Science

Magazine Research Record



23 February 2024. Cover feature: Snake Shift.

Publication Identification

Field	Information
Country	United States
Publisher	American Association for the Advancement of Science (AAAS)
Publisher address	Pending research update
Magazine title	Science
Publication status	Active; continuing publication
Publication run	1880 to present
Editor	Pending research update
Printer	Pending research update
ISSN	0036-8075
Language	English
Publication type	International weekly scientific journal
Publication frequency	Weekly
Collection coverage	One issue: Volume 383, Issue 6685, 23 February 2024
Earliest issue represented	Volume 383, Issue 6685, 23 February 2024
Latest issue represented	Volume 383, Issue 6685, 23 February 2024
Issue date	23 February 2024
Volume and issue	Volume 383, Issue 6685
Website	science.org
Cover price	$15
Cover feature	Snake Shift
Cover statement	Burst of evolutionary innovation occurred with the origin of snakes
Relevant article	The macroevolutionary singularity of snakes

Article pages	918 to 923
DOI	10.1126/science.adh2449

Preservation Significance

This issue has strong preservation significance because a major general science journal devoted its cover to the evolutionary origin and diversification of snakes. The cover does not treat snakes primarily as captive animals or as unusual wildlife. Instead, it presents snake evolution as a major macroevolutionary event and directs readers to a peer reviewed research article examining why snakes became such an exceptionally successful vertebrate radiation.

The physical issue therefore preserves an example of snake biology appearing at the highest level of mainstream scientific communication. Its significance is strengthened by the direct connection between the cover headline, Snake Shift, and the research article The macroevolutionary singularity of snakes. The article combines genomic, phylogenetic, morphological, ecological and natural history evidence to examine the evolutionary history of snakes and their relationship to other squamates.

Within the preservation collection, this issue also provides a useful contemporary counterpart to older general science magazines that featured snakes. It demonstrates how the scientific questions surrounding snakes have changed over time, from descriptive natural history and physiology toward large scale evolutionary analyses built from genomic datasets, museum material, field observations and comparative methods.

Publication Metadata and Masthead Documentation

The represented issue identifies AAAS as publisher and print ISSN 0036-8075. Editorial personnel, printer, and historical publisher street address: Pending research update.

International Distribution

International distribution arrangements for the represented issue: Pending research update.

Issues Represented in the Collection

Volume 383, Issue 6685, 23 February 2024. Cover feature: Snake Shift. One physical issue represented.

Relevant Research Article

Field	Information
Title	The macroevolutionary singularity of snakes
Lead author	Pascal O. Title
Journal	Science
Volume	383
Issue	6685
Date	23 February 2024
Pages	918 to 923
DOI	10.1126/science.adh2449
Article type	Research Article

The study was produced by a large international research team led by Pascal O. Title, Sonal Singhal and Daniel L. Rabosky, with additional collaborators representing museums, universities and research institutions. The authors analyzed squamate evolution using a time calibrated phylogeny anchored by genomic data from 1,018 species and incorporated more than 60,000 individual natural history observations.

The central conclusion is that the early history of snakes involved an unusually large shift in evolutionary dynamics. The authors found major changes in traits associated with feeding, locomotion and sensory processing, together with substantially elevated rates of morphological and ecological evolution compared with lizards.

Scientific Findings Represented by the Cover

The cover statement, Burst of evolutionary innovation occurred with the origin of snakes, summarizes the principal finding of the research. The study reports that snakes underwent rapid changes across multiple biological dimensions, including body elongation, vertebral number, skull form, body size and trophic ecology.

The research found that the rate of trophic niche evolution was approximately 3.2 times faster in snakes than in lizards. The authors also report elevated rates of morphological evolution and diversification, supporting the idea that early changes in the snake lineage produced long lasting consequences for squamate biodiversity.

The study emphasizes that no single innovation alone fully explains snake success. Instead, the results point to a rare combination of evolutionary changes and historical contingency that altered the trajectory of snake diversification.

Natural History and Museum Data

An important aspect of the research is its reliance on extensive natural history data. The study combines genomic evidence with more than 60,000 observations of individual animals, including dietary and ecological information gathered from museum specimens and field observations.

This makes the issue especially relevant to a preservation project centered on documenting reptile knowledge. The research demonstrates that historical specimen records, field observations and accumulated natural history data remain essential even in modern genomic and computational evolutionary research.

Cover Context

The cover uses the short headline Snake Shift across a large photograph of a green snake against a black background. A secondary caption states that a burst of evolutionary innovation occurred with the origin of snakes and directs readers to page 918.

Other cover subjects show the breadth of the issue, including a neutron star associated with supernova 1987A, Lassa fever in West Africa and genetics education intended to counter human bias. The snake research therefore appears alongside astronomy, infectious disease and human genetics as one of the issue's principal scientific stories.

Publication Context

Science is the flagship journal of the American Association for the Advancement of Science. The issue is identified as Volume 383, Issue 6685 and was published on 23 February 2024. Independent bibliographic records identify the print ISSN as 0036-8075.

The article was published in Science on pages 918 to 923 and is indexed under DOI 10.1126/science.adh2449. University and bibliographic repositories independently reproduce the citation and identify the publisher as the American Association for the Advancement of Science.

Authors

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Website Category Placement

Field	Information
Primary section	Magazine Preservation
Country grouping	United States
Publication title	Science
Issue	23 February 2024, Volume 383, Issue 6685
Snake related feature	Snake Shift
Relevant article	The macroevolutionary singularity of snakes
Preservation emphasis	Mainstream scientific communication of snake macroevolution, genomic research, natural history data and evolutionary diversification

Source Notes

Field	Information
Physical cover	Primary evidence for the title, date, cover price, science.org address, AAAS branding, Snake Shift headline, cover statement and page reference.
Science issue and article records	Independent evidence for Volume 383, Issue 6685, pages 918 to 923 and DOI 10.1126/science.adh2449.
PubMed	Independent bibliographic record for the article title, author list, publication date, volume, issue, pages and DOI.
University research repositories	Independent citation and abstract records describing the study's genomic, phylogenetic and natural history datasets.

Research Cautions

- No masthead image was supplied for this issue. Staff, editorial board, printer and issue specific production information should not be added unless directly documented from the physical issue or another authoritative source.
- The cover phrase Snake Shift is a cover headline, not the formal title of the research article.
- The statement Burst of evolutionary innovation occurred with the origin of snakes is a cover summary of the research and should remain distinct from the article title.
- The article's large author list should be reproduced carefully because several authors have similar surnames or initials.
- The magazine is a general science journal and should not be classified as a reptile magazine, even though this issue prominently features snake evolution.