

FIRST RECORD OF *DIROFILARIA SPECTANS* FREITAS & LENT, 1949 (NEMATODA, FILARIIDAE) IN *LUTRA LONGICAUDIS* OLFERS, 1818 (MAMMALIA, MUSTELIDAE)

J.M.R. Soto

Museu Oceanográfico do Vale do Itajaí – Universidade do Vale do Itajaí – CP 360, 88302-202, Itajaí, SC, Brazil

SUMMARY: This paper presents the first record of the nematode *Dirofilaria spectans* Freitas & Lent, 1949 in the otter *Lutra longicaudis* Olfers, 1818, based on 11 specimens collected on cardiac cavity of the adult male (111,7 cm total length), found on Lagoa da Conceição, Florianópolis (27°30'S, 48°28'W), Santa Catarina, southern Brazil. This record extend the geographic distribution, the host spectrum and show the fatal pathologic effect produced by *D. spectans*.

KEY WORDS: dirofilariasis, nematode, *Dirofilaria spectans*, *Lutra longicaudis*, new host, distribution.

INTRODUCTION

The filarides are common nematodes with worldwide distribution, that mainly occur in specimens of the order Carnivora, with citations for the humans too (FREITAS & MAYALL, 1953; VICENTE *et alii*, 1997). *Dirofilaria spectans* was described from the circulatory system of the giant otter (ariranha) *Pteronura brasiliensis* by FREITAS & LENT (1949), and according to VICENTE *et alii* (1997), the list of the hosts for *D. spectans* includes only *P. brasiliensis* and *Homo sapiens*, the first for Mato Grosso do Sul and the second for Rio de Janeiro, Brazil. The same authors include only one record of nematode for *Lutra longicaudis* in Brazil, the *Dioctophyma renale* (Goeze, 1782) (Dioctophymatidae).

MATERIALS AND METHODS

An otter *Lutra longicaudis* Olfers, 1818 (Carnivora, Mustelidae), adult male, 1117 cm total length was found alive on Lagoa da Conceição, Florianópolis, Santa Catarina, southern Brazil (27°30'S, 48°28'W) on 20 March 1996. The specimen was captured in dying condition and sended to Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA). The death was inevitable and the sample was donated to Museu Oceanográfico do Vale do Itajaí (MOVI 05710) on 2 April 1996. At necropsy, not any abnormality was pointed, except a great number of nematodes in the cardiac

cavity – right ventricle (Fig. 1). Eight specimens of *D. spectans*, 6 males and 5 females were photographed, collected, fixed in 70°GL alcohol and deposited in the Helminthological Collection of the same museum (MOVI 15041 to 15048).

Measurements were made with Caliper (0.1 mm) and the sex determinations were, made according FREITAS & LENT (1949).

RESULTS AND DISCUSSION

The size, of the nematodes were on females 164.1-207.2 mm long and 0.7-0.8 mm wide, and on males 95.6-136.5 mm long and 0.3-0.5 mm wide (Tab. 1). The necropsy of the host indicate this infestation the indirect causa-mortis; due the cardiac insufficiency, mitral prolapse and finally heart stopped. The presence of *D. spectans* in the State of Santa Catarina wakes up the sanitary authorities for more a filariosis, generally transmitted by mosquitos and common in coastal urban centers with great number of dogs, principally males (GERMANO *et alii*, 1985; RAWLINGS & CALVERT, 1992; SOUZA *et alii*, 1997). Dogs blood examination for detection of microfilaremy is recommended in the urban zone of Florianópolis, utilizing the methods of microhaemathocrit (JAIN, 1986), wet drop (KNIGHT, 1977) and knott modified (NEWTON & WRIGHT, 1956).

The present paper extend the geographic distribution of *D. spectans* to State of Santa Catarina and the host spectrum, based on association with *L. longicaudis*, and report the first fatal case due to infestation by *D. spectans*.



Fig. 1 – Dissected heart of *Lutra longicaudis*, showing cardiac cavity (right ventricle) with specimens of *Dirofilaria spectans*.

Table 1 – Specimens of *Dirofilaria spectans* collected on cardiac cavity of *Lutra longicaudis* in Florianópolis, Santa Catarina, Brasil.

No.	Sex	Long (mm)	Wide (mm)	Col. No (MOVI)
1	Female	183.5	0.8	15041
2	Female	189.4	0.7	15042
3	Female	207.2	0.8	15043
4	Female	170.5	0.7	15044
5	Female	175.5	0.7	15045
6	Female	164.1	0.8	15046
7	Male	95.6	0.3	15047
8	Male	136.2	0.5	15048
9	Male	133.6	0.5	15049
10	Male	131.8	0.4	15050
11	Male	136.5	0.5	15051

ACKNOWLEDGEMENTS

I would like to thank Cláudia Portes Santos (Universidade Santa Úrsula) for the identification of the parasites, and to Alexandre Filippini and Jordan Paulo Wallauer (IBAMA – SC) for the donation of the specimen of *Lutra*.

SUMÁRIO

É apresentado o primeiro registro do nematóide *Dirofilaria spectans* Freitas & Lent, 1949 na lontra *Lutra longicaudis* Olfers, 1818, baseado em 11 espécimes coletados na cavidade cardíaca de um macho adulto (111,7 cm comprimento total), encontrado na Lagoa da Conceição, Florianópolis (27°30'S, 48°28'W), Santa Catarina. Este registro amplia a distribuição geográfica, o espectro de hospedeiros e apresenta o efeito patológico fatal produzido por *D. spectans*.

PALAVRAS-CHAVE: dirofilariose, nematóide, *Dirofilaria spectans*, *Lutra longicaudis*, novo hospedeiro, distribuição.

REFERENCES

- FREITAS, J.F.T. & LENT, H. (1949). Nova “Dirofilaria” parasita do aparelho circulatório de ariranha (Nematoda, Filarioidea). *Rev. Brasil. Biol.* 9(3): 377-380.
- FREITAS, J.F.T. & MAYALL, R. (1953). Fenômeno de Raynaud na mão esquerda provocado por “*Dirofilaria spectans*”. *Rev. Brasil. Med.* 10(7): 463-467.
- GERMANO, P.M.L., ESHIZAKA, M.M. & ERBOLATO, E.B. (1985). Dirofilariose canina. *Cães e Gatos*, São Paulo. p.16-21.
- JAIN, N.C. (1986). *Schalm 's Veterinary Hematology*. 4^a ed. Philadelphia: Lea & Febiger. 1221 p.
- KNIGHT, D. H. (1977). Heartworm heart disease. *Advances in Veterinary Science and Comparative Medicine* 21:107-149.
- NEWTON, W.L. & WRIGHT, W.H. (1956). The occurrence of a dog filariid other than *Dirofilaria immitis* in the United States. *The Journal of Parasitology* 42:246-256.
- RAWLINGS, C.A. & CALVERT, C.A. (1992). Dirofilariose. p.1222-1244. In: Ettinger, S.J. *Tratado de Medicina Interna: moléstias do cão e gato*. 3^a ed. São Paulo: Manole. v.2, 1261p.
- SOUZA, N.F., BENIGNO, R.N.M., FIGUEIREDO, M., SALIM, S.K., SILVA, D., GONÇALVES, R., PEIXOTO, P.C. & SERRA-FREIRE, N.M. (1997). Prevalência de *Dirofilaria immitis* em cães no Município de Belém – PA, com base na microfilaremia. *Rev. Bras. Parasitol. Vet.* 6(1):83-86.
- VICENTE, J.J., RODRIGUES, H.O., GOMES, D.C. & PINTO, R.M. (1997). Nematóides do Brasil. Parte V: nematóides de mamíferos. *Revta. bras. Zool.* 14(Supl. 1):1-452.