

REPORT ON THE OCCURRENCE OF *Haplometroides buccicola* (TREMATODA, DIGENEA, PLAGIORCHIIDAE) INFECTING *Phalotris lativittatus* (SERPENTES, COLUBRIDAE) IN BRAZIL

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ABSTRACT: *Haplometroides buccicola* (Trematoda, Digenea, Plagiorchiidae) was reported in the mouth and oesophagus of *Phalotris lativittatus* (Serpentes, Colubridae) from Botucatu, São Paulo State, Brazil. This is the first report on the occurrence of *H. buccicola* parasitizing *P. lativittatus*. The *Haplometroides* genus was also discussed and the most important morphological characters for the identification of the species *H. buccicola* and *H. odhneri* are presented.

KEY WORDS: *Haplometroides buccicola*, Trematoda, Plagiorchiidae, *Phalotris lativittatus*, Serpentes, Colubridae.

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INTRODUCTION

The parasitology of Brazilian snakes has been under study for an extensive period of time. Travassos *et al.* (12) wrote an important revision on Brazilian trematodes. Since then, few studies on trematodes of Brazilian snakes have been published (1, 2, 3, 4, 9, 10, 11).

There are no reports on the occurrence of trematodes parasitizing snakes of the *Phalotris* genus, and few hosts for species of *Haplometroides* are known. Thus, the aim of this study was to report the occurrence of *Haplometroides buccicola* (Trematoda, Digenea, Plagiorchiidae) in a specimen of *Phalotris lativittatus* (Serpentes, Colubridae).

The voucher host snake was from the city of Botucatu, São Paulo State, Brazil. This animal was properly preserved and deposited in the Herpetological Collection of the Center for the Study of Venom and Venomous Animals of the São Paulo State University. This snake was necropsied and eight trematodes were collected from the mouth and oesophagus. These trematodes were transferred to AFA solution without compression. Three of them were stained with carmine, clarified with creosote, and mounted in Permount resin. Morphometric analysis was performed, using the Leica Qwin Lite 2.5 computerized system. All measurements are reported as the mean and range (minimum-maximum) for the three specimens.

The characteristics of the trematodes (Figure 1) were: A spiny elongated body, 2734 (2022-3681) μm long and 731 (557-912) μm wide. A subterminal oral sucker, 320 (273-401) μm long and 310 (273-346) μm wide. A pre-equatorial acetabulum, 249 (178-310) μm long and 231 (162-357) μm wide. A genital pore in the acetabular zone, postbifurcal, submedian, opening up on or near the right cecal branch. The distance from the oral sucker to the acetabulum was 560 (486-606) μm . A short prepharynx, 26 (20-36) μm long. A muscular pharynx, 137 (120-168) μm long and 95 (71-127) μm wide. The oesophagus was 217 (134-263) μm long and 63 (43-83) μm wide. The intestinal caeca were not very sinuous, slightly unequal, with smooth walls, and were distributed until after the testicular region. The distance from the end of the caeca to the end of the body was 764 (425-1295) μm . A relatively small cirrus pouch, with an elongated cirrus, located below the acetabulum, with an opposed curvature

beside the ovary. Ovoid testes, with irregular contours, in a diagonal position, postacetabular, intercecal. The anterior testis was 140 (118-162) μm long and 218 (187-278) μm wide, and the posterior testis 148 (127-184) μm long and 230 (198-280) μm wide. An ovary behind or beside the acetabulum, ovoid, with irregular contours, pre-testicular, intercecal, measuring 124 (86-178) μm long and 161 (134-206) μm wide. A Mehlis' gland located below and to the right of the ovary. A seminal receptacle placed below Mehlis' gland. Vitellaria consisting of developed, not very numerous follicles in a bunch shape, in a lateral position, extracecal, distributed from the zone slightly anterior to the genital pore to the testicular zone. A well-developed uterus, occupying most of the post-testicular region and presenting branches that reached the medium zone. A long narrow vagina. Eggs 39 (23-47) μm long and 22 (15-29) μm wide. An excretory pore terminal.

Phalotris lativittatus was described by Ferrarezzi (5). There are no reports on the occurrence of helminthes in this snake species, so the present study is the first note on this subject. Further, this is the first report on the occurrence of a trematode of the genus *Haplometroides* in a snake from the family Colubridae. Previous studies showed its presence only in snakes of the families Elapidae, Boidae, and Leptotyphlopidae (6, 7, 8, 9, 11).

The *Haplometroides* genus belongs to the family Plagiorchiidae, subfamily Styphlodorinae (12, 13). This genus only includes the species *H. buccicola* and *H. odhneri*, parasites of the mouth and oesophagus of snakes and lizards from South America, mainly Brazil. *Haplometroides buccicola* was found in *Micrurus* sp. (6), *Micrurus frontalis* (7), and *Epicrates cenchria crassus* (8), while *H. odhneri* was reported in *Micrurus lemniscatus* (8), *M. frontalis* (9), and *Leptotyphlops koppesi* (11). Additionally, *H. buccicola* was also found in *Amphisbaena alba* (8).

According to Ruiz and Perez (8), the species *H. odhneri* is slightly different from *H. buccicola*. The former presents: 1) smaller dimensions, 2) a shorter oesophagus, 3) a tegument presenting less spines, 4) more compact vitellines, which are distributed from the oesophagus region to the ovarian region, 5) broader eggs, 6) a more lateral genital pore, and 7) a less developed acetabulum, where the relation between it and the oral sucker is smaller in the case of *H. odhneri* than in the case of *H. buccicola*.

Comparing the data of Ruiz and Perez (8) with that of the specimens described by Silva and Barrella (9), Silva *et al.* (11), and the trematodes of the present paper, it was our conclusion that among the characteristics cited, the position of the vitelline follicles is the only useful characteristic that helps differentiate the two species of the genus *Haplometroides*. Another, not cited by Ruiz and Perez (8), is the length of the intestinal caecum.

Therefore, we conclude that for the species identification of the *Haplometroides* genus, the following should be considered: *H. buccicola* presents vitellines, which are distributed from the zone of caecum bifurcation to the zone of the posterior testis, and the intestinal caecum extends up to or beyond the zone of the posterior testis. In contrast, *H. odhneri* presents vitelline follicles, which are distributed from the oesophagus region to the ovarian region, never reaching the testicular zone, and the intestinal caecum extends up to the zone of the anterior testis, never reaching the posterior one.

According to these criteria, we reviewed the *H. odhneri* reported by Silva and Barrella (9) and Silva *et al.* (11), and concluded that the species reported by these authors was *H. buccicola*.



Figure 1. *Haplometroides buccicola* (Trematoda, Digenea, Plagiorchiidae) from the mouth and oesophagus of *Phalotris lativittatus* (Serpentes, Colubridae).

(Bar scale=500 μ m).

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