IN BRIEF
532 News at a glance

IN DEPTH
535 FEAR OF MICROBIAL TAINT CURBS MARS EXPLORERS
Upheaval in NASA planetary protection office could put restricted areas back in play  By P. Voosen

536 REVOLUTIONARY MALARIA TESTS HAVE UNEXPECTED DOWNSIDES
Despite rapid tests, health workers undertreat malaria—and overuse antibiotics—a big new study shows  By L. Roberts

537 SURVEY FINDS GALAXY CLUMPS STIRRED UP BY DARK ENERGY
Technique is one of several tracking cosmic repulsive force  By D. Clery

538 CALL TO HALT HEART TRIAL RAISES VEXING QUESTIONS
Group warns of “lapses” in study of blood transfusions after heart attacks  By J. Couzin-Frankel

540 CHILDREN WITH CANCER GET MORE ACCESS TO EXPERIMENTAL DRUGS
New U.S. law will require pediatric cancer clinic trials  By C. Schmidt

541 CASH INCENTIVES FOR PAPERS GO GLOBAL
China’s rewards are richest, but many nations offer bonuses for publishing in top journals  By A. Abritris and A. McCook, Retraction Watch

FEATURE
542 ON THE TRAIL OF ANCIENT MARINERS
Most archaeologists think the first Americans arrived by boat. Now, they’re beginning to prove it  By L. Wade  ▶ VIDEO, PODCAST

INSIGHTS

PERSPECTIVES
546 PATCHY PROTEINS FORM A PERFECT LENS
Squid lenses are formed by a protein gel of varying density  By T. Madl  ▶ REPORT P. 564

548 GUT CELL METABOLISM SHAPES THE MICROBIOME
The metabolism of colonocytes determines the type of microbes that thrive in the gut  By P. D. Cani  ▶ RESEARCH ARTICLE P. 570

549 A SEISMIC SHIFT IN CONTINENTAL TECTONIC PLATES
Seismology provides an improved estimate for thickness of the continents  By B. Savage  ▶ REPORT P. 580

550 INTRACELLULAR SIGNALING IN CRISPR-CAS DEFENSE
New molecular communication in type III CRISPR-Cas systems has been identified  By G. Amitai and R. Sorek  ▶ REPORT P. 605

552 MEASURING THE CHANGING PULSE OF RIVERS
A 50-year data set shows changes in the seasonal timing of river floods in Europe  By L. J. Slater and R. L. Wilby  ▶ REPORT P. 588

POLICY FORUM
553 U.S. ATTITUDES ON HUMAN GENOME EDITING
Although views on human genome editing differ, all want public engagement  By D. A. Scheufele et al.

BOOKS ET AL.
555 AMERICAN MOVERS AND SHAKERS
A pair of books explores past and future U.S. earthquakes  By R. J. Murnane

556 THE ORIGINS OF INTELLIGENT LIFE
A developmental biologist ponders life on Earth and beyond  By M. Huerta
CONTENTS
11 AUGUST 2017 • VOLUME 357 • ISSUE 6351

LETTERS
557 SAVE AUSTRALIA’S ECOLOGICAL RESEARCH
By D. Lindenmayer et al.

557 ACADEMICS CAN HELP SHAPE WIKIPEDIA
By T. Shafee et al.

558 FISHING RESPONSIBLY AND SUSTAINABLY
By G. R. Galland

558 TECHNICAL COMMENT ABSTRACTS

RESEARCH ARTICLES
564 BIOMATERIALS
Eye patches: Protein assembly of index-gradient squid lenses J. Cai et al.
▶ PERSPECTIVE P. 546, VIDEO

570 MICROBIOTA
Microbiota-activated PPAR-γ signaling inhibits dysbiotic Enterobacteriaceae expansion M. X. Byndloss et al.
▶ PERSPECTIVE P. 548

REPORTS
575 ORGANIC CHEMISTRY
Metal-catalyzed electrochemical diazidation of alkenes N. Fu et al.

580 GEOPHYSICS
A unified continental thickness from seismology and diamonds suggests a melt-defined plate S. Tharimena et al.
▶ PERSPECTIVE P. 549

583 RESEARCH IMPACT
The dual frontier: Patented inventions and prior scientific advance M. Ahmadpoor and B. F. Jones

588 FLOODING
Changing climate shifts timing of European floods G. Bloschl et al.
▶ PERSPECTIVE P. 552

591 NEUROSCIENCE
Two areas for familiar face recognition in the primate brain S. M. Landi and W. A. Freiwald

596 NEUROSCIENCE
Pavlovian conditioning-induced hallucinations result from overweighting of perceptual priors A. R. Powers et al.
▶ VIDEO

600 NEURAL EPIGENOMICS
Single-cell methylomes identify neuronal subtypes and regulatory elements in mammalian cortex C. Luo et al.

605 CRISPR BIOLOGY
A cyclic oligonucleotide signaling pathway in type III CRISPR-Cas systems M. Kazlauskiené et al.
▶ PERSPECTIVE P. 550

609 CHROMOSOME STRUCTURE
Structure of histone-based chromatin in Archaea F. Mattiroli et al.

DEPARTMENTS
531 EDITORIAL
Step up for quality research By Naomi J. Schrag and G. Michael Purdy

618 WORKING LIFE
The art of triage By Emma White

ON THE COVER
The first humans to arrive in the Americas, more than 14,000 years ago, may have traveled by boat through landscapes such as this one on the coast of Oregon. Archaeologists are now trying to trace their steps. See page 542. Photo: Henry Georgi/Aurora Photos

LETTER S
557 SAVE AUSTRALIA’S ECOLOGICAL RESEARCH
By D. Lindenmayer et al.

557 ACADEMICS CAN HELP SHAPE WIKIPEDIA
By T. Shafee et al.

558 FISHING RESPONSIBLY AND SUSTAINABLY
By G. R. Galland

558 TECHNICAL COMMENT ABSTRACTS

RESEARCH ARTICLES
564 BIOMATERIALS
Eye patches: Protein assembly of index-gradient squid lenses J. Cai et al.
▶ PERSPECTIVE P. 546, VIDEO

570 MICROBIOTA
Microbiota-activated PPAR-γ signaling inhibits dysbiotic Enterobacteriaceae expansion M. X. Byndloss et al.
▶ PERSPECTIVE P. 548

REPORTS
575 ORGANIC CHEMISTRY
Metal-catalyzed electrochemical diazidation of alkenes N. Fu et al.

580 GEOPHYSICS
A unified continental thickness from seismology and diamonds suggests a melt-defined plate S. Tharimena et al.
▶ PERSPECTIVE P. 549

583 RESEARCH IMPACT
The dual frontier: Patented inventions and prior scientific advance M. Ahmadpoor and B. F. Jones

588 FLOODING
Changing climate shifts timing of European floods G. Bloschl et al.
▶ PERSPECTIVE P. 552

591 NEUROSCIENCE
Two areas for familiar face recognition in the primate brain S. M. Landi and W. A. Freiwald

596 NEUROSCIENCE
Pavlovian conditioning-induced hallucinations result from overweighting of perceptual priors A. R. Powers et al.
▶ VIDEO

600 NEURAL EPIGENOMICS
Single-cell methylomes identify neuronal subtypes and regulatory elements in mammalian cortex C. Luo et al.

605 CRISPR BIOLOGY
A cyclic oligonucleotide signaling pathway in type III CRISPR-Cas systems M. Kazlauskiené et al.
▶ PERSPECTIVE P. 550

609 CHROMOSOME STRUCTURE
Structure of histone-based chromatin in Archaea F. Mattiroli et al.

DEPARTMENTS
531 EDITORIAL
Step up for quality research By Naomi J. Schrag and G. Michael Purdy

618 WORKING LIFE
The art of triage By Emma White

ON THE COVER
The first humans to arrive in the Americas, more than 14,000 years ago, may have traveled by boat through landscapes such as this one on the coast of Oregon. Archaeologists are now trying to trace their steps. See page 542. Photo: Henry Georgi/Aurora Photos

LETTER S
557 SAVE AUSTRALIA’S ECOLOGICAL RESEARCH
By D. Lindenmayer et al.

557 ACADEMICS CAN HELP SHAPE WIKIPEDIA
By T. Shafee et al.

558 FISHING RESPONSIBLY AND SUSTAINABLY
By G. R. Galland

558 TECHNICAL COMMENT ABSTRACTS

RESEARCH ARTICLES
564 BIOMATERIALS
Eye patches: Protein assembly of index-gradient squid lenses J. Cai et al.
▶ PERSPECTIVE P. 546, VIDEO

570 MICROBIOTA
Microbiota-activated PPAR-γ signaling inhibits dysbiotic Enterobacteriaceae expansion M. X. Byndloss et al.
▶ PERSPECTIVE P. 548

REPORTS
575 ORGANIC CHEMISTRY
Metal-catalyzed electrochemical diazidation of alkenes N. Fu et al.

580 GEOPHYSICS
A unified continental thickness from seismology and diamonds suggests a melt-defined plate S. Tharimena et al.
▶ PERSPECTIVE P. 549

583 RESEARCH IMPACT
The dual frontier: Patented inventions and prior scientific advance M. Ahmadpoor and B. F. Jones

588 FLOODING
Changing climate shifts timing of European floods G. Bloschl et al.
▶ PERSPECTIVE P. 552

591 NEUROSCIENCE
Two areas for familiar face recognition in the primate brain S. M. Landi and W. A. Freiwald

596 NEUROSCIENCE
Pavlovian conditioning-induced hallucinations result from overweighting of perceptual priors A. R. Powers et al.
▶ VIDEO

600 NEURAL EPIGENOMICS
Single-cell methylomes identify neuronal subtypes and regulatory elements in mammalian cortex C. Luo et al.

605 CRISPR BIOLOGY
A cyclic oligonucleotide signaling pathway in type III CRISPR-Cas systems M. Kazlauskiené et al.
▶ PERSPECTIVE P. 550

609 CHROMOSOME STRUCTURE
Structure of histone-based chromatin in Archaea F. Mattiroli et al.

DEPARTMENTS
531 EDITORIAL
Step up for quality research By Naomi J. Schrag and G. Michael Purdy

618 WORKING LIFE
The art of triage By Emma White

ON THE COVER
The first humans to arrive in the Americas, more than 14,000 years ago, may have traveled by boat through landscapes such as this one on the coast of Oregon. Archaeologists are now trying to trace their steps. See page 542. Photo: Henry Georgi/Aurora Photos