

# *Capillaria* sp., ISOLATED FROM *Desmodus rotundus* (CHIROPTERA: PHYLLOSTOMIDAE) IN COSTA RICA

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**ABSTRACT:** During a bat sampling carried out in the provinces of Guanacaste and Alajuela, Costa Rica, eggs from a nematod species were found in two adult, female, non-pregnant bats which represent 11.76% of the studied bats. This is the first report of *Capillaria* sp., infecting specimens of the common vampire bat *Desmodus rotundus* in the provinces of Guanacaste and Alajuela, Costa Rica.

**RESUMEN:** *Capillaria* sp. aislado de *Desmodus rotundus* (Chiroptera: Phyllostomidae) en Costa Rica. Durante un muestreo de murciélagos realizado en las Provincias de Guanacaste y Alajuela, Costa Rica, huevos de nematodos fueron encontradas en dos hembras adultas, no preñadas, las cuales representaron el 11.76% de los animales estudiados. Este es el primer reporte de *Capillaria* sp., infectando especímenes del murciélago vampiro común *Desmodus rotundus* en las provincias de Guanacaste y Alajuela, Costa Rica.

**Keys words.** *Capillaria* sp. *Desmodus rotundus*. Vampire bat.

**Palabras clave.** *Capillaria* sp. *Desmodus rotundus*. Murciélago vampiro.

Previous studies regarding the parasites of the chiropterans are varied; nevertheless, little is known about the helminth community of vampire bats. The literature shows that more than 70 different species of ectoparasites have been found to infest *Desmodus rotundus* (Geoffroy-Saint-Hilaire, 1810) (Chiroptera: Phyllostomidae) throughout Latin America (Webb and Loomis, 1977; Marinkelle and Groose, 1981; Guerrero, 1997), however, only three species of endoparasites have been reported infecting *D. rotundus*, *Biacantha desmodus* (Wolfgang, 1954) (Strongylida: Trichostrongylidae) being the most common. This nematod was isolated for the first time in the small intestine of several specimens of *D. rotundus* in Trinidad and Tobago by

Wolfgang (1954). Later, Ubelaker et al. (1977) reported the presence of *B. desmodus* in Mexico and Costa Rica, when they carried out a study examining the endoparasitic fauna of Latin American phyllostomids bats. Chabaud and Bain (1974) also report the presence of *Lukonema lukoschusi* (Chabaud and Bain, 1974) (Muspiceida: Muspiceidae) in the interfemoral membrane and adjacent region to the wing of hematofagous bats in the French Guyana. Additionally, Mendez (1988) makes mention of specimens of *Capillaria* sp., (Enoplida: Trichuridae) in common vampire bats, without giving geographic information as to the location.

During a bat sampling carried out in the provinces of Guanacaste and Alajuela, Costa

Rica, between November 2003 and August 2004, seventeen bats (two males and fifteen females) were caught. Eggs from a nematod species were found in two adult, female, non-pregnant bats which represent 11.76% of the studied bats. The bats were captured using mist nets, manipulated with leather gloves, and placed in galvanized steel cages in order to be transferred to the Pathology Laboratory and sacrificed at the National University of Costa Rica's Veterinary School. The animals were sacrificed by placing them inside a glass container with a chloroform-laden towel for approximately five minutes. The gastrointestinal tracts were collected with the aid of fine tweezers and observed individually under a stereoscope. Additionally, a modified Shearer's test was carried out using the gastrointestinal tracts of the examined animals, in which the intestines and a hiperosmotic sugar's solution were mixed in small glass containers. Over which glass slides were placed. After approximately 10 minutes the glass slides were picked up, and observed under light microscope (40x) and nematode eggs could be observed. The eggs which were found were not larvae eggs, they had asymmetric sidewalls, slight plugs and light amber color; this morphology corresponds to the characteristics of the *Capillaria* sp.



**Fig. 1.** Egg of *Capillaria* (s.l.) sp., isolated from *D. rotundus*. 40x.

(Soulsby, 1987) (**Fig. 1**). The determination of the eggs' species was not possible due to the absence of adult specimens.

This is the first report of *Capillaria* sp., infecting specimens of the common vampire bat *Desmodus rotundus* in the provinces of Guanacaste and Alajuela, Costa Rica.

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