

Synhimantus (Synhimantus) magnipapillatus n. sp.
(Nematoda, Acuarioidea) from the Yellow-crowned Night-
heron, *Nyctanassa violacea cayennensis*
(Gmelin) (Aves, Ardeidae)

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Synhimantus (Synhimantus) magnipapillatus n. sp., mainly considering the outstanding size of the cervical papillae and the delicate structure of the cephalic cordons, is not related to any other species of the genus, except for *S. (S.) laticeps*, concerning the similarities regarding the spicules, that justify their comparison.

Key words: nematodes - *Synhimantus (Synhimantus) magnipapillatus n. sp.* - Ciconiiformes - birds - Brazil

The report of the new species proposed herein, is part of an investigation of avian nematodes that has been undertaken (Pinto et al. 1993, 1994, Vicente et al. 1993, 1995) aiming the obtainment of new data on the helminth parasites of Brazilian birds.

MATERIALS AND METHODS

Twenty-eight samples of nematodes recovered from *Nyctanassa violacea cayennensis* (Gmelin), between 1918 and 1949 in the State of Rio de Janeiro, Brazil, were studied.

The samples were deposited in the Helminthological Collection of the Oswaldo Cruz Institute (CHIOC), preserved in vials with Railliet & Henry's solution (0.85% NaCl solution: 93 ml; formaldehyde: 5 ml; glacial acetic acid: 2 ml) and were processed for study as described elsewhere (Vicente et al. 1993).

Preparation of "en face" mounts was in accordance to the method of Anderson (1958). Illustrations were performed with a drawing tube connected to an Olympus light microscope. Measurements are in micrometers, unless otherwise indicated.

Classification of the nematodes regarding generic and subgeneric diagnoses follow Chabaud (1975) and confirmation of the taxonomic status of the host was based on Sick (1984).

DESCRIPTION

Synhimantus (Synhimantus)
magnipapillatus n. sp.
 (Figs 1a, c, e, 2a, b)

Morphometrics: based on six specimens, three males and three females; Acuarioidea, Acuariidae, Acuariinae.

Males (Figs 1c, e, 2a, b): body 6.02-6.32 mm long, 130-150 wide. Mouth with two lips, with four papillae each, three small in the inner circle and one large in the outer. Oral aperture oval-elongate, near of which derives two pairs of cephalic cordons (Fig. 2a). Buccal capsule 190-230 long. Cephalic cordons delicate, inconspicuous, 310-360 long, anastomosing. Muscular and glandular esophagus 360-410 and 1.94-1.99 mm long, respectively. Nerve ring 230-280 from anterior extremity. Excretory pore not observed. Cervical papillae very outstanding, trifurcate, 60-70 long, 450-520 from anterior end. Left spicule 430-550 long, its distal end clearly bilobed. Right spicule stouter, 140-160 long. Gubernaculum absent. Nine pairs of caudal papillae, of which four are pre- and five post-cloacal. A narrow caudal alae is present. Cloacal aperture 160-180 from posterior extremity.

Females (Fig. 1a): body 6.80-7.77 mm long, 170-210 wide. Mouth and oral aperture as referred for the males. Buccal capsule 250-300 long. Cephalic cordons as referred for the males, 370-460 long. Muscular and glandular esophagus 320-420 and 2.05-2.44 mm long, respectively. Nerve ring 300 from anterior extremity. Excretory pore not observed. Cervical papillae as referred for the males, 70-80 long. Vulva 4.20-4.76 mm from anterior extremity. Ovijector 190-230 long. Eggs 10-18 long, 25-36 wide. Anus 170 from posterior extremity.

Taxonomic summary

Type host: *Nyctanassa violacea cayennensis* (Gmelin); common name: yellow-crowned night-heron ("sabacu, tamatião, matirão")

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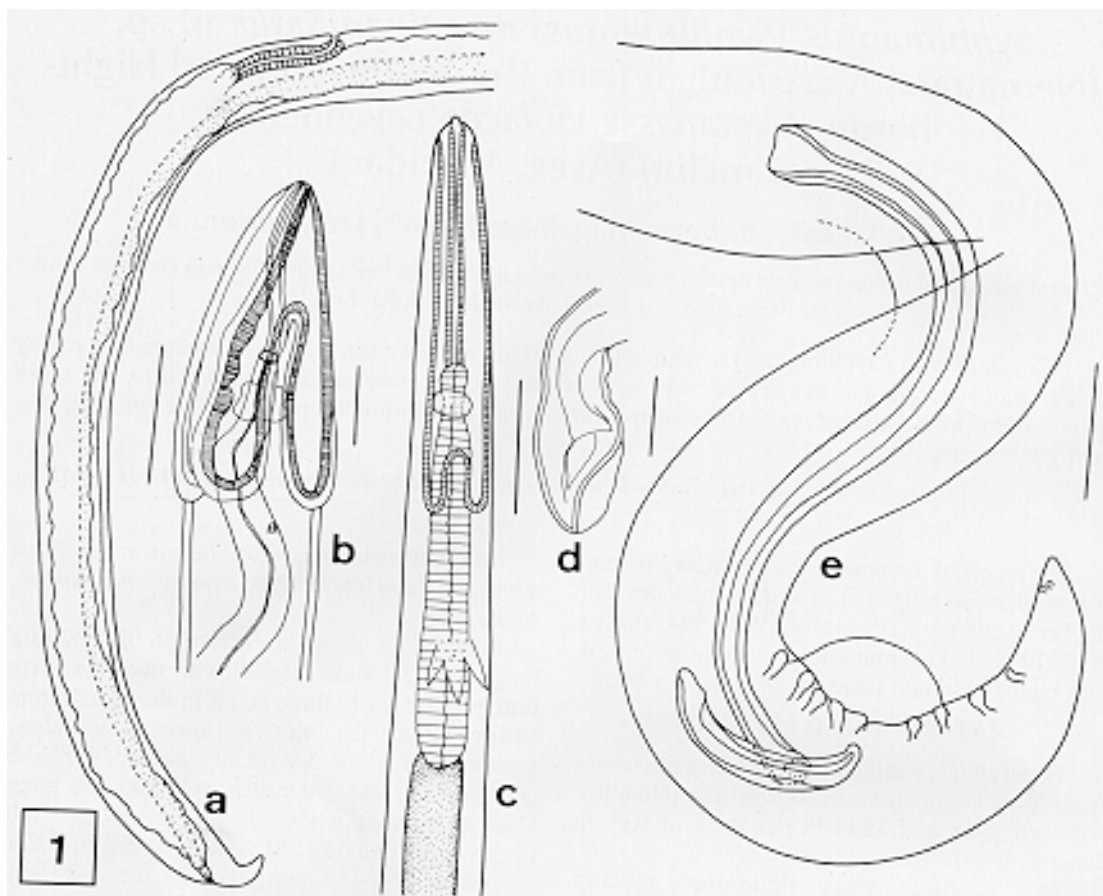


Fig. 1 – a: *Synhimantus (Synhimantus) magnipapillatus* n. sp.: posterior half of female, lateral view. b: *S. (Synhimantus) laticeps*: anterior extremity of male, lateral view (after Smogorzhevskaya, 1990). c: *S. (S.) magnipapillatus* n. sp.: anterior portion of male, lateral view (after Smogorzhevskaya, 1990). d: *S. (S.) laticeps*: distal end of the left spicule, lateral view (after Smogorzhevskaya, 1990). e: *S. (S.) magnipapillatus* n. sp.: posterior extremity of male, lateral view. Bars: 0.02 mm in fig. d, 0.1 mm in figs b, e, 0.2 mm in fig. c, 0.5 mm in fig. a.

Site of infection: gizzard

Type locality: State of Rio de Janeiro, Brazil

Etymology: the specific name refers to the cervical papillae and derives from the Latin *magnus* + *papillae*, meaning “which possesses papillae of great size”.

Specimens studied: CHIOC no. 33,182 (type), 33,182 b-h (paratypes), 33,183 a-c, 33,184 a-c (whole mounts), 2,633, 2,824, 3,164, 3,189, 3,216, 3,331, 4,209, 4,228, 4,532, 4,617, 5,899, 6,661, 6,687, 6,688, 9,860, 13,658, 13,662, 13,667, 13,668, 13,685, 13,686, 18,013-18,016 (wet material) (vouchers).

REMARKS

Synhimantus (Synhimantus) magnipapillatus n. sp. is, undoubtedly, a very remarkable species in the genus and only can be compared to *Synhimantus (Synhimantus) laticeps* (Rudolphi,

1819) Stiles & Hassal, 1920, which is the type of the genus and was redescribed by Cram (1927) and Smogorzhevskaya (1990), considering the peculiar structure of the left spicule, with alate free portion and tip slightly dilated and divided in two lateral lobes (Figs 1d, e, 2b).

It is worthwhile to emphasize the great dimensions of the cervical papillae, commonly observed in species of the genus *Desportesius* Chabaud & Campana, 1949, that is distinguished from *Synhimantus* Railliet, Henry & Sisoff, 1912, mainly by the localization of the vulvar aperture, which lies very near the anus in females of the former genus, while is approximately median located in those of the latter.

Synhimantus (S.) magnipapillatus n. sp. differs from *S. (S.) laticeps* by (a) bigger size of the trifurcate cervical papillae (60-70 long in the new species, compared to 34 in *S. (S.) laticeps*); (b)

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REFERENCES

Anderson RC 1958. Méthode pour l'examen des nématodes en vue apicale. *Ann Par hum comp* 33: 171-172.

Chabaud AG 1975. Keys to the genera of the order Spirurida. Spiruroidea, Habronematoidea and Acuarioidea. p. 29-58. In RC Anderson, AG Chabaud, S Willmott (eds). *CHI Keys to the nematode parasites of vertebrates*. 3. Part 2. Commonwealth Agricultural Bureaux, England.

Cram EB 1927. Bird parasites of the suborders Strongylata, Ascaridata and Spirurata. *US Nat Mus Bull* 140: 1-465.

Pinto RM, Vicente JJ, Noronha D 1993. Nematode parasites of Brazilian psittacid birds, with emphasis on the genus *Pelecitus* Railliet & Henry, 1910. *Mem Inst Oswaldo Cruz* 88: 279-284.

Pinto RM, Vicente JJ, Noronha D 1994. Nematode parasites of Brazilian accipitrid and falconid birds (Falconiformes). *Mem Inst Oswaldo Cruz* 89: 359-362.

Sick H 1984. *Ornitologia brasileira, uma introdução*. 1. Universidade de Brasília, 474 pp.

Smogorzhevskaya LA 1990. Nematodes. Part 3. Acuarioidea. *Fauna Ukrainy* 32: 1-188 (in Russian).

Vicente JJ, Pinto RM, Noronha D 1993. Remarks on six species of heterakid nematodes parasites of Brazilian tinamid birds with a description of a new species. *Mem Inst Oswaldo Cruz* 88: 271-278.

Vicente JJ, Pinto RM, Noronha D, Gonçalves L 1995. Nematode parasites of Brazilian Ciconiiformes birds: a general survey with new records for the species. *Mem Inst Oswaldo Cruz* 90: 389-393.

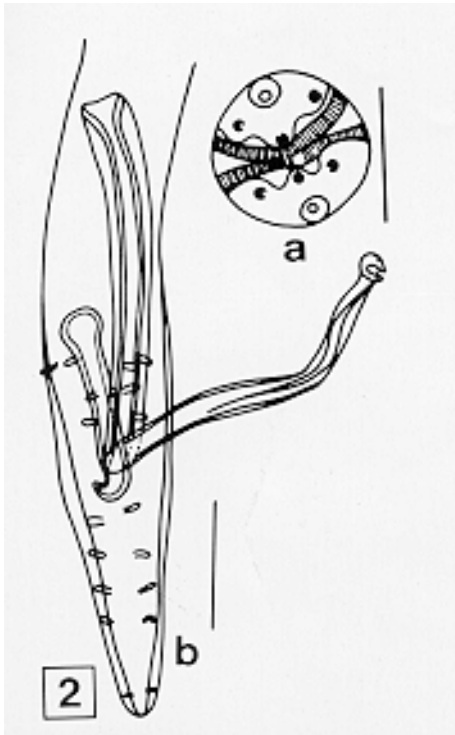


Fig. 2: *Synhimantus (Synhimantus) magnipapillatus* n. sp. – a: oral aperture of male, “en face” view. b: posterior extremity of male, ventral view. Bars: 0.02 and 0.1 mm, respectively.

very delicate and thin cephalic cordons of slight recurrence, reaching, at the most, the nerve ring level in the new species; (c) smaller length of the eggs (10-18, compared to 38-42); (d) absence of papillae in the tail of the females (Fig. 1a-c).

