

NOTE BREVI - SHORT COMMUNICATIONS

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OCCURRENCE OF *XIPHINEMA* SPECIES IN PAKISTAN
(NEMATODA, DORYLAIMIDA)

by
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Very little is known about the occurrence of longidorid nematodes in Pakistan. Maqbool (1986) reported ten species of *Xiphinema* Cobb found in association with various crops. The morphometrics of some of these were studied and are commented on here.

Xiphinema basiri Siddiqi, 1959 was found in two localities at Ahmedpur in the rhizosphere of rice and in the Karachi area in association with banana roots. The morphometrics of the Pakistan female populations do not differ from those reported in the original description (Siddiqi, 1959).

Xiphinema brevicolle Lordello *et* Da Costa, 1961 occurred in the rhizosphere of apple trees at Abbattabad and Haripur and of citrus trees at Nawabshah. Its morphometrics are in the range of populations reported from Europe and South America (Lamberti and Bleve-Zacheo, 1979) and India (Bajaj and Jairajpuri, 1979) with the exception of the odontostyle length which seems to be longer in the Indian population described by Bajaj and Jairajpuri (1979).

A few individuals of *X. index* Thorne *et* Allen, 1950 were found in the rhizosphere of grapevine at Quetta.

Tab. I - *Biometric characters of Xiphinema intermedium from Pakistan compared with the paratype population*

Characters	Pakistan populations		Paratypes (after Lamberti <i>et</i> Bleve- Zacheo, 1979)
	♀ ♀	♂	♀ ♀
n	11	1	15
L mm	1.8 (1.6 - 2)	1.6	1.6 (1.4 - 1.9)
a	45 (38-50)	45	43 (38-51)
b	6.4 (5.9 - 6.9)	6.5	6.0 (5.2-7.2)
c	51 (47 - 59)	48	47 (41 - 59)
c'	1.6 (1.3 - 1.7)	1.4	1.5 (1.3 - 1.7)
V	50 (48 - 53)		52 (50 - 57)
Odontostyle μm	78 (76 - 83)	70	76 (68 - 80)
Odontophore μm	50 (42 - 52)	50	45 (39 - 50)
Oral aperture to guiding ring μm	66 (62 - 71)	64	63 (58 - 67)
Tail μm	35 (32 - 39)	34	33 (31 - 38)
J μm	10 (8 - 14)	8	10 (9 - 12)
Body diam at lip region μm	11 (10 - 11)	11	10.5 (9.5 - 11)
Body diam at guiding ring μm	27 (24 - 31)	25	27 (24 - 29)
Body diam at base of oesophagus μm	34 (30 - 39)	34	34 (32 - 38)
Body diam at vulva or mid body μm	39 (36 - 45)	36	37 (34 - 40)
Body diam at anus μm	22 (21 - 26)	24	22 (20 - 24)
Body diam at beginning of J μm	10 (8 - 14)	9	9 (7 - 11.5)
Spicules μm		40	

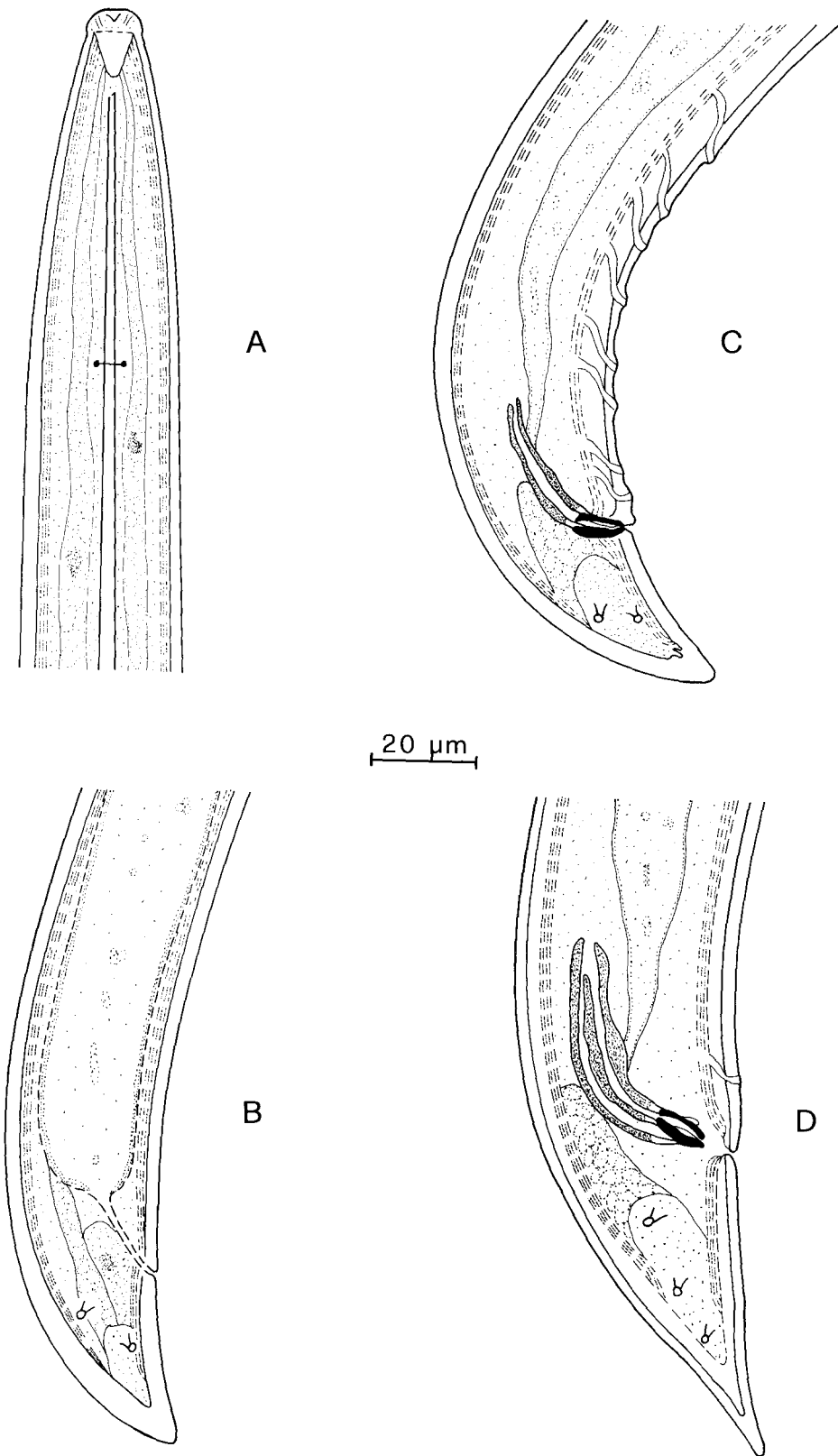


Fig. 1 - *Xiphinema intermedium*, female anterior (A) and posterior region (B); male posterior region (C); *X. insigne*, male posterior region (D).

Populations of *X. insigne* Loos, 1949 occurred at Gujrat and Taxila associated with mango and Bougainvillea plants, respectively. The Pakistan specimens fall, because of their morphometrics, in the «*indicum*» form of *X. insigne* as already pointed out by Luc and Southey (1980). A male (Fig. 1) was found in the population of Gujrat; its morphometrics are the following: L=2.4 mm; a=52; b=6.4; c=43; c'=1.8; odontostyle=95 μ m; odontophore=63 μ m; oral aperture to guiding ring=84 μ m; tail 56 μ m; spicules=40 μ m; supplements, the adanal pair plus 6 single in ventromedian position.

Xiphinema intermedium Lamberti et Bleve-Zacheo, 1979 was found in the rhizosphere of citrus at Sukkur and Sadiqabad, of mango at Peshawar (juveniles only), of wheat at Rahimyar Khan and of sugar cane at Mardan, Kohat, Campbellpur, Peshawar and Charsadda. The Pakistan populations of this species fit the morphometrics of the original description (Lamberti and Bleve-Zacheo, 1979) with the exception of a slightly longer body and posterior vulva (Table I). A single male specimen was found in a sugar cane field at Kohat; males were not known when *X. intermedium* was first described from Fort Pierce, Florida. The male is morphologically similar to females and bears two pairs of caudal papillae on tail and eleven ventromedian supplements preceding the adanal pair (Fig. 1).

In conclusion, five species of *Xiphinema* are reported from Pakistan, in this paper: *Xiphinema basiri*, *X. brevicolle*, *X. index*, *X. insigne* and *X. intermedium*. *X. intermedium* seems to be the most common species and its male is described for the first time.

LITERATURE CITED

- BAJAJ H.K. and JAIRAJPURI M.S., 1979 - A review of the genus *Xiphinema* Cobb, 1913 with descriptions of species from India. *Rec. Zool. Surv. India*, 75: 255-325.
- LAMBERTI F. and BLEVE-ZACHEO T., 1979 - Studies on *Xiphinema americanum sensu lato* with descriptions of fifteen new species (Nematoda, Longidoridae). *Nematol. medit.*, 7: 51-106.
- LUC M. and SOUTHEY J.F., 1980 - Study of biometrical variability in *Xiphinema insigne* Loos, 1949, and *X. elongatum* Schuurmans Stekhoven & Teunissen, 1938; description of *X. savanicola* and comments on thelytokous species. *Revue Nématol.*, 3: 243-269.
- MAQBOOL M.A., 1986 - Classification and distribution of plant parasitic nematodes in Pakistan. National Nematological Research Centre, Univ. of Karachi, Pakistan, 58 pp.
- SIDDIQI M.R., 1959 - Studies on *Xiphinema* spp. (Nematoda: Dorylaimoidea) from Aligarh (North India), with comments on the genus *Longidorus* Micoletzky, 1922. *Proc. helminth. Soc. Wash.*, 26: 151-163.

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