

Heartworm in dogs in Canada in 1991

J. Owen D. Slocombe, Alain Villeneuve

Abstract

In late November 1991, 1883 clinics in Canada were sent a questionnaire to assess the status of *Dirofilaria immitis* in dogs in 1991 and there was a 60.0% response. There were 344,031 dogs tested for heartworm (HW), 627 were found infected and the prevalence of HW infection was 0.18%. There were 417 dogs with HW in Ontario, 116 in Manitoba, 38 in Quebec, 53 in British Columbia, three in Alberta, and one in Nova Scotia. In British Columbia, all of the infected dogs but one were from the Okanagan valley which, as from 1991, is a new focus of infection in Canada. Most dogs with HW had not been on preventive medication in 1990, and the prevalence among dogs tested and unprotected was 0.59%. That prevalence was considerably higher in endemic areas. Companion dogs, over three years of age and maintained primarily outdoors in rural areas, were most frequently infected. One cat was diagnosed with *D. immitis* and 33 dogs had *Dipetalonema reconditum*.

In late November 1991, 1883 questionnaires were sent to small and mixed animal clinics and to institutional veterinarians in Canada to assess the prevalence in 1991 of heartworm (HW) infection, primarily in dogs, as had been done previously (1-3). In January 1992, clinics in Ontario, and Quebec that had not responded were approached again; in Ontario, each clinic was sent a copy of the questionnaire, and in Quebec, a telephone call was made to solicit answers to the questionnaire. The number of questionnaires returned was 1079, but 57 were not included in the analysis, because they were incomplete. The rate of response to the questionnaire was 60.0%. About 96% of the practitioners who responded indicated that they would complete a questionnaire if it was offered again.

There were 344,031 dogs blood tested for HW (274,064 in 1990) (Tables 1 and 2). There were 627 dogs diagnosed with HW (657 in 1990) and the prevalence of HW in dogs was 0.18% (0.24% in 1990). Some practitioners were unable to identify whether dogs tested in

1991 had been on preventive medication in 1990. However, from the information submitted, most of the dogs tested (245,140) had been given preventive medication, most of the dogs with HW (579) had not, and the prevalence of HW among dogs tested in 1991 that were not on a preventive program in 1990 was 0.59%. In endemic areas, the prevalence was considerably higher. There were 48 dogs with HW that had been on preventive medication in 1990, and for 30 of these, the failure of the medication was attributed to lack of owner compliance.

The areas in Canada reporting dogs with HW are shown in Figures 1 and 2. In 1991 there was a new focus of infection namely the Okanagan Valley, British Columbia. In British Columbia the prevalence of HW was 0.26%, but in the Okanagan, where 52 of the 53 infected dogs in the province were diagnosed, the prevalence was 0.98%. Most of these dogs had never been on preventive medication and had never left the valley.

The major focus of the infection continues to be in Ontario (416 dogs with HW) where the prevalence was 0.16% (0.70% in unprotected dogs). Most of the infected dogs were in southwestern Ontario, but in the last few years, an increasing number of infected dogs are being diagnosed in eastern Ontario. The focus around Sydenham, seen first in 1990, appears to be enlarging and a new focus appears to be developing close to Ottawa. There were three dogs with HW in North Bay and Powassan; one of these dogs had been outside Canada and two had been in endemic areas in Ontario.

Two small foci are in Manitoba and Quebec. In Manitoba, where there were 116 dogs with HW, the prevalence was 0.80% (2.11% in unprotected dogs). The number of dogs found with HW in Manitoba has steadily increased over the last three years and the focus of infection continues to expand over the southern part of the province. In Quebec, where there were 38 dogs with HW, the prevalence was 0.09% (0.18% in unprotected dogs). In Alberta, two of the three dogs with HW had been outside Canada and the third had been in another province. In Nova Scotia, the history of movement of the one dog with HW was unknown.

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Departments of Pathology, Ontario Veterinary College, University of Guelph, Guelph, Ontario N1G 2W1 (Slocombe); Faculty of Veterinary Medicine, University of Montreal, St. Hyacinthe, Quebec J2S 7C6 (Villeneuve).

Reprint requests to Dr. Owen Slocombe.

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Table 1. Concluded

24. Circle questions where the information supplied above was based on medical records? (expressed as a % of those responding to the question)												
{The data for Q9-19 could not be generated}												
Q5	Q7	Q8	Q9-Q14	Q15	Q16	Q17	Q18	Q19	Q21	Q22	Q23	
50	29	43	—	—	—	—	—	—	40	40	40	
25. Would you be interested in the results of this questionnaire?								%	Yes	96	No	2
26. Would you be interested in information on HW?								%	Yes	85	No	8
27. Are news releases on HW helpful to the public?								%	Yes	93	No	1
28. Did you respond to last year's questionnaire results?								%	Yes	74	No	17
29. Did you see last year's questionnaire results?								%	Yes	81	No	12
30. Would you respond to the questionnaire if it was offered again?								%	Yes	96	No	0
31. Other comments? If yes, submit with this questionnaire.								%	Yes	15	No	85

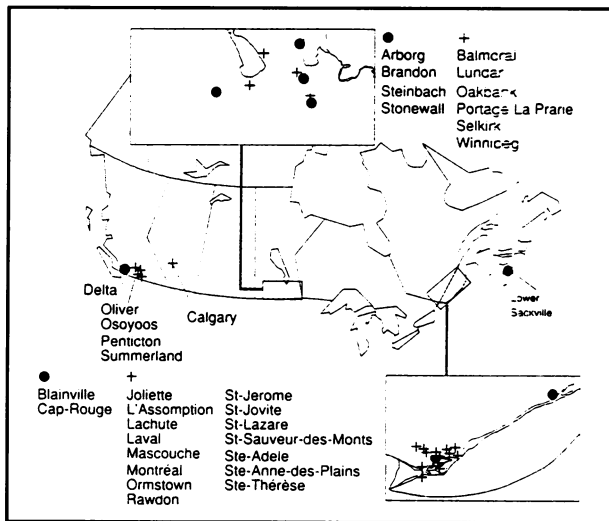


Figure 1. Locations in Canada, except Ontario, with diagnoses of heartworm infection in one or more dogs in 1991.

- Areas with dogs that had been outside of Canada and presumed infected before returning or with dogs whose movements were unknown
- + Areas with dogs some of which had never left Canada

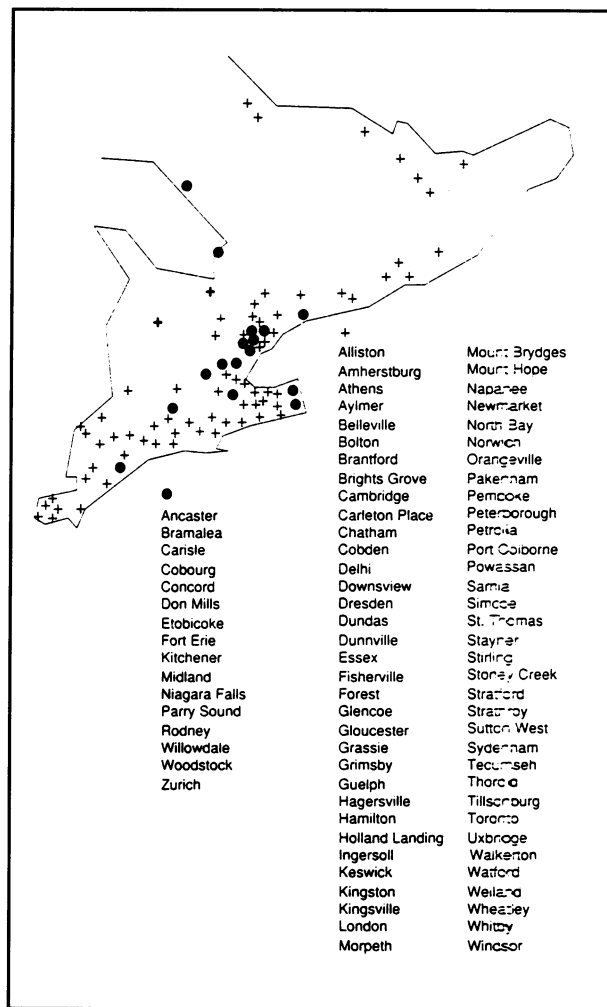


Figure 2. Locations in Ontario with diagnoses of heartworm infection in one or more dogs in 1991.

- Areas with dogs that had been outside of Canada and presumed infected before returning or with dogs whose movements were unknown
- + Areas with dogs some of which had never left Ontario

Table 2. Number of clinics or laboratories in the provinces reporting that they had blood-tested dogs and the number of dogs diagnosed with heartworm in 1991

Province	Number clinics reporting	Number of dogs	
		BT	HW
British Columbia	111	20,570	53
Alberta	69	21	3
Saskatchewan	16	154	0
Manitoba	37	14,451	116
Ontario	524	262,165	416
Quebec	144	41,365	38
Nova Scotia	21	880	1
New Brunswick	8	1127	0
Prince Edward Island	6	67	0
Newfoundland	3	31	0
TOTAL	939	344,031	627

BT = blood tested
HW = infected with heartworm

Table 3. Locations in Canada with two or more dogs diagnosed with heartworm in 1991, the history on movement of those dogs, and the use of the preventive medication

Location	Number of dogs	
	Had been outside Canada or movement unknown	Never left Canada
British Columbia		
Oliver	0	32
Osoyoos	1	14
Penticton	2	2
Alberta		
Calgary	2	1
Manitoba		
Balmoral	0	3
Oakbank	0	20
Portage La Prairie	0	3
Selkirk	27	37
Steinback	2	0
Stonewall	3	0
Winnipeg	4	14
Ontario		
Amherstburg	0	11
Aylmer	0	3

Table 3. Concluded

Location	Number of dogs	
	Had been outside Canada or movement unknown	Never left Canada
Brantford	10	21
Bright's Grove	0	3
Cambridge	0	5
Carleton Place	1	1
Chatham	0	5
Cobourg	0	2
Don Mills	2	0
Dunnville	0	3
Essex	25	19
Etobicoke	2	0
Fisherville	0	2
Forest	0	5
Fort Erie	2	0
Glencoe	0	3
Hagersville	0	24
Holland Landing	2	2
Keswick	0	6
Kingston	2	5
Kingsville	0	4
London	2	2
Morpeth	0	2
Mount Brydges	0	5
Newmarket	1	1
North Bay	1	1
Norwich	0	3
Orangeville	0	2
Parry Sound	2	0
Pembroke	0	3
Peterborough	2	12
Port Colborne	0	5
Sarnia	4	3
Simcoe	0	30
Stratford	1	1
Sutton West	3	2
Sydenham	0	12
Tecumseh	0	2
Tillsonburg	1	26
Toronto	4	3
Watford	0	2
Welland	0	4
Wheatley	12	12
Windsor	12	26
Quebec		
Joliette	1	2
L'Assomption	0	4
Lachute	0	4
Laval	0	3
Mascouche	0	3
Montreal	2	2
St. Jerome	0	3
St. Jovite	0	2
Ste. Adele	1	1
Ste. Anne-des-Plains	0	2