

Amplimerlinius hornensis sp. n. (Nematoda : Merliniinae) with notes on *A. siddiqii* from Spain

Antonio BELLO, Rajesh MAHAJAN* and Maria Cristina ZANCADA

Instituto de Edafología y Biología Vegetal, C.S.I.C., Serrano 115, 28006 Madrid, Spain.

SUMMARY

Amplimerlinius hornensis sp. n. from the rhizosphere of *Rosa canina* L. is described. It is characterised by eight lip annules, 32-35 μm long stylet and a c' range of 1.95-2.25. *A. siddiqii* is also reported but the present specimens differ from the original description in possessing six or seven lip annules and a slightly longer stylet range. Diagnostic table for the species of the genus is also given.

RÉSUMÉ

Amplimerlinius hornensis sp. n. (Nematoda : Merliniinae) et notes sur *A. siddiqii*, provenant d'Espagne

Description est donnée d'*Amplimerlinius hornensis* sp. n. récolté dans la rhizosphère de *Rosa canina* L.; il est caractérisé par huit anneaux labiaux, un stylet long de 32-35 μm et un coefficient c' de 1,95-2,25. *A. siddiqii* est également signalé; les spécimens étudiés diffèrent de la population originale par la présence de six ou sept anneaux labiaux et un stylet légèrement plus long. Un tableau des valeurs morphométriques des espèces du genre est également donné.

During the studies on the plant parasitic nematodes of the Tajo river basin in Spain, Zancada and Bello (1983) recorded the presence of some nematodes belonging to the genus *Amplimerlinius* Siddiqi, 1976. Detailed examination of these revealed them to be two species of this genus. One of them is apparently new and is described as such herein while the other was identified as *A. siddiqii* Mancini, Cotroneo & Moretti, 1982. The specimens were heat relaxed in hot water, fixed in FAA and cleared and mounted in anhydrous glycerine.

Amplimerlinius hornensis sp. n. (Fig. 1)

MEASUREMENTS

Females (n = 5) : L = 1.02-1.44 (1.24 \pm 0.16) mm; a = 26-28 (27 \pm 0.8); b = 5.0-6.4 (5.7 \pm 0.5); c = 18-20 (19 \pm 0.8); c' = 1.95-2.50 (2.18 \pm 0.2); V = 58-60 (58 \pm 1.6); stylet = 32-35 (34 \pm 1) μm .

Male (n = 1) : L = 1.19 mm; a = 28; b = 5.5; c = 15; stylet = 35 μm ; spicules = 34 μm ; gubernaculum = 10 μm .

Holotype (female) : L = 1.12 mm; a = 26; b = 5.5; c = 19; c' = 2.2; V = 59; stylet = 34 μm .

DESCRIPTION

Female : Body ventrally arcuate, strong to loosely curved and tapering to anterior end. Cuticle in two distinct layers, outer one annulated. Lateral field originating normally near stylet base, usually four at this region, becoming six in the beginning of the oesophageal region, not areolated. Outer incisures clearly crenate, inner ones almost smooth, sometimes interrupted. Deirids distinct, near level of excretory pore. Excretory pore 160 (143-176) μm from anterior end, hemizonid three annules across, located immediate to two to three annules anterior to the excretory pore. Position of anterior cephalids 8-24 μm and that of posterior ones 19-46 μm from anterior end. Lip region hemispherical, 4-6 μm high, 11-12 μm wide, continuous with body contour, with eight annules. Cephalic framework moderately sclerotized. Stylet robust, basal knobs well developed, 3-4 μm high and 5-7 μm across, laterally directed and slightly compressed anteriorly. Orifice of the dorsal oesophageal gland 3-4 μm from the stylet

* Present adress : Department of Vegetable Crops, Punjab Agricultural University, Ludhiana 141 004, India.

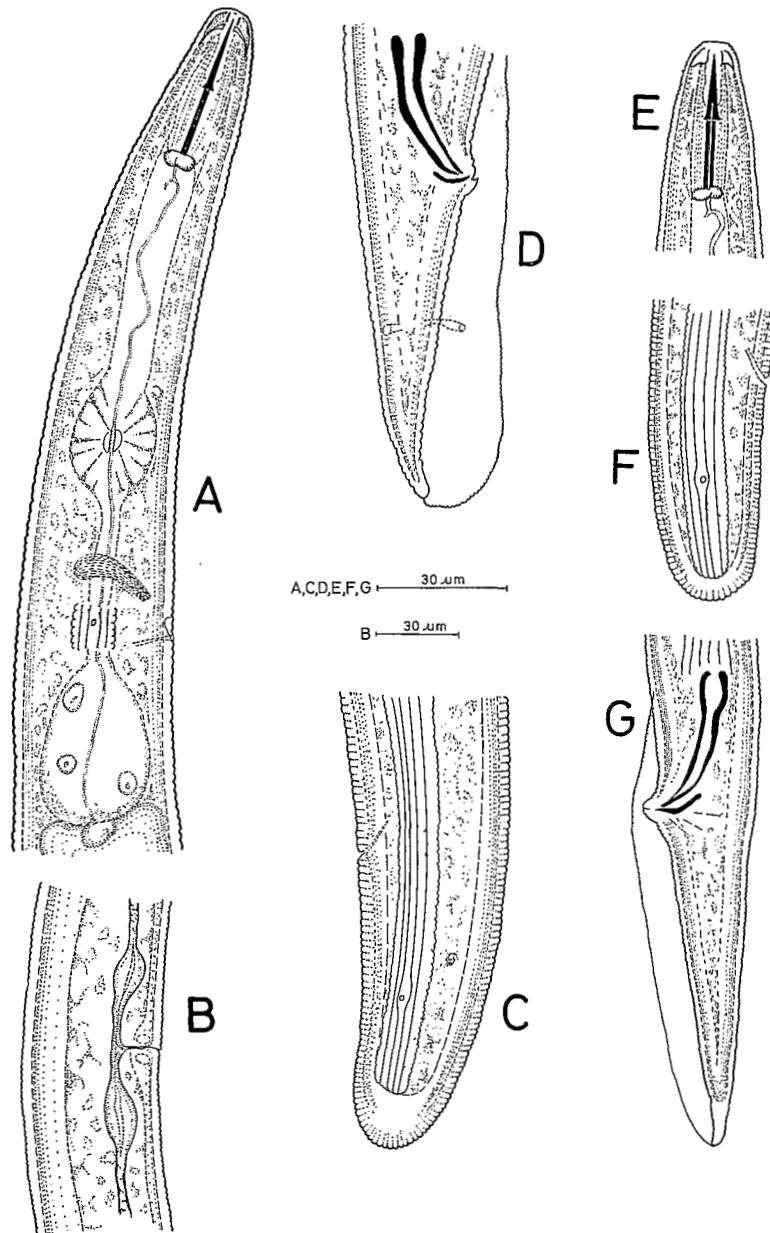


Fig. 1. A-D : *Amplimerlinius hornensis* sp. n. A : anterior end; B : vulvar region; C : female tail; D : male tail. E-G : *A. siddiqii*. E : anterior end; F : female tail; G : male tail.

base. Procorpus elongate-cylindrical, gradually enlarging into oval median bulb, $30 \times 17-19 \mu\text{m}$ in size. MB value 56 (53-61), valvular apparatus oval, isthmus narrow, crossed in the middle by the nerve ring. Basal bulb elongate-oval, 42×22 ($36-46 \times 19-25$) μm in size, cardia well developed. Reproductive system amphidelphic, outstretched, oviduct elongate, oocytes in a single

row. Vulva with an epiptygma, apparently single, vagina half as long as body width, not sclerotized. Spermatheca round, with sperms. Post anal sac absent, intestinal fasciculi not visible. Rectum and anus distinct. Tail cylindrical, with hemispherical annulated terminus and 44-49 annules. Terminal cuticular hyaline portion present. Phasmids not very distinct, 6-22 annules posterior

to anus. Caudalids distinct, located in the anterior 1/3 to middle of tail.

Male : Body open C shaped, lateral fields about 1/3 of body width. Lip region hemispherical with seven annules. Cephalic framework heavily sclerotized. Testis single, outstretched, spicules slightly curved, cephalated, gubernaculum plain, hypoptygma prominent. Bursa distinctive in shape, enveloping the elongate conoid tail completely. Phasmids extending into the bursa.

TYPE HABITAT AND LOCALITY

From soil around the roots of *Rosa canina* L. in Horna, Guadalajara Province, Spain. The texture of the soil is clay with 6 % organic matter and 8.1 pH.

TYPE MATERIAL

Deposited in the Instituto de Edafologia y Biologia Vegetal, Madrid, Spain.

DIAGNOSIS AND RELATIONSHIPS

Amplimerlinius hornensis sp. n. is characterised by eight lip annules, 32-35 μ m long stylet and a non-areolated lateral field. It is further distinguished by the laterally directed stylet knobs and the distinctive shape of the bursa in the male.

This new species is close to *A. amplus* Siddiqi, 1976; *A. macrurus* (Goodey, 1932) Siddiqi, 1976; *A. icarus* (Wallace & Greet, 1964) Siddiqi, 1976; *A. nectolineatus* Siddiqi, 1976 and *A. siddiqii* Mancini, Cotroneo & Moretti, 1982. From *A. amplus* it differs in the possession of a shorter and stouter body, a longer tail and lesser *c'* value. From *A. macrurus* it can be differentiated by its longer body and lesser *c'* value while from *A. icarus* it differs in having a longer tail and much shorter stylet and spicules. With *A. nectolineatus* the differences are apparent in "a" and V values and number of lip annules (eight to ten in *A. nectolineatus*). From *A. siddiqii* it can be differentiated by the possession of a longer tail, more lip annules and different shape of the bursa.

Amplimerlinius siddiqii Mancini,
Cotroneo & Moretti, 1982

MEASUREMENTS

Females (n = 6) : L = 1.20-1.37 (1.29) mm; a = 25-33 (31); b = 5.6-6.3 (5.9); c = 22-24 (23); *c'* = 1.68-2.27 (1.99); V = 54-60 (57); stylet = 34-36 (34.3) μ m.

Table 1

Diagnostic data on species within the genus *Amplimerlinius* Siddiqi, 1976 (partly after Hooper, 1978)

	L mm	a	b	c	c'	V	Lip ann.	Frm scl.	Sty. L μ m	Sty. cli.	Tail ann.	Tail shape	Tail terminus	Spic. L μ m	Guber. L μ m
<i>amplus</i>	1.60-1.95	36-47	7.1-8.3	23-30	2.1-3.6	54-60	6-7	HSC	33-37	LAT	37-47	CYL	HEM-ANN	36-40	12-15
<i>clavicaudatus</i>	0.75-0.85	27-32	5.1-5.7	10-11	3.2-4.0	48-53	4-5	LSC	20-25	POS	47-55	SCL	CLA-ANN	34-37	10-15
<i>dubius</i>	0.72-0.95	24-29	4.5-5.8	13-17	2.1-2.7	55-59	4	HSC	25-30	POS	42	CYL	CLA-ANN	—	—
<i>globigerus</i>	0.71-1.08	27-38	4.6-5.9	15-20	2-3	52-61	6	HSC	21-23	POS	40-47	CYL	HEM-ANN	27-30	8-12
<i>hornensis</i> n. sp.	1.01-1.44	26-28	5.0-6.4	18-19	1.9-2.2	58-60	8	HSC	32-35	LAT	44-49	CYL	HEM-ANN	34	10
<i>icarus</i>	1.45-1.96	29-34	5.9-6.9	19-25	2.0-2.6	50-57	6-8	HSC	34-42	POS	50-59	CYL	HEM-ANN	38-41	12-13
<i>intermedius</i>	1.14-1.55	24-37	5.9-7.5	15-20	2.5	50-57	8-10	HSC	31-39	POS	53-75	CYL	HEM-ANN	33-39	11-13
<i>macrurus</i>	0.83-1.19	19-25	4.8-6.3	14-20	2.5-3.1	54-59	6-8	HSC	25-34	POS	39-47	CYL	HEM-ANN	31-38	10-15
<i>nectolineatus</i>	1.16-1.36	38-39	5.8-6.2	19-21	2.2-2.5	54-57	8-10	MSC	34-36	POS	41-43	CYL	HEM-ANN	31-33	12-13
<i>omentelus</i>	0.79-0.88	30-39	4.5-6.1	16-21	2.4-3.0	48-55	—	LSC	19-22	POS	19-37	CYL	HEM-SMO	—	—
<i>siddiqii</i>	1.27-1.49	28-35	5.6-7.3	20-26	1.4-2.3	53-60	6	HSC	32-35	POS	36-54	CYL	HEM-ANN	35-44	11-13
<i>socialis</i>	0.89-0.92	29	5.2-5.6	13-20	2.0-2.8	59-60	5-6	MSC	24-26	LAT?	35	SCL	HEM-ANN	28-29	8
<i>umbonatus</i>	0.79-0.97	29-31	5.6-6.3	14-17	2.5-3	51-56	6	LSC	20-22	LAT?	45-55	CYL	HEM-ANN	25-26	8.5-9
<i>viciae</i>	1.1	35	6.2	23	1.8	54	6-7	MSC	32	POS	41	CYL	HEM-ANN	34-35	11-12

* Data not available

Explanation to text : Lip ann. = number of lip annules; Frm scl. = cephalic framework sclerotization (HSC = heavy sclerotization, MSC = moderate sclerotization, LSC = light sclerotization); Sty. L μ m = length of stylet in microns; Sty. cli. = inclination of stylet knobs (LAT = lateral, POS = posterior); Tail ann. = number of tail annules; Tail shape : CYL = cylindrical, SCL = subcylindrical; Tail terminus : HEM-ANN = hemispherical annulated, CLA-ANN = clavate annulated, HEM-SMO = hemispherical smooth; Spic. L μ m = length of spicules in microns; Guber. L μ m = length of gubernaculum in microns.

DESCRIPTION

Body ventrally arcuate, almost cylindrical. Lateral field with outer incisures crenate, inner ones sometimes broken. Deirid near level of excretory pore. Lip region hemispherical, with six to seven annules. Cephalic framework heavily sclerotized. Stylet knobs rounded and well developed. Hemizonid three annules across, anterior to excretory pore. Vulva with inconspicuous epitygma. Tail cylindrical with hemispherical annulated terminus.

These specimens were recovered from soil around roots of *Euphorbia nicaensis* All. in Torremocha del Campo in Guadalajara province. The soil was characterised by a clay texture, organic matter content of 3.0 % and pH 8.0. This species is being recorded for the first time outside its type locality.

The genus *Amplimerlinius* Siddiqi, 1976

Siddiqi (1976) proposed the genus *Amplimerlinius* and included the species *A. amplus* Siddiqi, 1976; *A. clavicaudatus* (Choi & Geraert, 1975); *A. icarus* (Wallace & Greet, 1964); *A. intermedius* (Bravo, 1976); *A. macrurus* (Goodey, 1932); *A. magnicauda* (Thorne, 1935); *A. socialis* (Andrássy, 1976); *A. viciae* (Saltuko-

glu, 1973) and *A. nectolineatus* Siddiqi, 1976 in it. Subsequently, *A. siddiqii* Mancini, Cotroneo & Moretti, 1982; *A. dubius* (Steiner, 1914) Siddiqi & Klingler, 1980; *A. globigerus* Siddiqi, 1979; *A. umbonatus*, Ivanova, 1982 and *A. omentelus* Kleyhans & Heyns, 1983 were added to it. However, Baldwin, Luc and Bell (1983) shifted *A. magnicauda* to the genus *Pratylenchoides*. Given above is a diagnostic table for the fourteen species presently included in the genus *Amplimerlinius* (Tab. 1).

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Accepté pour publication le 24 octobre 1986.