

PROCEEDINGS OF THE TENNESSEE ACADEMY OF SCIENCE FOR 1965

JAMES L. WILSON, SECRETARY
Belmont College, Nashville, Tennessee
MEETINGS OF THE EXECUTIVE COMMITTEE
February Meeting

The Executive Committee of the Tennessee Academy of Science was called to order by President Frank H. Barclay at 7:30 pm in room C-2309 of the Anatomy Department, Vanderbilt Medical School, Nashville, on February 5, 1965. Members present were Frank H. Barclay, Melburn R. Mayfield, G. B. Pennebaker, James L. Wilson, G. H. Lundberg, Clinton L. Baker, James W. Ward, Norman Campbell, Donald Caplenor, Richard J. Raridon and Robert Wilson. Committee Chairman James L. Major and John H. Bailey, future sponsor of the Junior Academy, were present.

A motion that the minutes of the November Executive Committee and Annual Business meetings be approved was presented and passed.

The Secretary reported having received 31 applications for Academy membership. These applicants were elected. The membership list of the Secretary stood at 995; two members having dropped. This report was inaccurate since the Secretary had received 113 changes from the Treasurer recently which he had not had time to make. These changes included at least 25 drops, 55 changes of address, and a number of new members. The Secretary pointed out that changes in membership should not be allowed to accumulate more than two weeks by the Secretary, Editor, or Treasurer before notification is sent to the other two.

The Treasurer discussed all the items of income and expenditure in his report. The full report will be printed in the April issue of the Journal. A motion that the Treasurer's report be received as corrected was passed.

The past president stated that he had no report. The president-elect stated that he had no report.

The Editor of the JOURNAL reported as follows: "The four numbers of Vol. 39 (1964) of the JOURNAL contain 21 research articles of which 8 are in biology, 4 in chemistry, 3 in geology, 2 each in zoology and medical science, and 1 each in bacteriology and biochemistry. Included also are abstracts of papers presented at the annual meeting of the Academy by members of the Senior and Collegiate Divisions and of papers presented at the annual meeting of the Kentucky-Tennessee Branch of the American Society for Microbiology. On hand are 3 papers which have been accepted for publication and 4 others which have been submitted to a Section Editor for review. I wish to express my

sincere appreciation to the Section Editors for their excellent work.

"This report of the expenses of the JOURNAL does not include the cost of printing the January issue, which is paid by the State.

EXPENSES:

Curley Printing Company	\$3,205.33
April, July, and October Issues	
Envelopes for mailing 4 issues	144.50
Postage	233.70
Addressograph Corporation	102.00
Cayce Transfer	54.00
Office of the Editor	
(Secretarial, \$578.61; filing equipment, \$20.00; telephone and telegraph, \$25.00; miscellaneous office expense, \$30.00)	653.61
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	\$4,393.14"

The Editor read a letter from Dr. Helen Ward in which she stated that she did not have time to handle the back issues of the JOURNAL since she was at the University of Tennessee only on Saturdays.

The Director of the Reelfoot Lake Biological Station reported that copies of the 1937 issue of the Reelfoot Lake Report were exhausted and only 15 copies of the 1938 issue remained.

The Sponsor of the Collegiate Division presented the following report: "The Collegiate Division of the Academy held its annual meeting Nov. 28, 1964, at Memphis State University. Approximately 60 students were in attendance. Travel expenses were paid for ten cars bringing students from five schools outside Memphis. Fourteen papers were presented in two sessions by students from six schools. The sessions met jointly for a business meeting and elected Alan Grissom of TPI as state president. Regional meetings are now organized for this spring. They will be held at Maryville College, TPI, and Christian Brothers College. The latter will be April 24th. Times for the others have not been decided. No word has been received concerning the NSF proposal for 1965-66."

The present Sponsor (Robert Wilson) of the Junior Academy stated that he had no report to give. The future sponsor (John Bailey) reported that the grant budget had been cut from \$8,000 to \$6,000 and that fate of the grant would not be known until March.

The Chairman of the Research Committee reported that no requests for grants were received last year. The 1964 AAAS grant of \$269 is available in addition to \$269 for 1965.

The AAAS Representative stated that a report would be given at the November meeting.

The Academy Conference Representative reported as follows: "One feature of particular interest to our Academy is a summary of two reports given at the Montreal meeting. One report described the activities of a small academy, the Colorado-Wyoming Academy of Science; whose area has 5 people per square mile, with one scientist per 500 square miles. Their membership is 350, many unpaid; one-fourth are students. Their budget is \$1,000; their annual meeting lasts 1½ days with approximately 75 in attendance; they publish an abstract journal. They co-sponsor Science Fairs (⅓ of budget); the Junior Academy meets with the Senior; they have a Visiting Scientists Program. Their secretary receives \$200 and has a budget of \$300. The Director of the VSP receives \$100. Their Executive Secretary runs the Academy; he is his own boss and approves all expenditures. This secretary changes each three years. They decided a Membership Committee was not worth the cost of setting type for their names in the program.

"By contrast the activities of another academy were described, namely the Ohio Academy. They have 2,200 members and obtained 400 new members in 1964. Their dues are \$6.00. They have a paid executive secretary. The 10 directors meet eleven times a year at their own expense; there are 50 on the Executive Committee. At the annual meeting 175-200 papers are presented, and there is a field trip. They have no Membership Committee; rather members send in names of prospective members to a central office of the executive secretary and the prospect is processed properly. Each year they make certificate awards to 10 outstanding science teachers and 10 outstanding science departments. They have a Collegiate Academy. A grant from NSF pays expenses of 100 college students for an annual central meeting. In February the academy sponsors an Annual Youth Conference of approximately 200 students and 100 teachers, paid by an Institutional Grant. In March they sponsor the Annual Science Day in Schools; in the State Science Day for Junior Academy with about 600 in attendance, representing the involvement of some 40,000 students.

"At the time an executive secretary was appointed their dues were \$3.00 and there were 1,000 members. Their annual budget is now \$80,000, received from 20 sources. They have 69 Corporation and Institutional memberships at \$100 each. They award Honorary Life Memberships, Emeritus Memberships (no dues and no Journal); they elect 40 Fellows annually. They maintain a reserve of \$80,000 for one year operation. The Kettering Foundation awarded them \$15,000 annually for three years, and they now operate independently. The dues are not used to help pay the executive secretary. There is a monthly news letter of 4 pages circulated to 7,000.

"In Ohio the dues card has an extra line stating: 'contribution to the endowment fund.' After four years the amount received from this increased from \$300 to \$850 in 1964.

"This report was given by the Ohio Executive Secretary who made two specific suggestions to each academy: (1) add to the by-laws, 'salaries shall be paid as deemed necessary to the officers'; (2) that each academy consider using a full-time executive secretary and begin by appointing a retiree at \$1,199.99 annual salary.

"The Academy Conference is now compiling a handbook entitled 'Duties of Academy Officers.'

"Further report will be given at the fall meeting."

It was pointed out that no one in the Tennessee Academy is, or has been, receiving a salary.

The Chairman of the Science Talent Search Committee presented the following written report: "Four hundred teachers in senior high schools were contacted and informed of the Science Talent search conducted before Christmas 1964. Eighty-five schools entered the contest. Examinations were sent to the schools from Science Service, Washington, D.C. These examinations were taken at the schools and forwarded with the student scientific papers and teachers' reports to Science Service before Christmas.

"National honors have been announced. Tennessee was one of the states to have a National Science Talent Search Winner. He

is John W. Cross, Jr. of Memphis White Station High School. Three others from Tennessee were given honorable mention. The judging committee, headed by Dr. Wood of the University of Tennessee, will, in the near future, announce results of the Tennessee Science Talent Search. Reports from winners in 19 previous years indicate a continued interest in the scientific fields. The survel was incomplete, but thirty-five of the scientific have received a Ph.D. or M.D. degree. Many more indicate that they are doing graduate work in some field of science. Winners for this year will be announced early in March."

The president stated that the Executive Committee would act as budget committee, but appointed the following to serve as a budget sub-committee: Mayfield, Lundberg, Pennebaker, Raridon, Bailey and himself.

The secretary was instructed to write a letter to Commissioner Warf after the General Appropriation Bill is passed to find out if the Academy is to receive the \$15,000 biennial appropriation.

The following motions passed:

1. That someone on the Executive Committee living in Nashville go to the Capitol and find out what is in the budget for the Tennessee Academy of Science. (Dr. Baker volunteered to take care of this.)
2. That dues for regular members be raised one dollar.
3. That the secretary and treasurer be employed to charge \$2.00 for all student memberships for the year 1965.
4. That we, the Executive Committee as the Board of Trustees, appoint Dr. Julian Darlington to be a member of the Reelfoot Lake Biological Station Advisory Committee.
5. That Robert L. James be recommended for honorary membership in the Academy, subject to the will of the members at the next meeting.
6. That the 1965 annual meeting be held on the weekend after Thanksgiving.

The meeting adjourned at 12 midnight.

December Meeting, Oak Ridge

The Executive Committee of the Tennessee Academy of Science was called to order by President Frank H. Barclay at 8:00 am. on December 10, 1965, at the Holiday Inn Motel in Oak Ridge, Tennessee. Members present were Frank H. Barclay, Melburn H. Mayfield, James L. Wilson, Gustave H. Lundberg, Clinton L. Baker, Norman Campbell, Donald Caplenor, Richard Stevenson, Richard J. Raridon and John H. Bailey. Committee Chairmen C. P. Keim, Roger Rusk and James L. Major were also present.

The minutes of the February Executive Committee meeting were received.

The Secretary reported having received 100 applications for Academy membership, including 31 reported at the February meeting. A motion was passed that the remaining 69 applicants be elected. A total of 151 names were removed from the membership list, including those of 6 deceased members. The large number

was due partly to having held 43 over from the previous year who should have been removed due to non-payment of dues. An attempt was made to recover some of these but results were poor; only one was recovered from the 43. An additional 69 were removed for non-payment of dues in October. The active membership now stands at 921.

The treasurer was not present and no report was submitted.

The editor presented the following written preliminary report: "The four numbers of Vol. 40 (1965) of the JOURNAL contain 20 research articles of which 10 are in biology, 3 in chemistry, 5 in geology, and 1 each in mathematics and medical sciences. Included also are abstracts of papers presented at the annual meeting of the Academy by members of the Senior and Collegiate Divisions, a report of the Tennessee Science Talent Search, and news items. On hand are 9 papers which have been accepted for publication and 3 others have been submitted to section editors for review. Again I wish to express my sincere appreciation to the section editors for their excellent work.

"This preliminary report of the expenses of the JOURNAL does not include the cost of printing the January issue, which is paid by the State. Some items are necessarily estimates; they are based on former costs." (A list of expenses and income by categories was given in the written report.)

The Director of the Reelfoot Lake Biological Station stated that his full report would appear in the January issue of the Journal.

The Sponsor of the Collegiate Division presented the following written report: "The Collegiate Division completed a very successful year. The annual meeting at Memphis State University on Nov. 28, 1964 and the three regional meetings in the spring of 1965 were attended by a total of 230 students. Sixty-six papers were presented by students representing fifteen schools. The East Tennessee region has a new collegiate sponsor, B. L. Stump of Carson-Newman College. The other sponsors are continuing in their positions, R. E. Martin of Tennessee Technological University, and Bro. George Carney of Christian Brothers College. All these sponsors have been working diligently in behalf of the Collegiate Division.

"The Collegiate program for 1964-65 was supported by NSF

funds to the extent of \$1800. The Academy has received a grant of \$4200 to support Collegiate activities for 1965-66. A proposal has been submitted to NSF asking for support in the amount of \$4670 for 1966-1967." (Attached to the report were copies of the proposal and the final report for 1964-65.)

The Sponsor of the Tennessee Junior Academy of Science presented no written report but discussed various aspects of the program. A printed form was handed out to members containing instructions for participation in the program. An important change in the program this year is the omission of the regional meetings due to restriction of the National Science Foundation allowance to the Junior Academy program. The state meeting of the Junior Academy will be held at Vanderbilt University in Nashville on April 15 and 16, 1966.

A report from the Membership Committee, the Visiting Scientist Program, and the Science Talent Search Committee were presented, but since these were also presented at the Annual Business Meeting they are included in the minutes of that meeting.

The following motions were passed by the Executive Committee:

1. The Committee strongly recommends to the 1966 Executive Committee that they appropriate \$1,000 from the Tennessee Education fund to be used in the Visiting Scientist Program, if such funds are available.
2. The president appoint a committee to start action to obtain a charter if Dr. Pennebaker has not already begun such action.
3. The next meeting of the Executive Committee be held January 14.

The meeting adjourned at 10:00 am.

THE SEVENTY-FIFTH MEETING OF THE
TENNESSEE ACADEMY OF SCIENCE
DECEMBER 10-11, 1965,
OAK RIDGE NATIONAL LABORATORY

The seventy-fifty meeting of the Tennessee Academy of Science was held December 10-11, 1965, at the Oak Ridge National Laboratory. Chris Keim was Chairman of the Committee on Local Arrangements and Melburn R. Mayfield, Austin Peay State College, was program chairman.

A total of 1399 persons registered for all sections of the Academy. Of these, 368 were visitors and 31 were from ORNL. The number registering for each section was: 39, Botany; 65, Chemistry; 13, Engineering; 24, Geology-Geography; 24, Mathematics Teacher; 62, Zoology; and 67, Collegiate Division.

The General Session, including a welcome from Mr. F. L. Culler, Assistant Director of ORNL, was held in the Central Auditorium of Building 4500 on Friday morning, with President Frank H. Barclay presiding. Four papers were presented. Section meetings of the

Senior Academy were held Friday afternoon with 61 papers. The annual business meeting was held at 5:30 pm Friday at the Holiday Inn.

The annual dinner, attended by 164 persons, was held at the Holiday Inn at 7:00 pm Friday. Dr. Alvin Weinberg, Director of the Oak Ridge National Laboratory, spoke on the "Nuclear Energy Revolution."

The Collegiate Division held its meeting on Saturday morning with 10 papers. Guided visits to selected research areas of ORNL were held Saturday morning for the Senior Academy and Saturday afternoon for the Collegiate Division.

Annual Business Meeting

The Business Meeting of the Academy was called to order at the Holiday Inn, Oak Ridge, at 5:30 pm by President Frank H. Barclay. The minutes of the busi-

ness meeting of 1964, as published in the Journal, and the minutes of the February Executive Committee meeting of 1965 were approved.

The secretary reported that 100 applications for membership had been received and that 154 names had been removed from the membership list, (7 deceased). The present membership is 921 as compared to 966 at the same time last year. A motion was passed that the 100 applicants be elected to membership in the Academy.

The treasurer was not present and no report was submitted.

Reports of the editor, the director of the Reelfoot Lake Biological Station, the sponsor of the Collegiate Division, and the sponsor of the Junior Academy were approved.

The Academy Conference and AAAS Representative for 1964 presented no written report but stated that this report would be published in the Journal.

The Chairman of the Fellows Committee presented the following members of the Academy as nominees to be named as Fellows of the Academy; those who are members of the AAAS being recommended also for nomination as Fellows in that organization.

John G. Parchment, Middle Tennessee State University.

Lawrence K. Akers, ORNL.

Melburn R. Mayfield, Austin Peay State College.

Richard J. Raridon, ORNL.

Brother George Carney, Christian Brothers College.

Norman Campbell, University of Tennessee Martin Branch.

Edward W. Burke, Jr., King College.

A motion passed that those named be made Fellows in the Academy and that they be recommended, if qualified, as Fellows of the AAAS.

The chairman of the Necrology Committee made note of the death of the following members:

Dr. Dwight C. Bardwell	Dr. Samuel C. Lind
Mr. Robert M. Goslin	Miss Eleanor McGilliard
Miss Jeanette M. King (Life)	Dr. Hanor A. Webb (Life)
Mr. Paul J. Kruesi (Life)	

The chairman asked that those present stand for one minute of silent prayer as an expression of the sense of loss of these loyal members of the Academy.

The chairman of the Research Committee reported that two grants had been awarded and four others had been tentatively approved. If the latter four are approved a balance of about \$68.00 will remain in the 1965 appropriation.

The Resolutions Committee report (given by Dr. Edward Clebsch was read and approved. "Whereas, the Tennessee Academy of Science is enjoying a pleasant, stimulating, and well-organized series of meetings at Oak Ridge National Laboratory, and whereas, the success of these meetings has resulted from the efforts of the officers, sponsors, chairmen of the sec-

tions, and members of the Committee on Local Arrangements, C. P. Keim, Chairman, and from the generous hospitality of our host organization, Oak Ridge National Laboratory, be it resolved, therefore, that the Tennessee Academy of Science express its appreciation to these and all others who have extended to the success of these meetings, and be it further resolved, that these resolutions be spread in the minutes of the Tennessee Academy of Science and be published as a part of the proceedings of this meeting and that copies be sent to Dr. Alvin Weinberg, Director Oak Ridge National Laboratory, and to Dr. C. P. Keim, Chairman of the Committee on Local Arrangements."

The director of the visiting Scientist Program presented a progress report of the program including a discussion of the 1966-67 proposal.

The chairman of the Science Talent Search Committee presented a 1964-65 report of the committee. He stated that John Cross was one of the national winners and three others received national recognition. In addition, 26 seniors were included in the 1965 Honor List.

The chairman of the Membership Committee presented a report which was approved.

The chairman of the Nominating Committee proposed the following slate of officers:

President: Melburn R. Mayfield, Austin Peay State College.
 President-Elect: Norman Campbell, University of Tennessee Martin Branch;
 Secretary: James D. Caponetti, University of Tennessee.
 Treasurer: Robert L. Wilson, University of Chattanooga.
 Editor: Donald Caplenor, George Peabody College for Teachers.

There were no nominations from the floor, and a motion was passed that, with the unanimous consent of the members present, the Secretary be instructed to cast one ballot representing the unanimous vote of the members present.

President Barclay made a motion, which passed, that Mr. Robert L. James of Mountain Home, Tennessee be made an Honorary Member of the Academy.

The president stated that the Academy was invited to hold its 1966 Annual Meeting at East Tennessee State University in Johnson City.

A motion was passed that the Bylaws (Article X, Section 1, first sentence) be amended to read as follows: The annual dues of members and Fellows are \$5.00, all teachers below the college level \$3.00, and all students \$2.00.

The Annual Business Meeting adjourned at 6:30 pm.

SECTION OFFICERS FOR THE YEAR 1966

Botany:
 Chairman: Herman O'Dell, East Tenn. State Univ., Johnson City.
 Secretary: Phillip W. Watkins, Univ. of Tenn. Martin Branch, Martin.
 Editor: James D. Caponetti, Univ. of Tenn., Knoxville.

Chemistry:
 Chairman-Secretary: Lawrence A. Schaad, Vanderbilt Univ., Nashville.
 Editor: Mark M. Jones, Vanderbilt Univ., Nashville.

Engineering:
 Chairman-Secretary-Editor: James B. Delano, 301 Park Circle, Tullahoma.

Geology-Geography:

Chairman: Richard G. Stearn, Vanderbilt Univ., Nashville.
 Secretary: J. Thomas Wilcox, Vanderbilt Univ., Nashville.
 Editor: Robert J. Floyd, G-5 State Office Building, Nashville.

Mathematics:

Chairman: Horace E. Williams, Vanderbilt Univ., Nashville.
 Secretary: Reginald Mazeret, Tenn. Tech. Univ., Cookeville.
 Editor: Edgar D. Eaves, Univ. of Tenn., Knoxville.

Physics-Astronomy:

Chairman: Lewis B. O'Kelly, Memphis, State University, Memphis.
 Secretary: Bro. George Carney, Christian Brothers College, Memphis.

Editor: J. O. Younghanse, ORNL, Oak Ridge.

Science-Mathematics Teacher:

Chairman: James Kemp, Tullahoma High School, Tullahoma.
 Vice-Chairman: L. B. McCleary, Knoxville Rule High School, Knoxville.

Secretary: Mrs. David Lander, Clarksville High School, Clarksville.
 Editor: Mrs. G. B. Lundberg, Peabody Demonstration School, Nashville.

Zoology:

Chairman: Ronald C. Fraser, Univ. of Tenn., Knoxville.
 Secretary: Marion H. Garrett, Siena College, Memphis.
 Editor: R. P. Ward, George Peabody College, Nashville.

**NEW MEMBERS
 TENNESSEE ACADEMY OF SCIENCE
 FOR 1966**

- Allen, Dr. Vernon R., Chem. Dept. T.T.U., Cookeville, Tenn.
 Ballal, Dr. S. K., 204 West 8th St., Cookeville, Tenn. 38500
 Bishop, Mrs. Ruth, Tenn. Wesleyan College, Athens, Tenn.
 Blackwell, Hayes, Centerville, Tenn.
 Bousman, Mrs. Lois C., Route 8, Clarksville, Tenn.
 Bowling, Melvin, Chadron State College, Chadron, Nebr.
 Boyd, Reavis H., 5400 Burgess Ave., Nashville, Tenn. 37209
 Briggs, William Theopolis, 3817 Ashland City Road, Nashville, Tenn.
 Bull, Dr. William E., Dept. of Chem., U.T., Knoxville, Tenn.
 Byrn, Dr. Ernest E., Box 517, George Peabody College, Nashville, Tenn. 37203
 Callahan, Sister M. Suzanne, OP, 4830 Walnut Grove Rd., Memphis, Tenn. 38117
 Cecilia, Sister James, SCN, 85 N. Cleveland, Memphis, Tenn.
 Chandler, Dr. Clay M., Biol. Dept., Box 29, Bethel College, McKenzie, Tenn. 38201
 Choppin, Mrs. Evelyn G., 6003 Cargile Rd., Nashville, Tenn.
 Christian, Robert E., Lane College, Jackson, Tenn.
 Corbin, Jackie, Physics Dept., Vanderbilt Med. School, Nashville, Tenn.
 Darlington, Dr. Julian T., Biol. Dept., Southwestern at Memphis, Tenn.
 Daugherty, Dr. John H., Sr., 517 W. Cumberland, Knoxville, Tenn.
 Dixon, Dr. Edmond D., 421 W. 7th Street, Cookeville, Tenn.
 Dixon, Jimmy L., Box 4270, A.P.S.C., Clarksville, Tenn.
 Eatherly, Connie Sue, Box 4583, A.P.S.C., Clarksville, Tenn.
 Gilmore, R. David, 147 N. Beverly Circle, Oak Ridge, Tenn.
 Hale, Mr. Leo, 440 W. Jackson, Milan, Tenn.
 Heimberg, Dr. Murray, Pharmacology Dept., Vanderbilt Medical School, Nashville, Tenn.
 Hershey, Mr. Robert E., 862 Bresslyn Rd., Nashville, Tenn.
 Hopkins, Thomas L., Route 1, Lascassas, Tenn.
 Howell, James W., 55 Windy Road, Frederick College, Portsmouth, Va.
 Hughes, Sister Rosanna, Siena College, 4405 Poplar Ave., Memphis, Tenn. 38117
 Jenkins, E. O., 612 Vantrease Rd., Madison, Tenn. 37115
 Jennings, Billy Ray, Inst. of Path., 858 Madison Ave., Box 38, Memphis, Tenn.
 Jeter, Mrs. Maggie N., 203 Maple St., Dresden, Tenn.
 Jonakin, Robert E., 1140 E. Irvin Dr., Memphis, Tenn. 38117
 Judith, Sister, St. Cecilia Academy, Harding Rd., Nashville, Tenn.
 Little, James H., Box 12, Tusculum College, Greeneville, Tenn.
 Lowe, Mr. Claude A., 103 31st Ave. S., Nashville, Tenn. 37212
 Martin, Mrs. F. E., 3980 Barton Rd., Memphis, Tenn.
 Martin, Mr. Ray G., Jr., 500 Arnstein Bldg., TVA, Knoxville, Tenn.
 McCormick, Dr. George M., II, Dept. of Path. U.T. Med. Units, Memphis, Tenn.
 McDaniel, Mr. Earl W., 133 N. Beverly Cir., Oak Ridge, Tenn.
 McDowell, W. J., Route 17, Knoxville, Tenn.
 McGowan, Otis B., Route 3, Monterey, Tenn.
 Miller, Lewis D., Physics Dept., A.P.S.C., Clarksville, Tenn.
 Minchey, Jimmie G., Box 1905, T.T.U., Cookeville, Tenn.
 Moffitt, Miss Kathleen, 113 Bryant St., Milan, Tenn.
 Money, Mr. Thomas, Box 766, David Lipscomb College, Nashville, Tenn.
 Moss, Dr. Donovan D., Biol. Dept., T.T.U., Cookeville, Tenn.
 Murray, Katherine, 3013 New Natchez Trace, Nashville, Tenn. 37215
 Netterville, Mrs. John T., Route 2, Brentwood, Tenn.
 Ostman, Randolph, Jr., Box 100, Tusculum College, Greeneville, Tenn.
 Owen, John S., Life and Casualty Tower, Nashville, Tenn. (sustaining)
 Owens, Dr. Willis C., David Lipscomb College, Nashville, Tenn. 37203
 Parchman, George W., Biology Dept., Memphis State Univ., Memphis, Tenn.
 Patton, Miss Nancy W., 911½ 18th Ave. S., Nashville, Tenn.
 Pierce, Thomas R., Route 3, Mount Juliet, Tenn.
 Powell, Dr. Harry D., 2548 E.T.S.U., Johnson City, Tenn. 37602
 Powell, Mr. R. H., c/o Shandon Scientific Co., 65 Pound Lane, Willesden, London N.W., England
 Ragsdale, Mr. H. L., Botany Dept., U.T., Knoxville, Tenn.
 Ramage, Dr. Donald R., Biology Dept., Union Univ., Jackson, Tenn.
 Ramsey, Glenn H., 10 West Broad St., Cookeville, Tenn.
 Rayburn, Dr. Louis A., O.R.I.N.S., Oak Ridge, Tenn. 37831
 Riggins, Rhonda Lee, Dover, Tenn.
 Rodgers, Mrs. Charles Barnes, Sunny Shore Lane, Chattanooga, Tenn.
 Rodgers, Miss Martha P., 528 Dedmon St., Milan, Tenn.
 Rogers, Miss Carol L., Tusculum College, Greeneville, Tenn.
 Rogers, Mr. Ken E., Botany Dept., U.T., Knoxville, Tenn. 37916
 Sanders, Mr. Merlin L., Castle Heights, Mil. Acad., Lebanon, Tenn. 37087
 Savoy, Donald D., P.O. Box 328, Tenn. A.&I. State Univ., Nashville, Tenn.
 Schapiro, Dr. Herbert, Anatomy Dept., U.T. Med. Units, 62 S. Dunlap, Memphis, Tenn. 38103
 Schmittou, Earl, Jr., Cumberland Furnace, Tenn.
 Sheumaker, Charles R., Harding Academy, 1000 Cherry Rd., Memphis 17, Tenn.
 Simonton, Mr. Paul R., Biol. Dept., Memphis State Univ., Memphis, Tenn.
 Singleton, Mr. John A., 204 Acklen Park Dr., Nashville, Tenn. 37203
 Skelton, Merle, Hohenwald, Tenn.
 Smith, Winifred L., Biol. Dept., U.T.M.B., Martin, Tenn. 38237
 Spear, Mr. Frank A., 6563 Jocelyn Hollow Rd., Nashville, Tenn. 37205
 Staub, Brother L. Robert, Christian Brothers College, Memphis, Tenn. 38104
 Stern, Dr. Daniel, Box 11, T.T.U., Cookeville, Tenn.
 Sublett, Dr. Robert L., Chem. Dept., T.T.U., Cookeville, Tenn.
 Taylor, Fred G., 217 Woodlawn Dr., Kingston, Tenn.
 Toline, Francis R., Box 161A, T.T.U., Cookeville, Tenn.
 Vaiksnoias, John V., Weather Bureau Airport Station, Nashville, Tenn. 37217
 Waggoner, Dr. W. Cole, 524 Avon Circle, Knoxville, Tenn. 37919
 Walker, Miss Katharene, Route 1, Mars Hill Rd., Florence, Ala.
 Watkins, Dr. Phillip W., Biology Dept., U.T.M.B., Martin, Tenn. 38237
 Weaver, Mrs. Jane Grisham, 806 Bragg Circle, Tullahoma, Tenn. 37388
 Welbourne, Dr. Frank, Biol. Dept., Memphis State Univ., Memphis, Tenn.
 Whitehead, Thomas W., Chem. Dept., E.T.S.U., Johnson City, Tenn.
 Wilhelm, Dr. Walter E., Biol. Dept., Memphis State Univ., Memphis, Tenn.
 Williams, Dr. Lyman O'Dell, Geol. Dept., E.T.S.U., Johnson City, Tenn. 37601
 Wilson, Mr. John M., 331-C Cordell Hull Bldg., Nashville, Tenn.
 Wofford, B. Eugene, Graduate Division, A.P.S.C., Clarksville, Tenn.
 Woollett, Dr. Albert H., Box 768, Memphis State Univ., Memphis, Tenn. 38111
 York, Mr. Grady L., P.O. Box 100, Manchester, Tenn.
 Younghanse, Mr. J. O., Route 4, Pat Road, Concord, Tenn.