CONTENTS

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/

EDITORIAL

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

NEWS OF THE WEEK

26 Surprising AIDS Vaccine Success Praised and Pondered

33 ORIGINS
On the Origin of Ecological Structure

36 NEWS FOCUS
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 >>
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.

PERSPETIVE: Sending ROS on a Bullet Train
H. L. Wong and K. Shimamoto
Hydrogen peroxide is an auto-propagating, rapid systemic stress signal generated by RBOH in Arabidopsis.

PERSPETIVE: 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.

SPECIAL FEATURE: 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/.

ORIGINS BLOG
blogs.sciencemag.org/origins
A History of Beginnings

SCIENCEPODCAST
www.sciencemag.org/multimedia/podcast
Free Weekly Show
Download the 2 October Science Podcast to hear about the most detailed snapshot of early hominid life, the origin of community structure, and your letters to Science.

SIGNALING
Responding to redox signals.

CAREERS
Owning up to depression.

CAREERS
Free Career Resources for Scientists

CAREERS
Flying High
S. Guidos

CAREERS
Destigmatizing Depression
K. Hede

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

CAREERS
Taken for Granted: Is a New Model Needed for Breakthrough Science?
B. L. Benderly

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

CAREERS
Owning up to depression.

CAREERS
Free Career Resources for Scientists

CAREERS
Flying High
S. Guidos

CAREERS
Destigmatizing Depression
K. Hede

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

CAREERS
Taken for Granted: Is a New Model Needed for Breakthrough Science?
B. L. Benderly

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

CAREERS
Owning up to depression.

CAREERS
Free Career Resources for Scientists

CAREERS
Flying High
S. Guidos

CAREERS
Destigmatizing Depression
K. Hede

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

CAREERS
Taken for Granted: Is a New Model Needed for Breakthrough Science?
B. L. Benderly

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