

# JOURNAL of NEMATOTOLOGY

The Official Journal of The Society of Nematologists

---

Volume 48, Number 3, September 2016



Steam treatment for RKN control

**Journal of Nematology 48(3):135–222 (2016)**  
**Hanover, Pennsylvania**

ISSN 0022-300X

# JOURNAL OF NEMATOLOGY

THE OFFICIAL JOURNAL OF THE SOCIETY OF NEMATOLOGISTS

## EDITORIAL BOARD

### Editor-in-Chief

Andrea M. Skantar, 2018. USDA-ARS, Beltsville, MD, USA

### Editors

William Crow, 2015. University of Florida, Gainesville, FL, USA

Sergei Subbotin, 2016. California Department of Food and Agriculture, Sacramento, CA, USA

Erik J. Ragsdale, 2016. Max Planck Institute, Tübingen, Germany

Axel Elling, 2016. Bayer CropScience, Morrisville, NC, USA

Richard F. Davis, 2016. USDA-ARS, Tifton, GA, USA

Zafar Handoo, 2017. USDA-ARS, Beltsville, MD, USA

David Shapiro-Ilan, 2017. USDA-ARS, Byron, GA, USA

Johnathan Dalzell, 2018. Queens University Belfast, Belfast, Ireland, UK

James LaMondia, 2018. The Connecticut Agricultural Experiment Station, Windsor, CT, USA

Eyualem Abebe, 2019. Elizabeth City State University, Elizabeth City, NC, USA

Maria Viketoft, 2019. Swedish University of Agricultural Sciences, Uppsala, Sweden

Koon-Hui Wang, 2019. University of Hawaii, Manoa, HI, USA

---

## Published by the Society of Nematologists

President: Patricia Timper

President Elect: Nancy Kokalis-Burelle

Vice-President: William Crow

Past President: Byron Adams

Secretary: Koon-Hui Wang

Treasurer: Kathy Lawrence

Editor-in-Chief: Andrea Skantar

Executive Member: Axel Elling

Executive Member: Erik Ragsdale

Executive Member: Guiping Yan

Webpage Editor: Roxana Myers

Newsletter Editors: Jon Eisenback and Paulo Vieira

---

Journal of Nematology (ISSN 0022-300X) is published quarterly by The Society of Nematologists. For other information, visit: <http://www.nematologists.org>

Mention of a pesticide, cultivar, or commercial or proprietary product does not constitute a recommendation or an endorsement of its use by editors, author(s), their institutions, or The Society of Nematologists. Authors are responsible for statements made in the Journal, whether of fact or opinion.

Cover—Perforated medium density polyethylene plastic pipe (7.6 cm diameter) used with saturated steam. This method is well suited for combined use with solarization, and is relatively efficient with regard to fuel consumption. Four pipes were installed in each planting bed, with at least one pipe per foot of bed width. Pipes were laid in trenches at 35-cm depth with the objective of heating the top 20 cm of soil. Lower right: standard 7.6 cm perforated plastic drain tile (steam 1), lower left: custom-drilled plastic drain tile with 1.6-mm holes spaced every 3.8 cm (steam 2).

---

Sustaining Associates of  
THE SOCIETY OF NEMATOLOGISTS

**Bayer**

Stephen Krueger  
stephen.krueger@bayer.com

**Marrone Bio Innovations**

Pam Marrone  
pmarrone@marronebio.com  
Davis, CA

**The University of Georgia**

Kelly Morris  
kamorris@uga.edu

**Skryabin Scientific Research Institute of**

**Helminthology**

Nina Smoylovskaya  
ninasamoylovskaya@gmail.com  
Moscow, Russia

**Adama**

Herb Young  
herb.young@adama.com

**BASF Corporation**

Shaun Berry  
shaun.berry@basf.com  
Research Triangle Park, NC

**Syngenta**

Bruce Battles  
bruce.battles@syngenta.com

Sustaining associate members help support The Society of Nematologists (SON) through their financial assistance, knowledge, expertise, and professional involvement in the science of nematology. For information about these companies or if you would like to become a sustaining associate member, contact a member of the Executive Board, or the SON Business Office (societyofnematologist@gmail.com).

---

Annual membership in the Society of Nematologists is \$60 US for regular members, \$30 for students, and \$500 for Sustaining Associates. Payment must be with a check in US currency drawn on a US bank or by Visa or MasterCard. A fee of \$9.95 will be added to all transactions. The Nematology Newsletter is included in the membership dues for regular and student members. Institutional Subscription rates are \$140/yr in the United States and \$160 outside the US. This and other information can be found at the Society's website: <http://www.nematologists.org>.

**CONTENTS**  
**JOURNAL OF NEMATOLOGY**

**Vol. 48, No. 3**

**September 2016**

**Research Note**

- First Report of *Longidorus kuiperi* and *Rotylenchus eximius* from Coastal Sand Dunes in Crete, Greece. EMMANUEL A. TZORTZAKAKIS, CAROLINA CANTALAPIEDRA-NAVARRETE, ANTONIO ARCHIDONA-YUSTE, JUAN E. PALOMARES-RIUS, AND PABLO CASTILLO ----- 135
- First Report of the Spiral Nematode *Rotylenchus incultus* (Nematoda: Hoplolaimidae) from Cultivated Olive in Tunisia, with Additional Molecular Data on *Rotylenchus eximius*. ILHEM GUESMI-MZOUGHJI, ANTONIO ARCHIDONA-YUSTE, CAROLINA CANTALAPIEDRA-NAVARRETE, HAJER REGAIEG, NAJET HARRIGUE-RAOUANI, JUAN E. PALOMARES-RIUS, AND PABLO CASTILLO ----- 136

**Contributed Papers**

**Entomopathogenic Nematodes**

- First Report of *Heterorhabditis amazonensis* from Venezuela and Characterization of Three Populations. NAIYULIN MORALES, PATRICIA MORALES-MONTERO, VLADIMIR PUZA, AND ERNESTO SAN-BLAS ----- 139
- Steinernema biddulphi* n. sp., a New Entomopathogenic Nematode (Nematoda: Steinernematidae) from South Africa. HARUN CIMEN, VLADIMÍR PŮŽA, JIŘÍ NERMUŤ, JUSTIN HATTING, TSHIMA RAMAKUWELA, AND SELCUK HAZIR ----- 148
- Coronostoma claireae* n. sp. (Nematoda: Rhabditida: Oxyuridomorpha: Coronostomatidae) from the Indigenous Milliped *Narceus gordanus* (Chamberlain, 1943) (Diplopoda: Spirobolida) in Ocala National Forest, Florida. GARY PHILLIPS, ERNEST C. BERNARD, ROBERT J. PIVAR, JOHN K. MOULTON, AND ROWLAND M. SHELLEY ----- 159
- Curative Control of the Peachtree Borer Using Entomopathogenic Nematodes. DAVID I. SHAPIRO-ILAN, TED E. COTTRELL, RUSSELL F. MIZELL III, AND DAN L. HORTON ----- 170

**Nematode Management**

- Effect of Application Timing of Oxamyl in Nonbearing Raspberry for *Pratylenchus penetrans* Management. INGA A. ZASADA AND THOMAS W. WALTERS ----- 177
- Evaluation of Steam and Soil Solarization for *Meloidogyne arenaria* Control in Florida Floriculture Crops. NANCY KOKALIS-BURELLE, ERIN N. ROSSKOPF, DAVID M. BUTLER, STEVEN A. FENNIMORE, AND JOHN HOLZINGER ----- 183

**Taxonomy**

- Mitochondrial Haplotype-based Identification of Root-knot Nematodes (*Meloidogyne* spp.) on Cut Foliage Crops in Florida. RICHARD BAIDOO, SOUMI JOSEPH, TESFAMARIAM M. MENGISTU, JANETE A. BRITO, ROBERT MCSORLEY, ROBERT H. STAMPS, AND WILLIAM T. CROW ----- 193
- Morphological and Molecular Characterization of *Gracilacus wuae* n. sp. (Nematoda: Criconematoidea) Associated with Cow Parsnip (*Heracleum maximum*) in Ontario, Canada. QING YU, WEIMIN YE, AND TOM POWERS ----- 203
- Discopersicus* n. gen., a New Member of the Family Tylenchidae Örley, 1880 with Detailed SEM Study on Two Known Species of the Genus *Discotylenchus* Siddiqi, 1980 (Nematoda; Tylenchidae) from Iran. ALI YAGHOUBI, EBRAHIM POURJAM, SERGIO ÁLVAREZ-ORTEGA, GRACIA LIÉBANAS, MOHAMMAD REZA ATIGHI, AND MAJID PEDRAM ----- 214