SCANNING ELECTRON MICROSCOPY OF *HAEMONCHUS SIMILIS* (NEMATODA :TRICHOSTRONGYLIDAE) PARASITE OF CATTLE.

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SUMÁRIO: *Haemonchus similis*, a nematode parasite of the abomasum of cattle was studied using the scanning electron microscope (SEM). The mouth of the worm is hexagonal with 6 rudimentary semicircular lips, lateral amphids, and papillae of the external circle; there is a dorsal buccal lancet with oval orifice or duct of dorsal esophageal gland on its ventral surface. The top of the anterior end has no synlophe. The bursa has an asymmetric dorsal ray and a dorsal lobe characteristic of the species. The posterior end of the female has a pointed tail and a semilunar anus.

KEY WORDS: *Haemonchus similis*, nematode,morphology,scanning electron microscopy.

INTRODUCTION

Haemonchus similis , a parasite of the small intestine of cattle, is considered by GIBBONS (1979) one of the 9 species valid in this genus; it is often found in beef cattle in the State of Minas Gerais, Brazil (GUIMARAES et al.,1983). The morphology of the vulvar configuration of the females was studied by GRISI(1972) and GHAFOOR(1968) using light microscopy, but a study using the scanning electron microscope (SEM) has not been done yet.

MATERIALS AND METHODS

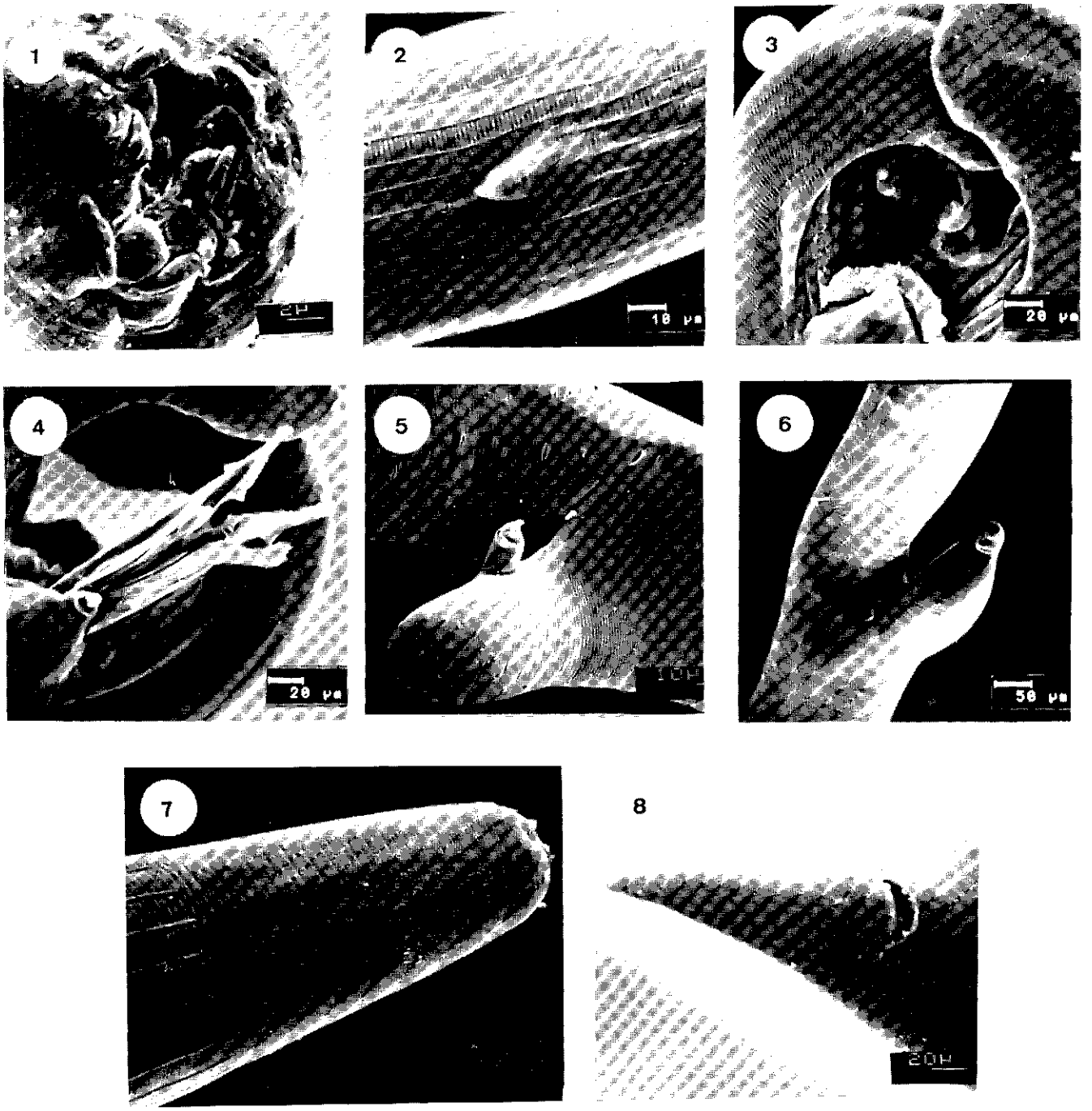
The 580 specimens (352 females and 228 males) of *H. similis* were obtained from necropsies of 2 beef calves (*Bos indicus*) from the Northeastern region of the State of Minas Gerais. The calves were found to be infected with *H. similis* only, as all males belonged to this species. A sample of 15 females and 15 males was randomly collected, fixed with 10% buffered (pH 7.0) hot formalin, and dehydratated through a series of ethanol and dried in a critical point drying apparatus, using liquid carbon dioxide. Dried specimens were mounted on metal stubs, sputter-coated with gold and then viewed and photographed under the SEM. (Administered by CEMEL-Centre of Electron Microscopy ICB UFMG).

RESULTS

The mouth of the worm is hexagonal (Fig.1) with 6 semicircular rudimentary lips, lateral amphids, and papillae of the external circle. There is a dorsal buccal lancet with oval orifice of duct of dorsal esophageal gland on its ventral surface. The cervical papillae (Fig.2) are prominent and spine-like. The bursa (Fig.3) has characteristic reduced asymmetric dorsal ray and 2 large lateral lobes. The spicules (Fig.4) are provided with a small barb near the extremity. The vulva of the female is situated on the large and very prominent flap (Figs. 5 and 6).All the 15 females examined under the SEM belonged to Group 1, based on RAO & GHAFOOR (1968) in relation to its linguiform vulvar process . The top of the anterior end has no synlophe (Fig.7) that begins in a same line. Posterior to the cephalic region is a region of distinct transverse striations. The posterior end of the female (Fig.8) has a pointed tail and a semilunar anus.

DISCUSSION

All the 15 females studied presented a linguiform vulvar process being classified in Group 1 based on DAS & WHITLOCK(1960) who classifiecated specimens of *Haemonchus contortus*. This same classification was used by



FIGS 1 - 8. Fig 1 Mouth of *H.similis* with the rudimentary lips (a) and the lancet (B). Fig 2. The prominent cervical papillae. Fig.3 Bursa and the characteristic dorsal assimetric dorsal ray (C). Fig 4 . The spicules provided with a small barb. Figs 5 and 6 . The flap and the vulva. Fig 7. The anterior portion without synloph and Fig.8 The tail of the female, with the semilunar anus

RAO & GHAFOOR (1968) and GRISI (1972) for *H.similis* : Group 1 - with linguiform appendage, Group 2 - with knobbed appendage and Group 3 - without appendage, They classified the females in 3 groups based on the vulvar process, but added some more types. The 352 females recovered at necropsy of the 2 calves belonged to Group 1. Among the 15 specimens examined, eight (53.33%) have been included in the type A and seven (46.67%) in the type E (Figs. 5 and 6). These proportions are quite different from those found by the above mentioned authors, perhaps due to the number of worms examined.

The male bursa has a characteristic reduced asymmetric dorsal ray and 2 large lateral lobes.

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