

TRICHOSTRONGYLUS AURICULATUS N. SP. (NEMATODA: TRICHOSTRONGYLIDAE) FROM THE STEENBOK, RAPHICERUS CAMPESTRIS (THUNBERG, 1811)

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ABSTRACT

BOOMKER, J., 1986. *Trichostrongylus auriculatus* n. sp. (Nematoda: Trichostrongylidae) from the steenbok *Raphicerus campestris* (Thunberg, 1811). *Onderstepoort Journal of Veterinary Research*, 53, 213-215 (1986).

During a pilot survey of the parasites of some artiodactylids in the Kalahari Gemsbok National Park a new species of *Trichostrongylus* Looss, 1905 was recovered from the small intestine of a steenbok, *Raphicerus campestris* (Thunberg, 1811), a gemsbok, *Oryx gazella* (Linnaeus, 1758), and a red hartebeest, *Alcelaphus buselaphus* (Pallas, 1766). The male spicules were 0,120-0,148 mm long and an ear-shaped protuberance was present on the shaft of the left spicule. The presence of only a single protuberance is characteristic of the species.

INTRODUCTION

During a pilot survey of the parasites of some of the artiodactylids in the Kalahari Gemsbok National Park (KGNP), Cape Province, a new species of *Trichostrongylus* Looss, 1905 was recovered from the small intestine of a steenbok, *Raphicerus campestris* (Thunberg, 1811), a gemsbok, *Oryx gazella* (Linnaeus, 1758) and a red hartebeest, *Alcelaphus buselaphus* (Pallas, 1766). These worms were referred to as a *Trichostrongylus* species by Boomker, Horak & De Vos (1986) and are described here as *Trichostrongylus auriculatus* n. sp.

DIAGNOSIS OF THE GENUS

Trichostrongylidae: Trichostrongylinae: Small, slender worms with a small head and without a buccal capsule or cervical papillae; the excretory pore opens in a ventral notch slightly behind the nerve ring. The male bursa has large lateral lobes and a more or less distinct, symmetrical dorsal lobe; an accessory bursal membrane is absent and small prebursal papillae are present; the spicules are short and stout, ridged and variably sclerotized. A gubernaculum is present. Females are slightly larger than the males; the uteri are amphidelphic and the ovijector is situated in the posterior 1/3rd to 1/5th of the body; eggs are segmented when laid.

Description of *Trichostrongylus auriculatus* n. sp.

Type host

Raphicerus campestris (Thunberg, 1811) from the Kalahari Gemsbok National Park, Cape Province, Republic of South Africa.

Material examined

R. campestris from the type locality, syntype specimens (Onderstepoort Helminthological Collection, No. T2173), 5 male and 8 female worms.

O. gazella from the type locality, 5 males and 5 females.

A. buselaphus from the type locality, 2 male worms.

Paratype specimens were not selected because of the poor state of preservation of the worms from the gemsbok and the red hartebeest.

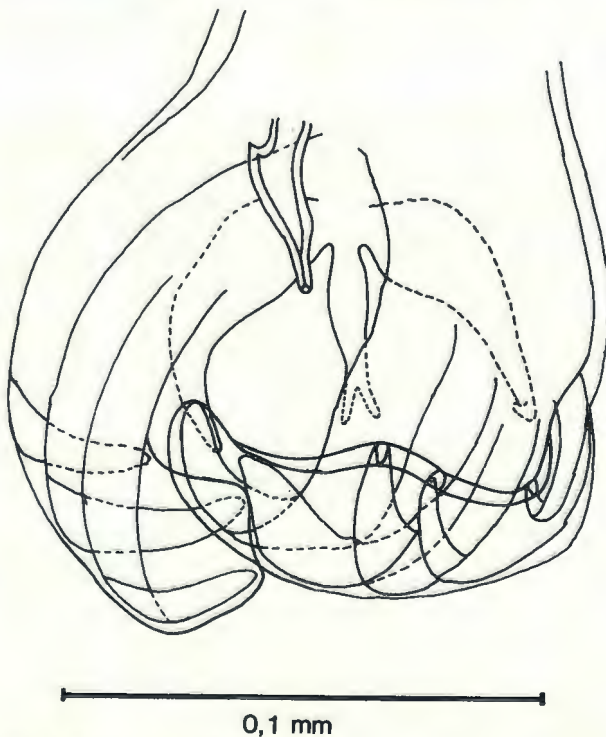


FIG. 1 Ventral view of the bursa of *Trichostrongylus auriculatus*

Only a few worms were recovered from each of the animals, the steenbok harbouring 60, the gemsbok 356 and the red hartebeest 50 male and female worms (Boomker *et al.*, 1986). The syntype specimens were selected from the steenbok, but paratypes were not selected because the worms from the other antelope were poorly preserved.

TABLE 1 The principal measurements (mm) of *Trichostrongylus auriculatus*

	Males	Females
Length	4,01-4,99	4,20-6,07
Width	0,084-0,104	0,084-0,100
Length of oesophagus	0,742-0,912	0,560-0,840
Distance of excretory pore from anterior end	0,140-0,156	0,140-0,156
Distance of prebursal papillae from posterior end	0,038-0,052	—
Length of left spicule	0,136-0,148	—
Length of right spicule	0,120-0,134	—
Length of gubernaculum	0,062-0,076	—
Combined length of ovijectors and sphincters	—	0,400-0,468
Distance of vulva from anus	—	0,844-1,208
Distance of anus from tip of tail	—	0,056-0,080
Distance of vulva from tip of tail	—	0,900-1,272
Eggs (<i>in utero</i>), length	—	0,072-0,076
width	—	0,038-0,048

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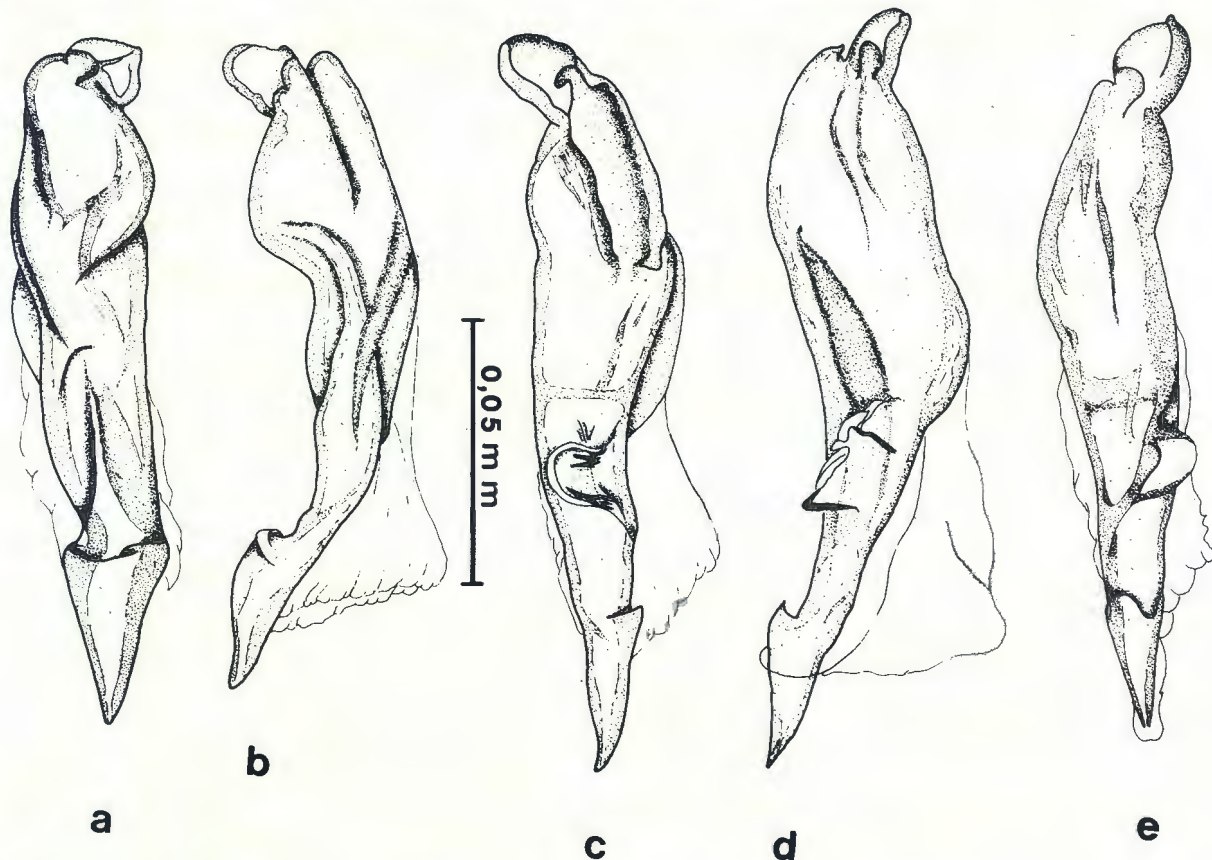


FIG. 2 Ventral (a) and lateral (b) views of the left spicule and dorsolateral (c), lateral (d) and ventrolateral (e) views of the right spicule of *Trichostrongylus auriculatus*

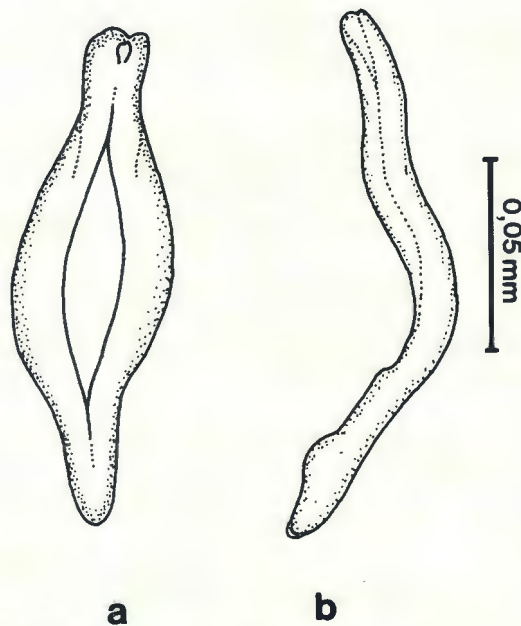


FIG. 3 The gubernaculum of *Trichostrongylus auriculatus* in (a) dorsal view and (b) ventral view

Description

The principal measurements are listed in Table 1.

Small worms that are often coiled; buccal capsule and cervical papillae absent; excretory pore opens in a ventrally situated notch slightly distal to the nerve ring; oesophagus cylindrical and only slightly distended distally.

The male bursa has the typical shape of those of other members of the genus (Fig. 1). There are 2 large lateral

lobes and a more or less distinct dorsal lobe. The anteroventral rays are slender and curve anteriorly. The posteroventral rays are considerably thicker and curve laterally or only slightly anteriorly. The lateral rays diminish in size; the anterolateral curves anteriorly, the mediolateral curves laterally or slightly posteriorly and the posterolateral curves posteriorly. The externodorsal rays arise from the base of the dorsal ray and do not reach the bursal margin. The dorsal ray is short and slender and bifurcates at its distal end, each branch dividing in turn to form small digitate branches. Small prebursal papillae are present.

The spicules are subequal and complex; they appear to be longitudinally twisted and bear prominent ridges. The right spicule resembles that of *Trichostrongylus colubri-formis* (Giles, 1892) Ransom, 1911 and has a fairly large body, a thinner shaft and a well-developed convex shoe (Fig. 2 a, b). The left spicule is longer and has a protuberance on the shaft which appears ear-shaped in dorsolateral or ventrolateral views, but angular in lateral view (Fig. 2 c-e). The protuberance consists of a sclerotized rim with 2 or 3 well-sclerotized rods that support the weakly sclerotized body. The shoe of this spicule is straight or only slightly concave. Well-developed membranous alae enclose the distal half of each spicule (Fig. 2). A weakly sclerotized, asymmetrically boat-shaped gubernaculum is present (Fig. 3 a). In lateral view, the gubernaculum is irregularly crescent-shaped and is slightly thickened distally (Fig. 3 b).

The females are slightly larger than the males and have the typical appearance of the genus. The vulva is situated approximately at the division of the anterior 2/3rds and the posterior 1/3rd of the body and vulvar lips are inconspicuous. The uteri are amphidelphic, and eggs are segmented when laid.

DISCUSSION

Although the spicules of *T. auriculatus* somewhat resemble those of *T. colubriformis*, the former nematodes are unique in that there is a protuberance on only 1 of the spicules. Another species that has prominent protuberances on the shafts of the spicules is *Trichostrongylus pietersi* Le Roux, 1932, where the protuberances have a different shape and occur on both spicules.

T. auriculatus seems to be limited to the arid areas of the country and has not been recovered from steenbok from the summer rainfall area (Boomker *et al.*, 1986).

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