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Membership Information

For information about the Biology Section, contact the Executive Secretary. To join the Biology Section, send membership dues to the treasurer ($5.00 per year, $6.00 per year international, checks payable to the NSS Biology Section), along with your name, NSS number, address, and a brief personal statement of biospeleological interests.

Editor's comments….

Welcome to our 52nd issue of NABN and a belated **Happy New Caving Year**! The first donation has been made to support NABN, and the funds are with the current NABN editor.
In light of the upcoming 2006 NSS Convention we will feature a **Special Publication** on Cave Databasing issues.
Again, I would like to remind the Bio Section community that NABN will publish news of general interest to the biospeleological community, such as short abstracts/introductions of publications, news from the field (surveys, expeditions etc.), upcoming events and deadlines, letters to the editor, and biospeleological reference lists**. As NABN is a flexible medium, any suggestions are welcome and should be submitted to the editor at katharinad@gmail.com, subject: NABN. I strongly encourage everybody to submit news, information, or research abstracts.** Until further notice each edition of NABN will also be posted on Bill Elliott's website: http://www.utexas.edu/depts/tnhc/.www/biospeleology/. Best wishes and remember to cave softly! Katharina

BioSpeleo Info

Association of Mexican Cave Studies – New Bulletins!!!

The Association of Mexican Cave Studies has new publications available for purchase. The newest bulletins listed on their website (www.amcs-pubs.org/) are:

Bulletin 15. *Adaptations to Cave Life in Decapods from Oaxaca* (2005). $12
Bulletin 14. *Karst Hydrology of the Sierra de El Abra, Mexico* (2004). $25
Bulletin 13. *Geologic Studies in the Purificación Karst* (2004). $15
Bulletin 12. *Ancient Maya Cave Use in the Yalahau Region, Northern Quintana Roo, Mexico* (2003). $20
Bulletin 11. *Cave Hydrology of the Caribbean Yucatan Coast* (2003). $15
Bulletin 10. *Caves of the Golondrinas Area* (2002). $15
Bulletin 9. *Hydrogeology of the Sistema Huautla Karst Groundwater Basin (2002). $25*

New Website: Cave Biota.com

Cavebiota.com has been growing, and the currently featured webumentaries (mostly movie clips) are:

- Cindy Basile - Hoosier National Forest
- Jean Krejca Ph.D. - Levels of Cave Adaptation
- Indiana Bat *(Myotis sodalis)*
- Indiana Bat Roost
- Bat Hibernation
- Pit Tagging Bats with Tim Carter Ph.D
- Golden Harvestman *(Erbomaster flavescens)*
- Bollman's Cave Milliped *(Conotyla bollmani)*
- Northern Blind Cavefish *(Amblyopsis spelaea)*
- Blind Cavefish with William Pearson Ph.D
- Cave Salamander *(Eurycea lucifuga)*
- Slimy Salamander *(Plethodon glutinosus)*

SPELEOLOGY ISSUE 5

SPELEOLOGY, issue 5, a publication of the British Cave Research Association has been published in January 2006, and is available for purchase.
http://www.bcra.org.uk/pub/speleology/index.html

New Blind Cockroach

A new blind species of *Litoblatta* (Dictyoptera, Blattaria, Blattellidae) was discovered in Brasil. (http://speleo.blogspot.com/2006/02/nueva-cucaracha-ciega.html)

Special Publication

Initiation of a National Cave Database: Issues for Discussion

At present, there is probably no segment of activity in the world attracting as much attention as that of knowledge management and databasing. Databases are important repositories of raw data, which are translated to information and ultimately to knowledge via relational connections. Within certain segments of the karst community there has been a recent surge of interest in databasing efforts; however, we know of few projects dealing explicitly with biological data. With this article we want to open a dialogue with the National caving community on databasing issues, with an emphasis on biology-related data, and initiate a collaborative effort towards constructing a database devoted to nationwide speleological interests, serving three main functions – education, research, and conservation.

The creation of a national caving database is an important undertaking. Cave-related data are accumulating rapidly, and in order for these data to be useful, coordinated management is necessary. Indeed, in the U.S. cave related databases already exist, although many are not publicly available, and there has been a recent surge in karst-related database efforts. Examples of organizations that have initiated cave and karst databases for vastly different purposes include GIS databases by state and local governments for use in planning, zoning, and land use activities (e.g., Kentucky Geological Survey), numerous state cave surveys which are interested in documenting the karst resources of their particular state, and the National Parks Systems (Kings Canyon National Park). We feel that the goal should be to create a national cave database by coordinating and uniting these disparate efforts. Towards achieving this goal, here we identify some crucial database issues that need to be resolved by the caving community.

Challenges of creating a national cave related database

1. The data and access to the data. In an ideal world, this database should contain every type of cave-related data imaginable, including but not limited to bibliographies, physicochemical data (e.g., air temperature and flow velocity, water temperature, pH, conductivity, etc.), archeological data, biological data (e.g., species lists, habitat, conservation status, species descriptions, degree of cave adaptation), geological data (e.g., cave age, lists of minerals and formations, stratigraphic information), cave condition (e.g., risk of disease, degree of technical difficulty, necessary equipment, closure information, private vs. public land), and cave location. By setting standards on data structure and access, individual databasing efforts aimed at different information will be more easily networked. Furthermore, due to legal constraints and conservation concerns some of these data need to be protected to minimize resource exploitation (e.g., cave location, archeological data). In particular, sharing cave locations is perhaps the biggest issue impeding the creation of cave databases. Yet, without this stationary point, linkages among data are nearly impossible. Therefore, the creation of a national database is dependent on the cooperation of the caving community to share these data willingly. In order to determine how to include sensitive data, while still keeping them protected, the following issues need to be discussed:

a) How will the validity of data be checked (i.e., quality control)
b) Who will control access to the database?
c) What information will be available to the general public?
d) What will be the criteria to gain access to higher levels of secure information and who will define these criteria?

2. Database design and stability. Good design is crucial for a high performance application such as a National Cave Database. If a database does not have optimized relationships (i.e., searchable, correlated linkages between data types) it will not perform efficiently. Beyond performance there is the issue of maintenance, which should result in a minimum (if any) amount of repetitive data. Therefore it is crucial to consider the following issues before initiating a databasing effort:

a) Who will design the database, and who will be responsible for it's administration?
b) Where will the physical database (e.g., server) be located?
c) What is the best way to design the database ensuring maximum flexibility to keep up with growing complexity?

3. Funding. The creation, maintenance, and service of a large database can be a costly undertaking. Usually, funding has to be provided over extended periods of time to ensure the continuous functioning of a database. Therefore we have to discuss questions as to:

a) How much money is required for startup and annual maintenance?
b) Can this amount be reliably acquired, either through fund-raisers, donations, or budgeted funds?
c) What will the salary be for the associated technical staff, and where will it come from?

4. Security. Associated with the implementation of a database is always the concomitant concern about database security. Data, like anything of value, are subject to theft, corruption, and vandalism. Ineffective security can leave data vulnerable to misuse via unintended access to sensitive data or by hackers breaking into the system. However, despite this imminent threat we all potentially benefit by sharing data. This poses unique challenges for a security system; but in the long run, systems designed with security in mind are not only more cost effective, but also tend to build trust among the user community. Building a trusted and secure system will help encourage community participation in database growth. In terms of database security some of the following questions have to be taken into consideration:

a) Which general security system should be used?
b) How (with what security measures) will we control front gate access?
c) Who will maintain and update security?
d) How will we deal with staff turnovers?

With these issues in mind, we hope to promote a discussion of how to create a National Cave Database that will serve and be fostered by the caving community. As the first step, a round table for discussing these issues with an emphasis on biological data has been organized for the 2006 Bellingham Washington National Speleological Society Convention.

Megan Porter and Katharina Dittmar

News from the Field

South Africa

Bat distributions throughout Mpumalanga Province, South Africa are generally known, but poorly documented. Limited resources within government agencies force researchers to focus on threatened species and to formulate conservation strategies that will benefit their preservation. Thorough information on the distribution and abundance of species is essential for conservation planning, as distribution maps are widely used to assess a species' conservation status, to draw up Red Lists, or to indicate areas of particular biological value.

Patty Ruback's thesis research utilizes museum collections, sight records, existing biogeographical data, and taxonomic literature to map the biodiversity of bat species found throughout Mpumalanga Province. Data is compiled into a central database and incorporated into a geographical information system (GIS). Results from this study will provide conservation officials with distribution maps and priority lists, and develop the framework for additional studies on behavioral and ecological questions essential to conservation and management. Documenting bat feeding behaviors, roosting needs, and finding solutions to bat nuisance problems would be difficult and costly to address without this baseline distribution data.

More information on this study can be obtained through Patty Ruback, NSS# 51162 Department of Biological Sciences, Northern Illinois University, DeKalb, IL 60174.

Cloeotis percivali in abandoned gold mine (Mpumalanga Province, South Africa)
Photo by Patty Ruback, 2004

Upcoming Events and Deadlines

March 2006	BCRA Karst and Cave Science Symposium (Bristol, UK), 04. March 2006, further details can be obtained from the Lecture Secretary: Dr Andy Baker, School of Geography, Earth & Environmental Sciences, University of Birmingham, a.baker@bcra.org.uk
May 2006	9th Symposium on Pseudokarst (Bartkowa, Beskidy Mountains, Outer Carpathians, Poland), http://www.speleo.bielsko.pl/pseudokarst/index.php
July 2006	XII. International Symposium on Vulcanospeleology (Tepoztlan, Morelos, Mexico), http://www.saudicaves.com/symp06/
	18th International Symposium of Biospeleology (Cluj-Napoca, Romania), 10-15 (20) July, http://www.cmcarst.ro
September 2006	8th Conference on Limestone Hydrogeology (Neuchâtel, Switzerland), http://www.hydrokarst.org
August 2007	First Baltic Speleology Congress (Visby, Gotland, Sweden), www.speleo.se/bsc/
July 2009	15th International Congress of Speleology (Kerrville, Texas), http://www.ics2009.us/