VOL 55 ISSUE 1

ORGANIZATION OF NEMATOLOGISTS OF TROPICAL AMERICA
ONTA NEWSLETTER
http://www.ontaweb.org/ June 2025

55th ONTA ANNUAL MEETING
CALI, COLOMBIA: 01–05 SEPTEMBER, 2025

Fig. 1. Colombia landmarks. A: Downtown Cali illuminated at night, showcasing the city's nocturnal urban life; B: Landscape of Valle del Cauca, an agricultural region of Colombia known for its sugarcane and coffee production.

Fig. 2. 55th ONTA Annual Meeting Logo.

55th ANNUAL MEETING ONTA
CALI, COLOMBIA, 01-05 September, 2025

WE ARE PREPARING TO WELCOME YOU IN CALI - COLOMBIA

Preparations for the 55th Annual Meeting of the Organization of Nematologists of Tropical America (ONTA), to be held in Cali, Colombia, from September 1–5, 2025, are progressing steadily. We include below a general update on most recent developments:

Sponsorship and Institutional Support

We are pleased to report Local Arrangements organizers' active engagement with both national and international companies, several of which have already confirmed their support (Syngenta, Corteva, Basf, Certis). There are also ongoing discussions with other interested sponsors. A collaboration agreement has been signed with a Colombian university, which will assist in managing the registration and sponsorship process.

Website and Abstract Submission

The official website is fully operational, and the abstract submission portal has been open since early April. We anticipate an increase in registration and abstract submission as the new deadline approaches (30 June). Delegates to the ONTA meeting can request, through the website, a formal invitation letter to support internal or visa-related processes.

Scientific Program and Session Chairs

The scientific program is being finalized with the support of colleagues from across the region. A diverse group of session chairs has been identified, and official invitations are being sent. We are confident this collaborative effort will result in a strong and well-structured program.

Field Day Planning

We are currently exploring three options for the technical field day; all located in the Valle del Cauca region:

- A visit to CIAT (International Center for Tropical Agriculture) (Fig. 3).
- A tour of AGROSAVIA, Colombia's national agricultural research institute (Fig. 4).
- A cultural and technical experience at a coffee farm in Sevilla, including a cupping and barista workshop (Fig. 5).

Delegates Invitation Letters

We have already provided formal letters to delegates who need institutional or visa support to attend the meeting. A notice has been added to the congress website informing attendees that letters can be requested by emailing: info@ontacolombia.cl.

Looking Ahead

We are excited about the growing interest and support for ONTA 2025 and remain committed to hosting a dynamic and inclusive event that fosters collaboration and advances nematological research and practice across the Americas. For ongoing updates, visit: https://ontacolombia.cl

Fig. 3. International Center for Tropical Agriculture (CIAT): Aerial view of CIAT headquarters, a leading research center focused on sustainable agriculture, soil health, and tropical crops. CIAT is one of the proposed field trip locations for ONTA 2025.

Fig. 4. Main entrance of AGROSAVIA's facility: a Colombian public research institution focused on agricultural innovation, crop protection, and sustainable farming practices. This is one of the proposed field trip destinations for ONTA 2025.

Fig. 5. Hacienda San Carlos – Coffee Farm: Scenic view of Hacienda San Carlos, a coffee plantation located in the mountains of Valle del Cauca near Cali. This farm is one of the proposed field trip destinations for ONTA 2025 and offers a coffee tasting and barista workshop experience.

BRIEF HISTORY OF NEMATOLOGY IN COLOMBIA

By M.Sc. Francia E. Varon and Dr Carlos Castañeda-Alvarez

The history of nematology in Colombia dates back to the 1960s, in the context of the study of red ring disease in coconut palms. Agronomist Alberto Sánchez Potes, M.Sc., was one of the first professionals to address this nematological problem in the country. Later on, in 1968, the Cotton Development Institute (IFA) appointed Dr Jorge Ignacio Victoria Kafure to address cases associated with *Bursaphelenchus cocophilus*, which causes the red ring disease in coconut and oil palms. The work began at the El Mira Experimental Center in Tumaco (Nariño department, southwest of the country) and extended along the entire Pacific coast, from the border with Ecuador to Buenaventura (Valle del Cauca). The program's main objective was to evaluate a chemical process for eradicating affected palms, as well as to study aspects of the biology of the nematode, its vector, and its host species. During this period, the disease caused the loss of more than 10,000 ha of coconut palms, constituting a large-scale phytosanitary problem that still persists.

During that same period, Dr Rodolfo Barriga Olivares (RIP), who had returned to the country after obtaining his doctorate in Nematology, joined the Palmira Research Center (southwestern Colombia) of the Colombian Agricultural Institute (ICA), a state entity responsible for coordinating research, agricultural health, and technological development in the agricultural sector. Since his arrival, he has played a key role in consolidating the discipline, actively promoting the training of students and professionals, and positioning nematology within the national phytopathological field. Later on, as national director of the ICA Plant Pathology Program, he encouraged plant pathologists at the Institute's various regional centers to integrate nematode studies into their research, with an emphasis on recognition, identification, quantification, parasitism, and management. Beginning in 1975, under his leadership, the ICA joined the International *Meloidogyne* Project (MIP, Regional II), sponsored by North Carolina State University (USA), which led to the identification of several species of the genus *Meloidogyne* associated with crops of agricultural interest in Colombia.

In 1975, the ICA, under the leadership of Dr Barriga (Fig. 6), established the Colombo-Dutch Agreement with the goal of strengthening research on cyst nematodes in potato crops. Within the framework of this project, the presence of *Globodera pallida* was confirmed, identified in plantations located in the department of Nariño (southwestern Andes). Active participants in the initiative included agricultural engineers M.Sc. Omar Guerrero, Luis Eduardo Nieto, Carlos Baeza, Francia Varón, and others. This agreement provided basic infrastructure to the laboratories at ICA's research centers in Palmira (southwest), Obonuco (Nariño), and Tibaitatá (central of the country), strengthening the country's technical capacity to study this group of nematodes.

With the opening of the Graduate Studies Program between the ICA and the National University of Colombia (UNAL) in Bogotá, the subject of Agricultural Nematology was incorporated as an integral part of the curriculum, under the responsibility of Dr Rodolfo Barriga Olivares. During this period, his academic leadership was important, as he trained many of the plant pathologists who would later promote the study of nematodes in various centers across the country. Without a doubt, the beginnings of nematology in Colombia were closely linked to his work, both for his scientific vision and his educational role.

Brief History of Nematology in Colombia (cont.)

In 2000, the ICA and the Colombian Agricultural Research Corporation (Corpoica, now Agrosavia), a public entity dedicated to research and innovation for the agricultural sector, actively participated in the Fontagro-IICA Project, aimed at integrated pest management in Andean crops. In its nematological component, the work in Colombia focused on species associated with 'lulo' (*Solanum quitoense*), tree tomato (*Solanum betaceum*), and passion fruit (*Passiflora ligularis*). This project, implemented jointly with the governments of Ecuador, Venezuela, and Bolivia, strengthened the regional approach to addressing common phytosanitary problems in these crops.

Some researchers from ICA and Corpoica, together with specialists in Plant Pathology in various research centers such as Cenibanano (north of the country), Cenicafé (center-west), Cenipalma (center, northeast and southwest), Ceniflores (center of the country) and Fedearroz (center and southwest), have developed works aimed at expanding knowledge about nematodes associated with a wide range of crops: potato, coffee, plantain, banana, export flowers, sugarcane, vegetables, fruit trees, corn, soybeans, beans, rice and oil palm. University professors of plant pathology and their students have actively contributed to these efforts from the academic field. Among the significant findings of these collaborations are the identification of the cyst nematode *Heterodera glycines* in the Cauca Valley in 1982, and of *H. trifolii* in carnation crops in the Bogotá savanna in 1984.

The presence of nematodes in coffee crops has been recorded since 1929. However, in the 1970s and 1980s, plant pathology researchers from Cenicafé such as Selma López, Jairo Leguizamón, Carlos Baeza, D. A. Villaba, among others, carried out systematic studies on the nematofauna associated with the crop. Using differential plant parasitism tests, they were able to identify several species of *Meloidogyne*, thus providing a basis for understanding the nematode-plant relationship in this agricultural system of high strategic value for the country.

In the area of international scientific collaboration, the Organization of Nematologists of the American Tropics (ONTA) has held two meetings in Colombia. The first took place in 1970, in Bogotá, in conjunction with the Plant Breeding Conference. The second was in 1981, at the International Center for Tropical Agriculture (CIAT) in Palmira, and was jointly organized by the Colombian Association of Plant Pathology (ASCOLFI) and the Caribbean Division of the American Phytopathological Society (APS).

The first Nematology course was taught in 1970, as an elective at UNAL, Palmira campus, by Agricultural Engineer Hernán Ramírez Adarve, M.Sc. Subsequently, starting in 1978, the Agricultural Nematology course was occasionally taught at the same campus by Agricultural Engineer M.Sc. Francia Varón as a graduate program in undergraduate programs, and since 2017, also in graduate programs. Dr Eyder Daniel Gómez currently teaches this course as an undergraduate elective.

In the academic field, several universities have played a key role in the training of nematologists and in the development of applied research. At the UNAL Medellín campus (northwest of the country), Dr Rafael Navarro taught the first course in Nematology in 1968 and, together with his student Dr Charles Volcy, promoted the teaching of this subject, leading studies on crops such as tomato, coffee, corn, tobacco, sugarcane, and fruit trees such as papaya (*Carica papaya*), grapevine (*Vitis vinifera*), passion fruit (*Passiflora edulis*), and 'badea' (*Passiflora quadrangularis*). Dr Volcy was the author of The ABCs of Nematology (1997) and Biodiversity and Parasitism (1998), texts widely used in the region.

Brief History of Nematology in Colombia (cont.)

At UNAL Bogotá, the Nematology course was occasionally taught by Dr Charles Volcy (2000–2010), and since 2016 by Dr Nancy Niño, whose research has focused mainly on solanaceae. Rafael Navarro, M.Sc., Agr., began his training in Nematology with Dr Barriga at the Palmira Research Center (ICA), and later, from the Catholic University of the East (northeast, Antioquia), he led studies on nematodes in cut flowers, fruit trees, and vegetables with his students. At the University of Caldas (central-western region, Coffee Region), Dr Óscar Guzmán has developed research on nematode recognition and management, especially in *Musaceae*. Meanwhile, the University of Nariño (southwestern of the country) has conducted research on parasitic nematodes, with an emphasis on lulo crops. Professors Carlos Betancourt and Benjamín Sañudo published the book "Principles of Agricultural Nematology" in 2003, which has served as a basis for academic training in the region.

Since 2008, nematological research in Colombia has incorporated molecular biology tools, expanding diagnostic and characterization capabilities. At UNAL Palmira campus, there are currently two research groups supported by the Ministry of Science working on isoenzyme analysis and the molecular and integrative characterization of nematodes in various crops of economic interest. Professionals such as Donald Riascos, Carlos Arboleda, and Ana Teresa Mosquera, among others, have been trained in this field.

Although progress has been made in identifying plant-parasitic nematode populations down to the species level through morphological, morphometric, and molecular analysis, it is necessary to continue strengthening these lines of work to achieve more precise taxonomic delimitation. Based on the knowledge generated, it is essential to develop taxonomic keys adapted to Colombian populations of genera such as *Helicotylenchus*, *Pratylenchus*, *Rotylenchulus*, and others. It is also essential to advance the study of the role of nematodes in soil and ecosystem health, as well as to explore the potential of endosymbionts and evaluate sustainable tactics for controlling plant-parasitic nematodes. These approaches will be key to developing integrated management plans that respond to the current challenges facing Colombian agriculture.

In the field of biological control, significant contributions have also been made in the study of entomopathogenic nematodes. Between 1971 and 1973, Dr Amador Villacorta worked on CIAT's cassava program in Palmira, where he conducted studies with the Steinernematidae and Heterorhabditidae families for the integrated management of crop pests. Cenicafé, through its entomology group, evaluated the use of these nematodes in the control of coffee pests, while ICA, with Agricultural Engineer M.Sc. Fulvia García Roa, incorporated them into integrated management programs for plantain and banana. In 2006, Parada *et al*. published the book Entomoparasitic Nematodes: Experiences and Perspectives, published by UNAL Bogotá, which summarizes several of these national experiences. Since 2008, Professor Adriana Sáenz Aponte, from the Pontificia Universidad Javeriana (Bogotá), has led research on the isolation, characterization, and production of entomopathogenic nematodes and their bacterial symbionts, applied to crops of national interest. Her work has also explored combinations with entomopathogenic fungi and cryopreservation techniques.

Over more than five decades, nematology in Colombia has evolved from targeted interventions in strategic crops to significant contributions in taxonomy, molecular biology, biological control, and professional training. Thanks to the work of institutions such as the ICA, Agrosavia, public and private universities, and specialized research centers, the country has developed the technical capabilities that today allow it to address the phytosanitary problems associated with different groups of nematodes.

Brief History of Nematology in Colombia (cont.)

However, structural challenges persist, which Colombia shares with several Latin American countries: the low visibility of nematology within institutional agendas, limited awareness of the magnitude of damage caused by nematodes in production systems, and the need for systematic, long-term training programs. Addressing these challenges requires strengthening national and international collaboration networks, incorporating nematology into integrated pest management strategies, and positioning it as a key component of plant health, sustainability, and economic policies.

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BREVE HISTORIA DE LA NEMATOLOGÍA EN COLOMBIA

Los primeros antecedentes de la Nematología en Colombia se remontan a la década de 1960, en el contexto del estudio de la enfermedad del Anillo Rojo del cocotero. El Ing. Agr. M.Sc. Alberto Sánchez Potes fue uno de los primeros profesionales en abordar esta problemática nematológica en el país. Posteriormente, en 1968, el Instituto de Fomento Algodonero (IFA) designó al Dr. Jorge Ignacio Victoria Kafure para atender los casos asociados a *Bursaphelenchus cocophilus*, agente causal del Anillo Rojo en cocotero y palma de aceite. Las labores se iniciaron en el Centro Experimental El Mira de Tumaco (departamento de Nariño, suroccidente del país), y se extendieron por todo el litoral Pacífico, desde la frontera con Ecuador hasta Buenaventura (Valle del Cauca). El objetivo principal del programa era evaluar un proceso químico para la erradicación de las palmas afectadas, así como estudiar aspectos de la biología del nematodo, su vector y sus especies hospederas. En este periodo, la enfermedad provocó la pérdida de más de 10.000 hectáreas de cocotero, constituyéndose en un problema fitosanitario de gran escala que aún persiste.

Por ese mismo periodo, el Dr. Rodolfo Barriga Olivares (QEPD), quien había regresado al país tras obtener su doctorado en Nematología, se incorporó al Centro de Investigaciones Palmira (suroccidente colombiano) del Instituto Colombiano Agropecuario (ICA), entidad estatal encargada de coordinar la investigación, la sanidad agropecuaria y el desarrollo tecnológico del sector agrícola. Desde su llegada, desempeñó un papel clave en la consolidación de la disciplina, promoviendo activamente la formación de estudiantes y profesionales, y posicionando la Nematología dentro del quehacer fitopatológico nacional. Posteriormente, como director nacional del Programa de Fitopatología del ICA, fomentó que los fitopatólogos en los distintos centros regionales del Instituto integraran el estudio de nematodos en sus líneas de investigación, con énfasis en reconocimiento, identificación, cuantificación, parasitismo y manejo. A partir de 1975, bajo su liderazgo, el ICA se incorporó al Proyecto Internacional de *Meloidogyne* (MIP, Regional II), auspiciado por la Universidad Estatal de Carolina del Norte (USA), lo que permitió identificar diversas especies del género *Meloidogyne* asociadas a cultivos de interés agrícola en Colombia.

En 1975, el ICA, bajo el liderazgo del Dr. Barriga (Fig. 6), estableció el Convenio Colombo-Holandés con el objetivo de fortalecer la investigación sobre nematodos quiste en cultivos de papa. En el marco de este proyecto, se confirmó la presencia de *Globodera pallida*, identificada en plantaciones ubicadas en el departamento de Nariño (suroccidente andino). Participaron activamente en la iniciativa los Ing. Agr. M.Sc. Omar Guerrero, Luis Eduardo Nieto, Carlos Baeza, Francia Varón, entre otros. Este convenio permitió dotar con infraestructura básica a los laboratorios de los centros de investigación del ICA en Palmira (suroccidente), Obonuco (Nariño) y Tibaitatá (centro del país), fortaleciendo la capacidad técnica nacional para el estudio de este grupo de nematodos.

Con la apertura del Programa de Estudios para Graduados entre el ICA y la Universidad Nacional de Colombia (UNAL) en Bogotá, la asignatura de Nematología Agrícola fue incorporada como parte integral del plan de estudios, bajo la responsabilidad del Dr. Rodolfo Barriga Olivares. En esta etapa, su liderazgo académico fue importante, ya que formó a buena parte de los fitopatólogos que más adelante impulsarían el estudio de los nematodos en distintos centros del país. Sin lugar a dudas, los inicios de la Nematología en Colombia estuvieron estrechamente ligados a su labor, tanto por su visión científica como por su rol formador.

Breve Historia de la Nematología en Colombia (cont.)

En el año 2000, el ICA y la Corporación Colombiana de Investigación Agropecuaria (Corpoica, hoy Agrosavia), entidad pública dedicada a la investigación e innovación para el sector agropecuario, participaron activamente en el Proyecto Fontagro–IICA, orientado al manejo integrado de plagas en cultivos andinos. En su componente nematológico, el trabajo en Colombia se enfocó en especies asociadas a 'lulo' (*Solanum quitoense*), tomate de árbol (*Solanum betaceum*) y granadilla (*Passiflora ligularis*). Este proyecto, ejecutado de manera conjunta con los gobiernos de Ecuador, Venezuela y Bolivia, permitió fortalecer el enfoque regional para abordar problemáticas fitosanitarias comunes en estos cultivos.

Algunos investigadores del ICA y Corpoica, junto con especialistas en Fitopatología en diversos centros de investigación como Cenibanano (norte del país), Cenicafé (centro-occidente), Cenipalma (centro, nororiente y suroccidente), Ceniflores (centro del país) y Fedearroz (centro y suroccidente), han desarrollado trabajos orientados a ampliar el conocimiento sobre nematodos asociados a una amplia gama de cultivos: papa, café, plátano, banano, flores de exportación, caña de azúcar, hortalizas, frutales, maíz, soya, fríjol, arroz y palma de aceite. A estos esfuerzos se suman profesores universitarios de Fitopatología y sus estudiantes, quienes han contribuido activamente desde la academia. Entre los hallazgos relevantes de estas colaboraciones, destaca la identificación en 1982 del nematodo quiste *Heterodera glycines* en el Valle del Cauca, y en 1984, de *H. trifolii* en cultivos de clavel en la sabana de Bogotá.

En cultivos de café se registran antecedentes de la presencia de nematodos desde 1929. Sin embargo, en las décadas de 1970 y 1980, investigadores fitopatólogos de Cenicafé como Selma López, Jairo Leguizamón, Carlos Baeza, D. A. Villaba, entre otros, realizaron estudios sistemáticos sobre la nematofauna asociada al cultivo. Mediante pruebas de parasitismo en plantas diferenciales, lograron identificar varias especies de *Meloidogyne*, aportando así una base para el entendimiento de la relación nematodo-planta en este sistema agrícola de alto valor estratégico para el país.

En el ámbito de la colaboración científica internacional, la Organización de Nematólogos de los Trópicos Americanos (ONTA) ha celebrado dos reuniones en Colombia. La primera tuvo lugar en 1970, en la ciudad de Bogotá, conjuntamente con la Conferencia de Fitotecnia. La segunda fue en 1981, en el Centro Internacional de Agricultura Tropical (CIAT), en Palmira, y contó con la organización conjunta de la Asociación Colombiana de Fitopatología (ASCOLFI) y la División Caribe de la Sociedad Americana de Fitopatología (APS).

En ese mismo año de 1970, se dictó por primera vez el curso de Nematología como asignatura electiva en la UNAL, sede Palmira, a cargo del Ing. Agr. M.Sc. Hernán Ramírez Adarve.

Posteriormente, a partir de 1978, la cátedra de Nematología Agrícola fue dictada ocasionalmente en la misma sede por la Ing. Agr. M.Sc. Francia Varón en pregrado, y desde 2017, también en programas de posgrado. Actualmente, el Dr. Eyder Daniel Gómez dicta este curso como electiva en pregrado.

Breve Historia de la Nematología en Colombia (cont.)

En el ámbito académico, varias universidades han desempeñado un papel clave en la formación de nematólogos y en el desarrollo de investigaciones aplicadas. En la UNAL sede Medellín (noroccidente del país), el Dr. Rafael Navarro dictó en 1968 el primer curso de Nematología y, junto con su alumno el Dr. Charles Volcy, impulsaron la enseñanza de esta disciplina, liderando estudios en cultivos como tomate, café, maíz, tabaco, caña de azúcar y frutales como papaya (*Carica papaya*), vid (*Vitis vinifera*), maracuyá (*Passiflora edulis*) y badea (*Passiflora quadrangularis*). El Dr. Volcy fue autor de los libros *El ABC de la Nematología* (1997) y *Biodiversidad y Parasitismo* (1998), textos ampliamente utilizados en la región.

En la UNAL sede Bogotá, el curso de Nematología fue impartido ocasionalmente por el Dr. Charles Volcy (2000–2010), y desde 2016 por la Dra. Nancy Niño, cuyas investigaciones se han centrado principalmente en solanáceas. El Ing. Agr. M.Sc. Rafael Navarro inició su formación en Nematología con el Dr. Barriga en el Centro de Investigaciones Palmira (ICA), y posteriormente, desde la Universidad Católica de Oriente (nororiente, Antioquia), lideró junto con sus estudiantes estudios sobre nematodos en flores de corte, frutales y hortalizas. En la Universidad de Caldas (centro-occidente, Eje Cafetero), el Dr. Óscar Guzmán ha desarrollado trabajos de reconocimiento y manejo de nematodos, especialmente en musáceas. Por su parte, la Universidad de Nariño (suroccidente del país) ha realizado investigaciones sobre nematodos parásitos, con énfasis en cultivos de lulo, y los profesores Carlos Betancourt y Benjamín Sañudo publicaron en 2003 el libro *Principios de la Nematología Agrícola*, que ha servido de base para la formación académica en la región.

A partir del año 2008, la investigación nematológica en Colombia ha incorporado herramientas de biología molecular, ampliando las capacidades de diagnóstico y caracterización. En la UNAL sede Palmira existen actualmente dos grupos de investigación apoyados por el Ministerio de Ciencias que trabajan en análisis isoenzimáticos, caracterización molecular e integrativa de nematodos en diferentes cultivos de interés económico. En este contexto, se han formado profesionales como Donald Riascos, Carlos Arboleda y Ana Teresa Mosquera, entre otros.

Si bien se ha avanzado en la identificación de poblaciones de nematodos fitoparásitos hasta nivel de especie, mediante análisis morfológico, morfométrico y molecular, es necesario continuar fortaleciendo estas líneas de trabajo para lograr una delimitación taxonómica más precisa. Con base en el conocimiento generado, se hace prioritario construir claves taxonómicas adaptadas a las poblaciones colombianas de géneros como *Helicotylenchus*, *Pratylenchus*, *Rotylenchulus*, entre otros. Asimismo, resulta fundamental avanzar en el estudio del papel de los nematodos en la sanidad del suelo y los ecosistemas, así como en la exploración del potencial de endosimbiontes y en la evaluación de tácticas sostenibles para el control de nematodos fitoparásitos. Estos enfoques serán clave para el desarrollo de planes de manejo integrado que respondan a los desafíos actuales de la agricultura colombiana.

En el ámbito del control biológico, también se han realizado aportes relevantes en el estudio de nematodos entomopatógenos. Entre 1971 y 1973, el Dr. Amador Villacorta trabajó en el programa de yuca del CIAT, en Palmira, donde desarrolló estudios con las familias Steinernematidae y Heterorhabditidae para el manejo integrado de plagas del cultivo.

Breve Historia de la Nematología en Colombia (cont.)

Cenicafé, a través de su grupo de entomología, evaluó el uso de estos nematodos en el control de plagas del cafeto, mientras que el ICA, con la Ing. Agr. M.Sc. Fulvia García Roa, los incorporó en programas de manejo integrado en plátano y banano. En 2006, Parada *et al.* publicaron el libro *Nematodos Entomoparásitos: Experiencias y Perspectivas*, editado por la UNAL sede Bogotá, donde se sintetizan varias de estas experiencias nacionales. Desde el año 2008, la profesora Adriana Sáenz Aponte, de la Pontificia Universidad Javeriana (Bogotá), ha liderado investigaciones sobre el aislamiento, caracterización y producción de nematodos entomopatógenos y sus simbiontes bacterianos, aplicados a cultivos de interés nacional. Su trabajo también ha explorado combinaciones con hongos entomopatógenos y técnicas de criopreservación.

A lo largo de más de cinco décadas, la Nematología en Colombia ha transitado desde intervenciones puntuales en cultivos estratégicos hasta aportes relevantes en taxonomía, biología molecular, control biológico y formación profesional. Gracias al trabajo de instituciones como el ICA, Agrosavia, universidades públicas y privadas, y centros de investigación especializados, el país ha logrado desarrollar capacidades técnicas que hoy permiten abordar los problemas fitosanitarios asociados a los diferentes grupos de nematodos. Sin embargo, persisten desafíos estructurales que Colombia comparte con varios países de América Latina: la escasa visibilidad de la Nematología dentro de las agendas institucionales, la limitada conciencia sobre la magnitud de los daños causados por nematodos en los sistemas productivos, y la necesidad de contar con programas de formación sistemáticos y de largo plazo. Abordar estos retos requiere fortalecer redes de colaboración nacional e internacional, incorporar la Nematología en estrategias de manejo integrado de plagas y posicionarla como un eje relevante en las políticas de sanidad vegetal, sostenibilidad y economía.

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Brief History of Nematology in Colombia (cont.)

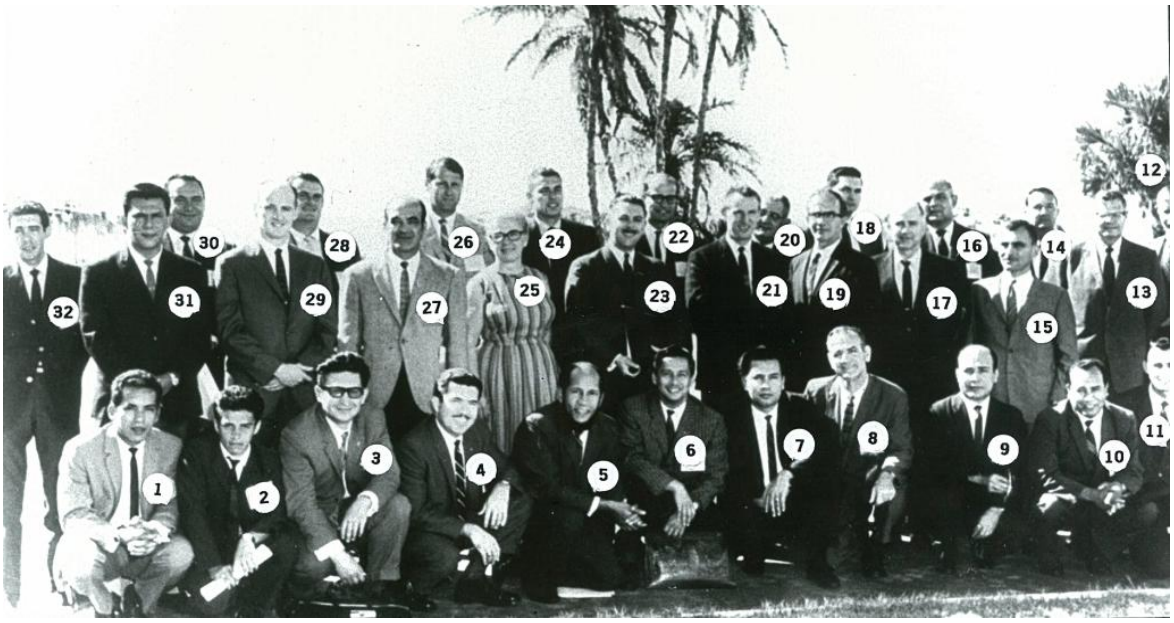


Fig. 6. The first scientific meeting of the Organization of Nematologists of Tropical America. November 1968, Sarasota, Florida (USA). Two years later, in 1970, Colombia hosted an ONTA meeting in Bogota.

Front row:1 ***Hernán Ramírez (Colombia)****,* ***2 Rafael Navarro (Colombia)****,* ***3 Jaime Galindo (Colombia)****,* ***4*** *Jessé Román (Puerto Rico),* ***5*** *Joseph Edmunds (St. Lucia),* ***6 Rodolfo Barriga (Colombia)****,* ***7*** *Alejandro Ayala (Puerto Rico),* ***8*** *Armen C. Tarjan (USA),* ***9*** *Leopoldo Abrego (El Salvador),* ***10*** *José Vásquez (Mexico),* ***11*** *Grover C. Smart (USA),* ***12*** *Charles Laughlin (USA),* ***13*** *John O'Bannon (USA),* ***14*** *Bill Dwckhardt,* ***15*** *Pierre Galichet (Guadeloupe),* ***16*** *Don Stokes (USA),* ***17*** *Ken Langdon (USA),* ***18*** *K.M. Beckman (USA),* ***19*** *Jim Winchester (USA),* ***20*** *Bob Hanks (USA),* ***21*** *Harlan L. Rhoades (USA),* ***22*** *Richard Bannistor (El Salvador),* ***23*** *Paul Baudenell,* ***24*** *Ottie J. Dickerson (USA),* ***25*** *Amegda J. Overman (USA),* ***26*** *Bill Baer,* ***27*** *Alberto Sánchez (Colombia),* ***28*** *León De León,* ***29*** *Bob Kinloch (USA),* ***30*** *Roberto Chevres (Puerto Rico),* ***31*** *Manuel Jiménez (Costa Rica),* ***32*** *Rodrigo Tarté (Panama). (Image courtesy ONTA Newsletter (2027), Vol. 4 issue 1, p. 9).*

Fig. 7. Colombian nematologists behind the organization of the 55th ONTA Annual Meeting.

Members of the Local Colombian Arrangements Committee. Top row: ***Adriana Sáenz*** *Aponte: Laboratorio Control Biológico, Departamento de Biología, Pontificia Universidad Javeriana, Bogotá (Colombia);* ***Francia E. Varón de Agudelo****: Universidad Nacional de Colombia, Palmira (Colombia);* ***Oscar A. Guzmán****: Departamento de Producción Agropecuaria, University de Caldas, Manizales (Colombia);* ***Claudia Holguin****: Research Center La Suiza, Corporación Colombiana de Investigación Agropecuaria, AGROSAVIA, Santander (Colombia);* ***Donald Riascos-Ortiz****: Research Center Obonuco, Corporación Colombiana de Investigación Agropecuaria. AGROSAVIA, Nariño (Colombia). Young researchers and co-leaders:* ***Julie G. Chacon-Orozco****: Laboratório de Controle Biológico. Instituto Biológico. São Paulo-Brasil;* ***María Del Mar González-Trujillo****: Institute of Grapevine and Wine Sciences (ICVV), Logroño (España);* ***Laura T. Mayorga****: Nematology lab-GCREC, University of Florida, Florida (USA);* ***Lizzete Dayana Romero Moya****: State Key Laboratory for Biology of Plant Diseases and Insect Pests. Institute of Plant Protection, Chinese Academy of Agricultural Sciences, Beijing (China);* ***Andrea Chacon-Hurtado****: Chemical and behavioral ecology, University of Liège, Liège (Belgium);* ***Carlos Castañeda-Alvarez****: Laboratorio de Nematología, Departamento de Sanidad Vegetal, Universidad de Chile, Santiago (Chile). Senior researchers:* ***Ricardo Machado****: University of Neuchatel, Neuchatel (Switzerland);* ***Carlos Molina****: e-nema GmbH, Raisdorf (Germany);* ***Paula Agudelo****: CAFLS Administration Office, Plant and Environmental Sciences Department, Experiment Station (USA);* ***Jose Lozano*** *Torres: Laboratory of Nematology. Wageningen University and Research (The Netherlands).*

FROM THE ONTA VICE-PRESIDENT

Fig. 8. Prof. Mara Rúbia da Rocha.

Dear ONTA members,

The 55th Annual ONTA Meeting will be held in Cali, Colombia, and is coming soon, from 01-05 September 2025. Everything is being carefully organized so that everyone can make the most of this experience in Colombia. As the vice-president, we have contributed to the local committee with the scientific program. We hope that the chosen themes will bring new information and in-depth knowledge to all participants. I would like to ask you all, professors, researchers, to make an effort and seek resources to bring your students. We need to commit to training the new generation of nematologists and we know that their participation in conferences, especially an international one, such as the ONTA Meeting, is a great encouragement for them to pursue a career in this area. Besides, it is an excellent opportunity to all attendees for sharing and exchanging experiences and building friendship.

Prof. Mara Rúbia da Rocha (Fig. 8).

ONTA Vice-President

FROM THE ONTA NEWSLETTER EDITOR

*Fig. 9. Rosa H. Manzanilla-López.**

Dear ONTA members,

It is a pleasure to be with you again to share news and reports from ONTA officers, colleagues and ONTA friends.

We would like to acknowledge the work and dedication of the **Colombian Local Organizers Committee** and **Carlos Castañeda** (CLOC), with the support of ONTA's Vice-President (Mara Rúbia da Rocha), Past-President (Ernesto San Blas) and Executive Committee Members, especially Julia Meredith and Renato Inserra, to organize the 55th ONTA Annual Meeting in Cali, Colombia (01-05 September 2025).

It is also our pleasure to share with you the Newsletter invited contributions by M.Sc. Francia Varón (Colombia), Prof. Richard A Sikora (Germany), Dr Patricia Navarro (Chile), Dr Aurelio Ciancio (Italy) and Dr Soledad Verdejo-Lucas (Spain).

Francia Varón, a member of the CLOC, wrote a contribution entitled **'The History of Nematology in Colombia'**, which, according to **Carlos Castañeda**: 'captures the most significant milestones of the discipline in the country, including institutional and academic initiatives, individual contributions, and the challenges still faced'.

One special topic, usually top at the agenda of nematology societies, is how to encourage next generations to follow a career in nematology. Hence, the importance of role models and mentors willing to showcase how opportunities in nematology may lay ahead. On this occasion, we have invited Prof. Richard Sikora, an outstanding nematologist, to share his experiences as researcher, professor and mentor whose interesting career continues inspiring past and new generations of nematologists.

Dr Patricia Navarro shares her ongoing research with three Chilean native species of entomopathogenic nematodes (*Steinernema feltiae*, *Steinernema australe* and *S. unicornum*).

We congratulate Dr Aurelio Ciancio on his retirement and celebrate his contributions to nematology.

Dr Soledad Verdejo-Lucas kindly prepared a review of the third meeting of the new Spanish Society of Nematologists (SSN) that was held in January 2025 in Jaen (Spain). The recently created SSN is integrated by dedicated and enthusiastic nematologists, some of them also ONTA members.

We remember Prof. August Coomans remarkable contributions to the scientific community and his profound impact on the field of nematology who passed away on 16 December 2024, and Prof. Maria Susana Newton de Almeida Santos invaluable contribution to the advancement of Nematology, particularly at the University of Coimbra and in Portugal who passed away on 12 March 2025.

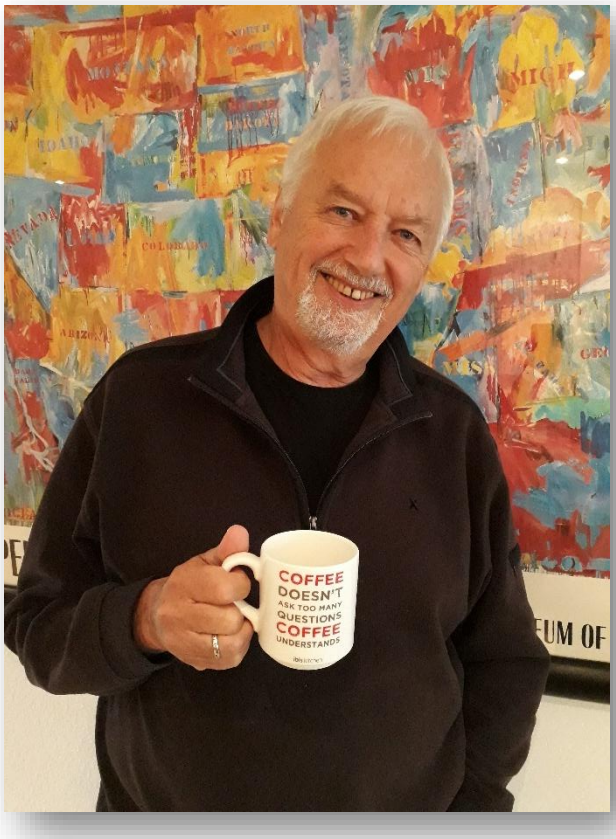
Finally, we hope to meet you next September at the **ONTA's 55th Annual Meeting.**

Kind regards,

Rosa H. Manzanilla-López

INVITED NEMATOLOGIST PROFILE

A winding road around the world with one's head in the underworld



By Prof. Richard A. Sikora *(Fig. 10).*

Rosa Manzanilla-López, the editor of the ONTA Newsletter, asked me to write a short note that describes my long road to a career devoted to nematology in international agriculture. There are many different roads to a successful career in our field. My road took me around the world and gave me a global view of the impact nematodes have on plant health and food security. It has been an unbelievable journey.

I was born on the 30th of December 1943, and raised in Chicago, Illinois in a large happy family. As a teenager and later in college, I trained to become a professional baseball player. However, like many dreams this one faded away. I took the next fork in the road and studied history and biology for a career as a high school teacher. While studying biology, I became fascinated with invertebrate zoology and terrestrial ecology. These two areas of science became important focal points on the long winding road dedicated to nematodes in the soil ecosystem or what I call *The Underworld*.

The first worm crawled into my life when I accepted a scholarship for a M.S. degree in zoology. I was given a research topic that placed me in polluted sanitary canals collecting the oligochaete sludge worm, *Tubifex tubifex.* I studied their potential suitability as indicators of heavy metal water pollution. It goes without saying that I was shocked with the "smell of things" associated with the sludge worm's degraded environment.

Invited Nematologist Profile (cont.)

After graduation, I searched for a Ph.D. program that was more closely associated with a cleaner-smelling natural ecosystem. I received a grant to study in the Department of Plant Pathology at the University of Illinois. I switched lanes from natural ecosystem ecology, to what I considered to be a man-made ecosystem. I started my studies under the mentorship of the nematologist, Prof. Donald P. Taylor, with a thesis topic devoted to: *Interactions between multiple species of nematodes parasitizing bentgrass, Agrostis stolonifera*, a grass used on golf course greens and not in salads. There are times when you have to *go with the flow*!

Up until then, I did not even consider following an international career. I was a typical Midwesterner, who grew up in the center of Chicago, where all your neighbors were White Anglo-Saxon Christians. My first exposure to the strange world outside of the USA was made by taking an exciting backpacking trip through Central and South America - without adequate Spanish! I was fascinated by the different cultures and the people I met. That trip altered my view of the world.

I returned to the USA to start my studies at the university and was given a severe overdose of cultural-shock! The Plant Pathology Department was made up of 5 American graduate students and 32 others from: Africa, South America, The Caribbean, SE Asia, India, China, and the Middle East. They had never heard of bentgrass, nor did they play golf! These students exposed me to their cultures, foods and even music. Then, when I finished my degree, the winding road hit a full-stop. There were no university positions for nematologists in the USA. I was both frustrated and unemployed for the first time in my life.

Then my career then took an unexpected U-turn. My Indian student friends proposed that I consider taking a post-doctorate in India to work with them after they returned home. Now, I had career dreams, but going to India did not pop-up in any of them! I half-heartedly applied for an international postdoctoral grant and I was really shocked when it was approved a few weeks later. I had to make a risky decision that would drastically change the course of my life.

I was not known for risk-taking, and I did not really plan to leave the USA to follow an unknown road called international agriculture. In the end, I boarded a PanAm-1 flight heading around the world with a 12 month stopover in India. When that plane took off I asked myself, “what did you get yourself into now” and my father ‘just shook his head’. I spent that year searching for nematodes in the *underworld* and running biological control field trials at the GB Pont Agricultural University in Pant Nagar, India. The university was a five hour drive from New Delhi and isolated in the middle of the massive wheat-rice growing region of India. It was an all men’s college and I was the only guest that year in the university hotel. The secluded location did give me time to think about my future! My stay in India, and the time spent in the countries I visited on that around the world trip, proved to be the catalysts that launched my career in subtropical and tropical nematology. However, I still had no idea as to how I was going to find a position in the USA with only knowledge of nematodes on bentgrass and nine months experience with my head in the *underworld* in northern India. Then a sharp right turn in the road suddenly materialized. While enjoying a cup of tea at a meeting in New Delhi, a professor from the Department of Plant Pathology, University of Bonn, Germany (that I had never met) came up to me for small talk, and then unexpectedly offered me a two-year postdoctorate to study nematode interactions with mycorrhizal fungi. I was flabbergasted.

Invited Nematologist Profile (cont.)

This forced me to take another risky decision. I accepted the position without really knowing where I was going in Germany and without knowing German. In Bonn, I was immediately given responsibility for developing a new nematology research program. This was a challenge in that I had zero German language training. I learned it by osmosis, and finally spoke what can best be described as a unique Mississippi-Rhineland dialect. I had strong support from my German wife Ingrid and my children. The students also seemed to understand what I was trying to say in my lectures. A number of years later, I earned a University Professorship for the *venia legendie* Plant Pathology and Plant Protection in the Tropics and Subtropics. This position took me and my students to over 35 countries on 6 continents where we conducted nematological research on a broad number of subtropical and tropical crops. As you can imagine, I love winding roads.

Working together with an excellent team of young scientists and postdocs, we trained over 150 Ph.D. and M.S. students in nematology. I always considered my students my customers, and treated them accordingly. Many of them conducted their research in the subtropics and tropics and are still active today. We published numerous scientific articles and many of them worked with me on the books: *Plant-parasitic nematodes in subtropical and tropical agriculture, Precision crop protection*, and the two open access books*, Integrated nematode management,* and *Transforming agriculture in Southern Africa*. Our research was always accomplished in collaboration with nematologists and soil scientists from the host countries - for whom my students and I are thankful.

All winding roads, sooner or later, come to an end. However, even now at the ripe age of 81, I can't get off that winding road. I still enjoy my hobby of looking at nematodes in the *underworld*. My take-home message to graduate students thinking of an international career is "don't be afraid to take risks" or as Helen Keller said, "Life is either a daring adventure or nothing at all".

Mass production of native entomopathogenic nematodes: The importance of partnerships of academia with industry and government agencies

By Dr Patricia D. Navarro *(Fig. 11).*

The use of entomopathogenic nematodes (EPN) for pest control has increased over the past few decades due to the need to reduce the use of synthetic insecticides and their residues. Application of native EPN species is recommended, mainly because they are better adapted to local soil conditions, temperature, host range, and equilibrium belowground. However, mass production of local species is a major challenge worldwide, mostly because of the high requirements on knowledge and management of nematodes' life cycle, interactions between the host nematode and its symbiotic bacteria, liquid fermentation, and expenses associated with bioreactors and specialized personnel dedicated to producing monoxenic cultures and their scale-up to bioreactors. All the previous steps take a long time to settle, considering that each species/strain will require its own protocols, expertise, and funding investments.

In Chile, a study of three native species (*Steinernema feltiae*, *Steinernema australe* and *S. unicornum*) was initiated in 2018 for control of *Aegorhinus* larvae (Coleoptera: Curculionidae), a native, economically important pest affecting berries, hazelnuts, and other fruit crops. Native EPN species were compared with two exotic strains of *Steinernema feltiae*, to identify the most effective EPN species for managing *A. nodipennis* and *A. superciliosus*. A tripartite partnership group comprising academia, industry, and government, participated in this initiative, with the objective of commercially producing local EPN for pest management as a sustainable tool. The Research and Development (R&D) process has been conducted at the Insect Science Laboratory at Instituto de Investigaciones agropecuarias (INIA), Carillanca Research Station, Vilcún, Chile, under the supervision of Dr Patricia D. Navarro (Fig. 11), Research entomologist.

Mass production of entomopathogenic nematodes (cont.)

The EPN *S. australe*, a native species from the Glaseri group and isolated from Magdalena island in Chile, was selected as the most effective species for control of *Aegorhinus* larvae (Navarro *et al*., 2022). Between 2018-2020 *S. australe* was artificially selected by its ability to perceive 2-carene odor, a VOC (volatile organic compound) released by blueberry roots when they are injured by *Aegorhinus* larvae. The faster *S. australe* infective juveniles (IJs) were selected using a vertical olfactometer for several generations (Ceballos *et al*., 2023). This selection process enhanced the efficacy of *S. australe,* increasing its efficacy from 60% to 90% in blueberry and sarsaparilla orchards.

Currently, R&D is being conducted to mass produce these EPN in bioreactors and commercially produce them. In parallel, the aptitude of the symbiotic bacteria's crude extracts has been evaluated as insecticides for pest control. No doubt that challenges do exist constantly on EPN. However, a strong partnership with industry and government agencies helps to move forward.

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REVIEW OF THE THIRD MEETING OF SPANISH NEMATOLOGISTS

Fig. 12. Sociedad Española de Nematology (Spanish Society of Nematology) logo.

By Dr Soledad Verdejo Lucas (*Fig. 13*)

The third meeting of the Spanish Nematologists took place on 16-17 January 2005 at the University of Jaen and was organized by the Andalucian Group of Nematology. This meeting represented a milestone in the history of the Nematology in Spain as the *Sociedad Española de Nematología* (Spanish Society of Nematología, SEN, Figs 12-15) was officially constituted and their rules approved by the membership. The SEN include professionals from universities, research centers, private companies and the industry that work with all kind of plant- and animal-parasitic nematodes, marine or free-living nematodes. During the meeting there were 11 oral presentations and 10 posters. Also, a debate was organized on the role of nematodes on diverse biological systems.

Fig. 14. Participants at the III Meeting of the Spanish Society of Nematology (Sociedad Española de Nematología) held at the University of Jaen on 16 and 17 January 2025.

Review of the Third Meeting of Spanish Nematologists (cont.)

Fig. 15. Governing board of the Spanish Society of Nematology. From left to right: Dr Gracia Liébanas, Dr Luis Vicente López-LLorca and Dr Miguel Talavera, Secretary, President and board members of the Governing board.

CROPSAFE KICK-OFF MEETING

CROPSAFE: Crop Protection Strategies for the Transition to Environmentally-Friendly Agriculture (Horizon -JU-CBE-2024-RIA-03 Sustainable, bio-based alternatives for crop protection)

Kick-off meeting

The CROPSAFE project is funded by the European Union and aims to develop bioactive materials from non-edible biomass to replace harmful agrochemicals in essential crops such as tomatoes, potatoes, and bananas. The project's consortium is integrated by 15 partner organizations, the Project Coordinator Prof. Luis Vicente Lopez-Llorca (University of Alicante) and 6 members of the External Advisory Board. The kick- off meeting was held at Borregaards Manor, Sarpsborg, Norway (19-20 June 2025). At the kick-off meeting Prof. Luis Lopez Llorca presented the project's ten work packages, emphasizing the need to understand the modes of action of the compounds and their interactions with crops and the environment. He highlighted the importance of collaboration with various partners, including biorefineries and formulation experts, and stressed the necessity of engaging stakeholders to ensure the project's success. The discussion also covered the need for effective testing protocols and the potential risks associated with the project.

Various partners (Fig. 16) presented their research initiatives, including work on biocontrol fungi and chitosan for pest management (including root-knot and cyst nematodes), as well as a focus on lignin supply and wood-based chemicals. Insights from the Sustainable Plant Protection Institute were shared, emphasizing the importance of biodiversity and biocontrol methods in agriculture. Overall, the discussions underscored the collaborative efforts and innovative approaches being undertaken to advance sustainable agricultural practices.

Solveig Haukeland (Norwegian Institute of Bioeconomy Research)
CROPSAFE External Advisory Board

CROPSAFE kick-off meeting (cont.)

Fig. 16. CROPSAFE delegates at the kick-off meeting 19-20 June 2025, Sarpsborg, Norway (courtesy Grundbrand Rødsrud).

CONGRATULATIONS TO AURELIO CIANCIO ON HIS RETIREMENT

Fig. 17. Aurelio Ciancio with his wife and ONTA member Dr Mariella Finetti-Sialer .

Former ONTA President Aurelio Ciancio (Fig. 17) retired on 01 January 2025, after 40 years of nematology work at the CNR (National Research Council) Institute for Sustainable Plant Protection (IPSP) in Bari, Italy. He began his research in June 1979 as a student of the Bari University, preparing a thesis at the former CNR Istituto di Nematologia Agraria, funded and directed by Prof. Franco Lamberti. He investigated at that time a number of nematode vectors of plant viruses with Dr Francesco Roca, discussing his thesis in June 1982. He then started his professional career as a researcher in 1984. In 1988-1989 he spent one year as a visiting scientist at the Department of Nematology, University of California, Riverside (USA), under the mentoring of prof. Ron Mankau. During his career, Aurelio investigated many aspects of the interactions of nematodes with associated microorganisms, including plant viruses and bacterial and fungal biocontrol agents. He collaborated with many Italian and international research groups and scientists, and in particular with prof. Brian Kerry (RRES, UK) and Luis V. Lopez Llorca (University of Alicante, Spain). He attended several international meetings, and was involved in the organization of the Fifth International Nematology Congress held at Brisbane in 2008, as Vice-President of IFNS. Aurelio produced more than 230 papers and abstracts in nematology, and participated or coordinated several national and EU Projects. He is actually an external senior research associate of IPSP, participating in the EU funded project CROPSAFE and further industrial collaborations.

ONTA GALLERY

Fig. 18. ONTA Annual Meeting at La Serena, Chile (2013).

OBITUARY

August Coomans (1936 - 2024)

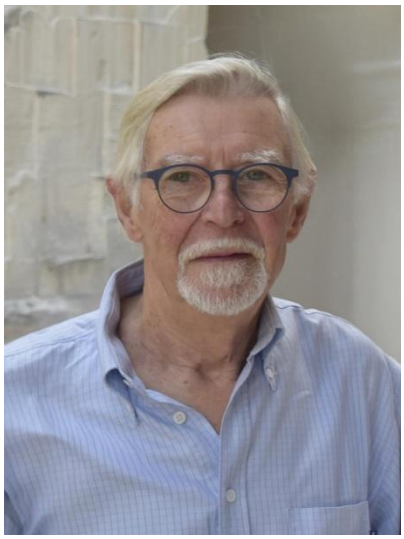

Fig. 19. Prof. August Coomans.

With profound sadness we announce the passing of Professor August Coomans on 16 December 2024. August Coomans' remarkable contributions to the scientific community and his profound impact on the field of nematology will be cherished and remembered by colleagues, students and friends worldwide.

August Coomans (Fig. 19) earned a Licentiate in Biology at Ghent University, Belgium in 1958, graduating with the greatest distinction. During his studies, he served as a student assistant, teaching and collaborating with his peers. In 1963, he obtained a Doctorate in Science, specializing in zoology, with a detailed study on the morphology and systematics of Dorylaimina under the direction of Dr L. De Coninck. Following roles as an assistant, work leader, and lecturer, he was appointed full professor at the Faculty of Sciences at Ghent University in October 1972. For many years, he served as director and department head of the Laboratory of Morphology and Systematics of Animals, as well as the Museum of Zoology.

His pioneering research on the taxonomy, phylogeny, and morphology of nematodes revolutionized the understanding of our favorite organisms. He has conducted comprehensive analyses of the sensory, glandular and muscular structures across a diverse range of species. In addition to his pioneering work in light microscopy, he was among the first to apply electron microscopy to nematology, setting new standards in the discipline and opening avenues for other investigations. August Coomans was one of the earliest and most influential proponents of phylogenetic approaches to nematode taxonomy, introducing the principles of cladistics. He applied these principles to his analyses of relationships within the families *Longidoridae* and *Actinolaimidae* and, to his monumental monograph on the phylogeny of the genus *Xiphinema*. Through his work, he emphasized the critical importance of distinguishing between synapomorphic and homoplastic characters, paving the way for disentangling convergent groups within nematodes.

Throughout his illustrious career, Professor Coomans authored over 330 international publications and several authoritative books, contributing an invaluable body of work to the scientific literature. As a sought-after speaker, he was invited to more than 50 international symposia, where he delivered numerous lectures that inspired and educated audiences worldwide. His dedication to scientific service included editorial roles for several nematological journals, reflecting his commitment to advancing the field. He was president of the European Society of Nematologists from 1992 to 1996.

Obituary (cont.)

He was admitted to the Royal Belgian Academy for Sciences, Arts, and Literature, first as a member (1978) and then as President of the Natural Sciences Section (1991). He is a Fellow of both the Society of Nematologists and the European Society of Nematologists.

Professor Coomans taught more than 10 undergraduate and graduate-level courses on zoological and nematological subjects at Ghent University, reaching approximately 7,000 students. As a visionary educator, he co-founded the International Master of Science in Agro- and Environmental Nematology (coordinated at Ghent University, Belgium), a program that has nurtured generations of researchers and fostered a global community of nematologists. He extended his mentorship beyond the classroom, often inviting students and colleagues to accompany him on research expeditions that spanned diverse and extreme environments from the depths of the ocean to the summits of mountains, from tropical rainforests to arid deserts. These expeditions, which included ventures to regions such as Congo, the Great Barrier Reef, the Solomon Islands, Mount Kenya, South Africa, Zimbabwe, China and the Galapagos Islands, not only yielded invaluable scientific discoveries, but also resulted in a vast and enduring international scientific network.

Professor Coomans' legacy includes the description of over 130 new species and 22 new genera, each representing a significant contribution to biodiversity science. His work went beyond research, reflecting a spirit of exploration, teamwork, and teaching that deeply influenced the scientific world.

August Coomans was not only a brilliant scientist but also a generous mentor and colleague whose passion for discovery inspired all who had the privilege of working with him. He will be deeply missed by the global scientific community, but his extraordinary achievements and the networks he nurtured will continue to flourish, ensuring that his legacy endures for generations to come.

He was known as a true family man. He leaves behind his wife, Wies Gyselinck, five children and eight grandchildren, to whom we extend our heartfelt condolences.

Wim BERT*, Magda VINCK and colleagues at Ghent University

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ONTA Newsletter thanks Prof. Roland Perry and *Nematology* to share Prof. Coomans obituary.

OBITUARY

"In Memoriam"
Professor Maria Susana Newton de Almeida Santos
1935-2025

Fig. 20. Prof. Maria Susana Newton de Almeida Santos.

Professor Maria Susana Santos (Fig. 20) passed away on 12 March 2025. She began her career in Nematology as a Teaching Assistant and was awarded the Ph.D. degree in Nematology by London University, U.K., in 1970. Her doctoral research was conducted at Rothamsted Experimental Station under the guidance of Dr Mary Franklin, and her thesis was entitled "Studies on the reproduction and sexual behaviour of some species of *Meloidogyne* Goeldi, 1887 (Nematoda: *Heteroderidae*)". After receiving the Ph.D. degree, she returned to the Faculty of Sciences and Technology, University of Coimbra, Portugal, where she was appointed as Assistant Professor. She steadily advanced through the academic ranks, attaining full Professor status by 1982.

Her dedication to excellence and precision in her research and writing made her an outstanding mentor for graduate students, postdoctoral fellows and visiting scientists. She has directed M.Sc. and Ph.D. candidates including some who have later emerged as prominent nematologists. She chaired the committee that developed the inaugural M.Sc. program in Animal Ecology at the University of Coimbra, which featured a specialization in Nematology. She has organized several advanced courses across different fields of Nematology, for which scientists from various institutions and countries were invited to collaborate and give lectures, thereby sparking young scientists' interest in the topic. She has also organized workshops including the "*Third Regional Conference on Root-Knot Nematode Research for Region VII, of the International Meloidogyne Project (IMP)*" held at the University of Coimbra. She was co-founder of the Institute for Environment and Life, University of Coimbra, serving as the Director of the Biological Interactions Unit.

Maria Susana Santos's research interests have been diverse, ranging from taxonomy, biology, and ecology of root-knot nematodes (RKN), *Meloidogyne* spp., and to the development of reliable, sensitive and rapid methods for detection and identification of RKN and potato-cyst nematodes (PCN), *Globodera* spp., populations, using biochemical and molecular techniques; selection of PCN lines with stable levels of virulence resulting from controlled matings; plant-nematode interactions, biological control; and nematocidal potential of plant and algal extracts to RKN.

Obituary (cont.)

Maria Susana Santos authored or co-authored over 80 publications, including several chapters in books. She has described eight new nematode species, *Meloidogyne ardenensis*, *M. lusitanica*, *M. paranaensis*, *Trichodorus azorensis, T. beirensis*, *Paratrichodorus divergens*, *Xiphinema exile* and *X. diversum*. The species *X. santos* was named in her honor by Lamberti, Lemos, Agostinelli and D'Addabo. She was the first to recognize the presence of *Globodera pallida* in Portugal. She was a co-editor of the book "*An Introduction to Virus Vector Nematodes and their Associated Viruses*", which contained the proceedings of the workshop held at the University of Coimbra to introduce the subject of virus-vector nematodes and their associated viruses to young scientists. She also served as co-author of the book "*Manual for Research on* Verticillium chlamydosporium, *a Potential Biological Control Agent for Root-Knot Nematodes*", and held various editorial roles for multiple journals.

Maria Susana Santos served the European Society of Nematology (ESN) as a member of the governing board (1983-1986), as President-Elect (1988-1989) and as President (1990-1992). In 1992, she organized the 21st Symposium of the European Society of Nematologists, held in Albufeira, Algarve, Portugal. In 1999, she was invited to join the Task Force Group of the National Eradication Program for the Pinewood Nematode. She also played a key role in the foundation of the "Sociedade Portuguesa de Fitopatologia (SPF)". In 2004, she was awarded Fellowship of the ESN and, in 2007, Fellowship of SPF.

Her ability to construct and articulate concepts, to relate abstract principles to practical experience, to define research and academic problems, and to assist students and faculty colleagues has been invaluable to the advancement of Nematology, particularly at the University of Coimbra and in Portugal.

We will deeply miss her friendship, smile and sense of humor. She will be remembered and will live forever in our memories and through her family to whom we extend the deepest sympathy.

Isabel Abrantes and Colleagues at Portugal

INVITATION

ONTA FOUNDATION

Get busy! ONTA Foundation, Inc. status is clear and high. Open your wings and take a flight!

Dear ONTA member,

ONTA Foundation is ready for a campaign to request donations and expand its contributor base in a big way. ONTA Foundation can receive funds through several means: 1) checks made out to the ONTA Foundation and mailed to Janete Brito (Fig. 21); 2) credit card, same information required as for membership payment; 3) wire transfer. Janete Brito and Renato Inserra have full codes for wiring if requested.

Please give generously to support the activities and projects of the ONTA Foundation.

Fig. 21. Dr Janete Brito.

ONTA NEWSLETTER INVITATION

Dear ONTA member,

Do you have a passion for nematodes and nematology? Would you like to share nematology news and pictures with our ONTA members? If so, welcome aboard!

We would like to extend to you a warm invitation to send or share information for our next ONTA Newsletter issue.

Please contact us. We are looking forward to hearing from you and to hear about your local nematology events and news.

Thanks,

Rosa (ONTA Newsletter editor)

Fig. 22. Rosa H. Manzanilla-López.

ACKNOWLEDGEMENTS

The ONTA Newsletter editor would like to thank all ONTA Newsletter contributors for kindly sending and sharing information and images.

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ONTA gratefully recognizes the long-standing support received in 2025 from Dr Luis Payan (SYNGENTA). ONTA is very appreciative for the sustaining members contributions received in 2025 from AgBiome, and in previous years from Adama, Amvac, Bayer, CERTIS Biologicals, Corbana, Corteva Agriscience, E-Nema, Ebio-Pioneer Chemicals, FMC, Koppert Biological Systems, Market ARM International and Marrone Bio Innovations hoping that they will maintain their interest in helping ONTA activities.


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