

FILARIDS WITH ZONOTIC POTENTIAL IN NON-COASTAL AREAS: FIRST EPIDEMIOLOGICAL SURVEILLANCE IN ACRE, NORTHERN BRAZIL

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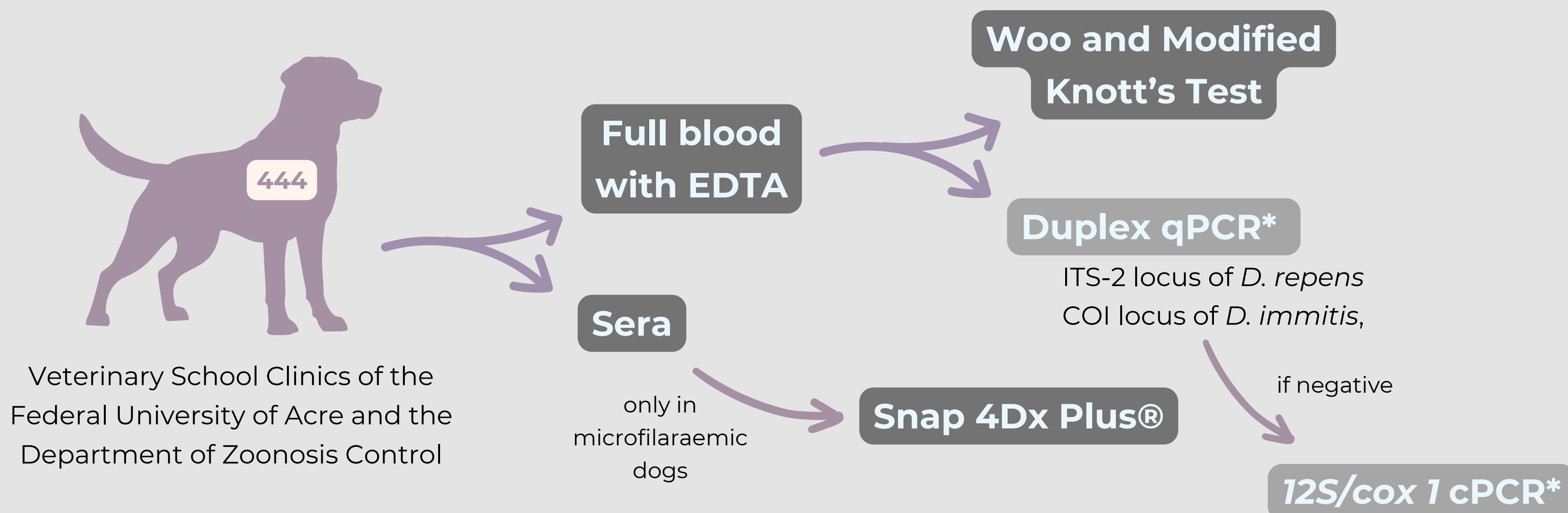
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INTRODUCTION

Dirofilaria spp. distribution and impact in Brazilian inland areas remain poorly understood (**Figure 1**). Our research aims to bridge this knowledge gap by detecting the presence of the parasite among dogs and characterizing its prevalence and distribution in the State of Acre. This study lays the foundation for new control strategies, ultimately enhancing veterinary care and safeguarding public health in these regions.

MATERIAL AND METHODS

Full blood samples from n=444 dogs from Rio Branco, Acre, were collected and analysed by parasitological and molecular methods (see diagram below). Serum samples of microfilaraemic dogs were also screened using an antigen detection POC test (i.e., Snap 4Dx Plus® rapid test) to confirm the presence of *Dirofilaria immitis* infections.



RESULTS

13.3% (59/444) dogs were microfilaraemic (**Table 1**) and 5.1% of them (3/59) were positive on the Snap 4Dx Plus® rapid test for *D. immitis*. Microfilariae showed an average length and width of 247.53 ± 16.32 and 4.80 ± 0.48 μm , being morphologically identified as *A. reconditum* (**Figure 2**).

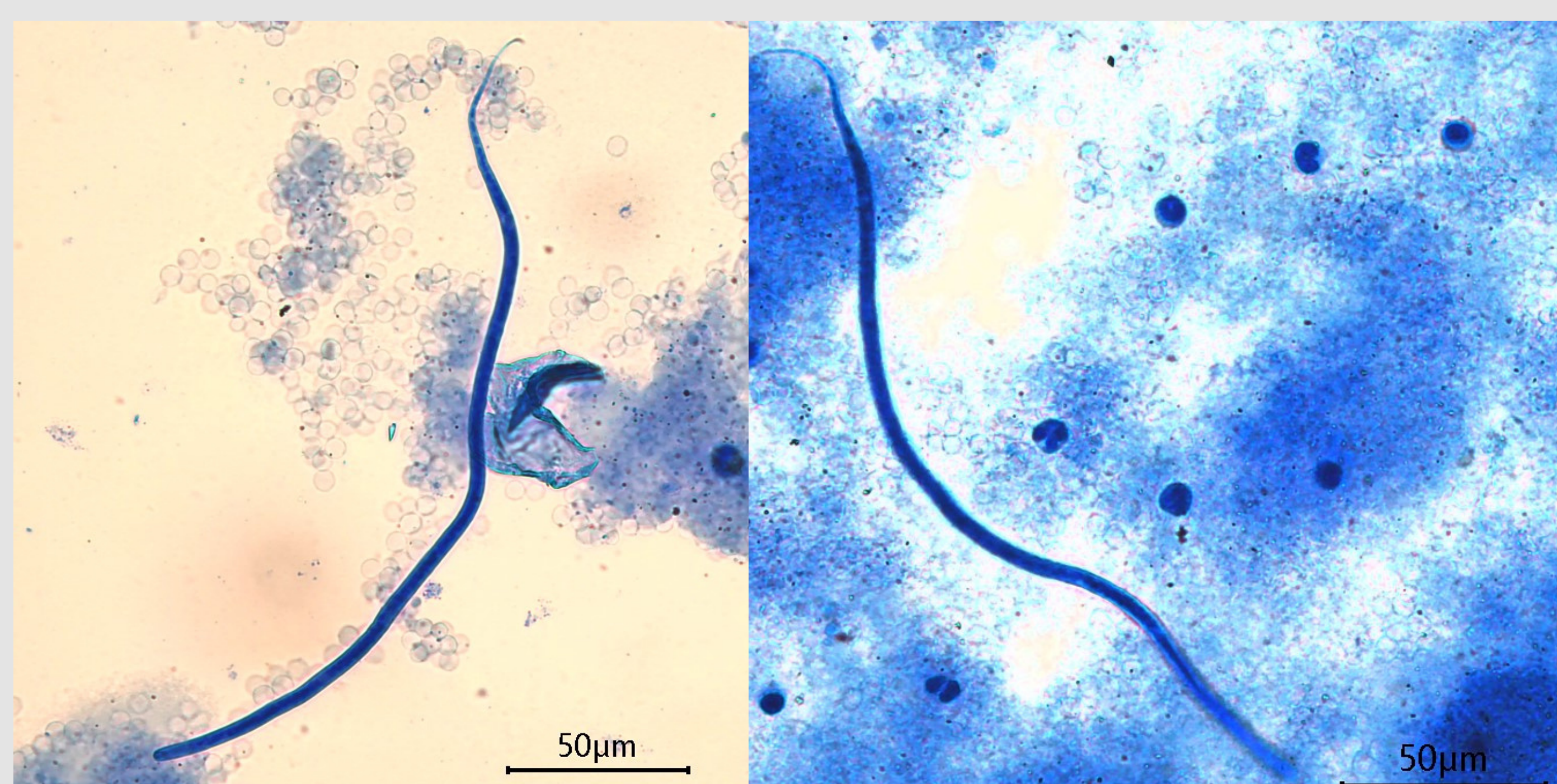


Figure 2. Microfilariae were morphologically identified as *Acanthocheilonema reconditum*.

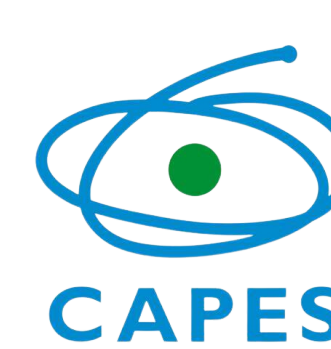
CONCLUSION

Our study unveils the presence of potentially zoonotic filarial species in the Acre dog population for the first time, underscoring the necessity for ongoing epidemiological surveillance in under-studied regions of Brazil. Until this moment, these initial results showed that a higher prevalence of infection with *A. reconditum* was found among younger and mixed-breed dogs, while *D. immitis* was found in 2 mixed breed dogs and 1 doberman, all >2 years old. In addition, the majority of microfilaraemic dogs were stray or living outdoor, thus more exposed at-risk of contracting the infection. Finally, the absence of preventive treatment especially in stray dogs, suggests how the lack of chemoprophylaxis has a key role in the circulation of the parasite within a canine population living in a certain geographical area. Molecular tests are expected to reveal a higher infection prevalence compared to traditional parasitological methods

REFERENCES

ZANFAGNINI, L.G. et al., (2024)
LABARTHE, N. V. et al., (2014)

ACKNOWLEDGMENTS



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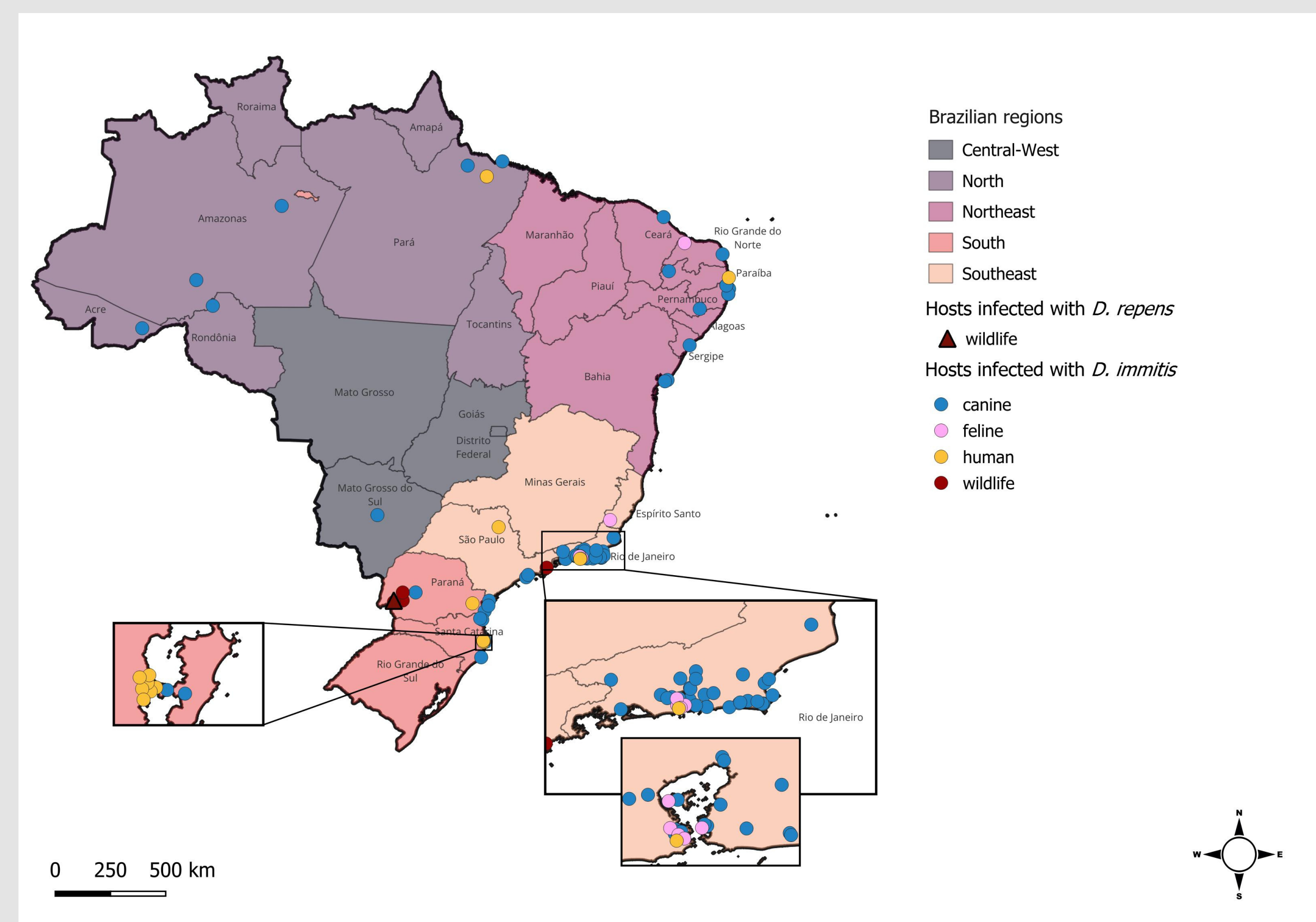


Figure 1. Brazilian map showing the municipalities where canine dirofilariasis prevalence was studied over the last ten years, highlighting also the municipalities where human, feline or wild-animals' cases were reported over the past 20 years.

Category	Positives/Total	%
Age		
Young (1- 2 years)	08/45	17,8
Adult (2-8 years)	39/287	13,6
Elderly (>8 years)	12/112	10,7
Hair coat length		
Long	02/19	10,5
Medium	1/17	5,9
Short	56/408	14,0
Sex		
Male	29/187	15,5
Female	30/257	11,7
Breed		
Mixed breed	53/288	18,8
Pit Bull	1/85	1,2
Doberman	1/2	50,0
Pinscher	2/16	12,5
Cocker Spaniel	1/4	25,0
Boxer	1/4	25,0
Other breeds	0/45	0,0
Home Environment		
Indoor	5/36	13,9
Outdoor	48/298	16,1
Mixed	6/110	5,5

Table 1. Microfilaraemic dogs divided by age, fur, sex, breed and home environment.