Onderstepoort Journal of Veterinary Research
Volume 29, *Number* 2, *December*, 1962
The Government Printer, Pretoria

TRICHONEMA (CYLICODONTOPHORUS) SCHÜRMANNI SP. NOV. FROM A ZEBRA (*EQUUS BURCHELLI* GRAY, 1924)

R. J. ORTLEPP, Veterinary Research Institute, Onderstepoort

Among some specimens of *Cylindopharynx brevicauda* and *C. longicauda* collected from a Burchell's zebra from the Eastern Transvaal, there were present one male and two females of a *Trichonema* species which, after examination, appeared to be an unknown species. As these specimens were not heat-killed they unfortunately were much shrunken. Because of their similar dark brown colour, robustness, and cephalic morphology and simultaneous occurrence in one animal, it is felt that the assumption that the two sexes belong to the same species is warranted.

The male is about 6 mm long, excluding the dorsal bursal lobe, which protrudes somewhat at right angles from the body axis, with a maximum thickness of 0·44 mm in the middle of the body; posteriorly the body becomes thinner and has a thickness of 0·24 mm just anterior to the bursa. The females are about 9 mm long, and 0·7 and 0·76 mm thick in the middle; the body becomes thinner towards the posterior end which terminates in a straight, pointed tail.

In the male the maximum diameter of the head is 0·19 mm and in the females 0·24 and 0·25 mm; there is no distinct neck. The mouth collar is low and flat and not separated from the rest of the head by a distinct groove; the lateral papillae are very short and hardly protrude above the mouth collar; the four sub-median papillae are somewhat S-shaped in lateral view and thin and the portions extending beyond the mouth collar are constricted in the middle. The circular mouth capsule is about twice as broad as deep and in optical section its wall has somewhat parallel sides quickly tapering to a point at its two extremities; it is slightly narrower at its anterior than at its posterior end (Fig. 1). A striking feature is the relatively large, triangular shape of the elements of the internal leaf crown which consist of about 25 elements; they originate from near the anterior margin of the mouth capsule and extend forwards to the mouth opening. The elements of the external leaf crown are thin and number about 50. The dorsal gutter is represented by a slight protuberance into the mouth cavity.

The oesophagus is relatively short, measuring 0·47 mm in the male and 0·6 and 0·63 mm in the females; in both sexes its anterior end is thickened measuring 0·16 mm and 0·19 to 0·2 mm across in the two sexes respectively. A narrower portion follows which is 0·12 mm thick in the males, and 0·18 and 0·16 mm thick in the females; the rest of the oesophagus posteriorly is club-shaped 0·15 mm across at its thickest in the male and 0·22 mm in the females. The nerve ring encircles it at its narrowest portion, about 0·27 mm from the anterior end. The excretory pore and cervical papillae are situated respectively about 0·03 and 0·06 mm behind the level of the nerve ring.

Received for publication on 29 January, 1962—Editor

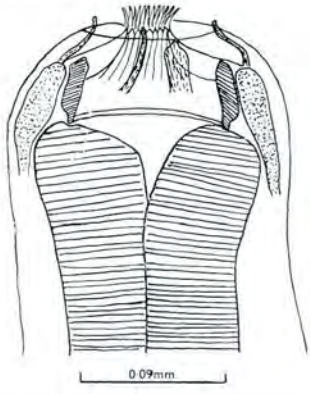

FIG. 1.—Cephalic extremity.

A very striking feature of the male bursa is the relatively long dorsal lobe, measuring 1·2 mm from the origin of the lateral rays to its tip (Fig. 2). In the specimen examined it is flexed dorsally almost at right angles to the axis of the body; this disposition of the ray possibly may be due to killing and fixing while in copula. The main trunk of the dorsal ray is split almost from its origin and its two branches run parallel to each other, but diverge in the posterior quarter; each branch gives origin to the externo-dorsal ray and two lateral branches; all three of these branches arise fairly close together. In the lateral groups of rays, the postero-lateral is widely separated from the other two, which run parallel to each other, diverging slightly, however, towards their tips. The ventral rays are very well developed, are closely opposed to each other and extend to the edge of the bursa; they are 0·42 mm long and considerably longer than the lateral rays; a slender prebursal ray is present. The genital cone is relatively large, being 0·45 mm long thus protruding beyond the margin of the bursa; its thickness is about 0·15 mm; it is terminated by two dome-like structures, behind each of which there is a slender flexible and flagella-like appendage 0·07 mm long. As it was not possible to roll the male without damage, the details of the genital cone could not be studied. The spicules are slender, 1·8 mm long and their tips are fused together; just anterior to their termination there are two small recurved barbs (Fig. 2B).

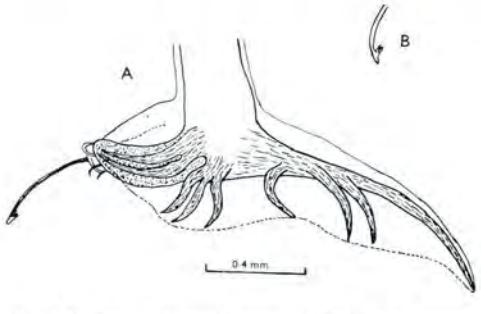

FIG. 2.—(A) Bursa, lateral view. (B) Tip of spicules.

FIG. 3.—Female, tail.

In the two females the tail is straight, 0·24 and 0·33 mm long (Fig. 3); the vulva is situated 0·15 mm and 0·18 mm anteriorly to the anal opening. The vagina is relatively short reaching a length of 0·3 mm. The oval eggs, *in utero*, are about 0·102 mm long and 0·05 mm broad.

DISCUSSION

The nature of the buccal features and the straight tail places this species in the subgenus *Cylicodontophorus*. None of the four species which have been assigned to this subgenus have a dorsal ray as well developed as in this species. Its well developed genital cone also differentiates it from these species, with the exception of the species *T.* (*C.*) *euproctus* Boul. 1917. A further differentiating feature is the well developed ventral rays.

SPECIFIC DIAGNOSIS

Trichoneminae. Somewhat robust worms 9 mm long or longer. Mouth capsule cylindrical and broad. External leaf crown of about 50 slender elements; internal leaf crown of about 25 large and conspicuous elements originating towards the anterior end of the mouth capsule. Dorsal lobe of bursa and its supporting ray very large and up to 1·2 mm long. Ventral rays well developed. Genital cone large and protruding beyond the edge of the bursa. Female tail straight and pointed. Vulva up to 0·18 mm anterior to the anus.

Type host: Burchell's zebra (*Equus burchelli* Gray, 1824).

Location: Caecum.

Locality: Eastern Transvaal.

Types to be deposited in the Onderstepoort helminthological collection.

The above species is named in honour of Mr. J. Schürmann, veterinary student at Onderstepoort, who collected material from this host from this area.

SUMMARY

A new species of *Trichonema* [*T.* (*Cylicodontophorus*) *schürmanni*] is described from a Burchell's zebra from the eastern Transvaal. This species is characterised by its 25 large internal leaf elements in its mouth, by its very well developed dorsal bursal lobe and by its prominent genital cone.

REFERENCES

IHLE, J. E. W. (1922). The adult Strongylids (Selerostomes) inhabiting the large intestine of the Horse. *Rpt. Comm. on Selerostomiasis in Holland.* I. Zool. Part I, 1–118.

THEILER, G. (1923). The strongylids and other nematodes parasitic in the intestinal tract of South African equines. *9th and 10th Rept. Dir. Vet. Ed. and Res.*, pp. 601–773.