JOURNAL

OF THE

Tennessee Academy of Science

VOLUME XLV

NUMBER 2

CONTENTS

New President of the Tennessee Academy of Science	33
New Editor of the Journal of the Tennessee Academy of Science	34
Proceedings of the Tennessee Academy of Science for 1969	34
Abstracts of Papers Presented at the Annual Meeting	47
New County Records for the Cedar Glade Endemic Viola egglestonii	60
Sod Webworm (Lepidoptera: Pyralidae: Crambinae) Moths	6 1

April, 1970

JOURNAL

OF THE

Tennessee Academy of Science

EDITORIAL STAFF

Gus Tomlinson, Editor, George Peabody Coll., Nashville

MRS. FRANCES ALLEN, High School Science-Mathematics Editor, Rt. 4, Box 332, Dickson 37055

BRYANT BENSON, Medical Sciences Editor, The Univ. of Tennessee, Memphis 38103

JAMES D. CAPONETTI, Botany Editor, The Univ. of Tennessee, Knoxville 37916

FREDERICK L. CULP, Physics-Astronomy Editor, Tennessee Technological Univ., Cookeville 38501

JAMES B. DELANO, Engineering Editor, 301 Park Circle, Tullahoma 37388

ROBERT G. LITCHFORD, Zoology Editor, The Univ. of Tennessee at Chattanooga 37403

STUART W. MAHER, Geology-Geography Editor, Tennessee Division of Geology, Knoxville 37919

ROBERT E. MARTIN, News Editor, Tennessee Technological Univ., Cookeville 38501

RONALD SIRCY, Mathematics Editor, Tennessee Technologi-

cal Univ., Cookeville 38501

WILLIAM H. ZUBER, JR., Chemistry Editor, Memphis State
Univ., Memphis 38111

All articles and communications for publications, books, and publications for review, should be addressed to the Editor.

New subscriptions, changes of address and applications for membership should be addressed to the Secretary. Personal items, news of events in the scientific world, and other notes suitable for the "News of Tennessee Science" department should be addressed to the News Editor.

Published quarterly, in January, April, July and October, by the Tennessee Academy of Science at Box 153, George

Peabody College, Nashville, Tennessee 37203.

The JOURNAL is sent to all members not in arrears for dues. The subscription price is \$5.00 a year, invariably in advance. Single copies \$1.25.

Second Class Postage Paid at Nashville, Tennessee.

THE TENNESSEE ACADEMY OF SCIENCE

(Founded 1912, at Nashville, Tennessee) Affiliated with the American Association for the Advancement of Science

Affiliated Societies

Tennessee Ornithological Society, Nashville, Tennessee Barnard Astronomical Club, Nashville Tennessee Science Teachers' Association Tennessee Psychological Association

James L. Wilson, President, Univ. of Tennessee Nashville Center, Nashville 37203

RICHARD J. RARIDON, President-elect, ORNL, Oak Ridge 37831

Gus Tomlinson, Editor, George Peabody Coll., Nashville 37203

JAMES D. CAPONETTI, Secretary, Univ. of Tennessee, Knoxville 37916

ROBERT WILSON, Treasurer, Univ. of Tennessee at Chatta-nooga, Chattanooga 37403

WILLIAM F. Nelson, Director, Reelfoot Lake Biol. Sta., Univ. of Tennessee at Martin, Martin 38237

Executive Committee

JOHN H. BAILEY, East Tennessee State Univ., Johnson City 37602

JAMES D. CAPONETTI, Univ. of Tennessee, Knoxville 37916 Gus Lundberg, Austin Peay State Univ., Clarksville 37040 ALBERT L. MYERS, Carson-Newman Coll., Jefferson City

WILLIAM F. NELSON, Univ. of Tennessee at Martin, Martin

JOHN G. PARCHMENT, Middle Tennessee State Univ., Murfreesboro 37130

RICHARD J. RARIDON, ORNL, Oak Ridge 37831

ROBERT F. SEARS, Austin Peay State Univ., Clarksville 37040

Gus Tomlinson, George Peabody Coll., Nashville 37203 JAMES L. WILSON, The Univ. of Tennessee Nashville Center, Nashville 37203

ROBERT WILSON, The Univ. of Tennessee at Chattanooga

A. Paul Wishart, The Univ. of Tennessee, Knoxville 37916

NOTICE TO AUTHORS

Papers submitted for publication in the Journal may be sent to any member of the editorial staff. Manuscripts must be approved by the Editor and the appropriate Section Editor before publication. Manuscripts should be type-written, double or triple spaced, with wide margins, and with legends for figures typed on a separate page. Recent issues should be consulted with regard to matters of style. Each table should be placed on a separate sheet. Footnotes should not be used except very rarely. Greek letters and symbols should be avoided as much as possible.

Each paper should be surplied with an abstract not to exceed 250 words.

Photographs (black and white glossy prints) may be accepted as illustrations; however, line drawings and diagrams are preferable. Drawings should be made in India ink on white paper or Bristol Board. An article containing more than 2 illustrations can be published only with financial cooperation of the author.

A per page charge of \$10.00 will be made to industrial

A blank form for ordering reprints from the printer is enclosed with the galley proof. The cost of reprints is as follows:

ionows.	2	4	8	12	16
100 copies Ea. add. 100	pages \$12.00 2.00	pages \$20.00 3.00	pages \$38.00 8.50	pages \$47.00 12.25	\$56.00 16.00

The Tennessee Academy of Science is very anxious to include in its membership all teachers and professors of science, research workers in science both in educational institutions and industrial establishments, and all others who are interested in some phase of science.

The annual dues are \$5.00 for members except teachers below the college level, whose dues are \$3.00, and \$10.00 for sustaining members. Dues may be sent direct with your application for membership to the Secretary.

This journal is abstracted by Biological Abstracts and Chemical Abstracts, and indexed by Science Citation Index.