

Short Communication :

Indian J. Anim. Hlth. (1993) 32 : 1, 67-68

SCANNING ELECTRON MICROSCOPY OF *GLOBOCEPHALUS CONNORFILLII* (NEMATODA, ANCYLOSTOMATIDAE)

ARUN K. YADAV AND VEENA TANDON

Department of Zoology,
North-Eastern Hill University,
Shillong-793 014, India

Globocephalus connorfilii Lane, 1922 is an intestinal parasite of domestic pigs in Meghalaya, India. This paper describes, for the first time, the surface fine topography of this species with the aid of scanning electron microscopy.

Adult *G. connorfilii* were recovered from pigs necropsied at Shillong and were fixed in 5% buffered formalin. The specimens were processed as previously described (Tandon & Yadav, 1991) before examination under a scanning electron microscope Jeol-JSM 35 CF.

The funnel-shaped anterior extremity is bent dorsally with a cuticular rim at its periphery (Fig. 1). A pair of posteriorly bent cervical papillae (Figs. 2, 3) are present at some distance from anterior end. The body cuticle has fine transverse striations (Fig. 3). The bursa has a very small dorsal lobe (Fig. 4, black arrow), and two large lateral lobes (Fig. 4, white arrow); a pair of elliptical prebursal papillae are also present (Fig. 4, asterisk; Fig. 6). The female tail is short and tapers to a blunt end (Fig. 7). The vulva lies in the posterior half of the body and its opening is guarded by a small everted flap (Fig. 8).

A typical dorsal curvature of the anterior end, as observed in *G. connorfilii*, has been elucidated for other hook-worms, namely, *Bunostomum phlebotomum*, *Ancylostoma duodenale* and *Necator americanus* (Ishii, 1971a, b; Malan *et al.*, 1986). The oral opening with a cuticular rim, devoid of any teeth, lancets and/or cutting plates, as in *G. connorfilii*, forms an essential feature of many hookworm species (Ishii, 1971a; Malan *et al.*, 1986). The anterior extremity of *G. connorfilii* is funnel shaped, while in *Globocephalus urosubulatus* it is reported to be subglobular (Gibbons, 1986). The cervical papillae are also of common occurrence among hookworm species; unlike *G. connorfilii*, these are straight conical structures in *A. duodenale* and *B. phlebotomum* (Ishii, 1971a. Malan *et al.*, 1986). The flap on the vulvar opening in female *G. connorfilii* seems to be a feature unique to the genus *Globocephalus*, as other members of the family Ancylostomatidae such as *N. americanus* and *Gaigeria pachyscelis* lack it (Gibbons, 1986).

ACKNOWLEDGEMENTS

Supported by a research grant to VT (Himalayan Eco-development Programme of DoEn, Govt. of India, in NEHU) and a Senior Research Fellowship (CSIR, New Delhi) to AKY.

REFERENCES

- Gibbons, L. M. (1986) SEM Guide to the Morphology of Nematode Parasites of Vertebrates. C.A.B. International, Slough, U. K. ; 199 pp.
- Ishii, Y. (1971a) *Igak. Ayum.* 79 : 219-220.
- Ishii, Y. (1971b) *Igak. Ayum.* 79 : 221-222.
- Malan, F. S. ; De Kock ; M. And Els, H. J. (1986) *J. S. Afr. Vet. Assoc.* 57 : 227-230.
- Tandon, V. Yadav ; A. K. (1991) *Indian J. Anim. Hlth.* 30 : 105-107.