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## ***Dirofilaria immitis* in a Raccoon (*Procyon lotor*)**

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**ABSTRACT:** A single juvenile male raccoon (*Procyon lotor*) was found naturally infected with *Dirofilaria immitis*. Two immature female worms were found in the heart of this raccoon at necropsy. Lesions attributable to the presence of these parasites were not found. Histopathologic examination of various tissues did not reveal any microfilariae. The raccoon may serve as an aberrant definitive host for this parasite, however, patent infections have not been reported.

**Key words:** Raccoon, *Procyon lotor*, *Dirofilaria immitis*, heartworm, natural infection, case report.

Sixteen raccoons were live-trapped on Parramore Island, Virginia (37°32'N, 75°38'W) as part of baseline data collection prior to oral rabies vaccine field trials. The animals were killed and complete necropsies were performed. Formalin fixed tissues and organs were sent to the Laboratory of Large Animal Pathology, School of Veterinary Medicine, New Bolton Center (University of Pennsylvania, Kennett Square, Pennsylvania 19348, USA) for histopathological examination. Examination of the heart of one juvenile male raccoon yielded two immature female filarid-like nematodes in the right atrium. These specimens were identified as *Dirofilaria immitis* based on the description given by Orihel (1961) for immature females of this parasite. These specimens have been deposited in the U.S. National Parasite Collection (Beltsville, Maryland 20705, USA; Accession Number 80409). Lesions were not associated with the presence of these parasites. Microfilariae were not seen on histopathologic examination of various tissues. Nematodes were not found in the hearts of the other 15 raccoons that were examined.

The dog heartworm (*D. immitis*) has become widespread across the United

States. Wild canids (Hubert et al., 1980; Simmons et al., 1980; Agostine and Jones, 1982), the domestic cat (Donahoe, 1975) and a number of domestic (Klein and Stoddard, 1977) and wildlife (Goble, 1942; Foil and Orihel, 1975; Williams and Dade, 1976; Crum et al., 1978) hosts have been reported as experimental or natural infections. The raccoon has rarely been reported to be naturally infected (Fox, 1941; Herman and Price, 1965). One experimental report indicated that the raccoon could not support the development of *D. immitis* (Christensen and Shelton, 1978). The domestic dog and a few species of wild canids are the only definitive hosts that play any significant role in the perpetuation of *D. immitis*. Apparently under certain natural conditions, the raccoon may serve as an aberrant definitive host for this filarid. The role of the raccoon in the transmission and epidemiology of *D. immitis* is insignificant as evidenced by (1) the extreme rarity of natural infections and (2) the absence of sexually mature nematodes in the few naturally infected raccoons in these previously recorded infections. Natural infections in raccoons simply serve to indicate that the geographic area is an endemic locus of *D. immitis* and that appropriate mosquito intermediate hosts are prevalent.

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