

Nematology News

ESN Braga: 28th August - 1st September 2016



ESN 2016 will take place at the University of Minho, Braga, Portugal. Braga is located in northern Portugal and is one of the oldest cities in Portugal. Braga is 40km from Porto International Airport, which is served by many international airlines, including budget airlines. Options for traveling between Porto and Braga include train, bus or taxi. More information can be found on the official website <http://esn2016braga.com>



Important dates

deadline early registration: 15th May

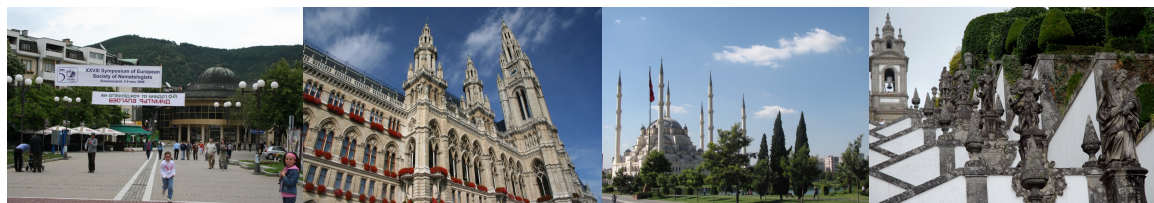
deadline abstract submission: 31st May

The deadline for student bursary application was extended till 15th March

All information and updates on the scientific program can be found on <http://esn2016braga.com>. During the symposium rooms for workshops and meetings can be arranged. For further information contact the organizers. If you have any questions or inquiries about the 32nd Symposium of the European Society of Nematologists, please contact - esnbraga.2016@gmail.com.

New ESN website launched!

Check out the website of ESN (<https://www.esn-online.org>) for the latest news of the society, past and future meetings, the newsletter and (soon to come) much more. In the members area you can check your details and status (when to renew your membership). Feedback on the website is most welcome and will help us to develop it further.



Blagoevgrad 2006

Vienna 2010

Adana 2012

Braga 2016

Bids for the organization of the 33rd ESN symposium in 2018 can be sent to the ESN governing board. For further directions contact the secretary - treasurer Loes den Nijs

Call for nominations for Fellows of the ESN

Current ESN Fellows

Maurice Ritter (1986)
Julia Meridith (1990)
David Hooper (1994)
Pieter Loof (1994)
Nigel Hague (1998)
August Coomans (2000)
Virginia Ferris (2002)
David Trudgill (2002)
John Webster (2004)
Roger Cook (2004)
Maria Susana Santos (2004)
Richard Sikora (2006)
Anton Dalmasso (2006)
Roland Perry (2008)
Maurice Moens (2010)
David Chitwood (2014)

Election of Fellow of the Society is accorded to General Members in recognition of outstanding contributions to the science of Nematology or distinguished service in promoting the Objectives of the Society. The call for nominations for Fellows of the ESN to be elected in 2016 is now open.

Nominations for Fellow of the Society may be made by any member. All nominations must be accompanied by a written statement outlining the professional achievements of the nominee and giving reasons for the proposed election. All nominations must be supported by two other members.

Nominations should be submitted to the Secretary/Treasurer (Loes den Nijs) at least three months before the General Meeting of the Society. For the current election, nominations should be received before the first of June. The selection of Fellows will be made by a committee appointed by the Governing Board which will inform the membership of its decision at the General Meeting in Braga, Portugal.

Discounted subscription to *Nematology* for ESN members

Members are reminded that they can subscribe to the 2016 Volume of *Nematology* at the special individual e-only member subscription rate of € 125 (excluding VAT). Please send your order to brill@turpin-distribution.com, quoting action code 70258.



Highlights from recent Nematology issues can be found on pages 4-5

Association of Applied Biologists (AAB): Advances in Nematology meeting 15th December 2015

This year 60 delegates from the UK, several countries in Europe, China, Israel, Japan and the USA attended the annual meeting of the AAB Nematology Group at 'The Linnean Society of London'. Several students attended, either from the UK or studying in Europe or elsewhere, which reinforced a major driving force of the meeting as a place where students are encouraged to make presentations and have discussions with the wider nematology community in a welcoming and historic atmosphere.

The meeting began with the AGM of the Nematology Group, which, whilst brief, allowed the work of the members to be introduced to the delegates and provided publicity for forthcoming meetings (see AAB website for more details). There followed an interesting talk from invited speaker Sara Sánchez-Moreno, from the National Institute for Agricultural and Food Research and Technology in Spain, discussing whether organic management does improve soil health. The remainder of the session included talks by students with impressive visual presentations and a high quality of delivery, with a common theme of the biology and control of root-knot nematodes. The morning session ended with a visually splendid presentation by student Xue Qing from Gent University, on the use of three-dimensional modelling and printing as tools to enhance education and research in nematology.

The poster presenters of a wide range of subjects gained from having their own one-minute introduction after lunch, and having their posters displayed in the library all day, where lunch, tea and coffee were served. The attendance of staff from the Royal Horticultural Society, Wisley, UK, and Gerard Clover, the new Senior Editor of New Disease Reports, was particularly welcome. The afternoon session commenced with invited speaker Gareth Martin from BASF Agricultural Specialities, on the commercial development of entomopathogenic nematodes, was followed by a talk by Robbie Rae, Liverpool John Moores University, UK, on studies with nematode parasites of slugs. After the afternoon the poster session, developments with research on potato cyst nematodes in the UK and Norway were presented. There was plenty of time for interaction in the historic meeting room, under the gaze of original portraits of Charles Darwin and Alfred Russel Wallace, and in the Library during lunch and the afternoon tea break. The Brian Kerry award for the best student platform presentation was presented to Nele Schouteden, from the Division of Crop Biotechnics in Belgium, who will also receive a new book kindly donated by CAB International.

Finally, as Matt Back kindly acknowledged at the end of this meeting, the day marked the end of my involvement with its organisation, as I hand over to those who are in daily touch with other members of our discipline. I have thoroughly enjoyed helping to organise these meetings for the last few years, and thank all those who have helped to make this event a continuing success, despite the challenges that face nematology both in the UK and in Europe generally. I am confident that this success will continue in the future, but this does depend on all nematologists continuing to get involved, support the next generation as they develop their careers, and maintain this event as a very valuable one for helping to put the science of nematology into practice. The AAB look forward to receiving offers for this year's meeting, which will be held on 13 December 2016, again at The Linnean Society of London.



Delegates during lunch at the library of the Linnean Society of London

Nematology highlights

The last five issues of *Nematology* volume 17 (2015) contain 3 Forum articles and 31 full research papers, making a total of 75 full research papers for volume 17. A paper from each of the last five issues is highlighted here.

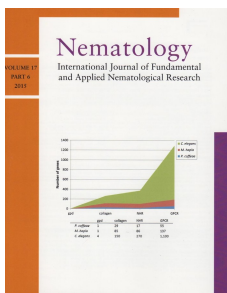
Nematology papers, including the earlier papers of *Nematologica*, are available on Brill's online platform at: <http://booksandjournals.brillonline.com/content/15685411>; all articles are available online with a DOI immediately corrected proofs are returned.

Impact factor (2015) = 1.239.

Highlights of Vol. 17 (2015) Parts 6-10

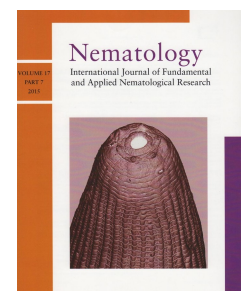
Issue 6

In a paper entitled *The plant-parasitic nematode Pratylenchus coffeae carries a minimal nematode genome* (pp. 621-637) Burke *et al.* report the genome sequence of this lesion nematode, a significant pest of banana and other staple crops in tropical and sub-tropical regions worldwide. Initial analysis of the 19.67 megabase genome reveals 6712 protein encoding genes, the smallest number found in a metazoan. Significantly, no developmental or physiological pathways are obviously missing when compared to the model free-living nematode *Caenorhabditis elegans*, which possesses ~21000 genes. The highly streamlined *P. coffeae* genome may reveal a remarkable functional plasticity in nematode genomes, and may also indicate evolutionary routes to increased specialisation in other nematode genera. Unlike the sedentary endoparasitic root-knot nematodes (*Meloidogyne* spp.), *P. coffeae* does not establish a feeding site within the root. Because the *P. coffeae* genome nematode encodes fewer than half the number of genes found in the genomes of root-knot nematodes, comparative analysis to determine genes *P. coffeae* does not carry may help to define development of more sophisticated forms of nematode-plant interactions and help to understand not only nematode evolution but animal biology in general.



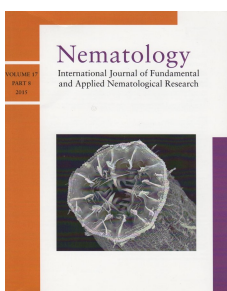
Issue 7

A long overdue revision of the genus *Schistonchus*, an apparently paraphyletic taxon, is presented by Davies *et al.* in a paper entitled *A review of the taxonomy, phylogeny, distribution and co-evolution of Schistonchus Cobb, 1927 with proposal of Ficophagus n. gen. and Martininema n. gen. (Nematoda: Aphelenchoididae)* (pp. 761-829). Members of *Schistonchus*, *sensu lato*, have a complex association with figs and their pollinator wasps and seem to have a high degree of host specificity. In this comprehensive paper, the species are discussed in detail and two new genera convincingly erected on the basis of morphology, ecology and molecular analysis. As a result of this work, the paraphyletic assemblage *Schistonchus sensu lato*, is now shown to comprise three monophyletic genera: *Schistonchus sensu stricto*, *Ficophagus* and *Martininema*.



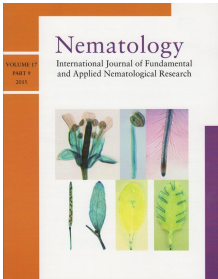
Issue 8

In a paper entitled *Re-description of the slug-parasitic nematode Alloionema appendiculatum Schneider, 1859 (Nematoda: Alloionematidae)* (pp. 897-910), Nermut' *et al.* present information on a population of *A. appendiculatum* isolated from infected individuals of the invasive slug *Arion vulgaris* (= *A. lusitanicus*), collected in the city of České Budějovice, Czech Republic. *Alloionema appendiculatum* is a common juvenile parasite of many terrestrial molluscs. Its third-stage juveniles (dauers) invade the foot muscle of snails and slugs and develop into fourth-stage juveniles, which then leave the host. Later they mature and reproduce in the soil. The isolate was compared primarily with the description published by Mengert (1953) and in some aspects with the original description published by Schneider (1859). Insufficient morphology, morphometrics, phylogeny and an absence



of pictorial material justified a redescription of this frequent slug. The species is characterised by the absence, in adults, of ridges in the lateral fields. At this life stage the stoma is short, narrow and approximately twice as long as it is broad. Fourth-stage female juveniles produce a mucus-like substance from the phasmids. Males possess six pairs of papillae and a single inconspicuous papilla. The nematode has both parasitic and saprophytic life-cycles. Parasitic adults are bigger than the saprophytes and have a thick, digitate tail, whereas the smaller saprophytic generation has a filiform tail. resistance (R) genes offer an alternative to chemical control and limit nematode damage to crops in the field.

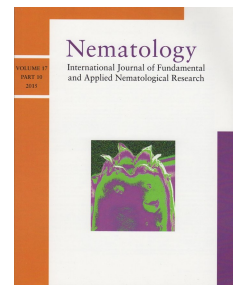
Issue 9



The phylogeny of the Mononchina was studied by Koochkan *et al.* in a paper entitled *Phylogenetic relationship of three families of the suborder Mononchina Kirjanova & Krall, 1969 inferred from 18S DNA* (pp. 1113-1125). Phylogenetic analyses were done with Neighbour Joining and Maximum Likelihood for five outgroup taxa and 65 mononch sequences, many of which were new. Both analyses indicated that *Anatonchus* is a monophyletic assemblage whilst trees from SSU rDNA alignments were subdivided into five highly- or moderately-supported clades, thereby demonstrating the utility of this approach for resolving relationships within the suborder.

Issue 10

In a thought-provoking Forum article, entitled *Nematology, crop protection and food security* (pp. 1127-1140), Aurelio Ciancio discusses the role of nematology in food security. Current strategies for management of economically deleterious plant-parasitic nematodes, include complex approaches based on knowledge of ecology, natural sciences and genomics. Ciancio argues that the food security goal is to satisfy any dietary need for the healthy life of all but this message has not spread globally. Benefits achievable by crop technologies are not equally distributed and food security is not yet assured for several million people. Many social, political or economic factors are involved, and nematology may only partially contribute to achieve this goal. However, the scientific knowledge produced can contribute to solving some food security issues. Fundamental conditions are free access to education and science, as well as the support to the independent production of knowledge, improving regional and international cooperation and research.



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

Nematology Courses in Wageningen 2016

In close cooperation with the Netherlands Food and consumer Product Safety Authority (former Dutch Plant Protection Services) and the Netherlands Institute of Ecology (NIOO-KNAW), the Laboratory of Nematology is offering a series of nematology courses. Hands-on practical training is a key element in all courses offered; we aim to teach you to-do-it-yourself.

All courses will be held at the Laboratory of Nematology. The course schedule is designed in such a way that courses - or modules - can be combined conveniently. By doing so we hope you will be able to learn the things you want to learn in an efficient time frame. For more information see:

<http://www.wageningenur.nl/en/Expertise-Services/Chair-groups/Plant-Sciences/Laboratory-of-Nematology/Education/Other-courses.htm>



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Information needed for the newsletter

The ESN Governing Board would like this newsletter to be a Forum that is more widely used by the membership to share news and information. So, if you have any information and/or images that might be of interest to ESN members please send a note to the editor (Wim Wesemael - wim.wesemael@ilvo.vlaanderen.be). All that is needed is a small amount of text in a word file or an email message, along with an accompanying image.