14th African Arachnology Society Colloquium

Colloquium of the African Arachnological Society 14TH

28th January - 1st February 2024

Hosted by the Arachnology Unit of the Agricultural Research Council – Plant Health and Protection at ATKV Buffelspoort Resort, Rustenburg, North West Province, South Africa.

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CONTENT

1. *Content ……..2*
2. *Welcome……..3*
3. *African Arachnological Society……..4*
4. *Obituaries*……5
5. *Awards……6*
6. *Programme ……6-7*
7. *Abstracts ……8-29*

ACKNOWLEGEMENTS

We would like to thank:

- University of Venda for the travel grant award
- Agricultural Research Council for technical support
- All delegates for attending

WELCOME

On behalf of the Organising Committee of the 14th Colloquium of the African Arachnological Society, we would like to welcome you to the ATHV Buffelspoort Resort.

We trust that the Colloquium will be an enjoyable and stimulating experience, and that the natural beauty of the Waterberg will provide you with the opportunity to sample many interesting arachnids from the resort and increase your appreciation for the unique fauna and flora of the area. Checklist of Klein Kariba available.

RESORT MAP

Activities at the resort

- Heated indoor and outdoor swimming pools
- Cold-water outdoor swimming pools
- Jacuzzis
- Super-tube and trampolines
- Snooker and pool
- Golf and adventure putt-putt
- Volleyball, squash, tennis

Facilities at the resort

The following facilities are available at the resort: a licensed restaurant with a takeaway section, a sports bar and a well-stocked shop and bottle store. An ATM is also available on the premises.

AFRICAN ARACHNOLOGICAL SOCIETY (AFRAS)

The AFRICAN ARACHNOLOGICAL SOCIETY (AFRAS) is a scientific society devoted to the study of spiders and their relatives.

FOUNDED

It was initiated in 1986 in Pretoria and was first called "The Research Group for the Study of African Arachnida". At the 5th African Arachnological Colloquium (November 1996) the name was changed to the AFRICAN ARACHNOLOGICAL SOCIETY (AFRAS).

PURPOSES AND OBJECTIVES

To promote the study of African Arachnida (non-Acari)
To achieve closer cooperation and understanding between local and overseas professional arachnologists
To organize a colloquium in Africa every second or third year
To circulate a newsletter annually

MEMBERSHIP

Open to any person actively involved in research on African arachnids.

COSTS

No membership fees are presently charged. Work on donations and surplus made during colloquia.

COMMITTEE MEMBERS

Chairman, secretary, editor and sub-editor of the newsletter to be elected during AFRAS general meeting to be held during the week of the colloquium (voluntary).

The chairman and convenor of the next colloquium to be appointed during this meeting.

OFFICIAL LANGUAGE

English.

WEBSITE

https://afras.ufs.ac.za

COMMITTEE MEMBERS 2020-2024

- CHAIRPERSON: Stefan Foord from the University of Venda
- SECRETARY: Robin Lyle from the ARC
- TREASURER: Petro Marias from the ARC
- NEWSLETTER: Ansie Dippenaar-Schoeman from the University of Venda
- WEBSITE: Charles Haddad from the University of the Free State

IN REMEMBERANCE

STEFAN FOORD

1971 - 2023

At the time of his sudden passing, Stefan was the NRF-SARChI Chair in Biodiversity Value and Change at the University of Venda in South Africa, and was the sitting Chairperson of the African Arachnological Society (AFRAS). He was a prolific ecologist and did a lot of pioneering work on the biodiversity and ecology of spiders in South Africa, particularly. During his career, he published more than 100 journal articles, one book chapter, and two books. He was instrumental in the preparation of the First Atlas of South African Spiders, the Red List of South African spiders, and the recently published national spider checklist. He also made a significant contribution to the systematics of Afrotropical spiders, revising the Hersiliidae as his Ph.D study, and described or co-authored the description of 29 spider species during his career.

Stefan was an excellent networker, philosopher, collaborator and mentor, and was always willing to listen to creative ideas and contribute to innovative studies. He was supervisor to a broad array of postgraduate students and, more recently, postdoctoral fellows, and made a massive contribution to the development of arachnology in Africa. His outgoing personality, approachability, drive, friendship and leadership will be sorely missed by all that had the pleasure of meeting and knowing him.

A legend of African arachnology, gone too soon.

PETER WEBB

1953 - 2022

Peter was a true naturalist in every sense of the word. He was a true student of natural history. His love for nature, not matter how big or small, was a true wonder. His love for invertebrates started with butterflies and slowly moved onto six legged creatures.

His photography skills and his love for the outdoors lead him towards Dr Ansie Dippenaar's door. Through his exploration and documentation of the Irene field, Peter and Ansie learnt so much more about spiders living in their backyard.

Peter's love for nature photography lead him to participate in Bioblitz's, accompany with the ARC team in the field and generated his interest in solidary bees. Along with his wife, he started Tutus Loco, producing bee hotels to provide a happy home for solidarity bees.

Peter took more than 20 000 photographs of spiders from all the provinces in the country and in Swaziland.

COLLOQUIUM AWARDS

1. POSTER AND PAPER AWARDS

- Best student presentation
- Best student poster
- Best paper
- Best poster

2. CATCH OF THE DAY

3. PHOTOGRAPHIC COMPETITION

- Mygalomorphs
- Salticidae
- Other arachnids
- Silk structures
- Behaviour — These could be a series of photos
- Microscope photos
- Amateurs — This refers to those with DSLR cameras with macro lenses

4. AFRAS AWARD (since 2005)

- **Lawrence Lifetime Award**
  - 2006: Rudy Jocqué
  - 2011: Ansie Dippenaar & Charles Griswold
  - 2014: Astri Leroy
  - 2017: Leon Lotz
  - 2020: Gerbus Muller & Wanda Wesolowska
- **Previously awarded, Award in recognition of service to the African arachnological community**

  Previously awarded to: Annette van den Berg and Astri Leroy
- **Previously awarded, Award for best contribution over last three years**

  Previously awarded to: Ansie Dippenaar-Schoeman, Charles Haddad, Stefan Foord

IMPORTANT NOTICE

Students presenting during the Colloquium will have an asterisk (*) next to their name in the programme

Programme

28 January 2024			
Time		**TOPIC**	
14:00	18:00	Arrival and registration of delegates	
18:00	20:00	Welcome Braai	
29 January 2024			
Time		**TOPIC**	**PRESENTER**
7:00	8:30	Breakfast	
9:00	9:05	Welcome	
9:05	10:00	Memorial for Stefan Foord and a remembrance for Peter Webb	ALL
10:00	10:30	Tea	ALL
10:30	11:00	*Plenary Talk* SANSA after 27 years: The present status of spiders in South Africa	Ansie Dippenaar-Schoeman
		Biodiversity and Conservation	Chairperson: Robin Lyle
11:00	11:15	Spiders in hunting poisons of indigenous communities	Tharina Bird
11:15	11:30	Springtails and spiders from the “cosy homes” of termites	Hannelene Badenhorst*
11:30	11:45	Spiders of the Richtersveld National Park: contribution of a rapid sampling protocol repeated seasonally in adding biodiversity data	Charles Haddad
11:45	12:00	Small-scale habitat heterogeneity is more important for spider alpha and beta diversity in an arid mountain	Carol Kunene*
12:00	12:15	Assemblages of spider families are not affected by crushed stone mining	Inam Yekwayo
12:15	12:30	Colloquium Photo	
12:30	14:00	Lunch	ALL
		Biodiversity and Conservation	Chairperson: Michael Vickers
14:00	14:15	One time only: spider diversity determined along a latitudinal transect in the Succulent Karoo Biome using a rapid sampling protocol	Charles Haddad
14:15	14:30	The influence of longitudinal and lateral gradient on riparian spider diversity	Asande Hadebe*
14:30	14:45	The role of social media and citizen scientists in arachnological research	Wessel Pretorius
		Posters - *Biodiversity and Conservation*	Chairperson: Rudy Jocque
14:45	14:50	Solifugae (Arachnida): current state of knowledge in southern Africa	Tharina Bird
14:50	14:55	Lists from 32 years of collecting and recording spiders at the Walter Sisulu National Botanical Garden	Astri Leroy
14:55	15:00	The National Collection of Arachnida: present status	Eugene Madiseng
15:00	15:05	The spider type specimens deposited in the National Collection of Arachnida	Maggie Manyasta
15:05	15:05	Closing for the day	
15:10	16:00	Tea	
18:00		Dinner and free evening	

Programme

30 January 2024			
Time		**TOPIC**	**PRESENTER**
7:00	8:30	Breakfast	
9:00	9:05	Welcome and announcements	ALL
		Systematics and Taxonomy	Chairperson: Maggie Manyasta
9:05	9:20	An update on the current state of South African pseudoscorpion taxonomy	Jan Andries Neethling
9:20	9:35	Geometric morphometric analysis of ocular patterns as species identifier in the South African endemic trapdoor spider genus *Stasimopus* Simon, 1892 (Araneae, Mygalomorphae, Stasimopidae)	Robin Lyle
9:35	9:50	*Scytodes* (Araneae: Scytodidae) spitting spiders of Southern Africa	Ruan Booysen*
9:50	10:05	The how and why of cheliceral stridulation in Linyphiidae (Araneae)	Rudy Jocque
10:05	10:20	The evolution of predation in spiders: Proposed jumping spider edition	Dr Michael Vickers
		Posters - Systematics and Taxonomy	Chairperson: Eugene Madiseng
10:20	10:25	Resolving taxonomic issues on South African Arachnida fauna, focusing on the genus *Euryopis* Menge, 1868 (Araneae: Theridiidae)	Thembile Khoza
10:25	10:30	The current status of the taxonomy of the family Entypesidae (Araneae, Mygalomorphae) in South Africa	Robin Lyle
10:30	11:15	Tea	ALL
11:15	12:00	Permitting Workshop and Discussion	ALL
12:15	14:00	Lunch	ALL
14:00	14:20	The African Arachnological Society (AFRAS): 38 years later	Ansie Dippenaar-Schoeman
14:20	15:30	*AFRAS Meeting*	
15:30	15:35	Closing and announcements	ALL
15:35	16:00	Tea	ALL
18:00	19:00	Dinner	
19:00		*Peace Party / Games Night*	ALL
		31 January 2024	
Time		**TOPIC**	**PRESENTER**
7:00	8:30	Breakfast	
8:30	8:45	Pick up packed lunches and meeting in parking lot for day of collecting	ALL
8:45	16:00	Departure and day collecting	ALL
18:30	22:00	Gala Dinner	ALL
1 January 2024			
Time		**TOPIC**	
7:00	8:30	Breakfast	
		Departure	

1. ORAL PRESENTATION

SANSA after 27 years: The present status of spiders in South Africa

A.S. Dippenaar-Schoeman[1], S.H. Foord[1], C.R. Haddad[2], L.N. Lotz[3] & R. Lyle[4]

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The South African National Survey of Arachnida (SANSA) was initiated in 1997, and now 27 years later we review the present state of our knowledge on the spiders. Conservation biogeography concerns species' distribution dynamics, and large datasets are available for spiders. We give feedback on the updated national and provincial checklist and the latest information on floral biome diversity. We discuss species endemicity, the availability of Red List species assessments, and what to do about species listed as Special Concern and Data Deficient. New projects and survey efforts are discussed, and the availability of photo identification guides to help with species identifications. To increase awareness, we have published >60 species articles to ensure their listing from South Africa on the World Spider Catalog and>200 faunistic survey papers. We show why team efforts are so important for documenting faunal groups with high diversity and illustrate why SANSA as a team effort is so successful.

2. ORAL PRESENTATION

Theme: Biodiversity and Conservation

Spiders in hunting poisons of indigenous communities

T.L. Bird[1,2,3], S. Moeti[4], R.K. Hitchcock[5,6], M.C. Kelly[5,6], L.L. Chobolo[3], N. Gotcha[3], K.K. Moatlhodi[3], L.D. Mukoka[3], E.K. Sekopo[3] & C.S. Chaboo[7]

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Hunting has been crucial in early human evolution. The use of poisons in hunting projectiles such as arrows, darts, and spears is a remarkable aspect of some indigenous hunting kits. Ingredients in projectile poisons can be plant or animal based. Spiders are indicated in hunting poisons in different cultures, but reports are largely anecdotal, and have not been ground-truthed. The poison recipes, and the taxonomic identifications of species used, are not well documented. This while the practice has largely disappeared globally. The San (Bushmen) of southern Africa still practice hunting. Through fieldwork and interviews, we investigated indigenous hunting practices of G/ui and G//ana San communities in the Central Kalahari Game Reserve (CKGR), Botswana. Surprisingly, we found that the hunters used the contents of the opisthosoma of the garden orb-web spider *Argiope australis* (Walckenaer 1805) (Araneidae) as a sole ingredient in their arrow hunting poisons. They discarded the prosoma, which contains the venom glands. This raises questions about the role of the spider venom, and indeed of the spider itself, in projectile poisons, and the reason behind the choice of a particular spider species. A systematic literature review of global use of spiders as hunting poisons seem to confirm our observation that spiders are, for the most part, not included in the poison recipe because of their venom. We touch on potential reasons why spiders are included in projectile poisons, potential ways in which a spider-based poison could lead to the kill of a prey item, and potential aspects that might have influenced the initial choice of a specific species. This study contributes to the documentation of Indigenous Knowledge. It has relevance to bioprospecting and to toxin research, and it provides insight into the physical, social, and cultural evolution of early humans.

3. ORAL PRESENTATION*

Theme: Biodiversity and Conservation

Springtails and spiders from the "cosy homes" of termites

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The snouted harvester termite (*Trinervitermes trinervoides*) is a widespread termite species found throughout South Africa. These termites feed predominantly on grass litter and can maintain adult population sizes ranging from 9 000 to 889 000. Their nests are in thermoregulated dome-shaped mounds in which they store grass fragments as a food source. In the absence of a queen, these mounds are not maintained and become perforated and abandoned. A wide range of vertebrates and invertebrates use these abandoned *T. trinervoides* mounds as refuge, and some even prey on the declining termite colonies. However, little is known about the influence of *T. trinervoides* mounds on the arthropod community structure in the surrounding grasslands. Springtails and spiders are two ecologically important groups with several recorded associations between termites and members of each group. This study aimed to investigate the springtail and spider species richness and abundance inside and around living and abandoned *T. trinervoides* mounds in a grassland matrix in Bloemfontein. In total, 59 spider (838 individuals, 22 families) and 24 springtail (217 857 individuals, 9 families) species were collected from 96 pitfall traps, placed at eight sites in and around each of the 12 living and 12 abandoned mounds during March 2019. The most abundant and species rich spider families include the Gnaphosidae (n = 270, 10 species), Zodariidae (n = 86, 7 species), Lycosidae (n = 86, 6 species) and Salticidae (n = 77, 5 species). Indicator species analysis of the spider abundance data (lumped according to eight microhabitats) showed that *Zelotes sclateri* Tucker, 1923, *Heliophanus termitophagus* Wesołowska & Haddad, 2002 and *Scytodes elizabethae* Purcell, 1904 are associated with abandoned mounds and their surroundings. None of the springtail species showed an association based on the IndVal analysis of the eight sites (lumped data), but the undescribed *Cyphoderus* sp. were mostly collected inside living mounds.

4. ORAL PRESENTATION

Theme: Biodiversity and Conservation

Spiders of the Richtersveld National Park: contribution of a rapid sampling protocol repeated seasonally in adding biodiversity data

C.R. Haddad[1], S.H. Foord[2], A.S. Dippenaar-Schoeman[2], R. Booysen[1], M.E. Vickers[1], R. Christiaan[3] , A. Stander[1]

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The Richtersveld National Park (RNP) is situated in the extreme north-western part of South Africa and borders with Namibia to the north. The park is of considerable ecological and conservation significance, as it protects a large proportion of the Desert Biome in the country, as well as the globally significant Succulent Karoo Biome. Despite its extreme aridity and ecological significance, the spider fauna of the park is very poorly known compared to the well-studied scorpion fauna (17 spp.). Prior to 2021, only 62 species had been collected and identified from the park, including some records represented in the primary taxonomic literature. However, a few of these historical records represent misidentifications. To generate arachnid diversity data from RNP, we carried out sampling in four biotopes (open plain, riparian vegetation, east- and west-facing mountain slopes) using a standardized rapid sampling protocol (RSP) comprising 12 samples each of 50 beats, 30 minutes of hand collecting in litter, and 30 minutes of hand collecting from rocks. The RSP was repeated in mid-summer (January 2021) and winter (July 2021) to assess seasonal changes in arachnid assemblage composition. Here we only report on the spiders. In total, 2308 spiders were collected, representing 121 species and 32 families. Spider abundance and species richness were far higher in winter (n = 1470, S = 110) than in summer (n = 838, S = 75). Additional collecting at other sites by beating, litter sifting and hand collecting at night yielded 57 species in total, of which 15 species had not been recorded historically or using the RSP. Of the historically recorded species, 26 were not collected using the RSP or in the additional collecting samples. An updated checklist of the spider fauna of the RNP now includes 169 species in 36 families and provides a useful foundation for conducting ecological research in the park.

5. ORAL PRESENTATION

Theme: Biodiversity and Conservation

Assemblages of spider families are not affected by crushed stone mining

I. Yekwayo & A. Mngeni

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Crushed stone mining is amongst the anthropogenic activities that are taking place in the Eastern Cape province. Mining of crushed stone reduces plant species richness. However, the effect of crushed stone mining on spider assemblages is not known, yet species richness of herbivorous arthropods that are prey for spiders correlate positively with plant species richness. In this study we hypothesized that crushed stone mining alters assemblages of spiders, and reduce their species richness and abundance. To address this hypothesis, spiders were collected using pitfall traps from two crushed stone mining sites. We established nine line transects, and each had four sampling points at specific distances (5m, 30m, 50m and 70m) from crushed stone mining site into the adjacent vegetation. Significantly low abundance of spiders was collected at the edge of the mining site (5m) compared to the other sampling points further away from the mining sites. However, mining activities did not alter species richness and composition of spiders. We explained these results using the generalist nature of spiders as predators that are able to occupy a variety of habitats. In addition, similarities in spider assemblages across distances from the mining sites could be due to the area being dominated by the disturbance tolerant species. The dominance of disturbance tolerant species may be associated with the fact that these mining sites exist within a matrix of other disturbances (for example, pastures and livestock grazing). Therefore, we recommend comparing spiders at the edge of the mining sites with those from undisturbed areas.

6. ORAL PRESENTATION*

Theme: Biodiversity and Conservation

Small-scale habitat heterogeneity is more important for spider alpha and beta diversity in an arid mountain.

C. Kunene[1], S.H. Foord[2] & T.C. Munyai[1]

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Different biogeographic principles have been proposed to explain the high biodiversity in temperate and tropical mountains, but not so much on arid mountains. Therefore, the study aims to understand the processes that structure spider alpha and beta diversity across an arid mountain in the Limpopo province. Standardised pitfall surveys were conducted in nine game reserves within the Waterberg mountains to varying distances. In each game reserve, the North and South aspect were identified at different elevations (900 masl, 1000 masl, 1200 masl, 1400 masl, 1600 masl and 1800 masl) and their open and closed habitats were sampled. A total of 1831 spider specimens were collected. They belong to 30 families and 153 species. Gnaphosidae, Salticidae and Lycosidae were the most abundant families, respectively. While *Asemesthes ceresicola*, *Stenaelurillus guttiger*, *Pardosa Crassipalpis* and *Ibala arcus* were the most abundant species, respectively. Spider richness did not follow any clear pattern with elevation. Spider richness and activity were influenced by structural complexity, both of which were significantly higher in open habitats than in closed habitats. Spider activity was also influenced by geographical distance. The shorter the geographic distance, the more nested the habitats were, while the larger the geographic distance, the more important turnover became. Turnover was significantly higher for open sites, while species loss was significantly higher for closed sites with increasing geographic distance. The Southern aspect had a significantly larger turnover, while the northern aspect had significantly larger species loss with geographic distance. These results suggest that there is a trade-off as temperature decreases and rainfall increases perhaps resulting in constant productivity and consequently constant spider richness on the Waterberg Mountain. Small -scale processes structure spider communities on this mountain, and open savanna habitats, especially on the Southern

7. ORAL PRESENTATION

Theme: Biodiversity and Conservation

One time only: spider diversity determined along a latitudinal transect in the Succulent Karoo Biome using a rapid sampling protocol

C.R. Haddad[1], S.H. Foord[2], R. Booysen[1], R. Christiaan[3], A. Stander[1], & A.S. Dippenaar-Schoeman[2]

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The Succulent Karoo Biome (SKB) is distributed in the western and southern parts of South Africa and part of it forms the sole entirely arid global biodiversity hotspot. However, the arid western parts of South Africa remain one of the most undersampled parts of the country for arachnids, particularly spiders. To address this gap, we used a standardized sampling protocol to collect arachnids from four biotopes (open plain, riparian vegetation, east- and west-facing mountain slopes) using three methods (hand collecting from litter, hand collecting from rocks, and beating) along a latitudinal gradient in five adjacent degree-squares in the SKB from the Richtersveld National Park (RNP) in the north to the Tankwa Karoo National Park (TKNP) in the south in January 2021. A total of 6347 spiders were collected, representing 308 species and 40 families. Beating collected the most individuals but the fewest species (n = 3594, S = 132), hand collecting in litter the most species and intermediate numbers (n = 1625, S = 215), and hand collecting from rocks the lowest numbers and intermediate species richness (n = 1128, S = 151). Spider abundance and species richness were lowest in the two most arid sites, RNP (n = 838, S = 75) and TKNP (n = 801, S = 82), but otherwise showed a progressive northwards decline in abundance but similar species richness from the Akkerendam Nature Reserve (ANR, n = 1829, S = 129) to the Namaqua National Park (n = 1520, S = 120) and Nigramoep Guest Farm (NGF, n = 1359, S = 119). Data was used to assess the effect of collector experience and methods using data from the first three sites (RNP, NGF and NNP), and we found that leaf litter was the most important contributor to spider abundance and species richness, with a lower species accumulation rate than beats or hand collecting from rocks. Beats showed rapid saturation of species accumulation, while hand collecting from rocks showed some overlap with the spider composition sampled from leaf litter. These results were also greatly affecting by collector experience. Many Data Deficient species recorded from the western interior were recollected for the first time, and a considerable number of new species were recognized and will be described in future. A total of 769 specimens were sequenced from the five degree square sampling sites and other localities in the area for the COI Barcoding gene, and this data is available on the SPIZA project on the Barcode of Life Data System (BOLD).

8. ORAL PRESENTATION*

Theme: Biodiversity and Conservation

The influence of longitudinal and lateral gradient on riparian spider diversity

A. Hadebe[1], S. Nkuna[1], R. Slotow[1] & C. Munyai[1]

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Longitudinal and lateral gradients along riparian zones promote habitat heterogeneity, resulting in different species than upland ecosystems. Arthropods are among the dominant animals in riparian zones. Among these animals, spiders are highly diverse and are crucial in ecosystems as primary predators regulating invertebrate and to some extent, vertebrate populations. Although riparian zones are biodiversity-rich, the current state of knowledge focuses on selected species, e.g., fish, vegetation, and freshwater arthropods, neglecting terrestrial arthropods. Therefore, this study aims to determine the influence of longitudinal and lateral gradients on the biodiversity of spiders. The study was conducted in the upper section of the Umgeni River, specifically at the Umgenipoort Research Facility and Doreen Clark Nature Reserve. In investigating the longitudinal gradient, sampling included both downstream and upstream plots, covering a range of 0 meters to 2200 meters along the river. Regarding the lateral gradient, sampling extended away from the riparian zones, ranging from 0 meters to 300 meters. Each plot was a 40-meter transect, eight pitfall traps with 10 meters between each trap were installed on the ground and filled with a 50% propylene glycol solution as a preservative and killing agent. The pitfall traps were left open for seven days and then retrieved for sorting and identification. The preliminary results indicated that out of 73 spider species sampled, 47 were in the riparian zone, and 26 were in the upland ecosystem. This could be explained by the fluctuation of food resources across both longitudinal and lateral gradients of riparian zones. With a notable abundance of emergent aquatic insects, making up a significant portion, ranging from 40% to 80% of the diets of riparian spiders. *Foveosa foveolate* and two *Pardosa species (P. leipoldti* and *P. crassipalpis)* had wide distribution as they were present in both riparian and upland ecosystems.

9. ORAL PRESENTATION
Theme: Biodiversity and Conservation

The role of social media and citizen scientists in arachnological research

W. Pretorius

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Having only discovered the world of spiders as recent as 2019, and finding it on social media of all things, it is obvious that social media would shape my mindset and approach to the science surrounding spiders. In an ever-changing world with information at the fingertips, and social technologies ever expanding, it is inevitable that we must look at the benefits this can have on academic science. In itself though, these platforms have little benefit to the professional and we must look at the people who use these platforms – ordinary people engaging in science.

Science – a system of knowledge that entails unbiased observations and systematic experimentation.

Science in itself is humans' pursuit to discover the world they live in. As Adam Savage put it: "The difference between fooling around and science, is writing it down." What if we work to close the gap between civilians doing science, and professionals doing science, and combine it towards the same goal?

I will look at ways that citizen scientists can benefit academic science, as well as look into instances where collaborations have already taken place. Different platforms and possibilities will be discussed, as well as some of my personal experiences, and the experiences from other likeminded naturalists.

10. POSTER PRESENTATION

Theme: Biodiversity and Conservation

Solifugae (Arachnida): current state of knowledge in southern Africa

T.L. Bird[1,2], A.S. Dippenaar-Schoeman[3]

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Solifuges (Solifugae, Arachnida), a charismatic and bizarre group of arachnids, is known in southern Africa as romans, red romans, sunspiders, *jaagspinnekoppe*, *haarskeerders*, mole solifuges, and Kalahari Ferraris. Over 1100 species are recognized globally. Southern Africa has an extraordinary species and family level diversity and endemism, reflected in their spectacular variation in morphology and behaviour. Their true diversity, however, remains unknown. The group is grossly undersampled, its taxonomy is in chaos, and functional keys are lacking. A general absence of series hampers taxonomic studies. Molecular studies could accelerate taxonomic understanding, but suitable specimens are hard to get.

11. POSTER PRESENTATION

Theme: Biodiversity and Conservation

Lists from 32 years of collecting and recording spiders at the Walter Sisulu National Botanical Garden

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From 1991 to 2017 spiders were collected at the Walter Sisulu National Botanical Garden, formerly the Witwatersrand National Botanical Garden (WSNBG) with permission from the incumbent curators at the time and deposited in the National Collection of Arachnida (NCA). These specimens have been identified. Also certain specimens not deposited in the NCA were identified by visiting arachnologists and by the first author. Thereafter and up to the present day observations and photographs were used to compile a preliminary checklist requested for the WSNBG. Therefore two different lists have been compiled; one of positively identified specimens and one of those known to occur but not confirmed.

12. POSTER PRESENTATION

Theme: Biodiversity and Conservation

The National Collection of Arachnida: present status

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The National Collection of Arachnida (NCA) was established in 1976 by what is now the Agricultural Research Council – Plant Health and Protection. This alcohol or wet collection contains arachnid specimens collected mainly in Southern Africa. Extensive collecting was done over the past 48 years and these were supplemented with by-catch from other research projects, student projects and public participation. The NCA is mainly made up of reference specimens, but also have a type specimen collection of newly described species. All of these specimens with their valuable distribution and biological data were used to compile the first national species lists of the Arachnida of South Africa. The management of the NCA and its associated data is explained. The NCA contains specimens from 6 arachnida orders, 110 families, 642 genera and 2154 species. The collection presently houses approximately 84 791 accessions representing approximately 254 373 specimens. Data is currently being migrated from a MySQL relational database to Specify 6.

13. POSTER PRESENTATION

Theme: Biodiversity and Conservation

The spider type specimens deposited in the National Collection of Arachnida

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The National Collection of Arachnida (NCA) was established in 1976 by the Agricultural Research Council – Plant Health and Protection (ARC-PHP) in Pretoria, South Africa. The collection forms part of South Africa's Agricultural National Public Good Assets that the ARC manages. The curators of the NCA are not only responsible for the curation, preservation and management of specimens in collections but also for the type specimens. According to recommendation 72F, article 72 of the International Code of Zoological Nomenclature, there are some obligations attributed to the institution in which type specimens are deposited, namely"…(1) ensure that all type specimens are clearly marked so that they will be unmistakably recognized as name-bearing types; (2) take all necessary steps for their safe preservation; (3) make them accessible for study; (4) publish lists of name-bearing types in its possession and; (5) so far as possible, communicate information concerning name-bearing types when requested. A summary of the types and associated data are provided. The spider type specimen collection of the NCA currently contains 2930 type specimens of 382 species, 256 genera and 39 families. Of these 302 specimens are primary holotypes.

14. ORAL PRESENTATION

Theme: Systematics and Taxonomy

An update on the current state of South African pseudoscorpion taxonomy

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Despite recent taxonomic revisions and phylogenetic analysis, detailed morphological and ecological data is still lacking for the vast majority of pseudoscorpions, including the poorly-known South African fauna. South Africa currently has 162 known species in 17 families, with over 70% of these species endemic to the country. Early research on the South African Pseudoscorpiones fauna primarily consisted of taxonomic descriptions and, apart from a few local contributions, most of the research was conducted by foreign scientists. When they retired, taxonomic descriptions of new species ceased. Later research includes the publication of a species checklist and contributions to karyotype studies and phylogenetic analyses. The need for detailed revisions of our indigenous fauna was recognized, and in 2017 the first article was published, revising the South African Geogarypidae. The second article, on the revision of the South African Gymnobisiidae, has been submitted for publication in 2023. Future short-term research will first focus on revisions of previously described species, the description of any new species and reducing the gaps in the largely unsampled areas in the interior of the country. Long-term research will focus on gaining detailed biological and ecological data. Here a brief report is presented on the progress of the project thus far, and what still needs to be achieved.

15. ORAL PRESENATION

Theme: Systematics and Taxonomy

Geometric morphometric analysis of ocular patterns as a species identifier in the South African endemic trapdoor spider genus *Stasimopus* Simon, 1892 (Araneae, Mygalomorphae, Stasimopidae)

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The identification of *Stasimopus* Simon, 1892 species as well as mygalomorph species has been a long-standing chal -lenge. This is due to their conservative morphologies as well as the lack of quantifiable characters. Ocular patterns have historically been used to aid in identification, but have largely been vague and subjective. This study was the first to test for phylogenetic signal in this character to validate its use for species identification and description as well as to test the viability of it in morphospecies and species identification. The results show significant phylogenetic signal for ocular pat-terns in both sexes, validating its use. The results display the evolutionary change in ocular patterns across various species. Species and morphospecies show distinct clustering in morphospace, but there is overlap due to the continuous shape of the character. The methodology of applying geometric morphometrics to quantify ocular patterns can distinguish between morphospecies and shows great promise for distinguishing species.

16. ORAL PRESENTATION*

Theme: Systematics and Taxonomy

Scytodes (Araneae: Scytodidae) spitting spiders of Southern Africa

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Spitting spiders (Araneae, Scytodidae) are a very diverse group of haplogyne spiders, with four genera containing 240 species recorded worldwide. The largest genus, *Scytodes*, is represented by 219 species, and 35 of those are recorded from southern Africa. These descriptions were done by early naturalists and no revision for the southern African fauna exists. This project aims to address this issue by assessing the true diversity of *Scytodes* in southern Africa and establishing a morphological and genetic foundation for future research. To date, 155 morphospecies have been identified from various collections and fieldwork trips, and 123 of them are new to science. A new record for South Africa, *Scytodes univittata*, has been identified from the KwaZulu-Natal, Mpumalanga, Free State, and Gauteng provinces. Additionally, one record of the cosmopolitan species *S. fusca* has been recorded in South Africa, but the presence of *S. thoracica* is yet to be confirmed. Morphological examination is underway to describe each species and score physical characteristics for cladistic analysis. Genetic analyses will be performed using the mitochondrial gene regions COI and 18S, and the protein-coding gene region H3. *Scytodes caffra* from South Africa may potentially be a sub-social species, and its behaviour should be more comprehensively investigated.

17. ORAL PRESENTATION

Theme: Systematics and Taxonomy

The how and why of cheliceral stridulation in Linyphiidae (Araneae)

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Most Linyphiidae have paired stridulation organs on the chelicerae consisting in general of a lateral file and one or several pegs on the palpal femur. The structure of these organs varies to a large extent. In the majority of the species of which we scanned the chelicerae, the organ is composed of ridges, but overlapping imbrications and rows of scales do also occur. But even the ridges may be of different shape. It appears that the structure of the organ is dependent on the microhabitat the species live in. Since the presence of the stridulation organs may occur in both sexes but in some in cases in males only, the purpose of the structure probably also varies with the life style of the species.

18. ORAL PRESENTRATION

Theme: Genetics and Evolutionary Biology

The evolution of predation in spiders: Proposed jumping spider edition

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Jumping spiders (Araneae, Salticidae) are the largest family of spiders. Currently, there are over 6500+ described species inhabiting a wide variety of environments across all continents except Antarctica. These spiders are widely known to be generalist predators, but prior research has shown many of them to be specialists, showing predation strategies such as araneophagy, myrmecophagy, and termitophagy to name a few. Much of the prior research on jumping spider predation has focused on their attack behavior, cognitive abilities, and visual capabilities; however, the evolutionary history of prey specialization in these highly euryphagous predators remain unknown. Here, I present a proposal on examining occurrence of three different trophic specializations (araneophagy, myrmecophagy, and general predation) in various genera across the phylogeny of jumping spiders. This research proposal aims to highlight previous work that has been completed on ground spiders and will provide an insight into how predator-prey interactions tested in the laboratory can be used to study evolutionary questions. Additionally, we will propose how previously published data and photographic evidence can be used to expand the total number of genera sampled in the phylogeny. Currently, we have obtained data on 96 species of jumping spiders in 59 genera. Additionally, we will discuss how photographic evidence (e.g. iNaturalist) may provide us with observational data of the types of prey attacked in the field. This research is a part of a much larger and ongoing collaborative project which aims to study evolution of behavioral and morphological traits related to trophic specialization in spiders.

19. POSTER PRESENTATION

Theme: Systematics and Taxonomy

Resolving taxonomic issues on South African Arachnida fauna, focusing on the genus *Euryopis* Menge, 1868 (Araneae: Theridiidae).

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Euryopis is one of the genus in the family Theridiidae and it has about 75 species recorded. The South African National Survey of Arachnida (SANSA) was launched in 2006 to improve knowledge of the arachnid diversity of the country through collaboration and co-ordination of arachnological research. The latest stage of this project is the evaluation of South African spiders according to the IUCN Red List categories and criteria. These Red List assessments are in its final stages, with an assessment completed for each of the approximately 2240 species in70 families presently known from the country. From all the species assessed, 32% are data deficient. This mean that they are either poorly described, not both sexes are known, the description does not include illustrations and the distribution data is vague. As a result of this, research focusing on addressing some of these issues will be undertaken to publish data for the data deficient species. The first paper will focus on redescribing both sexes of *Euryopis funebris* (Hentz, 1850) (Araneae: Theridiidae), commonly known as cobweb spider and according to spider world catalogue it only occurs in Cananda and USA.

20. POSTER PRESENTATION

Theme: Morphology and Systematics

The current status of the taxonomy of the family Entypesidae (Araneae, *Mygalomorphae*) in South Africa

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An update of the completed and future work on the family Entypesidae Bond, Opatova, Hedin, 2019 is presented. The family is composed of seven genera, all of which are endemic to Southern Africa. Some genera of this family have been studied by Ríos-Tamayo et al. offering new contributions in its taxonomic diversity for the region. The genera *Hermacha* and *Lepthercus* were reviewed and *Brachytheliscus* Pocock, 1902 and *Hermachola* Hewitt, 1915 re-established. The revision of the genus *Entypesa* Simon, 1889 brought the separation of the Madagascar's members from the continental's members resulting in the creation of the new genus *Afropesa* Zonstein & Ríos-Tamayo, 2021. On the other side, the genus *Ekapa* Ríos-Tamayo, Lyle & Sole, 2023 was established to hold the species *Hermacha curvipes* Purcell, 1902 and *Hermacha nigra* Tucker, 1917 proposed as "*incertae sedis*" by Ríos-Tamayo et al., 2021 both species were synonymized leaving *Ekapa curvipes* (Purcell, 1902) as the only species in the genus. Future work is planned to further investigate the taxonomy and phylogeny of the family. It will include regular field trips to collect of specimens. Aassociated data will be entered into local and international databases (locality, coordinates, collection date and habitat data). Specimens collected will be used for studies based on morphology and for the generation of interactive keys, for the ease of identification. In addition to this molecular phylogenetic studies will be performed using a number of gene regions, these (with the morphological data) will be used to infer evolutionary relationships of taxa and their biogeographic history. Several new species of the genera *Afropesa*, *Ekapa* and *Hermachola* are being described and a morphological matrix is being constructed.

21. ORAL PRESENTATION

The African Arachnological Society (AFRAS): 38 years later

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The African Arachnological Society (AFRAS) is a scientific society devoted to the study of arachnids (non-Acari) in Africa. It was initiated in 1986 in Pretoria and was first called "The Research Group for the Study of African Arachnida". At the 5th African Arachnological Colloquium (November 1996), the name was changed to the African Arachnological Society (AFRAS). The objectives of AFRAS are to promote the study of African Arachnida; to achieve closer cooperation and understanding between local and overseas professional arachnologists; to organize a colloquium in Africa every second or third year and to circulate a newsletter annually. During the last 38 years, we were able to meet most of the objectives and 13 very successful colloquia were organized, in South Africa and Namibia. We were very successful in having both African and overseas arachnologists working on African arachnids attending. The history of AFRAS is discussed and feedback is provided on each of the 13 colloquia.