

NOTES ON AND NEW RECORDS OF SOME TYLENCHOIDEA (NEMATODA) FROM ETHIOPIA

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Summary. During a survey in the 2002 cropping season in the southern, western and southwestern parts of Ethiopia eight species of Tylenchoidea, namely *Pratylenchus goodeyi*, *Rotylenchus unisexus*, *Rotylenchulus borealis*, *R. reniformis*, *Scutellonema brachyurus*, *S. clathricaudatum*, *S. magniphasmum* and *S. paralabiatum* were found. Four species are new records for the country. Brief notes, associated hosts and distributions are presented.

Keywords: New records, *Pratylenchus* sp., *Rotylenchus* sp., *Rotylenchulus* spp., *Scutellonema* spp.

Sporadic surveys during the past 25 years (Mekete and Van den Berg, 2003) indicated that several plant-parasitic nematode genera and species were associated with various crops in different areas of Ethiopia. According to Abebe and Geraert (1995), taxonomic studies of plant-parasitic nematodes in Ethiopia are almost non-existent. These authors described four known and one new species. Recently, Mekete *et al.* (2008) reported the presence of various species of plant-parasitic nematodes associated with coffee from Ethiopia and gave short descriptions and light microscope photos of *Scutellonema paralabiatum* Siddiqi *et Sharma*, 1994, and *Rotylenchus unisexus* Sher, 1965. During 2002, an extensive survey was undertaken in Ethiopia. Eight species of various nematode genera were found of which short notes are given. Four species, *Rotylenchulus borealis*, *S. brachyurus*, *S. clathricaudatum* and *S. magniphasmum* are new records for Ethiopia.

The survey was conducted during the June-September 2002 cropping season. Two hundred samples were collected from different agro-ecological zones throughout the southern, western and southwestern regions of the country (Fig. 1). Samples were taken at a depth of 25-30 cm with a spade around the roots of the plants. Three to five soil cores were taken at each sampling site, bulked and a sample of approximately 1 kg was taken to the laboratory for extraction of the nematodes. Nematodes were extracted from 200 g soil sub-samples by combining the Cobb's sieving and decanting method with a modified Baermann's funnel method (Hooper, 1985a). Nematode specimens were then killed by gentle heat in a water bath and fixed in FA 4:1 (Hooper, 1985b) at Ambo National Plant Protection Center, Ethiopia. Identification to species level was done at the

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Pratylenchus goodeyi Sher *et Allen*, 1953. This species was collected from ensete at Wendo Genet and Aleta Wendo. It has a wide distribution range and is generally found in banana growing areas. In the African region, it has been reported from the Canary Islands (de Guiran and Vilardebo, 1962), Kenya (Prasad *et al.*, 1995), Tanzania (Walker *et al.*, 1983), Uganda (Machon *et Hunt*, 1985) and Rwanda (Gaidashova *et al.*, 2003). In Ethiopia, it has previously been reported as a serious parasite of ensete (Bogale *et al.*, 2004). The morphometrics of our specimens agree well with the original and various other descriptions of the species (Sher *et Allen*, 1953). Male and especially female specimens had very distinctly coiled fasciculi in mainly the posterior half of the body.

Rotylenchus unisexus Sher, 1965. Specimens of this species were collected from coffee at Wendo Genet, avocado at Melgae Wendo (Wendo Genet), ensete at Aleta Wendo, mango at Arba Minch, shrubs at Guder (Ambo), sorghum at Tibe (Ambo-Nekemte), *Acacia* sp. at Nekemte and coffee at Bulbulla (Awassa). *Rotylenchus unisexus* was originally described from Rhodes grass in Kenya (Sher, 1965). Other African reports include Malawi (Saka and Siddiqi, 1979) and Namibia (De Waele *et al.*, 1998). It is very common in South Africa (numerous personal observations by first author). Specimens of this species fit the original description of the species (Sher, 1965) very well. Our specimens showed very little variation in tail form and annulation and almost all had very distinct fasciculi in the body.

Rotylenchulus borealis Loof *et Oostenbrink*, 1962. This species was collected from coffee at Aleta Wendo, Hagere Selam, Dila and Boditi, ensete at Aleta Wendo

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and banana, mango and *Acacia* sp. at Arba Minch. It has been reported from several African countries such as Benin, Cameroon, Central African Republic, Ghana, Ivory Coast, Kenya, Nigeria, Rwanda, Senegal, Uganda and Zimbabwe (Van den Berg *et al.*, 2001; Van den Berg *et al.*, 2003). It is often found in South Africa (numerous personal observations by first author). The observed specimens compare very well with the original and various descriptions of the species (Loof and Oostenbrink, 1962). This is the first report of this species from Ethiopia.

Rotylenchulus reniformis Linford *et* Oliveira, 1940. Several males and immature females of this species were collected from around roots of mango at Arba Minch. This nematode has a worldwide distribution in tropical and subtropical areas. It has been reported from many African countries including Ethiopia (Van den Berg, 1978; Bridge, 1987). Our specimens are very similar to those of the original and various other descriptions of the species (Linford and Oliveira, 1940; Van den Berg, 1978).

Scutellonema brachyurus (Steiner, 1938) Andr assy,

1958. Only a few specimens of this species were found associated with maize at Shoboka (Jimma). Originally described from the USA, it has a cosmopolitan distribution. In South Africa it is extremely common and found almost everywhere on every crop – ornamentals, fruit trees, indigenous vegetation, forest, etc. (first author personal observation). The observed specimens agree well with all the previous descriptions of the species (Sher, 1964; Van den Berg and Heyns, 1973).

Scutellonema clathricaudatum Whitehead, 1959. A few specimens of this species were found associated with *Acacia* sp. at Wendo Genet and maize at Shoboka (Jimma). This species was originally described from cotton in Tanzania (Whitehead, 1959) and subsequently reported from various other African countries viz. Cameroon, Ivory Coast, Kenya, Mali, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, South Africa, Sudan, Uganda and Za re (Whitehead, 1959; Sher, 1964). It has also been identified from Ghana, Guinea-Bissau, Malawi and Zambia by the first author, but this is the first report for Ethiopia. Our specimens correspond well with the original as well as subsequent descriptions of the species (Whitehead, 1959; Sher, 1964).

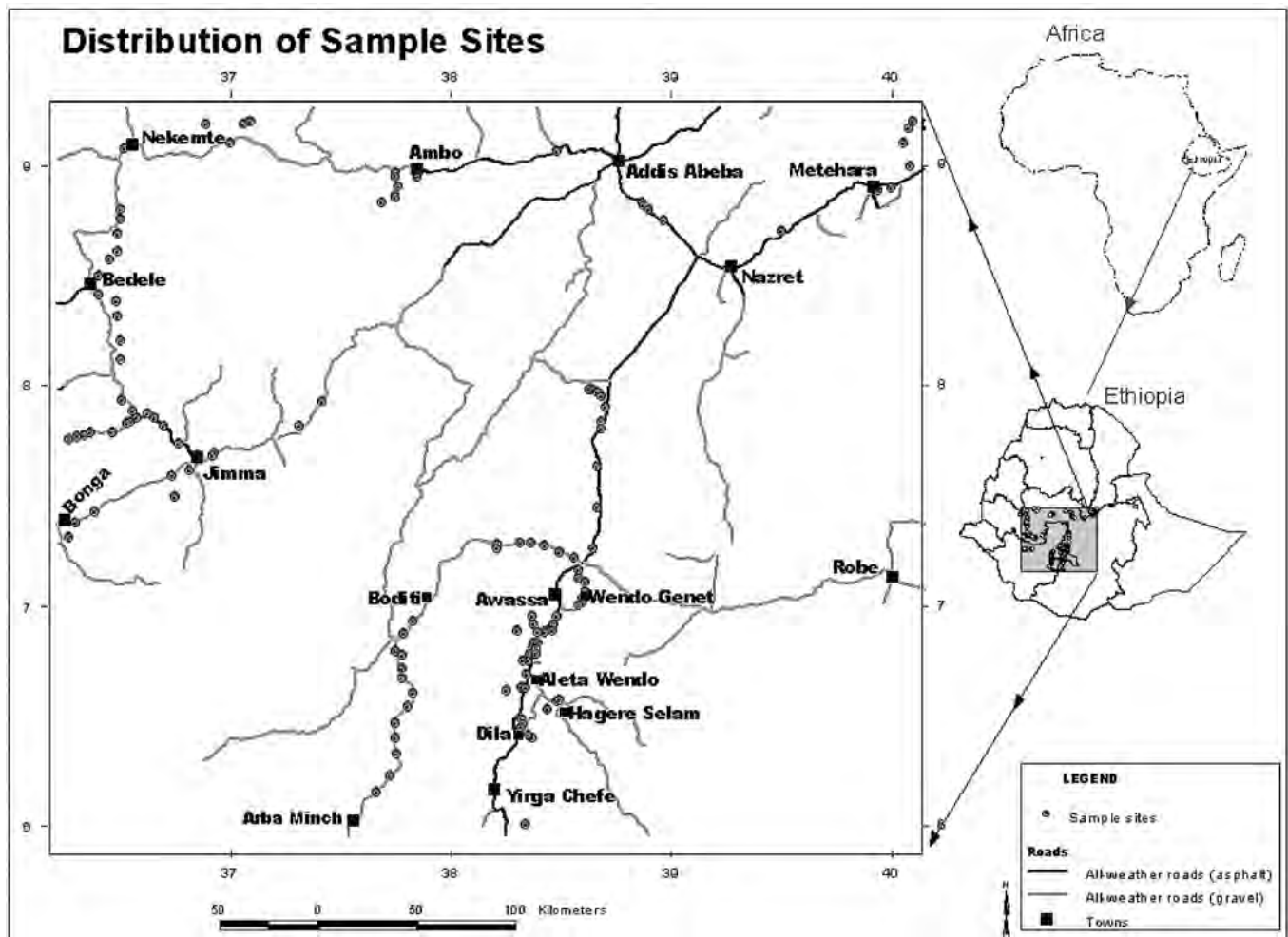


Fig. 1. Map of the sampling sites.

Scutellonema magniphasmum Sher, 1964. A few specimens of this species were found from three localities at Arba Minch associated with mango and *Acacia* sp. This species was originally described from sugarcane in Zimbabwe and also reported from Zambia, Malawi and Kenya (Sher, 1964). It has also been found in a few other African countries, for example in Namibia (De Waele *et al.*, 1998). This is the first report of this species for Ethiopia. The observed specimens compare well with the original and subsequent descriptions of the species (Sher, 1964).

Scutellonema paralabiatum Siddiqi *et* Sharma, 1994. Numerous specimens of this species were collected from 21 localities associated with ensete at Wendo Genet, Aleta Wendo, Boditi, coffee at Wendo Genet, Melgae Wendo (Wendo Genet), Yirgalem, Aleta Wendo, Boditi, Yambero (Jimma-Bedele) and Bulbulla (Awassa), *Acacia* sp. at Wendo Genet, Hagere Selam, sorghum at Tibe (Ambo-Nekemte), maize at Shoboka (Jimma), shola (*Ficus ovata*) at Ano (Nekemte-Bedele) and shrubs at Yambero (Jimma-Bedele). *Scutellonema paralabiatum* was originally described from pigeon pea in Kenya and also found on sweet potato and maize in Uganda (Siddiqi and Sharma, 1994; Coyne *et al.*, 2003) and on banana in Rwanda (Van den Berg *et al.*, 2003). The observed specimens are almost identical with those described from Rwanda (Van den Berg *et al.*, 2003). In none of the Ethiopian specimens did the epiptygma project outward from the vulva as reported for the type specimens; rather they were either folded over each other over the vulval opening or with one flap folded into the vagina and the other folded over the vulval opening.

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