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This issue of *Nematologica* is entirely devoted to the Proceedings of the Symposium. Abstracts of papers, posters and films are published in small print in alphabetical order of the authors. These are followed by reports on colloquia, also in small print. The two Invited Papers are in the form that they were presented at the Symposium. The Seminar papers are published in the usual format for the journal but they have not been submitted to referees and their content, as with other items of the Proceedings, is solely the responsibility of the author(s).

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ABSTRACTS

ABAD, P.: *Satellite DNA as a taxonomic marker in nematology*. Morphological, physiological, behavioural and ecological traits were until now the main data sources of taxonomic and phylogenetic investigations. However, in some cases they proved insufficient, especially in the discrimination of very closely related species. In some cases, this leads to confusion between particularly damaging nematodes and other relatively harmless but morphologically similar species. Nucleic acid analysis provides the ultimate resolution in nematode identification. Nevertheless, the rate of evolutionary change should be adequate to the level of divergence of the species in question. Rapidly evolving DNA is useful to study recently diverged taxa, but it may appear too different for the comparison of species of particularly ancient genera. Damaging nematodes and relatively harmless nematodes are generally mixed in the same genus, so we need rapidly evolving taxonomic markers to identify them. This paper illustrates the applications of satellite DNA as taxonomic diagnostic markers in the plant-parasitic nematode genera *Bursaphelenchus* and *Meloidogyne* and in the entomopathogenic nematode genera *Steinernema* and *Heterorhabditis*. In these cases, isolated satellites are species-specific and therefore allow direct probing of squashed nematodes. With this technique we are able to differentiate damaging or interesting species from harmless and uninteresting species. At the intraspecific level, these satellite DNAs make it possible to clearly distinguish between geographic populations. Since the resolution of squash blot hybridization is very high and since the experimental procedure is very easy and quick, it should be possible to introduce it into field work without the need for a well-equipped laboratory. Another application of satellite DNA in taxonomy is its use for systematic analyses at the species-population boundary which might give interesting insights into their relationships. The examples given above illustrate that satellite DNAs can serve as good tools for phylogenetic studies. - *Laboratoire de Biologie des Invertébrés, Institut National de la Recherche Agronomique, B.P. 2078, F-06606 Antibes Cedex, France.*

ABBAD ANDALOUSSSI F. & HAMAOUI, M.: *Status and control of stem nematode infesting faba bean in Marocco*. The stem nematode, *Ditylenchus dipsaci*, is a serious pest of faba bean, *Vicia faba*, in Marocco and is wide-spread in all faba bean production areas. Attack by this nematode may result in the complete loss of the yield depending on the environmental conditions. No control measure is

available for the protection of this crop. A research programme was set up in 1989 to develop control of this problem. Local and international faba bean germplasm have been tested for resistance to *D. dipsaci*. This work is still in progress. The preliminary results show one promising tolerant line but its reaction is not stable and may differ according to the year and to the nematode population. A case of resistance breaking on the line INRA 29H and some ICARDA resistant lines has been found in experimental plots inoculated with a virulent population. Studies are underway to characterise *D. dipsaci* populations and screen for resistance and tolerance under controlled conditions. Experiments using different faba bean sowing dates indicate an interesting possibility for controlling the stem nematode. Data show that the later sowing dates in December result in less infestation than the earlier ones. Other possibilities of stem nematode control are under study. - *INRA Phytiatrie El Menzeh, B.P. 293, Kenitra, Maroc.*

ABBAD ANDALOUSSSI, F.[1]), CAUBEL, G.[2]) & ESQUIBET, M.[2]): *Resistance in* Vicia faba *to giant race of the stem nematode,* Ditylenchus dispaci: *Existence of a pathotype virulent on* V. faba minor *INRA 29H.* The stem nematode *Ditylenchus dipsaci*, and especially its giant race, attacks *Vicia* bean in several countries of the Mediterranean Basin. Sturhan (1975) reported the existence of several *faba*-bean lines with low multiplication rates of some stem nematode populations. Of the material tested in published papers, only one line (INRA 29H), proved to have good resistance to the giant race. This was confirmed by Caubel & Leclercq (1989) and Ammati (com.pers.). INRA 29H never showed swellings of the plant tissues but only slight local necrosis, and the nematode multiplication rate was always low. The multiplication rate of the nematode is correlated with the types of symtom: swelling with shortening of the inoculated axillary bud is always associated with a high multiplication rate, while necrotic lesions surrounding the inoculation site are related to low multiplication. In 1991, a giant race population (named Dar) was found near Casablanca, causing severe symptoms in a field. Several experiments in the field and in temperate laboratory conditions demonstrate clearly that this population breaks the resistance of INRA 29H. On this line, the population caused severe swellings of the stem, always associated with high multiplication rates, similar to those observed on control bean varieties. For example, a classical population giant race multiplied three times on INRA 29H at 15°C after 23 weeks but the Dar population multiplied 84 times. Though the resistance genes in INRA 29H are not known, it seems that this population of stem nematode can be considered as a new pathotype, virulent on this pure line. Variability in giant populations must be further investigated and research developed for sources of resistance. The breaking of varietal resistance is known in several nematode species. With stem nematode, some cases are reported in literature, especially on lucerne. The virulence of the Dar population seems to be found at a high level in field conditions, but we do not know the geographical distribution of this new pathotype nor how seed transmission of the nematode may spread it internationally. - [1]) *INRA Phytiatrie El Menzeh, B.P. 293, Kenitra, Maroc*; [2]) *INRA Zoologie Centre de Recherches de Rennes, B.P. 29, Le Rheu, France.*

ABRANTES, I. M. DE O.[1]), SANTOS, M. S. N. DE A.[1]) & VOVLAS, N.[2]): *Studies on* Meloidogyne megadora *found in coffee plantations in República de S. Tomé e Príncipe.* In recent years a survey was conducted in the main growing coffee areas of República de S. Tomé e Príncipe. Thirty-one soil and root samples were collected from the coffee fields. The results obtained showed that root-knot nematodes, *Meloidogyne* spp., were present in fourteen samples. *M. megadora* was found in five of the samples. Additional morphologic and morphometric data, including SEM observations of females, males and second-stage juveniles will be presented. Histological modifications in coffee roots were also studied and will be discussed. *Meloidogyne megadora* is reported for the first time from República de S. Tomé e Príncipe. Our results suggest that *M. megadora* is an important pathogen of coffee and may become a serious pathogen of other plants. - [1]) *Centro de Sistemática e Ecologia, Departamento de Zoologia, Universidade de Coimbra, Coimbra, Portugal*; [2]) *CNR, Istituto di Nematologia Agraria, Via Amendola 165/A, 70126 Bari, Italy. This research was carried out with the support of the European Union, STD programme.*

ALKEMADE, R. & VAN ESBROEK, M.: *Estimating ecological amplitudes for free-living nematodes.* During the last decade the relationship between free-living nematode species composition and their abiotic environment was extensively studied. In the Netherlands, a number of surveys and field studies were carried out, resulting in data for more than 600 samples, comprising the occurrence of more than 200 nematode taxa (genera and species). Data on both abiotic factors and the