

RESEARCH NOTE

Presence of *Strongyluris*-like Larvae (Nematoda) in some Terrestrial Molluscs in Brazil

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During examination of several species of terrestrial molluscs for larvae of *Angiostrongylus* (*Parastrongylus*) *costaricensis* Morera & Céspedes, 1971 in endemic areas of abdominal angiostrongylosis in Brazil, some other nematode larvae were incidentally found together with those of the above mentioned species.

Among others, the following authors have previously referred to the presence of nematode larvae in molluscs: BG Chitwood, A McIntosh (1937 *Proc Helminthol Soc Wash* 2: 37); H Mengert (1953 *Z Morph u Oekol* 41: 22); RC Anderson (1960 *Can J Zool* 38: 801); S Morand (1988 *Can J Zool* 66: 1796); S Thiengo (1995 *Mem Inst Oswaldo Cruz* 90: 347-348). However, this is the first report of the larvae identified herein as *Strongyluris*-like third stage larvae occurring in snails (RC Anderson, personal communication).

In this paper data on morphometry of these larvae and prevalence in the hosts are presented.

Molluscs were collected from 1990 to 1995 near the areas with people suffering from abdominal angiostrongylosis: Caiçara, RS (27.16S 53.26W), Crissiumal, RS (27.30S 54.07W), Santa Rosa, RS (27.52S 54.29W) in the autumn and the spring of 1991; Uberlândia, MG (18.56S 48.18W) in the autumn and the spring of 1993 and 1994.

The cephalopodal mass of shelled molluscs and the eviscerated body of the slugs were individually minced and digested with pepsin (4mg%) in a 0.7% HCl solution for 2 hr at 37°C. The digested

samples were placed in a Baermann apparatus and allowed to sediment for 6 hr prior to examination. The viscera and the pallial organs of the molluscs were placed in petri dishes with Ringer solution and, as well as the sediment collected from the bottom of the Baermann funnels, were examined under the stereomicroscope for helminth larvae. The latter were processed according to JFR Amato (1985 *Manual de Técnicas para Preparação de Coleções Zoológicas*, SP, 11p.). *En face* view was obtained according to RC Anderson (1958, *Ann Parasitologie* 33: 171-172). Measurements are in millimeters.

Strongyluris-like larvae were recovered from digested tissues of *Bradybaena similaris* (Férussac, 1821), *Bulimulus tenuissimus* (Orbigny, 1835), *Belocaulus angustipes* (Heyneman, 1885), *Megalobulimus* sp., *Phyllocaulis variegatus* (Semper, 1885), *Sarasinula marginata* (Semper, 1885) and *Subulina octona* (Bruguière, 1792). Prevalence of the larvae in the molluscs for each locality surveyed is shown in the Table.

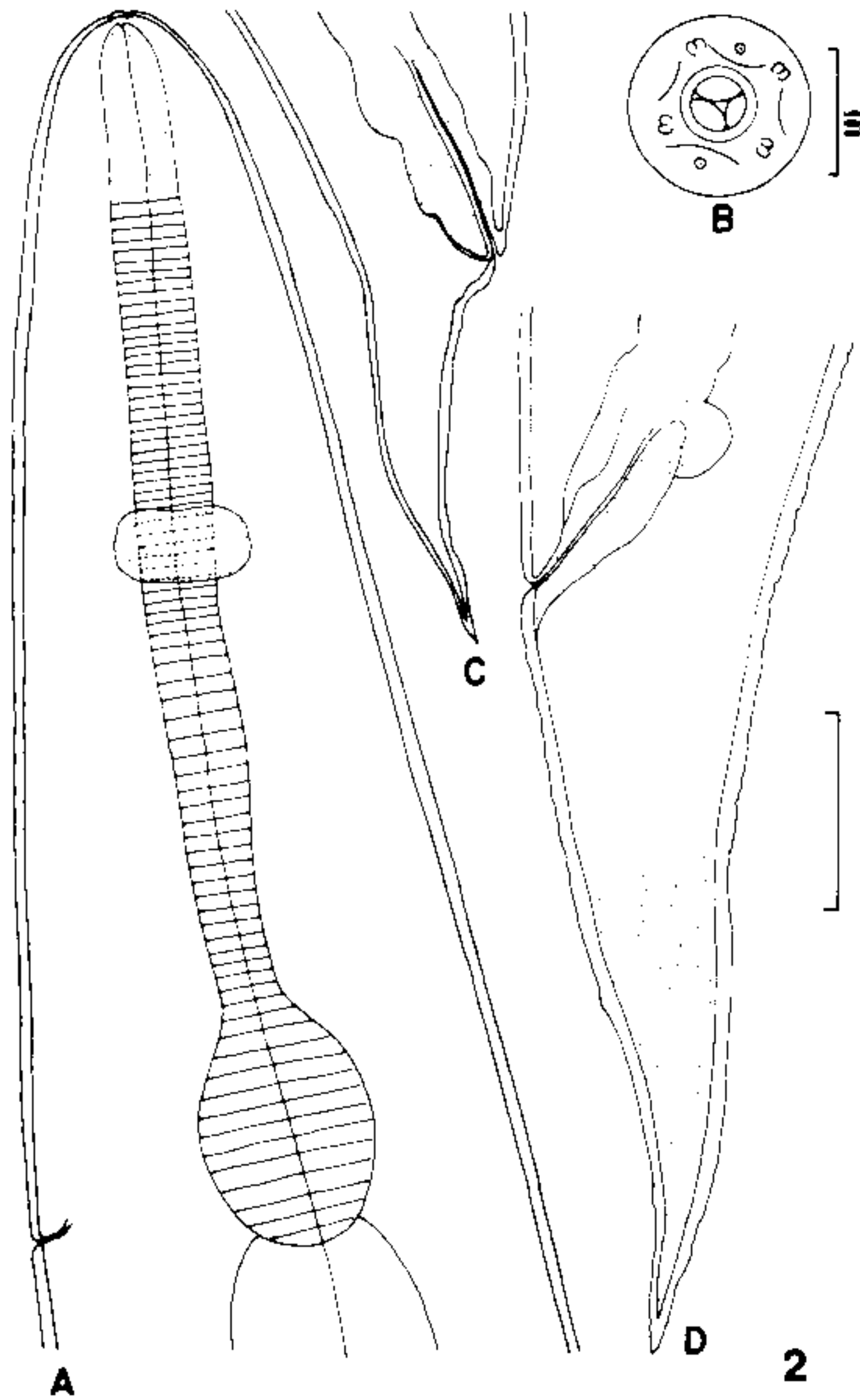
During examination of the pallial cavity of *Megalobulimus* sp. and the body cavity of *S. marginata* from Uberlândia, prominent cysts containing each a very coiled larva were observed on the surface of the pallial tissues (Fig. 1).



Fig. 1: interior of the pallial cavity of *Megalobulimus* sp. showing cysts on the surface of the pallial tissues. Bar = 10mm

TABLE
Prevalence of the larvae in hosts and localities

Molluscus hosts	Caiçara	Crissiumal	Santa Rosa	Uberlândia
<i>Bradybaena similaris</i>				16/284=5.6%
<i>Bulimulus tenuissimus</i>				3/139=2.1%
<i>Belocaulus angustipes</i>		3/20=15%		
<i>Megalobulimus</i> sp.			1/4=25%	8/14=57%
<i>Phyllocaulis variegatus</i>	6/37=16.2%	22/212=10.4%		
<i>Sarasinula marginata</i>				21/542=3.9%
<i>Subulina octona</i>				1/35=2.8%



Larvae (40 specimens) were 4.6 - 6.3 long and 0.26 - 0.39 wide; esophagus with bulb, 0.54 - 0.76 long; bulb 0.10 - 0.14 long and 0.08 - 0.11 wide; nerve ring and excretory pore 0.20 - 0.27 and 0.58 - 0.71 from anterior end, respectively; cloacal aperture 0.17 - 0.44 from posterior end (Fig. 2).

Morphologic differences refer to short (Fig. 2-c) and long tailed specimens (Fig. 2-d).

Specimens were deposited in the Helminthological Collection of Instituto Oswaldo Cruz, nº 33.286 a-d (whole mounts) and nº 32.987 (wet material).

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Fig. 2: *Strongyluris*-like larva - A: anterior end, lateral view; B: en face view, showing circumoral papillae; C and D: posterior ends, lateral view.