



@ESNematologists

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# Nematology News

## ESN student bursaries for IFNS 2014 announced

The ESN governing board is delighted to announce the successful applicants for ESN bursaries to attend the IFNS meeting in South Africa. The awardees are Temesgen Addis Desta, Negin Ebrahimi, Sebastian Eves-van den Akker, Julia Holbein, Nina Kammerhofer, Misghina Teklu, Yuanyuan Mei, Bruno Ngala, Branimir Njezic and Casper Quist.

This was the most highly competitive bursary scheme run by ESN to date, with many more applications received than we were able to fund. Congratulations to the recipients, each of whom will be making an oral presentation at the meeting. Another bursary scheme will be run to provide support for students to attend the 2016 meeting in Portugal.



## News from South Africa

The organization of the 6th ICN is well under way. Deadlines are approaching and abstracts are rolling in. The deadline for abstracts is the 31st of January 2014. Not that far away, so if you still thinking about it, please write your abstract and send it.

The student grant applications are also closing on the 31st of January, for those students that would love to come to the meeting but have no funds secured, please apply through the 6th ICN website today! We are getting more funds in every week so you really stand a chance of getting support. We have changed the wording on the website and although preference will be given to students from developing countries, everyone has a chance to get support. Also, if you have received partial funding but need a little extra help, apply for the student grant adding that you only need a certain amount. We cannot help if we are not aware of you. Those that applied elsewhere and are still waiting for an answer, apply through our website and mention the other possible funding. We would like to help 50 students to attend the 6th ICN.

*Continued on page 2*

## News from South Africa (continued)

The scientific programme showing the names of the chair and co-chairs of each session is on the website. We are planning to have 2 sessions for each of the 15 themes. Although we have placed each one into the programme, sessions might be switched around a little bit to suit everyone. We will have four workshops including 'Meloidogyne races', 'Hoplolaimidae and Pratylenchidae', 'Cyst nematodes' and a working group meeting by Bayer, our lead sponsor.

On Wednesday you can choose between 4 options for a field trip. Please do not ask which one is the nicest because each one will give you a splendid experience of the beautiful Cape! The visits to these beautiful spots are free of charge. If the weather permits, all participants will end the day of the field trips together on Table Mountain to see the sunset.

### Keynote Speakers

Every day a few keynote speakers will get the opportunity to talk to us in a plenary session about their field of specialization, covering important aspects of nematology research. After the plenary sessions we will divide into four concurrent sessions.

Our keynote speakers will span all areas of Nematology and will be:

### Aurelio Cianco



Aurelio's scientific interests concern the study of the rhizosphere microbiology and nematode micro-parasites, as well as biological control issues and sustainable agricultural production. Aurelio started the study, in collaboration with R. Mankau, of the nematode parasitic bacteria of the genus *Pasteuria* which lead to research on antagonistic microorganisms and biological control agents. He studied host-parasite relationships with non-linear models describing the relationship between bacteria, fungi and nematodes in soil. He also developed for the first time (1993), new techniques and noninvasive methods based on Atomic Force Microscopy (Nanoscope) or Photon Emission Microscopy. These applications yielded the first in vivo and high resolution observations on nematodes, bacteria and microorganisms, and other organic molecules (enzymes, antibodies) in

conditions close to those found in nature. His work therefore focused on the diagnosis of nematodes and associated microorganisms, on plant pathogens including viruses, and on applied aspects of biological control through microbial detection, and genomic or transcriptome analyses. He is interested in the study of natural substances with nematicidal action, including mycotoxins and substances of plant origin. At the moment he is the research group leader and responsible for sub-project: "Study and development of innovative strategies for plant protection", within the framework of the CNR Project "Sustainability of the agro-industrial system".

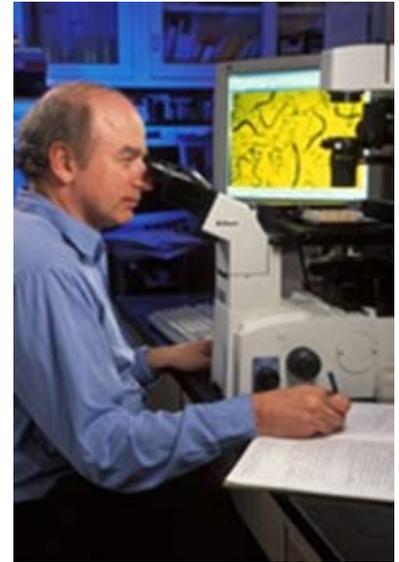
### Larry Duncan



Larry received a Ph.D from UC Riverside in 1983 and went to study nematode pests in the African Sahel in Senegal. When soil fumigants were deregistered he was hired by the University of Florida to manage burrowing nematodes in citrus. His research focuses on the ecology and management of plant parasitic nematodes of citrus and the ecology of entomopathogenic nematodes and their potential role in citrus integrated pest management. Specific projects relate to phylogenetics and PPN, population assessment of nematode and insect pests, crop loss assessment, soil borne food web dynamics and IPM tactics. He was Editor-in-Chief of *Nematropica* and is author of more than 150 scientific publications dealing with nematodes and insects.

### David Chitwood

David received a B.S. in Mathematics and a Ph.D. in Plant Pathology from the University of Maryland. After working as a postdoctoral associate at Beltsville, he joined the Insect and Nematode Hormone Laboratory in 1982. In 1989, he joined the Nematology Laboratory and assumed the position of Research Leader a few years later. His research interests are: Development of environmentally safe control methods for plant-parasitic nematodes, based upon unique aspects of their biochemistry. Nematode biochemistry, especially the biosynthesis and function of steroids, sphingolipids, and other lipids. The isolation and identification of nematode-antagonistic compounds from fungi and plants.



### Haddish Melakeberhan

Dr Haddish Melakeberhan, a native of Eritrea and a naturalized US citizen, is an Associate Professor in the Department of Horticulture at

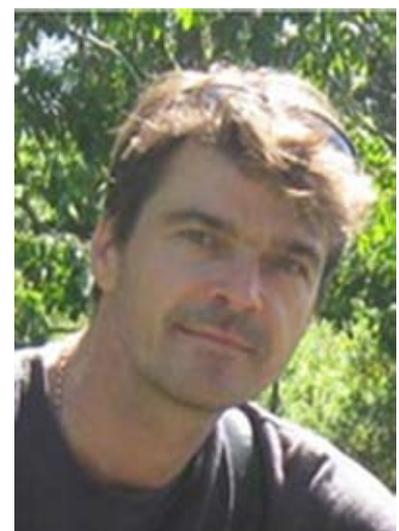


Michigan State University (MSU). He holds Diplomas in Agriculture (Ambo, Ethiopia) and Crop Protection (Harper Adams, England), and M. Sc. (Imperial College, England) and Ph. D. (Simon Fraser, Canada) in Nematology. Dr. Melakeberhan's research focus has been on understanding plant-nematode-soil-nutrient interactions at the organism and ecosystem levels with the goal of developing integrated and sustainable nematode, nutrient cycling, and soil health management in cropping systems. In addition to numerous research reports, Dr. Melakeberhan has authored/co-authored 160 refereed articles, book chapters, extension bulletins, and conference abstracts. He has presented 41 invited talks, taught courses in nematology, plant pathology and crop production and protection, and trained five postdocs, and six graduate students. Dr. Melakeber-

han has been an ad-hoc reviewer for 25 international journals, a review panelist of several federal funding agencies, and is a member of many professional societies. As an active member of SON, Dr. Melakeberhan has served in the Industry, Plant Resistance and Honors and Awards Committees, Executive Board, and IFNS Council (2002-2006). He continues to be an active promoter of North-South interactions to advance nematology globally.

### Danny Coyne

Danny Coyne has worked in tropical agriculture since 1989, beginning as a village extension office in rural Tanzania. He has spent most of his working life traversing Africa, working at both the national programme and international research institute levels. With specialization in nematology, he is one of few nematologists in Africa. Of late he has broadened into the wider field of soil health in relation to plant host-pest-antagonist relations and the ecological aspects. Training underscores all of his work, whether at the farmer, technician, or academic level.



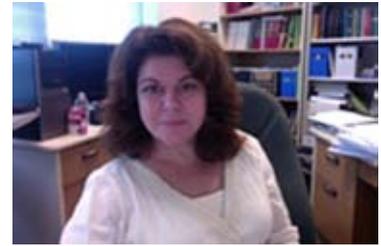
### Howard Atkinson

Prof. Howard Atkinson founded the Plant Nematology lab in Leeds University. The Leeds group research fundamental aspects of plant/nematode interactions using the knowledge to design novel methods

of control. Howard has applied plant biotechnology to nematode control since this became a possibility. A particular interest is to adapt the technology to make it appropriate, biosafe and freely available to subsistence growers. We seek to eliminate the considerable contribution plant nematodes make to world food insecurity.

### Andrea Skantar

Dr Andrea M. Skantar has been a Research Molecular Biologist in the Nematology Laboratory of the USDA Agricultural Research Service, Beltsville, MD, USA since 1997. Her research includes molecular diagnostics and phylogenetic analysis of plant-parasitic nematodes of regulatory and agronomic concern, including species that affect alfalfa, forage grasses, and their rotation crops. She has also been heavily involved in the molecular diagnostics of potato cyst nematodes recently detected in the U.S. Andrea currently serves as Secretary of SON, Senior Editor for the Journal of Nematology and Editor for Nematology.



### Luis Pocasangre



Luis Pocasangre received his PhD in nematology/plant pathology at the Universität Bonn, Germany on the “Biological enhancement of tissue culture plantlets with endophytic fungi for the control of the burrowing nematode *Radopholus similis* and the Panama disease *Fusarium oxysporum f.sp. cubense*”. He has been an associate Scientist at INIBAP/CATIE since 2000 and is responsible for the coordination of banana and plantain research projects of the International Network for the Improvement of Banana and Plantain at the Regional Office for Latin America and the Caribbean INIBAP/LAC and is also responsible for the International MUSA Testing

Programme (IMTP) for Latin America. As an Associate Professor of CATIE he is responsible for the induced resistance research line which includes: a) Induced resistance to Panama disease (FOC) b) Enhancement of banana tissue culture through endophytic fungi c) Studies on suppressive soils to nematodes. He also teaches the postgraduate courses: nematology and Tissue culture and is actively involved with MSc students.

### Pierre Abad

After a Ph.D at the University of Paris-XI Orsay and a two-year post-doctorate in genetics, Pierre Abad joined INRA in 1986 as a senior researcher at the Station de Nématologie et Génétique Moléculaire des Invertébrés in Antibes, later becoming its director in 1993. In the early 2000s, as part of the Sophia Agrobiotech project, Pierre Abad established a research strategy on the study of the interaction mechanism between plants and their closely-associated microorganisms in parasitic or symbiotic relationships. Subsequently, and in a more integrated vision, he was responsible for research policy on the protection of plants based on agro-ecological approaches where the natural processes of ecosystems and associated organisms are used to improve crop protection.

Director of UMR IPMSV in 2004, then of UMR IBSV in 2008, since 1st January 2012, Pierre Abad has been director of the new Sophia Agrobiotech Institute responsible for research issues on the health of plants and the environment.

Started over twenty years ago, the work of Pierre Abad’s team focuses on the study of the molecular dialogue between the plant and root-knot nematodes. Pierre Abad’s team studies both partners in this interaction and analyses the events that lead either to the development of disease or the plants’ resistance.



If you encounter any problems with the website please do not hesitate to contact Susie Prangley at [info@6thicn.com](mailto:info@6thicn.com) or myself at [mieke@arc.agric.za](mailto:mieke@arc.agric.za)

## Society News

A call for nominations for new members of the ESN governing board was made in the last issue of this newsletter. Two vacancies will exist on the governing board after the IFNS meeting. Following this call, two nominations have been received by the governing board. The ESN members will have the opportunity to vote on whether to approve the nominations at the ESN General Meeting to be held during the IFNS meeting. The nominations are:

### Philippe Castagnone-Sereno

Philippe works in the Plant-Nematode Interactions team at INRA Sophia Antipolis, France. He has extensive experience in the study of plant-root-knot nematode interactions and has studied the genetic variability of RKNs for more than 20 years. One of Philippe's main scientific goals deals with the evolution of nematode (a)virulence and the durability of plant resistance genes. The aim of this research is to acquire a global vision (from the gene to the field) of the ability of the nematodes to overcome plant resistance in order to design new control methods that are specific, sustainable and environmentally friendly. Currently, another significant project concerns the genetic characterization of the pinewood nematode in order to decipher the invasion routes of this quarantine nematode.



### Hans Helder

Hans works at Wageningen University on nematode phylogenetics and the evolution of plant parasitism ("what do you need to be a plant parasite?" and "how were the necessary genes acquired?"). In addition, his group is developing a molecular tool for nematode community analysis at family and / or genus level (see also Maturity Index). They have generated dozens of sets of family, genus or species-specific PCR primers. The DNA barcoding tools make life of a soil ecologist and pathologists easier. A parasitic life style accelerates evolution and therefore we are developing quantitative (qPCR-based) assays at species level for notorious plant parasites such as root knot, cyst, lesion, and burrowing nematodes. This is done in collaboration with Prof. dr. Gerrit Karsen (Dutch Plant Protection Service) and a number of academic and non-academic partners. Apart from these phytopathological aspects, the group analyse the biodiversity and ecology of nematode communities in soil and sediments to monitor and better understand the biological condition of agro-ecological and (semi) natural habitats.



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### Roland (Rolo) Perry on the move

I will be moving from Rothamsted Research to the University of Hertfordshire, UK. I will be based at Rothamsted until 31st March 2014 and will use the Rothamsted e-mail until then. As from Tuesday 1st April 2014 the Rothamsted e-mail address will be deactivated, so communication will be via my new University e-mail address: [r.perry2@herts.ac.uk](mailto:r.perry2@herts.ac.uk)

My postal address will be: School of Life and Medical Sciences, University of Hertfordshire, Hatfield, Herts AL10 9AB, UK.

Nothing else changes – I will continue my present duties as Editor-in-Chief of Nematology and Editor of the Russian Journal of Nematology and remain as Guest Professor at Ghent University, Belgium. The move to University of Hertfordshire opens up new opportunities for nematology, for example, within the undergraduate degree programme on Sustainable Agriculture and Food Security that has been validated to start in October this year.

*Roland N. Perry*

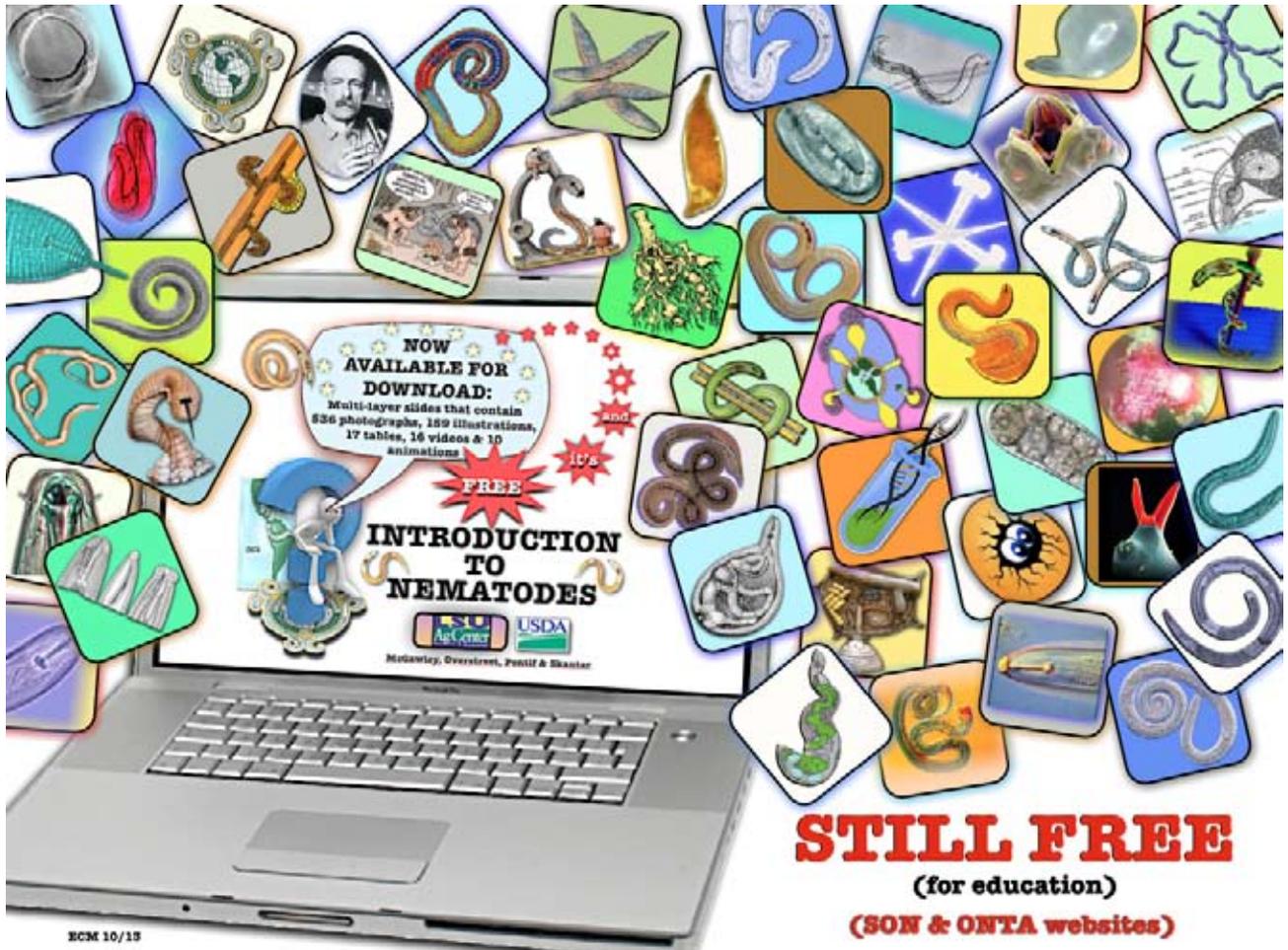
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### E-version of Nematology for ESN members

Brill, the publishers of Nematology, offer ESN members access to the e-version of the journal. The 2014 member subscription price to Nematology is € 112 / USD 150. This entitles the member to full access to the e-version. To obtain access to Nematology at the member rate, first contact the ESN secretary, Loes den Nijs ([l.j.m.f.den.nijs@minlnv.nl](mailto:l.j.m.f.den.nijs@minlnv.nl)) to request this. Loes will pass on contact details and confirm membership of ESN, thereby authorising the person's entitlement to the above rate.

Brill make it clear that this is an offer for individual members of ESN and is not intended as a substitute for institute subscriptions!

# Internet resources for Nematology



## EPN videos

e-nema GmbH, Schwentinal, Germany, has opened its new internet page in German and English at [www.e-nema.de](http://www.e-nema.de)

Under "Service-Video" the following videos on the use of EPN in biocontrol are available:

1. Biological control of the black vine weevil with entomopathogenic nematodes (08:11 min.)
2. Biological control of sciarid larva with the entomopathogenic nematode *Steinernema feltiae* (08:46 min.)
3. Biological control of the Western corn rootworm with *Heterorhabditis bacteriophora* (12:14 min.)

The videos introduce into the use of nematodes against the three different target pests and provide details on the EPN life cycle. They were produced by Urs Wyss in collaboration with e-nema GmbH.



It has been one year since the ESN took its first tentative steps into the world of social networking with its own Facebook page and Twitter feed (@ESNematologists).

At the time of writing the ESN Facebook page had already accumulated 171 "likes" and the ESN Twitter account had 25 followers and communicated with an average of 2 to 3 tweets per month. Even if you don't have any Twitter or Facebook account you can now look at the news available from these sources simply by going on the ESN web page ([www.esn-online.org](http://www.esn-online.org)) and clicking on the Twitter or Facebook button.

We have tried to put relevant information out as often as possible but all members are also welcome to post or send information that you feel might be of interest to other members.

Apart from information on ESN activities and the society "life", we welcome information on scientific events (books, publications, conferences, ...) related to nematology and news on industry/breeders developments related to nematodes. The ESN Facebook page has also highlighted occasions when nematodes have made an appearance in the popular media; stories covered this year include the discovery that King Richard III of England probably had worms as well as the ongoing battle between the ground staff at the Scottish Rugby stadium and *Meloidogyne minor*. For any enquiry related to these media please contact Wim Bert (for Facebook) or Eric Grenier (for Twitter, and remember that a tweet is 140 characters max, no more !).



# Nematology highlights

Volume 15 (2013) of *Nematology* contained eight issues. The last four issues contain 40 full research papers, two short communications and one book review. Three selected papers from each issue are highlighted here. All articles are available online as corrected proofs and the DOI can be cited. *Nematology* papers, including the earlier papers of *Nematologica*, are available on Brill's online platform at:

<http://booksandjournals.brillonline.com/content/15685411>

The current volume of *Nematology* (Volume 16; 2014) will be enlarged in size to 1,200 pages with an increased number of issues from eight to ten.

Articles should be submitted electronically using our Editorial Manager website.

Log in to <http://www.brill.nl/nemy> and click on the link where it says online submission now available. You can then submit your manuscript.

## Highlights of Vol. 15 (2013) Parts 5-8

### Part 5

In a paper by Kyndt *et al.* (**Transcriptional silencing of RNAi constructs against nematode genes in *Arabidopsis***;

pp. 519-528) *Arabidopsis thaliana* plants were transformed with hairpin constructs targeting *Heterodera schachtii* genes, driven by the Cauliflower Mosaic Virus (CaMV) 35S promoter: two housekeeping genes (the splicing factor *Hs-U2AF* and the vacuolar *Hs-H+ATPase*) and one candidate effector gene (the ubiquitin extension protein *Hs-ubi*). Expression of the dsRNA appeared to be extremely variable between and within homozygous T3 lines and even between tissues. Infection experiments showed up to 50% reduction in nematode infection for some transgenic lines. The results varied not only between lines containing the same construct, but also between independent repetitions of the experiment. These and other data in the paper show that host-generated RNAi can suffer from high levels of transcriptional silencing of the construct, leading to varying expression levels within and between transgenic lines.

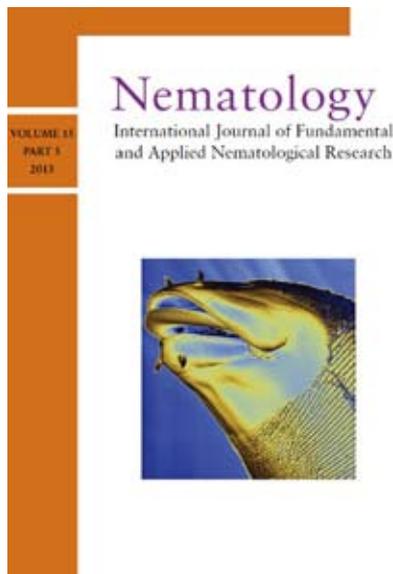
Baliński *et al.* (**Traces of marine nematodes from 470 million years old Early Ordovician rocks in China**; pp. 567-574) present evidence of cylindrical burrows with a sinusoidal course from the Fenxiang Formation in China. They interpret these as the oldest known record of activity by marine nematodes, preceding known body fossils by some 70 million years. The burrows are filled with secondarily oxidised pyrite framboids and clay mineral flakes, indicating low oxygen content in the mud and proving that the animals lined their burrows with organic matter, being bacteriovores and mud-eaters.

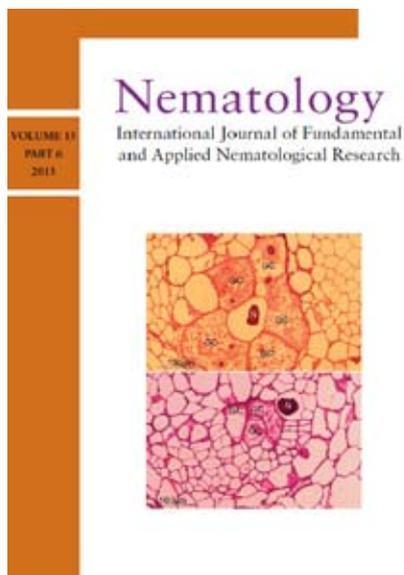
*Cynura* spp. are known from marine habitats such as intertidal sediments and kelp holdfasts from the Atlantic and Pacific regions. Holovachov *et al.* (**Morphology, molecular characterisation and systematic position of the genus *Cynura* Cobb, 1920 (Nematoda: Plectida)**; pp. 611-627) redescribe three known species of *Cynura* using a combination of morphological, including SEM, and molecular techniques. A tabular compendium of the known species in the genus is provided and the phylogenetic position inferred from molecular data. Bayesian analyses of small subunit rRNA sequences support a position nested within the Plectida, suggesting a secondary simplification of the pharyngeal valvular apparatus and the 'return' from a terrestrial to a marine environment.

Masler *et al.* (**Effects of catechins and low temperature on embryonic development and hatching in *Heterodera glycines* and *Meloidogyne incognita***; pp. 653-663) used mimics of two natural influences, a chemical similar to one present in cyst nematodes and low temperature exposure of nematode eggs, to assess effects on quantitative and qualitative features of embryonic development and hatching. The polyphenol epigallocatechin gallate (EGCG), an analogue of a compound found in nematode cysts, reduced hatch from both *Heterodera glycines* and *Meloidogyne incognita* eggs. Decreased hatch was associated primarily with an increase in unhatched, but viable, second-stage juveniles (J2). Inhibition of chitinase activity by EGCG suggests one factor in J2 retention in the egg. Exposure to low temperature decreased hatch by ca 50% in both species but was characterised by developmental arrest at the first-stage juvenile.

### Part 6

Masler *et al.* (**Effects of catechins and low temperature on embryonic development and hatching in *Heterodera glycines* and *Meloidogyne incognita***; pp. 653-663) used mimics of two natural influences, a chemical similar to one present in cyst nematodes and low temperature exposure of nematode eggs, to assess effects on quantitative and qualitative features of embryonic development and hatching. The polyphenol epigallocatechin gallate (EGCG), an analogue of a compound found in nematode cysts, reduced hatch from both *Heterodera glycines* and *Meloidogyne incognita* eggs. Decreased hatch was associated primarily with an increase in unhatched, but viable, second-stage juveniles (J2). Inhibition of chitinase activity by EGCG suggests one factor in J2 retention in the egg. Exposure to low temperature decreased hatch by ca 50% in both species but was characterised by developmental arrest at the first-stage juvenile.





In South Africa, *Meloidogyne incognita*, is a major parasite of soybean that increasingly threatens production of the crop. The parasitic relationship between *M. incognita* and soybean was compared on a susceptible and a resistant cultivar in terms of nematode penetration, development, reproduction and fecundity, in addition to histopathology studies (**Comparative cellular responses in susceptible and resistant soybean cultivars infected by *Meloidogyne incognita*** by Fourie *et al.*; pp. 695-708).

Second-stage juveniles (J2) penetrated roots of both cultivars in comparable numbers but numbers of vermiform J2 were significantly lower in roots of the resistant cultivar. Giant cell formation and development of *M. incognita* was significantly retarded in the resistant cultivar. A hypersensitive reaction was observed 2 DAI in roots of the resistant cultivar. This resistant cultivar can benefit soybean producers and the industry by its use as a genetic source in breeding programmes.

*Scutellonema* spp. are widely distributed across the tropical and subtropical regions of the world and are associated with many agricultural and horticultural crops. Identification to species level is not always

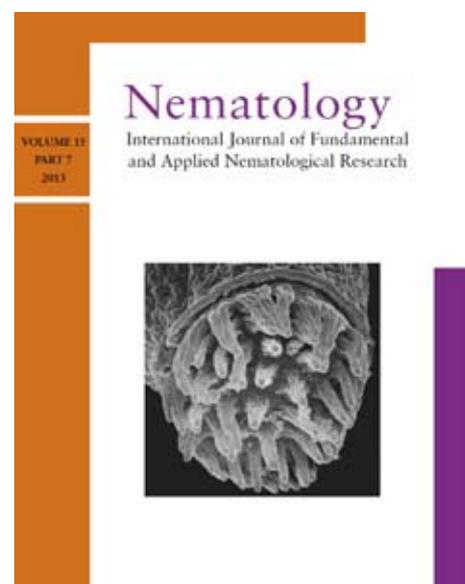
reliable due to similarities in many diagnostic features. Van den Berg *et al.* (**Morphological and molecular characterisation and diagnostics of some species of *Scutellonema* Andr ssy, 1958 (Tylenchida: Haplaimidae) with a molecular phylogeny of the genus**; pp. 719-745) have produced an excellent study of a number of species in the genus, including *S. brachyurus*, and attempt to provide morphological and molecular clarification of the status of several species. Phylogenetic relationships are discussed. PCR-RFLP diagnostic profiles and PCR with species-specific primers are developed for the studied species.

#### Part 7

Major challenges to efficient potato production worldwide are the potato cyst nematodes (PCN), *Globodera rostochiensis* and, especially, *G. pallida*. Natural plant extracts may offer an alternative to environmentally unacceptable nematicides. Danguah *et al.* used in vitro and glasshouse studies to determine the mechanisms of action of an aqueous garlic extract, salicylaldehyde, a nonylphenol ethoxylate surfactant and a formulation (G8014S) containing these substances on *G. pallida*. Their study (**Effects of a plant extract-based nematicide (G8014S) and its components on the host finding behaviour and multiplication of *Globodera pallida* on glasshouse grown potatoes**; pp. 821-834) showed that the garlic extract was the least disruptive to host finding by second-stage juveniles (J2), whereas J2 attraction to roots was considerably disrupted by G8014S. In glasshouse experiments, different rates of the test substances were compared with the nematicide oxamyl for their effects on the in-soil hatch, egg viability and multiplication of *G. pallida*. The effect of treatment with 220.16 l ha<sup>-1</sup> of G8014S on *G. pallida* multiplication was comparable to that of oxamyl causing a five-fold reduction in PCN multiplication relative to the water control. These results provide evidence to support the potential of the formulation for the control of *G. pallida* in potatoes.

Ivanova *et al.* (**Description and systematic affinity of *Alaninema ngata* n. sp. (Alaninematidae: Panagrolaimomorpha) parasitising leaf-veined slugs (Athoracophoridae: Pulmonata) in New Zealand**; pp. 859-870) describe a new species of slug parasite from the rare and poorly known genus *Alaninema*. The nematode parasitises several species of endemic leaf-veined slugs. Molecular phylogeny showed that this unusual and problematic genus has affinities with the Panagrolaimomorpha.

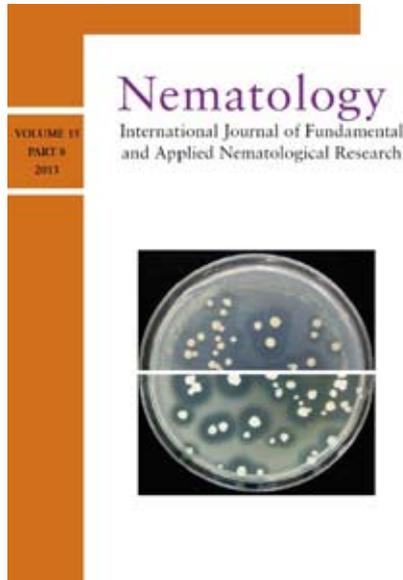
Yushin & Kosaka (**Sperm storage in the uterus of the insect-parasitic nematode, *Sphaerularia vespae* (Nematoda: Sphaerulariidae)**; pp. 761-770) present a TEM study of the spermatheca of a nematode parasitising the Japanese hornet, *Vespa simillima*. In *Sphaerularia*, the female nematode becomes atrophied and it is her everted genital system, the uterus, which develops into a giant sausage-shaped structure which gains nutriment directly from the host. The nematode therefore metamorphoses into what is effectively a pure



reproductive system. A similar species, *S. bombi*, has long been known as a parasite of hibernating bumble bees in Europe, being described as early as 1837.

## Part 8

Abundances of nematode genera were examined in several forest and field habitats in Florida, USA, and the effects of habitat features, such as tree type, management and presence of litter, grasses, or invasive species was determined (McSorley: **Effect of forest and field habitat features on abundance of genera in nematode assemblages**; pp. 947-956). Of 37 common taxa evaluated, 10 were more abundant in forest and 10 in field



habitats. Several genera including *Acrobeloides*, *Aphelenchoides*, and *Mesocriciconema* were common in all habitats. Light management consisting of mowing of grasses negatively affected 19 taxa. More genera appeared adapted to closed forest over open forest, and most of these were more common in plots with oak trees or oak litter than in plots with pine. Together with information on the effect of elephant grass on the abundance of certain nematode genera, the data provide useful information on the ecology and habitat preference of free-living nematodes.

*Heterodera glycines* causes yield losses in most soybean production areas in the world and it is distributed throughout Japan. Moyashi is sprouts of soybean (*Glycine max*), mung bean (*Vigna radiata*) or black gram (*Vigna mungo*) and is a common food in Asian countries. Among bean sprout, mung bean is most frequently grown in Japan. In factories producing bean sprout, a part of the product is not acceptable and this residue is estimated to equal 10% of the total production. Toyota *et al.* (**Effect of bean sprout residue on the hatching and density of the**

**soybean cyst nematode *Heterodera glycines* in soil**; pp. 923-929) found that when bean sprout residue was applied into a soil infested with *H. glycines* the number of second-stage juveniles (J2) increased after 14 days of application and then decreased markedly after 35 days, indicating that some J2 hatched in response to a stimulant in the bean sprout residue and then starved to death in the absence of a host. When bean sprout residue was applied two or four times and the number of *H. glycines* after 7 weeks was estimated with real-time PCR, which enables quantification of all the stages (eggs, J2, cysts), the nematode density did not change in the untreated control, while it decreased by more than 70% in the residue treatment. These results indicate that bean sprout residue might function as an environmentally friendly control measure for *H. glycines*.

Recent research into diplogastrids has revealed a number of fascinating new genera and species. Herrmann *et al.* (***Sudhausia aristotokia* n. gen., n. sp. and *S. crassa* n. gen., n. sp. (Nematoda: Diplogastridae): viviparous new species with precocious gonad development**; pp. 1001-1020), in a beautifully illustrated paper, describe two such new species associated with dung beetles in Ghana and South Africa. An unusual developmental trait in these hermaphroditic nematodes is the maturation of the gonad and development of juvenile progeny before moulting to the adult stage. The new species also represent useful reference points for the study of feeding-structure evolution in the Diplogastridae.

*David J. Hunt and Roland N. Perry*  
*Editors-in-Chief, Nematology*

## John Fisher (1932-2013)

John Fisher died on July 1st 2013. John spent the majority of his career at the Waite institute of the University of Adelaide. John will be best remembered for his work on *Heterodera avenae*, which made a significant and lasting contribution to Australian agriculture. In 1987, John was awarded the Urrbrae Medal for the work that led to control of CCN.

*Kerrie Davies and Graham Stirling*



## ESN Governing Board

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## How to join ESN

If you would like to join the ESN please contact the Secretary/Treasurer - **Loes den Nijs** or your local contact. Membership of ESN costs 20 Euro per year.

## ESN Country and Regional Representatives

### Country Reps

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Czech Republic  
France  
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Greece  
Hungary  
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South Africa  
Spain  
Switzerland  
Turkey  
UK  
Ukraine  
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#### Name

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Mike Hodda  
Lieve Gheysen  
Qing Yu  
Deliang Peng  
Vladimir Gaar  
Geraldine Anthoine  
Johannes Hallmann  
Eirini Karanastasi  
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## ESN Governing Board meeting

The ESN governing board held a meeting in Ghent on January 14th. Issues that were discussed included:

- Bursaries for ESN student members to attend the IFNS meeting in South Africa
- A review of the procedures used when assessing applications for bursaries from ESN
- ESN input into the IFNS meeting
- The 2016 ESN meeting in Portugal
- Replacements for retiring ESN board members
- The financial affairs of the society; the ESN financial statement will appear in the next issue.