

MONODELPHIC FEMALE OF *AQUATIDES THORNEI* SCHNEIDLER, 1937 (NEMATODA: DORYLAIMIDA) WITH TWO SPEARS

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ABNORMALITIES which are known to occur in the female reproductive system of nematodes, e.g., intersexuality, double vulva, double set of reproductive system have recently been reviewed by Jairajpuri *et al.*¹ Bajaj and Jairajpuri² have also reported an abnormality brought about by the change in the position of one sexual branch (from amphidelphic to didelphic—opisthodelphic) in *Xiphinema basini* Siddiqi, 1959.

During the survey of phytoparasitic nematodes we came across with a population of *Aquatides thornei* Schneider, 1937 collected from around the roots of sugarcane from Karnal District. Upon examination one female from among the many was found to have only one sexual branch as compared to two which is the normal case (Fig. 1). Such an abnormality is otherwise unknown to occur in nematodes. Bajaj and Jairajpuri¹ who studied in detail, the relative development of sexual branches in *X. insigne* Loos, 1949 also did not observe such a condition. The dimensions of normal females and abnormal female are given below:

Normal females (8): L = 1.37–1.91 mm; a = 31–36; b = 4.0–4.7; c = 43–66; V = 50–56; spear = 13–15 μ m.

Abnormal female: L = 1.85 mm; a = 34; b = 4.4; c = 47; V = 55; functional spear = 13 μ m; replacement spear = 15 μ m.

In the abnormal female only the anterior sexual branch is present and seems to be capable of egg production whereas the posterior one is reduced to a short undifferentiated uterine sac. In the aberrant female, a well developed replacement spear (known to occur only in juveniles) is also present. In other respects it is similar to the other members of the population.

The nature of genital tract is of prime importance in the taxonomy of nematodes. Had a population of such abnormal, monodelphic forms been collected in isolation, they might have been assigned to a different species if not to a genus. The presence of two spears in adult females of *X. americanum* group has been reported by Dalmaso³. According to Coomans and De Conick⁴ who studied the development of spear in *Xiphinema* and other dorylaims the replacement spear is not fully formed in adults as a result

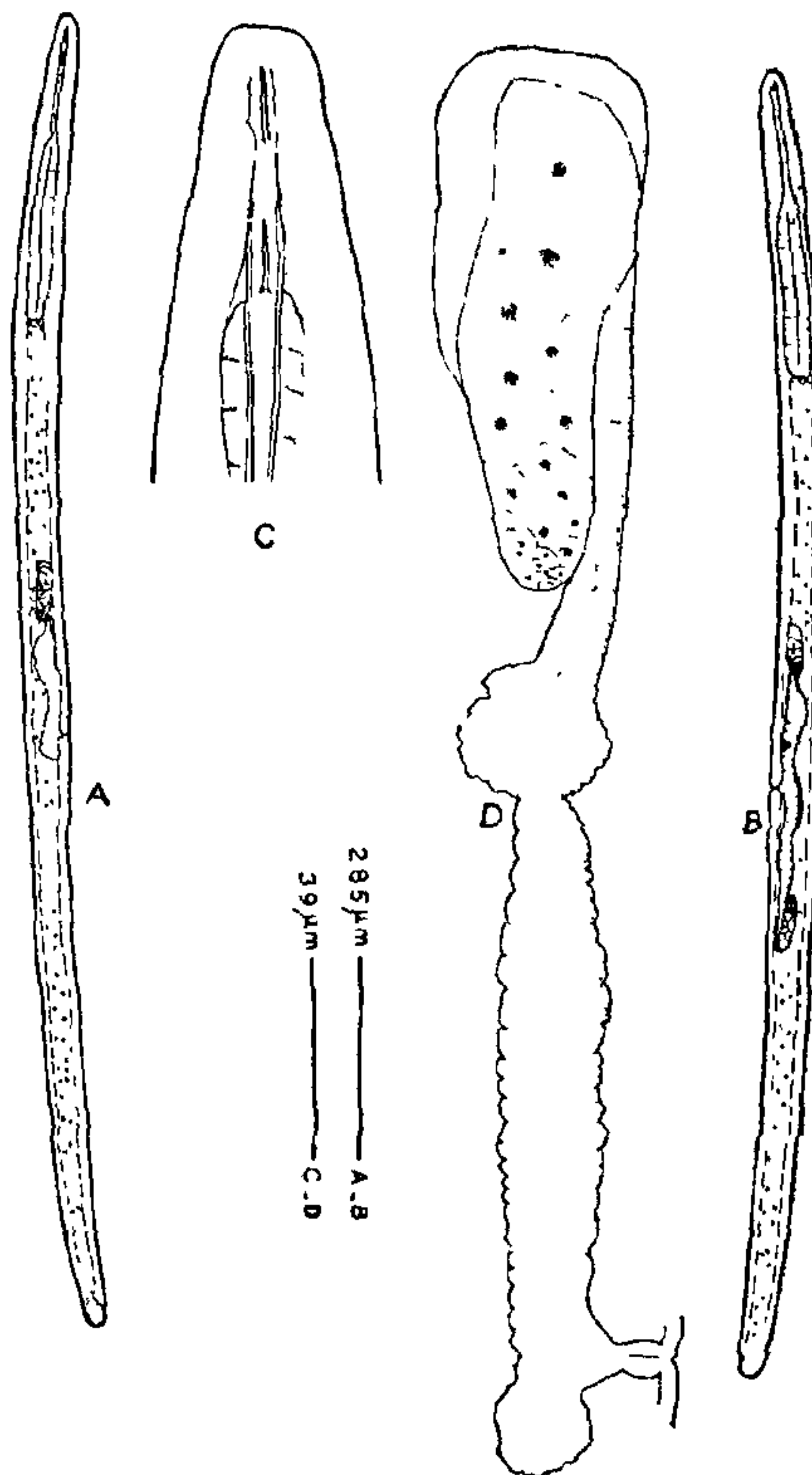


FIG. 1. *Aquatides thornei* Schneider, 1937: A—Abnormal female; B—Normal female; C—Lip region of abnormal female; D—Genital tract of abnormal female.

of secretions of genital hormones. However, in the present case, it appears that the non-development of posterior sexual branch has resulted in the development of replacement spear.

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1. Bajaj, H. K. and Jairajpuri, M. S., *Nematologica*, 1977, 23, 33.
2. — and —, *Nematol. Medit.*, 1977, 5, 269.
3. Coomans, A. and De Conick, L., *Nematologica*, 1963, 9, 85.
4. Dalmaso, A., *Ibid.*, 1967, 13, 472.
5. Jairajpuri, M. S., Ahmad, W. and Dhanachand, Ch., *Indian J. Nematol.*, 1980, 10, 83.