# **JOURNAL**

# Tennessee Academy of Science

**VOLUME 73** 

NUMBER 3-4

### **CONTENTS**

Inter- and Intraspecific Interaction Rates of Three Species of Lemurs	
(Subfamily Lemurinae) in an Enclosure at The Memphis Zoo and	
Aquarium. Stephen J. Mullin	77
Before Burgess Falls: Prehistoric Change in the Course of Falling Water	
River, Eastern Highland Rim, Tennessee. Hugh H. Mills	82
Frequency and Distribution of Chromosome Fragile Sites or Lesions in Males with Mental Retardation: A Descriptive Study. <i>Merlin G. Butler</i>	87
Seasonal Abundance of the Free-Living Stages of the Lone Star Tick (Amblyomma americanum) in Cumberland County, Tennessee. Reid R. Gerhardt, Kimberly H. Lohmeyer, Eric J. Marsland, and David J. Paulsen	100
Prevalence of Helminths in Fecal Deposits of Dogs in Anderson County, Tennessee. Strant T. Colwell, Jr.	104
Occurrence of a Nymphal Dragonfly, <i>Progomphus obscurus</i> Rambur (Odonata: Gomphidae), in a Deep-Lake Habitat. <i>Jack W. Grubaugh</i>	106
Abstracts of Papers Presented at the Spring 1998 Collegiate Meetings	107
Announcements	121

JULY-OCTOBER 1998 (Printed 1999)

## **Tennessee Academy of Science**

#### **EXECUTIVE COMMITTEE**

President
Eugene A. Kline
Memphis, TN 38112
Tennessee Tech. Univ.
Cookeville, TN 38505

Treasurer
John W. Harris
Dept. of Biology
Tennessee Tech. Univ.
Cookeville, TN 38505

Tennessee Dept. of Education
Linda Jordan, Science Consultant
5th Floor, Andrew Johnson Tower
710 James Robertson Parkway
Nashville, TN 37243-0379

Director, Electronic Commun.

David H. Kesler

Dept. of Biology

Rhodes College

Memphis, TN 38112

Past-president
Michael L. Daley
Dept. of Electrical Engineering
The Univ. of Memphis
Memphis, TN 38152

Managing Editor
M. Gore Ervin
Dept. of Biology, Box 60
Middle Tennessee State University
Murfreesboro, TN 37132

1996–1998 Member-at-large
Darlene Loprete
Dept. of Chemistry
Rhodes College
Memphis, TN 38112

Director, Visiting Sci. Program Linda Cain P.O. Box 2008 MS 6356, Oak Ridge Natl. Lab. Oak Ridge, TN 37831-6356 President-elect
C. Steven Murphree
Dept. of Biology
Belmont Univ.
1900 Belmont Blvd.
Nashville, TN 37212-3757

Director, Junior Academy
Jack Rhoton
East Tennessee State Univ.
Box 70684
Johnson City, TN 37614-0684

1997–1999 Member-at-large
Ted Sadler Lundy
Center for Manufacturing Res.
Tennessee Tech. Univ.
Cookeville, TN 38505

Meeting Coordinator
C. Steven Murphree
Dept. of Biology
Belmont Univ.
1900 Belmont Blvd.
Nashville, TN 37212-3757

Secretary
Sarah H. Swain
Dept. of Biology
Middle Tennessee State Univ.
Murfreesboro, TN 37132

Director, Collegiate Division Richard Raridon 111 Columbia Drive Oak Ridge, TN 37830

1998–2000 Member-at-large David J. Wilson Eckenfelder, Inc. 227 French Landing Drive Nashville, TN 37228

#### EDITORIAL BOARD

Managing Editor
M. Gore Ervin
Dept. of Biology, Box 60
Middle Tennessee State Univ.
Murfreesboro, TN 37132

Chemistry
Martin V. Stewart
Dept. of Chemistry
Middle Tennessee State Univ.
Murfreesboro, TN 37132

History of Science
James X. Corgan
Dept. of Geology and Geography
Austin Peay State Univ.
Clarksville, TN 37044

Physics and Astronomy
Martha Weller
Dept. of Physics and Astronomy
Middle Tennessee State Univ.
Murfreesboro, TN 37132

Engineering
Michael L. Daley
Dept. of Electrical Engineering
The Univ. of Memphis
Memphis, TN 38152

Math and Computer Science
William K. Glunt
Dept. of Math and Computer Sci.
Austin Peay State Univ.
Clarksville, TN 37044

Science and Math Teachers
Sarah F. Barlow
Dept. of Biology
Middle Tennessee State Univ.
Murfreesboro, TN 37132

James D. Caponetti
Dept. of Botany
The Univ. of Tennessee
Knoxville, TN 37916

Ethics in Science and Technology
Robert Riser
Computer and Information Sci.
East Tennessee State Univ.
Johnson City, TN 37614

Medical Sciences
Robert O'Bannon
Dept. of Biology
Lee College
Cleveland, TN 37311

Zoology I James A. Huggins Dept. of Biology Union Univ. Jackson, TN 38305 Cell and Molecular Biology Charles J. Biggers Dept. of Biology The Univ. of Memphis Memphis, TN 38152

Geology and Geography
David N. Lumsden
Dept. of Geological Sciences
The Univ. of Memphis
Memphis, TN 38152

Microbiology
Anthony L. Newsome
Dept. of Biology
Middle Tennessee State Univ.
Murfreesboro, TN 37132

The TENNESSEE ACADEMY OF SCIENCE was founded in 1912 at Nashville, Tennessee. Membership is open to 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. Annual dues are \$20 for members and fellows, except students and emeritus members whose dues are \$10. Life membership is \$200. Applications for membership should be addressed to the Treasurer.

Affiliated societies of the Academy are: American Association for the Advancement of Science (AAAS); Barnard Astronomical Society, Clarence T. Jones Memorial Observatory, Chattanooga; Barnard-Seyfert Astronomical Society, Nashville; National Association of Academies of Science; Tennessee Association of Science Department Chairs; Tennessee Junior Science and Humanities Symposium; Tennessee Entomological Society; Tennessee Ornithological Society, Nashville; Tennessee Psychological Association; and Tennessee Science Teachers' Association.

The JOURNAL OF THE TENNESSEE ACADEMY OF SCIENCE (ISSN 0040313X) is published by the Tennessee Academy of Science, Department of Biology, Tennessee Technological University, 900 N. Dixie Avenue, Cookeville, TN 38505, for all members not in arrears for dues. The subscription rate is \$20 per year. Single copies of recent issues are \$10. Whole sets of back issues on microfilm are available from AMS Press, Inc., 56 E. 13th Street, New York, NY 10003. Postage paid at: Cookeville, TN, and at additional mailing offices. Send address changes to: JOURNAL OF THE TENNESSEE ACADEMY OF SCIENCE, % DR. JOHN W. HARRIS, DEPARTMENT OF BIOLOGY, TENNESSEE TECHNOLOGICAL UNIVERSITY, P.O. BOX 5063, COOKEVILLE, TN 38505.

This Journal is abstracted by Biological Abstracts, Chemical Abstracts, and Nuclear Abstracts and is indexed by Science Citation Index and Agricola Citations.