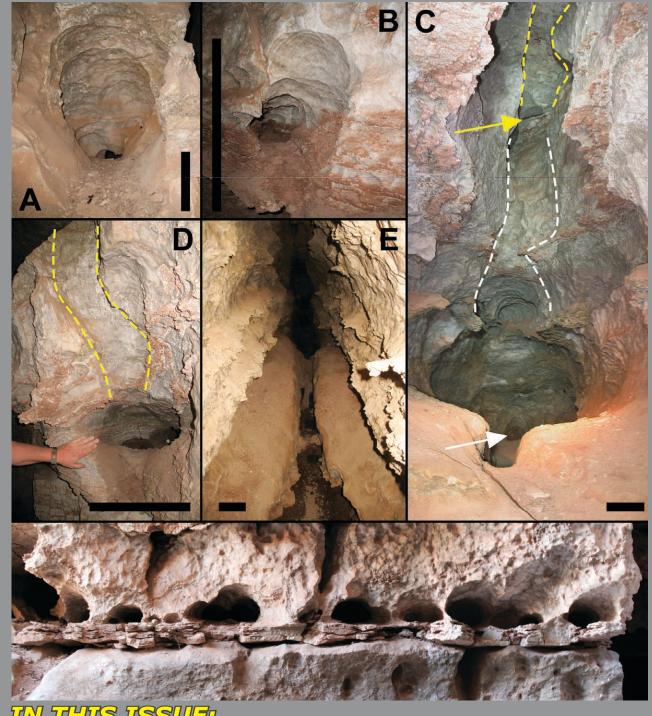
Journal of Cave and Karst Studies

Volume 70 Number 1 April 2008

CONTENTS	
Editorial Journal of Cave and Karst Studies Listing in the Journal of Citation Report: What Does it Mean? Malcolm S. Field	1
Article Characterization of Cave Aerophytic Algal Communities and Effects of Irradiance Levels on Production of Pigments Janez Mulec, Gorazd Kosi, and Danijel Vrhovšek	3
Article New Findings at Andrahomana Cave, Southeastern Madagascar D.A. Burney, N. Vasey, L.R. Godfrey, Ramilisonina, W.L. Jungers, M. Ramarolahy, and L. Raharivony	13
Article Variable Calcite Deposition Rates as Proxy for Paleo-Precipitation Determination as Derived from Speleothems in Central Florida, U.S.A. <i>Philip E. Van Beynen, Limaris Soto, and Jason Polk</i>	25
Article Castile Evaporite Karst Potential Map of the Gypsum Plain, Eddy County, New Mexico and Culberson County, Texas: A GIS Methodological Comparison <i>Kevin W. Stafford, Laura Rosales-Lagarde, and Penelope J. Boston</i>	35
Article Hypogenic Speleogenesis Within Seven Rivers Evaporites: Coffee Cave, Eddy County, New Mexico Kevin W. Stafford, Lewis Land, and Alexander Klimchouk	47
Article Ground-Water Storage Calculation in Karst Aquifers with Alluvium or No-Flow Boundaries <i>Ezatollah Raeisi</i>	62
Errata	72

JOURNAL OF CAVE AND KARST STUDIES



IN THIS ISSUE





Published By The National Speleological Society

Editor-in-Chief Malcolm S. Field

National Center of Environmental Assessment (8623P) Office of Research and Development U.S. Environmental Protection Agency 1200 Pennsylvania Avenue NW Washington, DC 20460-0001 703-347-8601 Voice 703-347-8692 Fax field.malcolm@epa.gov

Production Editor

Scott A. Engel CH2M HILL 304 Laurel Street, Suite 2A Baton Rouge, LA 70801-1815 225-381-8454 scott.engel@ch2m.com

Journal Proofreader Donald G. Davis 441 S. Kearney St Denver, CO 80224 303-355-5283 dgdavis@nyx.net

JOURNAL ADVISORY BOARD

E. Calvin Alexander, Jr. **Dave Culver Gareth Davies Harvey DuChene Annette Summers Engel** John Mylroie **Megan Porter Carol Wicks Stephen Worthington**

BOARD OF EDITORS

Anthropology **George Crothers** University of Kentucky 211 Lafferty Hall Lexington, KY 40506-0024 859-257-8208 • george.crothers@uky.edu

Conservation-Life Sciences Julian J. Lewis & Salisa L. Lewis Lewis & Associates, LLC. Cave, Karst & Groundwater Biological Consulting 17903 State Road 60 • Borden, IN 47106-8608 812-283-6120 • lewisbioconsult@aol.com

Earth Sciences-Journal Index Ira D. Sasowsky Department of Geology and Environmental Science University of Akron • Akron, OH 44325-4101 330-972-5389 • ids@uakron.edu

Exploration Paul Burger Cave Resources Office 3225 National Parks Highway • Carlsbad, NM 88220 505-785-3106 • paul_burger@nps.gov

Human and Medical Sciences Stephen R. Mosberg, M.D. #5 Foxboro Drive • Vienna, WV 26105-1939 304-295-5949 • cavedoc@suddenlink.net

Microbiology Kathleen H. Lavoie Department of Biology State University of New York Plattsburgh, NY 12901 518-564-3150 • lavoiekh@plattsburgh.edu

Paleontology Greg McDonald Park Museum Management Program National Park Service 1201 Oakridge Dr. Suite 150 Fort Collins, CO 80525 970-267-2167 • greg_mcdonald@nps.gov

Social Sciences Joseph C. Douglas History Department Volunteer State Community College 1480 Nashville Pike • Gallatin, TN 37066 615-230-3241 • joe.douglas@volstate.edu

Book Reviews Arthur N. Palmer & Margaret V Palmer Department of Earth Sciences State University of New York Oneonta, NY 13820-4015 607-432-6024 • palmeran@oneonta.edu

The Journal of Cave and Karst Studies (ISSN 1090-6924, CPM Number #40065056) is a multi-disciplinary, refereed journal published three times a year by the National Speleological Society, 2813 Cave Avenue, Huntsville, Alabama 35810-4431 USA; Phone (256) 852-1300; Fax (256) 851-9241, email: nss@caves.org; World Wide Web: http://www.caves.org/pub/journal/. The annual subscription fee is \$23 US, \$44 US for 2 years, and \$65 US for 3 years. Check the Journal website for international rates. Back issues and cumulative indices are available from the NSS office.

POSTMASTER: send address changes to the Journal of Cave and Karst Studies, 2813 Cave Avenue, Huntsville, Alabama 35810-4431 USA.

The Journal of Cave and Karst Studies is covered by the following ISI Thomson Services Science Citation Index Expanded, ISI Alerting Services, and Current Contents/ Physical, Chemical, and Earth Sciences.

Copyright © 2008 by the National Speleological Society, Inc.

Front cover: Feeder feature in Coffee Cave, New Mexico, see article by Stafford et.al. beginning on page 47

The Journal of Cave and Karst Studies is a multidisciplinary journal devoted to cave and karst research. The Journal is seeking original, unpublished manuscripts concerning the scientific study of caves or other karst features. Authors do not need to be members of the National Speleological Society, but preference is given to manuscripts of importance to North American speleology.

LANGUAGES: The Journal of Cave and Karst Studies uses American-style English as its standard language and spelling style, with the exception of allowing a second abstract in another language when room allows. In the case of proper names, the Journal tries to accommodate other spellings and punctuation styles. In cases where the Editor-in-Chief finds it appropriate to use non-English words outside of proper names (generally where no equivalent English word exists), the Journal italicizes them. However, the common abbreviations i.e., e.g., et al., and etc. should appear in roman text. Authors are encouraged to write for our combined professional and amateur readerships.

CONTENT: Each paper will contain a title with the authors' names and addresses, an abstract, and the text of the paper, including a summary or conclusions section. Acknowledgments and references follow the text.

ABSTRACTS: An abstract stating the essential points and results must accompany all articles. An abstract is a summary, not a promise of what topics are covered in the paper.

STYLE: The Journal consults The Chicago Manual of Style on most general style issues.

REFERENCES: In the text, references to previously published work should be followed by the relevant author's name and date (and page number, when appropriate) in parentheses. All cited references are alphabetical at the end of the manuscript with senior author's last name first, followed by date of publication, title, publisher, volume, and page numbers. Geological Society of America format should be used (see http://www.geosociety.org/pubs/geoguid5. htm). Please do not abbreviate periodical titles. Web references are acceptable when deemed appropriate. The references should follow the style of: Author (or publisher), year, Webpage title: Publisher (if a specific author is available), full URL (e.g., http://www. usgs.gov/citguide.html) and date when the web site was accessed in brackets; for example [accessed July 16, 2002]. If there are specific authors given, use their name and list the responsible organization as publisher. Because of the ephemeral nature of websites, please provide the specific date. Citations within the text should read: (Author, Year).

SUBMISSION: Effective July 2007, all manuscripts are to be submitted via AllenTrack, a web-based system for online submission. The web address is http://jcks.allentrack2.net. Instructions are provided at that address. At your first visit, you will be prompted to establish a login and password, after which you will enter information about your manuscript (e.g., authors and addresses, manuscript title, abstract, etc.). You will then enter your manuscript, tables, and figure files separately or all together as part of the manuscript. Manuscript files can be uploaded as DOC, WPD, RTF, TXT, or LaTeX. A DOC template with additional manuscript specifications may be downloaded. (Note: LaTeX files should not use any unusual style files; a LaTeX template and BiBTeX file for the Journal may be downloaded or obtained from the Editor-in-Chief.) Table files can be uploaded as DOC, WPD, RTF, TXT, or LaTeX files, and figure files can be uploaded as TIFF, EPS, AI, or CDR files. Alternatively, authors may submit manuscripts as PDF or HTML files, but if the manuscript is accepted for publication, the manuscript will need to be submitted as one of the accepted file types listed above. Manuscripts must be typed, double spaced, and single-sided. Manuscripts should be no longer than 10,000 words plus tables and figures, but exceptions are permitted on a case-bycase basis. Authors of accepted papers exceeding this limit may have to pay a current page charge for the extra pages unless decided otherwise by the Editor-in-Chief. Extensive supporting data will be placed on the Journal's website with a paper copy placed in the NSS archives and library. The data that are used within a paper must be made available. Authors may be required to provide supporting data in a fundamental format, such as ASCII for text data or comma-delimited ASCII for tabular data.

DISCUSSIONS: Critical discussions of papers previously published in the Journal are welcome. Authors will be given an opportunity to reply. Discussions and replies must be limited to a maximum of 1000 words and discussions will be subject to review before publication. Discussions must be within 6 months after the original article appears.

MEASUREMENTS: All measurements will be in Systeme Internationale (metric) except when quoting historical references. Other units will be allowed where necessary if placed in parentheses and following the SI units.

FIGURES: Figures and lettering must be neat and legible. Figure captions should be on a separate sheet of paper and not within the figure. Figures should be numbered in sequence and referred to in the text by inserting (Fig. x). Most figures will be reduced, hence the lettering should be large. Photographs must be sharp and high contrast. Color will generally only be printed at author's expense.

TABLES: See http://www.caves.org/pub/journal/PDF/Tables. pdf to get guidelines for table layout.

COPYRIGHT AND AUTHOR'S RESPONSIBILITIES: It is the author's responsibility to clear any copyright or acknowledgement matters concerning text, tables, or figures used. Authors should also ensure adequate attention to sensitive or legal issues such as land owner and land manager concerns or policies.

PROCESS: All submitted manuscripts are sent out to at least two experts in the field. Reviewed manuscripts are then returned to the author for consideration of the referees' remarks and revision, where appropriate. Revised manuscripts are returned to the appropriate Associate Editor who then recommends acceptance or rejection. The Editor-in-Chief makes final decisions regarding publication. Upon acceptance, the senior author will be sent one set of PDF proofs for review. Examine the current issue for more information about the format used.

ELECTRONIC FILES: The Journal is printed at high resolution. Illustrations must be a minimum of 300 dpi for acceptance.