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Tri-State University  
Angola, Indiana 46703
- JOHN V. DAVIS, Director,  
Northern Regional Science Fair . . . . . South Bend Community Schools  
635 South Main Street  
South Bend, Indiana 46601
- ROBERT HAWTHORNE, Director,  
Northwestern Regional Science Fair . . Department of Chemistry  
Purdue North Central  
Westville, Indiana 46319
- WALTER CORY, JR., Director,  
South Central Regional Science  
Fair . . . . . Coordinator for School Science  
Memorial Hall West 108  
Indiana University  
Bloomington, Indiana 47405
- GALEN RENWICK, Director,  
Southeastern Regional Science Fair . . Department of Natural Science  
Indiana University Southeast  
New Albany, Indiana 47150
- DIANNE GARNETT, Director  
Tri-State Regional Science Fair . . . . . Department of Computing Science  
University of Evansville  
Evansville, Indiana 47702
- HARRY WUNKER, Director  
West Central Regional Science  
Fair . . . . . 12 Park Lane  
Terre Haute, Indiana 47803

**\*Indiana Science Talent Search Committee**

- WALTER A. CORY, JR., Chairman  
and Director . . . . . Coordinator for School Science  
Memorial Hall West 108  
Indiana University  
Bloomington, Indiana 47405

- ROBERT L. HENRY . . . . . Department of Physics  
Wabash College  
Crawfordsville, Indiana 47803
- JOANN JANSING . . . . . Division of Natural Sciences  
Indiana University Southeast  
New Albany, Indiana 47150
- ALFRED SCHMIDT . . . . . Department of Mathematics  
Rose-Hulman Institute  
Terre Haute, Indiana 47803
- HOWARD R. YOUSE . . . . . P.O. Box 253  
Greencastle, Indiana 46135
- HAROLD ZIMMACK . . . . . Department of Biology  
Ball State University  
Muncie, Indiana 47306

\*(Special Appointments of the Youth Activities Committee)

**Academy Representative on Indiana Natural Resources Commission**

- DAMIAN V. SCHMELZ . . . . . Department of Biology  
St. Meinrad College  
St. Meinrad, Indiana 47577

**Biological Survey Committee**

- THEODORE CROVELLO, Chairman . . . . . Department of Biology  
University of Notre Dame  
Notre Dame, Indiana 46556
- JOHN A. BACONE . . . . . Director,  
Division of Nature Preserves  
Indiana Department of Natural  
Resources  
601 State Office Building  
Indianapolis, Indiana 46204
- WILLIAM B. CRANKSHAW . . . . . Department of Biology  
Ball State University  
Muncie, Indiana 47306
- JAMES R. GAMMON . . . . . Department of Zoology  
DePauw University  
Greencastle, Indiana 46135
- JACK R. MUNSEE . . . . . Department of Life Sciences  
Indiana State University  
Terre Haute, Indiana 47809
- GEORGE R. PARKER . . . . . Department of Forestry and  
Conservation  
Purdue University  
West Lafayette, Indiana 47907
- VICTOR RIEMENSCHNEIDER . . . . . Department of Biology  
Indiana University at South Bend  
South Bend, Indiana 46615

- JOHN O. WHITAKER, JR. . . . . Department of Life Sciences  
Indiana State University  
Terre Haute, Indiana 47809
- HARMON P. WEEKS . . . . . Department of Forestry and  
Conservation  
Purdue University  
West Lafayette, Indiana 47907
- FRANK N. YOUNG, JR. . . . . Department of Biology  
Indiana University  
Bloomington, Indiana 47405

**Editorial Committee for Proceedings**

- DONALD R. WINSLOW, Chairman  
and Editor . . . . . Department of Science and Environ-  
(1980-83) . . . . . mental Education  
School of Education  
Indiana University  
Bloomington, Indiana 47405
- RITA BARR . . . . . Department of Biological Sciences  
(1980-83) . . . . . Purdue University  
West Lafayette, Indiana 47907
- CHARLOTTE BOENER . . . . . Science Teaching Center  
(1980-83) . . . . . Indiana State University  
Terre Haute, Indiana 47809
- ERNEST CAMPAIGNE . . . . . Department of Chemistry  
(1980-83) . . . . . Indiana University  
Bloomington, Indiana 47405
- DONALD P. FRANZMEIER . . . . . Department of Agronomy  
(1980-83) . . . . . Purdue University  
West Lafayette, Indiana 47907
- JAMES GAMMON . . . . . Department of Zoology  
(1980-83) . . . . . DePauw University  
Greencastle, Indiana 46135
- JAMES KELLAR . . . . . G. A. Black Laboratory  
(1980-83) . . . . . Indiana University  
Bloomington, Indiana 47405
- BENJAMIN MOULTON . . . . . Department of Geography and Geology  
(1980-83) . . . . . Indiana State University  
Terre Haute, Indiana 47809
- JOHN PELTON . . . . . Department of Botany  
(1980-83) . . . . . Butler University  
Indianapolis, Indiana 46208
- BRUCE RENDA . . . . . School of Engineering and Technology  
(1980-83) . . . . . Indiana University-Purdue University  
at Indianapolis  
Indianapolis, Indiana 46202
- CARL SARTAIN . . . . . Department of Physics  
(1980-83) . . . . . Indiana State University  
Terre Haute, Indiana 47809

BERNARD S. WOSTMANN ..... LOBUND Germ Free Laboratory  
(1980-83) ..... University of Notre Dame  
Notre Dame, Indiana 46556

#### **Emeritus Selection Committee**

ROBERT H. COOPER, Chairman ..... R.R. 9, Box 242  
Muncie, Indiana 47302

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

HARRY G. DAY ..... Department of Chemistry  
Indiana University  
Bloomington, Indiana 47405

HOWARD H. MICHAUD ..... 301 East Stadium Drive  
Lafayette, Indiana 47906

#### **Newsletter Editor**

WALTER A. CORY, JR. .... Coordinator for School Science  
Memorial Hall West 108  
Indiana University  
Bloomington, Indiana 47405

#### **Preservation of Natural Areas Committee**

MARION T. JACKSON, Chairman ..... Department of Life Sciences  
(1981) ..... Indiana State University  
Terre Haute, Indiana 47809

THEODORE CROVELLO ..... Department of Biology  
(1981) ..... University of Notre Dame  
Notre Dame, Indiana 46556

CLOYCE HEDGE ..... Administrator, Indiana Natural  
(1981) ..... Heritage Program  
Department of Natural Resources  
612 State Office Building  
Indianapolis, Indiana 46204

CARL H. KREKELER ..... Department of Biology  
(1981) ..... Valparaiso University  
Valparaiso, Indiana 46383

ALTON LINDSEY ..... 191 Drury Lane  
(1981) ..... West Lafayette, Indiana 47906

GEORGE R. PARKER ..... Department of Forestry and  
(1981) ..... Conservation  
Purdue University  
West Lafayette, Indiana 47907

VICTOR RIEMENSCHNEIDER ..... Department of Biology  
(1981) ..... Indiana University at South Bend  
South Bend, Indiana 46615

DENNIS WOLKOFF ..... State Director of the Nature  
(1981) ..... Conservancy  
R.R. 1, Box 155  
Nashville, Indiana 47448

JOHN A. BACONE . . . . .	Director,
(1982)	Division of Nature Preserves
	Indiana Department of Natural
	Resources
	601 State Office Building
	Indianapolis, Indiana 46204
DAMIAN V. SCHMELZ . . . . .	Department of Biology
(1982)	St. Meinrad College
	St. Meinrad, Indiana 47577
ROBERT C. WEBER . . . . .	3649 Algonquin Pass
(1982)	Fort Wayne, Indiana 46809
CARROLLE MARKLE . . . . .	Norton Hill Road
(Honorary)	Ashfield, Massachusetts 01330
WINONA H. WELCH . . . . .	DePauw University
(Honorary)	Greencastle, Indiana 46135

Indiana Academy of Science  
 SPRING MEETING  
 MINUTES OF THE EXECUTIVE COMMITTEE MEETING  
 April 17, 1981

The meeting was called to order by President Robert E. Henderson at 4:10 p.m. in the KW room at Turkey Run Inn, Marshall, Indiana. The minutes of the Executive Committee meeting of the Fall 1980 meeting at Saint Joseph's College were read and approved.

TREASURER'S REPORT

Treasurer John A. Ricketts presented the Academy finances as of April 12, 1981.

*Current Assets*

Checking Account	\$ 2,493.29
Savings Account	<u>15,340.47</u>
Total	\$17,833.76

These are distributed in

Academy Accounts	\$ 3,662.86
Administered Accounts	<u>14,170.90</u>
Total	\$17,833.76

Acceptance of the report was moved, seconded, and approved.

ELECTED COMMITTEE REPORTS

*Academy Foundation Committee*

William A. Daily, Chairman, reported that on March 31, 1981, the John W. Wright Investment Income Fund Account had \$32,000, yielding approximately 13.6%. The market value of the Foundation account was \$24,922 and for the John S. Wright Fund the value was \$700,672, the latter representing a 17.6% increase in value.

*Program Committee*

Robert Henry announced that Paul C. McKinney, Co-chairman, would be in Europe until early August. Bob will act in Paul's place in arranging the Fall Meeting. Bob indicated he would ask for information from Section Chairmen regarding their plans for the Fall Meeting. The question of selection of a speaker for this meeting will be directed to the Science and Society Committee.

*Academy Representative to NASS*

President Robert E. Henderson reported his impressions of the AAAS meeting in Toronto. He indicated that this meeting could have handled more content. Minutes of the meeting are available from him.

*Research Grants Committee*

Ernest Campaigne, Chairman, reported the results of the current round of awards, along with a comparison with the results of last year. A total of 18 proposals, compared to 5, were fully funded, with 5 receiving partial funding. The total

funds awarded were \$6229, compared to \$6116 last year, with an average grant of \$479, \$42 more than last year. Unfortunately, it seemed that the quality of the proposals had dropped. The system of rating was discussed. The deadline for receipt of proposals for the Fall 1981 round of grants is September 15, 1981.

The question whether IAS would again contribute funds to supplement AAAS monies to support grants to students in secondary schools was raised. If AAAS did not provide support this year, funding in the \$600 to \$800 range would be needed to maintain last year's level.

Motion: That the Executive Committee approve use of up to \$750 to be offset with monies received from AAAS for the purpose of awarding grants to secondary school students.

Seconded and approved.

Award date for these grants is September 15, 1981.

#### *Emeritus Membership*

Jerry Nisbet, on behalf of Robert H. Cooper, presented the names of William W. Bloom (1943) and R. Vincent Cash (1951) as fulfilling the requirements of Emeritus Membership. (Initial membership year shown in parentheses.)

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

Seconded and passed.

#### *Youth Activities Committee*

Jerry Nisbet, Chairman, presented the results of the February 13, 1981 meeting.

Regional Science Fairs have been completed in all 12 regions of the State. Two winners from each region along with their teacher-sponsors will attend the International Science and Engineering Fair at Milwaukee, Wisconsin, on May 11-16, 1981. Karl Kaufman of the Indiana State Department of Mental Health has expedited financial support in the amount of \$10,000 through the Indiana Science Education Fund to offset travel costs to the Fair and to sustain workshops.

The Indiana Science Education Fund is providing four \$1,000 scholarships plus a new \$1,200 scholarship for the top senior Science Fair winner.

Walt Cory is chairing a panel of judges on April 21, 1981, charged with selection of the recipients for the four \$1,000 scholarships and the recipient for the \$1,200 scholarship designated as the Beth and Otis Bowen Scholarship. Awards will be announced at the International Science and Engineering Fair in Milwaukee on May 14, 1981.

Two other awards for seniors will be made for the top achievers in science in the State. Those selected will attend the National Youth Science Camp at Bartow, West Virginia.

Plans for the Fall meeting of the Junior Academy of Science are being coordinated by Keith Hunnings and Leota Skirvin.

#### *Science Talent Search*

Walter Cory announced that there had been 46 entrants and that 25 of these were interviewed and their projects judged. This is a two-day process requiring much effort.

#### *Newsletter*

Walter Cory indicated that the four issues of the Newsletter a year rate would

be maintained. A serious attempt has been made to request information through the Newsletter about those members for whom we no longer have addresses.

William Hopp commended Walt Cory for his highly efficient and effective work with the Newsletter. This was seconded unanimously by the Executive Committee.

Concerning the Science Talent Search Finalists, Ernest Campaigne noted that four or five of the finalists were funded by IAS.

William Eberly commented that there appeared to be some discrepancy between the Finalists in the Science Talent Search and those selected for the National Youth Science Camp under the auspices of Jerry Colglazier. Considerable discussion followed, with the conclusion that the students may be judged using different information and/or standards, therefore leading to different results.

#### *Publications Committee*

Donald R. Winslow, editor, reported that he had received 79 papers for publication in Vol. 90 of the *Proceedings*. These were being reviewed, some by outside reviewers. High standards would be maintained. Also noted was the fact that the long-time State publisher has gone out of business and that there currently is no State printer.

William Eberly indicated that one monograph is almost completed.

#### *Speaker of the Year Committee*

John Patton, Chairman, indicated that the term of Damian V. Schmelz to speak on "Stewardship of Indiana's Natural Resources," which had been extended due to his illness, was completed. Schmelz gave presentations at: Vincennes University, DePauw University, Franklin College, and Hanover College.

The current Speaker of the Year, Harry G. Day, has completed his scheduled appearances with presentations on "Progress in Resolving Food Safety Problems" at St. Meinrad College, Purdue University, Wabash College, and Indiana State University.

### NEW BUSINESS

The question whether the Indiana Academy of Science would extend honorary membership to Governor Orr was raised. Governor Bowen was made a permanent honorary member at the 1975 Spring Meeting at which the Executive Committee was empowered to extend the honorary membership to all future Governors. It was felt that in view of Governor Orr's business background, that it would be inappropriate to recommend him for honorary membership.

Meeting adjourned at 5:51 P.M.

Respectfully submitted,

John H. Meiser  
Secretary

Indiana Academy of Science  
SPRING MEETING

MINUTES OF THE GENERAL SESSION  
April 17, 1981

The meeting was called to order by President Robert E. Henderson at 9:08 p.m. in the KW Room at Turkey Run Inn, Marshall, Indiana.

The minutes of the Executive Committee Meeting were read and approved with corrections.

Meetings were arranged between Robert Henry and the Chairmen of the sections who were present.

For the Fall meeting a symposium on waste disposal will be held on Saturday morning. It was felt that the idea of having symposia was well received at the 1980 Fall Meeting. However, only one symposium will be held, rather than two concurrent ones.

Selection of suitable speakers for the Fall Meeting was discussed.

The meeting was adjourned at 9:30 p.m.

Respectfully, submitted,

John H. Meiser  
Secretary

Indiana Academy of Science  
FALL MEETING

MINUTES OF THE EXECUTIVE COMMITTEE MEETING  
November 5, 1981

The meeting was called to order by President Robert E. Henderson at 7:34 p.m. in Goodrich 104 at Wabash College, Crawfordsville, Indiana. The minutes of the General Session meeting of the Spring 1981 meeting at Turkey Run Inn, Marshall, Indiana were read and approved.

TREASURER'S REPORT

Treasurer John A. Ricketts presented the Academy finances as of October 15, 1981.

*Current Assets*

Checking Account	\$ 2,484.38
Savings Account	<u>16,231.29</u>
Total	<u>\$18,715.67</u>

These are distributed in:

	Academy Accounts	Administered Accounts
Balance, 1/1/81	\$ 3,127.80	\$15,055.75
1981 Income	10,478.77	12,410.88
1981 Expenditures	4,792.77	17,563.76
Balance, 10/15/81	<u>\$ 8,813.80</u>	<u>\$ 9,902.87</u>

Membership to Date: Sustaining—35; Senior—521; Regular—238; Student—74; Clubs—12; Life—5; Emeritus—82.

ELECTED COMMITTEE REPORTS

*Academy Foundation Committee*

William A. Daily, Chairman, reported that on September 30, 1981 the following amounts were in the Research Endowment Fund:

<b>Foundation Account</b>	
Income	2,058.21
Disbursement to I.A.S. for Research	300.00
Market	23,389.19
<b>John S. Wright Fund</b>	
Income	\$ 30,367.66
<b>Disbursements</b>	
I.N.B. Management Fee	2,807.00
Transfer to Invested Income Account	29,314.28
<b>Invested Income Account</b>	
Assets of 9/30/80	\$ 73,165.04
Income 10/10/80 Through 9/30/80	8,629.35
Income Transfer from J.S.W. Fund	<u>29,314.28</u>
Total	<u>\$111,108.67</u>

Disbursements	
Proc. Vol. 89 Deficit	\$ 6,765.50
Research Grants	10,766.00
Purchase of U.S. Treasury Notes	29,988.60
Transfer to J.S.W. Fund	<u>11,694.13</u>
At current market value of Treasury Notes (\$29,565.90), assets available to use:	<u>\$ 81,463.34</u>
Total	<u>\$111,108.67</u>

Current yield from commercial paper and  
bonds: 14.96%

#### *Editorial Committee*

Donald Winslow, editor, announced that review of 80 papers for the *Proceedings* of the I.A.S., Vol. 90, 1980 resulted in 54 papers recommended for publication. Because the State printer went out of business, the publication was submitted for individual bids. The award went to Western Newspaper Publishing Co., Inc. and is already behind schedule.

It was suggested from the floor that model abstracts be sent to authors through the chairmen of the sections.

#### *Biological Survey Committee*

Theodore J. Crovello, Chairman, reported that questionnaires for the 1980 Survey of the Annual Survey of Literature and Works in Progress Dealing with the Plants, Animals and Environments of Indiana were sent to the 69 life science departments in the State and formed the basis for the report that will appear in the *Proceedings*. The 1981 Survey is now available at this meeting.

The Indiana Rare Plant Species Survey carried out by the Academy ends on December 31, 1981. Its activities showed the cooperation possible with the Division of Nature Preserves and Natural Heritage Program of the Indiana Department of Natural Resources. The final report is being prepared.

A possible cumulative survey of literature and works in progress to be printed as part of the 1984 Centennial Celebration of the Academy was discussed.

Also introduced were proposed vegetation maps—proposed set of maps that describe the past and potential natural vegetation of the State, as well as its current vegetation and land use.

Crovello indicated that the preliminary program plans were available for the Spring meeting April 23-24, 1982 to be held at the University of Notre Dame.

#### *Program Committee*

Paul McKinney, Co-Chairman, reviewed some of the preparations for the meeting. On behalf of the Academy, President Henderson thanked him and his fellow workers for their work to make this meeting a success.

#### *Invitations Committee*

Donald J. Cook, Chairman, announced that the 1982 meetings will be held at Notre Dame. Negotiations are proceeding to have IU-PU at Fort Wayne host the 1983 meetings. The 1984 meeting will be held at Butler University.

#### *Research Grants Committee*

Ernest Campaigne, Chairman, gave a summary of awards for the March 15 and September 15 deadlines.

## Academy Research Grants

A total of 23 proposals were received in 1981, 8 being fully funded with 8 partially funded. Eight institutions were represented with a total of \$8,709 being awarded. The average award was \$539 with a range from \$200 to \$990.

## Secondary School Awards

Six awards were made for a total of \$598. The Academy received \$300 from AAAS for support of this award and supplemented that money with \$298 from the research grants budget.

The use of Wright Fund monies for high school research awards was questioned. It was decided to discuss this issue at the budget meeting on December 5, 1981.

## IAS Research Grants

A listing of the grantees, an abbreviated title, and the amount granted follows:

		Spring, 1981	
<i>Investigator/Institution</i>	<i>Title</i>	<i>Amount</i>	
1) <i>D. Adalis</i> Ball State	Pathological Effects of <i>in vivo</i> Exposure to Ozone in Hamsters.	\$670	
2) <i>G.J. Gastony</i> Indiana	Systematic Study of <i>Agastache</i> Section <i>Agastache</i> (Renewal)	\$445	
3) <i>M.E. Hulst</i> Ball State	Shallow Bands and R.F. Wave Variation of Total Solar Eclipse	\$800	
4) <i>W.T. Jones</i> Purdue	Evolution of Inheritance in Heteromyid Rodents (Renewal)	\$650	
5) <i>W.T. Morgan</i> IUPUI	Sedimentological, Hydrological and Engineering Controls on San Dunes	\$200	
6) <i>C.E. Nelson</i> Indiana	Developmental Temperature and Emydine Turtle Systematics (Renewal)	\$662	
7) <i>R.R. Pinger</i> Ball State	Host Preference of Mosquitos Attracted to Dogs	\$275	
8) <i>Riemenschneider</i> IUSB	Post Wind Damage Survey of Bendix Woods	\$340	
9) <i>R. Russo</i> IUPUI	Effect of Starvation on Asynchronous Egg Production in Mosquitos	\$500	
10) <i>E.M. Shull</i> Manchester College	Butterflies and Skippers of Indiana (Renewal)	\$500	
11) <i>T.R. West</i> Purdue	Engineering and Environmental Geology Study of Hancock Co. Indiana	\$590	
12) <i>H.C. Womack</i> Ball State	Ultrastructural Changes in the Pineal Gland after Illumination Changes	\$275	
13) <i>M.T. Jackson</i> Indiana State	Analysis of Vegetation Composition etc., in a Flood Plain Forest	\$312	
Fall, 1981			
1) <i>E.K. Pikitich</i> Indiana	Forage Availability for Lake Erie Fish	\$900	
2) <i>C.H. Tomak</i> Mooreville (Ind. Dept. Highway)	Archaeological Research at Swan's Landing, Harrison Co., Indiana	\$990	
3) <i>T.R. West</i> Purdue	Statistical Methods in Rock Mass Studies	\$600	
Total Recommended			\$8,619

## Secondary School Grants

<i>Investigator/Institution</i>	<i>Title</i>	<i>Sponsor</i>	<i>Amount</i>
<i>Tom Beutner</i> Marquette High School Michigan City	Improved Wind Tunnel Design	D.G. Christakis	\$100
<i>Lisa True</i> John Adams High School South Bend	Effect of Elevated Sucrose Intake in Mice	N. Longenecker	\$118
<i>Jeff Taisey</i> East Tipp Junior High Lafayette	Solar Energy	W.D. Hendrickson	\$ 40
<i>Matthew G. Kelty</i> East Noble High School Kendallville	Vertical Axis Wind Generation	V. Rhodes	\$100
<i>Mathew Marquand</i> East Noble High School Kendallville	Electromagnetic Propulsion	V. Rhodes	\$ 50
<i>Rick Meyer</i> East Noble High School Kendallville	Control of <i>Dibotryon</i> <i>morbosum</i>	V. Rhodes	\$120
<b>Total</b>			<u>\$528</u>
Total Grants Recommended (less \$300 from AAAS)			<u>\$8,937</u>

*Nominations Committee*

William B. Hopp, Chairman, presented a list of names for Academy office. It was moved, seconded, and approved to accept the nominations for presentation to the general membership.

*Committee on Fellows*

Daniel Webster moved approval of a slate of fellows to be presented to the membership for election to the rank of Fellow of the Indiana Academy of Science. Motion was seconded and approved.

*Emeritus Selection Committee*

Robert H. Cooper, Chairman, presented the following names for the election to Emeritus membership (date of first membership in parentheses):

Dr. Otto K. Behrens, Past President	(1941)
Dr. Lowell I. Dillon	(1954)
Dr. Clarence F. Dineen, Past President	(1954)
Dr. Gerald E. Doeden	(1953)
Frances M. Gourley	(1948)
Dr. Carleton W. Roberts	(1954)
Lawrence A. Schaal	(1957)
Dr. Eliot C. Williams	(1948)

Motion to approve was seconded and approved.

*"Speaker of the Year" Selection Committee*

Damian V. Schmelz, Chairman, announced the selection of Dr. A. Alan B. Pritsker and the acceptance of the invitation to speak at the campuses of Rose-Hulman, Huntington, and Purdue Calumet.

*AAAS Representative*

President Robert E. Henderson reported on his impressions at AAAS. Two things stood out. Active research at the regional level is being backed, and the association is a loose one.

*Publications Committee*

Benjamin Moulton, Chairman, reported that activity continues along two lines (1) continuing monograph work, and (2) Centennial Volumes. Two of the latter are in progress; "A History of the Academy" by W.A. Daily and Fay Daily, and "The Climate of Indiana" by John Oliver and Ben Moulton.

*Youth Activities Committee*

Jerry J. Nisbet, Chairman discussed the Indiana Science Fairs. Karl Kaufman and Lloyd Anderson have served as co-directors with 12 Regional Fairs being held. Two students, sponsoring teachers and the Regional Fair Director from each region attended the International Science and Engineering Fair at Milwaukee, May 11-16, 1981. Five scholarships were awarded to the top Indiana Science Fair Winners. This year six workshops for teachers are being held in different regions of the state supported by Lilly Endowment grant to the Indiana Science Education Fund. Keith Hunnings and Leota Skirvin have been co-directors of the Junior Academy of Science this year which is meeting concurrently with Senior Academy.

Walter Cory, Jr., director of the Indiana Science Talent Search, reported that Kappa Kappa Kappa Sorority again provided financial support for the Talent Search and awarded two \$1,000 scholarships to winners of the competition which was held at the Medical Center Union Building at Indianapolis on March 13-14, 1981. Our program still generates strong interest, attracting 40-50 entries.

*Newsletter Editor*

Walter A. Cory, Jr., editor of the Newsletter, spoke on the problems of getting news into the public medium concerning the meetings of the Academy. Various suggestions were made from the floor. It was agreed that the newsletters are excellent and a great way to stay informed of Academy activities.

*Science and Society Committee*

President Robert E. Henderson spoke for William Beranek, Jr. who serves out his term this year. He complimented James M. Shuler, in particular, for the work he put into the committee.

*Library Committee*

Lois Burton, Chairwoman, reviewed recent accomplishments. All holdings of the Academy are being converted to the OCLC Union Listing of Serials in order to have computer access. A total of 34 new journal titles were added to the collection bring to 928 serial titles and a collection of 11,000 volumes. The number of copies of Volume 90 of the *Proceedings* will be 800 hard cover and 525 paper cover. Some 231 inter-library loan requests were filled in addition to personal use by Academy and library patrons. A note of appreciation was expressed to Lois for her work.

*New Business*

Walter Cory inquired if the Academy would co-sponsor a conference of debates sponsored by the Indiana University Conference Bureau entitled "Public Schools and the First Amendment." Discussion followed. A motion was made and then amended to read "Not to co-sponsor the conference but to indicate that we ap-

prove of the editor of the Newsletter calling attention to meetings at both the local and national level." The motion was seconded and approved.

The secretary suggested that some change in current procedures might be made to centralize the record keeping particularly of the secretary and treasurer's office. Considerable discussion ensued and a committee consisting of Robert Henderson, Duvall Jones and John Meiser was appointed to consider the total picture of procedures of operation.

The Budget Committee Meeting is set for December 5, 1981 at 10:00 a.m. at the State Library.

The Fall Meeting at the University of Notre Dame is set for October 28-30.

In final business the appropriateness of papers appearing in particular sections was discussed. It was decided that this is a prerogative of the chairman of the section. Resulting from this discussion it was decided to put interest categories on dues cards if possible.

The meeting adjourned at 10:07 p.m.

# Indiana Academy of Science

## GENERAL MEETING

November 6, 1981

The meeting was called to order at 1:32 p.m. by President Robert E. Henderson in Ball Theater, Humanities Center, Wabash College.

A welcome to Academy members was given by Dr. Victor Powell, Dean of the College, Wabash College.

Paul C. McKinney, Co-Chairman, Program Committee, informed the membership of various activities of the two day meeting.

The minutes of the executive committee meetings were read and approved with corrections.

The Secretary informed the membership that the list of chairmen and chairmen-elect of the sections for 1982 would be published in the Newsletter and in the minutes of this meeting. They are:

### ANTHROPOLOGY

Chairman	CURTIS H. TOMAK
Chairman-Elect	GARY D. ELLIS

### BOTANY

Chairman	KATHRYN J. WILSON
Chairman-Elect	L. DAVID POLLEY

### CELL BIOLOGY

Chairman	DOUGLAS DUFF
Chairman-Elect	ZAFAR IQBAL

### CHEMISTRY

Chairman	MARGARET A. CAVANAUGH
Chairman-Elect	ERIC R. JOHNSON

### ECOLOGY

Chairman	DAVID F. SPENCER
Chairman-Elect	RICHARD WHITMAN

### ENGINEERING

Chairman	WARREN WILLIAMS BOWDEN
Chairman-Elect	DAVID D. CHESAK

### ENTOMOLOGY

Chairman	ROBERT R. PINGER
Chairman-Elect	R. BRUCE CUMMINGS

### ENVIRONMENTAL QUALITY

Chairman	PATRICK J. SULLIVAN
Chairman-Elect	ROBERT H. L. HOWE

### GEOLOGY/GEOGRAPHY

Chairman	AKHTAR H. SIDDIQI
Chairman-Elect	TERRY R. WEST

HISTORY OF SCIENCE

Chairman/Elect GENE KRITSKY

MICROBIOLOGY AND MOLECULAR BIOLOGY

Chairman KEN BRUNSON  
 Chairman-Elect MARY LEE RICHESON

PHYSICS AND ASTRONOMY

Chairman ROGER ROTH  
 Chairman-Elect MALCOM HULTS

PLANT TAXONOMY

Chairman DONALD R. HENDRICKS  
 Chairman-Elect JAMES R. ALDRICH

SCIENCE EDUCATION

Chairman PATRICIA A. ZECK  
 Chairman-Elect STANLEY S. SHIMER

SOIL AND ATMOSPHERIC SCIENCE

Chairman JOHN T. SNOW  
 Chairman-Elect H. RAYMOND SINCLAIR

ZOOLOGY

Chairman DAVID M. SEVER  
 Chairman-Elect RONALD L. RICHARDS

William B. Hopp, Chairman of the Nominations Committee presented the slate of candidates for office. There were no nominations from the floor. The motion to accept the candidates was moved, seconded and approved. The officers and their office for next year are:

- President . . . . . WILLIAM R. EBERLY  
 Manchester College
- President-Elect . . . . . ALICE S. BENNETT  
 Ball State University
- Treasurer . . . . . DUVAL A. JONES  
 St. Joseph's College
- Director of Public Relations . . . . . WALTER A. CORY, JR.  
 Indiana University
- Academy Foundation . . . . . CLYDE R. METZ  
 Indiana University-Purdue Univ.
- Bonding Committee . . . . . FRANK A. GUTHRIE  
 Rose-Hulman Institute of Tech.  
 JON R. HENDRIX  
 Ball State University
- Research Grants Committee . . . . . JOHN H. CLEVELAND  
 Indiana State University

Committee Members:

- DONALD J. COOK  
 DePauw University
- J. DAN WEBSTER  
 Hanover College
- WILLIAM B. HOPP, Chairman  
 Indiana State University

Richard L. Conklin presented the following names approved by the Executive Committee for election to the rank of Fellow:

BETTY D. ALLAMONG	Professor of Biology Ball State University
STANLEY L. BURDEN	Professor and Chairman Department of Chemistry Taylor University
DAVID L. DILCHER	Professor of Paleobotany Indiana University
THOMAS S. McCOMISH	Professor of Biology Ball State University
JACK R. MUNSEE	Assoc. Professor of Life Sciences Indiana State University
CHARLES L. RHYKERD	Professor of Agronomy Purdue University
ERNEST M. SHULL	Assoc. Professor Emeritus of Sociology Saint Francis College
MICHAEL J. SINSKO	Public Health Entomologist Indiana State Board of Health

It was moved, seconded and approved that the above individuals be made Fellows of the Indiana Academy of Science.

Fay Kenoyer Daily presented the Necrologist report for the following:

HERBERT M. CLARKE  
WILLIAM DEPREZ INLOW  
SCOTT MCCOY  
C. MERVIN PALMER  
ALBERT E. REYNOLDS  
TRACY M. SONNEBORN  
A. LOGAN STEELE  
PAUL T. ULMAN

Howard R. Youse, Chairman of the Resolutions Committee presented the resolutions.

- WHEREAS: The Indiana Academy of Science is deeply grateful to Wabash College for their invitation to hold its 97th Annual Meeting on their campus; and
- WHEREAS: The administration, faculty, and students alike have cooperated in providing us their facilities for this meeting; be it
- RESOLVED: That the Academy members here assembled express their sincere appreciation to President Dr. Louis S. Salter for all the courtesies Wabash College has extended to the Academy during the meeting. We are especially grateful to Dr. Paul C. McKinney and Dr. Robert L. Henry and their entire Committee for the arrangements of the entire program and the comfort and conveniences provided the membership. We also express our sincere thanks to James M. Shuler and other members of the Symposium panel for the informative Symposium on "Chemical Risk and Waste Disposal."

The resolution was moved, seconded and approved.

President Henderson praised the committee for its selection of the "Speaker of the Year" Dr. A. Alan B. Pritsker.

The meeting was adjourned at 2:20 p.m.

Respectfully submitted

John H. Meiser  
Secretary

Indiana Academy of Science  
**FINANCIAL REPORT**  
 For Year Ending December 31, 1981

**I. ACADEMY ACCOUNTS**

	<u>Income</u>	<u>Budgeted</u>	<u>Expenditures</u>	<u>Budgeted</u>
Dues .....	\$ 8,102.00	\$ 7,500.00	\$ —	\$ —
Reprints .....	790.44	4,000.00	0.00	3,500.00
Interest .....	1,891.17	1,200.00	—	—
Miscellaneous .....	319.23	0.00	—	—
Transfer from Administered Accounts .....	1,200.00	1,200.00	—	—
Secretary .....	—	—	478.67	500.00
Treasurer .....	—	—	407.07	400.00
General Office .....	—	—	169.14	350.00
Officer Travel .....	—	—	175.00	225.00
Membership .....	—	—	0.00	250.00
President's Contingency Fund .....	—	—	0.00	150.00
Newsletter .....	—	—	650.00	650.00
Speaker of Year .....	—	—	700.00	700.00
Program Committee .....	—	—	1,919.68	1,700.00
Editor <i>Proceedings</i> .....	—	—	900.00	900.00
Youth Activities .....	—	—	0.00	250.00
Biological Survey Committee .....	—	—	0.00	2,250.00
AAAS Representative .....	—	—	0.00	0.00
Public Relations .....	—	—	200.00	100.00
Section Chairman Expenses .....	—	—	50.00	50.00
CPA Fees .....	—	—	740.00	750.00
Lawyer Fees .....	—	—	0.00	100.00
Miscellaneous .....	—	—	0.00	100.00
	<u>\$12,302.84</u>	<u>\$13,900.00</u>	<u>\$ 6,389.56</u>	<u>\$12,925.00</u>

**II. ADMINISTERED ACCOUNTS**

	Jan. 1, 1981	Income	Expenditures	Dec. 31, 1981
	<u>Balance</u>	<u>For 1981</u>	<u>For 1981</u>	<u>Balance</u>
Junior Academy .....	\$ 1,754.01	\$ 0.00	\$ 523.35	\$ 1,230.66
Science Talent Search .....	797.79	2,596.00	3,098.36	295.43
Science and Society .....	3,061.49	0.00	1,613.60	1,447.89
Research Grants .....	6,337.68	9,443.17	9,437.00	6,331.51
Lilly Library Fund III .....	2,632.76	0.00	0.00	2,632.76
Lilly Library Fund V .....	4,500.20	0.00	0.00	4,500.20
J.S. Wright Library Fund .....	134.28	0.00	0.00	134.28
Natural Areas .....	0.00	0.00	0.00	0.00
Library Binding .....	1,482.60	1,500.00	1,780.05	1,202.55
<i>Proceedings</i> : Publication and Sale .....	3,232.89	329.00	2,000.00	1,561.89
<i>Proceedings</i> : Mailing .....	522.75	300.00	0.00	822.75
Publications: Monographs				
Publication and Sale .....	2,870.02	70.71	594.53	2,346.20
Department Interior Grant				
14-16-0003-79-133 .....	404.64	1,000.00	2,000.00	-595.36
	<u>\$15,055.75</u>	<u>\$15,238.88</u>	<u>\$21,046.89</u>	<u>\$ 9,247.74</u>

**III. SUMMARY**

	Academy	Administered	Total
	<u>Accounts</u>	<u>Accounts</u>	<u>Total</u>
Balance as of Jan. 1, 1981 .....	\$ 3,127.80	\$15,055.75	\$18,183.55
Income 1981 .....	12,302.84	15,238.88	27,541.72
Expenditures 1981 .....	6,389.56	21,046.89	27,436.45
Balance as of Dec. 31, 1981 .....	9,041.08	9,247.74	18,288.82

## IV. BANK BALANCE AS OF DEC. 31, 1981

Checking Account .....	\$ 2,053.15
First Citizens Bank and Trust Co.	
Saving Accounts:	
C.D. 6 mos., First Citizens Bank .....	10,875.83
First Western Savings .....	<u>5,359.84</u>
	\$18,288.82

## V. SUMMARY OF TRUST FUNDS

A. Foundation Account (00430-00-0)			
	Income Account	Cash Balance	Carrying Value Investments
	Jan. 1, 1981	\$ 0.00	\$ 0.00
	Dec. 31, 1981	<u>0.00</u>	<u>0.00</u>
		\$ 0.00	\$ 0.00
	Principal Account		
	Jan. 1, 1981	\$ 53.40	\$ 27,158.06
	Dec. 31, 1981	<u>1,028.60</u>	<u>29,158.06</u>
		\$ 975.20	\$ 2,000.00
B. J.S. Wright Fund (00430-01-9)			
	Income Account		
	Jan. 1, 1981	\$4,576.83	\$ 0.00
	Dec. 31, 1981	<u>5,720.36</u>	<u>0.00</u>
		\$1,143.53	\$ 0.00
	Principal Account		
	Jan. 1, 1981	\$ 754.03	\$320,017.47
	Dec. 31, 1981	<u>112.15</u>	<u>316,623.29</u>
C. IAS Invested Income Account (00430-02-08)			
		\$641.88	\$-3,394.18
	Income Account		
	Jan. 1, 1981	\$ 1,501.23	\$ 0.00
	Dec. 31, 1981	<u>2,268.75</u>	<u>0.00</u>
		\$ 767.52	\$ 0.00
	Principal Account		
	Jan. 1, 1981	\$ 991.63	\$ 53,988.60
	Dec. 31, 1981	<u>1,102.10</u>	<u>81,988.60</u>
		\$ 110.47	\$ 28,000.00
D. Summary of Trust Accounts			
	Jan. 1, 1981	\$ 7,877.12	\$401,164.13
	Dec. 31, 1981	<u>10,231.96</u>	<u>427,769.95</u>
		\$ 2,354.84	\$ 26,605.82

## VI. NOTES

## Membership for 1981:

1,016 active members (35 Sustaining, 557 Senior, 258 regular, 83 Student, and 83 Emeritus)

59 new members

45 members dropped or resigned

## Dues Structure for 1981:

\$ 2.00 for Student membership

5.00 for Regular membership

10.00 for Senior membership

25.00 for Sustaining membership

2.00 additional for Family membership

1.00 additional for initiation or reinstatement fee

Special memberships include: Life membership (\$300), Corporate membership (\$150-500), Institutional memberships (\$50-150)

Reprints, Monographs, and *Proceedings* Sales: In 1981, sales totaled \$1,190.15.

**Research Grants:**

A total of \$9,437.00 was awarded to the following persons to support their research activities: D. Adalis (Ball State), G. Gastony (Indiana), M. Hults (Ball State), W. Jones (Purdue), W. Morgan (IUPUI), C. Nelson (Indiana), R. Pringer (Ball State), V. Riemenschneider (IUSB), R. Russo (IUPUI), E. Shull (Manchester), T. West (Purdue), H. Womack (Ball State), M. Jackson (Indiana State), E. Pilitch (Indiana), C. Tomak (Indiana Dept. of Highways), T. Beutner (Marquette High School), L. True (John Adams High School), J. Taisey (East Tipp Junior High School), M. Kely, M. Marquard, and R. Meyer (all of East Noble High School).

**VII. BUDGET FOR 1982**

The following budget was approved by the Budget Committee on December 5, 1981.

Academy Accounts

Anticipated Income:

Dues .....	\$ 8,000.00
Interest .....	1,500.00
Reprints .....	<u>3,500.00</u>
	\$13,000.00

Budgeted Expenditures:

Publication charges for reprints .....	\$ 3,000.00
Secretary .....	600.00
Treasurer .....	600.00
General Office .....	250.00
Officer Honorarium .....	150.00
Membership .....	200.00
President's Contingency Fund .....	225.00
Newsletter .....	750.00
Speaker of Year .....	700.00
Program Committee .....	1,900.00
AAAS Representative .....	100.00
Public Relations .....	150.00
Editor's Expense .....	700.00
Youth Activities .....	400.00
Biological Survey Committee .....	2,250.00
Section Chairman's Expenses .....	100.00
CPA .....	800.00
Miscellaneous .....	100.00
Transfer to Administered Accounts .....	<u>2,700.00</u>
	\$15,675.00

Administered Accounts

Transfer from Academy Accounts

Junior Academy .....	\$ 400.00
Science Talent Search .....	500.00
Library Binding .....	1,500.00
<i>Proceedings</i> : Mailing .....	<u>300.00</u>
	\$ 2,700.00

Endowment Funds

Anticipated Income:

IAS Foundation .....	\$ 2,500.00
J.S. Wright Fund .....	32,000.00
Invested Income Carry-Over .....	<u>81,000.00</u>
	\$115,500.00

Expenditures:

Bank Fee .....	\$ 3,000.00
Research Grants .....	15,000.00
Publication of <i>Proceedings</i> (Academy's share for 1981-82) .....	13,000.00
Publications: Special .....	<u>5,000.00</u>
	\$36,000.00

Restricted Accounts:

Anticipated Income:

Science Talent Search from Tri Kappa .....	\$ 2,500.00
Department Interior Grant 14-16-0003-79-133 .....	<u>2,698.25</u>
	\$ 5,198.25

Expenditures:

Science Talent Search .....	\$ 2,500.00
Department Interior Grant 14-16-0003-79-133 .....	<u>2,698.25</u>
	\$ 5,198.25

Respectfully submitted,

John A. Ricketts, Treasurer

# INDIANA JUNIOR ACADEMY OF SCIENCE

## OFFICERS

President ..... Ernie Tseng, Highland High School  
President-Elect ..... Jody Sibbitt, Paoli Junior-Senior High School  
Secretary ..... Rich Karr, Highland High School

## JUNIOR ACADEMY COUNCIL

William Fariss (Polemic, Co-Chairperson)	Gavit Junior High School, Hammond
Michael Kobe (Paper Planes, Chairperson)	Gavit High School, Hammond
Cheryl Mason (Polemic Co-Chairman)	Highland High School, Highland
Thomas Anderson (Junior Scientist, Co-Chairperson)	Paoli Junior-Senior High School, Paoli
Carrol Ritter (Junior Scientist, Co-Chairperson)	Paoli Junior-Senior High School, Paoli
Jane Tucker (Senior Papers, Co-Chairperson)	Saint John the Baptist, Fort Wayne
Mike Miller (Senior Papers, Co-Chairperson)	Pierce Junior High School, Merrillville
Leota Skirvin (Junior Papers, Chairperson; IJAS Co-Director)	Brown County High School, Nashville
Keith Hunnings (Science Fiction, Chairperson; IJAS Co-Director)	New Haven High School, New Haven
Jerry Nisbet (Youth Council Director)	Ball State University, Muncie

## PROGRAM

### FORTY-NINTH ANNUAL MEETING

November 6, 1981

Wabash College, Crawfordsville, Indiana

8:30-11:00 AM	Registration, Humanities Center
9:00- 9:30 AM	Welcome by Dr. Victor Powell, Dean of the College. Introduction of Candidates and Announcements. Waugh 1
9:40-11:30 AM	Poster Session. Intramural Gymnasium
9:40-10:30 AM	Paper Planes and Mousetrap Cars. Intramural Gymnasium
9:40- AM	Junior Scientist Interviews. Coaches' Conference Room
10:00-11:30 AM	Papers Presented. Junior Division, Center 204, Senior Division Center 301
10:15-10:55 AM	Group "A" Polemic. Waugh 1
11:00-11:40 AM	Group "B" Polemic. Waugh 1
12:00- 1:00 PM	Lunch, Chadwick Court
1:30- PM	Awards Presented. Waugh 1
2:45- PM	Adjournment



- Eric Jensen—Marquette High School  
 “The Effects of Cyclic AMP, Poly A, Poly U, and Satellite DNA on Lymphocytic Leukemia”
- Jennifer Jensen—Canterbury School  
 “The Effects of Ascorbic Acid in Regeneration in Celphad Halves of Planaria”
- Elizabeth Randall—Canterbury School  
 “Can Gerbils be Color Conditioned?”
- Anne Tseng—Highland High School  
 “Determination of DNA Base Composition of Bovine Liver by Thermal Denaturation”
- Jeff Terry—Gavit Middle School  
 “Does Microwave Cooking use less Energy?”
- Steve Rogers—Gavit Middle School  
 “Solar Efficiency”

## INTERVIEWS FOR OUTSTANDING JUNIOR SCIENTIST

## JUNIOR DIVISION

- Ann Tseng—Highland Junior High School  
 Eric Jensen—Marquette Junior High School  
 Jennifer Jensen—Canterbury School

## SCIENCE FICTION STORIES

## SENIOR DIVISION

- James Barsic—Marquette High School  
 “The Lucky Ones”
- Richard Bush—Marquette High School  
 “The Citizen and His Magna II”
- Carl Bohlin—Highland High School  
 “Colony 5”
- Karen Deardorff—Gavit High School  
 “Where Has Life Gone?”
- Al Valle—Gavit High School  
 “Matter Over Mind”
- Kelly Ward—Highland High School  
 “Despair in Aquatos”
- A. K. Seybert—Shenandoah High School  
 “The Flight of the Crawlers”

## JUNIOR DIVISION

- Robert Beglin—Marquette High School  
 “The Survival Test”
- Lisa Burosh—Gavit Middle School  
 “The Black Meteors”
- John Hauskins—Marquette High School  
 “Pulmo Sinister”

Jennifer Jensen—Canterbury School  
 “The Outcasts”  
 Angeline Kantola—Gavit Middle School  
 “To Save a Planet”  
 Lisa Parsons—Marquette High School  
 “Never to Return”  
 Jeannine Poiry—St. John the Baptist  
 “Working Together”  
 Ed Rondot—St. John the Baptist  
 “Atari”  
 Ted Smith—Canterbury School  
 “Airium”

OUTSTANDING SCIENTIST—SENIOR DIVISION

Thomas Beutner—Marquette High School

PAPER PRESENTERS—LIFE—SENIOR DIVISION

1st Place: Mark Paulik, Marquette High School  
 2nd Place: Jennifer Farr, Central Noble High School  
 3rd Place: Jody Sibbitt, Paoli Junior-Senior High School

PAPER PRESENTERS—PHYSICAL—SENIOR DIVISION

1st Place: Thomas Beutner, Marquette High School  
 2nd Place: Ernie Tseng, Highland High School  
 3rd Place: Nanette Latchaw, East Noble High School

SCIENCE FICTION STORIES—SENIOR DIVISION

1st Place: A. K. Seybert, Shenandoah High School  
 2nd Place: Al Valle, Gavit High School  
 3rd Place: Kelly Ward, Highland High School

POLEMICS—SENIOR DIVISION

1st Place: Brown County High School  
 2nd Place: Highland High School  
 3rd Place: Highland High School

PAPER PRESENTERS—JUNIOR DIVISION

1st Place: Petra Fuerhaupter, Highland High School  
 2nd Place: Steve Rogers, Gavit Middle School  
 3rd Place: Anne Tseng, Highland High School

SCIENCE FICTION STORIES—JUNIOR DIVISION

1st Place: Robert Beglin, Marquette High School  
 2nd Place: Ted Smith, Canterbury School  
 3rd Place: Jennifer Jensen, Canterbury School

POLEMICS—JUNIOR DIVISION

1st Place: Canterbury School  
 2nd Place: Marquette High School  
 3rd Place: Canterbury School

## ACKNOWLEDGMENT

The officers, members of the Junior Academy Council and all others concerned with the program wish to thank Dr. Paul McKinney and Dr. Eliot Williams of Wabash College for their efforts on behalf of our convention. We wish to thank Dr. Phillips of the Chemistry Department for his tireless work in providing judges and giving assistance throughout the day. We appreciate very much the sincere effort expended by the students who assisted as judges.

This year the Junior Academy added the Poster Papers on a trial basis. There was very good response indicating that they may become a permanent feature. There were seventeen clubs represented at the meeting with an attendance of over 130 students.

## Biological Survey Committee Report

### NEW LITERATURE AND WORKS IN PROGRESS ABOUT THE BIOTA OF INDIANA

1981 Annual Report Of The Biological Survey Committee (BSC)  
Of The Indiana Academy Of Science

#### BSC Members For 1981:

THEODORE J. CROVELLO, Chairman, Department of Biology, University of Notre Dame, Notre Dame, Indiana 46556, Phone: (219) 239-7496, SUVON: Your access code plus 736 + 7496

JOHN A. BACONE, Indiana Department of Natural Resources

WILLIAM CRANKSHAW, Ball State University

JAMES R. GAMMON, DePauw University

JACK R. MUNSEE, Indiana State University, Terre Haute

GEORGE R. PARKER, Purdue University, West Lafayette

VICTOR RIEMENSCHNEIDER, Indiana University, South Bend

JOHN WHITAKER, JR., Indiana State University, Terre Haute

HARMON P. WEEKS, Purdue University, West Lafayette

FRANK N. YOUNG, JR., Indiana University, Bloomington

The goal of the Literature Subcommittee of the Academy's Biological Survey Committee is to accumulate and maintain published and unpublished references on the biota of the State. While in the past the BSC Literature Project has presented its findings in conventional printed form, in addition we now simultaneously add these contributions to the Indiana Academy's computerized literature and works in progress register. It provides updated, integrated bibliographies on particular topics in response to specific requests. Contact Professor Crovello for further details or to submit literature or project information to the data bank. The data bank contains more information about each reference than is presented in this printed summary. Items omitted here include: Higher taxa (common name) to which organisms belong; Classes or orders of organisms; Families; Genera or species; Subjects describing each work; and name, address and telephone number of person to contact for further information on each entry.

The following literature references and works in progress were obtained by circulating requests and questionnaires to chairpersons of 69 life science departments throughout the State, and to participants at the Academy's Fall Meeting. The Committee welcomes suggestions on ways to increase the number of contributions to this annual survey, and to increase awareness of its customized computer search capabilities.

Each literature reference or work in progress given below may contain the following, separated by semicolons: author(s); date; title; citation; and Indiana counties in which the work was performed. If any of these are absent, the contributor did not provide it. Counties are abbreviated by using their first five letters. The exception is Saint Joseph, which is abbreviated StJoe.

An "ALL" in the county field indicates that the work applies to all 92 Indiana counties. A "MANY" indicates the work applies to many counties. In both cases up to five of the most important counties also may be included.

Each citation begins with a letter which has one of the following meanings:

- P: Formal Publication (PIAS refers to Proceedings, Indiana Academy of Science)  
 I: In Press in a formal publication.  
 T: Thesis  
 O: Other (semi) published work, e.g. park checklists, maps.  
 E: Environmental Impact Statements  
 W: Work in Progress

- AKRE, R. D., A. GREENE, J. F. MACDONALD, P. LANDOLT and H. G. DAVIS; 1981; The yellowjackets of America north of Mexico; P: USDA Agricultural Handbook No. 552. 101 pgs; ALL.
- AWASH, T.; 1981; Effect of chemical and physical factors on the production of *Culex pipiens* in swine waste lagoons; T: Purdue University-Dr. R. E. Williams; Tippe Carro Clint.
- BARSTOW, B. B.; 1981; Correlation of relative with absolute Mexican bean beetle sampling techniques; W: Purdue University-Department of Entomology; Lawre Clay Shelb Henry.
- BLEDSE, L. W.; 1981; The immature morphology and development of *Pediobius faveolatus* Crawford (Hymenoptera: Eyiophidae), an exotic, endoparasite of the Mexican Bean Beetle, *Epilachna varivestis* Mulsant (Coleoptera: Coccinellidae); T: Purdue University-Dr. C. R. Edwards.
- CORRIGAN, R. M. and G. W. BENNETT; 1981; Efficacy of Rozol tracking powder on nuisance big brown bats; T: Purdue University—G. W. Bennett; Tippe Montg Shelb Hendr Boone.
- DAILEY, J., J. CRAIG, K. WELBORN, and T. KOZEL; 1981; Present status of *Taxodium distichum* (L.) in Hovey Lake, Posey County, Indiana; I: PIAS: Posey.
- DEYRUP, M.; 1981; Annotated list of Indiana Scolytidae (Coleoptera); P: Great Lakes Entomol. 14: 1-9; MANY.
- DEYRUP, M.; 1981; A new species of *Cryptoxilos* (Hymenoptera: Braconidae) attacking adult *Lymantria decipens* LeConte (Coleoptera: Scolytidae); I: Entomol. News; Tippe.
- HART J. W. and R. D. WALTZ; 1981; Studies of Indiana *Collembola*; W: John W. Hart—IU—East, Richmond, Indiana; R. D. Waltz,—Dept. Entomol., Purdue Univ., W. Lafayette; ALL.
- HILL, G. D.; 1981; Identification and seasonal abundance of synanthropic flies and related manure fauna in enclosed egg-layer houses in north central Indiana; T: Purdue University—Ralph E. Williams; Carro Kosci.
- JOHNSON, T. B. and F. T. TURPIN; 1981; Biological interactions between corn root-worms and foxtail species; T: Purdue University—Prof. F. T. Turpin; Tippe.
- KOZEL, T. R., G. K. WEDDLE, K. L. WELBORN, J. T. DAILEY, D. C. DAILEY, and M. W. DENNER; 1981; A fish faunal survey of Posey County, Indiana; P: PIAS 90:446-453; Posey.
- KREKELER, C. H.; 1981; The biota of the Indiana Dunes National Lakeshore; O: Chap. 3 of Basic Ecosystem Studies of the Indiana Dunes National Lakeshore. Submitted by School of Public and Environmental Affairs, Indiana University Northwest; Porte LaPor Lake.
- MACDONALD, T. F., R. D. AKRE, and R. E. KEYEL; 1980; The German yellowjacket (*Vespa germanica*) problem in the United States (Hymenoptera: Vespidae); P: Bull. Ent. Soc. Amer. 26:436-42; MANY.

- MACDONALD, J. F.; R. W. MATTHEWS; 1981; Nesting biology of the eastern yellowjacket, *Vespula maculifrons* (Hymenoptera: Vespidae); P: J. Kans. Ent. Soc. 54:433-457; MANY.
- MACDONALD, J. F. and R. W. MATTHEWS; 1982; Nesting biology of the southern yellowjacket, *Vespula squamosa* (Hymenoptera: Vespidae); W: Dept. Entomology—Purdue University; Tippe Clark.
- MACDONALD, J. F., R. W. MATTHEWS, R. S. JACOBSON; 1980; Nesting biology of the yellowjacket, *Vespula flavopilosa* (Hymenoptera: Vespidae); P: J. Kan Ent. Soc. 53:448-458; MANY.
- MCCAIN, J. W.; 1982; Checklists of the vascular plants of Tippecanoe and Kosciusko Counties, Indiana; W: Purdue University—Botany Dept.; Tippe Kosci.
- MCCAIN, J. W. and J. F. HENNEN; 1981; Notes on biogeography and new records of rust fungi in the Great Lakes region; I: PIAS; MANY.
- MEYER, R. W.; 1981; Insects and other arthropods of economic importance in Indiana in 1981; I: PIAS; MANY.
- MINTON, S. A.; 1980; Butler's garter snake; P: Cat. Amer. Amphib. and Reptiles 258:1-2; MANY.
- ORPURT, P. A.; 1981; The Gasteromycetes of Indiana; I: PIAS; ALL.
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- SHIPMAN, S.; 1982; Centrarchid population dynamics in two small northeast Indiana lakes; W: Indiana Dept. of Natural Resources—Div. of Fish and Wildlife; Noble.
- SISCO, R. and F. T. TURPIN; 1981; The role of the crop consultant in the implementation of rest management in corn, soybeans and alfalfa in Indiana; W: Purdue University, Dept. of Entomology—Tom Turpin; MANY.
- SMITH, B. and R. INOUE; 1981; Wasp gall distribution and dynamics on *Quercus alba*; W: Earlham College; Wayne.
- THOMAS, A. K., R. R. PINGER, P. R. GRIMSTAD; 1981; Confirmation of a LaCrosse Virus isolate in Northern Delaware County, Indiana; I: PIAS (Abstract); Delaw.
- WALTZ, R. D. and W. P. MCCAFFERTY; 1982; Caddisflies of Indiana; T: Purdue University—Dr. Pat McCafferty; ALL.
- YODER, L.; 1982; Vascular flora of the Merry Lea Nature Preserve; W: Goshen College—Biology Dept.; Noble.
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## Necrology

Fay Kenoyer Daily, Butler University

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HERBERT M(ORRIS) CLARKE

Near Rensselaer, Indiana  
December 15, 1909

Middleton, Wisconsin  
April 22, 1981

Dr. Herbert M. Clarke was Professor Emeritus of the University of Wisconsin, Madison, when he died April 22, 1981, in his home at Middleton where he had lived since 1946.

Dr. Clarke was a native of Indiana having been born near Rensselaer on December 15, 1909. He also resided in Franklin, Indiana, and received an A.B. degree from Franklin College in 1931. He completed graduate work at the University of Wisconsin receiving an M.S. degree in 1933 and a Ph.D. degree in Botany in 1935.

After graduation, he went to teach at Bacone Junior College, Muskogee, Oklahoma, from 1935 to 1942. However, he served in the U.S. Medical Corps from 1942 to 1945 progressing from Private to First Lieutenant. In 1946, he began teaching at the University of Wisconsin where he remained until retirement in 1974. He served many years as Dean of the College of Letters and Science beginning in 1958.

Dr. Clarke joined the Indiana Academy of Science in 1929 when still an undergraduate at Franklin College. He became an Emeritus Member in 1975, the year that he retired. He was a member 52 years even though he was out-of-state since 1931. He was also a member of the Botanical Society of America, Sigma Xi, American Fern Society, Wisconsin Academy of Science, Lambda Chi Alpha, and the Christian Church.

His research interests centered, primarily, on pteridophyte morphology, morphology and anatomy of *Lygodium Japonicum*, comparative anatomy of Lycopodium and a gymnosperm bibliography. He is listed in *American Men of Science* and *Who's Who in the Midwest* and is in *Indiana Scientists* by S.S. Visher.

Dr. Clarke served our society as a loyal member supporting it for a great many years. We are fortunate for such a long-time member.

## WILLIAM DePREZ INLOW

Manilla, Indiana  
November 27, 1890

Shelbyville, Indiana  
February 11, 1981

Dr. William De Prez Inlow was a retired surgeon and writer who died at Shelbyville, Indiana, February 11, 1981. He was a native of Manilla, Indiana, where he was born November 27, 1890. He graduated from high school at Shelbyville in 1909. He attended Indiana University from 1910 to 1912 and then received a B.S. degree in 1915 and Master of Science degree in 1917 from the University of Chicago. He also received a Doctor of Medicine degree from Rush Medical College in 1917. His internship was served at Cook County Hospital in Chicago, but was interrupted by service as an officer in the Army Medical Corps at Camp Meade, Maryland, during World War I. After completing his internship, he received a fellowship (1919-1923) in surgery at the Mayo Clinic. He also spent a year of study in Vienna and Paris.

Dr. Inlow's professional career began with teaching and the principalship of Homer High School lasting 2 years before studying medicine. After medical training in 1923, he formed the Inlow Clinic at Shelbyville with his brothers, Dr. H.H. Inlow, a roentgenologist, and Dr. Fred Inlow, a urologist. He established the Inlow Clinic Library and was President of the Inlow Foundation. He was active in practice there until he retired at 70 years of age.

Dr. Inlow's retirement saw the beginning of a new career for him in writing (*Indianapolis Star*, November 28, 1960). He was interested in the history of Science and Anthropology which led to a paper, *The Indiana Physician as Geologist and Naturalist* which was presented at an annual meeting of the Indiana Academy of Science in 1950, the year he joined the society. He also had used this subject in an address before the Indiana Association of the History of Medicine at a pre-conference meeting at the Indiana State Library December 11, 1947. The writing was finished and the subject was the title of an interesting paper published in 1960, in the *Indiana Magazine of History* LVI (1); 1-35. In it, several of our charter members were mentioned: Richard Owen, R.T. Brown, Amos Butler, E.R. Quick, A.J. Phinney, John M. Coulter, John N. Hurty, Alembert W. Brayton, Fred Stein, Fletcher M. Noe, Oliver P. Hay, Maurice Thompson, and David Starr Jordan. A few members who joined the Academy later were also mentioned. Dr. Inlow became an Emeritus Member of our society.

Other societies with which Dr. Inlow was affiliated were: Phi Chi Medical Fraternity, American Association for the Advancement of Science, American Association of the History of Medicine, Shelby County Historical Society, Indiana Historical Society, American Medical Association (Shelby County, state and national branches), Past Delegate of the Indiana State Medical Association and Past Chairman of the Surgery Section of that society, Phi Beta Kappa and Sigma Xi.

Dr. Inlow was 90 years old when he died February 11, 1981, in the W.S. Major Hospital where he had been a member of the W.S. Major Hospital Foundation. He lived a long and fruitful life.

## SCOTT MCCOY

Emison, Indiana  
May 25, 1897

Indianapolis, Indiana  
December 26, 1980

Mr. Scott McCoy was a retired botany teacher and park botanist and superintendant, who died December 26, 1980, in Indianapolis, Indiana. He was born May 25, 1897, on a farm in Knox County, Indiana, near Emison. He attended grade and high schools in Emison and entered college at Indiana University in 1916. He was captain of the freshman track team and cross country runners. His training there lasted a year when he entered the navy during World War I. He served on an anti-submarine crew on the U.S.S. Louisiana which was on convoy duty in the Atlantic.

He did not return to school after the war, but sought employment at Indiana Bell Telephone Company in Vincennes. He became chief clerk in the office in 1926. He was assistant secretary at the Indianapolis Morris Plan Company later.

In 1927, he joined the Nature Study Club and in 1928 joined the Indiana Academy of Science; so his interest in natural history was well nurtured. Under the influence of Dr. Ray C. Friesner, he entered Butler University in 1934, receiving a B.S. degree in 1937 and an M.S. degree in 1938.

Mr. McCoy's new career began at Arsenal Technical High School as a teacher of botany and landscaping in 1937 where he taught 30 years. Summers found him with a group of students maintaining beautiful gardens and lawns around the city. This was a fine opportunity for students to make some money, receive on-the-job training and obtain a one-on-one personal relationship with the teacher, too. Mr. McCoy developed a nature preserve and botanical garden on the Tech High School grounds. He had charge of the herbarium and botanical garden at Butler University, too, and taught courses in summer school there. His appointment as botanist at the John H. Holliday Park and botanical garden came June 17, 1941, by the Superintendent of Parks of Indianapolis, A.C. Sallee. He resigned in 1947 because of differences with Paul V. Brown, city parks director, whom he charged with non-support of his efforts to upgrade and maintain the park. He was a forester at the Eagle Creek Reservoir, and was interested in planting different species of native plants there as well as carrying on the usual forestry duties.

After retirement in 1967, Scott McCoy continued his interest in higher plant taxonomy and shells. He arranged his specimens, collected more, grew a large garden and cared for a large tract of land around his home.

Mr. McCoy joined the Indiana Academy of Science in 1928, as mentioned earlier, and was honored as Fellow in 1947. His first paper given before the society was on his ecological survey of plants on the Guthrie Estate in Jennings County which the Nature Study Club had recently acquired. This study and a much larger one including 25 tracts of the Illinoian Till Plain was the basis for his Master's thesis completed in 1938. A paper based on this study was presented also to the Academy. A number of other studies including one on a new species of honey locust were given before our society. He also belonged to the Masonic Lodge (Past Master in the Blue Lodge Chapter and Council). He was generous with time and energies to help others and share his knowledge of plants which was considerable after close association with C.C. Deam, R.C. Friesner, and other eminent Academy plant taxonomists. He died of a heart attack at St. Vincent's Hospital at the advanced age of 87.

## C(HARLES) MERVIN PALMER

Chester, Pennsylvania  
August 25, 1900

Kennett Square, Pennsylvania  
March 16, 1981

Dr. Charles Mervin Palmer was born at Chester, Pennsylvania, August 25, 1900, and was raised and educated there during grade and high school. He had a natural interest in sciences and botany in which he majored at Pennsylvania State College where he received a B.S. degree in 1922 and M.S. degree in 1925. He was assistant in Botany there from 1922 to 1924 and instructor from 1924 to 1925.

In 1925, Dr. Palmer came to Indiana to teach Botany at Butler University. He taught there for 25 years developing several courses in Bacteriology, Phycology and Applied Microscopy. His chief research during this period was a continuation of studies on Lemanea and Sacheria which were begun in pursuit of his Ph.D. degree. He started an algal distribution file system at Butler based on published listing. The Indiana file is still maintained by W.A. and F.K. Daily at Butler, and it has been computerized by Ted Crovello.

In 1950, Dr. Palmer left Butler to become head of the nuisance organisms unit in the biological section of the Robert A. Taft Sanitary Engineering Center, U.S. Public Health Service at Cincinnati. He studied interference organisms, pollution and the quality of water supplies. He developed a standard of water quality based on nuisance organism indicators which is widely used by the Environmental Protection Agency and others. He received a Superior Service Award from the U.S. Department of Health, Education and Welfare in 1956 for his excellent work. A booklet, *Algae in Water Supplies*, was prepared by Dr. Palmer and the algae were beautifully illustrated by Harold J. Walter under Dr. Palmer's direction. This was published in 1959 by the U.S. Government Printing Office (Public Health Service Publication No. 657). This grew from an earlier publication on the subject by Dr. Palmer in *Public Works* (86:107-120. June, 1955). About 50,000 copies of the 1959 booklet were printed in 8 printings. A Spanish edition was printed in Mexico and distributed throughout Latin America with a special bibliography in 5 languages. It also was translated into Japanese. The color plates were included in editions of *Standard Methods of Examination of Water and Wastewater* by the American Public Health Association, American Water Works Association and the Water Pollution Control Federation. The plates were enlarged and distributed by the U.S. environmental Protection Agency.

Dr. Palmer and his wife participated in many Quaker activities. He was unit leader of the Friend's Service Unit in India and Pakistan from 1947 to 1948. His wife, Esther, was in charge of the Friend's International Center in Calcutta. This was a time of great hardship and turmoil in these countries related to partitioning. Dr. Palmer made significant contributions to improving agricultural methods there and met many plant scientists in education and research institutions. His wife served the needs of displaced persons. Two papers based on these experiences were given at Academy meetings. He was Director of Civilian Service Camp No. 12, New York, in 1941; field officer for a scientific co-op office for South Asia for UNESCO from 1948 to 1949; and consultant for the International Co-op Administration, Brazil, from 1959 to 1960.

Dr. Palmer joined the Indiana Academy of Science in 1925, the year he came to teach at Butler. He was made Fellow in 1929. He served on the Biological Survey Committee from 1934 to 1947, was Press Secretary from 1942 to 1947, Chairman of

the Bacteriology Section in 1945, and Chairman of the Invitations Committee in 1945. He gave many papers on the check-list of Indiana algae, new and unusual algae in Indiana, a history of Bacteriology at Butler University, and a key to the genus *Bacillus*. Some of the last papers were on the algae of waste stabilization ponds.

Dr. Palmer was affiliated also with the American Institute of Biological Science, Botanical Society of America, Society of Limnology and Oceanography, Phycological Society of America (charter member and vice-president in 1953), and Microscopic Society of America.

After retirement, Dr. Palmer moved to Kennett Square, Pennsylvania (early 1970s). He wrote another booklet, *Algae and Water Pollution*, which was a revision and enlargement of his earlier booklet and with the emphasis on water pollution and the associated algae. This one incorporated the color plates by Walter and added two more by Sharon Adams. It was published in 1977. He also pursued algal study at the Academy of Natural Sciences at Philadelphia. Many collections were distributed by him. Some were sent to his good friends, Carlos and Rosa Maria Bicudo at the Instituto de Botanica, Sao Paulo, Brasil, where he spent six months on a teaching assignment. Other specimens were sent (after death) to the Academy of Natural Sciences of Philadelphia.

Dr. Palmer died March 16, 1981, at the retirement home in Kennett Square, Pennsylvania, where he lived. He had been a successful teacher, effective research director, and kind and helpful friend.

## ALBERT E(UGENE) REYNOLDS

Staunton, Indiana  
August 4, 1907

Indianapolis, Indiana  
May 24, 1981

Dr. Albert E. Reynolds taught 50 years at DePauw University. His research centered, primarily, on the general biology of lizards, salamanders and skinks.

Dr. Reynolds was born at Staunton, Indiana, August 4, 1907, and he was educated in the state receiving an A.B. degree from DePauw in 1930.

DePauw hired Dr. Reynolds after graduation to become an assistant in Zoology from 1930 to 1932. At that time, he became an instructor. In 1935, he obtained an M.S. degree at Chicago and in 1941 a Ph.D. degree from the same university. Apparently, some leave of absence from DePauw was obtained to satisfy requirements at Chicago University for these degrees, but teaching at DePauw is given as continuous in biographical accounts through these years. From 1932 to 1947, he was an instructor and a professor from 1947 to 1973. He served as head of the Zoology Department from 1961 to 1973 when he retired. He became Emeritus Professor at that time, but continued teaching until 1980 which made 50 years of teaching at DePauw.

Dr. Reynolds had a full life. In addition to the time taken for advanced degrees, he served in the U.S. Air Force during World War II, and was connected with high altitude physiology at Randolph Field and aviation medicine at Cochran Field. He was Lieutenant Colonel in the U.S. Air Force Reserve at the time of death. He was also an instructor in the school of nursing, Methodist Hospital, Indianapolis, from 1950 to 1965.

Dr. Reynolds became a member of the Indiana Academy of Science in 1929 and a Fellow in 1964. He was a senior member at death. He presented over a dozen papers over a thirty-year period, chiefly on amphibians and reptiles, but covering a few other subjects such as the evidence of a mastodon in Hendricks County. He was chairman of the Zoology Section in 1947 and was author and co-author of two papers given in the section that year. He was a recipient of a research grant from our society the next year, 1948. He was a member 52 years.

In addition to the Indiana Academy of Science, Dr. Reynolds was a member of several other professional societies: the Society for the study of Amphibians and Reptiles, American Society of Zoologists, Society for the Study of Evolution, and Sigma Xi. He served the Gobin Memorial United Methodist Church from lay leader to being a member of the Board of Trustees and had been a delegate to the annual conference. He belonged also to the Alpha Tau Omega fraternity, Greencastle Kiwanis Club, Huttle Club and Putnam County Historical Society for which he served as program chairman. He was an adult leader also in the Boy Scouts and was honored with the Silver Beaver Award.

Dr. Reynolds was highly regarded at DePauw University and was considered a prominent educator. A scholarship fund in his honor has been established there since his death on May 24, 1981. His last days were spent in the Lilly Research Hospital, Indianapolis, where he was a patient for three months before death. Our society was very fortunate to have the 52-year support from this fine man.

## TRACY MORTON SONNEBORN

Baltimore, Maryland  
October 19, 1905

Bloomington, Indiana  
January 26, 1981

Dr. Tracy M. Sonneborn had been an internationally known geneticist and Distinguished Service Professor of Zoology at Indiana University, Bloomington Campus, and was Emeritus Professor at death in Bloomington on January 26, 1981.

Dr. Sonneborn was born in Baltimore, Maryland, October 19, 1905, and was educated at Johns Hopkins University receiving a B.A. degree in 1925 and a Ph.D. degree in 1928. He was a National Research Fellow at Johns Hopkins from 1928 to 1930, assistant in Zoology from 1930 to 1931, a research associate in Zoology from 1931 to 1933, and an associate professor from 1933 to 1939.

In 1939, Dr. Sonneborn came to Indiana University at Bloomington. He moved from associate professor to professor in 1953 when he was honored as Distinguished Service Professor. In 1976, at retirement, he became Emeritus Professor. He had several concurrent positions: visiting professor and honorary member of the faculty of biology and medical science at the University of Chile in 1951, special lecturer at the University College of London in 1955, Vanuxem lecturer at Princeton University in 1960, and Pasteur lecturer at Georgetown University in 1964.

Dr. Sonneborn's talents were many and widely recognized and rewarded. *Your University* published by Indiana University (V. 18, No. 5, September, 1964) reflected on his career there. The title of the article was *Distinguished Teaching and Research Marked his Career at Indiana University*. In it, he was characterized as an outstanding teacher, patient, brilliant researcher with an unusual ability to understand and inspire students and to impart to them an appreciation of nature and the excitement of the process of discovery. His research resulted in about 175 publications and was supported by grants from the Rockefeller Foundation, Atomic Energy Commission and American Cancer Society.

Several honors were awarded to him as time passed. In 1942, he was made a member of the American Philosophical Society, an old and distinguished learned society.

After many years of research on Paramecium, Dr. Sonneborn found that rather than sexless mating behavior that had been ascribed to the genus, there were distinct mating types. This opened up a whole new field for experimentation and under Dr. Sonneborn's direction, different strains were cross-bred. That led to the finding that contrary to the usually held belief that genes are found only in the nucleus, there were determinants in the cytoplasm termed "plasma-genes". These were found to hold control over inheritance of so-called "killer" types which produced a substance which killed other paramecia. For this basic and classic study, Dr. Sonneborn was the recipient of the American Association for the Advancement of Science Research Award in 1947. His chief assistants were Winifred Jacobsen and Ruth Dippell.

Dr. Sonneborn also observed that paramecia in aging developed defective chromosomes. He concluded that, possibly, human aging might be marked by similar chromosome changes. This was verified by later research in this field.

In 1955, a symposium of the American Association for the Advancement of Science was held in Atlanta. An announcement of the Symposium Volume, No. 50,

October, 1957, stated that Dr. Sonneborn's comprehensive survey of species problems in protozoans and, particularly, the ciliates comprised a masterly thesis of about two-fifths of the volume. It was a fundamental contribution to protozoan literature.

In 1959, the National Academy of Science met at Indiana University on April 27 when Dr. Sonneborn received the Kimber Award, the highest honor in America for genetics research. This award carried a gold medal and \$2,000 in cash. The National Academy met at Indiana University again that fall, November 16 to 18. It was announced that one of the highlights of the meeting would be the lecture on *The Gene and Cell Differentiation* by the "prize winning zoologist, Tracy Sonneborn".

In 1964, he was honored by the British when elected to the British Royal Society. He was also a member of the American National Academy Public Policy Committee that year. At the annual meeting of the National Academy of Science, he announced that "genes may be able to make viruses", and pointed out that this may open new doors in cell and cancer research. There has been much attention to this field since then with the knowledge that a better understanding of the virus-host cell relationship might hold the key to a better understanding of viral related types of cancer.

In other honors, he received the Frederic Bachman Lieber Award in 1967 for Distinguished Teaching; a medal from the Czechoslovak Academy of Science; and he was made chairman of a conference in Washington, D.C., December, 1970, at which genetic surgery was discussed and methods given for reverse transcription of genes.

Dr. Sonneborn became a member of the Indiana Academy of Science in 1940 and a Fellow in 1953, and was an Emeritus Member at death. His studies of *Paramecium aurelia* were the subject of several papers presented at Indiana Academy of Science meetings and he was chairman of the Zoology Section in 1942. He presented a paper at that meeting on *Acquired immunity to a specific antibody and its inheritance in Paramecium aurelia*. In addition to our society, he supported the American Association for the Advancement of Science, American Society of Naturalists (treas. 1944 to 1947; vice president, 1948; president, 1949), Genetics Society of America (president, 1949), American Society of Zoology (president, 1956), National Academy of Science, American Philosophical Society, American Society of Arts and Sciences, and Harvey Society. He served on the editorial board of the *Journal of Morphology*, *Genetics*, *Journal of Experimental Zoology*, *Physiological Zoology*, and *Annual Revue of Microbiology*.

He has been the subject of numerous articles in newspapers and biographies can be found in *American Men and Women of Science*, *Who's Who in Indiana*, and *Indiana Scientists*.

These many accomplishments are truly exceptional.

## A. LOGAN STEELE

West Lafayette, Indiana  
April 8, 1910

Crown Point, Indiana  
May 30, 1979

Mr. A. Logan Steele was a Hoosier born April 8, 1910. His career rested chiefly with Indiana Bell Telephone Company as an executive, but he was also a high school teacher and college professor.

Mr. Steele began his education at West Lafayette and graduated from Jefferson High School in 1926. He then earned an A.B. degree at Wabash College in 1929 where he majored in Psychology. He majored in English at the University of Texas where he received an M.A. degree in 1936.

His career with Indiana Bell Telephone Company started as assistant traffic supervisor in Indianapolis, 1929. During the 1930s, however, he took his recent bride to Texas where he taught in a junior high school. He came back to Indiana after three years of teaching to be an assistant supervisor at Indiana Bell Telephone Company in Muncie. After three more moves, he returned to Indianapolis for Indiana Bell. He also taught at Indiana University-Purdue University at Indianapolis one night a week. He was appointed editor of the company's first employee newspaper, *Highlights*, in 1950. He had a journalistic background in college where he was editor of two publications. Besides serving in the above assignments at Indiana Bell Telephone Company, he was in public relations, connecting company relations and a personnel supervisor prior to retirement. He retired in 1973 after 41 years of service to the company.

At that time, Mr. Steele became Assistant Professor of Technology, Division of General and Technical Studies at Indiana University Northwest at Gary, Indiana. In October, 1975, he became also Coordinator of Operations Supervision Technology and Acting Chairman of the Division holding the appointment until 1976. He resigned because of ill health in May, 1977.

At retirement from Indiana Bell in 1973, Mr. Steele was Secretary-Treasurer for the Hoosier State Chapter 16 of the Telephone Pioneers of America which position he held from 1962. During this service of 11 years, he had established the professional publication, the *Hoosier Pioneer* for the society. The July 1979, issue (No. 195) has a nice article and pictures of Mr. Steele in it. This was kindly provided for us by the present editor and author of the article, Sandi Stepp. The Pioneers are dedicated to both social activities and community service.

Mr. Steele joined the Indiana Academy of Science in 1964. He was living at that time at Leroy, Indiana. He was a family member with his wife, Joan, who has an interest in Anthropology. He also belonged to Phi Beta Kappa and Pi Delta Epsilon.

A pulmonary embolism due to lung cancer took Mr. Steele's life May 30, 1979, at Crown Point, Indiana. Miss Sandi Stepp finished her article about Mr. Steele with, "His efforts in pioneering will long be remembered." Considering the accounts of volunteer activities in the publication—his contributions to such an organization are very praiseworthy.

## PAUL T. ULMAN

Spring Mountain, Ohio  
August 13, 1893

Noblesville, Indiana  
November 22, 1980

Mr. Paul T. Ulman was born at Spring Mountain, Ohio, August 13, 1893. His higher education was received from Washington State College, and he came to Indiana to work in the State Entomologist's Office before World War I.

During the war, he served with the 113th Engineers, American Expeditionary forces in France attaining the rank of Staff Sergeant. Upon return, he worked with the Michigan Department of Agriculture.

It was 1926 when Mr. Ulman came back to Indiana to be in charge of the European Corn Borer Laboratory near Auburn when it was established. It was back to Indianapolis in 1933. At the Division of Entomology, Indiana Department of Conservation, he was in charge of pest control and nursery inspection.

Mr. Ulman joined the Indiana Academy of Science in 1931, and was active in the Entomology Division. In 1939, he was chairman of the Entomologists informal Saturday meeting held after our annual fall meeting on Friday at the Indiana State Teacher's College. In 1953 and 1954, he was chairman of the Entomology Division and participated (1954) in a special symposium moderated by Ray T. Everly in conjunction with the celebration by United States entomologists in recognition of the 100th anniversary of economic entomology as a profession in this country. Mr. Ulman spoke on *Regulatory Entomology in Indiana*.

Mr. Ulman was also active in several other societies and helped found the Indiana State Gladiolus Society in 1929 which he served for over 40 years. Also, he founded and was past president of the North American Gladiolus Council. He was a member of the Entomological Society of America, honorary member of the Indiana Nurseryman's Association and Blatchley Nature Study Club. He was secretary-treasurer of the Central Plant Board 1931 to 1941 and contributed significantly until retirement in 1959.

Mr. John J. Favinger, Indiana State Entomologist, shared with us a fine obituary that he wrote about Mr. Ulman, much of which has been incorporated here. He characterized Mr. Ulman as follows: . . . "He . . . was nationally recognized as an expert in the commercial production of gladiolus. . . . An expert photographer in his early professional career, he made a number of plates illustrating Charles C. Deam's classic *Trees of Indiana*. . . . An exacting supervisor, he had the affection and respect of those of us he trained, maintaining an avid interest in plant regulatory problems during my last visit with him a few weeks before his death."

Mr. Ulman died November 22, 1980, at Noblesville, Indiana at a local nursing home. He had been a resident of Noblesville for 44 years, and was 87 years old.

INDIANA ACADEMY OF SCIENCE  
NEW MEMBERS — 1981

- AUTH, DR. & MRS. DAVID, Dept. of Biology, Hanover College, Hanover, IN 47243  
BADER, MRS. PAT, Caylor-Nickel Research Foundation., Bluffton, IN 46514  
BANAOZAK, MR. KONRAD, No Address  
BARNETT, MR. JOEY, Bldg. 609, Argonne National Lab., Argonne, IL 60439  
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BELLIS, DR. JAMES O., Dept. of Sociology and Anthropology, Univ. of Notre Dame, Notre Dame, In 46556  
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BROWN, MS. BARBARA, Dept. of Life Sciences, Indiana State Univ., Terre Haute, IN 47809  
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DAVIS, MR. RICHARD O., Clifty Falls State Park, 1501 Green Rd., Madison, IN 47250  
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DHONAU, MR. JEFF, Lowell High School, Lowell, IN 46356  
DUMAN, DR. JOHN G., Dept. of Biology, Univ. of Notre Dame, Notre Dame, IN 46556  
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FISCHER, DR. ROBERT B., Dept. of Psychological Sciences, Ball State Univ., Muncie, IN 47306  
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FRANKENBERG, MS. SUSAN R., 1732 Ashland Ave., Evanston, IL 60201  
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HAAACK, DR. BARRY N., Dept. of Geography, Ball State Univ., Muncie, IN 47306  
HALL, MR. ROGER R., 2101 Coliseum Blvd. E., Fort Wayne, IN 46805  
HARPER, DR. EDWIN T., Dept. of Biochemistry, Ind. Univ. School of Medicine, Indianapolis, IN 46223  
HENGEVELD, MR. JAMES D., Dept. of Biology, Indiana Univ., Bloomington, IN 47405  
HICKS, DR. RONALD, Dept. of Anthropology, Ball State Univ., Muncie, IN 47306  
HOFFER, DR. ROGER M., Dept. of Anthropology, Ball State Univ., Muncie, IN 47306  
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