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Werner C. Marais

Summary of qualifications

Late 2009
Started PhD (Biodiversity and Conservation) – Still in progress *University of Johannesburg*

2008
MSc (Biodiversity and Conservation) *University of Johannesburg*

2006
Hons (Biodiversity and Conservation) *University of Johannesburg*

2005
BSc (Zoology and Botany) *University of Johannesburg*

Education

PhD (Biodiversity and Conservation)

- In-depth study of the subterranean and epiphoreal ecosystems of caves and their surrounding environments in the Gauteng province, and more specifically the Carletonville Dolomite Grassland vegetation unit.
- Special reference is paid to cave dwelling bats and their specific conservation needs inside as well as outside caves, where foraging takes place.
- A thorough understanding of grassland ecology as well as mammalian biology/behavior is essential for the study.
- The impacts of urbanisation on cave bat colonies are an essential focus of the research.
- Strong ecological focus.

MSc (Biodiversity and Conservation)

- The potential of using insectivorous bats (Microchiroptera) as a means of insect pest control in agricultural areas – Passed with distinction
- Involved a large scale in-depth survey of the bat diversity in the Tzaneen and Waterpoort areas, Limpopo.
- Understanding and observing the biology and behavior of local bat species.

- Designing and experimenting with artificial bat roosts.

Hons Biodiversity and Conservation

- Research project: Preliminary study of the terrestrial Arthropoda associated with caves of the Cradle of Humankind World Heritage Site – Passed with distinction
- Introduction to Environmental Management
- Herpetology
- Terrestrial and conservation ecology
- Resource management (incl. forestry, fire ecology, animal behavior)
- Practical fieldwork methodology (4X4, boat training and mapping)
- Mammology
- Population genetics and biosystematics
- Philosophy and research methodology: Zoology Nature conservation
- Parasitology
- Molecular evolution

BSc Zoology and Botany

- One-year course in animal diversity and identification
- Six month course in basic and marine ecology
- Limnology and terrestrial ecology
- Coastal diversity excursion (Marine ecology)
- Introduction to SASS Freshwater pollution monitoring methodology
- Applied freshwater ecotoxicology
- Waterborne diseases
- Integrated animal physiology and processes
- General parasitology
- Cytology
- Six-month course in the identification and diversity of South African flora
- Ethno and economical plants
- Biotechnology
- Plant physiology
- Plant pathology
- Cellular and molecular biology
- Introduction to organic and physical chemistry
- General chemistry
- Mineralogy and earth dynamics

Additional:

- ***Experienced report writing skills, sufficient computer skills.***
- ***Proficient in GIS, bioacoustics analysis.***
- ***Snake Identification and Handling Course – Presented by MHB Enviro Developments.***
- ***Multiple training courses in bat related topics - Gauteng and Northern Regions Bat Interest Group (GNoRBIG; 2005-2009).***
- ***Soil Classification and Wetland Delineation Course – Presented by Terrasoil.***
- ***Fall Arrest Level 2 qualification (for working at heights).***
- ***Advanced driving course in 4x4 off-road driving.***

Affiliations to professional bodies and societies

- Pr.Sci.Nat.– SACNASP (Zoological Science; registration number 400169/10)
- Steering committee member of the SABAA (South African Bat Assessment Association).
- Bat Conservation International (BCI)
- Serving on the research committee of the Gauteng and Northern Regions Bat Interest Group (GNoRBIG).
- Serving on the steering committee of the Zoological Society of the University of Johannesburg.

Experience

- i. 2008 – Current Founder of Animalia Zoological & Ecological Consultation CC. Animalia has completed more than **300 specialist reports and numerous large scale projects** under the supervision and lead of Werner Marais:
- ii. 2008 University of Johannesburg Gauteng
 - Sensitivity and biodiversity surveys of five caves in the Cradle of Humankind World Heritage Site (COHWHS) and Pretoria areas.
 - Preliminary survey to investigate the correlation between insectivorous bats and prey insects in the Krugersdorp Game Reserve.
- iii. 2007, 2008 Limpopo
 1. Bertie van Zyl (Pty) Ltd.(ZZ2 Tomato Farms)
 2. University of Johannesburg Gauteng

Two year project to research the biological pest control method of utilizing insectivorous bats in agriculture. Required to conduct an in-depth study of bat (Microchiroptera) behavior and ecologically important factors.
- iv. 2006 University of Johannesburg Gauteng

Six month survey of cave dwelling arthropods in the Cradle of Humankind World Heritage Site.

Additional:

Invited by the EWT (Endangered Wildlife Trust) to deliver a presentation on current ecological issues regarding bats and wind energy.

Invited to present on current ecological issues regarding bats and wind energy for ESSA (Exploration Society of Southern Africa).

Contributing editor for the: “South African Good Practice Guidelines for Surveying Bats at Wind Energy Facility Developments – Pre-construction; 3rd Edition February 2014”

As a co-author, received the Dow Greeff price for best annual scientific publication: "Die karst-ekologie van die Bakwenagrot (Gauteng)" published in the Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie, Vol. 31(1), 2012.

Public and educational presentations related to bats, and presented a part of a Bat Training Course at Nylsvley Nature Reserve.

Presented the following papers at conferences:

- **The potential of using insectivorous bats (*Microchiroptera*) as a means of insect pest control in agricultural areas. The Zoological Society of Southern Africa's 50th Anniversary Conference. July 2009.**
- **Inseketende vlermuise (*Microchiroptera*) en vlermuishuise in landbougebiede. Suid Afrikaanse Akademie vir Wetenskap en Kuns se 100 jaar Eufees kongres. October 2009.**

Interviewed for two popular magazine articles on ecological aspects of biological pest control utilising bats; published in two consecutive issues of Farmers Weekly.

Languages Afrikaans / English – Full professional proficiency in both.

References ***Dr Francois Durand – Karst ecologist and paleontologist. Pr.Sci.Nat. (Zoology and Earth Sciences).***

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Dr David Hoare (Pr.Sci.Nat.) – David Hoare Consulting CC

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***Stephan du Toit (MSc; Pr.Sci.Nat.) – Specialist: Environmental Protection;
Mogale City Municipality***

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Julio Balona – Chairman of the GNoRBIG

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Thank You