

SHORT COMMUNICATION

***Pelecitus helycinus* Railliet & Henry, 1910 (Filarioidea, Dirofilarinae) and Other Nematode Parasites of Brazilian Birds**

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We report Pelecitus helycinus Railliet & Henry, 1910 from 13 species of birds of 2 orders and 7 families, collected from the states of São Paulo and Mato Grosso, Brazil. All 13 constitute new host records for this nematode. In addition, we report the first record of Aprocta golvani Diaz-Ungria, 1963 from Brazil and Monasa nigrifrons (Bucconidae), as well as a number of other nematode records from Neotropical birds.

Key words: *Pelecitus helycinus* - nematode - Dirofilarinae - *Aprocta golvani* - Brazil

In many South American countries, our knowledge of the biodiversity of helminths in Neotropical birds remains in its infancy, with even the most basic data on parasite distribution, prevalence, and life cycles lacking for common species. Nematodes in Brazilian birds are an exception, thanks to studies of specialists mainly from the Instituto Oswaldo Cruz, Rio de Janeiro (Pinto et al. 1993, Vicente et al. 1995), but even in Brazil hundreds of species of birds in the rain forest have yet to be examined for parasites. As pointed out by Garvin et al. (1997), ornithologists working in the field banding or collecting specimens for museums can greatly increase the value of these specimens by also examining them for parasites and submitting them to appropriate authorities.

Bartlett and Greiner (1986) stated that the genus *Pelecitus* Railliet & Henry, 1910 is the most widely distributed avian filaroid genus known, reported from 30 families of birds representing 16 orders. They listed *Pelecitus helycinus* (Molin, 1860) from members of Dendrocolaptidae, Furnariidae, Formicariidae, Cotingidae, Tyrannidae, Muscicapidae, Emberizidae, Parulidae, Icteridae and Corvidae. Pinto et al. (1993) also found this species in several members of the Psittacidae. Arruda et al. (2001) reported *Pelecitus* sp. from herons *Syrigma sibilatrix* and *Tigrisoma lineatum* (Ardeidae).

During 1983-1984 and 1987-1988, were banded birds at Fazenda São José (22°21'S, 47°29'W, 675 m, Rio Claro, state of São Paulo) and in 1987-1988 at Serra das Araras (15°3'S, 57°12'W, State of Mato Grosso), Brazil. During these periods, special attention was given to ectoparasites and endoparasites. Here, we report on nematodes found in or around the digestive tract and around the

tendons of the legs and feet, the latter briefly reported in Oniki (1999).

At Fazenda São José, nematodes were collected from the legs of live birds, which were then banded and released. The worms were collected by squeezing the wound and pulling them out with forceps, and were preserved in 70% ethyl alcohol. The abdominal areas of birds from Mato Grosso were also examined for nematodes during preparation of skins before the birds were deposited at the Department of Biology of the Universidade Federal de Mato Grosso (Cuiabá) (Oniki & Willis 1999). In the laboratory, nematodes were cleared and studied in temporary mounts of lactophenol.

Nematodes identified as *P. helycinus* were found in 13 species of birds from 2 orders and 7 families. Table lists the species of birds infected, as well as the prevalence, localization, and numbers of worms collected. All 13 species are new host records for this nematode. Nematodes were found over much of the year. Most of the worms were found in the ankle (tibiotalarsus/tarsometatarsus) and foot joint (tarsometatarsus/digits). The infected sites were swollen and reddish, and often with a hole in the skin with oozing blood, especially if the bird had scratched the wound. In one case of a female *Habia rubica*, there were 4 holes in the swollen foot joint. However, at other times the site was swollen but the wound was healed and closed. In this case, a small hole was made with forceps to extract the nematodes. In another case, with *Myiarchus swainsoni*, the bone seemed weakened by the infection.

P. helycinus is an extreme case of a non-host specific nematode (generalist) which can infect many birds in many different families (Bartlett & Greiner 1986). In general, these are bird species that live low in the forest undergrowth, and go to the ground to forage or dissect food, such as antbirds (*Pyriglena leucoptera*, *Drymophila ochropyga*), or emberizids such as *H. rubica* and *Trichothraupis melanops*. These species form bird flocks that wander low in the forest understory. Previous Brazilian records of *P. helycinus* (Vicente et al. 1995) are from three canopy parrots and from a canopy flycatcher, however.

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TABLE

Birds with *Pelecitus hellicinus*: number, location, rate (total birds/birds infected) collected in the states of Mato Grosso (MT) and São Paulo (SP), Brazil

Species	State	Sex	N, side	Location	Rate	Month
<i>Claravis pretiosa</i>	SP		2	Ankle	48/1	6
<i>Drymophila ferruginea</i>	MT	M?	R	Foot	13/1	12
<i>Drymophila ochropyga</i>	MT	2M	R, 13 L	Foot	26/2	4, 5
<i>Thamnophilus caeruleus</i>	MT	M	R, L	Foot joint	7/1	9
<i>Pyriglena leucoptera</i>	MT	M, 4F			86/5	2, 5, 9, 12, 12
<i>Conopophaga lineata</i>	MT	M	R	Foot	75/1	3
<i>Chiroxiphia caudata</i>	MT	F	L	Foot joint	15/1	5
<i>Myiarchus swainsoni</i>	SP	M	2R	Ankle	1/1	9
<i>Habia rubica</i>	MT	M, 5F	L (2F)	Foot joint (2F)	31/6	3, 3, 9, 9, 11, 11
<i>Trichothraupis melanops</i>	MT	F	L	Foot	68/1	4
<i>Basileuterus hypoleucus</i>	MT		R	Toe IV	43/1	5
<i>Tachyphonus rufus</i>	SP	M	1R, 3L	Foot joint	5/1	7
<i>Cissopis leveriana</i>	SP				5/1	9

R: right side; L: left side

In *D. ochropyga*, 2 males were infected while 1 out of 5 *P. leucoptera* was male and one out of 6 *H. rubica* was male. Thus, in *P. leucoptera* and *H. rubica*, females were more infected than males. In wild birds, the number of birds infested is low when compared to the total handled.

The following birds from the State of Mato Grosso were found infected with nematodes: 1 *Crotophaga anis* (Crotophagidae) infected by 5-6 *Subulura reclinata* (Rudolphi, 1819) (Oxyuridae) 1 cm long, found in the intestine (CHIOC Accession no. 34657); 2 individuals of *Gnorimopsar chopi* (Icteridae) with *Diplotrriaena bargusina* Skrjabin, 1917 in the body cavity (CHIOC accession no. 34656); 1 *Furnarius rufus* (Furnariidae) with 1 *Diplotrriaena sylvinae* Pinto & Noronha, 1970, in the body cavity; 1 *Celeus lugubris* (Picidae) with 1 female *Procyrnea* sp. (Spiruridae) in the proventriculus; and 2 *Monasa nigrifrons* (Bucconidae) with *Aprocta golvani* Diaz-Ungria, 1963 in the body cavity (CHIOC accession no. 34659). All of these species have been reported from Brazil previously (Vicente et al. 1995), except for *A. golvani*, which was described from *M. atra* in Venezuela (Diaz-Ungria 1963). *Subulura reclinata* had been found in 2 *C. anis*, *D. sylvinae* in *F. rufus*, *Procyrnea* sp. in hummingbirds, falconiformes and a stork (not in a woodpecker, see Vicente et al. 1995).

Voucher specimens have been deposited in the helminthological collection of the Instituto Oswaldo Cruz (CHIOC, accession numbers above), Rio de Janeiro, Brazil.

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REFERENCES

- Arruda VS, Pinto RM, Muniz LC 2001. New host and geographical records for helminths parasites of Ardeidae (Aves, Ciconiiformes) in Brazil. *Rev Brasil Zool* 18 (Supl. 1): 225-232.
- Bartlett CM, Greiner EC 1986. A revision of *Pelecitus* Railliet & Henry, 1910 (Filarioidea, Dirofilarinae) and evidence for the "capture" by mammals of filarioids from birds. *Bull Mus Nat Hist* 8: 47-99.
- Diaz-Ungria C 1963. Nematodes parasites, nouveaux ou intéressants du Vénézuéla. *Ann Parasit Hum Comp* 38: 893-913.
- Garvin MC, Bates JM, Kinsella JM 1997. Field techniques for collecting and preserving helminth parasites from birds, with new geographic and host records of parasitic nematodes from Bolivia. *Ornithol Monog* 48: 261-266.
- Oniki Y 1999. Avian parasites and notes on habits of lice from Mato Grosso, Brazil. *Iheringia, sér Zool*, 86: 187-190.
- Oniki Y, Willis EO 1999. Body mass, cloacal temperature, morphometrics, breeding and molt of birds of the Serra das Araras region, Mato Grosso, Brazil. *Ararajuba* 7: 17-21.
- 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.
- Vicente JJ, Rodrigues HO, Gomes DC, Pinto RM 1995. Nematóides do Brasil. Parte IV: Nematóides de aves. *Rev Brasil Zool* 12 (Supl. 1): 1-273.