

PUBLICATIONS FOR SALE

by the *Florida Academy of Sciences*

Complete sets. Broken sets. Individual numbers. Immediate delivery. A few numbers reprinted by photo-offset. All prices strictly net. Prices quoted include domestic postage. Some issues may not be available. All are \$25 per volume or \$6 per issue, except for symposium issues.

PROCEEDINGS OF THE FLORIDA ACADEMY OF SCIENCES (1936–1944)

Volumes 1–7

QUARTERLY JOURNAL OF THE FLORIDA ACADEMY OF SCIENCES (1945–1972)

Volumes 8–35

FLORIDA SCIENTIST (1973–)

Florida's Estuaries—Management or Mismanagement?—Academy Symposium

FLORIDA SCIENTIST 37(4)—\$5.00

Land Spreading of Secondary Effluent—Academy Symposium

FLORIDA SCIENTIST 38(4)—\$5.00

Solar Energy—Academy Symposium

FLORIDA SCIENTIST 39(3)—\$5.00 (includes do-it-yourself instructions)

Anthropology—Academy Symposium

FLORIDA SCIENTIST 43(3)—\$7.50

Shark Biology—Academy Symposium

FLORIDA SCIENTIST 45(1)—\$8.00

Future of the Indian River System—Academy Symposium

FLORIDA SCIENTIST 46(3/4)—\$15.00

Second Indian River Research Symposium—Academy Symposium

FLORIDA SCIENTIST 53(3)—\$15.00

Human Impacts on the Environment of Tampa Bay—Academy Symposium

FLORIDA SCIENTIST 58(2)—\$15.00

Lessons Learned from Transferring Science to Watershed Management—Charlotte Harbor NEP Special Issue

FLORIDA SCIENTIST 69(Suppl. 2)—\$15.00

“Future of the Indian River Symposium” Revisited—Academy Symposium

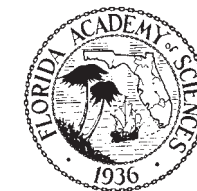
FLORIDA SCIENTIST 70(4)—\$15.00

From Data to Policy: Our Partnership in Action—Charlotte Harbor NEP Special Issue

FLORIDA SCIENTIST 72(4)—\$15.00

Please send payment with order. If required, an invoice will be sent on purchases over \$20 from a recognized institution. Please include Florida sales tax if shipped to a Florida address, unless a copy of a valid Florida Consumer's Sales Tax Certificate is enclosed.

Florida Scientist



Volume 73

Summer/Fall, 2010

Number 3/4

CONTENTS

Epiphytes of the Seagrass <i>Halodule wrightii</i> in Hillsborough Bay, Florida; A 14 Year Study in an Estuary Recovering from Eutrophication	Clinton Dawes and Walter Avery	185
State Listed Species Permits	Robert J. Mrykalo, Kristin A. Caruso, and Edmund A. Hughes	196
Edge Avoidance by Birds Within Urban Forest Remnants.....	Dan Dawson and Mark Hostetler	203
Analysis of Limnological Variables Associated to Water Quality in Lakes of Northwestern Hillsborough County, Florida	Max J. Moreno-Madriñán	218
A Radio Telemetry Study of Invasive Cuban Treefrogs.....	Monica E. McGarrity and Steve A. Johnson	225
Microzooplankton Grazing and Productivity in the Central and Southern Sector of the Indian River Lagoon, Florida	Jennifer Putland and Tracey Sutton	236
A Water Quality Criteria-based Evaluation of Copper Impacts to South Florida's Freshwater Environment	Timothy A. Bargar	247
New Florida Keys Distribution Records for Some Arthropods and an Additional Instance of Facultative Carnivory by a Phytophagous True Bug.....	Lawrence J. Hribar	259
Monitoring of Applied Management Techniques to Control Old World Climbing Fern (<i>Lygodium microphyllum</i>) in Disturbed Habitat	J. T. Hutchinson and K. A. Langeland	262
The Effects of Hurricanes Rita and Ike on the Aquatic Vascular Plants in a Large Fresh-water Marsh in Cameron Parish, Louisiana: A Tale of Two Hurricanes.....	Ray Neyland, Anushobha Regmi, Sisley Badolado, Tiffany Brisson, Rodolfo Falconi, Kandice Herring, Iman Matthews, Alexis McBride, Thomas Widgeon, and Lindsay Willis	274
Review.....	Thomas J. Manning	286

FLORIDA SCIENTIST

QUARTERLY JOURNAL OF THE FLORIDA ACADEMY OF SCIENCES

Copyright © by the Florida Academy of Sciences, Inc. 2010

Editor: Dr. Thomas J. Manning Co-Editor: Dr. Donna Gosnell

Department of Chemistry, Valdosta State University

Valdosta, Georgia 31698 (229) 333-7178, e-mail: tmanning@valdosta.edu

Business Manager: Dr. 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

<http://www.floridaacademyofsciences.org>

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., Biological Sciences, Conservation, Earth and Planetary Sciences, Medical Sciences, Physical 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. Articles must not duplicate in any substantial way material that is published elsewhere. Contributions are accepted only from members of the Academy and so papers submitted by non-members will be accepted only after the authors join the Academy. Instructions for preparations of manuscripts are inside the back cover.

Officers for 2009–2010

FLORIDA ACADEMY OF SCIENCES

Founded 1936

President: Dr. Richard L. Turner
Department of Biological Sciences
Florida Institute of Technology
150 West University Boulevard
Melbourne, FL 32901-6975

Secretary: Mr. Barry Wharton
HDR Engineering, Inc.
2202 N. Westshore Boulevard
Suite 250
Tampa, FL 33607-5711

President-Elect: Dr. David Karlen
Environmental Protection Commission
Hillsborough County
3629 Queen Palm Dr.
Tampa, FL 33619

Treasurer: Dr. Ramon Ruiz-Carus
3600 W. Leona St.
Tampa, FL 33629

Executive Director: Edward A. Haddad
e-mail: floridaacademyofsciences@osc.org

Past-President: Dr. Daniel K. Odell
HSWRI
6295 Sea Harbor Drive
Orlando, FL 32821

Program Chair: Dr. Jeremy Montague
Department of Natural and Health Sciences
Barry University
Miami Shores, FL 33161

INSTRUCTION TO AUTHORS

This information is available at a web site:

FAS site: <http://www.floridaacademyofsciences.org> (select "Florida Scientist").

The Florida Academy of Sciences Web page, indicated above, allows interested persons to join the Florida Academy of Sciences and pay dues.

FLORIDA ACADEMY OF SCIENCES

SPONSORS

HDR Engineering, Inc., Tampa

Membership applications, subscriptions, renewals, and changes of address should be addressed to Florida Academy of Sciences, Orlando Science Center, 777 East Princeton St., Orlando, FL 32803. Phone: (407) 514-2079

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
Biological Abstracts
Biology Digest
BIOSIS Previews
C S A Sustainability Science Abstracts (Cambridge Scientific Abstracts)
Chemical Abstracts
Ecology Abstracts (Bethesda)
Entomology Abstracts
Environmental Engineering Abstracts (Online Edition)
Environmental Sciences and Pollution Management
FISHLIT (Grahamstown, South Africa)
GeoRef
Oceanic Abstracts
Pollution Abstracts
ProQuest
Referativnyi Zhurnal
Speleological Abstracts
State Academies of Sciences Abstracts (1985-)
Water Resources Abstracts (Online, Bethesda)
Wildlife Review Abstracts
Zoological Record