

Nematodes of the order Dorylaimida from Andalucía Oriental, Spain. The genus *Dorylaimoides* Thorne & Swanger, 1936. 1. Didelphic species

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Summary – This paper deals with four didelphic species belonging to the genus *Dorylaimoides* Thorne & Swanger, 1936 found in natural areas from Southeastern Spain: *D. hispanicus* sp. n., *D. micoletzkyi* (de Man, 1921) Thorne & Swanger, 1936, *D. ornatus* sp. n., and *D. teres* Thorne & Swanger, 1936. Descriptions, measurements, illustrations and data on the distribution of each species are included. *D. hispanicus* sp. n. is characterized by having medium size (L = 1.25-1.25 mm); lip region almost continuous with the adjacent body; odontostyle 4.5-6 µm long; female genital system amphidelphic; V = 44.4-47.6; tail elongated to filiform (101-161 µm, c = 10.2-14.1, c' = 4.9-7.6 in females and 114-120 µm, c = 11.4-12.7, c' = 5-5.4 in males); spicules 34-36 µm and five to seven regularly spaced ventromedian supplements. *D. ornatus* sp. n. is distinguished by its medium size (L = 0.94-1.56 mm); lip region offset by depression; odontostyle 8-9.5 µm; female genital system amphidelphic; V = 40-49.4; tail rounded-conoid to conical (22-37.5 µm, c = 31.4-59.4, c' = 0.9-1.7 in females and 22-37.5 µm, c = 41.2-63.6, c' = 0.9-1.66 in males) with a peculiar festoon-like irregularity in the cuticle of its ventral side; spicules 34-42 µm and four to seven regularly spaced ventromedian supplements.

Résumé – *Nématodes de l'ordre des Dorylaimida provenant d'Andalousie orientale, Espagne. Le genre Dorylaimoides Thorne & Swanger, 1936. 1. Espèces didelphiques* – La présente publication est consacrée à quatre espèces didelphiques appartenant au genre *Dorylaimoides* Thorne & Swanger, 1936 récoltées dans des milieux naturels du sud-est de l'Espagne: *D. hispanicus* sp. n., *D. micoletzkyi* (de Man, 1921) Thorne & Swanger, 1936, *D. ornatus* sp. n. et *D. teres* Thorne & Swanger, 1936. Descriptions, données métriques, illustrations et observations sur la répartition sont fournies pour chaque espèce. *D. hispanicus* sp. n. est caractérisé par: taille moyenne (L = 1,25-1,65 mm); région labiale presque continue avec le reste du corps; odontostyle long de 4,5-6 µm; système génital femelle amphidelphique; V = 44,4-47,6; queue allongée à filiforme (101-161 µm; c = 10,2-14,1; c' = 4,9-7,6 pour les femelles et 114-120 µm; c = 11,4-12,7; c' = 5-5,4 pour les mâles); spicules longs de 34-36 µm; cinq à sept suppléments ventromédians régulièrement espacés. *D. ornatus* sp. n. est caractérisé par: taille moyenne (L = 0,94-1,56 mm); région labiale séparée du reste du corps par une dépression; odontostyle long de 8-9,5 µm; système génital femelle amphidelphique; V = 40-49,4; queue conique-arrondie à arrondie (22-37,5 µm; c = 31,4-59,4; c' = 0,9-1,7 pour les femelles et 22-37,5 µm; c = 41,2-63,6; c' = 0,9-1,66 pour les mâles) dont la cuticule comporte ventralement des irrégularités en forme de festons; spicules longs de 34-42 µm; cinq à sept suppléments ventromédians régulièrement espacés.

Key-words : Andalucía Oriental, Spain, *Dorylaimoides*, taxonomy, description, didelphic species.

This is the first paper dealing with the results of a taxonomic study of leptonchid and belonidirid nematodes carried out during 1990-1993 in Andalucía Oriental (Southeastern Spain) and included in a more general survey on dorylaims of this Spanish region. Here we present the didelphic species belonging to the genus *Dorylaimoides* Thorne & Swanger, 1936, one of the most diverse and widely distributed genera in this geographic area.

Several authors have previously collected and studied *Dorylaimoides* from Spain: Gadea (1952 a, b, 1954, 1955, 1962) and Palomo (1979) recorded *D. limnophilus* (de Man, 1880) Loof, 1964; Gadea (1953) and Palomo (1979) found *D. micoletzkyi* (de Man, 1921)

Thorne & Swanger, 1936; Hernández *et al.* (1988) cited *Dorylaimoides* spp.; and very recently Loof (1990) described *D. ariasae*, and Peralta and Peña Santiago (1991) described *D. baeticus* and *D. cylindricaudatus*. However, no monographic study exists on the taxonomy and morphology of the Spanish fauna belonging to this genus.

Among the abundant material examined a total of 57 populations of fourteen species of *Dorylaimoides* have been classified and identified. Of them, four didelphic species, two previously known and two new, are described below.

Jairajpuri and Ahmad (1992) have recently divided *Dorylaimoides* in six different subgenera. This action

together with the general morphology and taxonomy of the genus will be discussed in a later paper of the series.

Materials and methods

Soil samples were collected from more than 500 different localities of the provinces of Almería, Granada, Jaén and Málaga. Nematodes were extracted by Flegg's technique, killed by heat, fixed in 3-4 % formaldehyde and processed to anhydrous glycerol according to Seinhorst (1962) or Siddiqi (1964).

Dorylaimoides hispanicus * sp. n. (Figs 1, 2)

MEASUREMENTS

See Table 1.

DESCRIPTION

Female: Slender nematodes of medium size, 1.25-1.65 mm long. Body cylindrical, tapering slightly toward the anterior end and more so toward the posterior one. Habitus after fixation somewhat ventrally curved. Outer cuticle narrow, with fine transverse striations; inner cuticle somewhat thicker than the outer one. Lateral chord occupying one-eighth to one-sixth of the midbody width. Lateral pores obscure. Lip region slightly set off by depression, twice as wide as high and one-third of the body width at neck base. Lips amalgamated; the inner part scarcely elevated. Labial and cephalic papillae clear, not protruding. Amphids cup-shaped, opening at level of the cephalic depression and occupying two-thirds of the head width. Stoma cylindrical or a truncate cone. Guiding ring simple. Odontostyle relatively short; its ventral side about half of the head width. Odontophore 3.5-4 times the length of the odontostyle, slightly angular. Anterior part of the pharynx slender and weakly muscular, appearing narrower at level of the nerve ring. Basal bulb cylindrical, 3.5-4 times as long as wide and occupying one-fourth or somewhat more of the total neck length. Pharyngeal gland nuclei usually obvious. Cardia rounded conoid, surrounded by the intestine wall. Nerve ring located at 40-50 % of the total neck length. Genital system didelphic-amphidelphic. Ovaries reflexed, often reaching the oviduct-uterus junction. Oocytes arranged first in two rows, then in a single row. Oviduct joins the ovary subterminally and consists of a slender part and a moderately developed *pars dilatata* with clear lumen. Sphincter present at the oviduct-uterus junction. Uterus relatively short, not specialized. Vagina cylindrical, half of the corresponding body width long and surrounded by muscles; its wall adjacent to the vulva not offset from the body cuticle. Vulva transverse. Sperm often present throughout the genital tract. Pre-rectum 4-7 anal body widths long. Intestine-prerectum

junction with three prominent cells. Tail elongated to filiform with rounded terminus and slightly ventrally curved; it tapers strongly at anterior fourth, then more gradually. Three pairs of caudal pores located in the anterior third of the tail: two subdorsal and one lateral.

Male: General appearance similar to female but the posterior body region more ventrally curved. Genital system diorchic. Testes opposed. Spicules ventrally curved, relatively stout and 1.5 anal body widths long. In addition to the adanal pair a series of five to seven regularly spaced ventromedian supplements is present, the first within the range of the spicules. Rectum-ejaculatory duct junction within the range of the spicules. Lateral guiding pieces short. Sperm spindle-shaped. Tail similar to female but shorter and more ventrally curved; its posterior half practically straight. Caudal pores three pairs located as in female.

TYPE HABITAT AND LOCALITY

Siliceous soil with pasture in Parque Natural de Sierra Andújar, province of Jaén, Spain.

OTHER HABITATS AND LOCALITIES

i) Around roots of *Quercus rotundifolia* in Parque Natural de Sierra Andújar, province of Jaén, Spain; ii) Rhizosphere of *Retama* sp. and rushes in Sierra de Tejada, province of Málaga, Spain.

TYPE MATERIAL

Female holotype, male allotype, and two female paratypes deposited in the nematode collection, Departamento de Biología Animal, Vegetal y Ecología, Universidad de Jaén, Spain. Two female paratypes and one male paratype in Instituut voor Dierkunde, Rijksuniversiteit Gent, Belgium. Two female paratypes at each of the following centres: Landbouwhogeschool, Wageningen, the Netherlands; and Muséum National d'Histoire Naturelle, Paris, France.

DIAGNOSIS AND RELATIONSHIPS

D. hispanicus sp. n. is characterized by having medium size ($L = 1.25-1.65$ mm), lip region almost continuous with adjacent body or slightly set off by a depression, lips amalgamated in the most part, odontostyle 4.5-6 μm long, female genital system didelphic-amphidelphic, $V = 44.4-47.6$, tail elongated to filiform with finely rounded terminus and straight or slightly ventrally curved in females but more ventrally curved in males (101-161 μm , $c = 10.2-14.1$, $c' = 4.9-7.6$ in females and 114-120 μm , $c = 11.4-12.7$, $c' = 5-5.4$ in males), spicules 34-36 μm and five to seven regularly spaced ventromedian supplements.

The new species resembles *D. lepidus* Timm, 1964, *D. parvus* Thorne & Swanger, 1936 and *D. paulbuchmeri* Meyl, 1956. It differs from *D. lepidus* by having shorter

* From *Hispania*, latin name of Spain.

Table 1. Measurements and diagnostic features of *Dorylaimoides hispanicus* sp. n. (all measurements in μm except L in mm).

Habitat Locality Province	Meadow Sierra Morena Jaén				<i>Retama</i> sp. S. Tejada Málaga	<i>Q. rotundifolia</i> S. Morena Jaén
	Holotype	Paratypes 7 ♀♀	Allotype	Paratype 1 ♂	3 ♀♀	2 ♀♀
n =						
L (mm)	1.52	1.43 ± 0.12 (1.25-1.65)	1.45	1.37	1.36 ± 0.03 (1.33-1.39)	1.25, 1.37
a	42.2	39.2 ± 3.77 (33.4-45.7)	43.8	50.8	37.8 ± 0.84 (36.7-38.7)	40.2, 39.6
b	7.8	7.10 ± 0.79 (5.8-7.9)	6.70	6.80	6.55 ± 0.19 (6.30-6.76)	6.40, 6.90
c	11.1	11.8 ± 1.25 (10.2-14.1)	12.7	11.4	12.6 ± 0.37 (12.1-13.0)	12.1, 14.0
V	45.6	45.6 ± 0.85 (44.4-47.6)	—	—	45.4 ± 0.65 (44.6-46.2)	48.7, 46.8
G1/T1	17.0	17.2 ± 1.71 (15.1-18.3)	55.8	?	10.8 ± 0.20 (10.5-11.0)	12.5, 11.7
G2/T2	16.2	15.2 ± 1.09 (13.6-16.5)	31.0	?	9.8 ± 0.37 (9.4-10.3)	12.5, 12.6
c'	6.70	6.50 ± 0.89 (4.9-7.6)	5.00	5.45	5.22 ± 0.11 (5.10-5.36)	5.4, 4.9
Lip region : width	9.0	(9.0-9.5)	9.5	9.5	(9.5-10)	9.5, 9.5
height	4.5	(4.0-4.5)	4.0	4.0	(4.0-5.0)	4.5, 4.0
Amphid	?	5.75 ± 0.50 (5.5-6.0)	6.5	?	6.25 ± 0.50 (6.0-6.5)	?, 6.0
Odontostyle	5	4.70 ± 0.25 (4.5-5.0)	5.5	5.5	4.5 ± 0.0	5.0, 5.0
Odontophore	17	17.2 ± 0.59 (16-18)	17.5	17.5	20.0 ± 0.47 (19.5-20.5)	19, 20
Stylet length	22	(22-23)	23	23	(24-25)	(24-25)
Guiding ring-ant. end	5.0	(5.0-5.5)	6.0	6.0	6.0	6.0, 5.0
Nerve ring-ant. end	87	95.0 ± 5.40 (87-103)	100	100	94 ± 0.0	90, 97
Neck length	190	201 ± 12.4 (188-218)	215	203	207 ± 1.88 (206-210)	193, 198
Pharyngeal bulb	50	54.0 ± 2.90 (50-59)	61	56	57.0 ± 0.81 (56-58)	56, 54
Cardia : width	9.0	(9-10)	9.5	9.0	(9-10)	9.0, 9.5
length	7.0	(6.5-8.0)	6.5	6.0	(6.0-7.0)	6.5, 7.0
Body width : at neck base	29.5	29.5 ± 0.97 (27.5-30.5)	29	26	31.0 ± 1.08 (30.0-32.5)	26.0, 25.5
at midbody	36.0	36.5 ± 1.26 (35.0-39.0)	33	27	36.0 ± 0.81 (35.0-37.0)	31.0, 34.5
at anus	20.5	20.5 ± 0.41 (20-21)	23	22	20.8 ± 0.85 (20-22)	19, 20
Cuticle : head	1.5	1.5	1.5	1.5	1.2	1.5, 1.5
midbody	1.8	(1.5-2.0)	1.8	1.5	2.0	1.8, 1.8
tail	4.0	4.0	4.0	4.0	4.0	4.0, 4.0
Lateral chord	5.0	(5.0-6.0)	5.5	5.0	(5.0-6.0)	5.5, 4.5
Anterior ovary/testis	172	171 ± 26.8 (143-222)	181	?	78.6 ± 12.9 (65-96)	?, 84
Anterior genital branch	259	227 ± 17.4 (200-259)	807	?	147 ± 4.71 (140-150)	156, 160
Posterior ovary/testis	212	156 ± 32.2 (119-212)	178	?	89.0 ± 19.2 (62-105)	?, 113
Posterior genital branch	247	214 ± 22.3 (147-247)	448	?	134 ± 7.85 (125-144)	156, 173
Vagina : width	16	(13-18)	—	—	(12-15)	13, 14
length	17	(17-22)	—	—	15	15, 15
Vulva-ant. end	693	650 ± 53.2 (567-747)	—	—	619 ± 17 (607-643)	607, 640
Prerectum	131	115 ± 23.5 (81-143)	153	150	62.0	69, 72
Rectum/cloaca	28	26.2 ± 1.36 (25.0-28.5)	34	28	26.5 ± 1.22 (25-28)	23, 25
Tail	137	133 ± 18.7 (101-161)	114	120	109 ± 4.4 (105-115)	103, ?
Spicules at arc	—	—	36	34	—	—
Ventromedian supplements	—	—	7	5	—	—
Sperm length	—	—	8.5	8.0	—	—
Copulatory muscles	—	—	17	19	—	—

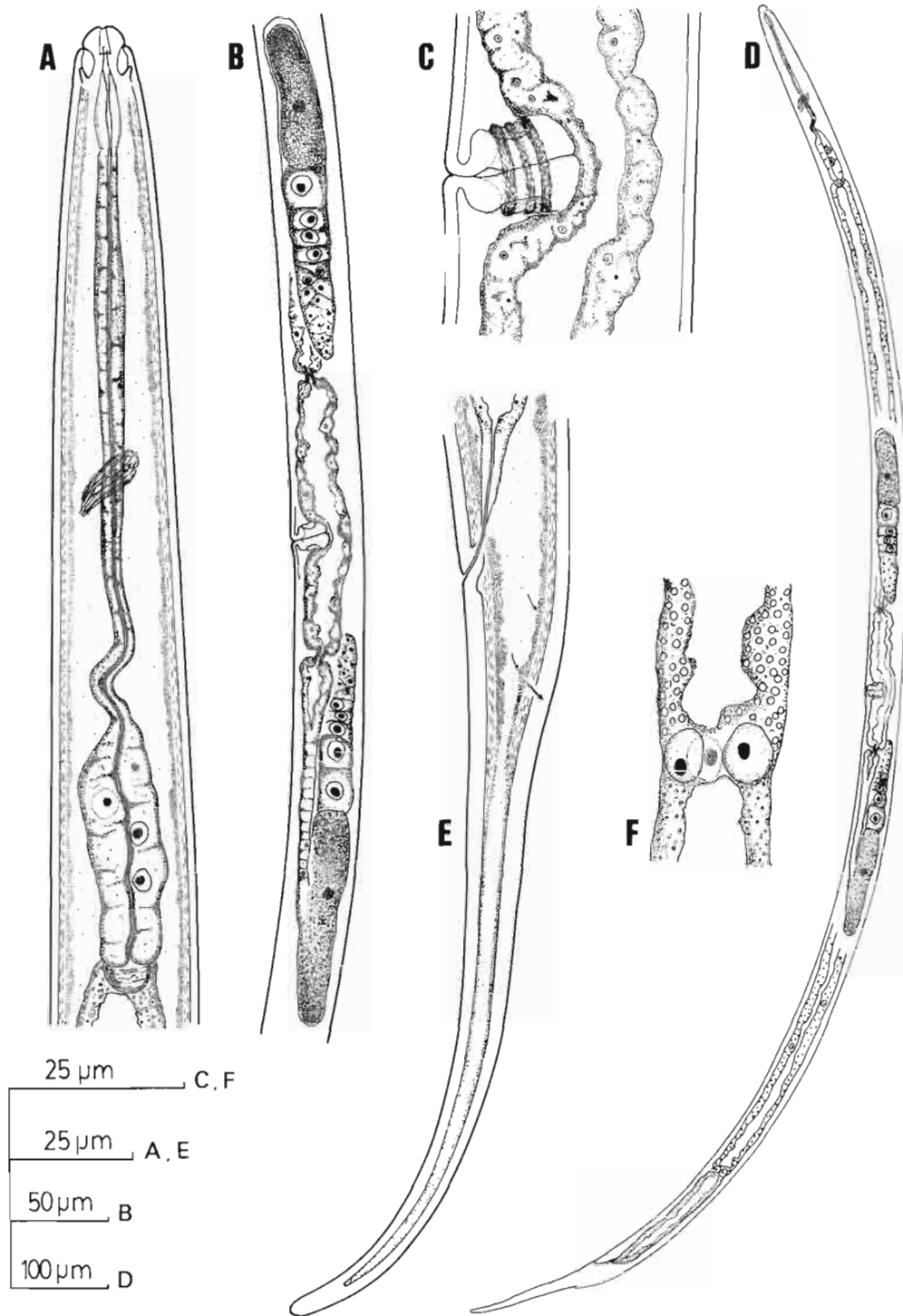


Fig. 1. *Dorylaimoides hispanicus* sp. n. A : Neck region; B : Female genital system; C : Vagina; D : Entire female; E : Female caudal region; F : Intestine-prerectum junction.

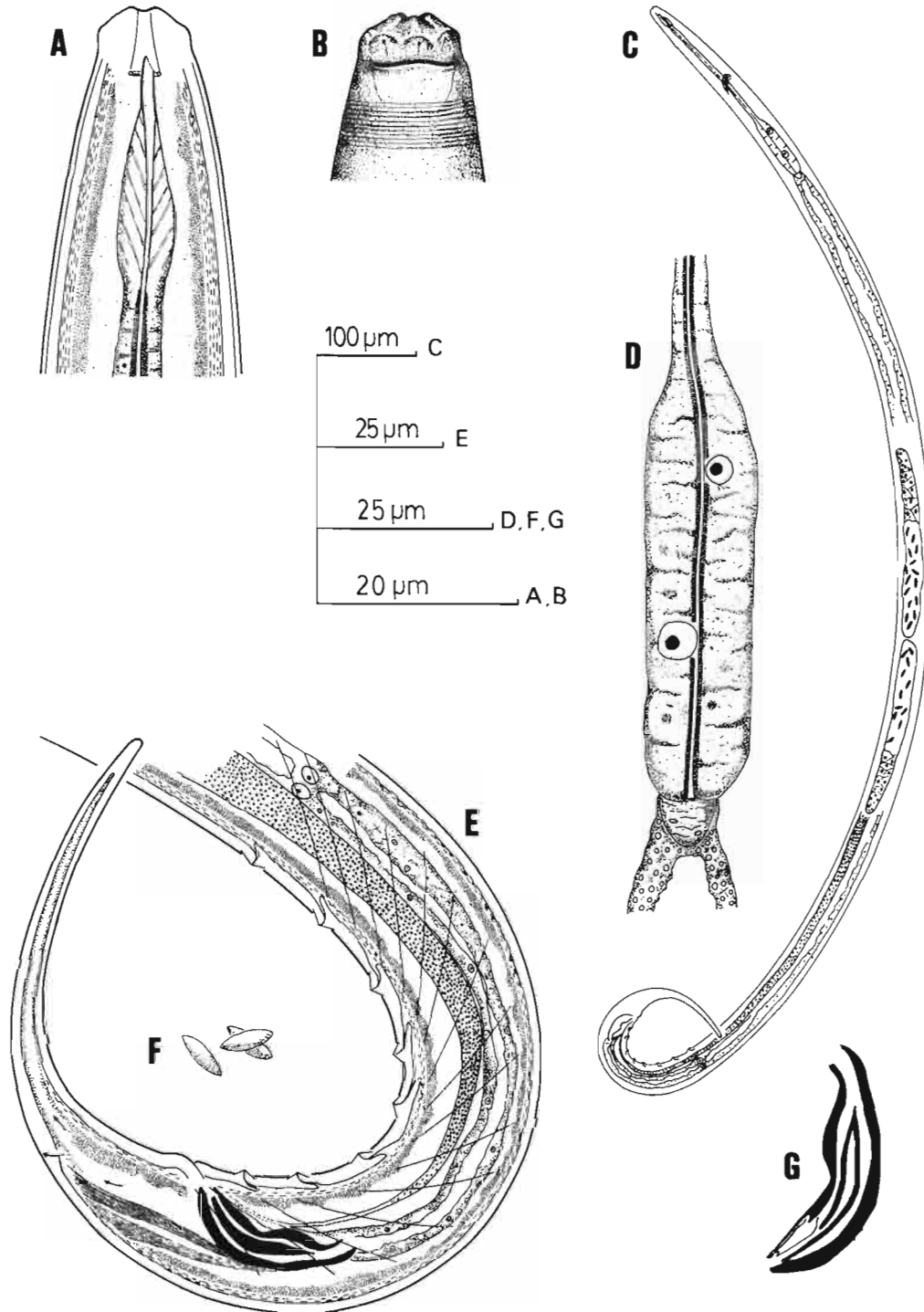


Fig. 2. *Dorylaimoides hispanicus* sp. n. *A* : Lip region in lateral view; *B* : Same in surface view; *C* : Entire male; *D* : Pharyngeal bulb and cardia; *E* : Male caudal region; *F* : Sperm; *G* : Spicule and lateral guiding piece.

odonostyle (*vs* 8 μm), relatively shorter pharyngeal bulb (*vs* about one-third of the neck length), more posterior vulva (*vs* V = 38.8-40.7), male tail regularly ventrally curved (*vs* terminally dorsally curved), and different number and location of the ventromedian supplements (*vs* 9-11 and beginning out the range of the spicules). From *D. parvus* it differs in having wider lip region (*vs* 6.5 μm), longer neck (*vs* 163-187 μm), more posterior vulva (*vs* V = 35.3-43.3), tail ventrally curved in males (*vs* straight or slightly dorsally bent) and longer spicules (*vs* 31-32 μm). Finally, from *D. paulbuchneri* it differs in having wider lip region (*vs* 6.5-8 μm), more posterior vulva (*vs* V = 40-45), tail ventrally curved in males (*vs* with tip dorsally curved), longer spicules (*vs* 26-30 μm), and different number and location of the ventromedian supplements (*vs* four beginning out the range of the spicules).

***Dorylaimoides micoletzkyi* (de Man, 1921)
Thorne & Swanger, 1936**
(Figs 3, 4)

MEASUREMENTS

See Table 2.

DESCRIPTION

Female: Slender nematodes of medium size, 1.1-1.26 mm long. Body cylindrical, tapering at both extremities but more so toward the posterior end. Habitus ventrally curved to C-shaped. Outer cuticle thin and apparently smooth; inner cuticle wider than the outer one. Lateral chord occupying one-eighth to one-sixth of the midbody width; numerous glandular bodies associated at lateral chord are visible. Lip region set off by constriction, twice as wide as high, and one-third of the body width at neck base. Lips practically amalgamated; the inner part slightly elevated. Labial and cephalic papillae clear, not interfering with the head contour. Stoma a truncate cone or cylindrical; its wall in the perioral area slightly sclerotized. Guiding ring distinct, single. Amphids cup-shaped, opening at level of cephalic constriction and occupying 70-80% of the head width. Odonostyle robust and slightly arched; its ventral side two-thirds of the lip region width long. Odontophore 2.3-2.7 times the length of the odontostyle, slightly refractive. The pharynx consists of a slender and weakly muscular anterior part which expands abruptly into a cylindrical basal bulb; this is four times as long as wide and occupies about 30% of the total neck length. Pharyngeal gland nuclei often clear, one dorsal and two pairs ventrosublateral. Cardia rounded, slightly wider than long and enveloped by the intestine wall. Nerve ring located at half of the total neck length. Genital system didelphic-amphidelphic. Ovaries reflexed, with oocytes arranged first in two rows, then in a single row.

Table 2. Measurements and diagnostic features of *Dorylaimoides micoletzkyi* (de Man, 1921), Thorne & Swanger, 1936 (all measurements in μm except L in mm).

Habitat Locality Province	<i>Fraxinus angustifolia</i> Sierra Morena Jaén	
	5 ♀♀	2 ♂♂
n =		
L (mm)	1.20 ± 0.05 (1.10-1.26)	1.07, 1.31
a	40.3 ± 2.86 (36.7-44.7)	39.8, 48.6
b	6.50 ± 0.36 (6.10-7.10)	6.60
c	18.5 ± 1.06 (16.4-19.4)	22.6, 23.9
V	40.3 ± 1.03 (38.8-41.8)	-
G1/T1	12.9 ± 1.53 (11.3-15.4)	?, 60.7
G2/T2	13.7 ± 1.82 (11.3-16.2)	38.4, 42.8
c'	3.60 ± 0.30 (3.4-4.2)	2.4, 2.8
Lip region : width height	(8.5-9.5) (3.5-4.0)	9.0, 9.5 4.0
Amphid	7.0	7.0
Odontostyle	7.10 ± 0.21 (7.0-7.5)	6.5, 7.5
Odontophore	18.2 ± 0.62 (17.5-19.0)	19.5, 18.5
Stylet length	(25-26)	26, 26
Guiding ring-ant. end	(7.0-7.5)	7.0, 7.5
Nerve ring-ant. end	89.4 ± 2.50 (87.0-94.0)	?, 97
Neck length	183 ± 4.50 (177-189)	?, 197
Pharyngeal bulb	53.7 ± 2.28 (50-56)	?, 53
Cardia : width length	(7-8) (6-8)	8 6
Body width : at neck base	26.7 ± 0.87 (25.0-27.5)	26.0, 25.0
at midbody	29.8 ± 1.50 (28.0-32.5)	27.0
at anus	18.2 ± 0.84 (17.0-19.5)	19.5, 20.0
Cuticle : head midbody tail	1.5 (2.0-2.5) (4.0-5.0)	1.5 2.0 4.5
Lateral chord	(3.5-5.5)	3.5, 4.0
Anterior ovary/testis	63.0 ± 3.69 (59.0-69.0)	118, 112
Anterior genital branch	150 ± 12.7 (134-169)	661, 797
Posterior ovary/testis	80.0 ± 10.0 (66.0-95.0)	131, 123
Posterior genital branch	160 ± 16.7 (138-178)	412, 562
Vagina : width length	(11-12) (13-15)	- -
Vulva-ant. end	483 ± 13.1 (460-500)	-
Prerectum	97.0 ± 12.8 (78-112)	122, 125
Rectum/cloaca	22.0 ± 2.00 (20.0-25.0)	29, 28
Tail	65.0 ± 5.10 (59.0-75.0)	47.5, 55.0
Spicules at arc	-	32.5, 35.5
Ventromedian supplements	-	7, 6
Sperm length	-	6.5, 6.0
Copulatory muscles	-	18, 17

Oviduct consisting of a slender part, with prismatic cells, and a moderately developed *pars dilatata* with clear lumen. Sphincter present at the oviduct-uterus junction. Uterus not specialized. Genital tract containing sperm. Vagina cylindrical, extending inwards to half of the corresponding body width; its wall adjacent to the vulva not offset from the body cuticle, other part surrounded by strong muscles. Prerectum 4.1-6.2 anal body widths long. Rectum slightly longer than anal body width. Tail conical elongated with finely rounded terminus; it tapers gradually and its terminal third appears dorsally bent. Two pairs of caudal pores located in the anterior half of the tail: one lateral, the other subdorsal.

Male: General morphology similar to female but the posterior body region more ventrally curved, to G-shaped. Genital system diorchic. Testes opposed. Sperm spindle-shaped. Spicules stout, typical of the genus, 1.6-1.8 anal body widths long. Lateral guiding pieces with furcated terminus. Apart from the adanal pair, a series of six to seven regularly spaced ventromedian supplements is present beginning at level of the anterior end of the spicules. Rectum short, joining the ejaculatory duct within the range of the spicules. Tail similar to female but slightly shorter. Caudal pores as in female.

DISTRIBUTION

Very wet soil in a rivulet bank with *Fraxinus angustifolia* in Parque Natural de Sierra Andújar, province of Jaén, Spain.

Dorylaimoides ornatus * sp. n.

(Figs 5, 6, 7)

MEASUREMENTS

See Table 3.

DESCRIPTION

Female: Slender nematodes of medium size, 0.94-1.56 mm long. Body cylindrical, tapering toward the anterior end. Habitus ventrally curved to C-shaped. Outer cuticle thin and finely striated; inner cuticle wider than the outer one, and thickened at level of the tail. Lateral chord very narrow, about one-tenth of midbody diameter and provided with glandular bodies. Lateral pores obscure. Lip region set off by depression, 2.5 times as wide as high and about one-third of the body width at neck base. Lips amalgamated in their most part; the inner portion slightly elevated. Cephalic and labial papillae clear, slightly protruding in some specimens. Amphids cup-shaped, occupying 75-80% of the head diameter. Stoma a truncate cone. Odontostyle somewhat shorter than the head width; its ventral side practically straight, the dorsal one slightly sigmoid. Odontophore twice the length of the odontostyle. Guid-

ing ring simple but refractive. Pharynx consisting of a slender anterior part and the basal bulb; this is rather variable in shape, cylindrical to somewhat pyriform and occupies one quarter to one-third of the total neck length. Both parts of the pharynx are separated by depression or constriction. Pharyngeal gland nuclei hardly visible. Lumen of the pharynx slightly sclerotized, more in the basal bulb. Cardia rounded and often surrounded by the intestine wall. Genital system didelphic-amphidelphic. Ovaries reflexed. Oocytes numerous, arranged first in two rows, then in a single row. Oviduct joins subterminally the ovary and consists of a slender part, with prismatic cells, and a moderately developed *pars dilatata*. Uterus without modifications and separated from the oviduct by a distinct sphincter. Vagina cylindrical, reaching the middle of the corresponding body diameter; its wall adjacent to the vulva appears surrounded by the inner cuticle which extends inwards, the other part encircled by muscles. Vulva apparently transverse. Prerectum 4-6 anal body widths long; intestine-prerectum junction with three cells. Rectum slightly longer than the corresponding body diameter. Tail rounded-conoid in the type population, but a large variability is noted in other populations: the ventral side is always straight, the dorsal one shows a more or less marked concavity at its posterior third. In the ventral side of the tail, the cuticle presents a peculiar irregular contour which has been observed in each of the numerous specimens examined of the different populations. Two pairs of fine caudal pores are present in the posterior half of the tail: one subdorsal and the other lateral.

Male: General morphology similar to female, but the posterior body region more ventrally curved. Genital system diorchic. Testes opposed. Apart from the adanal pair a series of four to seven regularly spaced ventromedian supplements is present, the first one often out the range of the spicules. Tail shape similar to female and two pairs of caudal pores located as in female. Spicules ventrally curved, 1.7-2 anal body widths long. Lateral guiding pieces relatively short and almost straight. Sperm spindle-shaped. Except in two populations, males not found and females without sperm.

TYPE HABITAT AND LOCALITY

Alkaline soil around roots of *Lavandula latifolia*, *Eri-nacea anthyllis*, *Buxus sempervirens*, *Thymus serpyllodes*, *Berberis hispanica* (brushwood) in Sierra de la Pandera, Valdepeñas de Jaén, province of Jaén, Spain.

OTHER HABITATS AND LOCALITIES

D. ornatus sp. n. is a widely distributed species in the region, having been collected in association with *Juniperus sabina*, *Ulex parviflorus*, *Quercus rotundifolia*, *Eri-nacea anthyllis*, *Rosa canina*, *Acer monspessulanum*, *Quer-*

* From the latin word *ornatus* = ornamented, adorned.

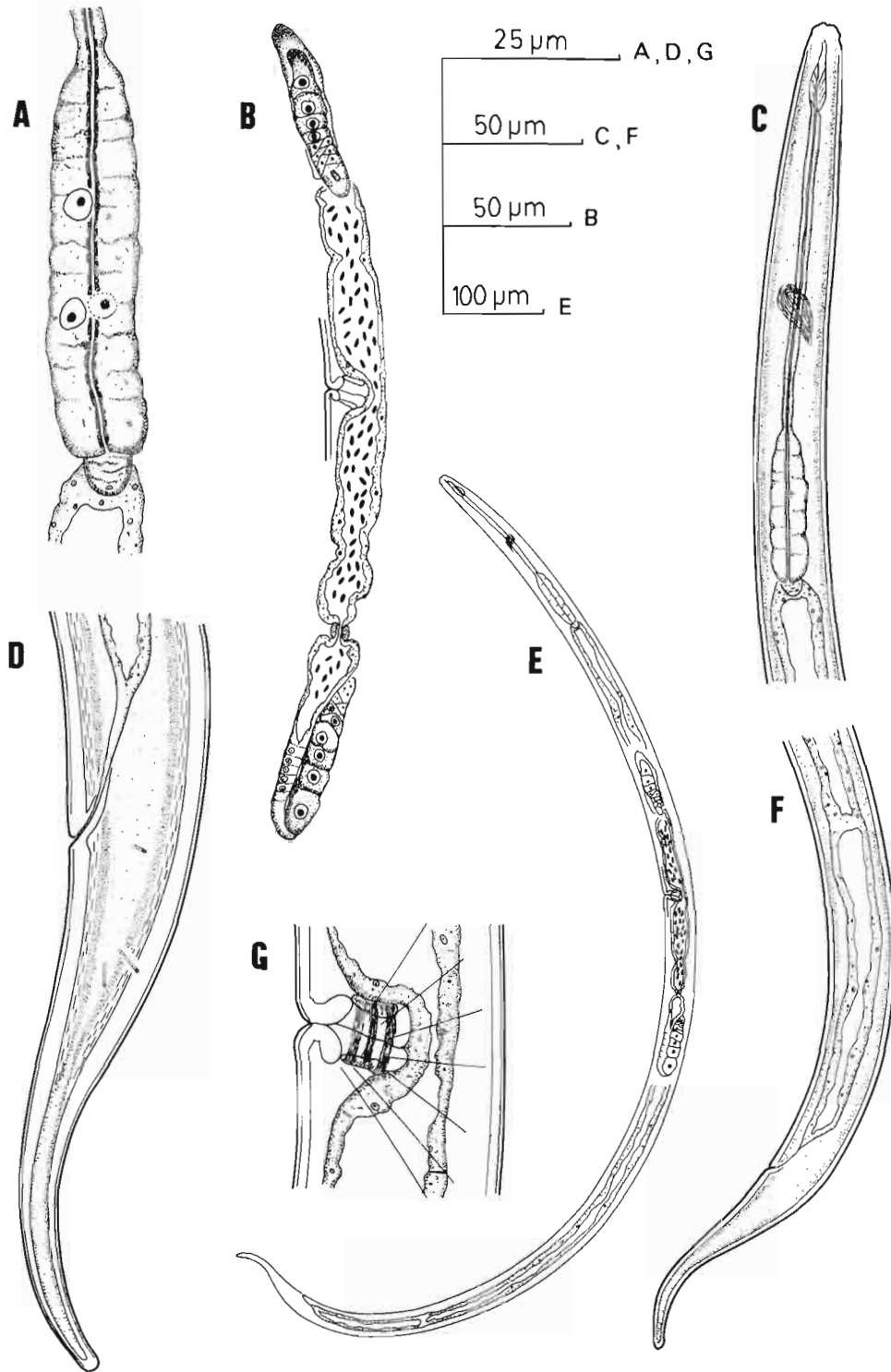


Fig. 3. *Dorylaimoides micoletzkyi* (de Man, 1921) Thorne & Swanger, 1936. A : Pharyngeal bulb and cardia; B : Female genital system; C : Neck region; D : Female caudal region; E : Entire female; F : Female posterior body region; G : Vagina.

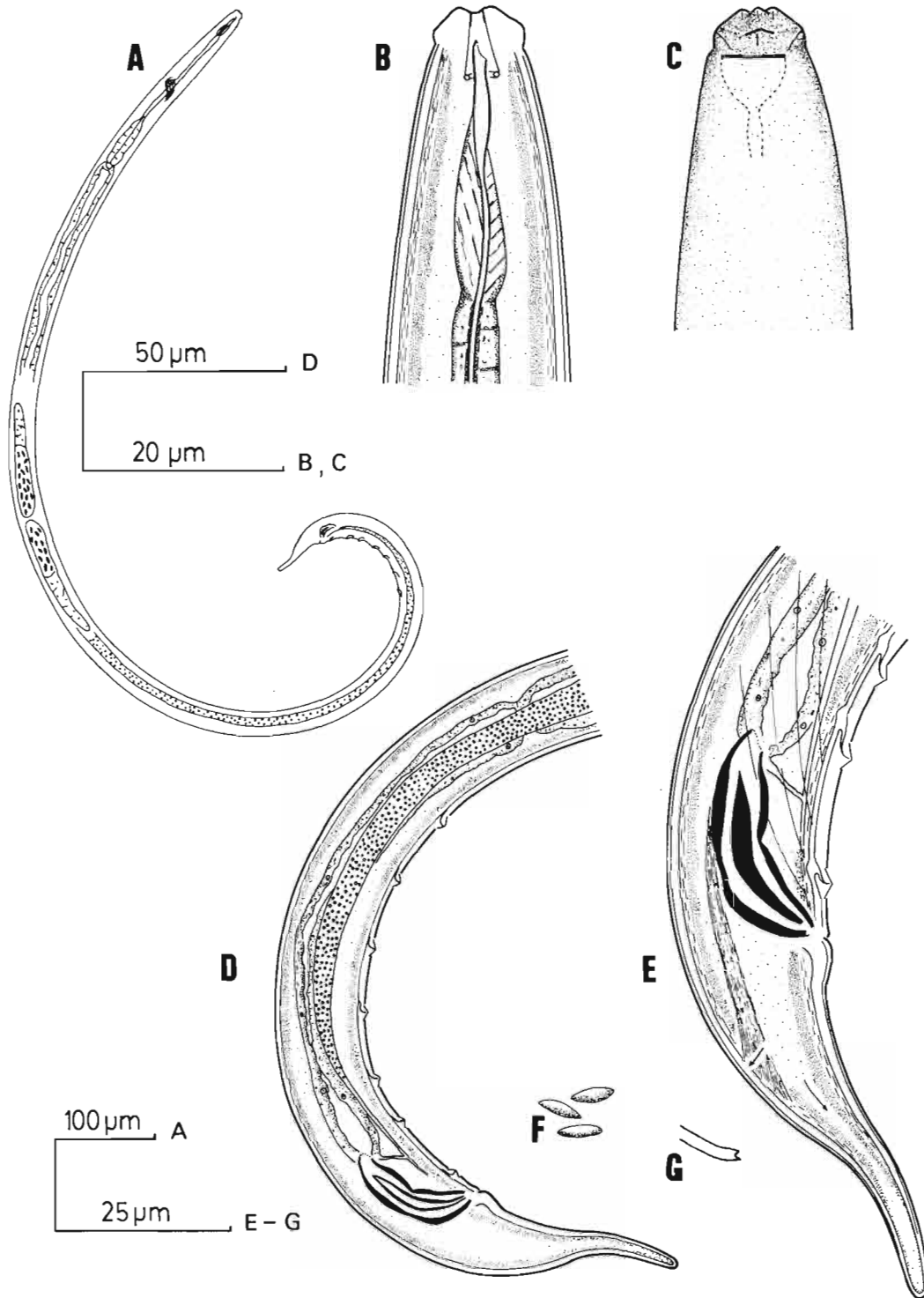


Fig. 4. *Dorylaimoides micoletzkyi* (de Man, 1921) Thorne & Swanger, 1936. A : Entire male; B : Lip region in lateral view; C : Same in surface view; D : Male posterior body region; E : Male caudal region; F : Sperm; G : Lateral guiding piece.

Table 3. Measurements and diagnostic features of *Dorylaimoides ornatus* sp. n. (all measurements in μm except L in mm).

Habitat Locality Province	Bruswood Sierra Morena Jaén				Pasture Alfarnatejo Málaga	<i>Q. pyrenaica</i> Güejar S. Granada	<i>Ulex</i> P. Zegri Granada	<i>Pinus</i> S. de Baza Granada	<i>Erinacea</i> Calar Alto Almería	<i>Q. faginea</i> Ugijar Granada	Meadow S. Cazorra Jaén	
	Holotype	Paratypes 5 ♂♂	Allotype	Paratype 9 ♀♀	8 ♂♂	4 ♂♂	6 ♂♂	11 ♂♂	6 ♂♂	7 ♂♂	♂	4 ♀♀
L (mm)	1.22	1.21 ± 0.11 (1.09-1.44)	1.33	1.31 ± 0.07 (1.18-1.43)	1.34 ± 0.11 (1.18-1.47)	1.26 ± 0.04 (1.22-1.32)	1.41 ± 0.08 (1.29-1.51)	1.31 ± 0.09 (1.12-1.45)	1.33 ± 0.05 (1.25-1.41)	1.07 ± 0.06 (0.94-1.12)	1.56	1.51 ± 0.03 (1.46-1.55)
a	31.2	31.9 ± 2.34 (28.7-36.4)	42.1	36.2 ± 3.39 (31.0-42.1)	35.6 ± 2.36 (31.0-38.7)	37.5 ± 1.92 (34.9-40.0)	38.2 ± 1.70 (35.5-40.7)	36.0 ± 2.25 (29.8-38.2)	35.0 ± 2.96 (30.6-38.1)	31.4 ± 1.75 (31.4-36.1)	39	42.3 ± 0.96 (40.7-43.1)
b	6.0	5.8 ± 0.4 (5.1-6.3)	6.0	6.0 ± 0.4 (5.4-6.8)	6.6 ± 0.3 (6.2-6.9)	6.25 ± 0.30 (5.9-6.6)	6.40 ± 0.52 (5.7-6.9)	6.70 ± 0.34 (6.0-7.2)	6.0 ± 0.1 (5.9-6.1)	5.8 ± 0.2 (5.5-6.0)	?	6.9 ± 0.2 (6.7-7.1)
c	50.8	49.4 ± 4.70 (42.0-57.6)	53.0	54.9 ± 4.56 (46.2-63.6)	42.2 ± 7.40 (31.4-51.9)	44.3 ± 1.68 (41.9-45.7)	48.8 ± 3.45 (41.7-56.8)	53.4 ± 3.17 (49.7-59.4)	48.8 ± 2.49 (44.1-51.8)	41.1 ± 2.97 (36.1-44.5)	44.5	45.7 ± 3.9 (41.2-51.9)
V	43.0	45.6 ± 2.20 (43.0-49.4)	-	-	42.1 ± 1.23 (40.4-44.0)	46.2 ± 0.78 (44.9-47.0)	43.3 ± 1.01 (41.7-46.4)	43.1 ± 1.51 (40.3-46.3)	42.5 ± 1.90 (39.9-45.0)	46.6 ± 1.59 (44.0-48.9)	42.3	-
G1/T1	10.4	13.0 ± 1.49 (10.4-15.5)	68.1	62.3 ± 6.05 (55.3-71.8)	14.5 ± 1.57 (11.9-16.3)	12.5 ± 0.24 (12.2-12.8)	13.1 ± 2.10 (11.0-17.0)	12.5 ± 1.45 (9.9-15.0)	13.6 ± 2.93 (10-18)	12.5 ± 1.73 (9.5-10)	17.1	64 ± 3.7 (59.4-68.3)
G2/T2	12.5	13.0 ± 1.0 (12.1-14.7)	34.3	39.4 ± 7.0 (32.2-55.3)	16.4 ± 2.20 (11.9-19.3)	13.8 ± 0.82 (12.6-14.8)	10.8 ± 1.07 (9-12)	12.5 ± 1.67 (8.4-15.3)	14.5 ± 2.61 (12-19.4)	14.5 ± 1.18 (12.4-16.5)	20.5	34.7 ± 2.6 (31.4-37.6)
c'	1.0	1.05 ± 0.07 (1.0-1.2)	1.1	1.0 ± 0.07 (0.9-1.1)	1.42 ± 0.17 (1.17-1.70)	1.35 ± 0.15 (1.20-1.57)	1.27 ± 0.09 (1.25-1.36)	1.04 ± 0.05 (0.95-1.1)	1.14 ± 0.10 (1.02-1.26)	1.33 ± 0.06 (1.25-1.40)	1.52	1.51 ± 0.17 (1.23-1.66)
Lip region : width	10	10	10.5	(10-10.5)	(9.5-10)	(9.5-10)	10	(9.5-10)	10.0	(9.5-10)	10	(10-11)
height	4	(3.5-4.0)	4.5	(3.5-4.5)	(4.0-4.5)	4.5	(4.0-4.5)	4.0	4.5	(4.0-4.5)	4	4.5
Amphid	7.5	7.5	8.0	7.6 ± 0.3 (7-8)	7.0	7.20 ± 0.24 (7.0-7.5)	7.50 ± 0.50 (7.0-8.0)	6.90 ± 0.35 (6.5-7.5)	7.50	7.0	7.5	7.5
Odontostyle	9	9	9	8.9 ± 0.51 (8.0-9.5)	8.5 ± 0.4 (8-9)	9.10 ± 0.21 (9.0-9.5)	8.75 ± 0.40 (8.5-9.0)	9.0	9.20 ± 0.23 (9.0-9.5)	9.5	9.5	9.1 ± 0.41 (8.5-9.5)
Odontophore	19	19.2 ± 0.38 (19-20)	20	20.5 ± 0.94 (19-21)	19	18.50	19.2 ± 0.43 (19.0-21.0)	19.3 ± 0.62 (18.0-20.0)	19.4 ± 0.45 (19-20)	18.1 ± 0.44 (17.5-18.5)	18.5	18.6 ± 0.65 (18.0-19.5)
Stylet length	28	(28-29)	30	(28-31)	(26-29)	(27.5-28.0)	(28-30)	(27-29)	(28-29.5)	(27-28)	28	(27.5-28)
Guiding ring-ant. end	7.5	(7.5-8.5)	8.0	(7.5-9.0)	(7.0-7.5)	(7.5-8.0)	(7.0-7.5)	(7.0-8.0)	(7.5-8.0)	8.0	7.5	(7-8)
Nerve ring-ant. end	93	96 ± 4.1 (90-103)	100	98 ± 3.2 (91-103)	96 ± 2.1 (94-100)	98 ± 1.3 (97-100)	101 ± 3.0 (97-106)	96.2 ± 3.27 (94-103)	96.4 ± 1.20 (94-97)	92 ± 1.7 (90-94)	95	99 ± 4.5 (94-106)
Neck length	203	212 ± 9.7 (203-228)	219	216 ± 6.8 (206-228)	200 ± 9.6 (190-212)	202 ± 4.7 (196-209)	217 ± 4.7 (213-225)	197 ± 10.5 (184-220)	210 ± 8.6 (204-225)	187 ± 4.5 (180-194)	?	218 ± 5.4 (210-225)
Pharyngeal bulb	56	57 ± 4.0 (54-65)	60	60 ± 1.8 (56-62)	61.5 ± 1.60 (60-64)	59 ± 3.7 (56-65)	63 ± 3.1 (60-68)	62 ± 6.2 (56-72)	66 ± 3 (63-69)	58 ± 2.1 (56-62)	?	63 ± 1.8 (60-65)
Cardia : width	9.5	(7.5-10)	9.5	(9-12)	(10.0-12.5)	(10-12)	(8.0-12)	(8.5-11)	(8.0-10.5)	(9-10)	9.5	(9-10)
length	9.5	(7.0-9.5)	9.0	(5-10)	(6-9)	(6.0-7.5)	(6.5-9.5)	(6.0-7.5)	(6-7)	(7-8)	6	(6-8)

Table 3. (Suite).

Habitat Locality Province	Bruswood Sierra Morena Jaén			Pasture Alfarnatejo Málaga	<i>Q. pyrenaica</i> Güejar S. Granada	<i>Ulex</i> P. Zegri Granada	<i>Pinus</i> S. de Baza Granada	<i>Erinacea</i> Calar Alto Almería	<i>Q. faginea</i> Ugijar Granada	Meadow S. Cazorla Jaén		
	Holotype	Paratypes 5 ♂♂	Allotype	Paratype 9 ♀♀	8 ♂♂	4 ♂♂	6 ♂♂	11 ♂♂	6 ♂♂	7 ♂♂	♂	4 ♀♀
Body width : at neck base	30.5	31.5 ± 2.31 (29.5-33.0)	29.5	30.0 ± 1.88 (27-33)	31.2 ± 1.64 (28-33)	29.2 ± 0.83 (28-30)	29.7 ± 1.40 (29-32)	30.5 ± 0.89 (29-32)	31.7 ± 1.99 (29-35)	27.5 ± 0.88 (26-29)	32	31 ± 1.6 (29.5-33.5)
at midbody	39.0	36.3 ± 2.42 (32.5-39.0)	31.5	34.6 ± 2.25 (31.5-37.5)	37.5 ± 1.74 (34-40)	33.7 ± 1.30 (32-35)	36.9 ± 2.20 (33-39)	36.5 ± 1.36 (34-39)	39.3 ± 3.60 (34-45)	31.6 ± 1.59 (30-35)	40	36 ± 1.1 (34-37)
at anus	22.0	22.0 ± 0.62 (21.5-23.0)	22.0	22.1 ± 0.96 (21.0-23.5)	22.8 ± 1.73 (20-25)	21 ± 1.1 (20.0-22.5)	22.8 ± 0.75 (22-24)	22.8 ± 0.64 (22-24)	24 ± 1.1 (23-26)	20 ± 0.4 (19.5-20.5)	23	22 ± 1.1 (20.5-23.5)
Cuticle : head	1.2	(1.2-1.5)	1.5	(1.2-1.5)	1.5	1.2	1.2	1.2	1.5	1.2	1.5	1.2
midbody	2.0		2.0	2.0	2.0	2.0	1.8	1.8	(2.0-2.5)	(1.5-2.0)	2.5	2.0
tail	5.0	(5-6)	5.0	(5.0-5.5)	(4.5-6.0)	(4-5)	(4.5-6.0)	(4.5-5.5)	(4.0-5.5)	(3-6)	7.5	(6.5-7.0)
Lateral chord	5	(3-5)	4	(3.0-5.5)	(4.0-4.5)	(2.5-3.0)	(4.0-6.0)	(3.0-5.0)	3.0	(3.5-4.5)	3	(2.5-4.0)
Anterior ovary/testis	75	73 ± 19 (50-111)	220	162 ± 51 (102-250)	92 ± 21 (62-131)	76 ± 3.3 (72-81)	78 ± 20 (56-115)	85 ± 26 (62-156)	144 ± 42.3 (100-193)	75 ± 23 (58-124)	184	212 ± 70 (144-306)
Anterior genital branch	128	157 ± 16.9 (128-180)	905	818 ± 104 (653-949)	203 ± 25 (154-234)	158 ± 3.3 (156-164)	186 ± 38.3 (146-250)	159 ± 14.1 (134-187)	182 ± 43.2 (132-243)	133 ± 17.1 (106-162)	266	970 ± 73 (894-1052)
Posterior ovary/testis	90	93 ± 41 (56-182)	229	163 ± 44 (105-229)	121 ± 26 (91-172)	81 ± 6.5 (71-86)	81 ± 13 (62-100)	84 ± 14 (62-110)	140 ± 36 (97-197)	90 ± 25.2 (59-140)	212	232 ± 33 (192-268)
Posterior genital branch	153	159 ± 25.2 (134-213)	456	517 ± 101 (421-730)	232 ± 23.6 (203-281)	175 ± 9.2 (167-190)	153 ± 18.3 (120-175)	168 ± 9.8 (156-187)	193 ± 30.3 (159-243)	155 ± 16.9 (131-184)	320	526 ± 30 (484-558)
Vagina : width	15	(12-15)	-	-	(15-17)	(11-14)	(12-18)	(12-18)	(13-14)	(13-15)	14.5	-
length	18	(14-18)	-	-	(16-18)	(15-16)	(14-20)	(15-19)	(15-18)	(12-15)	18.5	-
Vulva-ant. end	525	552 ± 59.5 (500-680)	-	-	566 ± 53 (480-620)	583 ± 10 (573-593)	601 ± 46 (539-666)	547 ± 48 (493-640)	566 ± 35.6 (500-607)	497 ± 24.4 (460-520)	660	-
Prerectum	106	96 ± 19 (69-131)	143	153 ± 24.9 (100-180)	127 ± 21 (98-165)	110 ± 6.2 (103-118)	136 ± 9.8 (118-151)	137 ± 8.0 (128-150)	113 ± 12.5 (97-134)	78 ± 13 (62-103)	131	179 ± 13 (162-193)
Rectum/cloaca	25	26.7 ± 1.28 (25-28.5)	37	36 ± 2.4 (32-38)	23.4 ± 1.40 (22-25)	20.7 ± 0.94 (20-22)	24.8 ± 0.98 (23-26)	26.0 ± 1.37 (23-28)	21.8 ± 0.37 (22-23)	21 ± 1 (20-22)	27	34.5 ± 2.34 (30-37)
Tail	24	24.5 ± 1.38 (22-26)	25	24 ± 1.1 (22-26)	32.3 ± 3.26 (27.5-37.5)	28.5 ± 2.12 (27-31)	29 ± 1.4 (26.5-31.0)	24.5 ± 1.84 (22.5-27.5)	27.3 ± 1.40 (25.5-29.0)	26.6 ± 1.79 (25-29)	35	33.6 ± 2.65 (30.0-37.5)
Spicules at arc	-	-	36	37 ± 1.7 (34-39)	-	-	-	-	-	-	-	40.5 ± 0.96 (39.5-42.0)
Ventromedian supplements	-	-	7	(4-7)	-	-	-	-	-	-	-	(6-7)
Sperm length	-	-	6.0	(6.0-6.5)	-	-	-	-	-	-	-	(7.0-7.5)
Copulatory muscles	-	-	16	(14-21)	-	-	-	-	-	-	-	(18-21)

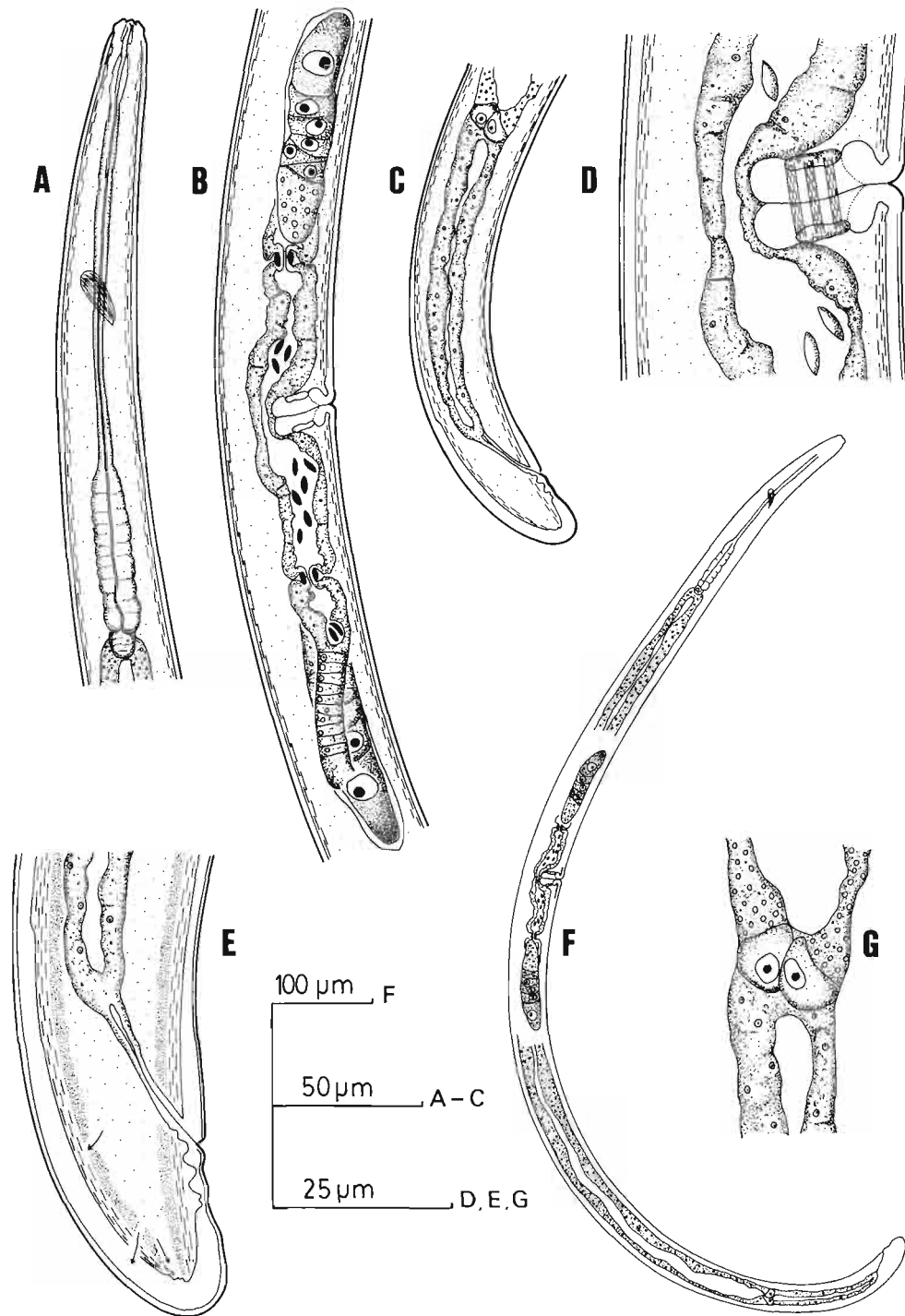


Fig. 5. *Dorylaimoides ornatus* sp. n. A : Neck region; B : Female genital system; C : Female posterior body region; D : Vagina; E : Female caudal region; F : Entire female; G : Intestine-pretectum junction.

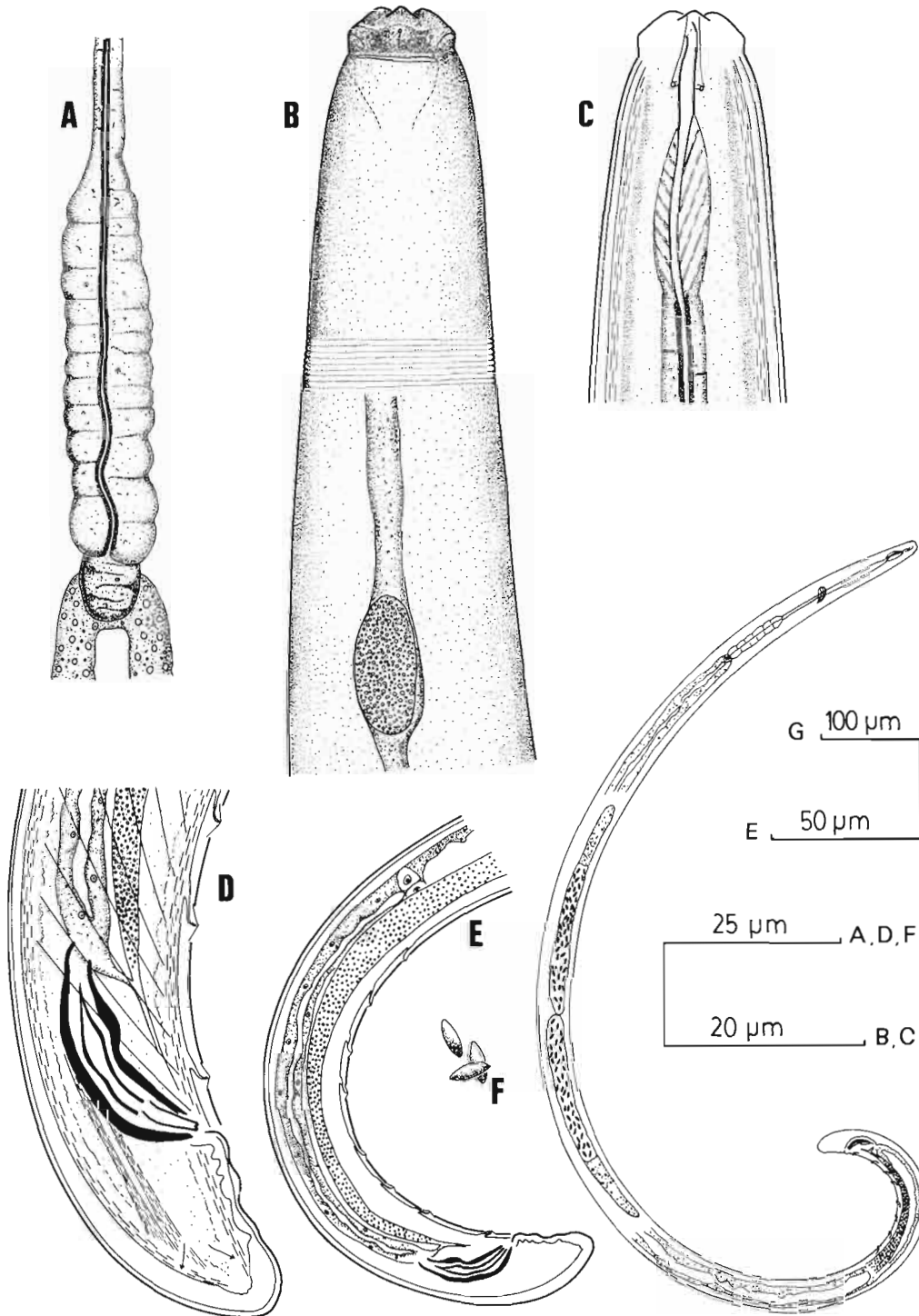


Fig. 6. *Dorylaimoides ornatus* sp. n. A : Pharyngeal bulb and cardia; B : Anterior body region; C : Lip region in lateral view; D : Male caudal region; E : Male posterior body region; F : Sperm; G : Entire male.

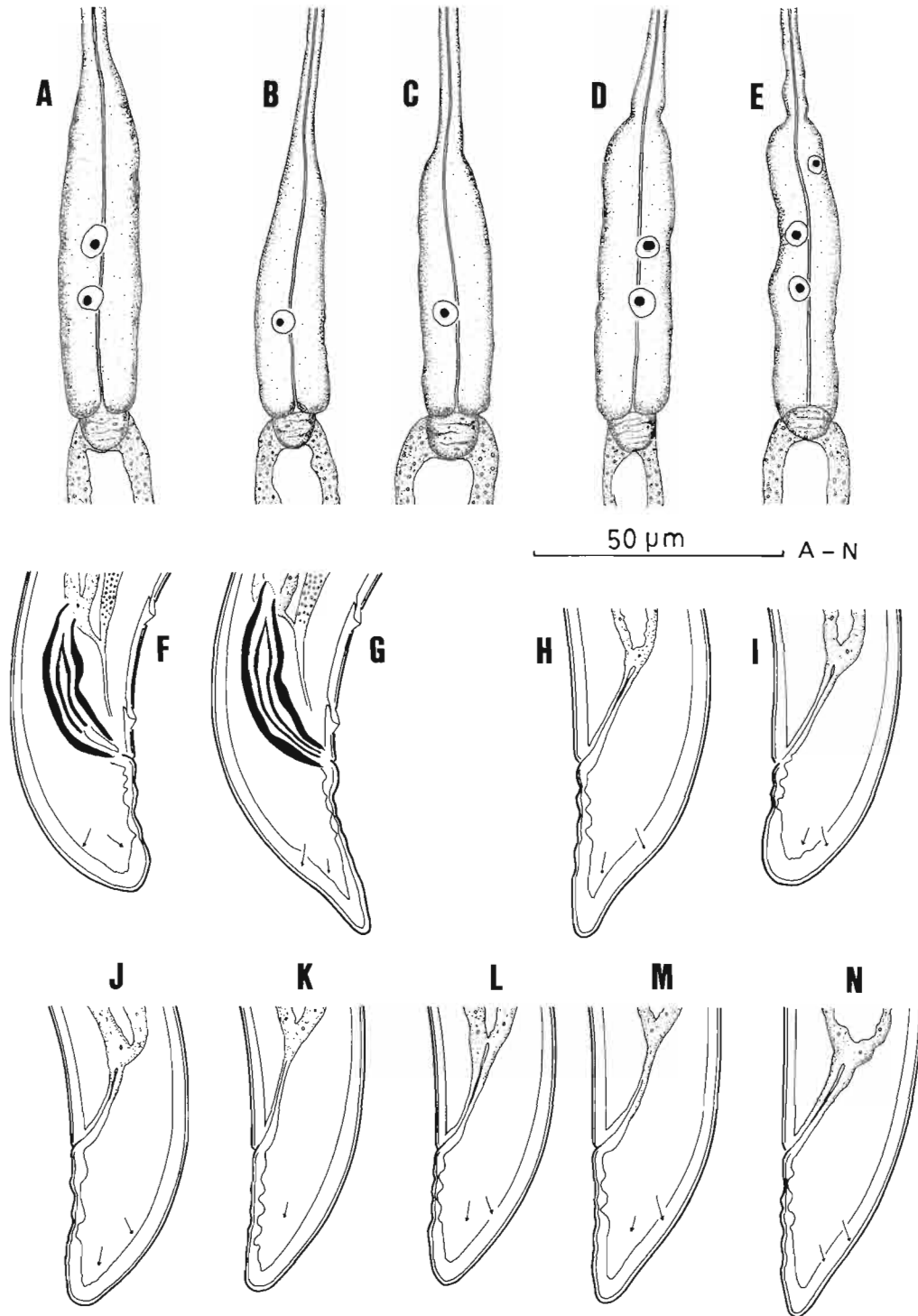


Fig. 7. *Dorylaimoides ornatus* sp. n. A-E: Pharyngeal bulb and cardia (A: Sierra de Baza population; B: Ugijar population; C: Güejar-Sierra population; D: Sierra de la Pandera population; E: Sierra de Cazorla population). F, G: Male caudal region (F: Sierra de la Pandera population; G: Sierra de Cazorla population). H-N: Female caudal region (H: Sierra de Cazorla population; I: Sierra de la Pandera population; J: Güejar-Sierra population; K: Ugijar population; L, M: Puerto de Zegri population; N: Aljarnatejo population).

cus pyrenaica, *Castanea sativa*, *Quercus faginea*, *Pinus* sp., *Retama* sp., and gramineous meadows in 22 different localities of the provinces of Almería, Granada, Jaén and Málaga.

TYPE MATERIAL

Female holotype, male allotype, twelve female paratypes and six male paratypes deposited in the nematode collection, Departamento de Biología Animal, Vegetal y Ecología, Universidad de Jaén, Spain. Two female paratypes and one male paratype at each of the following centres: Instituut voor Dierkunde, Rijksuniversiteit Gent, Belgium; Landbouwhogeschool, Wageningen, the Netherlands; and Muséum National d'Histoire Naturelle, Paris, France.

DIAGNOSIS AND RELATIONSHIPS

D. ornatus sp. n. can be distinguished by having medium size ($L = 0.94-1.56$), lip region offset by depression, lips partly amalgamated, odontostyle $8-9.5 \mu\text{m}$ or slightly shorter than the head width, pharyngeal bulb $54-72 \mu\text{m}$ long, female genital system didelphic-amphidelphic, $V = 40-49.4$, tail rounded-conoid to conical with blunt terminus and dorsally convex or convex-concave and ventrally straight with a peculiar festoon-like irregularity ($22-37.5 \mu\text{m}$, $c = 31.4-59.4$, $c' = 0.9-1.7$ in females and $22-37.5$, $c = 41.2-63.6$, $c' = 0.9-1.66$ in males), spicules $34-42 \mu\text{m}$, and four to seven regularly spaced ventromedian supplements.

The new species comes close to *D. teres* Thorne & Swanger, 1936 from which it differs by having a festoon-like irregularity in the ventral side of the tail (*vs* irregularity absent) and the presence of two fine caudal pores (*vs* one fine and the other coarse).

Dorylaimoides teres Thorne & Swanger, 1936 (Figs 8, 9)

MEASUREMENTS

See Table 4.

DESCRIPTION

Female: Moderately slender nematodes of medium size, $1.13-1.4 \text{ mm}$ long. Body cylindrical, tapering towards the anterior end. Habitus slightly ventrally curved. Outer cuticle thin and finely striated; inner cuticle wider than the outer one and thickening at level of the tail. Lateral chord with glandular bodies and occupying $7-10\%$ of midbody diameter. Lateral pores fine, more visible in the posterior body region. Lip region slightly angular, offset by a more or less marked constriction, twice as wide as high and about one-third of the body width at neck base. Lips practically amalgamated with the inner part elevated. Labial and cephalic papillae clear. Amphids cup-shaped, occupying three-fourths of the head width. Odontostyle as long as head diameter. Odontophore about twice the length of the odontostyle. Guiding ring simple. Pharynx consisting of a slender

and weakly muscular anterior part which expands abruptly into the basal bulb; this is cylindrical and occupies about 30% of the total neck length. Pharyngeal gland nuclei and outlets obscure. Cardia rounded, relatively small and surrounded by the intestine wall. Nerve ring located about 50% of the total neck length. Genital system didelphic-amphidelphic. Ovaries reflexed with oocytes arranged first in two rows, then in a single one; often not reaching the oviduct-uterus junction. Oviduct consisting of a slender fore part with high cells, and a well developed *pars dilatata*. Inner part of sphincter somewhat refractive, encircled by muscles. Uterus not specialized. Vagina cylindrical, extending inwards to half of the corresponding body diameter; its wall adjacent to the vulva surrounded by the inner cuticle and the other part circled by muscles. Sperm not seen. Pre-rectum six anal body widths long; intestine-preterectum junction with three cells. Rectum as long as anal body width. Tail rounded-conoid, ventrally almost straight, dorsally convex; its terminal portion sometimes slightly dorsally bent. Caudal pores two pairs: one subdorsal fine, the other lateral and relatively coarse.

Male: The only specimen found shows a general morphology similar to the female. It lacks genital system, but the secondary sexual organs are perfectly developed. Spicules ventrally curved, 1.6 anal body widths long. Apart from the adanal pair, a series of seven regularly spaced ventromedian supplements is present beginning out of the range of the spicules.

DISTRIBUTION

D. teres was found in the following localities and habitats: *i*) meadow near "La Vidriera", Sierra de Guillimona, province of Granada, Spain; *ii*) "Linarejos", Sierra de Cazorla, province of Jaén, associated with *Asphodelus* sp. and *Festuca* sp.; *iii*) "Jabalruz", province of Jaén, in the rhizosphere of *Festuca scariosa*; *iv*) Ugijar, province of Granada, associated with brushwood (*Thymus* sp. and *Retama* sp.).

REMARKS

We still have some doubt about the identity of this Spanish material. Although the general morphology and measurements are very similar to those found in the literature (Thorne & Swanger, 1936; Thorne, 1974; Goseco *et al.*, 1976), some features of our specimens, such as a longer odontostyle (*vs* $6 \mu\text{m}$), ventromedian supplements beginning out of the range of the spicules (*vs* within the range after Thorne & Swanger, 1936; Thorne, 1974) and presence of a coarse caudal pore (a feature very obvious in all the specimens examined but not previously mentioned), permit us to distinguish Spanish populations of the previously known one. However, in our opinion these features are not sufficiently consistent a new species to be proposed. On the other hand, we cannot leave out the possibility that the two populations from USA (Missouri and Arizona) studied

Table 4. Measurements and diagnostic features of *Dorylaimoides teres* Thorne & Swanger, 1936 (all measurements in μm except L in mm).

Habitat Locality Province	Pasture La Vidriera Granada		<i>Festuca</i> sp. S. Cazorla Jaén	<i>Festuca scariosa</i> S. Jabalcuz Jaén	<i>Thymus</i> Ugijar Granada	
	n =	4 ♀♀	♂	14 ♀♀	2 ♀♀	♀
L (mm)		1.28 ± 0.06 (1.17-1.40)	1.31	1.25 ± 0.07 (1.13-1.35)	1.24, 1.29	1.21
a		36.0 × 1.51 (33.8-38.9)	38.4	34.4 ± 1.35 (31.5-37.1)	?, 29.2	37.3
b		6.7 ± 0.3 (6.2-7.3)	6.5	6.4 ± 0.4 (5.7-7.0)	6.7, 7.2	6.0
c		48.6 ± 4.40 (42.3-57.2)	46.6	46.0 ± 3.0 (40.7-51.5)	42.7, 45.9	55.1
V		45.1 ± 1.08 (43.4-47.0)	–	45.4 ± 1.30 (43.1-47.6)	43.5, 44	45.6
G1/T1		12.1 ± 1.37 (9.8-15.2)	–	13.4 ± 1.60 (9.8-16.2)	?, 11.3	10.3
G2/T2		12.3 ± 0.75 (11.1-14.0)	–	13.7 ± 1.30 (11.5-16.2)	?, 12.0	12.5
c'		1.15 ± 0.11 (1.0-1.33)	1.2	1.18 ± 0.05 (1.08-1.26)	1.14, 1.12	1.0
Lip region : width		9.5	9.5	(9-10)	9.5, 10	9.5
height		(4.0-4.5)	4	(4.0-4.5)	3.5, 3.5	3.5
Amphid		6.8 ± 0.4 (6.5-7.5)	7	6.95 ± 0.26 (6.5-7.5)	?, 7.5	?
Odontostyle		9.0 ± 0.3 (8.0-9.5)	9	9.0 ± 0.3 (9.0-9.5)	9, 9	9.5
Odontophore		16.5 ± 0.55 (16.0-17.5)	17.5	18.3 ± 0.49 (17.5-19.0)	19, 19	19.5
Stylet length		(25-27)	26.5	(26.5-28.0)	28, 28	29
Guiding ring-ant. end		(7.0-7.5)	7.5	(7-8)	8.5, 7.5	8
Nerve ring-ant. end		93 ± 2.8 (87-97)	91	92.7 ± 2.56 (88-97)	87.5, ?	91
Neck length		190 ± 5.86 (180-203)	200	192 ± 6.2 (188-209)	184, 178	203
Pharyngeal bulb		56 ± 2 (51-59)	59	57 ± 1.6 (55-60)	56, 56	63
Cardia : width		(8-10)	9	(9.5-10.5)	9.0, 9.5	9.5
length		(7-9)	7.5	(6.5-9.5)	8, 9	8
Body width : at neck base		30.2 ± 1.03 (28-32)	30	29.8 ± 0.70 (28-30)	39, 39	29.5
at midbody		35.6 ± 1.28 (33-37.5)	34	36.2 ± 1.70 (33-39)	?, 44	32.5
at anus		22.4 ± 0.53 (21-23)	23	22.9 ± 0.54 (21.5-23.5)	25.5, 25	22
Cuticle : head		1.2	1.2	1.2	1.3, 1.5	1.5
midbody		1.5	1.5	(1.5-2.0)	2, 2	2.5
tail		(4-6)	5.5	(4.6-6.5)	6, 6	6
Lateral chord		(2.5-5.0)	2.5	(2.5-4.5)	3, 4	3.5
Anterior ovary/testis		81.6 ± 11.1 (63-100)	–	115 ± 36 (62-193)	?, ?	59
Anterior genital branch		155 ± 18.5 (122-194)	–	168 ± 24.6 (120-213)	?, 145	125
Posterior ovary/testis		79.3 ± 8.16 (72-102)	–	122 ± 32.5 (75-172)	?, ?	91
Posterior genital branch		158 ± 12.3 (140-184)	–	171 ± 17.6 (144-213)	?, 154	152
Vagina : width		(13-16)	–	(13-18)	15, 16	16
length		(16-18)	–	(15-18)	17, 18	16
Vulva-ant. end		579 ± 26.4 (540-640)	–	566 ± 27.4 (520-600)	539, 566	553
Prerectum		126 ± 12.6 (103-162)	150	122 ± 8.6 (116-136)	114, 125	97
Rectum/clouca		23.5 ± 1.33 (22-26)	26.5	22.8 ± 0.80 (22-23)	27, 28	25
Tail		26.5 ± 2.25 (23-30)	28	27.2 ± 1.34 (24-29)	29, 28	22
Spicules at arc		–	35.5	–	–	–
Ventromedian supplements		–	7	–	–	–
Sperm length		–	–	–	–	–
Copulatory muscles		–	18	–	–	–

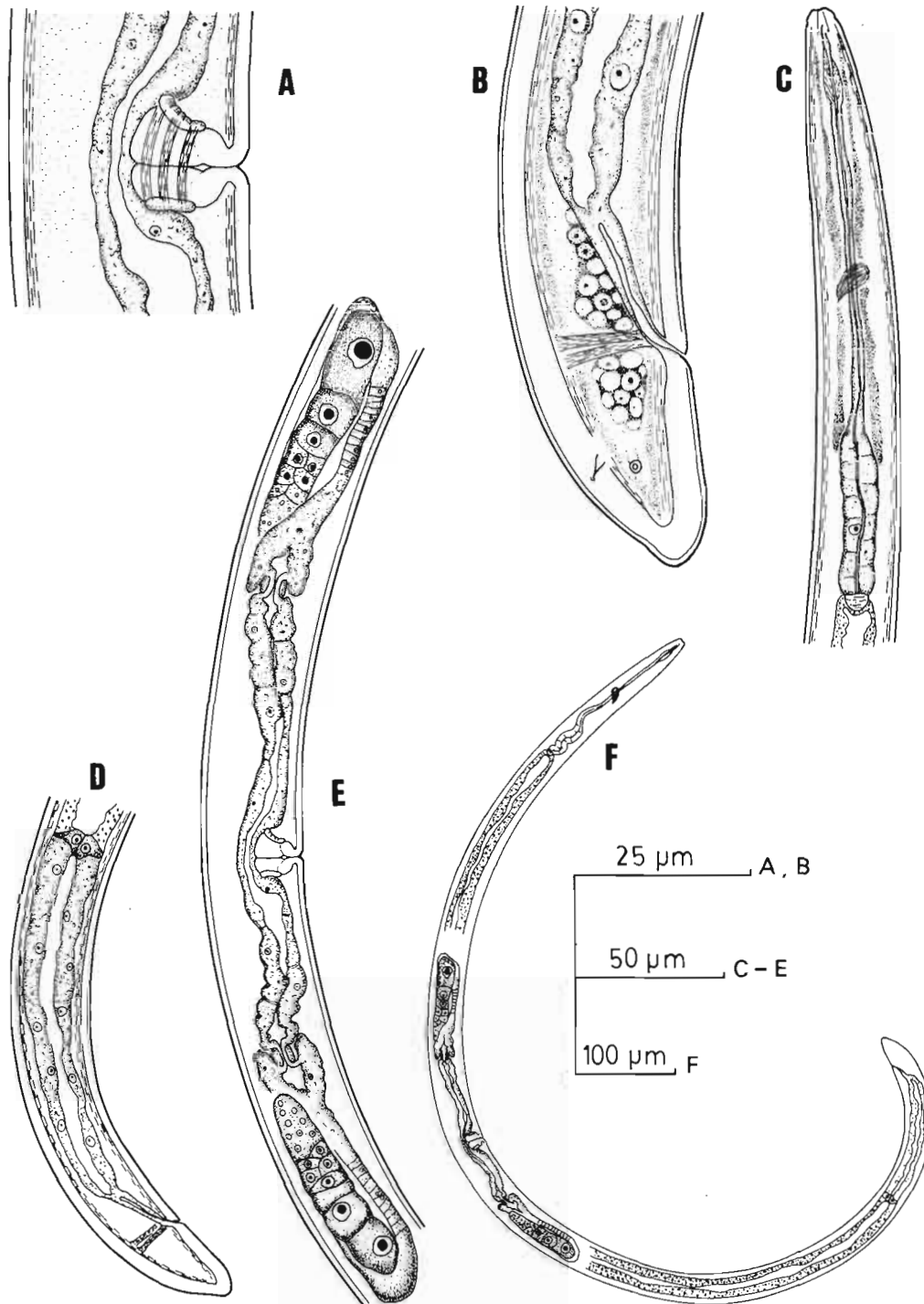


Fig. 8. *Dorylaimoides teres* Thorne & Swanger, 1936, female. A : Vagina; B : Caudal region; C : Neck region; D : Posterior body region; E : Genital system; F : Entire body.

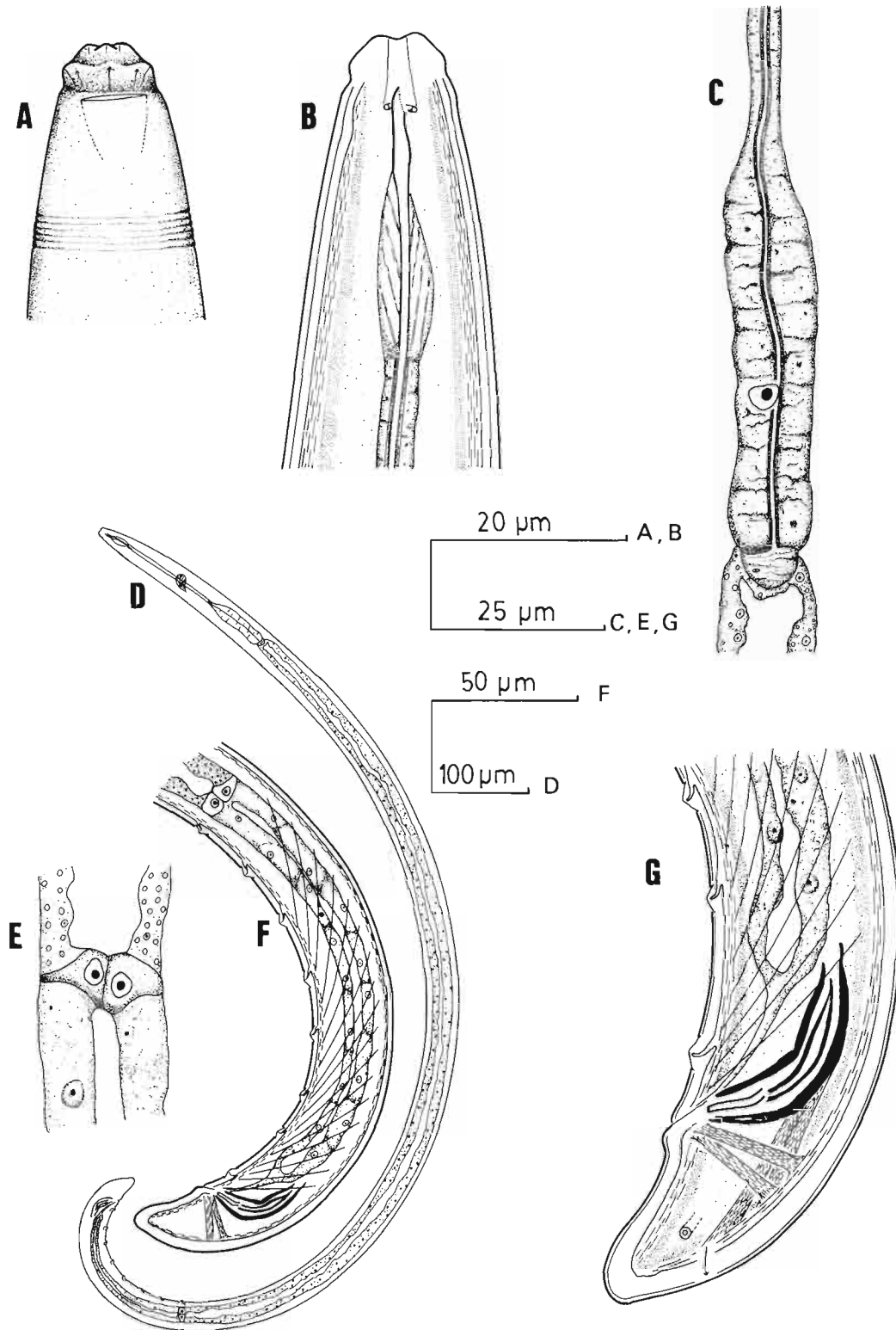


Fig. 9. *Dorylaimoides teres* Thorne & Swanger, 1936. A : Lip region in surface view; B : Same in lateral view; C : Pharyngeal bulb and cardia; D : Entire male; E : Intestine-prerectum junction; F : Male posterior body region; G : Male caudal region.

by Goseco *et al.* (1976) are not conspecific with the type population if one take into account the longer body ($L = 1.50-1.65$ mm, $n = 10$) in the Missouri population and the existence of precloacal space in the male of both populations. A general revision of all these populations is necessary in order to clarify their taxonomy.

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