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Telephone: 317-923-1321
- Editor.....BENJAMIN MOULTON, Department of Geography and
(1975) Geology
Indiana State University, Terre Haute, IN 47809
Telephone: 812-232-2444
- Director of
Public Relations.....CLARENCE F. DINEEN, Department of Biology
(1974-1975) St. Mary's College, Notre Dame, IN 47556
Telephone: 219-284-4061
- Chairman Program
Committee.....DAVID W. OSGOOD—Phone: 317-283-9411
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Hanover, IN 47243

Chairman-elect ROBERT E. HALE, Huntington College
Huntington, IN 46750

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Plant Pathology
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- Chairman-elect.....ORLAND J. BLANCHARD, Department of Biology
Earlham College, Richmond, IN 47374

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5610 Crawfordsville Road, Indianapolis, IN 46224
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Purdue University, Lafayette, IN 47907
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Indiana University at South Bend, South Bend, IN 46615

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- WILLIAM A. DAILY, Chairman The Lilly Research Laboratories
(1976) Eli Lilly and Company
Indianapolis, IN 46206
Phone: 317-261-4652
- FRANK A. GUTHRIE..... Rose Hulman Institute
(1975) 5500 Wabash Avenue
Terre Haute, IN 47803

BONDING COMMITTEE

- ROBERT M. BROOKER, Chairman Department of Chemistry
(1975) Indiana Central College
Indianapolis, IN 46227
Phone: 317-787-6301
- EARL A. HOLMES Department of Biology
(1975) St. Mary's College
Notre Dame, IN 46556

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- KENNETH E. NICHOLS, Chairman Valparaiso University
(1976) Valparaiso, IN 46383
Phone: 219-462-5111
- WINONA H. WELCH DePauw University
(1975) Greencastle, IN 46135

ROBERT M. BROOKER	Indiana Central College
(1977)	Indianapolis, IN 46227
CHARLES M. KIRKPATRICK	Department of Forestry and
(1978)	Conservation
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	Lafayette, IN 47907
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	Indianapolis, IN 46206

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BENDA, R. S.	HENN, R. E.	OLSON, J. B.
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CONKLIN, R. L.	KAUFMAN, K.	*POWELL, H. M.
COOK, D. J.	*LILLY, E.	SANDERS, F. W.
CORY, W. A., JR.	*LINDSEY, A. A.	*SCHMELZ, D. V.
CRANKSHAW, W. B.	MADSEN, D. C.	SCHWARTZ, E. P.
DAILY, F. K.	MAHLBERG, P.	SPOONER, J. A.
*DAILY, W. A.	*MARKLE, C. A.	ST. JOHN, P. A.
*DAY, H. G.	*MELLON, M. G.	VAN ATTA, R. E.
DHONAU, C. A.	METZ, C. R.	*WAYNE, W. J.
DINEEN, C. F.	*MEYER, A. H.	*WEATHERWAX, P.
*EDINGTON, W. E.	MEYER, R. W.	*WELCH, W. H.
FERRIS, J. M.	*MICHAUD, H. H.	WINSLOW, D. R.
*GIRTON, R. E.	*MORGAN, W. P.	*YOUSE, H. R.
*GUARD, A. T.	MOULTON, B.	

* Past President of Academy

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President-Elect—DONALD J. COOK
Retiring President—DAMIAN V. SCHMELZ
Secretary—ROBERT E. VAN ATTA
Treasurer—CLYDE R. METZ
Editor—BENJAMIN MOULTON
Director of Public Relations—CLARENCE F. DINEEN
Chairman, Library Committee—LOIS BURTON
Co-Chairmen, Program Committee—DAVID W. OSGOOD, PHILIP A. ST. JOHN
Director, Youth Academy—LAWRENCE POORMAN
Chairman, Youth Activities—DONALD R. WINSLOW
Chairman, Science and Society Committee—OTTO K. BEHRENS

COMMITTEES APPOINTED BY THE PRESIDENT

(The President and President-Elect are *ex officio* members of all committees.)

Academy Representative to A.A.A.S.**Section and Delegate to A.A.S.**

WILLIS H. JOHNSON (1974-77) Department of Biology
Wabash College
Crawfordsville, Indiana 47933
Phone: 317-362-1400

Auditing Committee

C. A. DHONAU, Chairman Vincennes University
Vincennes, Indiana 47951
Phone: 812-882-3350

R. E. DOLPHIN 1118 Chestnut Street
Vincennes, Indiana 47951

Youth Activities Committee

DONALD R. WINSLOW, Chairman . . Office of Research and Advanced
Studies
Indiana University
Bloomington, Indiana 47401
Phone: 812-337-6352

KARL L. KAUFMAN, Coordinator of Science Fairs Butler University
Indianapolis, Indiana 46208

LAWRENCE POORMAN, Director of Junior Academy of Science Department of Physics
Indiana State University
Terre Haute, Indiana 47809

WALTER A. CORY, JR., Director of Indiana Science Talent Search School Science Coordinator's Office
Indiana University
Bloomington, Indiana 47401

F. KEITH AULT Department of Chemistry
Ball State University
Muncie, Indiana 47306

JERRY M. COLGLAZIER Office of State Superintendent of
Public Instruction
120 West Market Street
Indianapolis, Indiana 46204

FLOYD CONARD Westside High School
Ninth and Gerry Streets
Gary, Indiana 46402

KEITH HUNNINGS New Haven High School
900 Prospect Avenue
New Haven, Indiana 46774

JANE KAHLE Department of Biological Sciences
Purdue University
Lafayette, Indiana 47907

- GERALD KIRKMAN North High School
2319 Stringtown Road
Evansville, Indiana 47711
- ELLIOT KOYANAGI Bloomington High School North
3901 Kinser Pike
Bloomington, Indiana 47401
- JOHN C. MOODY Division of Education
Indiana University Southeast
P. O. Box 679
New Albany, Indiana 47150
- MARY J. PETERSEN Oliver P. Morton High School
6915 Grand Avenue
Hammond, Indiana 46323

Library Committee

- LOIS BURTON, Chairman Indiana State Library
Indianapolis, Indiana 46204
Phone: 317-633-6425
- NELLIE M. COATS Indiana State Library
Indianapolis, Indiana 46204
- W. R. EBERLY Department of Zoology
Manchester College
North Manchester, Indiana 46962
- ELI LILLY Eli Lilly and Company
Indianapolis, Indiana 46206

Program Committee—Co-Chairmen

- DAVID W. OSGOOD Department of Zoology
Butler University
Indianapolis, Indiana 46208
Phone: 317-283-9411
- PHILIP A. ST. JOHN Department of Zoology
Butler University
Indianapolis, Indiana 46208
Phone: 317-283-9441

Publications Committee

- MARION T. JACKSON, Chairman ... Department of Life Sciences
Indiana State University
Terre Haute, Indiana 47809
Phone: 812-232-2489
- WILLIAM B. BUNGER Department of Chemistry
Indiana State University
Terre Haute, Indiana 47809
- LOIS BURTON Indiana State Library
Indianapolis, Indiana 46204
- GALE M. CRAIG Guide Lamp Division
Anderson, Indiana 46011

- CLARENCE F. DINEEN Department of Biology
St. Mary's College
Notre Dame, Indiana 46556
- WILLIAM R. EBERLY Department of Zoology
Manchester College
North Manchester, Indiana 46962
- VIRGINIA R. FERRIS Department of Entomology
Purdue University
Lafayette, Indiana 47907
- WENDELL F. MCBURNEY Office of Sponsored Programs
Indiana-Purdue University
355 North Lansing Street
Indianapolis, Indiana 46202
- WILTON N. MELHORN Department of Geosciences
Purdue University
Lafayette, Indiana 47907
- BENJAMIN MOULTON Department of Geography and Geology
Indiana State University
Terre Haute, Indiana 47809
- JOHN F. PELTON Department of Botany
Butler University
Indianapolis, Indiana 46208

Membership Committee

- DONALD J. COOK, Chairman Department of Chemistry
DePauw University
Greencastle, Indiana 46135
Phone: 317-653-9721

Corporation Membership:

- OTTO K. BEHRENS, Ad Hoc
Dir. Eli Lilly and Company
Indianapolis, Indiana 46206
- KARL L. KAUFMAN Butler University
Indianapolis, Indiana 46208

Institutional Membership:

- WILLIAM B. HOPP, Ad Hoc.
Dir. Indiana State University
Terre Haute, Indiana 47809
- FRANK A. GUTHRIE Rose Hulman Institute
Terre Haute, Indiana 47803

Emeritus Membership:

- WINONA H. WELCH, Dir. DePauw University
Greencastle Indiana 46135

Club Membership:

- DONALD R. WINSLOW, Dir. Indiana University
Bloomington, Indiana 47401

Fellows Committee

BENJAMIN MOULTON (1976)

Chairman Department of Geography and Geology
 Indiana State University
 Terre Haute, Indiana 47809
 Phone: 812-232-2444

WILLIAM R. EBERLY (1975) Department of Zoology
 Manchester College
 North Manchester, Indiana 46962

ROBERT E. GORDON (1975) Office of Advanced Studies
 Notre Dame University
 Notre Dame, Indiana 46556

ROBERT D. MILES (1975) School of Civil Engineering
 Purdue University
 Lafayette, Indiana 47907

B. ELWOOD MONTGOMERY (1975) .. Department of Entomology
 Purdue University
 Lafayette, Indiana 47907

JOHN F. PELTON (1975) Department of Botany
 Butler University
 Indianapolis, Indiana 46208

THOMAS R. MERTENS (1976) Department of Biology
 Ball State University
 Muncie, Indiana 47306

JOHN A. RICKETTS (1976) Science Education
 DePauw University
 Greencastle, Indiana 46135

RUSSELL K. STIVERS (1976) Department of Agronomy
 Purdue University
 Lafayette, Indiana 47907

CHARLES E. WIER (1976) Indiana Geological Survey
 611 North Walnut Grove
 Bloomington, Indiana 47401

RICHARD L. CONKLIN (1977) Department of Physics
 Hanover College
 Hanover, Indiana 47243

JAMES B. COPE (1977) J. Moore Museum
 Earlham College
 Richmond, Indiana 47374

PAUL H. GEBHARD (1977) Institute for Sex Research
 Indiana University
 Bloomington, Indiana 47401

W. H. HEADLEE (1977) Department of Preventive Medicine
 I. U. Medical Center
 1100 West Michigan Street
 Indianapolis, Indiana 46202

Resolutions Committee

- WILLIAM A. DAILY, Chairman . . . Eli Lilly and Company
Indianapolis, Indiana 46206
Phone: 317-261-4652
- HOWARD R. YOUSE Department of Botany
DePauw University
Greencastle, Indiana 46135
- JAMES E. NEWMAN Department of Agronomy
Purdue University
Lafayette, Indiana 47907

Invitations Committee

- PHILIP A. ST. JOHN, Chairman . . Department of Zoology
Butler University
Indianapolis, Indiana 46208
Phone: 317-283-9441
- PAUL R. QUINNEY Department of Chemistry
Butler University
Indianapolis, Indiana 46208

Necrologist

- FAY K. DAILY 5884 Compton Street
Indianapolis, Indiana 46220
Phone: 317-251-4719

Parliamentarian

- HOWARD K. YOUSE Department of Botany
DePauw University
Greencastle, Indiana 46135
Phone: 317-653-9721

Science and Society Committee

- OTTO K. BEHRENS (1975)
Chairman Eli Lilly and Company
Indianapolis, Indiana 46206
Phone: 317-636-2211
- ROBERT MENKE (1975) St. Henry Road
Huntingburg, Indiana 47542
- ROBERT D. MILES (1975) Department of Civil Engineering
Purdue University
Lafayette, Indiana 47907
- OATTIS E. PARKS (1975) ATEX
5150 East 65th Street
Indianapolis, Indiana 46220
- AUSTIN W. FERGUSSON (1976) . . . Merry Lea Environmental Center
P. O. Box 263
Wolf Lake, Indiana 46796
- GERALDINE M. HUITINK (1976) . . Department of Chemistry
Indiana University—South Bend
South Bend, Indiana 46615

- WILLIS H. JOHNSON (1976) Department of Biology
Wabash College
Crawfordsville, Indiana 47933
- JERRY J. NISBET (1976) Office of University Evaluations
Ball State University
Muncie, Indiana 47306
- HARRY G. DAY (1977) Department of Chemistry
Indiana University
Bloomington, Indiana 47401
- ROBERT E. HENDERSON (1977) Indianapolis Center for
Advanced Research
1300 West Michigan Street
Indianapolis, Indiana 46202
- RALPH A. LLEWELLYN (1977) Department of Physics
Indiana State University
Terre Haute, Indiana 47809

SPECIAL COMMITTEES APPOINTED BY THE PRESIDENT

Biological Survey Committee

- JACK R. MUNSEE, Chairman Department of Life Sciences
Indiana State University
Terre Haute, Indiana 47809
Phone: 812-232-2393
- GAYTON C. MARKS Valparaiso University
Valparaiso, Indiana 46383
- RUSSELL E. MUMFORD Department of Forestry and
Conservation
Purdue University
Lafayette, Indiana 47907
- JOHNNY W. REISING Indiana State University—
Evansville
1413 Ewing Street
Evansville, Indiana 47712
- WINONA H. WELCH DePauw University
Greencastle, Indiana 46135
- WILLARD F. YATES Department of Botany
Butler University
Indianapolis, Indiana 46208
- FRANK N. YOUNG, JR. Department of Zoology
Indiana University
Bloomington, Indiana 47401

Emeritus Member Selection Committee

- WINONA H. WELCH, Chairman DePauw University
Greencastle, Indiana 46135
Phone: 317-653-9721

- ROBERT H. COOPER R. R. 9—Box 242
Muncie, Indiana 47302
- EDWARD L. HAENISCH Department of Chemistry
Wabash College
Crawfordsville, Indiana 47933
- HOWARD H. MICHAUD 301 East Stadium Drive
Lafayette, Indiana 47906

Newsletter

- CLARENCE F. DINEEN Department of Biology
St. Mary's College
Notre Dame, Indiana 46556
Phone: 219-284-4061

Preservation of Natural Areas Committee

- WILLIAM B. BARNES, Chairman .. Department of Natural Resources
616 State Office Building
Indianapolis, Indiana 46204
Phone: 317-633-4164
- MARION T. JACKSON Department of Life Sciences
Indiana State University
Terre Haute, Indiana 47809
- CARL H. KREKELER 360 McIntyre Court
Valparaiso, Indiana 46383
- DAVID W. OSGOOD Department of Zoology
Butler University
Indianapolis, Indiana 46208
- GEORGE R. PARKER Department of Forestry and
Conservation
Purdue University
Lafayette, Indiana 47907
- ROBERT O. PETTY Department of Biology
Wabash College
Crawfordsville, Indiana 47933
- RICHARD L. POWELL Indiana Geological Survey
611 North Walnut Grove
Bloomington, Indiana 47401
- DAMIAN V. SCHMELZ Department of Biology
St. Meinrad College
St. Meinrad, Indiana 47577
- ROBERT C. WEBER 3649 Algonquin Pass
Fort Wayne, Indiana 46809
- J. DAN WEBSTER Department of Zoology
Hanover College
Hanover, Indiana 47243
- WINONA H. WELCH DePauw University
Greencastle, Indiana 46135
- CARROLLE MARKLE (Honorary) . Ashfield, Massachusetts 01330

"Speaker of the Year" Selection Committee

- HARRY G. DAY (1975), Chairman Department of Chemistry
Indiana University
Bloomington, Indiana 47401
- ALTON A. LINDSEY (1975) Department of Biological Sciences
Purdue University
Lafayette, Indiana 47907
- DAMIAN V. SCHMELZ (1975) Department of Biology
St. Meinrad College
St. Meinrad, Indiana 47577
- FRANK A. GUTHRIE (1976) Department of Chemistry
Rose Hulman Institute
Terre Haute, Indiana 47803

**Academy Representative on Indiana Natural Resources Commission
(Alternates)**

- DAVID W. OSGOOD Department of Zoology
Butler University
Indianapolis, Indiana 46208
Phone: 317-283-9411
- DAMIAN V. SCHMELZ Department of Biology
St. Meinrad College
St. Meinrad, Indiana 47577
Phone: 812-357-6580

SPRING MEETING

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

April 25, 1975

BROWN COUNTY STATE PARK, Brown County, Indiana

The meeting was called to order by President John Patton at 4:15 PM in the ground floor meeting room of Abe Martin Lodge in Brown County State Park. The minutes of the Executive Committee and of the General Session of the Fall, 1974 meeting were approved.

TREASURER'S REPORT

Treasurer Clyde Metz presented a financial report for the period January 1 through April 17, 1975. The following is the summary from his report:

	Academy Accounts	Administered Accounts	Total
Balance: January 1, 1975 -----	\$9,353.25	\$16,000.92	\$25,354.17
1975 Income -----	5,255.86	13,235.39	18,491.25
1975 Expenditures -----	8,031.36	13,184.23	21,215.59
Balance: April 17, 1975 -----	6,577.75	16,052.08	22,629.83

The Treasurer also reported that approximately one-half of the 1975 membership dues have been paid, and that the Academy funds available for the current year have been committed. The Treasurer's report was accepted by general consent.

STANDING COMMITTEE REPORTS

Academy Foundation Committee: William Daily, Chairman, reported that the John S. Wright Invested Income Account held \$11,000 as of April 18, 1975 and that the market values of the Foundation Account and the John S. Wright Fund have increased by more than 20% in the past six months.

Research Grants Committee: Kenneth Nichols, Chairman, reported that \$3153 has been granted for eight individual research projects this year.

Representative to Association of Academies of Science (AAS): Willis Johnson, Delegate, reported on his participation with representatives from the Utah, Iowa, and Florida academies in a panel discussion on academy scientific communications during the January meeting of the AAS. He also reported on the meeting of Section X, whose principal function is sponsoring symposia at AAAS meetings, and on suggested symposia for the 1976 AAAS meeting.

Program Committee: Philip St. John, Co-Chairman, reported that sites selected for future Fall meetings are as follows:

1975 Butler University
1976 Valparaiso University

1977 Indiana University-Purdue University-Indianapolis
1978 Anderson College

Publications Committee: William Eberly reported that "Natural Features of Indiana" will not be printed this year, due to low sales prospects and excessive costs, according to the Indiana University Press, which returned unsigned contracts. It was suggested that other avenues for future publication be explored. A manuscript for *Monograph IV* is under consideration.

Membership Committee: Donald J. Cook, Chairman, presented and explained the contents of the new membership application blank. The concept of expanded honorary membership as a means of improving Academy public relations was discussed.

Science and Society Committee: Otto Behrens, Chairman, reported on the current status of HB 1616, a bill to authorize formation of a state Council on Science and Technology. The bill was passed by the House, but died in the Senate Finance Committee. Current activities related to the Speakers' Bureau were described; further information will appear in the next Newsletter.

SPECIAL COMMITTEE REPORTS

Emeritus Member Selection Committee: Howard Youse, reporting for Winona Welch, Chairwoman, presented the following persons for Emeritus Membership (initial membership year shown in parentheses):

FERNANDUS PAYNE, Frankfort, Indiana (1913)
DAVID H. DUNHAM, West Lafayette, Indiana (1920)
SAMUEL W. WITMER, Goshen, Indiana (1921)
C. MERVIN PALMER, Kennett Square, Pennsylvania (1925)
NATHAN W. SHOCK, Baltimore, Maryland (1927)
WALLACE B. MINER, DeKalb, Illinois (1928)
THEODORE M. SPERRY, Pittsburg, Kansas (1928)
HERBERT M. CLARKE, Middleton, Wisconsin (1929)
DONALD C. HAZLETT, Russellville, Indiana (1930)
MARION M. FIDLAR, Salt Lake City, Utah (1931)
THEODORE W. TORREY, Bloomington, Indiana (1935)
PAUL BENDER, Goshen, Indiana (1936)
ROBERT F. DUNCAN, Shreveport, Louisiana (1938)
TRACY M. SONNEBORN, Bloomington, Indiana (1940)
PHILIP PEAK, Bloomington, Indiana (1945)
HELMUT M. KOHNKE, West Lafayette, Indiana (1946)
THOMAS F. BARTON, Bloomington, Indiana (1947)
S. J. SMUCKER, Rensselaer, Indiana (1947)
MARY ROSE STOCKTON, Indianapolis, Indiana (1948)

Motion: That the persons presented be elected to Emeritus Membership. Seconded and carried.

Preservation of Natural Areas Committee: William Barnes, Chairman, reported that three additional state nature preserves have been dedicated by action of the Natural Resources Commission; these include 6,094 acres or 34 percent of the total 177 recognized natural

areas in the state. The National Park Service has now designated 22 Registered Natural Landmarks in Indiana. It was suggested that formal dedication ceremonies for registered natural landmarks would be an appropriate Bicentennial Celebration activity for the Academy. The need for protection of endangered *plant* species was discussed in connection with the Endangered Species Act of 1973.

Motion: That an appropriate committee of the Academy be appointed to prepare a state list of endangered and threatened plant species. Seconded and carried.

"Speaker of the Year" Selection Committee: Damian Schmelz, reporting for Harry Day, Chairman, announced that Dr. Harold Cassidy of Hanover College has been selected speaker of the year for 1975-76. The five campuses on which he will speak during the next few months have not yet been selected; he will be the featured speaker at the 1975 Fall meeting.

Motion: That all Standing and Special Committee reports be accepted. Seconded and carried.

NEW BUSINESS

Motion: That the Executive Committee grant Honorary Membership status to Dr. Eli Lilly, 55-year member and former President of the Academy, in recognition of his lifelong interest in and contributions to science and the Indiana Academy.

Seconded and carried. Damian Schmelz will draw up a formal letter informing Dr. Lilly of this action.

Motion from the Membership Committee: That the Academy establish a tradition of appointing the Governor of the State as an Honorary Member at the Fall meeting immediately following his election and that Governor Bowen be so designated by the President of the Academy at the Fall 1975 meeting.

Seconded. Considerable discussion followed.

Substitute Motion: That the matter of Honorary Membership for the Governor of the State be referred back to the Membership Committee for further consideration and possible recommendation to be brought back to the Academy at the Fall 1975 meeting. Seconded and carried.

President Patton suggested that constitutional amendments with regard to Standing Committees previously approved by the Executive Committee be brought, in appropriate form, to the Fall 1975 meeting. This suggestion was accepted by general consent.

President Patton called attention to the fact that portions of the existing By-Laws require amendment to bring them into agreement with current practice with regard to members eligible to receive copies of *Proceedings*.

Motion: That *By-Laws, Article I. Dues, Sections 6 and 7* be changed to read as follows (changes in italics):

Sec. 6. Each *Senior, Sustaining, Life, Emeritus, Honorary, Corporate, and Institutional* member is entitled to one copy of the *Proceedings* of the Academy, etc.

Sec. 7. Former *Senior or Sustaining* members who were dropped for non-payment of dues may obtain one copy of the *Proceedings*, etc.

Seconded and carried.

President Patton referred to a letter from Theodore Crovello to William Barnes suggesting the establishment of an "Active State Flora" project similar to those of Colorado and British Columbia as a Bicentennial project. It was suggested that the Academy support a "Flora Indiana" project to be funded by support from various organizations. Referral of this matter to the Biological Survey Committee was approved by general consent.

President Patton presented a suggestion from Clyde Metz that Emeritus members' dues cards (marked no dues required) provide information on the current status of these members and should be returned to the Treasurer.

Damian Schmelz discussed the status of the Family Membership, which is not defined in the Academy Constitution and By-Laws. It was indicated that this type of membership exists by executive decision. Continuation of the Family Membership in this fashion was accepted by general consent.

David Osgood presented a discussion on the question of whether or not the Academy should take a position on a U. S. Corps of Engineers proposal to build a reservoir on Big Pine Creek near Lafayette. After some discussion, it was determined that appropriate procedure would be for information on the matter to be presented to the Resolutions Committee for formulation of a resolution to be presented to the General Session meeting.

Lois Burton reported on the status of current Academy appropriations requests in the state legislature.

The meeting was adjourned at 6:00 PM.

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

SPRING MEETING

MINUTES OF THE GENERAL SESSION

BROWN COUNTY STATE PARK, Brown County, Indiana

April 25, 1975

The meeting was called to order by President John Patton at 7:45 PM in the ground floor meeting room of Abe Martin Lodge in Brown County State Park.

Philip St. John, program co-chairman, introduced the speaker of the evening, Mr. Richard A. Davis, Head Librarian of Butler University.

A brief business meeting followed Mr. Wilson's address.

William Daily, Chairman, moved the adoption of the following resolutions on behalf of the Resolutions Committee:

1. That the Academy members here assembled express their appreciation to Mr. Phil Bessire, Lodge Manager; Tom Fulton, Park Superintendent; Mr. D. L. Herbst, Director, Division of Natural Resources, and their personnel for their hospitality and kind services. We are particularly grateful to Professors Philip St. John and David Osgood of Butler University, Co-chairmen of the Program Committee, for their fine work in the preparation of the program.

Our appreciation is extended to the leaders of the hikes, Drs. Russell Mumford, Austin Fergusson and Mr. Carl Rexroad. We also wish to thank Mr. Richard A. Davis for a very informative lecture concerning Alexander Wilson, Pioneer and Prophet.

The resolution was approved.

2. WHEREAS: Several unresolved questions exist regarding the U. S. Corps of Engineers' reservoir project on Big Pine Creek, therefore

The Indiana Academy of Science hereby resolved that no funds be expended for land acquisition prior to the Indiana General Assembly making a new study of the benefits to be gained and the costs to be incurred in this project.

The resolution was approved.

David Osgood presented instructions regarding the Saturday morning programs. President Patton announced that there would be a brief meeting of all Divisional Chairmen and Chairmen-Elect immediately following the business meeting.

The meeting was adjourned at 9:00 PM.

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

FALL MEETING

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

October 30, 1975

The meeting was called to order by President John B. Patton at 7:40 p. m. in Room 108 of Gallahue Science Hall at Butler University, Indianapolis, Indiana. The minutes of the Executive Committee Meeting and of the General Session for Spring 1975 were approved.

TREASURER'S REPORT

Treasurer Clyde R. Metz presented a financial report for the period January 1, 1975 through October 27, 1975, summarized as follows:

		Administered Accounts	Total
Balance: January 1, 1975 -----	\$9,353.25	\$16,000.92	\$25,354.17
1975 Income -----	9,044.69	17,755.39	26,800.08
1975 Expenditures -----	9,632.94	19,113.77	28,746.71
Balance: October 27, 1975 -----	8,765.00	14,642.54	23,407.54

The Treasurer also reported that 1975 income is less than expected due to the smaller than anticipated number of members electing the Senior membership category. The Treasurer's report was accepted.

COMMITTEE REPORTS

Program Committee. Philip A. St. John, Co-chairman, presented information pertaining to operations during the current meeting and called attention to the fact that abstracts of papers submitted late were available.

Academy Foundation Committee. William A. Daily, Chairman, presented a brief history of the initiation and development of the Academy Research Endowment Fund, followed by a complete survey of the present Academy portfolio, a summary of which follows:

Market Value of Original Foundation Fund:	\$ 16,986.00
Total Income of John S. Wright Fund to	
September 30, 1975:	16,525.07
Disbursements from John S. Wright Fund:	19,674.54
Balance in Invested Income:	12,000.00
Market Value of all Securities:	\$505,192.00

Bonding Committee. No report.

Research Grants Committee. Kenneth E. Nichols, Chairman, reported that 12 research grants totaling \$4,650 have been awarded.

Representative on AAAS Council. Willis H. Johnson announced that the 1976 meeting of Section X will convene in Boston February 18-24, 1976.

Auditing Committee. Clyde R. Metz, reporting for Chairman C. A. Dhonau, stated that the books for 1974 have been approved and that the committee report will be published in *Proceedings*.

Youth Activities Committee. Walter A. Cory, reporting for Chairman Donald R. Winslow, presented a status report on the activities of the three youth activity programs sponsored by the Academy: the Science Fair program, the Science Talent Search, and the Indiana Junior Academy of Science.

The number of participants in the Science Fair Program has increased to more than 4000 from a thousand schools in this year's 12 regional fairs. Twenty-six of the 396 finalists at the International Science and Engineering Fair in Oklahoma City were from Indiana, winning seven major awards and several special health awards.

The 28th Annual Indiana Science Talent Search produced 49 research papers. Twenty-four finalists were selected, of which 13 were eventual state winners.

The Junior Academy is now operating on a regional meeting concept; the best papers from the regions are presented at the annual Junior Academy meeting which now meets on the same day as the Academy.

Library Committee. William A. Daily, reporting for the committee, announced Volume 83 of the *Proceedings* was mailed to 1077 members and Science clubs; copies were also sent to foreign and domestic exchange agencies. Volume 84 has been received from the printers and will be mailed shortly. Mr. Daily also reported on the use of library materials by others and on recent additions to the collection.

Publications Committee. No report.

Membership Committee. Donald J. Cook, Chairman, reported that the new membership application blank has been distributed to all division chairmen and chairmen elect. The Committee encourages all eligible persons to elect the Senior membership category. The advisability of requiring that at least one author of presented papers be a senior member was discussed but no action taken.

Fellows Committee. Benjamin Moulton, editor of *Proceedings*, presented the first copy of Volume 84 to President Patton. As Chairman of the Fellows Committee, Mr. Moulton presented the following motion:

Motion: That the following persons be elected Fellows of the Academy:

WILLIAM H. BESSEY

DARRYL P. SANDERS

ROBERT E. GORDON

EUGENE P. SCHWARTZ

WILLIAM P. McCAFFERTY

PHILIP A. ST. JOHN

Seconded and carried.

Invitations Committee. Philip A. St. John, Chairman, reported that the sites selected for the next three Fall Academy meetings are: 1976—Valparaiso University, 1977—Indiana University-Purdue University-Indianapolis, and 1978—Anderson College. The committee will entertain invitations for the 1979 and 1980 meetings.

Resolutions Committee. No report.

Necrologist. No report.

Parliamentarian. No report.

Science and Society Committee. Otto K. Behrens, Chairman, presented a brief history of the committee and described its proposed programs. He then presented the following motion:

Motion: That the Committee report be accepted, including approval of the following general procedures:

1. Requests for preparation of informative reports on scientific and technological problems.

Upon receipt of a proposal, it would be circulated to members of the Science and Society Committee, and a meeting would be called to assess the feasibility of the study. If a favorable feasibility report were rendered, a small panel of experts would be enlisted to undertake the study, to set up a probable time schedule, and to determine the probable out-of-pocket costs that might be incurred.

The chairman would then notify the requesting agency and clarify any unresolved problems, including the manner of funding the study. A written statement of understanding should be signed by an official of the agency and by the chairman and the President of the Academy.

The progress of the study and review of drafts would be monitored by the Committee. Upon completion and approval of the Committee, it would be sent to the requesting agency over the signature of the President. Any actions of this nature conducted by the Science and Society Committee would be reported to the Executive Committee in an Annual Report.

2. Preparation of an annual report on scientific or technological subjects that merit attention and possible policy action by state governmental agencies.

Suggested subjects would be solicited through the Academy Newsletter. One or more of these subjects would be chosen each year by the Committee. A small task force would be enlisted to prepare an informative, impartial report. The initial draft would be reviewed by the Committee, and after revision and approval by the Committee, would be sent to the Executive Committee for review and comments. A final draft would be prepared for approval of the Committee and presentation to the Academy. The report would be presented by the Academy President to the Governor, Lt. Governor, and members of the General Assembly. It should be published in the *Proceedings* and/or brought to the attention of the public through other media.

Seconded and *carried*.

Biological Survey Committee. Jack R. Munsee, Chairman, reported that the committee would hold its first meeting following the General Session of the Academy. The report of the committee for Volume 84 of *Proceedings* includes titles for the period 1973-74.

Emeritus Member Selection Committee. Howard R. Youse, reporting for the Committee, stated that eight individuals had requested and had been certified as eligible for Emeritus Membership.

Motion: That the persons recommended be approved as Emeritus Members of Academy (initial membership year shown in parentheses):

MAX W. GARDNER, Berkeley, California (1919)
 THOMAS M. BUSHNELL, West Lafayette, Indiana (1922)
 W. HUGH HEADLEE, Indianapolis, Indiana (1926)
 SCOTT MCCOY, Indianapolis, Indiana (1928)
 MERRITT J. MURRAY, Kalamazoo, Michigan (1929)
 LEON GREENWALT, Goshen, Indiana (1946)
 JOSEPH I. PERREY, Cincinnati, Ohio (1949)
 E. W. SHRIGLEY, Indianapolis, Indiana (1950)
 Seconded and *carried*.

Preservation of Natural Areas Committee. William B. Barnes, Chairman, reported that 37 nature preserves have now been established in Indiana (6,228 acres). Three new ones are:

1. Barker Woods Nature Preserve, Michigan City (32 acres).
2. Ropchan Memorial Nature Preserve, Orland (77 acres).
3. John G. Dobbs Memorial Grove Nature Preserve, Terre Haute (25 acres).

The latter preserve is the first preserve to be dedicated that is owned by a city park and recreation board. Portland Arch was dedicated on October 25, 1975 as a Registered Natural Landmark by the National Park Service.

Speaker-of-the-Year Committee. Frank A. Guthrie, reporting for the Committee, announced that Dr. Harold G. Cassiday, Professor-At-Large, Hanover College, had been selected Speaker-of-the-Year and would deliver the lecture at the General Session of the Academy.

Representative on Natural Resources Commission. Damian V. Schmelz presented a brief summary of the general activities of the Commission and described a typical monthly meeting.

Bicentennial Committee. John Favinger, Chairman, described recent activities of the committee and presented a number of suggestions for the Bicentennial as well as for the period leading up to the Academy Centennial in 1985.

Ad hoc Committee on Endangered Species and Flora Indiana Program. Theodore J. Crovello, Chairman, reviewed federal legislation on endangered plant species, suggested several possible future activities for the committee, and distributed a report proposing possible procedures for the Flora Indiana Program.

Motion: That the Executive Committee accept the Committee proposal to create a formal Flora Indiana Project, whose major purpose will be the continued maintenance and dissemination of information about the kind, quantity and distribution of the plant life of the State. The information accumulated would be maintained and disseminated in ways that are both convenient and efficient.
Seconded and *carried*.

Motion: That all committee reports presented be accepted.
Seconded and *carried*.

NEW BUSINESS

Benjamin Moulton presented the following:

Motion: That the Executive Committee authorize Dr. William Eberly of Manchester College to negotiate possible future publication of "Natural Features of Indiana" with the Executive Committee of Midland Naturalist, University of Notre Dame Press.
Seconded and *carried*.

Howard K. Youse presented the following:

Motion: That the Constitution of the Academy, ARTICLE VI, Sec. 4. The *Budget Committee* . . . be amended to add the following:
"(7) the chairman of the Academy Foundation committee."
Seconded and *carried*.

President Patton briefly reviewed the background of the amendments to the Constitution and By-Laws to be presented before the General Session for action.

Theodore J. Crovello presented the following:

Motion: That a resolution regarding virus Encephalitis in Indiana be accepted by the Executive Committee for presentation to the General Session of the Academy.
Seconded and *carried*.

Walter A. Cory requested that members of the Executive Committee furnish information, via forms provided, on persons responsible for disposal of hazardous chemical wastes at Indiana colleges, universities, and the larger high schools to the Department of Environmental Health and Safety at Indiana University.

Donald J. Cook, in behalf of the Membership Committee, presented the following:

Motion: That the Executive Committee be empowered to present for election as an Honorary Member of the Indiana Academy of Science the individual who has been elected to the Office of Governor of the State of Indiana. This election will be presented to the Academy membership at the first General Meeting following the Governor's election. In addition the name of the Governor will appear on the Title Page of *Part 1—The Work of the Academy*—in the

Proceedings for that year. His name will be listed under the name of the President of the Academy as an Honorary Member.

Carried.

Donald J. Cook, in behalf of the Membership Committee, presented the following:

Motion: That the Executive Committee present Governor Otis R. Bowen as an Honorary Member of the Indiana Academy of Science.

Carried.

The Chair was assumed by Damian V. Schmelz in order that President John B. Patton might present the following:

Motion: That the President of the Academy be empowered to appoint an historian and/or archivist for the Academy. Seconded. President Patton resumed the Chair for the ballot.

Carried.

Adjournment. The meeting was adjourned at 10:45 p.m.

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

MINUTES OF THE GENERAL SESSION

October 31, 1975

The Business Session of the 91st Annual Meeting of the Academy was called to order by President John B. Patton at 3:20 p.m. in Room 108, Gallahue Science Hall, Butler University, Indianapolis, Indiana.

Dr. Paul R. Stewart, Vice President of Academic Affairs, Butler University, welcomed the Academy on behalf of Butler University.

The Secretary of the Academy presented a summary of committee reports and informed the membership of official actions taken by the Executive Committee on April 25, 1975 and on October 30, 1975.

The names of individuals who were elected 1976 Divisional Chairmen and Chairmen-Elect includes:

ANTHROPOLOGY

Chairman: BENJAMIN K. SWARTZ
Chairman-Elect: EDWARD M. DOLAN

BOTANY

Chairman: ROGER F. BONEHAM
Chairman-Elect: GARY E. DOLPH

CELL BIOLOGY

Chairman: LEE F. ELLIS
Chairman-Elect: RALPH JERSILD, JR.

CHEMISTRY

Chairman: JOHN H. MEISER
Chairman-Elect: PANG-FAI MA

ECOLOGY

Chairman: JOHN O. WHITAKER, JR.
Chairman-Elect: THOMAS S. MCCOMISH

ENGINEERING

Chairman: ALDO GIORGINI
Chairman-Elect: MILTON E. HARR

ENTOMOLOGY

Chairman: VIRGIL R. KNAPP
Chairman-Elect: W. PATRICK MCCAFFERTY

GEOLOGY AND GEOGRAPHY

Chairman: NEIL V. WEBER
Chairman-Elect: MARK RESHKIN

HISTORY OF SCIENCE

Chairman: WILLIAM R. EBERLY
Chairman-Elect: GERTRUDE L. WARD

MICROBIOLOGY AND MOLECULAR BIOLOGY

Chairman: HAROLD EDDLEMAN
Chairman-Elect: DAVID C. MADSEN

PHYSICS

Chairman: ROBERT E. HALE
 Chairman-Elect: ELMER NUSSBAUM

PLANT TAXONOMY

Chairman: ORLAND J. BLANCHARD
 Chairman-Elect: VICTOR RIEMANSCHNEIDER

SCIENCE EDUCATION

Chairman: HAROLD H. JAUS
 Chairman-Elect: JON R. HENDRIX

SOIL AND ATMOSPHERIC SCIENCES

Chairman: HARRY M. GALLOWAY
 Chairman-Elect: LAWRENCE A. SCHAAL

ZOOLOGY

Chairman: THOMAS JOSEPH
 Chairman-Elect: JOHN O. WHITAKER, JR.

The Secretary then presented the following motions:

Motion: That the individuals who have applied for membership in the Academy be elected to the types of membership for which they have applied. Seconded and *carried*.

Motion: That the individuals recommended by the Emeritus Member Selection Committee and approved by the Executive Committee be elected to Emeritus Membership. *Carried*.

Motion: That the individuals recommended by the Fellows Committee and approved by the Executive Committee be elected as Fellows of the Academy. *Carried*.

Motion: That the individuals nominated by the Membership Committee and approved by the Executive Committee

Mr. Eli Lilly

Governor Otis R. Bowen

be elected to Honorary Membership in the Academy. *Carried*.

The Necrologist, Fay Daily, reported the deaths of four members: Murvel R. Garner, Francis C. Schmidt, Edward Kintner, and Frank M. Setzler.

A constitutional amendment concerning standing committees was discussed. This amendment was approved by the Executive Committee at the 1975 Spring Meeting.

Motion: That the Academy amend the constitution through addition of the following paragraphs at the end of ARTICLE V, Section 1: (15) Preservation of Natural Areas. The Committee on the Preservation of Natural Areas shall consist of nine members appointed for three-year rotating terms from the fields of Botany, Geology-Geography, and Zoology, and with as wide a geographic distribution in the State as practicable. This committee shall serve as a channel through which suggestions made by members as to the conservation and preservation of

natural areas may be referred to the Executive Committee in the form of recommendations.

(16) Emeritus Members. The Committee on Emeritus Members shall take steps to implement ARTICLE II, Section 4, by recommending members eligible for this status.

Seconded and *carried*.

An amendment to the By-Laws concerning distribution of PROCEEDINGS was discussed. This amendment was approved by the Executive Committee at the 1975 Spring Meeting.

Motion: That the Academy amend the By-Laws through the addition of the *italicized* words in the following ARTICLES:

ARTICLE I, Section 6. Each *senior and sustaining* member is entitled to one copy of the Proceedings of the Academy, and any other publications of the Academy distributed to the membership of the Academy, that are published in the year for which dues have been paid.

ARTICLE I, Section 7. Former *senior and sustaining* members who were dropped for non-payment of dues may obtain one copy of the Proceedings, or other publications, published in a year in which they were inactive by either of two methods, provided copies are still available:

- a. They may pay the reinstatement fee and dues for the year of years of interest.
- b. They may purchase one or more copies at the established nonmember price.

Seconded and *carried*.

William B. Hopp presented the report of the nominating committee and placed the following slate of candidates for 1976 in nomination:

President-Elect:	CLARENCE F. DINEEN, 1976
Treasurer:	STANLEY L. BURDEN, 1976, 77, 78
Bonding Committee:	EARL A. HOLMES, Chairman, 1976 ROBERT M. BROOKER, 1976
Academy Foundation Committee:	CLYDE R. METZ, 1976, 77
Research Grants Committee:	RALPH A. LLEWELLYN, 1976, 77, 78, 79, 80

The nominations were closed and a unanimous ballot was cast for the entire slate.

The Chairman of the Resolutions Committee, William A. Daily, presented the following two resolutions which were adopted by the assemblage:

I. WHEREAS:

During the past summer there was the worst epidemic of mosquito-borne encephalitis ever recorded in the United States.

The State of Indiana led the nation in cases per capita with nearly 300 confirmed cases of St. Louis Encephalitis plus many more suspect cases.

BE IT RESOLVED:

That research on mosquito-borne encephalitis in Indiana and on vector control under Indiana conditions should be undertaken and supported by public health agencies and universities in Indiana.

BE IT FURTHER RESOLVED:

That copies of this resolution should be sent to the Governor of Indiana, the State Board of Health and the Indiana Agricultural Experiment Station.

- II. That the Academy members here assembled express their appreciation to Dr. Alexander E. Jones, President of Butler University, for all the courtesies which have been extended the membership of the Academy during this meeting. We are particularly grateful to Professors Philip A. St. John and David W. Osgood, Co-Chairmen of the Program Committee for their fine work in the preparation of the program. The facilities for all programs at this annual meeting were excellent, especially in the new Gallahue Science Hall and Holcomb Research Institute. Further the Academy members are appreciative of the address of Dr. Harold G. Cassidy, Indiana Academy of Science Lecturer-of-the-Year.

Harry G. Day introduced the Speaker-of-the-Year, Dr. Harold G. Cassidy, who presented an interesting, humorous, and thought-provoking lecture entitled "The Ecology of Knowledge."

The meeting was recessed at 5:05 p.m. and was reconvened at 6:30 p.m. with Donald J. Cook presiding at the annual banquet held in the John Whistler Atherton Center.

The Presidential Address entitled ". . . Such Quantities of Sand" was presented by John B. Patton in Room 108 of Gallahue Science Hall. The profusely illustrated lecture was interesting, informative and enjoyable.

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

FINANCIAL REPORT
JANUARY 1-DECEMBER 31, 1975

I. ACADEMY ACCOUNTS

	Income	Budgeted	Expenditure	Budgeted
Dues	\$ 6,380.00	\$ 7,370.00		
Reprints: Vol. 82	65.35			
Vol. 83	2,678.03	3,000.00	\$ 2,616.45	\$ 2,750.00
Vol. 84	1,575.96		3,295.80	
Interest	958.49	1,100.00		
Miscellaneous	6.00			
Secretary			397.34	600.00
Treasurer			208.66	250.00
General Office			246.93	250.00
Travel, AAS Dues, etc.			216.80	225.00
Membership Committee			183.55	150.00
Transfer to Administered Accounts			3,800.00	3,800.00
Junior Academy (\$400.00)				
Science and Society (\$200.00)				
Natural Areas (\$0.00)				
Library Binding (\$1,000.00)				
Proceedings: Publication (\$1,500.00)				
Proceedings: Mailing (\$200.00)				
Publications: Clerical (\$500.00)				
President's Fund			0.00	100.00
Newsletter			296.35	550.00
Speaker of the Year Honorarium			500.00	500.00
Program Committee			991.58	1,000.00
Publication Editor's Expenses			500.00	500.00
Youth Activities			32.14	50.00
Biological Surveys Committee			0.00	50.00
Representative to AAAS Meeting			250.00	250.00
Public Relations			13.62	100.00
Section Chairman Expenses			11.50	150.00
CPA Fees for Tax Return Preparation			400.00	550.00
Lawyer's Fees			380.00	200.00
Miscellaneous			10.00	100.00
	\$11,663.83	\$11,470.00	\$14,350.72	\$12,125.00

II. ADMINISTERED ACCOUNTS

	January 1 Balance	1975 Income	1975 Expenditures	December 31 Balance
Junior Academy -----	\$ 447.28	\$ 400.00	\$ 634.36	\$ 212.92
Science Talent Search -----	2,342.25	2,134.86	2,161.73	2,315.38
Science and Society -----	1,415.62	200.00	43.00	1,572.62
Research -----	378.07	4,676.53	4,768.00	286.60
Natural Areas -----	1,026.50	0.00	0.00	1,026.50
J. S. Wright Library -----	134.28	0.00	0.00	134.28
Lilly III Library -----	2,632.76	0.00	0.00	2,632.76
Lilly V Library -----	4,873.20	0.00	360.00	4,513.20
Library Binding -----	22.20	1,000.00	1,026.65	—4.45
Science Fairs -----	0.00	100.00	100.00	0.00
Publications:				
Proceedings -----	1,146.42	21,804.00	22,801.59	148.83
Mailing of Proceedings -----	589.32	200.00	209.89	579.43
Monographs -----	993.02	260.50	0.00	1,253.52
Natural Features -----	0.00	0.00	0.00	0.00
Clerical -----	0.00	500.00	0.00	500.00
	<u>\$16,000.92</u>	<u>\$31,275.89</u>	<u>\$32,105.22</u>	<u>\$15,171.59</u>

III. SUMMARY

	Academy Accounts	Administered Accounts	Total
Balance: January 1, 1975 -----	\$ 9,353.25	\$16,000.92	\$25,354.17
1975 Income -----	11,663.83	31,275.89	42,939.72
1975 Expenditures -----	14,350.72	32,105.22	46,455.94
Balance: December 31, 1975 -----	6,666.36	15,171.59	21,837.95

IV. BANK BALANCES (December 31, 1975)

First Bank and Trust Company, Indianapolis, Indiana -----	\$ 6,972.92
Great Western Savings and Loan, Los Angeles, California --	5,259.64
First Western Savings and Loan, Las Vegas, Nevada -----	9,605.39
	<u>\$21,837.95</u>

V. SUMMARY OF TRUST FUNDS

A. Foundation Account (00430-00-0)			
Income cash balance (1/1/75) -----		\$ 110.92	
Total dividends and interest for 1975 -----		998.63	
Disbursements for 1975			
Research grants -----	\$ 300.00		
Transfer to principal cash -----	0.00		
	<u>\$ 300.00</u>		
			<u>-300.00</u>
Income cash balance (12/31/75) -----		\$ 809.55	\$ 809.55
Principal cash balance (1/1/75) -----		\$ 695.14	
Total receipts for 1975 -----		1,790.80	
Total disbursements for 1975 -----		<u>-2,000.00</u>	
Principal cash balance (12/31/75) -----		\$ 485.94	\$ 485.94
Market value of investments (12/31/75) --			\$18,269.75
Total value of account (12/31/75) -----			<u>\$19,565.24*</u>
*Carrying value is \$22,497.40			
B. John S. Wright Fund (00430-01-9)			
Income cash balance (1/1/75) -----		\$ 44.45	
Total dividends and interest for 1975 -----		15,798.72	
Disbursements for 1975			
INB fee -----	\$ 2,402.36		
Transfer to 00430-02-8 -----	10,753.30		
Transfer to Principal Cash -----	2,000.00		
	<u>\$15,155.66</u>		
			<u>-15,155.66</u>
Income cash balance (12/31/75) -----		\$ 687.51	\$ 687.51
Principal cash balance (1/1/75) -----		432.59	
Total receipts for 1975 -----		48,033.28	
Total disbursements for 1975 -----		<u>-47,634.10</u>	
Principal cash balance (12/31/75) -----		831.77	\$ 831.77
Market value of investments (12/31/75) ----			\$531,061.80
Total value of account (12/31/75) -----			<u>\$532,581.08*</u>
* Carrying value is \$333,411.65			
C. John S. Wright Invested Income Account (00430-02-8)			
Income cash balance (1/1/75) -----		\$ 386.77	
Total interest for 1975 -----		847.32	
Disbursements for 1975			
Transfers to principal -----	\$ 1,043.73		
	<u>\$ 1,043.73</u>		
			<u>-1,043.73</u>
Income cash balance (12/31/75) -----		190.36	\$ 190.36
Principal cash balance (1/1/75) -----		\$ 175.15	
Total receipts for 1975 -----		36,797.03	
Disbursements for 1975			
Purchase of investments -----	\$12,000.00		
Research grants -----	4,300.00		
Proceedings, vol. 83 -----	9,200.00		
vol. 84 -----	11,000.00		
	<u>\$36,500.00</u>		
			<u>-36,500.00</u>
Principal cash balance (12/31/75) -----		\$ 472.18	\$ 472.18
Market value of investments -----			4,000.00
Total value of account -----			<u>\$ 4,662.54</u>

VI. NOTES

Membership Dues:

According to the Treasurer's records, the current status may be summarized as follows:

- 998 paid (71 student, 549 member, 17 family member, 245 senior member, 13 senior family member, 5 sustaining member, 1 sustaining family member), life (4), honorary (4), emeritus (75) and club (14) members
- 175 on file from 1974, but not yet paid for 1975
- 89 new members for 1975 (included in above totals)
- 23 previous members reinstated during 1975 (included in above totals)
- 98 members and clubs dropped for nonpayment of 1974 dues

Dues Structure for 1975:

- \$ 2.00 for student memberships
- 5.00 for memberships and club memberships
- 10.00 for senior memberships
- 25.00 for sustaining memberships
- 2.00 additional for family memberships
- 300.00 for life memberships
- 150.00-500.00 corporate memberships
- 50.00-100.00 institutional memberships
- 1.00 initiation/reinstatement fee (\$2.00 for family membership)

Savings:

The treasurer, from the total assets of both Academy and Administered accounts, has maintained sufficient funds in the checking account to pay current bills throughout the year; the remaining funds have been invested in savings certificates.

Certificates redeemed in 1975

1. (GWSL) \$5,000.00 invested at 6.00% April 1973; April 1975 redemption value \$5,636.49.
2. (GWSL) \$7,000.00 invested at 6.00% April 1973; April 1975 redemption value \$7,892.45.
3. (FWSL) \$2,000.00 invested at 6.50% April 1974; April 1975 redemption value \$2,126.26.

Certificates current

1. (GWSL) \$5,000.00 invested at 6.75% April 1975; 31 December value \$5,259.64; maturity at October 1977.
2. (FWSL) \$3,000.00 invested at 6.75% April 1974; 31 December value \$3,361.68; maturity at October 1976.
3. (FWSL) \$2,000.00 invested at 6.50% April 1975; 31 December value \$2,100.43; maturity at April 1976.
4. (FWSL) \$1,000.00 invested at 6.50% June 1975; 31 December value \$1,035.82; maturity at June 1976.
5. (FWSL) \$1,000.00 invested at 6.50% June 1975; 31 December value \$1,035.82; maturity at June 1976.
6. (FWSL) \$1,000.00 invested at 6.50% June 1975; 31 December value \$1,035.82; maturity at June 1976.
7. (FWSL) \$1,000.00 invested at 6.50% June 1975; 31 December value \$1,035.82; maturity at June 1976.

Reprints:

Reprint charges to authors for Vol. 82 have been collected giving a net profit to the Academy of \$100.83 in excess of printing costs. Reprint charges to authors for Vol. 83 are being collected with 1 billing outstanding for \$61.55 giving a net profit to the Academy of \$123.13 in excess of printing costs. Reprint charges to authors for Vol. 84 are being collected with 22 billings outstanding for a total of \$1,981.82 giving a net profit to the Academy (1975 and 1976) of \$261.98 in excess of printing costs.

Attorney Fees:

Ice, Miller, Donadio & Ryan of Indianapolis have been advising the Academy in matters concerning the reprinting and roles of various publications. The executive committee voted at the Fall Meeting of 1973 to delay the transferring of \$4,226.87 for attorney fees concerning the tax classification problems to the Academy operating funds from the J. S. Wright fund until these funds are needed for operating expenses.

Publications:

Sales include \$104.00 for *Proceedings* and \$260.50 for Monographs. The actual cost for publishing Vol. 83 of the *Proceedings* was \$11,478.66 of which the State of Indiana paid \$1,200.00 leaving a balance of \$10,278.66 to be paid from Academy funds. The actual cost for publishing Vol. 84 of the *Proceedings* was \$13,722.93 of which the State of Indiana paid \$1,200.00 leaving a balance of \$12,522.93 to be paid from Academy funds.

Research Grants:

Funds totalling \$4,768.00 have been awarded to D. F. Brakke (Zoology-IU), C. B. Douglass (Biology-PU), B. A. Fields (Anthropology-IU), L. R. Ganion (Physiology-BSU), J. B. G. Droessler (Anthropology-IU), J. E. Oliver (Geography-ISU), C. Olsen (Geology-IU), A. O. Priebe (Plant Sciences-IU), A. Ravindran (Industrial Engineering-PU), D. M. Sever (Biology-SMC), R. E. Siverly (Physiology-BSU), J. C. Tan (Biology-VU), and Madison High School of Ramsey (Bacteriology).

VII. BUDGET FOR 1976

The following budget was approved by the Budget Committee at their meeting at the Indiana State Library, Indianapolis, on December 13, 1975:

Academy Accounts**Anticipated Income**

Dues, Initiation and Reinstatement Fees (100 @ \$2, 650 @ \$5, 250 @ \$10, 75 @ 0) -----	\$ 5,950.00
Interest on Savings -----	1,100.00
Reprint Charges to Authors -----	3,300.00
	\$10,350.00

Budgeted Expenditures

Secretary -----	\$ 500.00
Treasurer -----	400.00
General Office -----	250.00
Officer Travel, AAAS Dues -----	225.00
Membership Committee -----	200.00
President's Contingency Fund -----	100.00
Newsletter -----	500.00
Speaker of the Year Honorarium -----	500.00
Program Committee -----	1,000.00
Publication Editor's Expenses -----	500.00
Youth Activities Committee -----	50.00
Biological Surveys Committee (including Endangered Plant Species and Flora Indiana Project Committees) -----	150.00
Representative to AAAS Meeting -----	300.00
Reprint Charges to Academy -----	3,000.00
Public Relations -----	100.00
Section Chairmen Expenses -----	150.00
CPA Fees for Tax Return Preparation -----	500.00
Lawyer's Fees -----	250.00
Miscellaneous -----	100.00
Transfers to Administered Accounts -----	2,750.00
Junior Academy -----	\$ 300.00
Science and Society Committee -----	1,000.00
Natural Areas Committee -----	-500.00

Library Binding -----	1,000.00	
Proceedings: Publication -----	750.00	
Proceedings: Mailing -----	200.00	
		\$11,525.00
Endowment Funds		
Anticipated Income		
IAS Foundation -----		\$ 300.00
J. S. Wright Investment Income -----		15,500.00
		\$15,800.00
Budgeted Expenditures		
Bank Fee -----		\$ 2,700.00
Research Grants (\$6,000-\$350 AAAS) -----		5,650.00
Publications		
Proceedings, Vol. 85 (\$12,000-\$8,000 Ind		
—\$750 transfer) -----		3,250.00
Monograph #4 (\$12,000-\$1,500 Wright		
balance from 1975-\$1,200 sales) -----		(9,300.00)*
		\$11,600.00*
*Suggest waiting until later 1977 for more Wright balance, sales, etc. to justify this.		
Restricted Accounts		
Anticipated Income		
Research Grants Committee (AAAS) -----		\$ 350.00 (part)
Science Talent Search (Tri Kappa) -----		2,000.00
Publications -----		
Proceedings -----	\$ 50.00	
Monographs and Nat Feat -----	250.00	
		\$ 2,650.00
Budgeted Expenditures		
Research Grants Committee -----		\$ 350.00 (part)
Science Talent Search -----		2,000.00
Publications -----		
Proceedings -----	\$ 50.00 (part)	
Monographs -----	250.00 (part)	
		\$ 2,650.00

Respectfully submitted,
Clyde Metz, Treasurer

We, the undersigned, have audited the Treasurer's records for the Indiana Academy of Science for the year 1975 and have found them to be accurate and in order.

Curtis A. Dhonau
Thomas E. Mouzin

THE INDIANA JUNIOR ACADEMY OF SCIENCE

43rd Annual Meeting, October 31, 1975

MR. LAWRENCE E. POORMAN—Director—Department of Physics, Indiana State University, Terre Haute, IN.

MR. RAY LICHTENHAN—Student Director, Indiana University, Bloomington, IN.

COUNCIL—REGIONAL DIRECTORS

- Region I — Dr. M. Pettersen, Morton High School, Hammond
Region II — Mr. Keith Hunnings, New Haven High School, New Haven
Region III — Vacant
Region IV — Dr. Keith Ault, Ball State University, Muncie
Region V — Mr. Stephen Thompson, Crawfordsville High School, Crawfordsville
Region VI — Vacant
Region VII — Mr. James Schwengel, Harrison High School, Evansville
Region VIII — Dr. John Moody, Indiana University—Southeast, New Albany

OFFICERS:

President—Mr. Brian McElwee, Marquette High School, Michigan City

Secretary—Mr. Bruce Robinson, Crawfordsville High School, Crawfordsville

The 43rd annual meeting of the Indiana Junior Academy of Science convened at 9:00 A.M., October 31, 1975, on the 3rd floor of the Holcomb Research Institute, Butler University. President Laura Fisher presided. An election of officers procedure was described by President Fisher since this was the first election following the adoption of the constitution. After discussion, nominees for president-elect and secretary-elect were named.

The Director made several announcements and welcomed over 90 students and sponsors to the annual meeting.

President Fisher then conducted an installation ceremony for President Brian McElwee and Secretary Bruce Robinson. President McElwee then presided over the paper presentations.

During lunch, the candidates-elect for offices in 1976 campaigned among conferees. After lunch, President McElwee conducted the election. Results were:

President-Elect: George Jones, Paoli High School, Paoli

Secretary-Elect: Cheryl Pauer, Morton High School, Hammond

Three Outstanding Junior Scientists were named. These young scientists will receive a one-year membership in the American Association for the Advancement of Science including a one-year subscription to *Science* the AAAS official journal.

OUTSTANDING JUNIOR SCIENTISTS

Lori Rhodes, East Noble High School, Kendallville

Stephen Budak, Marquette High School, Michigan City

Cassius Scott, Marquette High School, Michigan City

Due to a truly outstanding group of papers presented, a team of external judges will read papers presented and evaluate their merit along guidelines specified by the council. These evaluations, plus evaluations of adults present during the presentations will be decisive in selecting the presenter who will represent the Indiana Junior Academy of Science at the American Junior Academy of Science meeting in Boston in February, 1976.

Schools represented at the 43rd annual meeting were:

Paoli High School, Paoli

Crawfordsville High School, Crawfordsville

Floyd Central High School, New Albany

Marquette High School, Michigan City

North Harrison High School, Ramsey

East Noble High School, Kendallville

New Haven High School, New Haven

Carmel High School, Carmel

Morton High School, Hammond

There were ninety students, eleven sponsors, one parent, three college students, three council members, the Youth Activities Committee Director, the Science Talent Search Director and the State Director in attendance at the 43rd annual meeting.

Respectfully submitted,

LAWRENCE E. POORMAN, Director
Indiana Junior Academy of Science

Paper Presenters and Paper Titles Delivered at the 43rd Annual Meeting of The Indiana Junior Academy of Science, October 31, 1975.

Presenters	Title
1. Melinda Boyd (Junior) North Harrison High School Ramsey, IN (Sponsor: Tom Book) R.R. No. 3, Box 479 Corydon, IN 47112	Determining Relative Effectiveness of Various Bacteriostatic Agents on Salmonella, Staphylococcus and Lactobacillus
2. Stephen Budak (Senior) Marquette High School Michigan City, IN 46360 (Sponsor: Dean Christakis) 326 Barker Road Michigan City, IN 46360	The Development of a New Cell Line: Microsurgical Fusion and Nuclear Transplantation of Normal Neoplastic Homokaryonic and Heterokaryonic Neuroblast Cells and the Systematic Analysis of the Fate of Bicellular Hybrids

- | Presenters | Title |
|---|---|
| 3. George Jones (Senior)
Paoli Jr.-Sr. High School
Paoli, IN
(Sponsor: Tom Anderson)
R.R. No. 1
Paoli, IN | An Analysis of Coliform Bacteria
at Five Selected Tributary Inlets
Along the Patoka River |
| 4. Timothy Piper (Senior)
Marquette High School
Michigan City, IN 46360
(Sponsor: Dean Christakis)
106 Western Avenue
Michigan City, IN 46360 | New Concept on the Biochemical Co-
ordination of the Murine Sarcoma
C-type RNA Tumor Virus: Anti-
viral Potential Anti-cancer Activity
of a Double Stranded, Poly A•Poly
U, Versus a Triple Stranded, Poly
A•Poly U•Poly U Polyribonucleo-
tide, by Intramolecular Bonding |
| 5. Lori Rhodes** (Junior)
East Noble High School
Kendallville, IN
(Sponsor: Virginia Rhodes)
Country Club Hills
Kendallville, IN 46755 | Antibiotics From Soil Microorgan-
isms: Isolation, Extraction, and Pur-
ification |
| 6. Cassius Scott*** (Senior)
Marquette High School
Michigan City, IN 46360
(Sponsor: Dean Christakis)
2821 Tilden Avenue
Michigan City, IN 46360 | In Vitro Immunization of Mouse
Spleen Cells and the Immunological
Roles of Interferon and Satellite
DNA: A Correlation Between Anti-
body Acceleration or Inhibition and
Cellular Cyclic AMP Levels Using
a Competitive Binding Protein |
| 7. Joseph Greer (Junior)
Morton High School
Hammond, IN
(Sponsor: Mary Pettersen) | The Isolation and Identification of
the Anaerobic Bacteria Clostridia
From Soil and Fecal Samples |
| 8. Teresa Bruner (Sophomore)
Paoli Jr.-Sr. High School
Paoli, IN
(Sponsor: Carroll Ritter)
R.R. No. 1
Orleans, IN | A Comparative Study of the Accu-
racy of the Daily Weather Forecast
Versus Predictions of the Farmer's
Almanac |
| 9. Barry Taylor (Senior)
New Haven High School
New Haven, IN
(Sponsor: Keith Hunnings)
4418 Sunrose Lane
New Haven, IN | Applying the "Diagonal Method" to
nth Order Determinants |

10. William Shaw (Senior) Studies in Galaxy Photography
Crawfordsville High School
Crawfordsville, IN
(Sponsor: Stephen Thompson)
2 Eastgate Drive
Crawfordsville, IN 47933
11. Mary C. Wombles* (Junior) Pollutants in Aggregate: Thermal
Floyd Central High School and Metallic Pollution As It Relates
Rt. 2, New Albany, IN 47150 to the Quality of Life of Selected
(Sponsor: Ray Weatherholt) Invertebrates
Rt. 2, Box 445G
New Albany, IN 47150

* Best paper award.

** 1st runner-up.

*** 2nd runner-up.

Nominations for Outstanding Junior Scientists Included:

- | | |
|-------------------|------------------------------|
| *1. Stephen Budak | 5. Mary Jo DeLong (Senior) |
| 2. Timothy Piper | R.R. 2, Paoli, IN 47454 |
| *3. Lori Rhodes | 6. Steven B. Barger (Senior) |
| *4. Cassius Scott | R.R. No. 1, Box 203-A |
| | Floyds Knobs, IN 47119 |

1975 Officers:

President—Brian McElwee (Senior), Marquette High School, Michigan City, IN

Secretary—Bruce Robinson (Junior), Crawfordsville High School, Crawfordsville, IN

1976 Officers:

President—George Jones

Secretary—Cheryl Pouer, Morton High School, Hammond, IN

BIOLOGICAL SURVEY COMMITTEE REPORT—1974-1975

JACK R. MUNSEE, Chairman, Indiana State University

MORRIS LEVY
Purdue University

DAVID S. WOODRUFF
Purdue University

GAYTON C. MARKS
Valparaiso University

WILLARD F. YATES
Butler University

VICTOR RIEMENSCHNEIDER
Indiana University, South Bend

FRANK N. YOUNG
Indiana University

J. W. REISING
Indiana State University
Evansville

(A, B, or C accompanying title refers to: Publication; Thesis on file; or Work in progress, respectively.)

- Biota: CRISMAN, T. L., and D. R. WHITEHEAD. 1975. Environmental history of Hovey Lake, southwestern Indiana. *Amer. Midl. Nat.* 93 (1):198-205. (A).
- Fungi: 1. ATHOW, K. L., F. A. LAVIOLETTE, and T. S. ABNEY. 1974. Reaction of soybean germplasm strains to four physiologic races of *Phytophthora megasperma* var. *sojae*. *Plant Dis. Repr.* 58:789-792. (A).
2. HASSELBRING, T. S., M. R. TANSEY, and M. A. JACK. 1975. Fungi associated with growing stalactites. *Mycologia* 67:171-172. (Indiana caves). (A).
3. HENNEN, JOE F. Purdue Univ. Uredinales of Indiana. (C).
4. WILCOX, J. R., F. A. LAVIOLETTE, and K. L. ATHOW. 1974. Deterioration of soybean seed quality associated with delayed harvest. *Plant Dis. Repr.* 58:130-133. (A).
- Algae: 1. BROOKS, A. E., and W. N. DOEMEL. 1975. The effects of a fluorescent whitening agent on the green alga, *Cosmarium*. *Proc. XII. Int. Bot. Congr. (Leningrad)*. In press. Abstr. (A).
- *2. BROOKS, A. E., and W. N. DOEMEL. 1973. The effect of sewage phosphorus reduction on algal growth potential of lake waters. *Proc. Indiana Acad. Sci.* 82:99. Abstr. (A).
3. DENNER, M., and J. REISING. Indiana State Univ., Evansville. Algal survey, ponds and lakes, Vanderburgh County, Indiana. (C).
- *4. DOEMEL, WILLIAM N., and AUSTIN E. BROOKS. 1973. A new algal assay to determine the growth potential of phosphorus containing natural waters. *Proc. Indiana Acad. Sci.* 82:98-99. Abstr. (A).
5. DOEMEL, W. N., and A. E. BROOKS. 1975. Detergent phosphorus and algal growth. *Water Res.* 9:713-719. (A).
- Tracheophyta: 1. BURGETTE, DANIEL L. 1975. Vegetational analysis of Portland Arch Nature Preserve, Fountain County, Indiana; comparing the Ohmann-Ream Method with Stratum Ranking. M.S. Thesis, Purdue Univ. 204 pp. (B).
2. JACKSON, M. T., and W. B. BARNES. 1975. Analysis of two old-growth forests on poorly-drained Clermont soils in Jennings County, Indiana. *Proc. Indiana Acad. Sci.* 84:222-233. (A).
3. LEVY M., and D. A. LEVIN. 1975. Genetic heterozygosity and variation in permanent translocation heterozygotes of the *Oenothera biennis* complex. *Genetics* 79:493-512. (A).

4. LEVY, M., and D. A. LEVIN. 1974. Novel flavonoids and reticulate evolution in the *Phlox pilosa*-*P. drummondii* complex. Amer. J. Bot. 61:156-167. (A).
5. LEVY, M., E. E. STEINER, and D. A. LEVIN. 1975. Allozyme genetics in permanent translocation heterozygotes of the *Oenothera biennis* complex. Biochem. Genetics 13:487-500. (A).
- *6. LINDSEY, A. A. 1973. Tornado tracks in the presettlement forests of Indiana. Proc. Indiana Acad. Sci. 82:181. Abstr. (A).
7. MARKS, GAYTON C. 1974. New county records for Porter and LaPorte Counties. Proc. Indiana Acad. Sci. 84:427. Abstr. (A).
8. RIEMENSCHNEIDER, VICTOR. Indiana Univ., So. Bend. The vascular flora of the Swamp Rose Nature Preserve, St. Joseph County, Indiana. (C).
9. SCHMELZ, D. V., J. D. BARTON, and A. A. LINDSEY. 1975. Donaldson's Woods: Two decades of change. Proc. Indiana Acad. Sci. 84:234-243. (A).
10. VON CULIN, H. J., and A. A. LINDSEY. 1975. Floristic change in the Ross Biological Reserve, 1950-1971. Proc. Indiana Acad. Sci. 84:216-221. (A).
- *11. VON CULIN, H. J., and A. A. LINDSEY. 1973. Two decades of vegetational change in the Ross Biological Reserve. Proc. Indiana Acad. Sci. 82:189-197. (A).

Protozoa:

1. GRIMES, G. W. 1975. Morphological discontinuity of kinetosomes during the life cycle of *Oxytricha fallax*. J. Cell Biol. 57:229-232. (A).
2. JOSEPH, THOMAS. 1974. *Eimeria indianensis* sp. n., and an *Isospora* sp., from the opossum, *Didelphis virginiana* (Kerr). J. Protozool. 21:12-15. (A).
3. JOSEPH, THOMAS. 1975. Experimental transmission of *Eimeria confusa* Joseph, 1969, to the fox squirrel. J. Wildlife Dis. 11:402-403. (A).
4. SONNEBORN, T. M. 1975. *Paramecium aurelia*. In Handbook of Genetics, Chap. 20:469-594. R. King, Ed. Plenum Press. N. Y. (A).
5. TAMAR, H. 1975. Movements of saltatory ciliates. J. Protozool. 22(3):45A (August). Abstr. (A).
6. TAMM, S. L., T. M. SONNEBORN, and R. V. DIPPELL. 1975. The role of cortical orientation in the control of the direction of ciliary beat in *Paramecium*. J. Cell Biol. 64:98-112. (A).

Platyhelminthes:

- JOSEPH, THOMAS. 1974. *Hymenolepis diminuta* in a gray squirrel from Indiana. J. Wildlife Dis. 10:164-165. (A).

Nematoda:

- *1. FERRIS, V. R., J. M. FERRIS, and C. A. CALLAHAN. 1972. Nematode community structure a tool for evaluating water resource environments. Purdue Univ. Water Res. Research Center Tech. Rept. 30. 40 pp. (A).
2. GOSECO, C. G., V. R. FERRIS, and J. M. FERRIS. 1974. Revisions in Leptonchoidea (Nematoda: Dorylaimida). *Leptonchus*, *Proleptonchus*, *Funaria*, and *Meylis* n. gen. in Leptonchidae, Leptonchinae. Purdue Univ. Agr. Exp. Sta. Res. Bul. 911. 32 pp. (A).
3. GOSECO, G. C., V. R. FERRIS, and J. M. FERRIS. 1974. Revisions in Leptonchoidea (Nematoda: Dorylaimida). *Tyleptus* in Leptonchidae, Tyleptinae; *Basirotyleptus* in Leptonchidae, Belonenchinae; and *Loncharionema* n. gen. in Leptonchidae, Xiphinemellinae. Purdue Univ. Agr. Exp. Sta. Res. Bul. 913. 25 pp. (A).
- *4. JOHNSON, S. R., V. R. FERRIS, and J. M. FERRIS. 1972. Nematode community structure of forest woodlots. I. Relationships based on similarity coefficients of nematode species. J. Nematol. 4:175-183. (A).

- *5. TJEPEKEMA, J. P., V. R. FERRIS, and J. M. FERRIS. 1971. Review of the genus *Aporclaimellus* Heyns, 1965 and six species groups of the genus *Eudorylaimus* Andrassy, 1959 (Nematoda: Dorylaimida). Purdue Univ. Agr. Exp. Sta. Res. Bul. 882. 52 pp. (A).
- Arthropoda:
1. KEITH, JAMES H. 1975. Climatic and biotic studies of a terrestrial cave ecosystem in Indiana. Cave Res. Found. 1974 Annual Rep. 50-52. Abstr. (A).
 2. KEITH, JAMES H. 1975. Population and behavioral studies of a troglobitic isopod, *Asellus jordanii*, in a groundwater environment. Cave Res. Found. 1974 Annual Rep. 48. Abstr. (A).
 3. SCHMIDT, N. DAVID. Indiana Univ., Ft. Wayne. Soil arthropod community dynamics in three different successional communities. (C).
- Insecta:
1. BAKER, N. T., and R. L. FISCHER. 1975. A taxonomic and ecologic study of the Asilidae of Michigan. Great Lakes Ent. 8(2):31-91. illus. (A).
 2. BURTON, JOHN S. 1975. The deer flies of Indiana (Diptera: Tabanidae: *Chrysops*). Great Lakes Ent. 8(1):1-29. illus. (A).
 3. HILSENHOFF, W. L. 1975. Notes on nearctic *Acilius* (Dytiscidae), with description of a new species. Ann. Ent. Soc. Amer. 68(2):271-274. 3 figs. (A).
 4. HUFF, B. L. JR., and W. P. MCCAFFERTY. 1974. Parthenogenesis and reproductive biology in four species of the mayfly genus *Stenonema*. Wasmann J. Biol. 32:247-254. (A).
 - *5. KREKLER, CARL H. 1973. Cave beetles of the genus *Pseudanophthalmus* (Coleoptera, Carabidae) from the Kentucky Bluegrass and vicinity. Fieldiana (Zoology) 62:35-83. (A).
 6. MCCAFFERTY, W. P. 1975. Institutional insect collections in Indiana. Proc. Indiana Acad. Sci. 84:294-306. (A).
 7. MCCAFFERTY, W. P., and B. L. HUFF, JR. 1974. Parthenogenesis in the mayfly *Stenonema femoratum* (Say) (Ephemeroptera: Heptageniidae). Entomol. News. 85:76-80. (A).
 8. MCCAFFERTY, W. P., and A. V. PROVONSHA. 1975. Reinstatement and biosystematics of *Heterocloeon* McDunnough (Ephemeroptera: Baetidae). J. Georgia Entomol. Soc. 10:123-127. (A).
 9. STEIN, J. L., and W. P. MCCAFFERTY. 1975. Diagnostic tables to the long-horned grasshoppers and crickets of Indiana. (Orthoptera: Ensifera). Purdue Univ. Agr. Exp. Sta. Res. Bull. No. 921:1-20. (A).
- Pisces:
1. KARR, JAMES R. and O. T. GORMAN. 1975. Effects of land treatment on the aquatic environment. USEPA Special Publication on Non-Point Source Pollution. 31 pp. In press. (A).
 2. KARR, JAMES R. 1975. Stream basin and terrestrial environment factors in fish community structure. IN: Environmental Impact of Land Use on Water Quality: A Progress Report. USEPA-90519-75-006, pp. 47-61. (A).
 3. WILLEY, R. G., M. J. DOSKOCIL, and C. A. LEMBI. 1974. Potential of the White Amur (*Ctenopharyngodon idella* Val.) as a biological control for aquatic weeds in Indiana. Proc. Indiana Acad. Sci. 83:173-178. (A).
- Amphibia:
- JONES, G. S., and F. W. ZEIGLER. 1975. Salamanders (*Plethodon cinereus* and *P. glutinosus*) on a strip mine in west central Indiana. Indiana Audubon Quart. 53:8-10. (A).
- Aves:
1. MELCHORS, M. A. 1975. Migration and feeding behavior of non-hunted and hunted geese on the Jasper-Pulaski Goose Management Zone. Master's Thesis. Purdue Univ. 138 pp. (B).

2. MUMFORD, R. E., and C. R. DANNER. 1975. An Indiana marsh hawk roost. *Indiana Audubon Quart.* 52:96-98. (A).

Mammalia:

1. FISHER, J. L. 1975. A direction photocell technique to monitor activity of volant vertebrates. *Proc. Indiana Acad. Sci.* 85. In press. (A).
2. JONES, G. S., and J. O. WHITAKER, JR. 1975. The fauna of a hibernation nest of a meadow jumping mouse, *Zapus hudsonius*. *Canad. Field-Nat.* In press. (A).
3. TAVES, DAN R. Indiana Univ., Ft. Wayne. Effect of accelerated daylength on timing of estrous, ovulation, and embryonic development in *Peromyscus leucopus*. (C).

Plant Pathology:

- PECKNOLD, PAUL C., WALTER R. STEVENSON, and DONALD H. SCOTT. 1974. A compilation of plant diseases and disorders in Indiana—1974. *Proc. Indiana Acad. Sci.* 84:71-84. (A).

* Off-year publication.

NECROLOGY

FAY KENOYER DAILY, Butler University

EDWARD KINTNER

Ney, Ohio
July 1, 1879

Elkhart, Indiana
April 1, 1975

A man of many talents, Dr. Edward Kintner, died April 1, 1975, in a hospital in Elkhart, Indiana. He had resided at the Peabody Home near North Manchester and was retired from Manchester College where he had been head of the Biology Department.

Dr. Kintner was born at Ney, Ohio, July 1, 1879. His formal education was delayed until he was ten years old, but he was tutored by his parents at home and had already completed the fifth reader when he started to school at Ney. Although his interests were wide, he had a special interest in natural science from grade school days and became interested in aquatic life through articles in a farm journal called *The Western Rural*. He was later to write articles on fresh water sponges and spiders found particularly over and near water.

He attended high school at Ney, Ohio, and walked three miles to school. He received an A.B. degree from Manchester College in 1912 and an honorary Sc.D. degree in 1938. He received an A.M. from Ohio State University in 1914 and spent summers at Indiana University in 1924, 1925, 1933 and 1934.

In 1898, he started teaching at 19 years of age in a one-room school south of Sherwood, Ohio, at \$35.00 a month. He taught in grade and high schools in Ohio until 1909 when he came to Indiana to Manchester College. From 1912 to 1950, he taught a wide variety of science courses at Manchester College and many consider him the father of the science program at that college. He also became a minister in 1900 and elder to the Church of the Brethren. He served in a number of churches in Indiana and Ohio. In 1965, Manchester College recognized Dr. Kintner's high achievements by naming a campus science building after him and one of his students Dr. Carl W. Holl. He was secretary of the faculty from 1920 to 1949 and member of the executive board from 1927 to 1942. He was also visiting professor at other universities and after retiring from Manchester at age 71, he taught at Indiana Univer-

sity Center at Fort Wayne, Indiana, for 12 more years finally retiring in 1963.

Dr. Kintner was married in 1903, and he and his wife, Glada, raised eight children. Remarkably, all seven sons became doctors while the daughter became a dietician. A tribute was paid to Dr. and Mrs. Kintner on their 65th wedding anniversary: "To live to an old age and to be married sixty-five years is not necessarily an accomplishment of one's own doing. However, to be companions in the teaching profession for sixty-five years, companions in the church ministry sixty-five years, and companions in the raising of a family of doctors is an accomplishment for which a married couple can be justly proud. This has been the fruitful life of Edward and Glada Kintner." (*Manchester College Bul.* 63(3):3, Dec. 1971.)

Dr. Kintner joined the Indiana Academy of Science in 1926, was honored as Fellow in 1932 and was an Emeritus member at death. He was very active in the society and served as vice-president in 1936. He served on the Membership Committee (1930's, 1950's). He was also Program Chairman in 1937, on the Invitations Committee as chairman and member, Junior Academy of Science Committee member, and was Divisional Chairman of Entomology for 1949. He gave papers at the meetings on spiders of the genus *Tetragnatha*, Indiana fresh-water sponges and notes on unearthing parts of a *Mastodon* skeleton near Peru, Indiana. He was also a member of the American Association for the Advancement of Science. Biographic sketches about him appeared in *American Men of Science*, *Indiana Scientists*, *History of the Church of the Brethren* (Indiana, 1952, pp. 346-347), *Alumni Edition of the Manchester College Bulletin* (May, 1960, p. 5), and was the subject of articles in the *Manchester College Bulletin* (V. 61, No. 2 and V. 64, No. 3).

Dr. Kintner was 95 years old when he died after many years of distinguished service to Manchester College and his ministry. A colleague wrote, "After such a lifetime of teaching and preaching, one which could have inspired both deep affection and widespread admiration, Dr. Kintner's family—blood and spiritual—must be quite a bit bigger than anyone suspects."

FRANK M (ARYK) SETZLER

Fremont, Ohio
September 21, 1902

Culver, Indiana
February 13, 1975

Dr. Frank M. Setzler died unexpectedly February 13, 1975, in his home in Culver, Indiana, on Lake Maxinkuckee. He had taken a walk that morning on the ice of the lake to view the local winter fishing situation, but returned home complaining of shortness of breath and soon died. His last act concerned his chief hobby, fishing, which he enjoyed very much accompanied by several close companions.

Dr. Setzler was a noted anthropologist and archeologist who had become Head Curator in the Anthropological Department at the Smithsonian Institution before retirement in 1960.

He was born at Fremont, Ohio, September 21, 1902, attending grade and secondary schools there. He left high school during the war years to work at the Union Carbon and Carbide plant laboratory in Fremont. When the plant was transferred to Cleveland, he returned to school in Fremont. In 1924, he went to Ohio State University to pursue a chemical engineering course, but the necessity for a summer job led him to apply for archeological excavation under Dr. Harry Shetrone's supervision. This interest finally superseded his interest in engineering and led to a career in archeology and anthropology. He retained a lasting interest from early study of Ohio mounds and the Hopewell Indian culture. He was assistant field director with the Ohio State Historical Society from 1925 to 1927. He transferred to the University of Chicago and received a Ph. B. degree in Anthropology in 1928, continuing graduate work there. In the summers of 1928 to 1930, he was field director for the Indiana Archeological Survey. He received an honorary Doctor of Science degree from Indiana University in 1971 for his early archeological work in Indiana as well as other expeditions. He studied the Adena culture exhibited in the Whitewater River Region.

He was assistant curator in the Division of Archeology at the U. S. National Museum from 1930 to 1935; acting head curator in the Department of Anthropology 1935 to 1937; and head curator 1937 to 1960 when he retired. He published many articles in the Indiana Historical Society publication, Smithsonian Institution bulletins, *American Anthropologist* and *American Physical Anthropologist*. Additional responsibilities included leading the Smithsonian Institution archeological expeditions to the southwest and Texas from 1931 to 1933 and to Louisiana from 1932 to 1933. He was also deputy leader of the joint Smithsonian Institution, National Geographic Society and Australian government Arnheim Land expedition in 1948. The participating scientists were of several disciplines and studied the lives and culture of the aborigines. Dr. Setzler was awarded the Franklin L. Burr prize by the National Geographic Society in 1950 for his part in this successful study. In other activities, he was a member of the advisory board and later the council of the National Parks Service.

In the latter capacity, he had gone on a field trip shortly before his death. He was a member of the National Resources planning board; anthropological representative on the National Research Council, vice-chairman of the division of anthropology and psychology; American Scientific Council; and Smithsonian Institution delegate to the American Science Congress in 1940. He also held a position with the Southeast Museum of North American Indians and was chairman of the board of directors of the Marshall County Historical Society.

Dr. Setzler joined the Indiana Academy of Science in 1929 while with the Indiana Archeological Survey and was an Emeritus member when he died. He also belonged to the A.A.A.S. (fellow), Anthropological Association (councilor and secretary), Society of American Archeology (councilor), Washington Academy of Science (vice-president and secretary), Anthropological Society of Washington (secretary and president), Sigma Xi, American Council of Learned Societies, Lions Club (Culver, Indiana) and Cosmos Club of Washington. He is listed in *Who's Who in the Midwest*, *Who's Who*, *American Men of Science* and *Directory of American Scholars*.

At retirement, Dr. Setzler and his wife built a home on Lake Maxinkuckee at Culver, Indiana, where Dr. Setzler entered local church and civic activities with his usual enthusiasm. He was often the speaker at events throughout the area drawing on his wide and various experiences for material. He also kept active in national affairs, serving as a member of the Beautification Program launched by Ladybird Johnson. He accompanied her on trips throughout the United States promoting this project. It was, then, a great shock to the Culver Community when death suddenly claimed this energetic man last February.

NEW MEMBERS—INDIANA ACADEMY OF SCIENCE—1975

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- DR. JAMES STREATOR, Department of Chemistry, Manchester College, N. Manchester, IN 46962 CLD
- MR. VERNON SWEENEY, Box 72, Geology Building, Indiana University, Bloomington, IN 47401 GAH
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