hunter-Gatherers and Central Europe's First Farmers
B. Bramanti et al.

Skeletal DNA shows the relationship between Ice Age hunter-gatherers, the first farmers, and modern Europeans.

- 140 Ribosomal Protein S6 Kinase 1 Signaling Regulates Mammalian Life Span
C. Selman et al.

A signaling pathway in mice mediates the effects of caloric restriction that protect against age-related diseases.

>> Perspective p. 55

- 144 Genome-Wide RNAi Screen Identifies Letm1 as a Mitochondrial Ca²⁺/H⁺ Antiporter
D. Jiang et al.

A nuclear-encoded protein is responsible for the uptake of calcium and the export of protons across the mitochondrial membrane.

>> Perspective p. 57

- 147 Dissecting the Genetic Basis of Resistance to Malaria Parasites in *Anopheles gambiae*
S. A. Blandin et al.

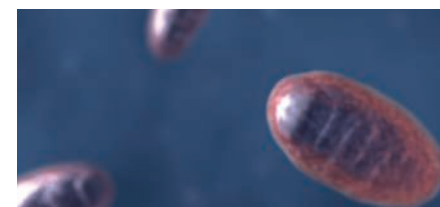
Genome-wide mapping reveals the molecular basis of phenotypic variation in resistance to *Plasmodium* in mosquitoes.

- 150 Coat Variation in the Domestic Dog Is Governed by Variants in Three Genes
E. Cadieu et al.

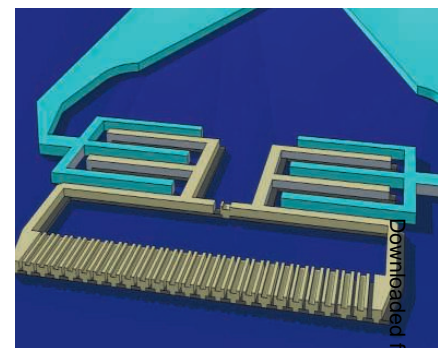
Huge variations in the coats of purebred dogs can be explained by the combinatorial effects of only three genes.

- 153 JAK-STAT Signal Inhibition Regulates Competition in the *Drosophila* Testis Stem Cell Niche
M. Issigonis et al.

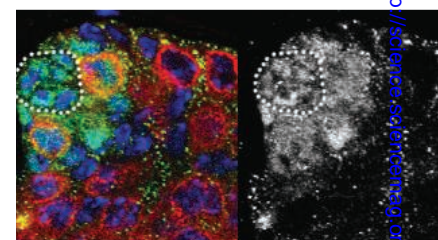
Suppression of transcription signaling in somatic stem cells prevents them from out-competing neighboring germline stem cells.



pages 57 & 144



page 113



page 153

CONTENTS continued >>

SCIENCEONLINE

SCIENCEXPRESS

www.sciencexpress.org

Sexual Conflict Resolved by Invasion of a Novel Sex Determiner in Lake Malawi Cichlid Fishes

R. B. Roberts et al.

A color phenotype that is advantageous to females is linked to a sex-determining gene locus in cichlids.
10.1126/science.1174705

CD4⁺ Regulatory T Cells Control T_H17 Responses in a Stat3-Dependent Manner

A. Chaudhry et al.

Suppressor T cells regulate different classes of immune responses through induction of specific transcription factors.
10.1126/science.1172702

Two Chemoreceptors Mediate Developmental Effects of Dauer Pheromone in *C. elegans*

K. Kim et al.

Chemical signals that determine alternative nematode developmental programs act via two G protein-coupled receptors.
10.1126/science.1176331

Probing the Magnetic Field of Light at Optical Frequencies

M. Burresi et al.

A split-ring resonator coupled to a scanning probe is used to measure the weak magnetic component of light.
10.1126/science.1177096

A Population of Compact Elliptical Galaxies Detected with the Virtual Observatory

I. Chilingarian et al.

A sample of elliptical systems provides evidence that disruption of galaxies plays an important role in their evolution.
10.1126/science.1175930

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Economic downturns are linked to better health.

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A study of ancient proteins shows that evolution doesn't go in reverse.

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The Signal Transduction Knowledge Environment

EDITORIAL GUIDE: Focus Issue: The Long and Short of Redox Signaling

N. R. Gough

Reactive oxygen species mediate local and long-distance signals.

RESEARCH ARTICLE: *Leishmania* GP63 Alters Host Signaling Through Cleavage-Activated Protein Tyrosine Phosphatases

M. A. Gomez et al.

The parasite protein GP63 triggers cleavage and activation of host protein tyrosine phosphatases to promote infection.

RESEARCH ARTICLE: Hippo Pathway-Dependent and -Independent Roles of RASSF6

M. Ikeda et al.

RASSF6 is both an inhibitor and a promoter of apoptosis, and its proapoptotic activity is regulated by the mammalian kinase MST2, a Hippo homolog.

PERSPECTIVE: Sending ROS on a Bullet Train

H. L. Wong and K. Shimamoto

Hydrogen peroxide is an auto-propagating, rapid systemic stress signal generated by RBOHD in *Arabidopsis*.

PERSPECTIVE: STAT3 Revs Up the Powerhouse

N. C. Reich

The transcription factor STAT3 stimulates mitochondria to augment Ras-dependent oncogenic transformation.

REVIEW: Transduction of Redox Signaling by Electrophile-Protein Reactions

T. K. Rudolph and B. A. Freeman

Attachment of electrophilic products of redox reactions to proteins links cell function to changes in metabolic and inflammatory status.

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Flying High

S. Gaidos

Cecilia Aragon lacked the confidence to be a scientist—and then she learned to fly.

Destigmatizing Depression

K. Hede

Physician-scientist trainees are often reluctant to admit to suffering from depression.

Taken for Granted: Is a New Model Needed for Breakthrough Science?

B. L. Bendorly

Traditional PI-centered research cannot solve the big problems, a lab leader asserts.

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Responding to redox signals.



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Owning up to depression.

SPECIALFEATURE: *Ardipithecus ramidus*

The entire contents of this week's special section, online—plus special video and podcast features. Find it all at www.sciencemag.org/ardipithecus/.

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