

**Filariosis of domestic carnivores in Gauteng, KwaZulu-Natal  
and Mpumalanga provinces, South Africa, and Maputo  
province, Mozambique**

By

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Submitted in partial fulfillment of the requirements for the degree Doctor of Philosophy in the  
Department of Veterinary Tropical Diseases in the Faculty of Veterinary Science, University of  
Pretoria

Date submitted: July 2009



*All things are subject to interpretation  
whichever interpretation prevails at a given time  
is a function of power and not truth*

Friedrich Nietzsche

## ACKNOWLEDGEMENTS

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My sincerest gratitude goes to my family for the encouragement received, without it would not have been possible to do this work.

I am also grateful to Prof Joop Boomker for the supervision of the thesis.

My colleagues in the Department of Veterinary Tropical Diseases for their valuable contributions: Ms Dawn Durand and Mr Ryno Watermeyer for their assistance in the laboratory and Ms Rina Serfontein for her kind assistance in formatting of the thesis.

I would also like to express my gratitude to Ms Rina Owen from the Department of Statistics, University of Pretoria, for the statistical analysis.

The following persons I would like to thank for their active support by providing samples from various geographic localities in South Africa and Mozambique: Dr Dagwin Camby (Kolonnade Animal Hospital, Pretoria), Dr Corrie van Aardt (Pretoria North Veterinary Clinic, Pretoria), Dr Willi Cilliers (Florandia Animal Hospital, Pretoria), Dr Nico Degenaar (Overkruin Veterinary Clinic, Pretoria), Dr Lina Gerber (Akasia Veterinary Clinic, Pretoria), Dr Peter Kirchner (Petland Animal Hospital, Pretoria), Dr Heinrich van Niekerk (Bergsig Animal Clinic, Pretoria), Dr Heidi Schroeder (Willow Park Small Animal Medicine Specialist Hospital, Pretoria), Dr Stephan Vogel (Ridge Animal Hospital, Pretoria), Dr Mariana van der Vyver (Sinoville Veterinary Clinic, Pretoria), Dr Anita Schwan (Heatherdale Veterinary Clinic), Dr Heinz Köhrs (Pongola Animal Clinic, Pongola), Dr Karl Aadnesgaard (Zululand Veterinary Hospital, Empangeni), Dr Peer Singery (Meerensee Veterinary Hospital, Meerensee), Dr Charles Pryke (Eshowe Veterinary Clinic, Eshowe), Dr Trevor Viljoen (Mtubatuba Veterinary Clinic, Mtubatuba), Dr Rick Mapham (Veterinary House Hospital, Pietermaritzburg), Dr Allan Hancox (Longmarket Veterinary Clinic, Pietermaritzburg), Dr Brian Longmore (Hayfields Veterinary Hospital, Pietermaritzburg), Dr Barry Hyman (Novartis SA), Drs Francois Malan and Neil Fourie (Malelane Research Unit, Intervet SA), Drs Albertus Coetzee and Johan Viljoen (West Acres Animal Clinic, Nelspruit), Dr Carlos Lopes Pereira (Direcção Nacional de Pecuária, Maputo) and last Dr Luis Neves (Eduardo Mondlane University, Maputo).

Special thanks to Ms Antoinette Lourens for her relentless efforts to track numerous publications from journals difficult to access.

This work was financially supported by Merial France, Merial SA, Novartis SA, Fort Dodge SA, Pfizer SA, the Research Committee of the Faculty of Veterinary Science, University of Pretoria and the Department of Veterinary Tropical Diseases, University of Pretoria.

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## SUMMARY

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FILARIOSIS OF DOMESTIC CARNIVORES IN GAUTENG, KWAZULU-NATAL AND  
MPUMALANGA PROVINCES, SOUTH AFRICA, AND MAPUTO PROVINCE,  
MOZAMBIQUE

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Based on two surveys, the thesis focuses on the prevalence of filarial parasites of domestic carnivores in Gauteng, KwaZulu-Natal and Mpumalanga provinces in South Africa and Maputo province of Mozambique. This is complemented by diagnostic results of routine examinations for filarial infections of dogs and cats from South Africa obtained between 1994 and 2008. Blood samples were collected and initially screened by membrane filtration for microfilariae. Other techniques employed were acid phosphatase staining for the identification of microfilariae and a commercial enzyme-linked immunosorbent assay for the detection of heartworm antigen. Combined with a critical literature review on filariosis of domestic carnivores in Africa, which is updated by diagnostic results obtained from animals in Africa between 1992 and 2008, the topic is addressed for the first time ever from a continental perspective.

In the South African provinces and Maputo province of Mozambique 196 of 1 379 dogs (14.21 %) were found positive for microfilariae. The species identified were *Dirofilaria immitis*, *Dirofilaria repens*, *Acanthocheilonema reconditum* and *Acanthocheilonema dracunculoides*. The endemic status of *D. immitis* was confirmed in 2 out of 313 dogs from Maputo province but not in the South African provinces. Infection with *D. repens* was found in 70 dogs (5.08 %). The highest prevalence rate was recorded in KwaZulu-Natal with 12.47 % (52/417), followed by Maputo Province with 3.83 % (12/313) and Mpumalanga with 1.5 % (5/333). Routine examinations have also confirmed autochthonous infections with *D. repens* in Gauteng and North West provinces. *Acanthocheilonema reconditum* was the species with the highest overall prevalence of 8.85 % (122/1 379). The highest prevalence rate was recorded in Mpumalanga with 29.13 % (97/333) followed by Maputo province with 6.39 % (20/313) and KwaZulu-Natal with 1.2 % (5/417). Routine examinations have also confirmed autochthonous infections in Gauteng, North West and Western Cape provinces. *Acanthocheilonema dracunculoides* was the species with the lowest overall prevalence of 0.07 % (1/1 379) and was only recorded in 1 dog from Maputo Province.

In KwaZulu-Natal 9 of 82 cats (10.98 %) were found positive for microfilariae, with *D. repens* as the only species involved.