

Dr Luther van der Mescht

Senior Lecturer

Department of Zoology and Entomology, Faculty of Natural and Agricultural Sciences, University of the Free State, PO Box 339, Bloemfontein 9300, Republic of South Africa

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EDUCATION

2012 - 2015

PhD in Conservation Ecology, Stellenbosch University, South Africa

Dissertation title: *Exploring mechanisms that shape Siphonaptera composition and distribution patterns on small mammals across South Africa.*

Research supervisors: Prof Sonja Matthee and Prof Conrad Matthee

2009 - 2011

MSc (*cum laude*) in Conservation Ecology, Stellenbosch University, South Africa

Dissertation title: *Ectoparasite assemblage of the four-striped mouse, Rhabdomys pumilio: the effect of anthropogenic habitat transformation and temporal variation.*

Research supervisor: Prof Sonja Matthee

2005 - 2008

BSc in Conservation Ecology, Stellenbosch University, South Africa

Subjects: 1st year - Biology, Chemistry, Geology, Mathematics (Bio), Biology, Computer Skills; 2nd year – Conservation Ecology, Biochemistry, Business Management, Botany and Zoology, Biometry, Microbiology, Botany, Computer Skills, Sociology; 3rd year – Conservation Ecology, Zoology, Genetics, Soil Science, Industrial Psychology, Biodiversity and Ecology; 4th year – Agronomy, Conservation Ecology, Geography and Environmental Studies, Soil Science, Entomology, Agricultural Economics.

2004

Matric, Point High School, Mossel Bay, South Africa

WORK AND RESEARCH EXPERIENCE

06/2024 – present

Senior Lecturer, Department of Zoology and Entomology, University of the Free State,
Bloemfontein, South Africa

07/2023 – 05/2024

Research Fellow, Department of Zoology and Entomology, University of the Free State,
Bloemfontein, South Africa

10/2022 – 05/2024

Senior Specialist: Study Management, Research Operations, Clinvet International, Uitzich
Road, Bainsvlei, Bloemfontein, South Africa

10/2021 – 09/2022

Investigator: Study Management, Research Operations, Clinvet International, Uitzich Road,
Bainsvlei, Bloemfontein, South Africa

04/2020 – 09/2021

Senior Researcher, Research Operations, Clinvet International, Uitzich Road, Bainsvlei,
Bloemfontein, South Africa

01/2019 - 03/2020

Postdoctoral Researcher, Department of Botany and Zoology, Stellenbosch University, South
Africa

Advisors: Prof Conrad Matthee and Prof Sonja Matthee

Description: Deciphering the taxonomy and evolutionary relationships within the southern Africa
cat flea complex and exploring the mechanisms that shape the diversity of their gut bacterial
communities.

10/2018 - 12/2018

Postdoctoral Researcher, Department of Conservation Ecology and Entomology, Stellenbosch
University, South Africa

Advisor: Prof Sonja Matthee

10/2016 - 09/2018

Postdoctoral Researcher, Mitrani Department of Desert Ecology, Ben-Gurion University of the Negev, Israel

Advisor: Prof Boris Krasnov

Description: Experimental evolution of host specialization in ectoparasites.

01/2016 - 09/2016

Consolidoc, Department of Conservation Ecology and Entomology, Stellenbosch University, South Africa

Advisor: Prof Sonja Matthee

07/2011 - 12/2011

Project Assistant, Coastal Landscaping and Rehabilitation Consultants, Mossel Bay, South Africa

04/2011 - 06/2011

Volunteer, Oyster Bay Reserve, Mossel Bay, South Africa

HONORS AND AWARDS

12/2019

Stellenbosch University Media Excellence Award: Newsmaker

09/2014

Best Senior Oral Presentation, International Conference on Parasites of Wildlife

05/2014

Best (Runner Up) PhD Oral Presentation, Annual Research Day of the Department of Conservation Ecology and Entomology

FUNDING SOURCES/GRANTS AWARDED

01/2019 – 12/2020

Claude Leon Foundation Postdoctoral Fellowship (South Africa)

Project title: *Deciphering the taxonomy and evolutionary relationships within the southern African cat flea complex and exploring the mechanisms that shape the diversity of their bacterial communities*

10/2016 – 09/2018

Blaustein Centre for Scientific Cooperation Postdoctoral Fellowship (Israel)

Project title: *Experimental evolution of host specialization in ectoparasites*

09/2016

Wilhelm Neitz Memorial Scholarship in Parasitology for Study Abroad awarded by the Parasitological Society of Southern Africa (PARSA)

04/2015

National Research Foundation (South Africa) Extended Support for PhD studies

01/2013 – 12/2014

National Research Foundation (South Africa) Innovation Scholarship for PhD studies

02/2012

Stellenbosch University Merit Bursary (South Africa)

01/2009 – 12/2010

National Research Foundation (South Africa) grant holder linked scholarship for MSc studies

SUPERVISORY EXPERIENCE

Current

Student: Ms G. Campher

Project title: *Improvement and validation of an in vivo anthelmintic assay using rats infected with Trichostrongylus colubriformis or Haemonchus contortus.*

Degree: MSc

Role: Co-supervisor

Student: Ms L. Blayi

Project title: *Current distribution and acaricide resistance status of Rhipicephalus (Boophilus) microplus and Rhipicephalus (Boophilus) decoloratus on commercial and communal cattle farms in the Free State province, South Africa.*

Degree: MSc

Role: Co-supervisor

Student: Ms E. Terblans

Project title: *Diversity and distribution of Rhipicephalus ticks found on cattle and buffaloes in the Free State province, South Africa.*

Degree: PhD

Role: Co-supervisor

Past

I have co-supervised a total of 12 fourth year BSc students in the Department of Conservation Ecology and Entomology at Stellenbosch University over four years that graduated and completed their studies.

2020

Student: Mr T. R. Krafft

Project title: *Using multi-species networks to assess the effect of habitat transformation on parasite sharing between host species*

Degree: Honours/4th year

Role: Co-supervisor

Student: Mr C. G. Hyslop

Project title: *The conservation value of remnant fragments for parasite diversity in an agricultural mosaic*

Degree: Honours/4th year

Role: Co-supervisor

Student: Ms M. B. ter Huurne

Project title: *Ectoparasites associated with the Cape Ground Squirrel and the factors that influence fleas*

Degree: Honours/4th year

Role: Co-supervisor

2018

Student: Ms N. S. Camagu

Project title: *Biogeography of flea body size*

Degree: Honours/4th year

Role: Co-supervisor

Student: Mr D. P. Hoffman

Project title: *Investigating similarity in ectoparasite composition of *Rhabdomys pumilio* among two biomes*

Degree: Honours/4th year

Role: Co-supervisor

Student: Mr L. Stevens

Project title: *Community structure of ectoparasites of males and females within and among populations of *Rhabdomys pumilio**

Degree: Honours/4th year

Role: Co-supervisor

Student: Mr J-T. Marx

Project title: *The impact of habitat fragmentation on the ectoparasite community structure of a synanthropic rodent: A co-occurrence network approach*

Degree: Honours/4th year

Role: Co-supervisor

2017

Student: Ms E. Vivier – Awarded third best research project in her class (76% average)

Project title: *Parasite diversity and assemblages in a small mammal community: The role of host-relatedness*

Degree: Honours/4th year

Role: Co-supervisor

Student: Ms C. Hayward

Project title: *The effects of land use on ectoparasite assemblages on rodent hosts*

Degree: Honours/4th year

Role: Co-supervisor

Student: Ms A. Joseph

Project title: *Morphological asymmetry in two flea species: the effect of host association*

Degree: Honours/4th year

Role: Co-supervisor

2016

Student: Mr E. F. Sorour

Project title: *Morphological asymmetry in two flea species: the effect of host association*

Degree: Honours/4th year

Role: Co-supervisor

TEACHING EXPERIENCE

2019

Lecturer

Subject: Conservation Ecology 244

Lecture: Community Ecology – Species Composition and Diversity

Department of Conservation Ecology and Entomology, Stellenbosch University, South Africa

2013 – 2016

Lecturer

Subject: Entomology 414

Lecture: Parasitology – Siphonaptera

Department of Conservation Ecology and Entomology, Stellenbosch University, South Africa

2012 – 2016

Teaching Assistant

Subject: Conservation Ecology 244

Department of Conservation Ecology and Entomology, Stellenbosch University, South Africa

2013 – 2014

Head Tutor

All Undergraduate Subjects

Department of Conservation Ecology and Entomology, Stellenbosch University, South Africa

2009 – 2010

Practical Demonstrator

Subject: Conservation Ecology 344

Department of Conservation Ecology and Entomology, Stellenbosch University, South Africa

2007

Practical Demonstrator

Subject: Biology 124

Department of Botany and Zoology, Stellenbosch University, South Africa

PEER-REVIEWED PUBLICATIONS

2024

50.) Krasnov, B.R., Khokhlova, I.S., Berrizbeitia, M.F.L., Matthee, S., Sanchez, J.P., **van der Mescht, L.** 2024. Functional similarity affects similarity in partner composition in flea-mammal networks. *Parasitology Research* 123, 203.

49.) Krasnov, B.R., Khokhlova, I.S., Berrizbeitia, M.F.L., Matthee, S., Sanchez, J.P., Shenbrot, G.I., **van der Mescht, L.** 2024. Relationships between functional alpha and beta diversities of flea parasites and their small mammalian hosts. *Parasitology* 151, 449-460.

48.) Heylen, D.J., Labuschagne, M., Meiring, C., **van der Mescht, L.**, Klafke, G., Junior, L.M.C., Strydom, T., Wentzel, J., Shacklock, C., Halos, L., Maree, F. 2024. Phenotypic and genotypic characterization of acaricide resistance in *Rhipicephalus microplus* field isolates from South Africa and Brazil. *International Journal for Parasitology: Drugs and Drug Resistance* 24, 100519.

47.) Krasnov, B.R., Shenbrot, G.I., Khokhlova, I.S., Lopez Berrizbeitia, M.F., Matthee, S., Sanchez, J.P., **van der Mescht, L.** 2024. Environment and traits affect parasite and host species positions but not roles in flea–mammal networks. *Integrative Zoology*.

2023

46.) Krasnov, B.R., Grabovsky, V.I., Khokhlova, I.S., Fernanda López Berrizbeitia, M., Matthee, S., Roll, U., Sanchez, J.P., Shenbrot, G.I., **van der Mescht, L.** 2023. Latitudinal distributions of the species richness, phylogenetic diversity, and functional diversity of fleas and their small mammalian hosts in four geographic quadrants. *Ecography*, p.e07129.

45.) Matthee, C. A., Matthee, S., Bierman, A., Krasnov, B., **van der Mescht, L.** Documenting the microbiome diversity and distribution in selected fleas from South Africa with an emphasis on

the cat flea, *Ctenocephalides f. felis*. Parasitology 150, 449-460.

44.) Krasnov, B. R., Khokhlova, I. S., Kiefer, M. S., Kiefer, D., Lareschi, M., Matthee, S., Sanchez, J. P., Shenbrot, G. I., Stanko, M., **van der Mescht, L.** 2023. Multi-site interaction turnover in flea–mammal networks from four continents: Application of zeta diversity concept and multi-site generalised dissimilarity modelling. Ecological Entomology 48, 466-484.

2022

43.) Khokhlova, I. S., **van der Mescht, L.**, Warburton, E. M., Stavtseva, N. A., Krasnov, B. R. 2022. Adaptation to a novel host and performance trade-off in host-generalist and host-specific insect ectoparasites. Insect Science 29, 567-580.

42.) Krasnov, B. R., **van der Mescht, L.**, Matthee, S., Khokhlova, I.S. 2022. Host phylogeny and ecology, but not host physiology, are the main drivers of (dis) similarity between the host spectra of fleas: application of a novel ordination approach to regional assemblages from four continents. Parasitology 149, 124-137.

2021

41.) Krasnov, B. R., Spickett, A., Junker, K., **van der Mescht, L.**, Matthee, S., 2021. Functional and phylogenetic uniqueness of helminth and flea assemblages of two South African rodents. International Journal for Parasitology 51, 865-876.

40.) Stavtseva, N. A., Fielden, L. J., Khokhlova, I. S., Warburton, E. M., **van der Mescht, L.**, Krasnov, B. R. 2021. Colonization of a novel host by fleas: changes in egg production and egg size. Parasitology Research 120, 451-459.

39.) **van der Mescht, L.**, Matthee, S., Matthee, C. A. 2021. New taxonomic and evolutionary insights relevant to the cat flea, *Ctenocephalides felis*: a geographic perspective. Molecular Phylogenetics and Evolution 155, 106990.

38.) Beugnet, F., Rautenbach, C., **van der Mescht, L.**, Lebon, W., Aouiche, N., Liebenberg, J. 2021. Insecticidal efficacy of afoxolaner against bedbugs, *Cimex lectularius*, when administered orally to dogs. Parasite 28.

2020

37.) Krasnov, B. R., Junker, K., Wood, S., Ueckermann, E. A., Venter, G. J., **van der Mescht, L.**, Heyne, H., Jacobs, D. S. 2020. Compositional turnover in ecto-and endoparasite assemblages of an African bat, *Miniopterus natalensis* (Chiroptera, Miniopteridae): effects of hierarchical scale and host sex. *Parasitology* 147, 1728-1742.

36.) Matthee, S., Stekolnikov, A.A., **van der Mescht, L.**, Froeschke, G., Morand, S. 2020. The diversity and distribution of chigger mites associated with rodents in the South African savanna. *Parasitology* 147, 1038-1047.

35.) Krasnov, B. R., Shenbrot, G. I., **van der Mescht, L.**, Khokhlova, I.S. 2020. Drivers of compositional turnover are related to species' commonness in flea assemblages from four biogeographic realms: zeta diversity and multi-site generalised dissimilarity modelling. *International Journal for Parasitology* 50, 331-344.

34.) Khokhlova, I. S., Fielden, L. J., Warburton, E. M., **van der Mescht, L.**, Krasnov, B. R. 2020. Feeding performance on a novel host: no adaptation over generations and differential patterns in two flea species. *Parasitology* 147, 721-728.

33.) Warburton, E. M., Khokhlova, I. S., Plame, R., Surkova, E. N., **van der Mescht, L.**, Krasnov, B. R. 2020. Flea infestation, social contact, and stress in a gregarious rodent species: minimizing the potential parasitic costs of group-living. *Parasitology* 147, 78-86.

2019

32.) Spickett, A., **van der Mescht, L.**, Junker, K., Krasnov, B. R., Haukisalmi, V., Matthee, S. 2019. Beta diversity of gastrointestinal helminths in two closely related South African rodents: species and site contributions. *Parasitology Research* 118, 2863-2875.

31.) **van der Mescht, L.**, Khokhlova, I. S., Surkova, E. N., Warburton, E. M., Krasnov, B. R. 2019. Reproductive performance in generalist haematophagous ectoparasites: maternal environment, rearing conditions or both? *Parasitology Research* 118: 2087-2096.

30.) Warburton, E. M., Khokhlova, I. S., **van der Mescht, L.**, Downs, C. J., Dlugosz, E. M., Krasnov, B. R. 2019. Effects of maternal and grandmaternal flea infestation on offspring quality and quantity in a desert rodent: evidence for parasite-mediated transgenerational phenotypic plasticity. *International Journal for Parasitology* 49: 481-488.

29.) Krasnov, B. R., Shenbrot, G. S., **van der Mescht, L.**, Warburton, E. M., Khokhlova, I. S. 2019. Phylogenetic and compositional diversity are governed by different rules: a study of fleas parasitic on small mammals in four biogeographic realms. *Ecography* 42: 1000-1011.

28.) Krasnov, B. R., Shenbrot, G. S., Korallo-Vinarskaya, N. P., Vinarski, M. V., **van der Mescht, L.**, Warburton, E. M., Khokhlova, I. S. 2019. Do the pattern and strength of species associations in ectoparasite communities conform to biogeographic rules? *Parasitology Research* 118: 1113-1125.

27.) Krasnov, B. R., Shenbrot, G. I., Warburton, E. M., **van der Mescht, L.**, Surkova, E. N., Medvedev, S. G., Pechnikova, N., Ermolova, N., Kotti, B. K., Khokhlova, I. S. 2019. Species and site contributions to β -diversity in fleas parasitic on the Palearctic small mammals: ecology, geography and host species composition matter the most. *Parasitology* 146: 653-661.

26.) Hatyoka, L., Froeschke, G., Kleynhans, D., **van der Mescht, L.**, Heighton, S., Matthee, S., Bastos, A. Bartonellae of Synanthropic Four-Striped Mice (*Rhabdomys pumilio*) from the Western Cape Province, South Africa. *Vector-Borne and Zoonotic Diseases* 19: 242-248.

2018

25.) Surkova, E. N., Korallo-Vinarskaya, N. P., Vinarski, M. V., **van der Mescht, L.**, Warburton, E. M., Khokhlova, I. S., Krasnov, B. R. 2018. Body size distribution in flea communities harboured by Siberian small mammals as affected by host species, host sex and scale: scale matters the most. *Evolutionary Ecology* 32: 643-662.

24.) Terefe, Y. A., Gaff, H., Kamga, M., **van der Mescht, L.** 2018. Mathematics of a model for Zika transmission dynamics. *Theory in Biosciences* 137: 209-218.

23.) Surkova, E. N., Korallo-Vinarskaya, N. P., Vinarski, M. V., Stanko, M., Warburton, E. M., **van der Mescht, L.**, Khokhlova, I. S., Krasnov, B. R. 2018. Sexual size dimorphism and sex ratio in arthropod ectoparasites: contrasting patterns at different hierarchical scales. *International Journal for Parasitology* 48: 969-978.

22.) Surkova, E. N., Warburton, E. M., **van der Mescht, L.**, Khokhlova, I. S., Krasnov, B. R. 2018. Body size and ecological traits in fleas parasitic on small mammals in the Palearctic: larger species attain higher abundance. *Oecologia* 188: 559-569.

21.) **van der Mescht, L.**, Warburton, E. M., Khokhlova, I. S., Stanko, M., Vinarski, M. V., Korralo-Vinarskaya, N. P., Krasnov, B. R. 2018. Biogeography of parasite abundance: latitudinal gradient and distance decay of similarity in the abundance of fleas and mites parasitic on small mammals in the Palearctic at three spatial scales. *International Journal for Parasitology* 48: 857-866.

20.) **van der Mescht, L.**, Khokhlova, I. S., Warburton, E. M., Dlugosz E. M., Kotler, B. P., Krasnov, B. R. 2018. Can we predict the success of a parasite to colonize an invasive host? *Parasitology Research* 117: 2305–2314.

19.) Krasnov, B. R., Shenbrot, G. I., **van der Mescht, L.**, Warburton, E. M., Khokholova, I. S. 2018. The latitudinal, but not the longitudinal, geographic range positions of haematophagous ectoparasites demonstrate historical signatures. *International Journal for Parasitology* 48: 743-749.

18.) Warburton, E. M., **van der Mescht, L.**, Khokhlova, I. S., Krasnov, B. R., Vonhof, M. J. 2018. Nestedness in assemblages of helminth parasites of bats: a function of geography, environment, or host nestedness? *Parasitology Research* 117: 1621–1630.

17.) Krasnov, B. R., Shenbrot, G. I., **van der Mescht, L.**, Warburton, E. M., Khokholova, I. S. 2018. Phylogenetic heritability of geographic range size in haematophagous ectoparasites: time of divergence and variation among continents. *Parasitology* 145: 1623–1632.

2017

16.) **van der Mescht, L.**, Warburton, E. M., Khokhlova, I. S., Vinarski, M. V., Korralo-Vinarskaya, N. P., Krasnov, B. R. 2017. Relationships among different facets of host specificity in three taxa of haematophagous ectoparasites. *International Journal for Parasitology* 47: 961-969.

15.) **van der Mescht, L.** and Matthee, S. 2017. Host range and distribution of small mammal fleas in South Africa, with a focus on medically and veterinary important species. *Medical and Veterinary Entomology* 31: 402-413.

14.) **van der Mescht, L.**, Khokhlova, I. S., Warburton, E. M., Krasnov, B. R. 2017. Revisiting the role of phylogenetic and compositional dissimilarity of host communities in driving dissimilarity in ectoparasite assemblages: Non-linear vs linear approach. *Parasitology* 144: 1365-1374.

13.) Nyangiwe, N., Horak, I. G., **van der Mescht, L.**, Matthee, S. 2017. Range expansion of the economically important Asiatic blue tick, *Rhipicephalus microplus* in South Africa. Journal of the South African Veterinary Association 88: a1482.

12.) Warburton, E. M., **van der Mescht, L.**, Stanko, M., Vinarski, M. V., Korralo-Vinarskaya, N. P., Khokhlova, I. S., Krasnov, B. R. 2017. Beta-diversity of ectoparasites at two spatial scales: nested hierarchy, geography and habitat type. Oecologia 184: 507-520.

11.) **van der Mescht, L.**, Khokhlova, I. S., Warburton, E. M., Krasnov, B. R. 2017. Parasite performance and host alternation: is there a negative effect in host-specific and host-opportunistic parasites? Parasitology 144: 1107-1116.

2016

10.) Warburton, E. M., Khokhlova, I. S., Dlugosz, E. M., **van der Mescht, L.**, Krasnov, B.R. 2016. Effects of parasitism on host reproductive investment in a rodent–flea system: host litter size matters. Parasitology Research 116: 703-710.

9.) **van der Mescht, L.**, Krasnov, B. R., Matthee, C. A., Matthee, S. 2016. Community structure of fleas within and among populations of three closely related rodent hosts: nestedness and beta-diversity. Parasitology 143: 1268-1278.

8.) **van der Mescht, L.**, le Roux, P. C., Matthee, C. A., Raath, M. J., Matthee, S. 2016. The influence of life history characteristics on flea (Siphonaptera) species distribution models. Parasites & Vectors 9: 1.

2015

7.) **van der Mescht, L.**, Matthee, S., Matthee, C. A. 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 the Linnean Society 116: 541-557.

6.) **van der Mescht, L.**, Matthee, S., Matthee, C. A. 2015. Comparative phylogeography between two generalist flea species reveal a complex interaction between parasite life history and host vicariance: Parasite-host intimacy matters. BMC Evolutionary Biology 15: 105.

2013

5.) Froeschke, G., **van der Mescht, L.**, McGeoch, M., Matthee, S. 2013. Life history strategy influences parasite responses to habitat fragmentation. *International Journal for Parasitology* 43: 1109-1118.

4.) **van der Mescht, L.**, le Roux, P. C., Matthee, S. 2013. Remnant fragments within an agricultural matrix enhance conditions for a rodent host and its fleas. *Parasitology* 140: 368-377.

3.) Matthee, S., Swanepoel, M., **van der Mescht, L.**, Leslie, A. J., Hoffman, L. C. 2013. Ectoparasites of a non-indigenous warthog population, *Phacochoerus africanus*, in the Free State Province, South Africa. *African Zoology* 48: 259-265.

2011

2.) Matthee, S., **van der Mescht, L.**, Wilson, B. 2011. Flea Diversity on Small Carnivores in the Northern Cape Province, South Africa. *African Zoology* 46: 27-31.

2010

1.) Matthee, S., Horak, I. G., **van der Mescht, L.**, Ueckermann, E.A. 2010. Ectoparasite Diversity on Rodents at De Hoop Nature Reserve, Western Cape Province. *African Zoology* 45: 213-224.

POPULAR ARTICLES

van der Mescht, L. *Cat fleas in Africa are a mystery we are trying to solve.* The Conversation: Africa, March 2019.

van der Mescht, L. *Conservation Ecology PhD graduate visits highly acclaimed research laboratory in Israel.* Agriscience Faculty Newsletter, Issue 77, April 2016.

van der Mescht, L. *Study is first to include molecular data for fleas of small mammals in SA.* Agriscience Faculty Newsletter, Issue 74, October 2015.

van der Mescht, L. *Exploring mechanisms that shape Siphonaptera diversity on small mammals at various spatial scales across South Africa.* PARSA Newsletter, Issue 14, April 2013.

van der Mescht, L. *Fit as a flea?* PARSA Newsletter, Issue 10, April 2012.

Matthee, S., **van der Mescht, L.** *689 fleas recorded to species level.* Agriscience Faculty Newsletter, Issue 50, April 2011.

CONFERENCE PRESENTATIONS

van der Mescht, L., Warburton, E. M., Khokhlova, I. S., Vinarski, M. V., Korallo-Vinarskaya, N. P., Krasnov, B. R. *Investigating relationships among different facets of host specificity in haematophagous ectoparasitic arthropods*; Oral presentation at the 47th Annual Conference of the Parasitological Society of Southern Africa, September 2018. Hosted by the Parasitological Society of Southern Africa at Forever Resort Tshipise, Limpopo, South Africa.

van der Mescht, L., Khokhlova, I. S., Warburton, E. M., Krasnov, B. R. *Non-linear approach to investigating relationships between compositional and phylogenetic dissimilarity of flea and host assemblages*; Poster presentation at the European Society for Evolutionary Biology XVI Congress, August 2017. Hosted by the European Society for Evolutionary Biologists at the University of Groningen in Groningen, The Netherlands.

van der Mescht, L., Matthee, S., Matthee, C. A. *Comparing the phylogeography of two fleas that infest multiple host species but differ in their level of host association*; Oral presentation at

the 18th Sede Boqer Symposium in Memory of Merav Ziv, May 2017. Host-parasite interactions: Ecology, evolution and biogeography. George Evens Family Auditorium, The Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Sede Boqer Campus, Midreshet Ben-Gurion, Israel.

van der Mescht, L., Matthee, S., Matthee, C. A. *The influence of life history characteristics on flea (Siphonaptera) species distribution models*; Oral presentation at the 45th Annual Conference of the Parasitological Society of Southern Africa, September 2016. Hosted by Parasitological Society of Southern Africa at the Lagoon Beach Hotel, Cape Town, South Africa.

van der Mescht, L., Matthee, S., Matthee, C. A. *Phylogeographic distribution of fleas associated with small mammals in South Africa*; Oral presentation at the International Congress on the Parasites of Wildlife, September 2014. Hosted by Parasitological Society of Southern Africa in Kruger National Park, South Africa.

van der Mescht, L., Matthee, S., Matthee, C. A. *Phylogeographic distribution of fleas associated with small mammals in South Africa*; Oral presentation at the 12th Biennial Conference of the Society for Tropical Veterinary Medicine (STVM) and the VIII International Conference on Ticks and Tick-borne Pathogens (TTP-8), August 2014. Cape Town, South Africa.

Matthee, S., Horak, I. G., **van der Mescht, L.**, Ueckermann, E.A. Ectoparasite diversity on Rodents at De Hoop Nature Reserve, Western Cape Province; Poster presentation at the 4th International Conference on Rodent Biology and Management, April 2010. Hosted by University of Free State, Bloemfontein, South Africa.

PROFESSIONAL ASSOCIATIONS

Parasitological Society of Southern Africa (PARSA)

World Association for the Advancement of Veterinary Parasitology (WAAVP)

SKILLS AND PROFICIENCIES

Proficient in the following software - advanced user of Microsoft Office, R programming language for statistical computing, Quantum Geographic Information Systems (QGIS).

Expert in the taxonomy of African Siphonaptera as well as the ecology and evolution of parasite-host systems.

Pre-clinical [*in vitro* (ticks and flies) and *in vivo* (rat-ectoparasites and rat-endoparasites)] and clinical veterinary GCP and non-GCP/GLP studies.

RESEARCH INTERESTS

Evolutionary Ecology, Community Ecology, Biogeography, Veterinary Parasitology, Parasite Resistance, Ectoparasites and Endoparasites

JOURNAL REVIEWS

Proceedings of the Royal Society B: Biological Sciences, Journal of Animal Ecology, Journal of Biogeography, African Zoology, African Journal of Range & Forage Science, Tropical Ecology, PLOS ONE, International Journal for Parasitology: Parasites and Wildlife, Journal of Parasitology, Parasitology Research, Veterinary Parasitology and Parasites & Vectors.

CONTINUOUS PROFESSIONAL DEVELOPMENT

Bioinformatics for the Biologist Workshop: Teaching Elementary Bioinformatic Skills for the Wet-Bench Biologist, November 2019.

Presenter: Dr L. Mariño-Ramirez

Venue: Stellenbosch University, Al Perold Building, Room 2005, Stellenbosch, South Africa

Workshop on Microbiome and Transcriptome Analysis, October 2018.

Presenter: Prof S. Handley

Venue: Nelson R. Mandela School of Medicine, University of KwaZulu-Natal, Durban, South Africa

The 3rd joint UNISA-UP Workshop on Theoretical and Mathematical Epidemiology,
February/March 2016.

Presenters: Prof H. Gaff, Dr R. Ouifki, Prof P. van den Driessche, Prof A. Lloyd, Prof Y. Dumont,
Prof R. Smith?, Prof A-A. Yakubu, Prof A. Gumel

Venue: Pure Joy Lodge & Senate Hall, Muckleneuk Campus, Pretoria, South Africa

Tutor Training Workshop, July 2014.

Presenter: Dr G. Arendse

Venue: Stellenbosch University, South Africa

Postgraduate Capacitation, Mentorship and Project Management, June 2014.

Presenter: Dr L. Cassim

Venue: Stellenbosch University, South Africa

Geometric Morphometrics for the Multivariate Analysis of Organismal Shape, January 2014.

Presenter: Prof C. Klingenberg

Venue: Stellenbosch University, South Africa

Phylogenetics Networks Workshop, November 2013.

Presenters: Dr G. W. Grimm, Dr A. J. Potts and Dr N. Bergh

Venue: South African National Biodiversity Institute (SANBI), Kirstenbosch Botanical Gardens, South Africa

Mite Taxonomy, June 2010.

Presenter: Prof E. Ueckermann

Venue: Stellenbosch University, South Africa

Flea Taxonomy, February 2009.

Presenter: Joyce Segerman

Venue: National Health Laboratory Services (NHLS), Johannesburg, South Africa

FURTHER COLLABORATIONS

Project title: Land use and host community characteristics as predictors of risk for rodent-borne zoonotic diseases.

Research institute: University of Pretoria

Partners:

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Prof. M Oosthuizen, Associate Professor, Department of Veterinary Tropical Diseases, University of Pretoria

Prof AD Bastos, Professor, Department of Zoology and Entomology, University of Pretoria

Prof S Matthee, Professor, Department of Conservation Ecology and Entomology, University of Stellenbosch

Localities: Bushbuckridge Local Municipality (east), including Manyeleti NR

REFERENCES

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