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MULKORHYNCHUS JAIRAJPURI, 1988 AND PATHOTYLENCHUS EROSHENKO & VOLKOVA, 1987, JUNIOR SYNONYMS OF TYLENCHORHYNCHUS COBB, 1913 AND GEOCENAMUS THORNE & MALEK, 1970, RESPECTIVELY (NEMATA : BELONOLAIMIDAE)

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The genus "*Dolichorhynchus*" Mulk & Jairajpuri, 1974, a primary homonym of *Dolichorhynchus* Willey, 1901 (Cephalocordata), was considered a junior synonym of *Tylenchorhynchus* Cobb, 1913 by Fortuner and Luc (1987) who offered detailed arguments for establishing such a synonymization.

Jairajpuri (1988) reestablished the genus "*Dolichorhynchus*", renaming it *Mulkorhynchus* Jairajpuri, 1988 *nom. nov.* He transferred to the new genus some species formerly contained in the genus "*Dolichorhynchus*" with the exception of *D. cristatus*, *D. elegans*, *D. gladiolatus*, *D. judithae*, *D. microsphasmsis*, *D. solani*, and *D. sulcatus*.

Jairajpuri (1988) considered that arguments and counter arguments for or against the validity of the

genus shall continue to be offered by successive authors, and that this question can only be settled when more information is available. Already available information shows that the two criteria used by Mulk and Siddiqi (1982), i.e. structure of the body longitudinal ridges and lateral fields, are not consistently present in all the species placed in this genus (Fortuner & Luc, 1987). Revalidation of the genus requires that either the facts discussed by Fortuner and Luc (1987) be disproved, or that a different interpretation of these facts be offered. Jairajpuri (1988) did not discuss these facts or their interpretation. Consequently, we do not consider *Mulkorhynchus* a valid taxon, and we place it as a junior synonym of *Tylenchorhynchus*, to which genus the following species are reverted :

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- Tylenchorhynchus lamelliferus* (de Man, 1880) Filip'ev, 1936.
 = *Mulkorhynchus lamelliferus* (de Man, 1880) Jairajpuri, 1988.
- T. mulki* Fortuner & Luc, 1987.
 = *M. parvus* (Mulk & Siddiqi, 1982) Jairajpuri, 1988.
 nec *T. parvus* Allen, 1955.
- T. nigericus* (Mulk & Jairajpuri, 1974) Fortuner & Luc, 1987.
 = *M. nigericus* (Mulk & Jairajpuri, 1974) Jairajpuri, 1988.
- T. phaseoli* Sethi & Swarup, 1968.
 = *M. phaseoli* (Sethi & Swarup, 1968) Jairajpuri, 1988.
- T. prophasmsis* (Jairajpuri & Hunt, 1984) Fortuner & Luc, 1987.
 = *M. prophasmsis* (Jairajpuri & Hunt, 1984) Jairajpuri, 1988.
- T. tuberosus* (Maqbool, Ghazala & Fatima, 1984) Fortuner & Luc, 1987.
 = *M. tuberosus* (Maqbool, Ghazala & Fatima, 1984) Jairajpuri, 1988.

Eroshenko and Volkova (1987) proposed the new genus *Pathotylenchus*, close to *Merlinius* Siddiqi, 1970 with the following four species : *P. superbus* (Allen, 1955) Eroshenko & Volkova, 1987, type species; *P. kirjanovae* (Sagitov, 1973) Eroshenko & Volkova, 1987; *P. longus* (Wu, 1969) Eroshenko & Volkova, 1987 and *P. nurserus* Eroshenko & Volkova, 1987.

The new genus is briefly described and it is said to belong in the subfamily "Merliniinae" because of the six lines in the lateral field. This subfamily was made a synonym of Telotylenchinae by Fortuner and Luc (1987). No formal diagnosis of the new genus is provided, and the characters that differentiate it from the other genera in "Merliniinae" are not given.

From the descriptions of the genus and of the new species, and from the summary of the article, it can be inferred that *Pathotylenchus* is differentiated from the genera in "Merliniinae" only by the great length of the stylet (more than 60 µm).

Geocenamus Thorne & Malek, 1970, a genus also with six lines in the lateral field, was recently transferred to the subfamily Belonolaiminae by Fortuner and Luc (1987) because of the structure of its stylet and oesophagus. Typical belonolaimid stylet is characterized by an elongation of the cone, with ratio "m" equal to 60 or higher and typical oesophagus by an enlargement of the procorpus, and the presence of large valve in the median bulb. *Geocenamus* includes some species with elongated stylets, up to 130 µm. Other genera in Belonolaiminae have species with widely different stylet lengths. This character varies from 60 to 100 µm in *Morulaimus*, and from 60 to 150 µm in *Belonolaimus*. Stylet length is not accepted as a valid criterion at the genus level. *Geocena-*

mus was defined with deirids absent or inconspicuous by Fortuner and Luc (1987).

Eroshenko and Volkova (1987) included in the new genus *Pathotylenchus* three existing species, formerly in the genera *Geocenamus* (*G. kirjanovae*) and *Merlinius* (*M. superbus*, type species of the new genus, and *M. longus*).

P. superbus has a mixture of characteristics of the genus *Merlinius* [anterior region slightly offset, not bulbous, presence of deirids, SEM face view (Powers, Baldwin & Bell, 1983)] lacking the four lobed structure characteristic of Belonolaiminae] and of the genus *Geocenamus* (elongated stylet with cone longer than shaft, and modified oesophageal corpus). The presence of these characteristics of *P. superbus* was checked in paratypes kept at the Department of Nematology, University of California at Davis. The oesophageal derived characters were considered by Fortuner and Luc (1987) as the primary criteria for the differentiation of the subfamily Belonolaiminae. For this reason, *Pathotylenchus superbus* is here transferred to the genus *Geocenamus*. As a consequence, the genus *Pathotylenchus* is here proposed as a new junior synonym of the genus *Geocenamus*. The diagnosis of *Geocenamus* is modified to accept deirids absent or present.

P. longus was transferred to *Geocenamus* by Tarjan (1973), then to *Merlinius* by Sturhan (1981) because the species lacked the conspicuous labial disc that was the main characteristic of *Geocenamus* at the time. The long stylet, with cone longer than shaft (figure of the original description : Wu, 1969), the anterior region markedly offset are characteristics of the genus *Geocenamus* as it is currently defined (Fortuner & Luc, 1987).

The new species *P. nurserus* described by Eroshenko and Volkova (1987) has all the characteristics of *Geocenamus*.

We propose to consider as valid the following combinations :

Geocenamus kirjanovae (Sagitov, 1973) Fortuner & Luc, 1987.

= *Pathotylenchus kirjanovae* (Sagitov, 1973) Eroshenko & Volkova, 1987.

Geocenamus longus (Wu, 1969) Tarjan, 1973.

= *Pathotylenchus longus* (Wu, 1969) Eroshenko & Volkova, 1987.

Geocenamus nurserus (Eroshenko & Volkova, 1987) nov. comb.

= *Pathotylenchus nurserus* Eroshenko & Volkova, 1987.

Geocenamus superbus (Allen, 1955) nov. comb.

= *Pathotylenchus superbus* (Allen, 1955) Eroshenko & Volkova, 1987.

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PLANT-PARASITIC NEMATODES ASSOCIATED WITH OLIVE (*OLEA EUROPEA* L.) IN THE PROVINCE OF JAÉN, SPAIN

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The olive (*Olea europea* L.) is a characteristic culture of the mediterranean region. In Spain, above all in Andalucía, it represents a basic component of agriculture, but is also important in industry. The Province of Jaén, situated in the Southeastern Iberic Peninsula (Fig. 1) has an area of more than 400 000 ha occupied by this crop and is the most important producer of olive oil in Spain.

Studies on nematodes associated with olives were previously conducted by several authors (Diab & El-Eraki, 1968; Scognamiglio, Talamé & Giandomenico, 1968; Lamberti, 1969, 1981; Scognamiglio, Talamé & d'Errico, 1971; Gallo & Jiménez, 1976; Fiume, 1978; Inserra & Vovlas, 1981; Hashim, 1982, 1983).

In Spain no monographic investigation about the subject has ever been carried out. There are, however, records from general surveys (Jacob, Berkum & Guevara, 1959; Jiménez Millán *et al.*, 1965; Gómez Barcina, 1966; Tobar Jiménez & Guevara Pozo, 1967; Romero & Arias, 1969; Arias, 1975).

The fundamental aim of this study is the preparation of a catalogue of the plant-parasitic nematodes associated with olives in the Province of Jaén.

Material and methods

A total of 129 soil samples were collected from 76 different localities (Fig. 1) and in four seasons of the year : spring (Apr.-May, 1985), summer (July-Aug.,

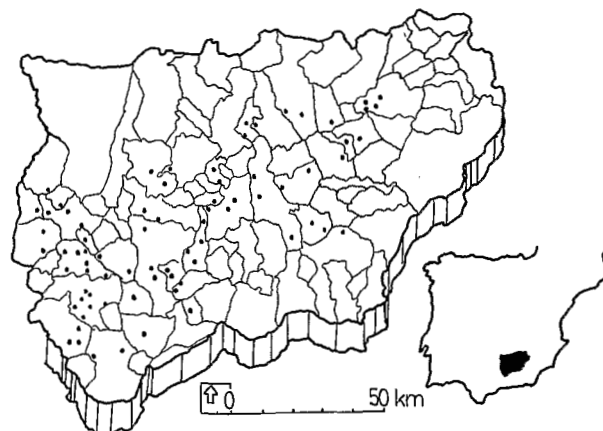


Fig. 1. Geographical distribution of the soil samples collected.

1985), autumn (Oct.-Nov., 1985) and winter (Jan.-Febr., 1986).

Nematodes were extracted by a modified Baermann funnel technique, fixed in FAA and mounted in anhydrous glycerin according to methods of Seinhorst (1959, 1962).

For each nematode species were calculated the relative abundance (number of specimens of each species expressed like the percentage of total) and the frequency (percentage of samples in which the species has been found).