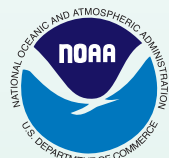


Revista de **BIOLOGÍA TROPICAL**

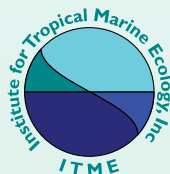
International Journal of **TROPICAL BIOLOGY** and **CONSERVATION**

Volume 58 (Suppl. 3), October 2010

The Association of Marine Laboratories of the Caribbean (AMLC): New Thoughts, New Directions	XI
Program	XIII
Monitoring coral reefs, seagrasses and mangroves in Costa Rica (CARICOMP) Jorge Cortés, Ana C. Fonseca, Jaime Nivia, Vanessa Nielsen-Muñoz, Jimena Samper-Villarreal, Eva Salas, Solcira Martínez & Priscilla Zamora-Trejos	1-22
Environmental state and tendencies of the Puerto Morelos CARICOMP site, Mexico Rosa E. Rodríguez-Martínez, Francisco Ruíz-Rentería, Brigitta van Tussenbroek, Guadalupe Barba-Santos, Edgar Escalante-Mancera, Guillermo Jordán-Garza & Eric Jordán-Dahlgren	23-43
Temporal patterns in coral reef, seagrass and mangrove communities from Chengue bay CARICOMP site (Colombia): 1993-2008 Alberto Rodríguez-Ramírez, Jaime Garzón-Ferreira, Angélica Batista-Morales, Diego L. Gil, Diana Isabel Gómez-López, Kelly Gómez-Campo, Tomás López-Londoño, Raúl Navas-Camacho, María Catalina Reyes-Nivia & Johanna Vega-Sequeda	45-62
The Jamaican CARICOMP Site: using a temporal data set to assist in managing coastal resources Peter Gayle, Bernadette Charpentier, Omar Spence & Adrian Levelle	63-39
Marine spatial planning (MSP): A first step to ecosystem-based management (EBM) in the Wider Caribbean John C. Ogden	71-79
Temporal and Spatial Distribution Patterns of Echinoderm Larvae in La Parguera Stacey M. Williams & Jorge García-Sais	81-88



Center for Sponsored Coastal Ocean Research

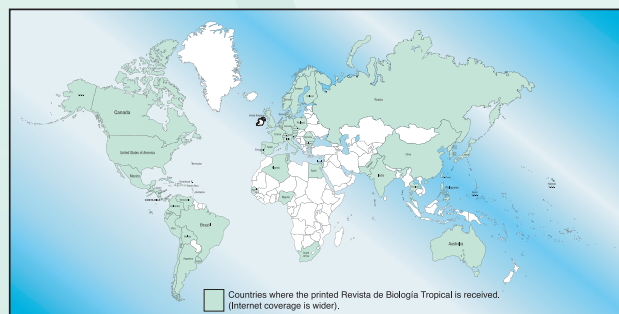


Institute for Tropical Marine Ecology Inc



Caribbean Fisheries Council

Índice completo en página V / Complete Contents in page V



Revista de **BIOLOGÍA TROPICAL**
International Journal of **TROPICAL BIOLOGY** and **CONSERVATION**

34TH SCIENTIFIC MEETING OF THE AMLC
34^{VA} REUNIÓN CIENTÍFICA DE LA ALMC

Vol. 58 (Suppl. 3)
October 2010



Indexed in:
Creado en:
CURRENT CONTENTS
BIOLOGICAL ABSTRACTS
ZOOLOGICAL RECORD
GOOGLE-SCHOLAR
and many others / y muchos otros

www.biologiatropical.ucr.ac.cr

ISSN-0034-7744

Revista de **BIOLOGÍA TROPICAL**

International Journal of **TROPICAL BIOLOGY** and **CONSERVATION**



UNIVERSIDAD DE
COSTA RICA

Volumen 58 (Supl. 3)

Octubre, 2010

San José, Costa Rica

PROCEEDINGS OF THE 34TH SCIENTIFIC MEETING OF THE
MEMORIAS DE LA 34^{VA} REUNIÓN CIENTÍFICA DE LA

ROSEAU, DOMINICA, MAY 25-29, 2009

AMLC/ALMC

ASSOCIATION OF MARINE
LABORATORIES OF THE CARIBBEAN

ASOCIACIÓN DE LABORATORIOS
MARINOS DEL CARIBE



Scientific Editors / Editores Científicos
Jorge Cortés, Paul Sammarco & Norman Quinn

Revista de **BIOLOGÍA TROPICAL**

International Journal of **TROPICAL BIOLOGY** and **CONSERVATION**

Director: Julián Monge-Nájera¹

Editorial Board / Comité Editorial: Julieta Carranza², Juan B. Chavarría², Enrique Freer², Jorge León³, María Isabel Morales², Bernal Morera⁴, Pedro Morera², José A. Vargas²

Supplement Editor / Editor de Suplementos: Julián Monge-Nájera¹

Administrative Editor / Editora Administrativa: Daisy Arroyo Mora²

Technical Editor / Editora Técnica: Vanessa Nielsen Muñoz²

- 1 Universidad Estatal a Distancia, San José, Costa Rica.
- 2 Universidad de Costa Rica, San José, Costa Rica.
- 3 FAO, Rome, Italy (retired).
- 4 Universidad Nacional, Heredia, Costa Rica.

Revista de **BIOLOGÍA TROPICAL**

International Journal of **TROPICAL BIOLOGY** and **CONSERVATION**

The **Revista de Biología Tropical** has been published without interruption since 1953, has worldwide distribution and a high *Science Citation Index* rating. Issues are published each March, June, September and December. Normally, several supplements are also published each year (not included in subscription).

La **Revista de Biología Tropical** se publica ininterrumpidamente desde 1953, tiene distribución mundial y una alta evaluación del *Science Citation Index*. Se publican cuatro fascículos anuales (marzo, junio, setiembre y diciembre). Normalmente, también se publican varios suplementos cada año (no se incluyen en la suscripción).

INDEXED IN/INCLUIDA EN:

Abstracts on Hygiene and Communicable Diseases; Animal Breeding Abstracts; ASFA (Aquatic Sciences and Fisheries Abstracts); Bio-Control News and Information; Biological Abstracts; Chemical Abstracts; Current Contents; Ecological Abstracts; Entomology Abstracts; Field Crop Abstracts; Forestry Abstracts; GetCited; Grasslands and Forage Abstracts; Google Scholar; Helminthological Abstracts; Herbage Abstracts; Horticultural Abstracts; Index Medicus; Index Veterinarius; INIS Atomindex (International Nuclear Information System); LATINDEX; Medline; Periódica (Índice de Revistas Latinoamericanas en Ciencias); Poultry Abstracts; Protozoological Abstracts; Review of Medical and Veterinary Mycology; Review of Plant Pathology; Seed Abstracts; Veterinary Bulletin; Water Resources Abstracts; Weed Abstracts; Zoological Record; Pascal; LILACS (Literatura Latino-Americana e do Caribe em Ciências da Saúde); Nutrition Abstracts and Reviews Series A: Human and Experimental; Nutrition Abstracts and Reviews Series B: Livestock and Feeding; Review of Agricultural Entomology; Review of Medical and Veterinary Entomology; Dairy Science Abstracts; Research Alert; Science Citation Index Expanded; SciELO; Scirus.

Scope

The journal publishes articles in all fields of Tropical biology and conservation. Selection criteria are the amount of new information, quality and interest to a general readership. Studies with a strong experimental design, prolonged field work and taxonomic-systematics studies of whole groups are typical of the type of papers that are accepted, while preliminary studies and highly specialized reports are not.

Why submit?

Manuscripts are judged solely on the criteria of quality and pertinence, and sent to three independent reviewers. The whole pre-publication process is done by Internet to reduce processing time. Authors receive digital reprints free of charge and the articles are published in Internet according to the Open Access Initiative.

SINGLE COPY / NÚMERO SUELTO:

Costa Rica € 2 500*.

YEARLY SUBSCRIPTION / SUSCRIPCIÓN ANUAL:

Costa Rica € 6 000*.

Latin America, Asia and Africa / América Latina, Asia y África US\$ 60

Rest of the World / Resto del mundo US\$ 100*

* Make checks payable to/Cheques a nombre de: *Universidad de Costa Rica*; a price reduction is made to distributing agencies. For subscriptions, contact distribucionyventas.siedin@editorial.ucr.ac.cr

INTERNATIONAL SCIENTIFIC BOARD / COMITÉ CIENTÍFICO INTERNACIONAL

USA / EEUU

Harlan Dean

Harvard University, Cambridge, Massachussets, *USA*

Juliette Denslow

Louisiana State University, Baton Rouge, Louisiana, *USA*

Ana Dittel

University of Delaware, Newark, Delaware, *USA*

Paul Ehrlich

Stanford University, Palo Alto, California, *USA*

Peter W. Glynn

University of Miami, Miami, Florida, *USA*

Harry W. Greene

Cornell University, Ithaca, New York, *USA*

Daniel H. Janzen

University of Pennsylvania, Philadelphia, Pennsylvania, *USA*

Gordon H. Orians

University of Washington, Seattle, Washington, *USA*

Jay M. Savage

Rana Dorada Enterprises, San Diego, California, *USA*

David Wake

University of California, Berkeley, California, *USA*

Edward O. Wilson

Harvard University, Cambridge, Massachussets, *USA*

EUROPE / EUROPA

Peter Döbbeler

Institut für Systematische Botanik, München, *Germany*

Klaus Gocke

Institut für Meereskunde, Kiel, *Germany*

Maarten Kapelle

U. Amsterdam / The Nature Conservancy, San José, *Costa Rica*

Wilson Lourenço

Muséum National d'Histoire Naturelle, Paris, *France*

Lawrence Mound

The Natural History Museum, London, *England*

Matthias Wolff

Zentrum für marine Tropenökologie, Bremen, *Germany*

LATIN AMERICA / AMÉRICA LATINA

William Eberhard

Universidad de Costa Rica, San José, *Costa Rica*

Michel E. Hendrickx

UNAM, Sinaloa, *México*

E. Rappoport

Universidad del Comahue, Bariloche, *Argentina*

Sergio Salazar-Vallejo

ECOSUR, Chetumal, *México*

AFRICA / ÁFRICA

Pius Araoye

Benue State University, Makurdi, *Nigeria*

CONTACT

Tels.: (506) 2511-5550 • (506) 2511-8980 • (506) 2511-8981 • (506) 2511-8982 • Fax (506) 2511-5550

biologia.tropical@ucr.ac.cr

Revista de Biología Tropical, Universidad de Costa Rica, 11501-2060 San José, Costa Rica