

**MINUTES OF THE MEETINGS
OF THE
INDIANA ACADEMY OF SCIENCE
2004**

**COMBINED MEETING OF THE
EXECUTIVE COMMITTEE
AND THE COUNCIL**

Hanover College
16 April 2004

President Don Ruch called the meeting to order at 2:12 PM. Attending: President-Elect Uwe Hansen, Secretary Nils I. Johansen, Executive Director Nelson Shaffer, Editor of the *Proceedings* Jim Berry, Librarian Holly Oster, History of Science Section Chair Dick Conklin, Historian/Necrologist William R. Gommel, AAAS Representative and Chair of Chemistry Section Richard Kjonaas, Programs and Invitations Committee Chair David Daniell, Academy Foundation Representative Frank A. Guthrie, Biodiversity Committee Chair Richard H. Maxwell, Publications Chair Bill McKnight, Natural Resources Committee Representative Damian Schmelz, and Geology & Geography Section Chair Walter A. Hasenmueller, and Dan Webster.

Approval of Agenda.—There was unanimous approval.

Approval of Minutes of Fall 2003 Meeting.—The amended minutes were approved.

Individual Reports

Treasurer's report.—Ed Frazier was absent, and a written report was presented.

Executive Director's report.—Nelson Shaffer reported that there were 716 members at this time. Following a report on trends in the membership, it was suggested that the membership receive e-mail reports from IAS activities and that the Secretary could do this as part of the duties of that office. It was also suggested that the Secretary should send minutes of past Executive Committee meetings to the committee prior to the next meeting. Discussion followed, but no action was taken.

Proceedings Editor's report.—Jim Berry reported that reprints can now be downloaded. A question from the floor asked if the *Proceedings* should be available on line. Discus-

sion ensued, and the consensus was that the abstracts could be on-line, but not the *Proceedings*. The Table of Contents could be on-line; however, it should be put on the website. Jim Berry will contact Marcia Moore about this.

Newsletter Editor's report.—Uwe Hansen made a report, and he requested that the membership submit items for the newsletter. The newsletter is within budget. The deadline for the June newsletter is 15 May. Hansen solicited pictures from tomorrow's fieldtrips for the newsletter. Don Ruch will be the newsletter editor next (2005) year.

Secretary's report.—Nils Johansen had no additional report.

President-Elect's report.—Uwe Hansen presented a proposal for a Technical Council that will be a later item on the agenda and will be discussed at that time.

President's report.—Don Ruch reported that all committee Chairs have been filled except the Youth Activities Chair. An *ad-hoc* committee chaired by Melissa Werner is working on finding a replacement. We will come back with related items (Section Structure and the Implementation of Scientific Presentation Rubric for Evaluation of Student Presentations at the Annual Meeting) under the "New Business" portion of the agenda. The Executive Committee of IAS will look further into advertising in Academy publications by corporate members. He charged the Section Chairs to send a description of the Section to Marcia Moore (web-master) and amend it after the Fall Section business meeting if necessary. The Audit Report was attached to the minutes.

Committee Reports

Academy Foundation.—Frank Guthrie submitted a written report.

Research Grants.—Nelson Shaffer gave an oral report in the Chair's absence. The committee has selected 17 grant recipients.

Programs, Invitations and Local Arrangements.—David Daniell reported that the 2004 Fall Meeting will be at Hanover College on 28–29 October 2004. Abstract deadline will be 1 September 2004. The 2005 meeting location will be St. Mary-of-the-Woods College. The Spring meeting will be mid-April, the Fall meeting in mid-October. The exact dates will follow. The 2006 meeting location will be Ball State University. The tentative 2007 meeting location will be the University of Southern Indiana or the University of Evansville. There was a tentative suggestion for a 2006 meeting at Indiana University Bloomington. Discussion followed on the timing of the Fall Meeting, the availability of the abstracts, and the timing of the Fall Meeting with the institution's Fall Break. No action was taken.

Nominations.—No report.

Publications.—Bill McKnight gave an oral report on the current status of Academy publications and progress towards publication date.

Finance.—The Audit Report was attached to the minutes.

Resolutions.—A resolution thanking the host institution for the Spring and Fall Meeting will be presented at the Fall 2004 meeting.

Youth Activities.—No report. A search for a Chair is under way.

Library and Archives.—Holly Oster gave an oral report. Academy *Proceedings* currently take up 9.5 feet of shelf space. The Library lobby has a display on the Lewis and Clark Expedition. The Research Grants Committee now sends approved grants to Oster for archiving. Uwe Hansen publicly thanked Holly for her work, and a round of applause followed.

Amendments.—Uwe Hansen reported the Amendments Committee recommended the following for consideration at this (Spring 2004) meeting with a vote scheduled for the Fall 2004 Meeting. Under Bylaws, Article XI, Rules of Procedure, add the following two sections:

Section 2. Actions requiring the vote of any committee are taken at any duly constituted meeting of the committee, or in response to a mail or electronic ballot. Unresolved concerns about actions submitted for mail or electronic balloting are remanded to a formal meeting of the committee.

Section 3. A majority affirmative vote of the Council authorizes actions. The participation of a quorum (see Constitution: Article VI, Section 2) is required for the vote. Such a vote can be taken at a duly constituted meeting of the Council or by mail or electronic ballot.

Awards.—No report.

Biodiversity and Natural Areas.—No report. The committee has not yet met.

Junior Academy and Talent Search.—No report. A question was raised if the Youth Activities committee and the Junior Academy should be merged. No conclusion.

Web-site.—Marcia Moore submitted a written report; and in her absence Nelson Shaffer commented on the report.

Speaker of the Year.—No report.

Natural Resources Commission.—Damian Schmelz, IAS Representative to the Commission, submitted a written report.

AAAS.—IAS Representative to the AAAS Richard Kjonaas submitted a written report. No resolutions were passed by AAAS.

Historian/Necrologist.—Bill Gommel reported the passing of four members since the Fall 2003 meeting: Maud Ora Lang and three past presidents of the Academy; Wilton N. Melhorn, Howard R. Youse, and William B. Hopp, Sr.

New Business

Discussion of the IAS Section Structure.—Don Ruch raised the question if the current section structure adequately serves the Academy. A copy of an e-mail to all Section Chairs was passed out, as a summary of abstracts, attendance and membership over the period 1985–2002. A general discussion followed. The Section Chairs are to bring up this question of the adequacy of the section structure at the respective Section Meetings in connection with the Fall 2004 Meeting of the Academy and report back to the President at that time.

Evaluation of Student Presentations.—Don Ruch presented for approval "Implementation of Scientific Presentation Rubric for Evaluation of Student Presentations at the Annual Meeting." Uwe Hansen moved approval, Damian Schmelz seconded. Passed unanimously.

Discussion of Corporate Membership &

Advertising Committee.—This agenda item was deferred until a later date.

Budget Committee Actions.—Minutes of the 13 December 2003 Budget Committee were passed out. The Budget Committee proposed the following dues increases:

- Member (\$5 — raised to \$35)
- Sustaining (\$10 — raised to \$60)
- Associate (\$5 — raised to \$30)
- Corporate (\$250 — raised to \$500)
- Institution (\$100 — raised to \$200)
- Student member (no change — still \$10)
- Emeritus member (no change — still \$10)
- Club member (no change — still \$10)
- Life member (no change — still \$500)

This was passed unanimously by the Council and was referred to the 2004 Fall Meeting for a final vote by the General Membership.

Information item from the Budget Committee: The Local Arrangements Committee may set the registration fee for the meeting based on local cost level to between \$20–\$35. This year (2004) the fee will be \$25.

Technical Council.—Uwe Hansen introduced a written proposal. Don Ruch suggested to Dr. Hansen that he discuss this with the individual Section Chairs and try it out for the Fall 2004 meeting. At this time no budget was attached to this agenda item.

Other Business.—Jim Berry, for the Publications Committee, moved to rescind page charges starting 2004. Passed unanimously.

Nelson Shaffer announced that the IAS current contact list is available from his office.

The meeting adjourned 5:42 PM.

Respectfully submitted,
Nils I. Johansen, P.E.
Secretary

COMBINED MEETING OF THE
EXECUTIVE COMMITTEE
AND THE COUNCIL
Hanover College
28 October 2004

President Don Ruch called the meeting to order at 2:05 PM. Attending: President Don Ruch, President-Elect Uwe Hansen, Past-President Bob Waltz, Treasurer Edward Frazier, Secretary Nils I. Johansen, Executive Director Nelson Shaffer, Foundation Chair Frank A. Guthrie, Editor of the *Proceedings* Jim Berry, Research Grants/Local Host Committee Chair

Jeff Hughes, Publications Chair Bill McKnight, Librarian Holly Oster, Historian William R. Gommel, Representative to the DNR Damian Schmelz, Representative to the AAAS Richard Kjonaas, Dick Conklin, Dan Webster, Stanley S. Shimer, Paul Rothrock, Mike Foos, Kimberly Lyle-Ippolito, Walter Hasenmueller, Randy Patrick, Clare Chatot, Evelyn Bowers, James Mitchell Smith, Terry West.

Minutes of the 16 April 2004 Spring Meeting of the Combined Executive Committee and Council at Hanover College were distributed and approved.

The name change, from “Combined Meetings of the Executive Committee and the Council” to “Council Meeting,” was approved.

Individual Reports

Treasurer’s report.—Ed Frazier passed out financial reports and explained the various parts. Don Ruch indicated that he would suggest use of the Past-Presidents’ Fund to support section activities. In an upcoming Newsletter he will discuss this further.

Executive Director’s report.—Nelson Shaffer handed out a report on membership trends 1996–2004 for the various categories of membership. The total membership as of the meeting date stood at 809, down from 873 members in 2003, but at the same level as 2003 and 2002. He also discussed membership trends and reminded the attendees that he has a display that can be borrowed for use at meetings and also “have a friend join.”

Proceedings Editor’s report.—Jim Berry said the current issue is at the press, and will come out in December. He also mentioned the current downward trend in submitted manuscripts (28 in 2002, 21 in 2003 and 14 in 2004) and encouraged the members to submit papers for inclusion in the *Proceedings*.

Newsletter Editor’s report.—Uwe Hansen said Don Ruch will take over as Newsletter Editor next year (Hansen will be President of IAS). Hansen would like to see items in the Newsletter like “History” of something in Indiana and Indiana Science or “Biographies of Great Scientists” for inclusion.

Secretary’s report.—Nils Johansen had earlier distributed minutes of the Spring meeting. The question was raised if the minutes

should be on the website, but no action was taken on this.

President-Elect's report.—Uwe Hansen presented his agenda for his year as President. He would like to institute a "Technical Council." Seed money from this could come from the Past-Presidents' Fund. Hansen will meet with Section Chairs during lunch (29 October) and discuss this in more detail. He thought this would be a way to vitalize the sections, involve the Section Chairs, improve visibility in the State, and give the sections an opportunity to have special speakers at the annual section meeting. For example, the history of a discipline could also be written up and presented as a section paper at a future meeting of the section.

President's report.—Don Ruch made some comments on the search for a new Chair of the Youth Activity Committee and would come back to this later in the meeting.

Committee Reports

Foundation.—Frank Guthrie distributed the Foundation financial report.

Research Grants.—Jeff Hughes distributed the report. For the Spring, 17 (out of 40) requests had been funded for a total of \$33,415. Fall grants will be determined on 29 October (second round for this year). Junior Academy Grants will now be considered only once a year. The deadline is 1 November.

Local Arrangements.—Future meeting sites were discussed. The committee will meet 29 October. There are 180 attendees pre-registered for tomorrow's meeting. Future meetings sites are: Year 2005 at St. Mary-of-the-Woods College — Spring: 22–23 April; Fall: 6–7 October (note the early date). Year 2006 at Ball State University, with the Fall meeting during the first weekend in November. Year 2007 at University of Southern Indiana (tentative). Because of the early date for the Fall Meeting 2005, streamlining of the program booklet will be necessary. The abstract submission deadline will be as before (late August/early September). The program booklet will not be mailed out before the meeting, but it will be available at the meeting. After the meeting, the booklet will be mailed to members not attending. However, the program booklet will be available on-line before the meeting.

Nominations and Elections.—Mike Foes

presented the election results, and they will also be announced at the General Business meeting on 29 October. Election results are: President-Elect: Clare Chatot; Academy Foundation: Wendell McBurney; Research Grants: Peter Scott. Nominations for next year will be requested in the Spring. Including the Section Chairs in the nomination and election process may increase the membership participation in the nominations and elections. In the election of the President, there has been an unofficial policy of alternating two "life science years" with one "physical science year." Bob Waltz was charged to look into this. As the current unwritten system operates, the candidates for President-Elect in 2007 (elected in 2006) will be from the physical sciences.

Publications.—Bill McKnight announced that *Periodical Cicadas* has been published and will be available for sale at the publications table during the meetings on the 29th. The Publications Committee will meet over lunch on 29 October.

Finance.—This item will be deferred until later in the meeting (Budget Committee).

Resolutions.—Nelson Shaffer submitted the resolution that will be read tomorrow thanking Hanover College for hosting the IAS meetings this year.

Youth Activities.—(including Junior Academy and Talent Search). Don Ruch summarized the efforts in obtaining a new Chair for this committee and announced that Patty Zeck has been appointed the new Chair. Some discussion ensued regarding the system of rewards in the Junior Academy. The outcome was to let the committee decide.

Library and Archivist.—Holly Oster passed out a written report.

Amendments.—Bob Waltz reported no pending activity.

Awards.—Clare Chatot reported the following nominees: K. Michael Foes for Fellow, and Bob Waltz for Special Service Award. The nominees will be presented at the General Membership Meeting 29 October for approval by the membership. Chatot also encouraged the membership to nominate colleagues for Fellow if appropriate. The form is on the web-site.

Biodiversity.—Paul Rothrock reported on the plans for the upcoming Bio-Blitz, tentatively scheduled for sometime during the first

two weeks in June 2007 at Fort Benjamin Harrison State Park in Indianapolis. The budget will be presented at the budget meeting this December. The effort should also be coordinated with the Publications Committee.

Web Site coordinator.—Nelson Shaffer read Marcia Moore's report.

Speaker of the Year.—Michael Foos will introduce Gene Kritsky at the annual meeting. Don Ruch stated that we all owe the committee our thanks.

IAS Representative to INRC.—Damian Schmelz handed out a written report.

IAS Representative to AAAS.—Richard Kjonaas reported. The next meeting of AAAS will be in Washington, DC. in February 2005.

Historian.—Bill Gommel reported the passing of the following members: William R. Adams, William B. Hopp, Sr. (1973 President of the Academy), Terry Kruger, Maud Ora Lang, Paul C. McKinney, Wilton N. Melhorn (1988 President of the Academy), and Howard R. Youse (1969 President of the Academy). The list will be read at the General Membership Meeting on 29 October, and they will be remembered with a moment of silence.

Unfinished Business

Corporate Membership and Advertising Committee.—There was general discussion of the problem. The subject will be further discussed as an agenda item at the December 2004 Budget meeting.

Budget Meeting.—The Budget Meeting is tentatively set for 11 December at 10 AM in the Terre Haute area. Ed Frazier will need budget items by 1 December.

Adjournment.—Don Ruch thanked the Council and Executive Committee for their work on behalf of the Academy. The members

responded by applauding Don for his work as President. The meeting adjourned at 5:18 PM.

Respectfully submitted,
Nils I. Johansen, P.E.
Secretary

GENERAL BUSINESS MEETING

29 October 2004

Hanover College

Speaker of the Year.—Michael Foos introduced Dr. Gene Kritsky, Professor of Biology, College of Mount St. Joseph, and his talk on "Periodical Cicadas: The Plague and the Puzzle."

Election Results.—Michael Foos announced the results of the elections: President-Elect: Clare Chatot; Academy Foundation: Wendell McBurney; Research Grants: Peter Scott.

Awards Committee.—Clare Chatot read the names of the nominees, and the membership approved the following: Michael Foos for Fellow; Robert Waltz for Special Award.

Historian.—Bill Gommel read the list of departed members and the membership honored their memory with a moment of silence.

Announcements.—Don Ruch announced that the meetings next year will be at St. Mary-of-the-Woods College on 22–23 April and 6–7 October 2005. He reminded the members of the upcoming (2007) Bio-Blitz. He then gave a summary report of his term as President of the Academy. He thanked the Academy members for help he received that made last year a successful year for the Academy. As his last act, he passed the gavel to Uwe Hansen, the incoming President. The meeting was adjourned at 2:00 PM.

Respectfully submitted,
Nils I. Johansen, P.E.
Secretary

INDIANA ACADEMY OF SCIENCE 2004 Year End Financial Report

	Balance 1-Jan-04	Revenues	Expenses	Balance 31-Dec-04
OPERATING FUND				
Dues		21,090.00		
Interest		148.91		
Contributions		180.00		
Spring Meeting		400.00	557.83	
Annual Meeting		7,320.00	7,481.39	
Transfer from IAS Foundation		6,764.97		
Misc. Income		1,031.00		
Officer's Expenses			4,021.99	
Operating Expenses			6,347.25	
Financial Expenses			1,302.90	
Newsletter Expenses			3,194.98	
Library Operations			0.00	
Committee Expenses			0.00	
Speaker of the Year			700.00	
AAAS Representative			875.00	
Web Site Development			2,000.00	
Youth Activities			11,647.50	
Operating Fund Total	9,055.02	36,934.88	38,128.84	7,861.06
RESTRICTED FUNDS				
Proceedings	15,062.40	18,279.49	17,734.49	15,607.40
Publications	14,612.08	16,084.65	11,175.77	19,520.96
* Research Grants	16,027.02	59,845.11	59,845.00	16,027.13
Indiana Biological Survey	(515.58)	0.00	0.00	(515.58)
Lilly Library	6,578.44	0.00	0.00	6,578.44
Welch Fund	9,106.01	0.00	400.00	8,706.01
Life Members Fund	4,295.25	500.00	0.00	4,795.25
Past Presidents Fund	9,178.39	0.00	0.00	9,178.39
Total Restricted Funds	74,344.01	94,709.25	89,155.26	79,898.00
Prepaid 2004 Dues	4,170.00			4,375.00
TOTAL FUNDS	87,569.03	131,644.13	127,284.10	92,134.06
FUNDS ON DEPOSIT				
Checking Account	8,692.52	121,216.42	128,159.95	1,748.99
Money Market Savings	67,820.13	69,708.56	58,200.00	79,328.69
Cert. of Deposit	11,056.38	0.00	0.00	11,056.38
TOTAL FUNDS DEPOSITED	87,569.03	190,924.98	186,359.95	92,134.06
* Provided 29 senior member grants and 17 high school grants.				
ACADEMY FOUNDATION FUNDS				
John S. Wright Fund Account	6,366,524.00			6,443,101.13
Academy Fund Account	234,527.00			242,405.60
Invested Income Account	316,093.00			384,885.45
TOTAL FOUNDATION FUNDS	6,917,144.00			7,070,392.18
Foundation Funded Used For:				
General Fund	6,764.97			
Proceedings	8,923.49			
Publications	6,656.33			
Research Grants	53,395.00			
Total	75,739.79		Edward L. Frazier Treasurer	

INSTRUCTIONS TO AUTHORS

(revised July 2005)

General information.—Manuscripts and all correspondence should be sent to the Editor. To be eligible for publication in the *Proceedings*, at least one author must be a member of the Academy. Papers that have been presented at an Academy meeting may be given preference for publication. Submission of a manuscript to the Editor implies that it has not been sent to another publication, nor has it been published elsewhere. If it is accepted for publication in the *Proceedings*, it may not be republished without the written consent of the Academy.

All manuscripts are evaluated by referees. Submit three copies of the manuscript. Figures in manuscripts for review may be submitted as photocopies, and they should be approximately the size that they will be printed in the *Proceedings*.

After the manuscript has been accepted, the author will be asked to submit the manuscript as a paper copy and on a computer disc in a widely-used word processing program. Indicate clearly on the computer disc the **word processing program** and the **type of computer** (Mac or PC).

Galley proofs will be sent to the primary author for approval and correction.

Voucher specimens and permits: Voucher specimens of species used in scientific research should be deposited in a recognized scientific institution. Authors must indicate that the collection of specimens, especially of threatened or endangered species, was authorized by the appropriate governmental organizations. All type specimens must be deposited in a recognized museum collection.

Style.—Do not use right or full justification. Also, use a non-proportional font (e.g. Courier, but not Times Roman).

Title page.—The title page should include (1) the title in capital letters, (2) each author's name and address, (3) the running head (see below), and (4) the complete name, address, and telephone number of the author with whom proofs and correspondence should be exchanged, a FAX number and electronic mail address if available.

Abstract.—All manuscripts have an abstract, which should summarize the significant facts in the manuscript. The "ABSTRACT" heading in capital letters should be placed at the beginning of the first paragraph set off by a period. Use complete sentences, and limit the abstract to one paragraph and 250 words.

Keywords.—Give 3–5 appropriate keywords following the abstract.

Text.—Double-space text, tables, legends, etc. throughout. Three categories of headings are used. The first category (METHODS, RESULTS, etc.) is typed in capitals, centered, and on a separate line. The second (lower) category of heading, in bold type, begins a paragraph with an indent and is separated from the text by a period and a dash. (This paragraph begins with an example of this heading.) The third heading category may or may not begin a paragraph, is italicized and followed by a colon. (The paragraph below is an example.) Use only the metric system unless quoting text or referencing collection data.

Citation of references in the text: Cite only papers already published or in press. Include within parentheses the surname of the author followed by the date of publication. A comma separates multiple citations by the same author(s) and a semicolon separates citations by different authors, e.g., (Smith 1990), (Jones 1988; Smith 1993), (Smith 1986, 1987; Smith & Jones 1989; Jones et al. 1990).

Literature cited section.—Use the following style, and include the full unabbreviated journal title. Repeat the name for multiple references by the same author. Note that book titles have the first letter of each word capitalized.

Walter, J. & B. Hallet. 1979. Geometry of former subglacial water channels and cavities. *Journal of Glaciology* 23:335–346.

Walter, J. 1992. The significance and complexity of communication in moths. Pp. 25–66. *In* *Insect Communications: Mechanisms and Ecological Significance*. (P.N. Work & J.S. Rivers, eds.). Princeton University Press, Princeton, New Jersey.

Footnotes.—Footnotes are permitted only on the first printed page to indicate current address or other information concerning the author. These are placed together on a separate page at the end of the manuscript. Tables and figures may not have footnotes.

Running head.—The author's surname(s) and an abbreviated title should be typed all in capital letters and must not exceed 60 characters and spaces. The running head should be placed near the top of the title page.

Tables.—These should be typed double-spaced, one table to a page and numbered consecutively. Most tables contain only three horizontal lines (see recent issues for examples). Do not use vertical lines or shading. Include all pertinent information in the table legend (no footnotes).

Illustrations.—All art work must be camera-ready (mounted and labeled) for reproduction. Figures should be arranged so that they fit (vertically and horizontally) the printed journal page, either one column or two columns, with a minimum of wasted space. When reductions are to be made by the printer, pay particular attention to width of lines and size of lettering in line drawings. Multiple photos assembled into a single plate should be mounted with only a minimum of space separating them. In the case of multiple illustrations mounted together, each illustration must be numbered Fig. 1, Fig. 2, etc.) rather than given letter (A, B, etc.) designations. The name(s) of author(s), and an indication of top edge, and whether the illustration should be one or two columns wide, should be written on the back of the illustration. The overall dimensions should be no more than 11 inches (28 cm) × 14 inches (36 cm). Larger drawings present greater difficulty in shipping and greater risk of damage for which the *Proceedings* assumes no responsibility. In manuscripts for review, photocopies are acceptable, and should be reduced to the exact measurements that the author prefers in the final publication. Make notations in the text margins to indicate the preferred position of illustrations in the printed text. Color plates can be printed; but the author must assume the full cost, currently about \$600 per color plate.

Legends for illustrations should be placed together on the same page(s) and separate from the illustrations. Each plate must have only one legend, as indicated below:

Figures 1–4.—Right chelicerae of species of *Centruroides* from Timbuktu. 1. Dorsal view; 2. Prolateral view of moveable finger; 3. *Centruroides* holotype male; 4. *Centruroides* male. Scale = 1.0 mm.

Page charges and reprints.—There are no page charges for members of the Academy. Corrections in proof pages must be restricted to printer's errors only; all other alterations will be charged to the author (currently \$3 per line).

Reprints are available only from the Allen Press and should be ordered (with payment) when the author receives the proof pages. Allen Press will not accept reprint orders after the paper is published.

CONTENTS

Proceedings of the Indiana Academy of Science

Volume 114

Number 1

2005

Geology

- Barometric and Earth-tide Induced Water-level Changes in the Inglefield Sandstone in Southwestern Indiana** by Paul C. Inkenbrandt, Paul K. Doss, Thomas J. Pickett, and Robert J. Brown 1

Botany

- An Evaluation of Indiana's Floristic Quality Assessment** by Paul E. Rothrock and Michael A. Homoya 9
- Distribution Records of Southern Indiana Vascular Plants II** by William E. Thomas, Scott P. Ash, and Richard H. Maxwell 19
- A Vascular Plant Inventory of Howell Wetlands, A Nature Preserve Within the City of Evansville, Indiana** by Jennifer Keller, Edith Hardcastle, and Scott A. Gordon 26

Zoology

- Freshwater Mussel (Bivalvia: Unionidae) Survey of the Brouillets Creek Basin in Illinois and Indiana** by Jeremy S. Tiemann 33
- Orconectes (Procericambarus) theaphionensis* (Decapoda: Cambaridae), the Sinkhole Crayfish, a New Species of Crayfish from Southcentral Indiana** by Thomas P. Simon, Anne E. Timm, and Charles C. Morris 43
- Notes on Indiana Crayfish (Decapoda: Cambaridae) with Comments on Distribution, Taxonomy, Life history, and Habitat** by Thomas P. Simon, Matthew Weisheit, Elizabeth Seabrook, Lori Freeman, Scott Johnson, Lynn Englum, Katherine W. Jorck, Matthew Abernathy, and Thomas P. Simon IV 55
- Discovery of an Exotic Asian Mosquito, *Ochlerotatus japonicus*, (Diptera, Culicidae) in Southern Indiana** by Steven P. Moberly, Craig Lalor, Mollie McDonough, Brad Foster, Adam Estes, and Douglas J. Bentfield 62
- Observations of Periodical Cicadas (Brood X) in Indiana and Ohio in 2004 (Hemiptera: Cicadidae: *Magicicada* spp.)** by Gene Kritsky, Jennifer Webb, Michael Folsom, and Margie Pfiester 65
- Nocturnal Behavior and Roosting Ecology of a Juvenile *Lasiurus cinereus* Near Indianapolis, Indiana** by Dale W. Sparks, Christopher M. Ritzi, and Brianne L. Everson 70
- Bat Communities in Highly Impacted Areas: Comparing Camp Atterbury to the Indianapolis Airport** by Wade A. Ulrey, Dale W. Sparks, and Christopher M. Ritzi 73

Indiana Academy of Science

- Minutes of Meetings for 2004** 77
- Financial Statement for 2004** 82