

## MORPHOMETRICS OF A POPULATION OF *XIPHINEMA BRASILIENSE* (NEMATODA, DORYLAIMIDA) FROM TACHIRA, VENEZUELA

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**Summary.** The morpho-biometric characters of a population of *Xiphinema brasiliense* found in the rhizosphere of various plants in the State of Táchira in Venezuela are reported and compared with specimens of different geographic origin.

The genus *Xiphinema* includes over 200 species (Lamberti and Carone, 1991), several of them occurring in Venezuela (Renaud, 1996; Crozzoli *et al.*, 1998).

During a nematode survey carried out in Táchira state, *Xiphinema brasiliense* Lordello, 1951 was found in the rhizosphere of various plants. The biometrical characters are reported here and compared with specimens of different geographic origin.

### MATERIAL AND METHODS

Soil and root samples were collected from the rhizosphere of weeds such as *Sorghum bicolor* L., *Andropogum bicornis* L. and *Clidemia hirta* L.D. Don. in the University farm "La Morusca" in La Fría and placed in plastic bags. Nematodes were then extracted in the laboratory by means of Cobb's sieving and sucrose flotation techniques. They were killed and fixed in 3% hot formalin and processed by Seinhorst's method. Measurements were taken with the aid of a camera lucida. Identification was undertaken with the polytomous key proposed by Loof and Luc (1990).

### DESCRIPTION

#### *XIPHINEMA BRASILIENSE* Lordello, 1951 (Table I; Figs 1 and 2)

Female body more or less ventrally arcuate to form a "J", when killed, cylindrical, tapering abruptly towards the anterior extremity. Lip region continuous with the rest of the body or separated by a very shallow constriction (Fig. 2). Reproductive system monodelphic with the anterior branch completely lacking. Vulva anterior; vagina posteriorly obliquely bent; ovary reflexed. Tail broadly conoid ending with a well developed axial peg, bearing on each side four caudal pores. No males were found.

Compared to the type population (Lordello, 1951) the specimens from Táchira are smaller (L = 2.1 mm in

the only specimen on which the description is based) as in other Brazilian populations of *X. brasiliense* (Luc, 1981).

Compared to an Australian (Luc, 1981) and an African (Lamberti *et al.* 1995) population these specimens have a slightly shorter body (L = 1.8 mm in the Australian and African populations) and odontostyle (140-150  $\mu$ m in the Australian and African populations), but anterior vulva compared to the African population (V = 32-35 % in the African populations). Finally, compared to other Venezuelan populations (Crozzoli *et al.* 1998), the Táchira specimens of *X. brasiliense* have a shorter body (L = 2 mm in Crozzoli *et al.* 1998), but almost identical measurements for all the other biometric characters.

**Table I.** Morphometrics of a population of *Xiphinema brasiliense* from Táchira State, Venezuela.

n:	26 ♀♀
L mm	1.6 $\pm$ 0.3 (1.4-1.8)
a	34.3 $\pm$ 4.2 (25.1-46.9)
b	6.3 $\pm$ 0.9 (4.6-8.3)
c	45.0 $\pm$ 4.3 (38.4-57)
c'	1.1 $\pm$ 0.1 (0.7-1.3)
V	29.4 $\pm$ 1.8 (26-33.3)
Odontostyle $\mu$ m	118.5 $\pm$ 5.1 (100-130)
Odontophore $\mu$ m	72 $\pm$ 7.2 (50-97.5)
Oral aperture to basal guide ring $\mu$ m	105.3 $\pm$ 7.6 (82.5-115)
Tail $\mu$ m	36 $\pm$ 3.3 (27.5-40)
J $\mu$ m	15.5 $\pm$ 2.1 (10-20)
Body diam. at lip region $\mu$ m	12.4 $\pm$ 0.8 (10-15)
Body diam. at basal guide ring $\mu$ m	38.8 $\pm$ 2.4 (35-45)
Body diam. at base of oesofagus $\mu$ m	46 $\pm$ 6.2 (37.5-60)
Body diam. at vulva $\mu$ m	47.9 $\pm$ 5.9 (37.5-62.5)
Body diam. at anus $\mu$ m	32.3 $\pm$ 2.1 (30-37.5)
Body diam. at beginning of J $\mu$ m	11.5 $\pm$ 3.6 (7.5-20)
Length of the tail peg $\mu$ m	12.2 $\pm$ 2.0 (7.5-17.5)

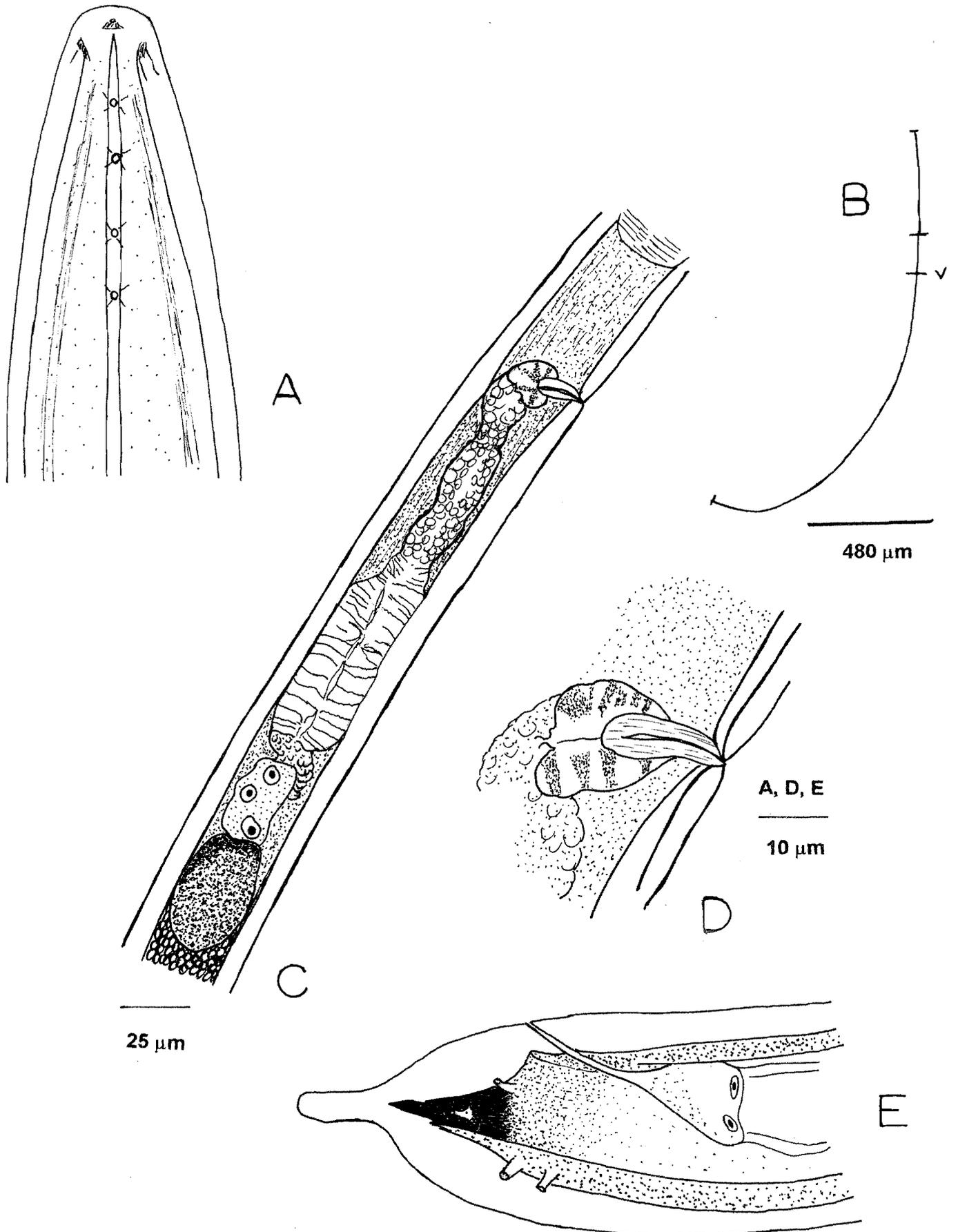


Fig. 1. Female of *Xiphinema brasiliense*: A, anterior region; B, habitus (V = vulva); C, ovary; D, vagina; E, posterior region.

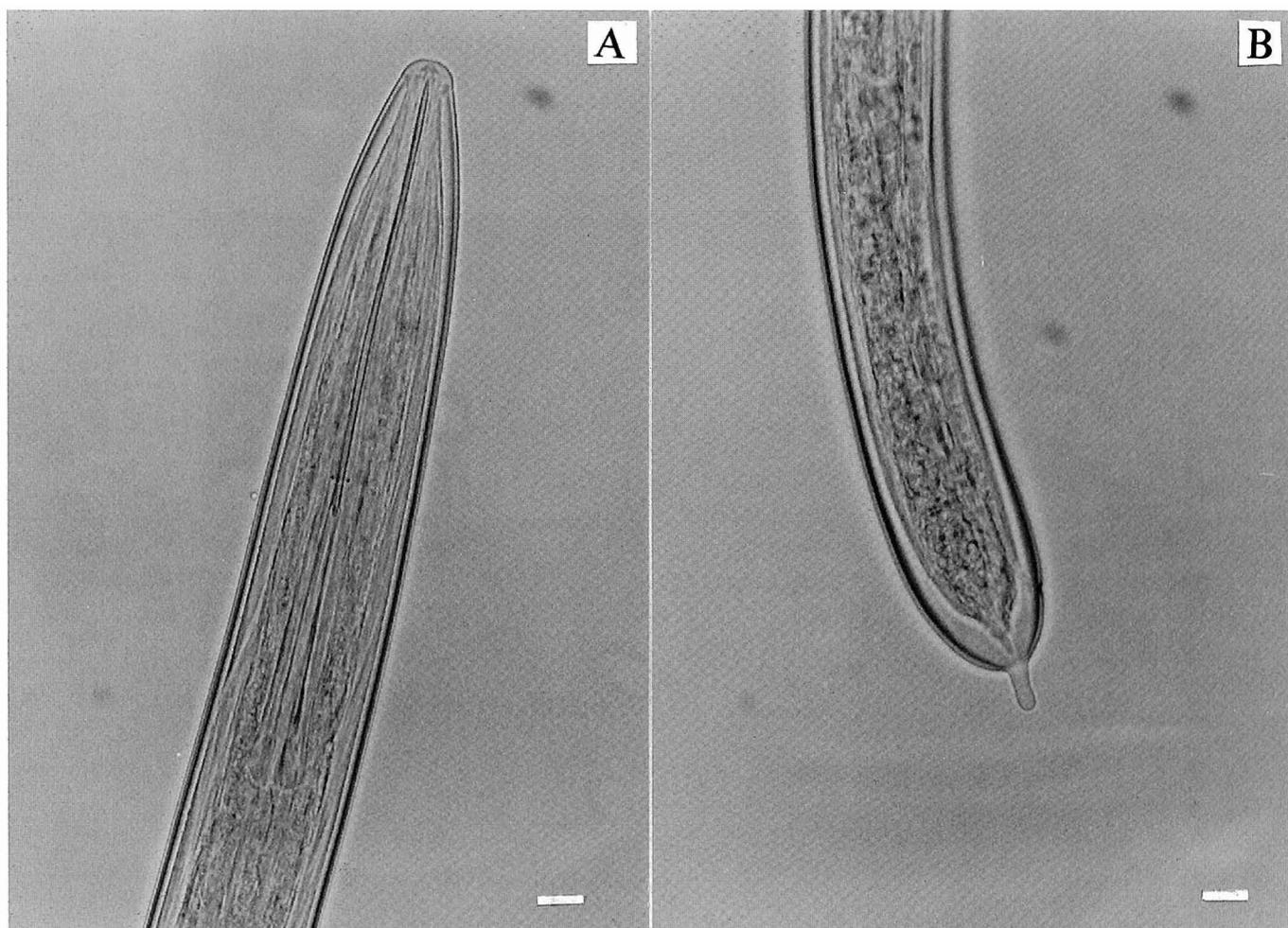


Fig. 2. Photomicrographs of female of *X. brasiliense*: A, anterior region; B, posterior region (Bar: 12.5  $\mu$ m).

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