

# NEMATROPICA Vol. 50, No. 1

## EDITORIAL COMMITTEE – COMITÉ EDITORIAL

### Editors-in-Chief – Editores en Jefe:

Louise-Marie Dandurand, University of Idaho, Moscow, ID, USA – [lmd@uidaho.edu](mailto:lmd@uidaho.edu)

Inga Zasada, USDA-ARS, Corvallis, OR, USA – [inga.zasada@usda.gov](mailto:inga.zasada@usda.gov)

### Past Editor-in-Chief – Ex Editor en Jefe

Brent S. Sipes, University of Hawaii at Manoa, Department of Plant and Environmental Protection Sciences, Honolulu, HI, USA – [sipes@hawaii.edu](mailto:sipes@hawaii.edu)

### Senior Editors – Editores Adjuntos:

Danny Humphreys-Pereira, University of Costa Rica, San Jose, Costa Rica – [danny.humphreys@ucr.ac.cr](mailto:danny.humphreys@ucr.ac.cr)

Claudio Marcelo Oliveira, Instituto Biologico, Campinas, Sao Paulo, Brazil – [marcelonematologia@gmail.com](mailto:marcelonematologia@gmail.com)

### Associate Editors – Editores Asociados:

Johan Desaegeer, University of Florida, Wimauma, FL, USA – [jad@ufl.edu](mailto:jad@ufl.edu)

Travis Faske, University of Arkansas, Lonoke, AR, USA – [tfaske@uark.edu](mailto:tfaske@uark.edu)

Tristan Watson, Louisiana State University, Baton Rouge, LA, USA – [twatson@agcenter.lsu.edu](mailto:twatson@agcenter.lsu.edu)

### Coordinator of the Electronic Version of Nematropica:

Larry Duncan, University of Florida, Institute of Food and Agricultural Science, Citrus Research and Education Center, Lake Alfred, FL USA – [lwduccan@ufl.edu](mailto:lwduccan@ufl.edu)

NEMATROPICA (ISSN 2220-5608/ISSN 2220-5616) is published biannually by ONTA, the ORGANIZATION OF NEMATOLOGISTS OF TROPICAL AMERICA. The organization meets once a year for the presentation of papers on tropical and subtropical nematology and for the transaction of business. Interested persons can apply for membership at the ONTA homepage, <http://www.ontaweb.org/>. Annual membership is \$40.00 U.S. for regular members and \$500 U.S. for sustaining members. Payment can be made with a check in U.S. currency drawn on a USA bank or by VISA and MasterCard; however, a fee of \$7.00 U.S. will be added for credit card orders. Membership form and other information regarding ONTA and Nematropica can be found at the ONTA website: <http://ontaweb.org>.

NEMATROPICA (ISSN 2220-5608/ISSN 2220-5616) es la publicación bianual de ONTA, la ORGANIZACIÓN DE NEMATÓLOGOS DE LOS TRÓPICOS AMERICANOS. La organización se reúne una vez al año para presentar trabajos en nematología tropical y subtropical y para discutir asuntos administrativos. Las personas interesadas en pertenecer a la ONTA deben hacerlo en la página web de la organización: <http://www.ontaweb.org/>. El costo de la membresía anual es de \$40.00 USD para miembros ordinarios y \$50.00 USD para miembros patrocinadores. Los pagos pueden hacerse con cheque de banco en EEUU o con tarjeta de crédito VISA o MasterCard. Se cobra un costo adicional de \$7.00 USD a las transacciones hechas con tarjeta de crédito. El formato de membresía y otra información acerca de la ONTA puede encontrarse en la página web de la organización: <http://ontaweb.org>

## OFFICERS OF ONTA FOR 2020-2021 – FUNCIONARIOS DE ONTA PARA 2020-2021

**President – Presidente:** *Martin Augusto Delgado Junchaya*, Universidad Privada Antenor Orrego, Trujillo, La Libertad, Peru. Email: [mldelgadoj@upao.edu.pe](mailto:mldelgadoj@upao.edu.pe)

**Vice-President – Vicepresidente:** *Fabio Chaverri Fonseca*, IRET-UNA, Universidad Nacional, apartado postal 86-3000, Heredia, Costa Rica. Tel: (506) 22773584, (506) 22773587; FAX: (506) 22773583; email: [fabio.chaverri@una.cr](mailto:fabio.chaverri@una.cr)

**Secretary – Secretaria:** *Maria de Lourdes Mendes*, Department of Entomology and Nematology, University of Florida, P.O. Box 110620, Gainesville FL 32611-0620, USA; e-mail: [mlmendes@ufl.edu](mailto:mlmendes@ufl.edu)

**Treasurer-Tesorero:** *Renato N. Inserra*, Florida Department of Agriculture & Consumer Services, Division of Plant Industry, P.O. Box 147100, Gainesville FL 32614-7100 USA. Tel: 1-352-395-4755, FAX: 1-352-395-4614; e-mail: [renato.inserra@fdacs.com](mailto:renato.inserra@fdacs.com)

**Business Manager – Administradora:** *Janete A. Brito*, Florida Department of Agriculture & Consumer Services, Division of Plant Industry, 1911 SW 34th Street, Gainesville, FL 32608 USA. Tel: 352-395-4752, FAX: 352 395-4614; e-mail: [janete.brito@fdacs.com](mailto:janete.brito@fdacs.com)

**Members-at-Large - Miembros Generales:** *Mayra G. Rodríguez Hernández*; Departamento de Protección Vegetal, Centro Nacional de Sanidad Agropecuaria (CENSA), San José de las Lajas, Provincia Mayabeque, Cuba, e-mail: [mrquez@censa.edu.cu](mailto:mrquez@censa.edu.cu) or [mayrag2531961@gmail.com](mailto:mayrag2531961@gmail.com); *Daniel L. Coyne*, International Institute of Tropical Agriculture (IITA), Nairobi, Kenya; e-mail: [d.coyne@cgiar.org](mailto:d.coyne@cgiar.org)

# NEMATROPICA

*Una Revista Científica Internacional de Nematología Tropical y Subtropical Publicada por ONTA*  
*An International Scientific Journal of Tropical and Subtropical Nematology Published by ONTA*

Nematropica (ISSN 2220-5608) is an international scientific journal of tropical and subtropical nematology. Manuscripts will not be considered for publication unless at least one author is a member of ONTA at the time the manuscript is submitted. There are no page charges for publication in Nematropica. Beginning in 2011 with Volume 41, Nematropica has been exclusively an on-line journal available via the ONTA website <http://www.ontaweb.org/> and <http://journals.fcla.edu/nematropica/issue/current>.

## NOTICE TO CONTRIBUTORS/NOTAPARA LOS COLABORADORES

<http://ontaweb.org/>

Vol. 50, No. 1

Junio-2020-June

Online Publication Prepared by:  
Cathy Howard  
Operations Manager/Copy Editor  
Email: [nematropica@gmail.com](mailto:nematropica@gmail.com)