DESCRIPTION OF *XIPHINEMA MOUNPORTI* SP. N., WITH NEW DATA ON TWO OTHER SPECIES FROM SENEGAL (NEMATODA: LONGIDORIDAE)

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Summary. Soil samples collected from Dakar and Ziguinchor in Senegal revealed the presence of three species of nematodes belonging to the genus *Xiphinema* Cobb, 1913, which are herein described and illustrated. These include *Xiphinema mounporti* sp. n., *X. luci* Lamberti *et* Bleve-Zacheo, 1979 and *X. opisthohysterum* Siddiqi, 1961; the two last species belong to the "*Xiphinema americanum* group". The new species is characterized by its body 2.4-2.7 mm long; lip region 5 µm high and 10 µm wide, set off by a depression; funnel-shaped fovea with aperture slit-like, 50-64% of corresponding body diameter long; odontostyle and total stylet 85-100 µm and 140-161 µm long, respectively; pharynx distinctly narrowed at basal bulb; reproductive system with anterior branch complete but reduced, and tripartite uteri; tail elongate bludgeon-like (76-105 µm, c = 23-34, c' = 3.8-5.2) with six pores on both sides; three juvenile stages. *Xiphinema mounporti* sp. n. very closely resembles *X. bergeri* Luc, 1973 but can be clearly differentiated from the latter by its pharynx distinctly narrowed in front of basal bulb, unequal genital branches, tripartite uteri, six pairs of caudal pores, and three juvenile stages. Male and juvenile stages of *X. luci* are described for the first time; this species has only three juvenile stages. Our population of *X. opisthohysterum* presents tail with terminus varying in shape from more or less rounded to mucronate. This species is recorded for the first time in Africa and for the second time outside India.

Key words: Dorylaimida, juvenile stages, tripartite uteri, *Xiphinema luci*, *Xiphinema opisthohysterum*.

The present paper is the third of a series dealing with longidorids found in Senegal (Faye and Mounport, 2007, 2010). A survey was conducted in the central as well as southern regions of Senegal, in natural and cultivated areas from 1997 to 2005. Besides species of the genera *Longidorus* Micoletzky, 1922 and *Paralongidorus* Siddiqi, Hooper *et* Khan, 1963, soil samples yielded three species of *Xiphinema* Cobb, 1913, which are described herein.

MATERIALS AND METHODS

Soil samples were taken at 5-30 cm depth, using a hand fork. Nematodes were extracted from 1 kg soil samples by Seinhorst's (1962) elutriation method and subsequently fixed at 60 °C in 4% formaldehyde solution. After several days in fixative, specimens were processed and mounted on Cobb's double cover slip slides in anhydrous glycerine using the paraffin wax ring method. After close examination, specimens from soils from Dakar came close to two different species belonging to the "*Xiphinema americanum* group", namely *Xiphinema luci* Lamberti and Bleve-Zacheo, 1979, and *X. opisthohysterum* Siddiqi, 1961; and those from soil from Ziguinchor appeared to represent a new species. Measurements were taken using an ocular micrometer and illustrations were made using a drawing tube attached to a Leitz Ortholux microscope. The terminology used for the description of amphidial fovea follows Decraemer and Coomans (2007).

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DESCRIPTIONS

XIPHINEMA MOUNPORTI sp. n.
(Tables I and II; Figs 1 and 2)

Female. Body slender, gradually tapering towards both extremities, but more so anteriorly, with maximum diameter at vulval level. Habitus in comma-shape, more ventrally bent in posterior region when relaxed by gentle heating. Cuticle 1.5 µm thick at mid-body, thicker (3-3.5 µm) at dorsal side of tail. Lateral chords 10-13 µm wide at mid-body, *i.e.*, 24-32% of corresponding body diameter (cbd). Lip region rounded, 5 µm high, separated from the rest of the body by a depression. Amphidial fovea funnel-shaped, amphidial aperture slit-like, 50-64% of cbd long. Stylet robust, 36-45% of pharynx length long; odontostyle 1.5 µm thick along its length, 9-10 times lip region width long or 61-64% of total stylet, with forked base; guiding apparatus with double rings 6-13 µm apart when stylet fully retracted; odontophore 9-11 µm thick at flanges. Pharynx dorylaimoid; slender part 6 µm wide, narrowing to 3.5 µm in front of basal bulb; vestigium 2-8 µm long, located at 30-49 µm from

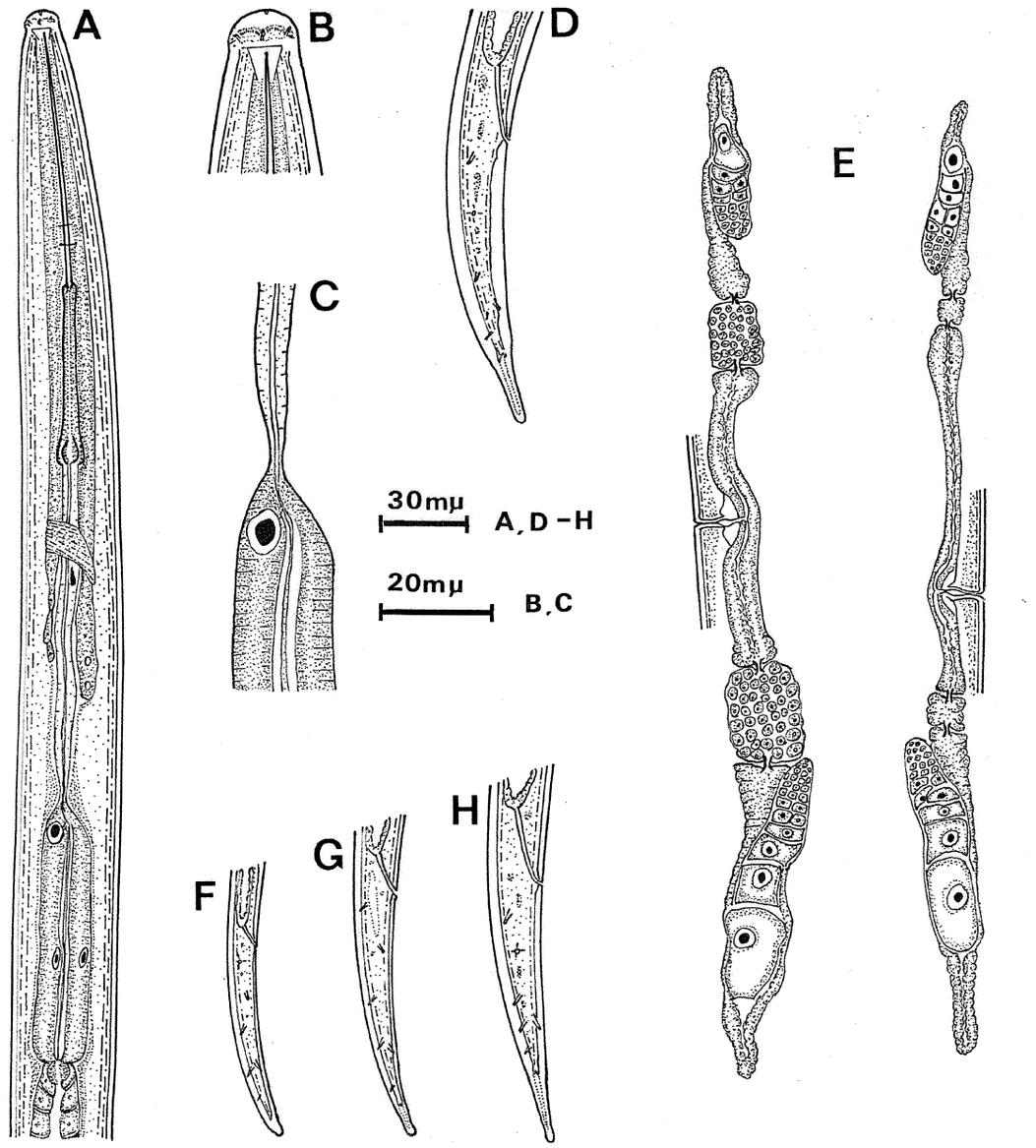

Fig. 1. *Xiphinema mounporti* sp. n. females (A-E) and juveniles (F-H). A: neck region; B: anterior end; C: narrowing base of pharyngeal slender part; D: tail; E: reproductive systems of fertilized and unfertilized females. F-H: tails, J1, J2 and J3, respectively.

odontophore base; pharyngeal bulb 83-98 µm long and 18-22 µm wide; dorsal nucleus bigger than ventro-sublateral ones; positions of pharyngeal gland nuclei (as percentages of bulb length) as follows (n = 10): DN = 11 ± 1.5 (8-13), LSN = 57 ± 3 (51-61), RSN = 56 ± 3 (52-60). Cardia ovoid, nearly as long as wide, 8-13 µm. Reproductive system didelphic amphidelphic, anterior ovary 50 (40-79)% of posterior ovary length; anterior oviduct more slender than posterior one; anterior uterus slender and generally longer (0.9-2.2 times) than posterior one; both uteri tripartite, *pars dilatata uteri* near the oviduct functioning as spermatheca which is filled with sperm in some specimens (n = 7) and separated from the rest of the uterus by a sphincter, tubular part close to spermatheca slightly wider, ovejector not marked; vagina extend-

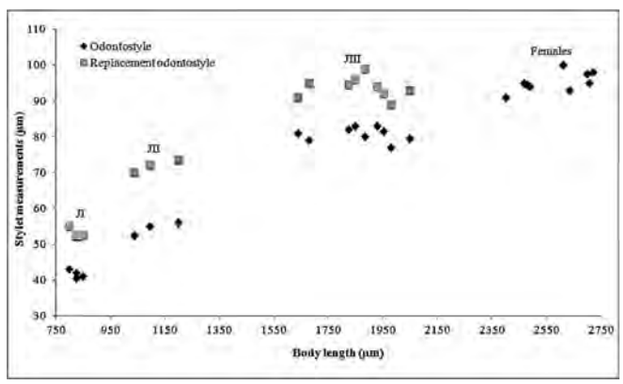

Fig. 2. Scatter diagram separating juveniles and mature females of *X. mounporti* sp. n. from Senegal.

ing inwards to 37-52% of body width; vulva a transverse slit, flush with ventral body surface. Pre-rectum and rectum 22 ± 2 (18-24) and 1.5 ± 0.4 (1-2.2) times anal body width long, respectively. Tail elongate, conical, divided into two parts by a conspicuous depression located at the beginning of hyaline portion, which makes it bludgeon-like; the optically empty canal nearly ends at tail tip; six caudal pores present on each side.

Table I. Morphometric characters of the type population of *Xiphinema mounporti* sp. n. from Senegal. Measurements in µm (except L in mm) and in the form: mean ± standard deviation (range).

Locality:			Ziguinchor		
Host:			*Oryza sativa*		
	Holotype		Paratypes		
n	–	9 females	4 JI	3 JII	11 JIII
L	2.47	2.56 ± 0.12 (2.4-2.7)	0.82 ± 0.02 (0.8-0.85)	1.1 ± 0.08 (1.04-1.2)	1.8 ± 0.16 (1.57-2.05)
a	70	64 ± 7 (50-72)	42.5 ± 2.4 (41-46)	50 ± 2 (48-52)	58 ± 2.5 (55-64)
b	7	7 ± 0.5 (6-8)	3.9 ± 0.3 (3-4)	4.5 ± 0.5 (4-5)	5.5 ± 0.4 (5-6)
c	26	27.5 ± 3 (23-34)	12.5 ± 1 (12-14)	13.5 ± 0.5 (13-14)	19.5 ± 2 (17-23)
c'	4.8	4.6 ± 0.3 (3.8-5.2)	6.2 ± 0.2 (6-6.5)	6.4 ± 0.3 (6-6.8)	5.3 ± 0.5 (4.5-6)
V%	34	34 ± 0.5 (33-35)	-	-	-
Odontostyle	95	94 ± 4 (85-100)	42 ± 1 (40-43)	54.5 ± 1.5 (52-56)	79 ± 3 (73-82)
Odontophore	60	58.5 ± 2.5 (55-63)	33 ± 0.5 (33-34)	41 ± 1.4 (40-43)	50 ± 3 (45-55)
Total stylet	155	153 ± 6 (140-161)	74.8 ± 1 (73.5-76)	95.8 ± 2.5 (93-98)	129.2 ± 5.6 (118-136)
Replacement odontostyle	-	-	53 ± 1.3 (52-55)	71.5 ± 1.5 (70-74)	92 ± 5 (82-99)
Oral aperture to basal guide ring	80	82 ± 7 (74-98)	-	-	-
Nerve ring to anterior end	180	182 ± 5.5 (176-195)	-	-	-
Pharynx	355	359 ± 16 (335-390)	208 ± 11 (195-221)	237 ± 7 (230-245)	321 ± 20 (280-351)
G1%	9	6 ± 1.2 (5-9)	-	-	-
G2%	8	7 ± 2 (5-10)	-	-	-
Pre-rectum	468	449 ± 38 (355-490)	-	-	-
Rectum	30	34.5 ± 8 (22-46)	-	-	-
Tail	96	94 ± 7 (76-105)	65 ± 3.5 (60-67)	82 ± 1.5 (81-84)	92 ± 6 (86-104)
h (hyaline portion)	24	22 ± 2.5 (17-26)	-	-	-
h%	25	26 ± 6 (21-41)	-	-	-
Body diam. at lip region	10	10 ± 0 (10)	-	-	-
Body diam. at guide ring	27	28 ± 1.5 (26-31)	-	-	-
Body diam. at pharynx base	35	38 ± 3 (35-44)	-	-	-
Body diam. at mid-body or vulva	35	39 ± 4 (35-48)	19 ± 1 (18-20)	22 ± 2 (21-25)	31 ± 2 (28-35)
Body diam. at anus	20	20 ± 0.4 (19-21)	10.5 ± 0.5 (10-11)	12.5 ± 0.8 (12-13.5)	17 ± 1.5 (15-19)
Body diam. at beginning of h	9	8 ± 1 (7-10)	-	-	-

Table II. Morphometrics of the reproductive system of females of *X. mounporti* sp. n. from Senegal. Measurements in µm and in the form: mean ± standard deviation (range).

Genital apparatus parts	Lengths
Pars distalis vaginae (n = 7)	8.5 ± 0.5 (7-9)
Pars proximalis vaginae (n = 7)	10 ± 1 (8-12)
Vagina (n = 7)	18.5 ± 1 (17-21)
Anterior uterus (n = 4)	85 ± 13 (73-100)
Posterior uterus (n = 6)	69 ± 19 (46-89)
Anterior oviduct (n =4)	67 ± 24 (47-98)
Posterior oviduct (n =6)	72 ± 15 (56-98)
Anterior ovary (n = 8)	67 ± 16 (41-97)
Posterior ovary (n = 8)	125 ± 29 (98-173)
Anterior branch (n = 7)	171 ± 30 (135-225)
Posterior branch (n = 7)	188 ± 39 (152-269)

Male. Not found; but sperm were observed in seven females suggesting that males do exist but were not recovered from the soil sample.

Juveniles (n = 18). Three juvenile stages were identified. They resemble females except for smaller size, presence of replacement odontostyle, and undeveloped genital structures; tail tip bluntly rounded in JI; in JII and JIII, tail terminus cylindroid with an increasing hyaline portion length.

Diagnosis. *Xiphinema mounporti* sp. n. is characterized by its body 2.4-2.7 mm long; lip region 5 µm high and 10 µm wide, set off by a weak depression; funnel-shaped fovea with aperture slit-like, 50-64% of cbd long; odontostyle and total stylet 85-100 µm and 140-161 µm long, respectively; pharynx distinctly narrowed at basal bulb; reproductive system with anterior branch complete but reduced, and tripartite uteri with *pars dilatata uteri* functioning as spermatheca and separated from the rest of the uterus by a sphincter; tail elongate bludgeon-like (76-105 µm, c = 23-34, c' = 3.8-5.2) with six pores on both sides; and three juvenile stages. The code for identifying the new species according to the polytomous key of Loof and Luc (1990) is: A3-B4-C2-D2/3-F2/3-G1/2-H2-I2-J2-K2-L2. So, this species belongs to group 3.

Relationships. *Xiphinema mounporti* sp. n. comes very close to *X. bergeri* Luc, 1973, for which further data were given after its description (Bos and Loof, 1984; Nasira and Maqbool, 1992; Heyns *et al.*, 1994; Coomans *et al.*, 2001). However, it can be clearly differentiated from the latter by its pharynx distinctly narrowed at base, unequal genital branches, tripartite uteri, six caudal pores on each side, and three juvenile stages.

Type habitat and locality. Soil sample collected in September 1997 from the rhizosphere of *Oryza sativa* L. in a flooded rice field in Ziguinchor, southern Senegal.

Type specimens. Female holotype on slide 23592, 7 female paratypes on slides 23593-23599, and 18 juvenile paratypes on slides 23600-23617 deposited in the Collection des Nématodes, Département de Biologie Animale, FST, UCAD, Dakar, Sénégal. One female paratype deposited in each of the following nematode collections: Nematode Collection of CABI Europe-UK, Egham, UK and USDA ARS Nematology Laboratory Bldg. 011A, Rm. 159, BARC-West 10300 Baltimore Avenue, Beltsville, MD 20705, USA.

Etymology. The epithet *mounporti* was given in memory of Professor Danamou Mounport, African nematologist, deceased the 6th of May, 2012 in Dakar, Senegal.

XIPHINEMA LUCI **Lamberti *et* Bleve-Zacheo, 1979**
(Table III; Figs 3 and 4)

Female. Body ventrally curved, gradually tapering towards both extremities, but more so anteriorly, with maximum diameter at vulval level. Habitus in open C-shape to strong spiral when relaxed by gentle heating. Cuticle 1.5-2 µm thick at mid-body, thicker (4-4.5 µm) at dorsal side of tail. Body pores obscure. Lateral chords 8-13 µm wide at mid-body, *i.e.*, 28-44% of cbd. Lip region flat-rounded, 4-5 µm high, demarcated by a depression. Amphidial fovea funnel-shaped; amphidial aperture slit-like, 46-60% of cbd. Stylet robust, 44-53% of pharynx length long; odontostyle with forked base, 1.5 µm thick along its length; guiding apparatus with double rings 4.5-8 µm apart when stylet fully retracted; odontophore 8-10 µm thick at flanges. Pharynx dorylaimoid; tubular part gradually widening to the bulb; vestigium 1.5 µm long located at 22-58 µm from odontophore base; pharyngeal bulb 70-86 µm long and 15-20 µm wide; dorsal nucleus bigger than ventro-sublateral ones; positions of pharyngeal gland nuclei (as percentages of bulb length) as follows (n = 15): DN = 32 ± 3 (28-36); SN = 66 ± 3 (60-71). Cardia hemispherical to more or less conoid, as long as wide, 6-8 µm. Reproductive system didelphic amphidelphic with two branches equally developed; ovaries with symbionts, oocytes arranged in a median row; each genital branch with long oviduct 125 ± 32 (80-165) µm or 51-75% of its length; slender part of oviduct not clearly demarcated from *pars dilatata oviductus*; very short uteri 27 ± 3 (22.5-35) µm long, *i.e.*, 0.7 ± 0.1 (0.6-0.9) of cbd or 11-16% of genital branch length, not demarcated from an ovejector; more or less distinct sphincter; vagina extending inwards to 40-50% of body width, with narrow *pars distalis vaginae* 5.5 ± 1 (5-7.5) µm, *i.e.*, 32-41% of vagina length and wide *pars proximalis vaginae* 10 ± 0.5 (9-10.5) µm, *i.e.*, 58-68% of vagina length; vulva a transverse slit at mid-body, flush with ventral body surface. Pre-rectum and rectum 4.5 ± 1.2 (2.3-7) and 0.8 ± 0.2 (0.6-1.5) times anal body width long, respectively. Tail short, conoid, dorsally convex, ventrally flat with bluntly rounded terminus; three caudal pores on each side.

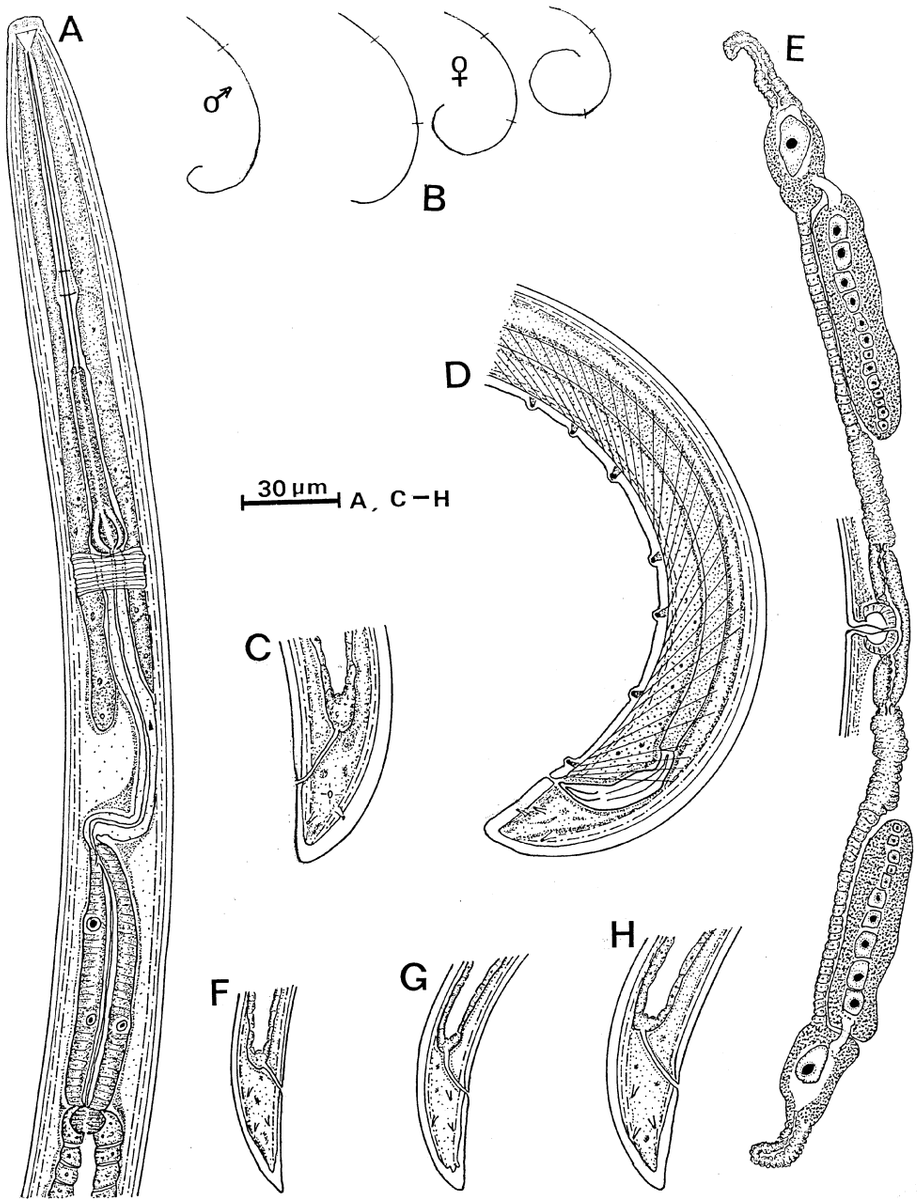

Fig. 3. *Xiphinema luci* females (A, C, E), male (D) and juveniles (F-H). A: neck region; B: habitus; C: tail; D: posterior region; E: reproductive system; F-H: tails, J1, J2 and J3, respectively.

Male (n = 1). Only one specimen found. Similar to female in habitus except for posterior region more coiled. Lip region and tail shapes, main morphology and morphometrics as described for female. Genital system diorchic with opposite testes. Medio-ventral supplements consisting of one adanal pair and a series of six, arranged as follows: 7.5 µm, 35 µm, 62 µm, 77 µm, 107 µm, 125 µm, and 142 µm from cloacal opening respectively. Spicules thick, 40 µm or 1.3 times the anal body width long, curved ventrally. Lateral guide pieces 13 µm long. Tail as described for female.

Juveniles (n = 45). Three juvenile stages were identified. They resemble females except for smaller size but longer tail, presence of replacement odontostyle, unde-

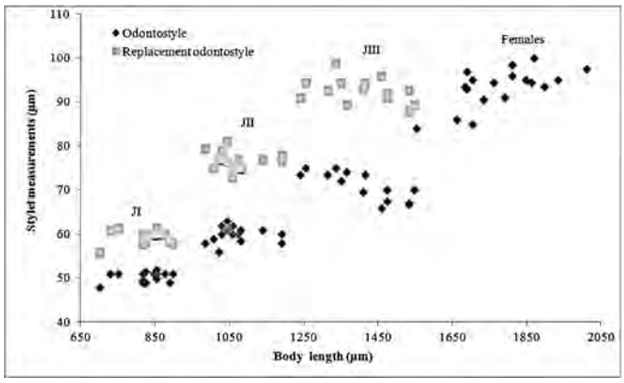

Fig. 4. Scatter diagram separating juveniles and mature females of *X. luci* from Senegal.

veloped genital structures, and tail ventrally flat with constant length from JI to JIII and more acute tip.

Locality. Soil sample collected in September 2000 from the rhizosphere of *Pandanus utilis* Bory. in the botanical garden of the Faculté des Sciences et Techniques, Université Cheikh Anta Diop, Dakar.

Remarks. Morphology and morphometrics of specimens from Dakar are similar to those of the type popu-

Table III. Morphometrics of *Xiphinema luci* Lamberti *et* Bleve-Zacheo, 1979 from Senegal. Measurements in µm (except L in mm) and in the form: mean ± standard deviation (range).

Locality:			Dakar		
Host:			*Pandanus utilis*		
n	18 females	1 male	15 JI	16 JII	14 JIII
L	1.8 ± 0.1 (1.554-2.01)	1.8	0.8 ± 0.06 (0.7-0.898)	1.06 ± 0.07 (0.9-1.19)	1.4 ± 0.1 (1.2-1.548)
a	51 ± 3 (46-58)	58	38 ± 1 (36-40)	43 ± 2 (39-46)	47 ± 2 (44-52)
b	5.9 ± 0.3 (5-6)	5.8	3.5 ± 0 (3-4)	4 ± 0.3 (3-5)	5 ± 1 (4-6)
c	70 ± 6.5 (63-87)	68	27 ± 2 (25-30)	36 ± 2 (33-40)	48 ± 4 (42-53)
c'	1.1 ± 0.1 (0.8-1.2)	1	2.1 ± 0.1 (2-2.3)	1.5 ± 0.1 (1.5-1.9)	1.4 ± 0.1 (1.3-1.5)
V/T%	52 ± 1 (51-54)	24	-	-	-
Odontostyle	93 ± 4.5 (84-100)	98	50 ± 1 (48-52)	60 ± 2 (56-63)	71 ± 3 (66-75)
Odontophore	51 ± 1.5 (49-54)	52	33 ± 2 (27-35)	38 ± 1 (36-41)	46 ± 2 (42-51)
Total stylet	144.7 ± 5.5 (133-153)	150	84 ± 2.7 (75-86)	98.3 ± 2.5 (94-104)	116.3 ± 5.5 (108-125)
Replacement odontostyle	-	-	59 ± 1.5 (56-62)	76 ± 2 (72-81)	92 ± 3 (88-100)
Oral aperture to basal guide ring	79 ± 5 (67-87)	78	-	-	-
Nerve ring to anterior end	167 ± 32 (145-290)	172	-	-	-
Pharynx	298 ± 18 (250-332)	324	210 ± 10 (183- 219)	252 ± 8 (241-263)	270 ± 26 (219-307)
G1%	11 ± 1.5 (8-14)	-	-	-	-
G2%	10 ± 1 (8-14)	-	-	-	-
Pre-rectum	114 ± 31 (73-152)	-	-	-	-
Rectum	21 ± 2 (18-24)	-	-	-	-
Tail	25 ± 1 (23-29)	27	29 ± 1 (28- 32)	29 ± 1.5 (25-32)	29.5 ± 1.5 (27-32)
h (hyaline portion)	7 ± 1.5 (5-9)	-	-	-	-
h%	28 ± 5 (21-38)	-	-	-	-
Body diam. at lip region	10 ± 0.3 (10-11)	11	-	-	-
Body diam. at basal guide ring	26.5 ± 0.5 (25-28)	28	-	-	-
Body diam. at pharynx base	32 ± 1 (31-35)	32	-	-	-
Body diam. at mid-body or vulva	35 ± 2 (32-38)	33	21 ± 1.5 (18-23)	24 ± 2 (19-29)	30 ± 2.5 (27-35)
Body diam. at anus	24 ± 2.5 (21-32)	30	14 ± 1 (12-15)	16.5 ± 1 (15- 20)	21 ± 1 (19-23)
Body diam. at beginning of h	11 ± 2 (9-14)	12	-	-	-

lation from Diourbel (Senegal), except for slight differences dealing with amphidial fovea shape (funnel *vs* stirrup); vulva more posterior (V% = 51-54 *vs* 49-52), and smaller c'-ratio (0.8-1.2 *vs* 1-1.4). These differences should be regarded as intraspecific variations. This is the first description of both male and juvenile stages. The species is recorded for the second time in Senegal.

XIPHINEMA OPISTHOHYSTERUM **Siddiqi, 1961**
(Table IV; Fig. 5)

Female. Body slender, ventrally curved, gradually tapering towards both extremities, but more so anteriorly, maximum diameter at vulval level. Habitus in open C-shape to spiral, gradually more coiled from pharynx base to tail when relaxed by gentle heating. Cuticle

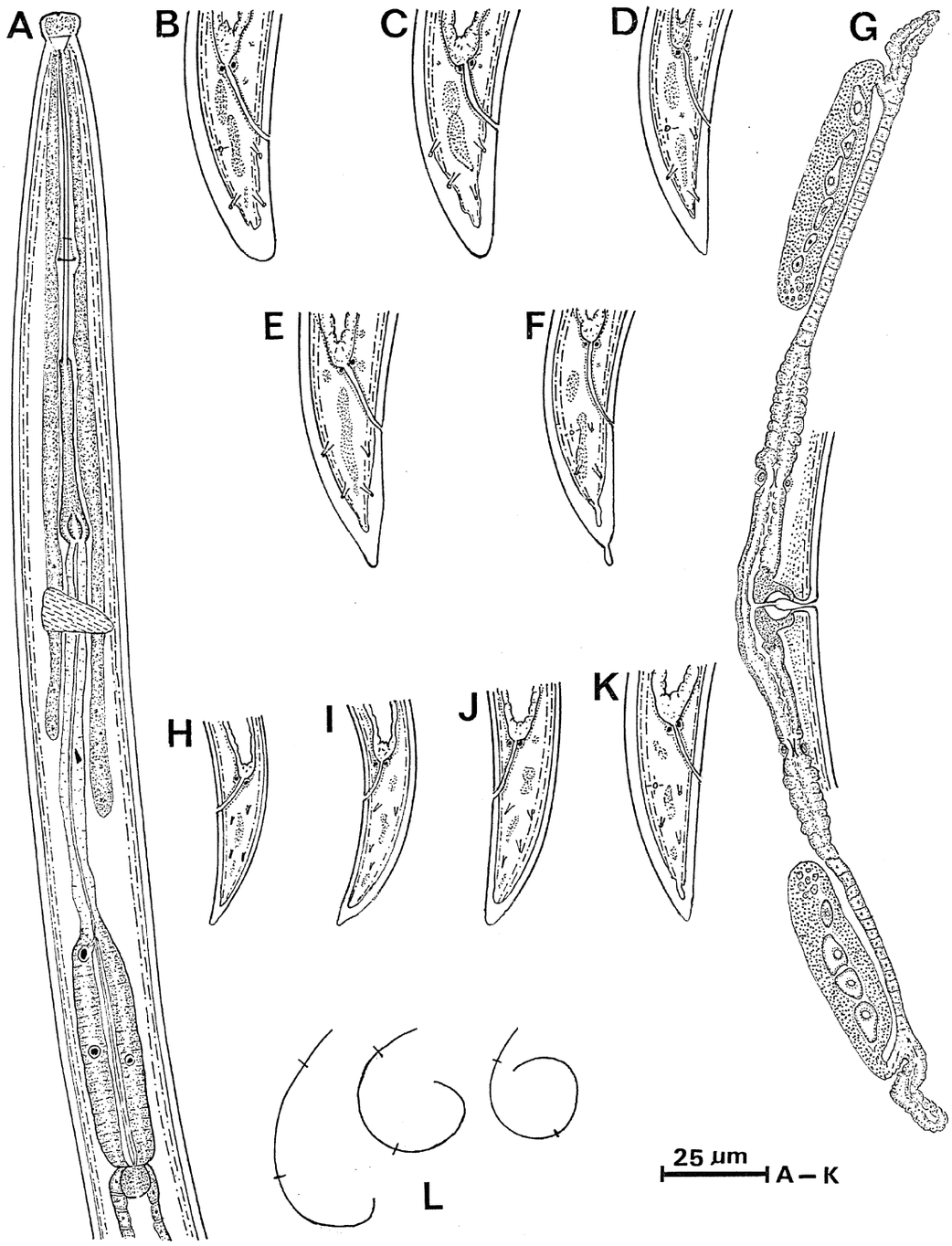

Fig. 5. *Xiphinema opisthohysterum* females (A-G) and juveniles (H-K). A: neck region; B-F: tail shape variability; G: reproductive system. H-K: tails, J1, J2, J3 and J4, respectively. L: habitus.

smooth, 1.5 µm thick at mid-body, thicker (3 µm) at dorsal side of tail. Body pores obscure. Lateral chords 9-12 µm wide at mid-body, *i.e.*, 30-44% of cbd. Lip region knob-like, 3.5 µm high, separated from the rest of the body by a constriction. Amphidial fovea funnel-shaped with slit-like aperture, 56-60% of cbd long. Stylet 41-49% of pharynx length long; odontostyle with forked base, 1.5 µm thick along its length; guiding ap-

Table IV. Morphometrics of *Xiphinema opisthohysterum* Siddiqi, 1961 from Senegal. Measurements in µm (except L in mm) and in the form: mean ± standard deviation (range).

Locality:	Dakar				
Host:	*Abutilon pannosum*, *Boerhaavia diffusa*, *Tridax procumbens*				
n	18 Females	9 J1	7 J2	9 J3	7 J4
L	1.65 ± 0.1 (1.5-1.85)	0.6 ± 0.03 (0.6-0.7)	0.8 ± 0.05 (0.7-0.8)	1.07 ± 0.05 (1.0-1.15)	1.5 ± 0.15 (1.3-1.7)
a	59 ± 3 (55-64)	38 ± 2 (33-41)	40 ± 5 (31-46)	48 ± 2 (44-51)	58 ± 4 (53-65)
b	6.5 ± 0.4 (6-7)	4.5 ± 0.3 (4-5)	5 ± 1 (4-6)	5.5 ± 0.4 (5-6)	7 ± 1 (6-9)
c	59 ± 4 (54-66)	23 ± 2 (21-26)	27 ± 2 (23-31)	37 ± 1 (35-40)	48 ± 9 (36-63)
c‘	1.6 ± 0.1 (1.5-1.8)	2.4 ± 0.1 (2.3-2.6)	2.2 ± 0.1 (2-2.4)	2 ± 0.1 (1.9-2.2)	1.9 ± 0.2 (1.7-2.2)
V%	56 ± 2 (53-63)	-	-	-	-
Odontostyle	70 ± 2 (67-74)	33 ± 1.2 (32-35)	40 ± 1 (38-42)	50 ± 3 (46-53)	61 ± 2 (57-64)
Odontophore	42 ± 1.5 (38-45)	27 ± 2 (22-30)	31 ± 2 (30-35)	34 ± 2 (30-37)	39 ± 1 (37-40)
Total stylet	111.4 ± 2.3 (107-115)	60.7 ± 2.2 (57-64)	71.2 ± 1.1 (69-72)	84.5 ± 3.6 (80-91)	100.7 ± 2.3 (97-102)
Replacement odontostyle	-	40 ± 2 (38-44)	48 ± 0.8 (46-50)	58 ± 1.5 (56-60)	71 ± 1 (70-74)
Oral aperture to basal guide ring	52 ± 2 (49-54)	-	-	-	-
Nerve ring to anterior end	128 ± 5 (120-136)	-	-	-	-
Pharynx	253 ± 13 (219-267)	-	-	-	-
G_1%	9 ± 2 (7-14)	-	-	-	-
G_2%	7 ± 1 (6-12)	-	-	-	-
Pre-rectum	154 ± 16 (121-189)	-	-	-	-
Rectum	17 ± 1.4 (15-19)	-	-	-	-
Tail	27 ± 2 (24-30)	26 ± 1 (25-28)	28 ± 1 (26-30)	29 ± 1 (27-30)	33 ± 2 (30-36)
h (hyaline portion)	8 ± 0 (8)	-	-	-	-
h%	29 ± 3 (26-33)	-	-	-	-
Body diam. at lip region	8 ± 0 (8)	-	-	-	-
Body diam. at guide ring	19 ± 1 (17-21)	-	-	-	-
Body diam. at pharynx base	24 ± 0.4 (24-25)	-	-	-	-
Body diam. at mid-body or vulva	28 ± 1 (25-30)	16 ± 1 (14-18)	20 ± 2.5 (18-25)	22 ± 1 (20-23)	26 ± 2 (24-29)
Body diam. at anus	16 ± 1 (14-18)	11 ± 1 (9-12)	13 ± 1 (12-15)	14 ± 0.2 (13-14)	17 ± 1 (15-18)
Body diam. at beginning of h	8 ± 0.5 (6-9)	-	-	-	-

paratus with double rings 3-7 µm apart when stylet fully retracted; odontophore 5-7 µm thick at flanges. Pharynx dorylaimoid; tubular part flexible, with almost the same width to the obviously wider bulb, vestigium 1.5 µm long, located at 25-80 µm from odontophore base; pharyngeal bulb 48-56 µm long and 11-14 µm wide; dorsal nucleus bigger than ventro-sublateral ones; positions of pharyngeal gland nuclei (as percentages of bulb length) as follows (n = 16): DN = 14.5 ± 4 (11-22); SN = 55 ± 3 (51-61). Cardia varying in shape from spherical to ovoid measuring 5-7 µm. Reproductive system didelphic amphidelphic with two branches equally developed; ovaries with symbionts, oocytes arranged in a median row; each genital branch with long oviduct 84 ± 16 (67-129) µm representing 48-88% of its length; *pars dilatata oviductus* poorly developed; more or less distinct sphincter; short uteri 30 ± 3 (24-34) µm long, *i.e.*, 1 ± 0.1 (0.7-1.2) times cbd long or 17-35% of genital branch length, not demarcated from ovejector. Vagina extending inwards to 45-58% of body width, with narrow *pars distalis vaginae* 5 ± 0.5 (4.5-6) µm long, *i.e.*, 32-43% of vagina length, and wide *pars proximalis vaginae* delimited by sphincter, 8.5 ± 1 (8-12) µm long, *i.e.*, 53-63% of vagina length. Vulva a transverse slit, flush with ventral body surface. Pre-rectum and rectum 9 ± 1 (7-11) and 0.9 ± 0.1 (0.8-1.2) times anal body width long, respectively. Tail conoid, dorsally convex, ventrally flat, with terminus varying in shape from more or less rounded to mucronated; three caudal pores present on both sides.

Male. Not found.

Juveniles (n = 32). Species with four juvenile stages; they resemble females except for mainly smaller morphometrics, presence of replacement odontostyle, undeveloped genital structures, and regularly increasing values of c'ratio from J1 to J4.

Locality. Soil sample collected in September 2002 around the roots of *Abutilon pannosum* (Forst.) Schl., *Boerhaavia diffusa* L., and *Tridax procumbens* L. in the botanical garden of the Faculté des Sciences et Techniques, Université Cheikh Anta Diop, Dakar.

Remarks. In general, these specimens share the same features with the type population from India, except for slightly longer odontophore (38-45 *vs* 34-40 µm), shorter tail (24-30 *vs* 30-36 µm), and a greater number of caudal pores (3 *vs* 2). These differences should be regarded as intraspecific variations. The species is recorded for the first time in Africa and for the second time outside India.

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