

# A REEVALUATION OF CANINE DIROFILARIASIS IN NORTHWESTERN OHIO<sup>1</sup>

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*Abstract.* Blood samples from 160 native dogs in 3 northwestern counties of Ohio were examined for *Dirofilaria immitis* microfilariae during 1976; 6 samples (3.75%) were positive. A comparison was made with data collected in 1971 from the same counties and dogs in the same infection risk stratum. The level of prevalence of *D. immitis* has remained stable from 1971 (3.04%) through 1976 (3.75%) in these northwestern Ohio counties. *Dipetalonema reconditum* was not diagnosed in the present study, although a 3.8% prevalence was recorded in 1971.

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The increasing prevalence of canine heartworm, *Dirofilaria immitis*, in the Midwest has been the subject of several studies in recent years. Most of the studies were surveys conducted to determine the prevalence of canine dirofilariasis. A summary of the studies was presented in an earlier publication (Rabalais and Votava 1972). The initial study, conducted in 1971, included 5 northwestern Ohio counties. This area has a great abundance of raccoon hunting clubs and consequently large numbers of coonhounds, most of which originate from southern states. The present study was designed to evaluate the prevalence of dirofilariasis in dogs native to 3 of the 5 counties surveyed initially, and to evaluate the impact of the introduction of potentially infected dogs from areas of high endemicity. This study affords a unique opportunity to examine dogs from the same area and infection risk stratum to determine if there has been an increase in prevalence after 5 years. It has recently been reported that the incidence of canine dirofilariasis has remained static from 1964 to the present in the Columbus, Ohio area (Streitel *et al* 1977).

## MATERIALS AND METHODS

Blood samples were taken from 160 dogs from the dog pounds in Hancock, Putnam and Henry counties during 1976. All blood samples were

drawn between 8:00 and 9:00 in the morning. Samples were examined after fixation in a modified Knott's solution. Identification of the microfilariae was made based on parameters outlined by Rabalais and Votava (1972).

## RESULTS AND DISCUSSION

The results of the present study, and as comparison with the 1971 study, are presented in table 1. While coonhounds

TABLE 1  
*Comparison of the Prevalence of Dirofilaria immitis microfilariae in dogs Native to Northwestern Ohio in 1971 and 1976.*

Ohio County	Total No. Dogs		No. Infected with <i>D. immitis</i>	
	1971	1976	1971	1976
Hancock	59	69	1 (1.7)*	3 (4.3)*
Henry	44	39	2 (4.5)	1 (2.6)
Putnam	127	52	4 (3.1)	2 (3.8)
	230	160	7 (3.04)	6 (3.75)

\*Numbers in parentheses are percentages.

brought in from southern states presumably serve as a reservoir for canine heartworm infections, they were not sampled in the present study. The intent was to determine the prevalence in the native dog population of Ohio.

The results of the initial study showed that when coonhounds were not considered, 6 out of 239 (3.5%) dogs were infected with *Dirofilaria immitis*. Eight

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(3.8%) were infected with *Dipetalonema reconditum*. Examination of Hancock, Henry and Putnam county data from the initial study showed 7 out of 230 (3.04%) dogs were infected. *D. immitis* was diagnosed in 6 out of 160 (3.75%) dogs from the same counties in the present study. The level of prevalence of *D. immitis* has remained stable from 1971-1976. *Dipetalonema reconditum* was not diagnosed in the present study.

The inability to find *Dipetalonema reconditum* in the present study is difficult to explain. Careful study was made of the microfilariae to differentially diagnose the 2 canine filariids, yet *D. reconditum* was not encountered. The lack of *D. reconditum* may be due, in part, to the small sample size used.

The influence of coonhounds which originated from out of state appeared to be negligible. The incidence of *Dirofilaria immitis* has remained essentially

static despite a heavy influx of dogs from highly endemic areas. Eight out of 35 (22.9%) coonhounds from out of state were reported infected in the initial study conducted in 1971 (Rabalais and Votava 1972). It would appear that while there is an increased awareness and fear among the general dog owning public relative to canine heartworm, there are not data to support the contention that the prevalence of *D. immitis* is rising in northwest Ohio.

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#### LITERATURE CITED

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