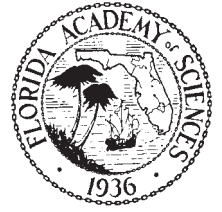


FLORIDA SCIENTIST

ISSN: 0098-4590



Florida Scientist

Quarterly Journal of the Florida Academy of Sciences
Copyright © by the Florida Academy of Sciences, Inc. 2018

Editor: James D. Austin, PhD
Department of Wildlife Ecology and Conservation
Institute of Food and Agricultural Sciences
University of Florida
Gainesville, FL 32611
email: fl.sci.editor@gmail.com

Co-Editor: Mary Vallianatos, MSc, MPA
University of Florida
PO Box 100014
Gainesville, FL 32610

Associate Editor: John S. Hargrove, PhD
Tennessee Cooperative Fisheries Research Unit
Tennessee Technological University
Cookville, TN 38505

Editors Emeriti: Professor Dean Martin and Mrs. Barbara Martin
Chemistry Department, University of South Florida

Business Manager: Richard L. Turner
Department of Biological Sciences, Florida Institute of Technology,
150 West University Boulevard, Melbourne, Florida 32901-6975
Phone: (321) 674-8196, e-mail: rturner@fit.edu

<https://fas.fit.edu>

The *Florida Scientist* is published quarterly by the Florida Academy of Sciences, Inc., a non-profit scientific and educational association. Membership is open to individuals or institutions interested in supporting science in its broadest sense. Applications may be obtained from the website.

Original articles containing new knowledge, or new interpretations of knowledge, are welcomed in any field of science as represented by the sections of the Academy, viz., Agricultural and Natural Resources, Anthropological Sciences, Atmospheric and Oceanographic Sciences, Biological Sciences, Computer Science and Mathematics, Engineering, Environmental and Chemical Sciences, Florida Committee on Rare and Endangered Plants and Animals, Geosciences, Medical Sciences, Physics and Space Sciences, Science Teaching, and Social Sciences. Also, contributions will be considered which present new applications of scientific knowledge to practical problems within fields of interest to the Academy.

Back issues of the *Florida Scientist* and its precursors, the *Proceedings of the Florida Academy of Sciences* (1936–1944) and *Quarterly Journal of the Florida Academy* (1945–1972) can be found on the Biodiversity Heritage Library website (<http://www.biodiversitylibrary.org>).

Volume 81

Spring/Summer, 2018

Number 2–3

RESEARCH ARTICLES

Salinity tolerance among three freshwater mussels (*Bivalvia*: Unionidae) from Gulf Coastal Plain drainages (pages 61–69)

Nathan A. Johnson, Pamela J. Schofield, James D. Williams, and James D. Austin

The leech *Philobdella floridana* (Verrill, 1874) (Annelida: Hirudinea) reported from the Okefenokee Swamp, Georgia, USA, with observations on its biology (pages 70–79)

Jennifer I. Hogan and Roy T. Sawyer

Soil denitrification dynamics in urban impacted riparian zones throughout Tampa, FL (pages 80–95)

John W. Roberts, Michael G. Andreu, Kanika Inglett, Matthew J. Cohen, and Wayne C. Zipperer

SHORT COMMUNICATIONS

Notes on Soldier Flies (Diptera: Stratiomyidae) from the Florida Keys (pages 96–99)

Lawrence J. Hribar and Norman E. Woodley

Bioturbation of intertidal sediments by the spotted spoon-nosed eel, *Echiophis intertinctus* (Richardson), Estero Bay, southwest Florida (pages 100–103)

Thomas M. Missimer and Michael Hegy

Officers for 2018–2019
FLORIDA ACADEMY OF SCIENCES
Founded 1936

President: Kelli A. Hunsucker
Department of Marine & Environmental
Systems
Florida Institute of Technology
150 West University Blvd.
Melbourne, FL 32901-6975

President Elect: Ian Duffy
School of Arts and Sciences
Saint Leo University
Saint Leo, FL 33574

Past President: Jeremy Montague
Department of Natural and Health Sciences
Barry University
Miami Shores, FL 33161

Secretary: Norine Noonan
University of South Florida, St. Petersburg
140 7th Ave. S. TER 407
St. Petersburg, FL 33701

Treasurer: Thomas Smith
Dept. of Biology
Ave Maria University
Ave Maria, FL 34142

Program Chair: David J. Karlen, Ph.D.
Water Management Division
Environmental Protection Commission of
Hillsborough County
3629 Queen Palm Drive
Tampa, FL 33619-1309

Published by The Florida Academy of Sciences, Inc.
Head office at the Florida Institute of Technology
Printing by Allen Press, Inc., Lawrence, Kansas

INSTRUCTION TO AUTHORS

This information is available at the web site: <https://fas.fit.edu> (select "Florida Scientist").
To join the Florida Academy of Sciences visit the Academy web site indicated above.

INSTITUTIONAL MEMBERS FOR 2018

Archbold Biological Station
Florida Polytechnic University
FFWCC, Florida Fish & Wildlife Research Institute
Florida Gulf Coast University
Harbor Branch Oceanographic Institute
NOAA, Southeast Fisheries Science Center
Rice University
U.S. Army Corps of Engineers, Jacksonville District
University of Florida, Institute of Food & Agricultural Sciences

CORPORATE MEMBER FOR 2018

Walt Disney Imagineering, Florida

Membership applications, subscriptions, renewals, and changes of address should be addressed to Florida Academy of Sciences, P.O. Box 149766, Orlando, FL 32814-9766. Phone: (321) 831-2500

Send purchase orders, payments for reprints and publication charges, orders for back issues and other journal business matters to the Business Manager, Dr. Richard L. Turner, Department of Biological Sciences, FIT, 150 W. University Blvd., Melbourne, FL 32901-6975 [(321) 674-8196; e-mail rturner@fit.edu].

Florida Scientist is included in the following Abstracting and Indexing sources (active, electronic)

Ageline
Agricola (Agricultural OnLine Access)
Animal Behavior Abstracts
Aquatic Sciences & Fisheries Abstracts
Biodiversity Heritage Library (full text prior to vol. 69, 2006)
Biological Abstracts
Biology Digest
BIOSIS Previews
C S A Sustainability Science Abstracts (Cambridge Scientific Abstracts)
Chemical Abstracts
EBSCO host (full text since vol. 69, 2006)
Ecology Abstracts (Bethesda)
Entomology Abstracts
Environmental Engineering Abstracts (Online Edition)
Environmental Sciences and Pollution Management
FISHLIT (Grahamstown, South Africa)
GeoRef
JSTOR (full text since vol. 1, 1936)
Oceanic Abstracts
Pollution Abstracts
ProQuest (full text since vol. 69, 2006)
Referativnyi Zhurnal
Speleological Abstracts
Water Resources Abstracts (Online, Bethesda)
Wildlife Review Abstracts
Zoological Record