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FIRST REPORT OF *ASCAROPHIS* VAN BENEDEN, 1871: *A. BRASILIENSIS* N.SP. (NEMATODA, ASCAROPHIDINAE) AND *PROCAMALLANUS (SPIROCAMALLANUS) PEREIRAI* ANNEREAUX, 1946 (NEMATODA, PROCAMALLANINAE) IN SOUTH AMERICA

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Ascarophis brasiliensis *recovered from the stomach of* Trachinotus carolinus *(L. 1766), is proposed as a new species and* Procamallanus (Spirocamallanus) pereirai *Annereaux, 1946 is redescribed from a new host:* Paralonchurus brasiliensis *(Steind., 1875).* A. brasiliensis *is more closely related to* A. crassicolis *Dollfus & Campana-Rouget, 1956, from which it differs mainly by the absence of cervical cuticular expansion and size of the eggs. The new species is also compared to* A. cooperi *Johnston & Mawson, 1945 and* A. girellae *(Yamaguti, 1935) Campana-Rouget, 1955. The validity of the proposed species is discussed.*

From January, 1980 to December, 1982, forty-five marine fish species of commercial importance were captured off the Coast of Rio de Janeiro State, Brazil, in order to have their helminthic fauna evaluated.

MATERIAL AND METHODS

Nematodes were collected in saline (0.85% NaCl), fixed in hot 10% formaldehyde solution and dehydrated. Parasites for whole mounts, were cleared in beechwood creosote or phenol solution and some were stained with Mayer's HCl carmine.

RESULTS

Ascarophis brasiliensis n.sp.
(Figs. 1-7)

Host: *Trachinotus carolinus* (L., 1766), Carangidae, "pampo".

Site of infection: stomach.

Locality: Araruama (22°52'23" S, 42°20'20" W), Rio de Janeiro, Brazil.

Specimens deposited: Helm. Coll. of the Instituto Oswaldo Cruz. Holotype no. 32.032a and paratypes no. 32.032b-h, 32.033a-b.

Male (based on four mature specimens): Body 8.26-13.79 mm long, maximum width 0.054-0.090 mm at its middle. Buccal capsule 0.13-0.14 mm long. Muscular anterior portion of esophagus 0.25-0.26 mm and glandular posterior portion 1.51-1.82 mm long. Nerve ring 0.16-0.18 mm from anterior extremity. Tail spirally twisted with narrow alae with 10 pairs of caudal papillae, of which 4 pairs are preanal, 1 adanal and 5 postanal. In front of the hollowed ventral region there is a conspicuous longitudinal field of well defined scale like projections. Spicules unequal and dissimilar. The right spicule, 0.34-0.39 mm long, presents its distal end hook shaped, with a membranous dilatation and the left, 0.12-0.14 mm long, with a distal knob. Anus 0.082-0.10 mm from posterior extremity. Excretory pore not observed.

Female (based on six mature specimens): Body 10.71-19.04 mm long, maximum width 0.043-0.11 mm at its middle. Buccal capsule 0.11-0.14 mm long. Muscular anterior portion of esophagus 0.20-0.32 mm and glandular posterior portion 1.48-1.71 mm long. Nerve ring 0.15-0.18 mm from anterior extremity. Vulva 5.53-7.63 mm from anterior extremity. Ovijector directed upwards and then turning downward, near its connection with the opposed uteri. Eggs thin-shelled, embryonated, 0.032-0.036 mm long by 0.018 mm wide, without polar filaments. Anus 0.064-0.082 mm from posterior extremity. Excretory pore not observed.

Procamallanus (Spirocamallanus) pereirai Annereaux, 1946.
(Figs. 8-10)

Host: *Paralonchurus brasiliensis* (Steindachner, 1875) Sciaenidae "Maria Luisa".

Site of infection: small intestine.

Locality: Araruama (22°52'23" S, 42°20'20" W), Rio de Janeiro, Brazil.

Specimens deposited: Helm. Coll. of the Instituto Oswaldo Cruz nos. 32.034a-f, 32.035a-b.

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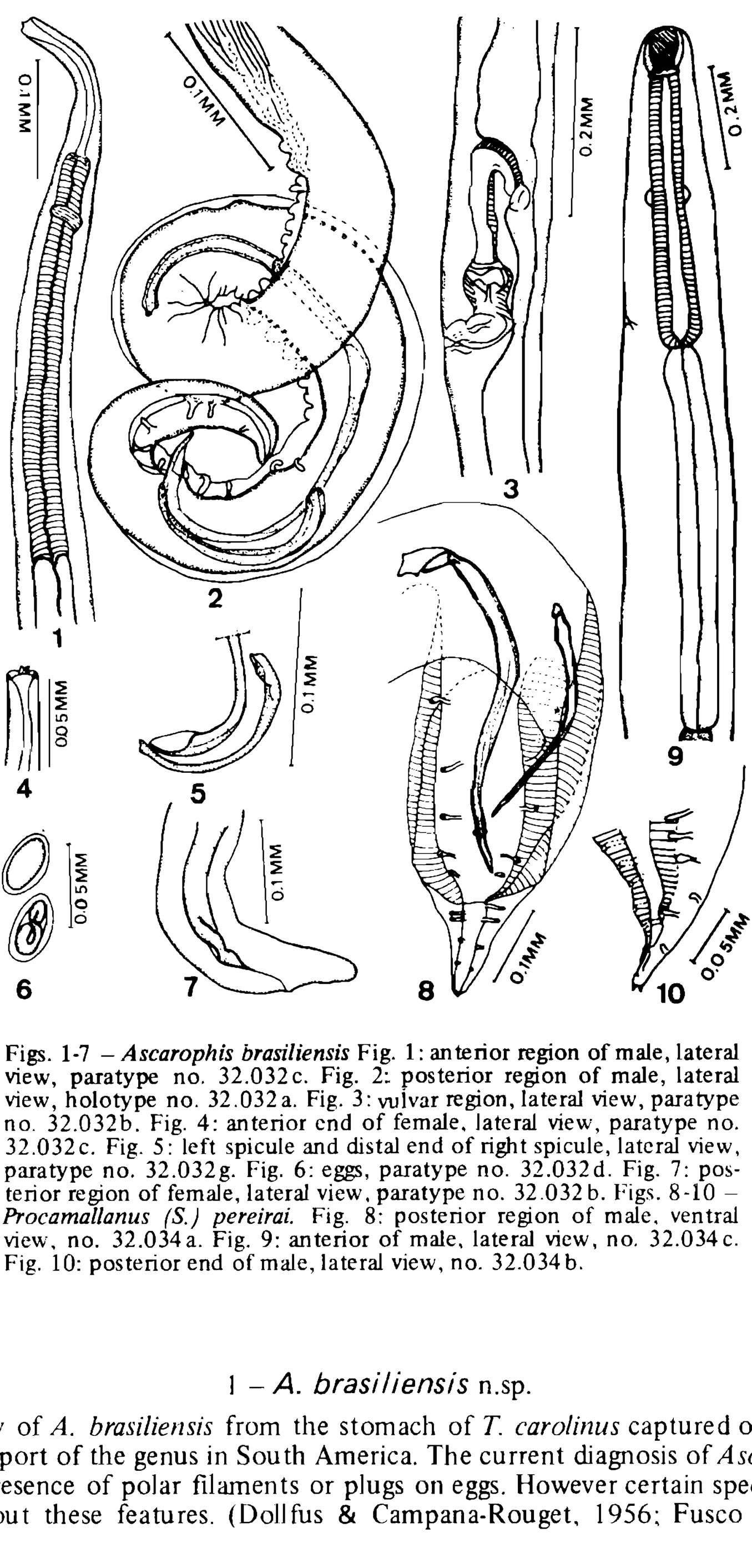
Male (based on three mature specimens): Body 10.71-12.92mm long, maximum width at its middle 0.18-0.21 mm. Buccal capsule 0.075-0.086 mm long by 0.072-0.082 mm wide, 13-14 spiral bands. Muscular anterior portion of esophagus 0.44-0.47 mm long and glandular posterior portion 0.53-0.65 mm long. Nerve ring 0.25-0.32 mm from anterior extremity. Caudal alae wide, continuous anteriorly with symetrical pairs of pedunculated papillae; precloacal pairs three, postcloacal six pairs. Spicules unequal and similar. Right spicule 0.36-0.38 mm and left spicule 0.20-0.22 mm long. Anus 0.16-0.17 mm from posterior extremity. Tail possessing two small spines.

Female (based on one adult and four immature specimens; data in parentheses refer to immature females): Body 13.09 mm (5.11-9.18) long, maximum width at its middle, 0.21 mm (0.12-0.16). Buccal capsule 0.090 mm (0.054-0.061) long by 0.090 mm (0.057-0.061) wide, with 13-14 spiral bands. Muscular anterior portion of esophagus 0.56 mm (0.30-042) long and glandular posterior portion 0.63 mm (0.36-0.44) long. Nerve ring 0.28 mm (0.19-0.25) from anterior extremity. Ovijector 0.46 mm long. Anus 0.18 mm (0.10-0.16) from posterior extremity. Rectum 0.14 mm (0.079-0.097) long. Tail with two spines.



Figs. 1-7 – *Ascarophis brasiliensis* Fig. 1: anterior region of male, lateral view, paratype no. 32.032c. Fig. 2: posterior region of male, lateral view, holotype no. 32.032a. Fig. 3: vulvar region, lateral view, paratype no. 32.032b. Fig. 4: anterior end of female, lateral view, paratype no. 32.032c. Fig. 5: left spicule and distal end of right spicule, lateral view, paratype no. 32.032g. Fig. 6: eggs, paratype no. 32.032d. Fig. 7: posterior region of female, lateral view, paratype no. 32.032b. Figs. 8-10 – *Procamallanus (S.) pereirai.* Fig. 8: posterior region of male, ventral view, no. 32.034a. Fig. 9: anterior of male, lateral view, no. 32.034c. Fig. 10: posterior end of male, lateral view, no. 32.034b.

DISCUSSION

1 – *A. brasiliensis* n.sp.

The recovery of *A. brasiliensis* from the stomach of *T. carolinus* captured off the Brazilian Coast, represents the first report of the genus in South America. The current diagnosis of *Ascarophis* van Beneden, 1871, includes the presence of polar filaments or plugs on eggs. However certain species of this genus have been described without these features. (Dollfus & Campana-Rouget, 1956; Fusco & Overstreet, 1978).

The new species most closely resembles *A. crassicolis* Dollfus & Campana-Rouget, 1956, from *Gadus luscus* L., captured in La Rochele, France, in the size of spicules, number and disposition of caudal papillae, but differs in the egg size (smaller in the new species). The absence of cephalic cuticular swelling, used to distinguish *A. crassicolis* from all other species of the genus, and the well developed scalelike projections forming ventral longitudinal ridges in the males, described as "feeble" in *A. crassicolis,* are other differences.

A. brasiliensis can also be compared mainly by the size of the eggs to *A. cooperi* Johnston & Mawson, 1945, from a South Australian marine fish, *Platycephalus bassencis* Cuvier & Val. Nevertheless in *A. cooperi* the vulva is at the beggining of the posterior third of the body, whereas in the new species it is located near the midbody. The most important feature is related to the distal end of the longer spicule. *A. brasiliensis* does not possess the unusual form of spicule such as found in *A. cooperi.*

Another species, *A. girellae* (Yamaguti, 1935) Campana-Rouget, 1955, recovered from *Girella punctata,* off the Pacific coast of Wakarama, Japan is similar to *A. brasiliensis* n.sp. in body lenght of both sexes, lenght of buccal cavity and esophagus, vulvar position and spicular ratio and size of eggs. However, in the former, the spicules are struturally rather different, the longer one forming at its distal end a vesicle with a chitinous support, which is a continuation of the shaft of the spicule. In the new species the distal end is hook-shapped possessing a membranous dilatation and the shorter spicule has a distal knob which is not observed in *A. girellae.* The ventral longitudinal ridges were neither mentioned nor illustrated by Yamaguti (1935). They are, sometimes, so inconspicuous that they are easily overlooked in whole mouts, as in *A. distortus* Fusco & Overstreet, 1978, in which these structures could only be properly observed in cross-sections.

2 – *Procamallanus (Spirocamallanus) pereirai* Annereaux, 1946.

The fourteen species of *Procamallanus* Baylis, 1923 occurring in Brazil were previously reported (Pinto et al., 1974, 1975, 1976; Pinto & Noronha, 1976; Guimarães, Cristófaro & Rodrigues, 1976) and the validity of the genus *Spirocamallanus* Olsen, 1952 was also discussed (Pinto et al., 1974).

Procamallanus (S.) pereirai, redescribed herein, according to the classification proposed by Petter (1979) falls into a group with those *Procamallanus* which possess well developed caudal alae and fewer than five pairs of precloacal papillae. They are parasites of marine fishes from all over the world and of freshwater fishes in Africa, America and Australia.

This is the third species of the genus to be reported from a marine fish in Brazil. The other species are *P. (S.) macaensis* Vicente & Santos, 1972, from *Menticirrus americanus* (L.) and *P. (S.) cruzi* Guimarães, Cristófaro & Rodrigues, 1976, from *Polydactilus virginicus* L. The latter, inspite of the six pairs of preanal papillae as originally described were not well observed after the examination of the type material. Therefore *P. cruzi* should be placed with *P. (S.) macaensis* and *P. (S.) johnsoni* Guerrero, 1971 in the group of *Procamallanus* species from South America (Petter, 1979), considering other morphological aspects that could justify such an inclusion.

Procamallanus (S.) pereirai was the first species of the genus to be reported from North America (Bolinas Bay, California) and was recovered from the intestine of *Atherinopsis californiensis* Girard. Its diagnosis was based on one male, two mature and one imature females.

Since the original proposal, the species has been reported to occur in the United States of America and has been recovered from different hosts captured in Lake Pontchartrain, Lousiana, Goleta, California and Back Bay of Biloxi, Mississipi (Sogandares-Bernal, 1955; Noble & King, 1960; Overstreet, 1973).

RESUMO

Ascarophis brasiliensis coletada do estômago de *Trachinotus carolinus* (L., 1766), é proposta como espécie nova e *Procamallanus (Spirocamallanus) pereirai* Annereaux, 1946 é redescrita de um novo hospedeiro: *Paralonchurus brasiliensis* (Steind., 1875). *A. brasiliensis* mais se aproxima de *A. crassicolis* Dollfus & Campana-Rouget, 1956, da qual se difere, principalmente, pela ausência da expansão cuticular cervical e tamanho dos ovos. A nova espécie é também comparada a *A. cooperi* Johnston & Mawson, 1945 e *A. girellae* (Yamaguti, 1935) Campana-Rouget, 1955, quando a validade de tal proposição é discutida.

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