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XIPHINEMA HISTRIAE (NEMATODA: DORYLAIMIDA) A NEW SPECIES FROM NORTHERN ITALY

by
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Summary. *Xiphinema histriae* sp.n. is described from specimens collected from the rhizosphere of *Vitis* sp. in the Province of Gorizia in north-east Italy. It is a bisexual species with a body length of 4.3 mm, odontostyle length of ca. 150 µm, slightly setoff lip region, anterior vulva, equally developed female genital branches and rounded pegged tail. *X. histriae* resembles *X. israeliae* Luc, Brown *et* Cohn, 1982, *X. barense* Lamberti, Roca, Agostinelli *et* Bleve-Zacheo, 1986 and *X. aequum* Roca *et* Lamberti, 1988.

During a survey of longidorid nematodes in the vineyards of north-east Italy a population of *Xiphinema*, which in our opinion is an undescribed species, was encountered. The species is described here as *Xiphinema histriae*, sp.n.

Nematodes were extracted from soil by Cobb's wet sieving technique, killed and fixed in 5% hot formalin, processed by the slow method and mounted in dehydrated glycerin. Specimens were measured with the aid of a camera lucida.

XIPHINEMA HISTRIAE sp.n.

(Figs. 1 and 2; Table I)

Holotype female: L = 4.1 mm; a = 70; b = 8.5; c = 102.5; c' = 0.9; V = 45; odontostyle = 147 µm; odontophore = 86 µm; oral aperture to guiding ring = 136 µm; tail = 40 µm; J (hyalin portion of tail) = 13.5 µm; body diameter at lip region = 15 µm; body diameter at guiding ring = 41 µm; body diameter at base of oesophagus = 49 µm; body diameter at vulva = 59 µm; body diameter at anus = 46.5 µm; body diameter at beginning of J = 31 µm.

Description: female *habitus* as an open C. Body cylindrical for almost all its length, tapering abruptly at the extremities. Cuticle very finely transversely striated, 2.9-3.5 µm thick at mid-body. Lip region 7-7.6 µm high, rounded frontally, separated from the rest of the body by a slight depression. Amphids large, stirrup shaped, with wide aperture. Odontostyle 2.3-2.4 µm in diameter at its base; well flanged odontophore; guiding tube with only the basal ring well evident. Oesophagus dorylamoid with a mucro in the anterior tubular portion and with the basal enlarged portion occupying 1/4 to 1/3 its total legth and measuring 110-120 µm long and 22-25 µm wide, containing three nuclei; oesophageal intestinal valve amorphous. Reproductive system amphidelphic with equally developed branches; vulva anterior to mid-body, extending to 1/2 of body diameter; uteri very long, containing rhomboidal crystalline structures and oblong sperms, preceded or followed by a round spermatheca delimited by two strong sphincters, no Z differentiations visible; ovaries reflexed. Prerectum 579 (510-647) µm long; rectum extending more or less the body width at anus. Tail rounded, with a central peg 3-5 µm long, bearing five pores on each side.

Male generally similar to female with posterior part of the body more curved. Testis well developed, full of sperms. Spicules very robust, curved ventrally; guiding pieces 19 (18-20.6) µm long. The adanal pair of supplements is preceded by a row of 5-6 ventromedian supplements. Tail bearing five pores on each side; caudal peg 7 µm long.

Type habitat and locality: rhizosphere of *Vitis* sp. at San Michele del Carso, Savogna d'Isonzo, Gorizia, Italy.

Type material: holotype female, 5 female and 3 male paratypes, in the collection of the Istituto di Nematologia Agraria del Consiglio Nazionale delle Ricerche, Bari, Italy.

Differential diagnosis: *Xiphinema histriae* sp.n. is characterized by body length of 4.3 mm, odontostyle length of ca. 150 µm, slightly setoff lip region, anterior vulva, equally developed female genital branches and rounded, pegged tail. It is similar to *X. israeliae* Luc, Brown *et* Cohn, 1982, *X. barense* Lamberti, Roca, Agostinelli *et* Bleve-Zacheo, 1986 and *X. aequum* Roca *et* Lamberti, 1988.

However, compared to *X. israeliae*, *X. histriae* has longer body (ca. 4 mm in *X. israeliae*), lower a value (over 90 in *X. israeliae*), lower c' value (over 1 in *X. israeliae*),

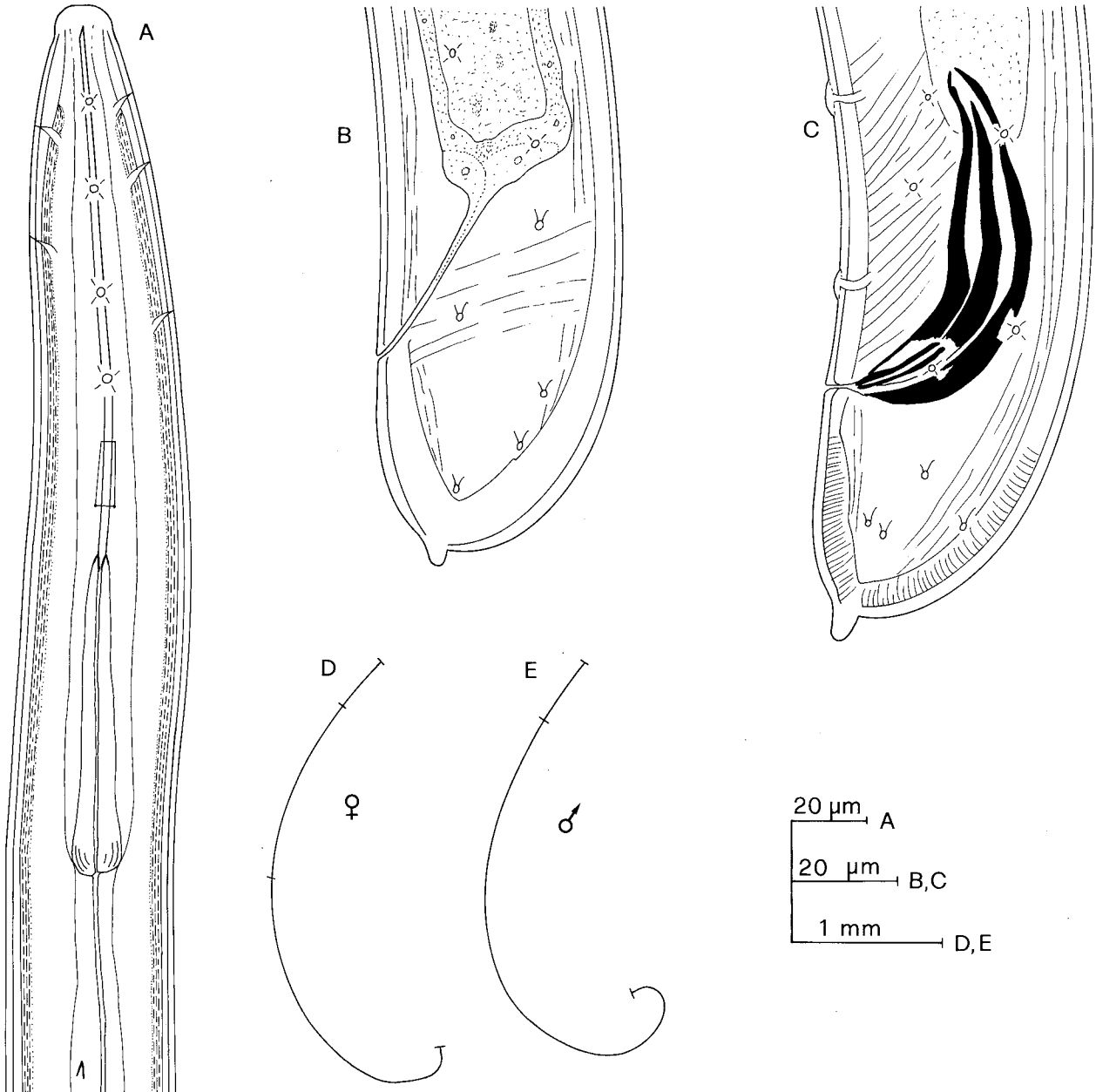

Fig. 1 - *Xiphinema histriae* sp.n.: A, female anterior region; B, female posterior region; C, male posterior region; D and E, *habitus*.

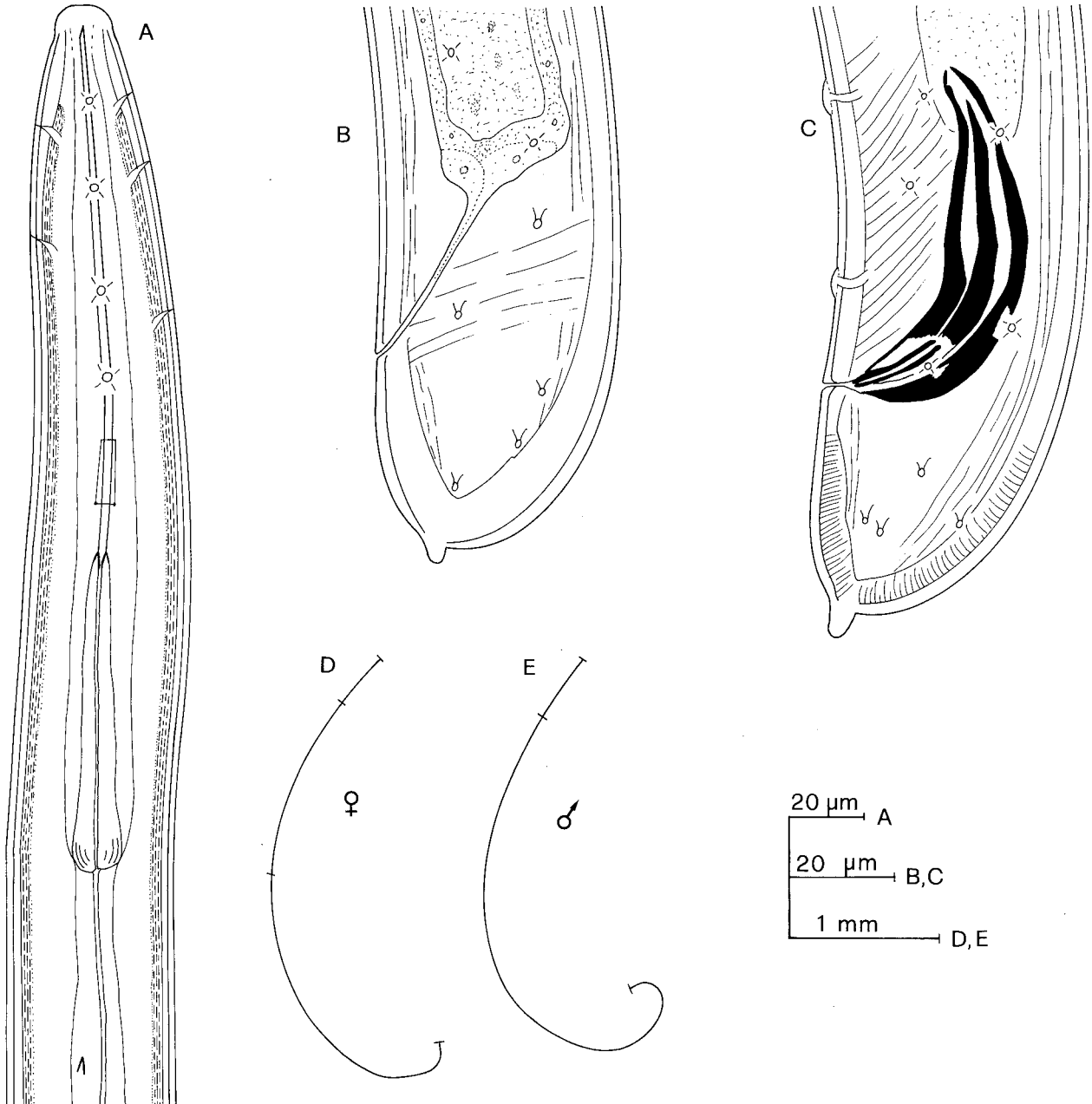

Fig. 1 - *Xiphinema histriae* sp.n.: A, female anterior region; B, female posterior region; C, male posterior region; D and E, *habitus*.

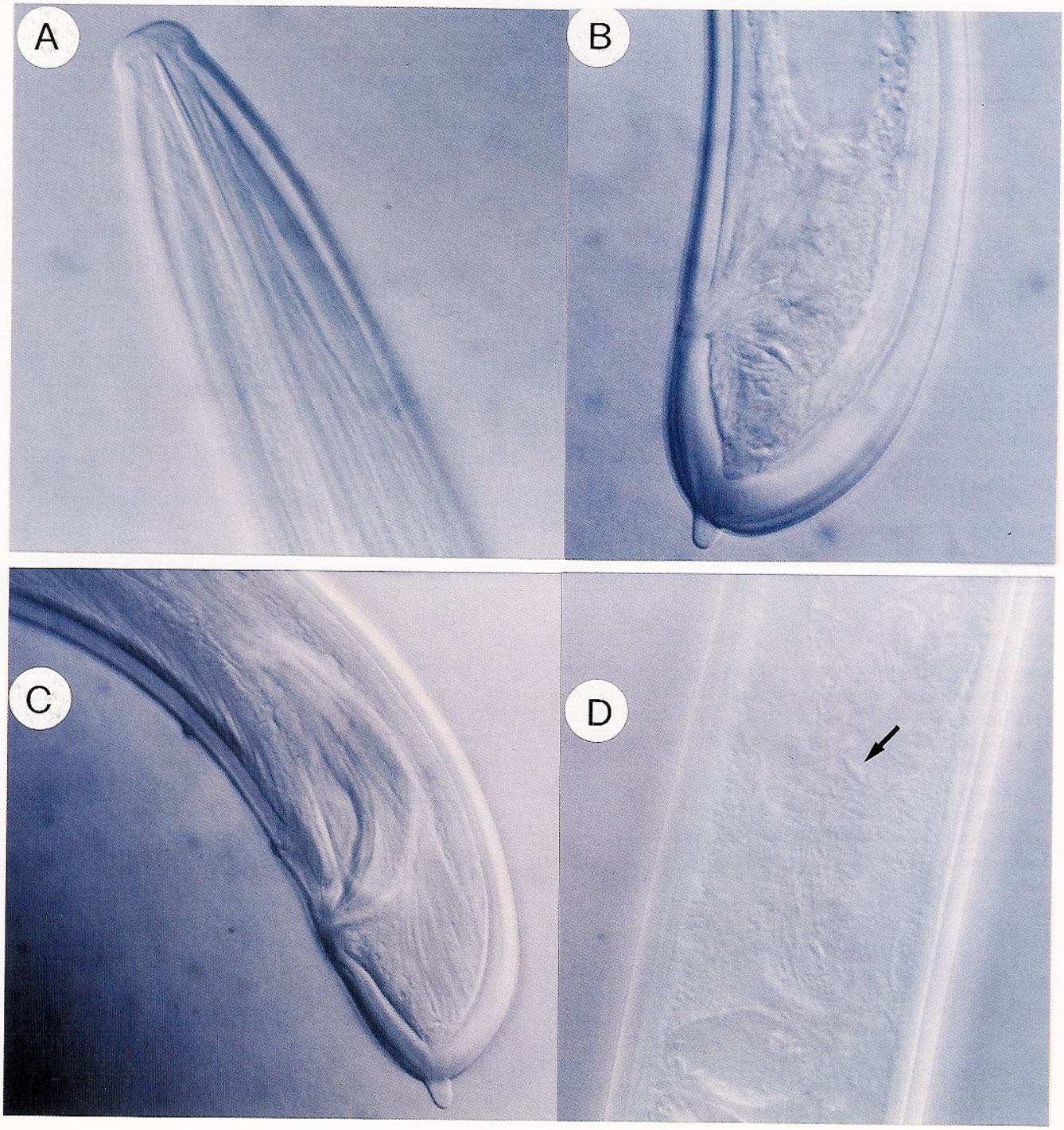

Fig. 2 - Photomicrographs of *X. bistriae* sp.n.: A, female anterior region; B, female posterior region; C, male posterior region; D, crystalline bodies in the uterus (arrowed).

TABLE I - *Morphometrics of paratypes of* Xiphinema histriae *sp.n.*

	Means ± standard deviation (range)	
n.	5 ♀♀	3 ♂♂
L mm	4.3±0.1924 (4.0-4.5)	4.2±0.2121 (4.0-4.3)
a	67.9±2.2165 (64.1-69.4)	65.9±0.7778 (65.4-66.5)
b	8.3±0.5541 (7.7-9.0)	8.0±0.4243 (7.7-8.3)
c	103.7±8.5071 (96.6-117.8)	82.5±4.9497 (79-86)
c'	0.9±0.0447 (0.9-1.0)	1.0±0.707 (1.0-1.1)
V	44.5±0.5477 (44-45)	–
Odontostyle µm	148.5±4.9363 (142.9-156.5)	147.3±1.2021 (146.5-148.2)
Odontophore µm	86.7±2.2616 (83.5-89.4)	89.4±0.00 (89.4±89.4)
Oral aperture to guiding ring µm	136.4±6.0838 (129.4-144.7)	135±7.0711 (130-140)
Tail µm	41.4±2.3011 (38.2-43.5)	50±0.00 (50-50)
J (hyalin portion of tail) µm	13.4±0.7823 (12.9-14.7)	14.4±0.4243 (14.1-14.7)
Body diam at lip region µm	15.0±0.3286 (14.7-15.3)	15±0.00 (15-15)
Body diam at guiding ring µm	42.2±1.318 (40.6-43.5)	43.8±1.2728 (42.9-44.7)
Body diam at base of oesophagus µm	52.8±2.9895 (48.8-55.9)	55.3±2.5456 (53.5-57.1)
Body diam at mid body or vulva µm	63.1±3.8695 (57.6-67.1)	62.9±2.4749 (61.2-64.7)
Body diam at anus µm	45.3±2.1359 (42.3-47.6)	48.5±2.0506 (47.1-50)
Body diam at beginning of J µm	31.0±2.8094 (28.2-34.1)	28.0±1.2021 (27.1-28.8)
Spicules µm	–	84±2.0506 (82.3-85.2)

anterior vulva (V = 49 in *X. israeliae*), longer odontostyle (ca. 125 µm in *X. israeliae*), posterior basal guiding ring (111 µm in *X. israeliae*), more rounded tail (almost conoid in *X. israeliae*) and in the male, longer spicules (ca. 60 µm in *X. israeliae*).

Compared to *X. barense*, *X. histriae* has longer body (3.7 mm in *X. barense*), anterior vulva (V = 49 in *X. barense*), posterior basal guiding ring (ca. 120 µm in *X. barense*) and in the male longer spicules (67 µm in *X. barense*).

Finally, compared to *X. aequum*, *X. histriae* has shorter body (ca. 4.5 mm in *X. aequum*), lower a value (90 in *X. aequum*), lower c' value (1.3 in *X. aequum*) anterior vulva (V = ca. 47 in *X. aequum*), shorter tail (50 µm in *X. aequum*) and more rounded tail (almost conoid in *X. aequum*).

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