



Dr Sonja Matthee

I completed my postgraduate training in 2000 in the Department of the Veterinary Tropical Diseases at Pretoria University. I have always been interested in animal diseases and parasites. More recently I have started to research various aspects pertaining to parasite ecology and have included regional scale phylogeographic patterns. My interest is macroparasites, but I also have an interest in viruses, protozoa and bacteria. The target host species mainly include rodents and insectivores. I am fortunate to have an extended network of collaborators from across the globe, who is involved in my research programme. My personal feeling is that a multidisciplinary research approach facilitates high quality and often novel research, with the potential for cutting-edge peer-reviewed publications.

Current postgraduate students and postdocs:

PhD:

Engelbrect, A. Comparative phylogeography of the four-striped mouse, *Rhabdomys pumilio* (Rodentia: Muridae), its host-specific parasite, the sucking louse *Polyplax arvicanthis* (Phthiraptera: Anoplura), and a generalist mite *Laelaps giganteus* (Acari, Mesostigmata) – Graduate March 2016

Kerr, T.J. Assessing inter-pride contact in the lion populations of the Kruger National Park through the use of the Feline Immunodeficiency Virus.

Spickett, A. Helminth diversity in *Rhabdomys* species across South Africa and the role of co-occurring small mammals species in shaping community patterns.

Nyangiwe, N. Species composition and geographic distribution of ticks (Acari: Ixodidae) on cattle grazing in different farming systems in the temperate regions of Eastern Cape Province of South Africa.

Espinaze, M. Establishing the effect of parasites on the health status, nesting behaviour and colony dynamics of African penguins (*Spheniscus demersus*).

Postdocs:

Du Toit, N. Phylogenetic relationship among members within the genus *Polyplax* (Anoplura) on small mammals in southern Africa.

Van der Mescht, L. The ecology of Siphonaptera of rodents (Family Muridae) in South Africa

Research publications for the past 5-years:

(complete profile: <http://scholar.google.com/citations?user=7OMEUycAAAAJ&hl=en>)

2016

1. Engelbrecht, A., **Matthee, S.**, du Toit, N., & Matthee, C.A. 2015 "Drown on arrival": limited dispersal contributes to significant phylogenetic congruence between ectoparasitic mites, *Laelaps*, and their rodent hosts, *Rhabdomys*. *Molecular Ecology* DOI: 10.1111/mec.13523

2015

1. Drexler JF. and the Hepatovirus Ecology Consortium. 2015. Small mammals shaped the evolution of human hepatitis A virus. *PNAS*, doi:10.1073/pnas.1516992112
2. Barnard, K., Krasnov B.R., Goff, L. & **Matthee, S.** 2015. Infracommunity dynamics of chiggers (Trombiculidae) parasitic on a rodent. *Parasitology*, doi:10.1017/S0031182015001110
3. Van Der Mescht, L., **Matthee, S.** & Matthee, CA. 2015. A genetic perspective on the taxonomy and evolution of the medically important flea, *Dinopsyllus ellobius* (Siphonaptera: Dinopsyllinae), and the resurrection of *Dinopsyllus abaris*. *Biological Journal of Linnean Society*, 116: 541-557
4. Van Der Mescht, L., **Matthee, S.** & Matthee, CA. 2015. Comparative phylogeography between two generalist flea species reveal a complex interaction between parasite life history and host vicariance: parasite-host association matters. *BMC Evolutionary Biology*, 15:105 (DOI 10.1186/s12862-015-0389-y)
5. Sands, AF., **Matthee, S.** Mfunne, JKE & Matthee CA. 2015. Life history and isolation by distance determine the mtDNA phylogeographic structures of two southern African *Mastomys* species (Rodentia: Muridae: Murinae). *Biological Journal of Linnean Society*, 114: 58–68.

2014

6. Witkowski, PT., Klempa, B., Ithete, NL., Auste, B., Mfunne, JKE., Hoveka, J., **Matthee, S.**, Preiser, W. & Kruger, DH. 2014. Hantaviruses in Africa. *Virus Research*, 187: 34-42.
7. Engelbrecht, A. Matthee, CA, Ueckermann, EA & **Matthee S.** 2014. Evidence of cryptic speciation in Mesostigmatid mites from South Africa. *Parasitology*, 141: 1322-1332.
8. Froeschke, G. & **Matthee, S.** 2014. Landscape characteristics influence helminth infestations in a peri-domestic rodent - implications for possible zoonotic disease. *Parasites & Vectors*, 7:393 (DOI: 10.1186/1756-3305-7-393).

2013

9. **Matthee, S.** Swanepoel, M, van der Mescht L, Leslie, AJ & Hoffman, LC. 2013. Ectoparasites of a non-indigenous warthog population, *Phacochoerus africanus*, in the Free State Province, South Africa. *African Zoology*, 48: 259-265.
10. Froeschke, G., Van Der Mescht, L., McGeogh, MA. & **Matthee, S.** 2013. Life history strategy influences parasite responses to habitat fragmentation. *International Journal of Parasitology*, 43: 1109-1118.
11. du Toit, N., Jansen van Vuuren, B., **Matthee, S.** & Matthee, C. 2013. Biogeography and host-related factors trumps parasite life-history: limited congruence among the genetic structures of two specific ectoparasitic lice and their rodent hosts. *Molecular Ecology*, 22: 5185-5204
12. Nyangiwe, N., Matthee, C., Horak, I. & **Matthee, S.** 2013. First record of the pantropical blue tick *Rhipicephalus microplus* in Namibia. *Experimental and Applied Acarology*, 61: 503-507.
13. Cangi, N., Horak, I.G., Apanaskevich, D.A., **Matthee, S.**, das Neves, L., Estrada-Peña, A. & Matthee, C.A. 2013. The influence of interspecific competition and host preference on the phylogeography of two African Ixodid tick species. *PLOS One*, 8(10): e76930.
14. Drexler, J.F., Victor Max Corman, Marcel Alexander Müller, Alexander N. Lukashev, Anatoly Gmyl, Bruno Coutard, Alexander Adam, Daniel Ritz, Lonneke, Debby van Riel, Stefan M. Klose, Florian Gloza-Rausch, Tabea Binger, Augustina Annan, Yaw Adu-Sarkodie, Samuel Oppong, Mathieu Bourgarel, Daniel Rupp, Bernd Hoffmann, Matthias Schlegel, Beate M. Kümmerer, Detlev H. Krüger, Jonas Schmidt-Chanasit, Alvaro Aguilar Setién, Veronika M. Cottontail, Thiravat Hemachudha, Supaporn Wacharapluesadee, Klaus Osterrieder, Ralf Bartschlagler, **Sonja Matthee**, Martin Beer, Thijs Kuiken, Chantal Reusken, Eric M. Leroy, Rainer G. Ulrich, Christian Drosten. 2013. Evidence for novel hepaciviruses in rodents. *PLOS Pathogens*, 9 (6): e1003438
15. du Toit, N., **Matthee, S.** & Matthee, C.A. 2013. The sympatric occurrence of two genetically divergent lineages of sucking louse, *Polyplax arvicantis* (Phthiraptera: Anoplura), on the four-striped mouse genus, *Rhabdomys* (Rodentia: Muridae). *Parasitology*, 5: 604-616.

16. Van Der Mescht, L., le Roux, P. & **Matthee, S.** 2013. Remnant fragments within an agricultural matrix enhance conditions for a rodent host and its fleas. *Parasitology*, 140: 368-377.

2012

17. Drexler, J.F., Corman, V.M., Müller, M.A., Maganga, G.D., Vallo, P., Binger, T., Gloza-Rausch, F., Yordanov, S., Seebens, A., Oppong, S., Adu-Sarkodie, Y., Lukashev, A.N., Schmidt-Chanasit, J., Stöcker, A., Carneiro, A.B., Maisner, A., Büttner, R., Kalko, E.K.V., Kruppa, T., Franke, C.R., Kallies, R., Nakoune, E., Reuskens, C., Hassanin, A., Krüger, D.H., **Matthee, S.**, Ulrich, R.G., Leroy, E.M. & Drosten, C. 2012. A link between mammalian paramyxoviruses and bats. *Nature Communications*. 3:796.
18. du Toit, N., Jansen van Vuuren, B., **Matthee, S.** & Matthee, C. 2012. Biome specificity of distinct genetic lineages within the four-striped mouse, *Rhabdomys pumilio* (Rodentia: Muridae) from southern Africa with implications for the taxonomy. *Molecular Phylogenetics and Evolution*, 65: 75-86.

2011

19. Krasnov, B.R., Stanko, M., **Matthee, S.**, Laudisoit, M., Leirs, H., Khokhlova, I.S., Korallio-Vinarskaya, N.P., Vinarski, M.V., Morand, S. 2011. Male hosts drive infracommunity structure of ectoparasites. *Oecologia*, 166: 1099-1110.
20. Apanaskevich, D.A., Horak, I.G., Matthee, C.A. & **Matthee, S.** 2011. A new species of *Ixodes* (Acari: Ixodidae) from South African Mammals. *Journal of Parasitology*, 97: 389–398.
21. **Matthee, S.**, van der Mescht, L., Wilson, B., & Lamberski, N. 2011. Flea diversity on small carnivores in the Northern Cape Province, South Africa. *African Zoology*, 46: 27-31.