11th Colloquium

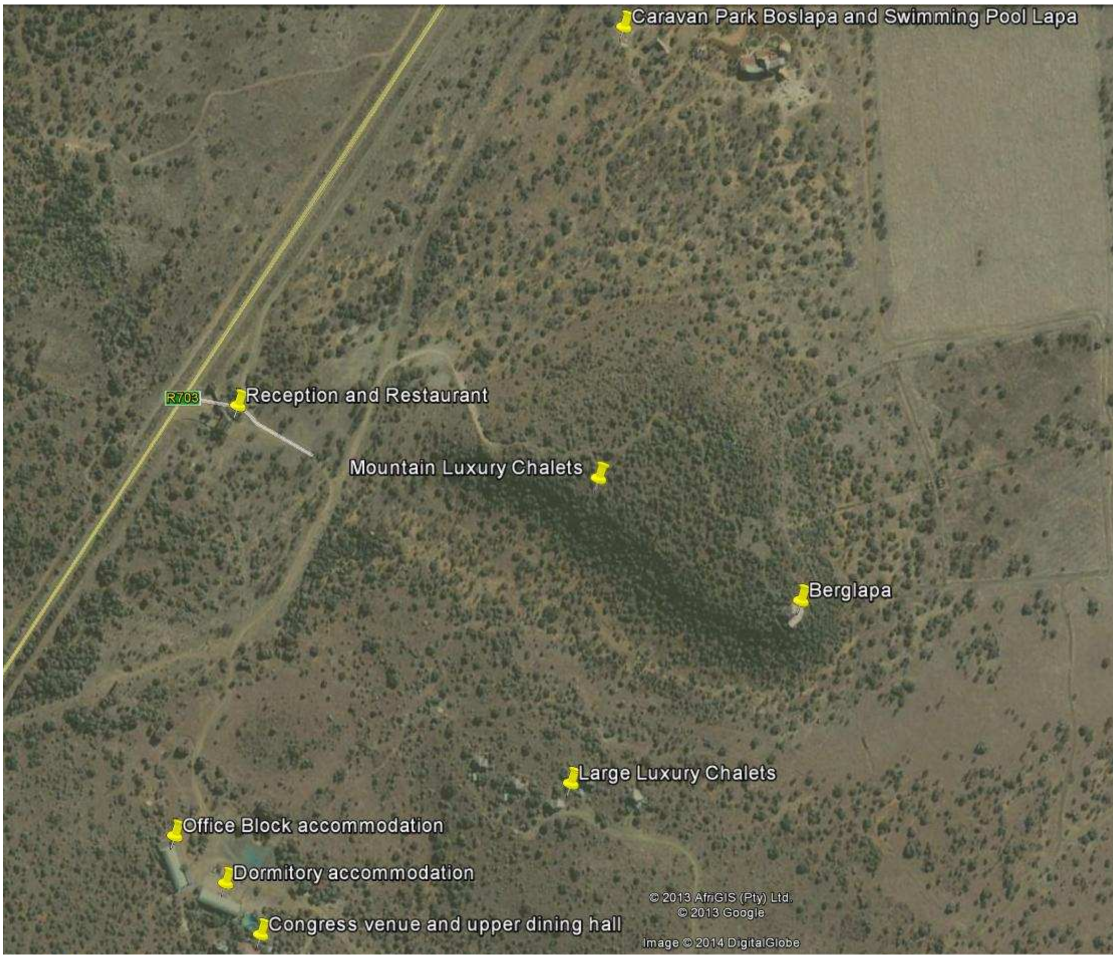
African Arachnological Society

GENERAL INFORMATION

On behalf of the Organising Committee of the 11th Colloquium of the African Arachnological Society, we would like to welcome you to the Amanzi Private Game Reserve. We trust that the Colloquium will be an enjoyable and stimulating experience, and that the natural beauty of Amanzi will provide you with the opportunity to sample many interesting arachnids from the Grassland Biome and increase your appreciation for the unique fauna and flora of the area.

For the benefit of all delegates, a map is provided on the next page to indicate the locality of the congress venue, accommodation options and the venues for the various meals. These are summarised in the following table:

	Breakfast (from 07:30)	**Lunch**	**Dinner**
Sunday 19/01			Reception restaurant
Monday 20/01	Reception restaurant	Congress venue	Berg lapa
Tuesday 21/01	Reception restaurant	Congress venue	Swimming pool lapa
Wednesday 22/01	Reception restaurant	Congress venue	Berg lapa
Thursday 23/01	Reception restaurant	Congress venue	Bos lapa
Friday 24/01	Reception restaurant		



On the Monday and Tuesday of the colloquium, the paper presentations, poster presentations, the SANSA Red Listing Workshop and photographic competition will be held. Wednesday is set aside for delegates to collect, which will be co-ordinated by the organising committee. Transportation will be organised to some parts of the reserve, although most areas can be reached on foot. Thursday morning will include the AFRAS Annual General Meeting and three general discussion sessions.

A friendly warning to all delegates. Amanzi has quite high numbers of highly venomous puff adders and Cape cobras. When walking in the veld please keep your eyes open for snakes and try and avoid any confrontations, especially with cobras! Ticks are occasionally found on clothing after people have walked in the veld. Please check your body carefully and remove ticks before they can cause you any harm. Four species of medical important spiders have been collected at Amanzi: *Cheiracanthium furculatum* (Eutichuridae), *Loxosceles simillina* (Sicariidae), *Latrodectus indistinctus* and *L. geometricus* (Theridiidae). No severely venomous scorpions have been found, although *Uroplectes* (Buthidae) have a painful sting.

Any further announcements will be made on a daily basis.

PROGRAMME

SUNDAY 19/01/2014

TIME	
15:00 – 18:00	REGISTRATION AT AMANZI PRIVATE GAME RESERVE RECEPTION
18:00 – 19:00	MEET AND GREET AT AMANZI RESTAURANT
19:00	***WELCOMING DINNER AT AMANZI RESTAURANT***

MONDAY 20/01/2014

TIME	PAPERS
	SESSION 1 (CHAIRPERSON: Stefan Foord) – SYSTEMATICS
09:00 – 09:05	**INTRODUCTION**
09:05 – 09:35	1 **J.A. Neethling, C.R. Haddad & M.S. Harvey. A revision of the South African Geogarypidae (Arachnida: Pseudoscorpiones).**
09:35 – 09:55	2 **Y.M. Marusik. Inconsistency in arachnological terminology: can it be resolved?**
09:55 – 10:15	3 **A. Henrard & R. Jocqué. Systematics, phylogeny and biogeography of ant-eating spiders (Zodariidae) with special reference to forest dwelling afrotropical taxa.**
10:15 – 10:35	4 **C.R. Haddad. Clearing up a dumping ground: a revision of the African species of *Castianeira* Keyserling, 1879, with the validation of *Castianeirodes* Strand, 1916 and the description of two new genera.**
10:35 – 11:00	***MORNING TEA***
	SESSION 2 (CHAIRPERSON: Robin Lyle) – SYSTEMATICS
11:00 – 11:20	5 **L.N. Lotz. The species of the genus *Cheiracanthium* (Araneae: Eutichuridae) from Madagascar and the Comoros Islands.**
11:20 – 11:40	6 **R. Jocqué & A. Henrard. Keeping up the morphology approach: phylogeny of the Zodariidae (Araneae) revisited.**
11:40 – 12:00	7 **C.R. Haddad & W. Wesołowska. Notes on the jumping spiders of Lesotho (Araneae: Salticidae), with descriptions of six new species.**
12:00 – 12:20	8 **Y.M. Marusik & M.M. Omelko. Copulatory organs in spiders: can their parts be homologized?**
12:20 – 12:40	9 **G.N. Azarkina & S.H. Foord. A revision of the African genus *Festucula* Simon, 1901 (Araneae: Salticidae).**
12:40 – 14:00	***LUNCH AT CONGRESS VENUE***
	SESSION 3 (CHAIRPERSON: Ansie Dippenaar-Schoeman) – SANSA RED LISTING WORKSHOP
14:00 – 15:30	Co-ordinators: Theresa Sethusa and Domitilla Raimundo
15:30 – 16:00	***AFTERNOON TEA***
	SESSION 4 (CHAIRPERSON: Ansie Dippenaar-Schoeman) – SANSA RED LISTING WORKSHOP
16:00 – 17:00	Co-ordinators: Theresa Sethusa and Domitilla Raimundo
17:00 – 19:00	***FREE TIME***
19:00	***DINNER AT BERG LAPA***

TUESDAY 21/01/2014

TIME	PAPER
	SESSION 5 (CHAIRPERSON: Leon Lotz) – ECOLOGY
09:00 – 09:20	10 **<u>S.H. Foord</u> & A.S. Dippenaar-Schoeman. Space-time interactions and variability in spider diversity along an elevational transect in a Floristic Kingdom sensitive to climate change.** .
09:20 – 09:40	11 **<u>V.P. Butler</u> & C.R. Haddad. Ground-dwelling spider assemblages in contrasting habitats of the Amanzi Private Game Reserve, South Africa.**
09:40 – 10:00	12 **<u>M.A. Modiba</u>, T.T. Khoza, A.S. Dippenaar-Schoeman & S.M. Dippenaar. Diversity of spiders (Araneae) of the Polokwane Nature Reserve, Limpopo province, South Africa.**
10:00 – 10:20	13 **<u>J.L. Juakaly</u>, M. Aladro & R. Jocqué. Biodiversity and ecology of ground dwelling spiders in Yoko Forest Reserve and its surroundings (Kisangani, DR Congo).**
10:20 – 11:00	***MORNING TEA***
	SESSION 6 (CHAIRPERSON: Charles Haddad) – BIODIVERSITY AND BEHAVIOUR
11:00 – 11:20	14 **<u>L. Wiese</u> & A.S. Dippenaar-Schoeman. Spider diversity of the Addo Elephant National Park.**
11:20 – 11:40	15 **<u>J. Faiola</u>, A.S. Dippenaar-Schoeman, R. Lyle, P. Cowan & M. Brits. Survey of the arachnids of the Kliprivierberg Nature Reserve, Johannesburg.**
11:40 – 12:00	16 **J. Leroy. Rain spiders mating: close-up photography explains the mechanisms (Araneae: Sparassidae: *Palystes superciliosus*).**
12:00 – 12:20	17 **A.S. Dippenaar-Schoeman. How the digital camera has opened a new world to arachnid research.**
12:20 – 12:40	18 **R. Lyle & A.S. Dippenaar-Schoeman. Initial steps towards a phylogenetic study of the Afrotropical Idiopidae (Araneae: Mygalomorphae).**
12:40 – 14:30	***LUNCH AT CONGRESS VENUE***
	SESSION 7 (CHAIRPERSON: Jan-Andries Neethling) – POSTERS
	BIODIVERSITY
14:30 – 14:35	**H. Davel. Spiders of the Tafelkop Game Reserve, Waterberg, Limpopo Province**
14:35 – 14:40	**C.R. Haddad. Activity patterns and assemblage composition of spiders following delayed spring rainfall under drought conditions.**
14:40 – 14:45	**<u>N.A. Josling</u> & L. Lotz. Spiders of the Kalkfontein Dam Nature Reserve.**
14:45 – 14:50	**J. Kelly, S. Mathebula & <u>A.S. Dippenaar-Schoeman.</u> Species for Africa – a rich biodiversity of insects and spiders collected from one trap in an urban area in Pretoria.**
14:50 – 14:55	**<u>P. Marais</u>, A.S. Dippenaar-Schoeman, C. Anderson, S. Mathebula & R. Lyle. The National Collection of Arachnida: present status.**
14:55 – 15:00	**<u>P. Marais</u>, A.S. Dippenaar-Schoeman, R. Lyle, C. Anderson & S. Mathebula. The spider type specimens deposited in the National Collection of Arachnida.**
15:00 – 15:05	**V. van der Walt. A photo gallery of some genera of Salticidae of South Africa.**
	SYSTEMATICS
15:05 – 15:10	**<u>A. Henrard</u> & R. Jocqué. The genus *Mallinella* (Araneae, Zodariidae) in Africa: a lesson in biodiversity.**
15:10 – 15:15	**<u>R. Lyle</u> & A.S. Dippenaar-Schoeman. A taxonomic revision of Afrotropical genera of the trapdoor spider subfamily Idiopinae (Araneae: Idiopidae).**
15:15 – 15:20	**<u>Z. Mbo</u> & C.R. Haddad. A first look at the diversity of the spider genus *Drassodella* Hewitt, 1916 (Araneae: Gallieniellidae): the species in the National Collection of Arachnida, Pretoria.**

15:20 – 16:00	***AFTERNOON TEA***
16:00 – 16:30	**PHOTOGRAPHIC COMPETITION**
16:30 – 19:00	***FREE TIME***
19:00	***DINNER AND RUSSIAN PARTY AT CARAVAN PARK SWIMMING POOL LAPA***

WEDNESDAY 22/01/2014

08:00	Free day collecting
10:30 – 11:00	***MORNING TEA***
13:00	***LUNCH AT CONGRESS VENUE***
14:00	Free day collecting
15:20 – 16:00	***AFTERNOON TEA***
19:00	***CONGRESS DINNER AT BERG LAPA***
21:00	Prize giving

THURSDAY 23/01/2014

TIME	ITEM
09:00 – 10:00	AFRAS Annual General Meeting
10:00 – 10:30	General Arachnological Discussion Session
10:30 – 11:00	***MORNING TEA***
11:00 – 12:00	SANSA Planning and Discussion Session
12:00 – 13:00	South African Arachnida Barcoding and Discussion Session
13:00 – 14:00	***LUNCH AT UPPER DINING HALL***
14:00 – 15:30	Afternoon off collecting
15:30 – 16:00	***AFTERNOON TEA***
16:00 – 19:00	***FREE TIME***
19:00	***DINNER AT CARAVAN PARK BOS LAPA***

FRIDAY 24/01/2014

09:00	**DEPARTURE**

ABSTRACTS

11th Colloquium

African Arachnological Society

PAPER AND POSTER PRESENTATIONS

PAPER PRESENTATION

SYSTEMATICS

A revision of the African genus **Festucula** *Simon, 1901 (Araneae: Salticidae)*

G.N. Azarkina[1] **&** **S.H. Foord**[2]

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[2] Department of Zoology, Centre for Invasion Biology, University of Venda, Thohoyandou 0950, South Africa

The Afrotropical jumping spider genus, *Festucula* Simon, 1901, is revised. Three species, *F. festuculaeformis* (Lessert, 1925), *F. lawrencei* Lessert, 1933 and *F. vermiformis* Simon, 1901 are known. Two of them, *F. festuculaeformis* and *F. lawrencei*, are redescribed. *F. lineata* Simon, 1901, previously considered a *nomen dubium*, is redescribed. Three species from South Africa are described as new and *F. australis* Lawrence, 1927 is removed from synonymy with *F. festuculaeformis*.

PAPER PRESENTATION

ECOLOGY

Ground-dwelling spider assemblages in contrasting habitats of the Amanzi Private Game Reserve, South Africa

V.P. Butler[1] **& C.R. Haddad**[2]

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Ground-dwelling spiders were collected in eight different habitats in the Amanzi Private Game Reserve in the central Free State, South Africa. Three of the habitats sampled were contrasting woodlands (*Themeda triandra*, *Searsia burchellii* and *Tarchonanthus camphoratus* woodlands), three were associated with hilly habitats (northern and southern slopes, and plateau), and one each associated with peripheral vegetation of a freshwater dam and *Digitaria eriantha* planted pasture. Spiders were sampled at two sites in each habitat (five pitfalls per site) over the course of a year from September 2012 to August 2013; only the data from early spring (September), mid-summer (January), mid-autumn (April) and mid-winter (July) is presented here. A total of 2982 adult spiders were collected, representing 129 species and 31 families. Ammoxenidae was the most abundant family (n = 1218, 40.8 %), followed by Gnaphosidae (n = 634, 21.3 %), Zodariidae (n = 322, 10.8 %) and Salticidae (n = 306, 10.3%). Gnaphosidae was the most species rich family (32 spp., 24.8 %), followed by Salticidae (17 spp., 13.2 %), Lycosidae (15 spp., 11.6 %) and Zodariidae (8 spp., 6.2 %). Spider abundance differed significantly between habitats (One-way ANOVA, $P < 0.0001$), although pairwise comparisons only found significant differences between *D. eriantha* pasture and all of the other habitats ($P < 0.001$). This was largely due to very high densities of *Ammoxenus amphalodes* (Ammoxenidae) and *Ranops* sp. (Zodariidae) in this habitat. Species richness showed no differences between habitats ($P = 0.0739$). There was clear seasonality both in spider abundance and species richness ($P < 0.001$). The hillside habitats and *D. eriantha* pasture were the most distinct assemblages, while those of the woodlands and freshwater dam showed considerable overlap. Our results indicate that the aspect of hillside habitats has a significant effect in shaping assemblages, while the vegetation composition of woodlands does not have as strong an influence on species composition. Assemblages of *D. eriantha* pasture are also very unique, largely due to the absence of woody plants, which affects assemblage composition.

POSTER PRESENTATION

BIODIVERSITY

Spiders of the Tafelkop Game Reserve, Waterberg, Limpopo Province

H. Davel

Grootplaas De Rust Landgoed, Hartbeespoortdam, South Africa

A photographic study on the spider fauna of the Tafelkop Game Reserve, situated 10km south-east of Melkrivier in the Waterberg, is presented. The reserve is nearly 1000 ha in extent and most of the sampling to date focused on two habitats: deep, sandy bushveld and riparian bush, which are typical habitats in the area. Sampling for spiders was conducted during June-July and December 2013, and January 2014. The aim of the study was to create a tool with which to spark an interest in spiders in both locals and visitors to this pristine area. Photographs of each spider encountered are accompanied with relevant details (identifications, GPS coordinates, size, sex and microhabitats). To date more than 20 families have been collected and photographed, with multiple species photographed from several families. The Oxyopidae was the most frequently sampled family, and seems to be well represented in the reserve. Also of significance, Tafelkop is only the fourth known locality of the recently described baboon spider, *Pterinochilus lapalala* Gallon & Engelbrecht, 2011.

PAPER PRESENTATION

BIODIVERSITY

How the digital camera has opened a new world to arachnid research

A.S. Dippenaar-Schoeman[1,2]

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[2] Department of Zoology and Entomology, University of Pretoria, Pretoria 0001, South Africa

The digital camera has opened up a new world in science. As part of the Virtual Museum of SANSA we are receiving very informative photos of spiders and other arachnids from areas throughout the country. Not only do the photographers contribute to taxonomy, but each record also provides information on the distribution of the species. This information as well as the photographs are essential to the Spider Atlas, the Red Listing project, as well as the DNA barcoding project that is currently underway. The photographs are the basis of handbooks, such as “Spiders of the Kalahari”, “Spiders of the Savanna Biome”, and “Spiders of the Grassland Biome” that were recently published, as well as the new “Spider Field Guide” to be published in February 2014. All these images feed into the online African Arachnida Database (AFRAD) and will eventually play an important role in the Encyclopedia of Life, where a page for each species will be available. As a result of this extensive photographic documentation, species checklists from several areas in South Africa are now available, such as Mpetsane Conservation Estate near Clocolan in the Free State (Allen Jones); Kalkrivier Nature Reserve in the Free State (Nicolette Josling); Jeffrey’s Bay and Addo National Park in the Eastern Cape (Linda Wiese); farm Alicedale near Tshipise in the Limpopo Province (John Wilkinson); Irene and surrounding areas in Gauteng (Peter Webb); Kloof in KwaZulu-Natal (Peter Webb) Lephalale in the Limpopo Province (David Jacobs and Peter Webb), Pigs Island in the Eastern Cape (John Richter) and the Magaliesburg area (Heide Davel). Some photographers have a special interest in specific spider families, such as Vida van der Walt photographing Salticidae, Martie Rheeder (Thomisidae), Charles Haddad (Corinnidae) and the Araneidae (Allen Jones). Valuable information is obtained on the colouring of live spiders and the patterns and variations found. New behavioural information is gained on aspects of egg sac and web construction, feeding patterns and prey. Presently more than 10 000 images are available on the SANSA Virtual Museum.

PAPER PRESENTATION

BIODIVERSITY

The South African National Survey of Arachnida (SANSA) – past and present

A.S. Dippenaar-Schoeman[1,5], R. Lyle[1], C.R. Haddad[2], S.H. Foord[3] & L.N. Lotz[4]

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[5] Department of Zoology and Entomology, University of Pretoria, Pretoria 0001, South Africa

Signatories of the Convention of Biological Diversity (CBD) are obligated to develop a strategic plan for the conservation and sustainable use of biodiversity. To meet the requirements of the CBD, the South African National Survey of Arachnida (SANSA) was initiated in 1997 by the Agricultural Research Council (ARC). SANSA is an umbrella project that was implemented at a national level in collaboration with researchers and institutions countrywide, dedicated to document and unify information on arachnids in South Africa. The South African National Biodiversity Institute (SANBI) came on board for the project's second phase (2006-2010) in partnership with the ARC. During the 16-year project an attempt was made to consolidate all the available data on South African spiders into one database, to determine the distribution ranges of species in South Africa. The information gathered is organised in a relational database (>80 000 entries) collating data from 22 institutions. As part of SANSA, a number of projects are underway to determine the diversity of the arachnid fauna of South Africa, which includes an inventory of the spider fauna of the different floral biomes. These projects recently culminated in the production of the *First Atlas of the Spider Species of South Africa*. Presently 71 spider families, 471 genera and 2028 species are known from South Africa, representing approximately 4.8% of the world fauna. Of the 2028 spider species, 1241 (61%) are endemic to the country. The third phase of SANSA started in 2011 and several review articles were published and bioinformatics actions are planned, such as Red Listing of species, a handbook series for all the biomes, publication of the atlas, and description of new species. The last decade has seen an exponential growth in the knowledge of the group in South Africa, but there are certainly many more species that still have to be discovered and described. Future plans will be discussed.

PAPER PRESENTATION

BIODIVERSITY

Survey of the arachnids of the Kliprivierberg Nature Reserve, Johannesburg

J. Faiola[1], A.S. Dippenaar-Schoeman[2,4], R. Lyle[2], P. Cowan[1] & M. Brits[3]

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The Klipriviersberg Nature Reserve, at 680 ha, is the largest conservation area in Metropolitan Johannesburg. It is situated about 10 km from the city centre (26°18'13"S, 28°00'39"E). The area was settled in p rehistoric times, and more recently by Sotho and Tswana peoples, before being settled by white farmers around 1850. Farming has mainly been livestock, in particular pig farming, from around 1913. The farm was sold to Johannesburg City Council in 1939, and it was eventually proclaimed as a nature reserve in 1984. In the last thirty years it has become completely encircled by urban development. The reserve encompasses a portion of the Klipriviersberg mountain range, which resulted from ancient volcanic activity, mainly basalt. Variations in the geology have resulted in different plants being dominant in different areas. The reserve consists mainly of upland grassland with peaks and valleys. Maximum altitude is around 1785 m a.s.l. A small tributary of the Klip River flows through the reserve. Parts of the reserve have been transformed by farming activities, and some rehabilitation has occurred. We are attempting to represent all these differences in our choice of sites for collecting. Until now, an arachnid survey of the reserve has never been conducted, and therefore, little is known of the diversity of its arachnid fauna. Both the Nature Reserve Association and Joburg City Parks, who administers the reserve, are keen to have a full inventory of all flora and fauna in the reserve, including arachnids. The Spider Club of Southern Africa commenced the survey in September 2012 under the auspices of the Agricultural Research Council, and approval granted by Joburg City Parks. It was subsequently decided to run the survey for two full years. Collection is mainly by means of pitfall traps, and four permanent sites were established in different habitats in 2012. One of the original sites was dismantled in October 2013, and a new site established. A second original site will be dismantled shortly and another new site will probably be established to replace it. The pitfall traps comprise trap bottles filled with ethanol 70% boosted by a small amount of propylene glycol (automotive antifreeze), which inhibits evaporation of the ethanol. Traps are serviced once a fortnight. Other collection methods include bark traps, sweep-netting, beating and collecting by hand. A large number of specimens have been collected so far: including spiders, scorpions, solifugids, opilionids and pseudoscorpions. The specimens are being provisionally sorted and identified by the first author, then passed to the second author for final identification. All specimens will be lodged at the National Collection of Arachnida at the ARC-Plant Protection Research Institute. Because collecting and sorting is still ongoing, it is impossible to give a definitive checklist of species. This preliminary report will only give provisional results.

PAPER PRESENTATION

ECOLOGY

Space-time interactions and variability in spider diversity along an elevational transect in a Floristic Kingdom sensitive to climate change

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Space, time and their interactions' impact on diversity is central to our ability to understand and predict future change in diversity. Mountains provide ideal testing grounds for this understanding and possible spatial surrogates for temporal responses of assemblages to climate change. Most studies of spider assemblages are spatial snap shots and none exists for an elevational transect over multiple years. For the first time we describe the monitoring of epigeal spider assemblages, twice a year over a six year period in 17 elevational sites (0 - 1900 m), both sides of the Cederberg Mountains in the Western Cape, South Africa. We test whether there is a change in richness, turnover over time, identify the relative contribution of spatial, seasonal and annual turnover to gamma diversity, identify possible processes responsible for this turnover, and use species time and area relationships (STAR) to identify at what scale temporal and spatial processes are equivalent and whether the space-time interaction is negative. Spiders were caught with pitfall traps twice a year (dry and wet seasons) along an east-west elevational transect in the Cederberg Mountains. There were no significant changes in alpha diversity over space and time; beta diversity also remained constant. Seasonal turnover contributed most to turnover at a site, while the relative roles of species loss and replacement varied with aspect. Space-time interactions had a negative impact on richness. The spider assemblages remained stable over the period of the study, and most of the changes were seasonal. Implications of these results for long term monitoring are discussed.

PAPER PRESENTATION

SYSTEMATICS

Clearing up a dumping ground: a revision of the African species of **Castianeira** *Keyserling, 1879, with the validation of* **Castianeirodes** *Strand, 1916 and the description of two new genera*

C.R. Haddad

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Within spider systematics, many of the largest genera have historically served as "dumping grounds" for species, especially in the case of relatively unspecialized spiders. As a result, these genera often include many species that are unrelated to the type species of the genus. Amongst the Corinnidae *sensu lato*, the genera *Castianeira* Keyserling, 1879 and *Corinna* C.L. Koch, 1841 are excellent examples of this phenomenon. Solving taxonomic issues within these genera requires a detailed study of the morphological characteristics of the type species of each genus, recognizing which species are consequently related, and separating the remaining species into clearly delimited genera or transferring them to existing genera. During a revision of the African *Castianeira*, it quickly became evident that many of the 24 described species were misplaced in the genus. Three species (*Castianeira deminuta* Simon, 1909, *C. fulvipes* Simon, 1896 and *C. loricifera* Simon, 1885) were transferred to *Cambalida* Simon, 1909, and a further two species (*Castianeira depygata* Strand, 1916 and *C. mestrali* Lessert, 1921) were proposed as junior synonyms of *Cambalida fulvipes* (Simon, 1896) in a recent revision. A sixth species, *Castianeira kibonotensis* Lessert, 1921, was synonymised with *Copuetta lacustris* (Strand, 1916) in a recent paper. Amongst the remaining described species, at least four clearly belong to *Castianeira* (*C. antinorii* (Pavesi, 1880), *C. majungae* Simon, 1896, *C. phaeochroa* Simon, 1909 and *C. soyauxi* (Karsch, 1879)). The genus *Castianeirodes*, a name initially proposed but not formally described by Strand (1916) for *Castianeira insulicola* Strand, 1916, is validated, and includes the latter species and three new species from the Afrotropical Region. New genus 1 is proposed for *C. delicatula* Simon, 1909, *C. venustula* (Pavesi, 1895) and four new Afrotropical species. New genus 2 is proposed for *C. formosula* Simon, 1909, *C. thomensis* Simon, 1909 and at least two new species from West Africa. Two species, *C. bicolor* (Simon, 1890) and *C. cecchii* (Pavesi, 1883), are considered *nomina dubia*, as the type specimens lack the genitalia needed for a clear identification. The type specimens of the remaining African species (*C. albomaculata* Berland, 1922, *C. badia* (Simon, 1877), *C. bartholini* Simon, 1901, *C. brunellii* Caporiacco, 1940, *C. fusconigra* Berland, 1922, *C. micaria* (Simon, 1886) and *C. munieri* (Simon, 1877)) could till now not be traced, and these species are considered *nomina dubia* too.

POSTER PRESENTATION

BIODIVERSITY

Activity patterns and assemblage composition of spiders following delayed spring rainfall under drought conditions

C.R. Haddad

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As part of a project initiated to assess the impacts of the timing of spring rain on spider assemblage composition and activity, spiders were sampled by pitfall traps in a grassland habitat in central South Africa. The pitfalls were checked weekly from the start of September until the first spring rains on 20 October 2013, after which the traps were checked daily for the following three weeks. In the week preceding the first rainfall, only 12 adult spiders were collected: *Zelotes scrutatus* (O.P.-Cambridge, 1872) (n = 6), *Allocosa* cf. *schoenlandi* (Pocock, 1900) (n = 3), *Scytodes* sp., *Camillina cordifera* (Tullgren, 1910) and *Setaphis subtilis* (Simon, 1897) (n = 1 each). In the three weeks following the first rains, 420 adult arachnids were collected, representing three orders: Araneae (n = 406), Solifugae and Scorpiones (n = 7 each). The most abundant spider species collected were *Z. scrutatus* (n = 65, 15.5 %), *Cydrela* sp. 1 (n = 59, 14.1 %), *Ancylotrypa dreyeri* (n = 48, 11.4 %) and *Allocosa* cf. *schoenlandi* (n = 39, 9.3 %). Spider abundance increased sharply in the week following the first rains, but declined during the second and third weeks in the absence of further significant rainfall. In contrast, species richness increased sharply following the first rains, but fluctuated at around 10 species per day through the rest of the study. Notably, activity of the trapdoor spider *A. dreyeri* showed a very sharp increase following the first rains, but declined rapidly thereafter, and the species was not collected following the eighth day of trapping. Studies in future seasons should take into consideration the contrasting incidences of first rains, subsequent rainfall frequencies and total rainfall, and the effects that these parameters have on spider assemblages and activity patterns.

PAPER PRESENTATION

SYSTEMATICS

Notes on the jumping spiders of Lesotho (Araneae: Salticidae), with descriptions of six new species

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The first overview of the jumping spiders (Araneae: Salticidae) of Lesotho is presented. The country is entirely land-locked by South Africa, consists nearly entirely of grassland vegetation, and is the only country in the world situated entirely above 1000 m a.s.l. The study was based largely on specimens collected during two biodiversity projects carried out in 2003, the Mohale Dam baseline biodiversity assessment, and Conserving Mountain Biodiversity in Southern Lesotho, supplemented by specimens collected by Johan van Niekerk in 2013. Twenty-eight species are recorded from the country for the first time, to add to three recently described species of Euophryinae. Among these, six species are described as new to science in the genera *Belippo*, *Dendryphantes* and *Massagris* (one each) and *Heliophanus* (3 spp.), all known from both sexes. Twenty-two of the 31 species known from Lesotho are known or were described from South Africa. Furthermore, 15 of the 31 species are known from the adjacent lower altitude grasslands of the Free State Province, indicating the importance of vegetation in shaping salticid assemblages, but highlighting the role of the considerable differences in altitude and geology in the two areas. However, eight species are presently endemic to Lesotho: the six described in the current study, as well as the recently described *Euophrys maseruensis* and *Thyenula montana* (Wesołowska *et al.* in press). The presence of eleven *Heliophanus* species at these high altitudes is fascinating, although only three of these are endemic to Lesotho (the new species described here), and most being quite widespread in South Africa.

PAPER PRESENTATION

SYSTEMATICS

Systematics, phylogeny and biogeography of ant-eating spiders (Zodariidae) with special reference to forest dwelling afrotropical taxa

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Zodariidae is a medium sized family (78 genera, 1068 species) widely distributed but primarily found in tropical and subtropical regions. This family of mainly ground-dwelling spiders has remained ill-defined and its composition unclear for a long time. Since the significant morphological revision at genus level (Jocqué 1991), more than 30 new genera have been described. For the majority of these, the affinities and placement within the Zodariidae remains to be clarified. The first part of this study will test the phylogeny of the family Zodariidae on a global scale, using combined molecular and morphological data. Phylogenetic relationships of the majority of the genera will be inferred and the position of some taxa clarified, such as, for example, that of the enigmatic genera *Cyrioctea* and *Cryptothele*. The family status of the latter and its inclusion in the Zodariidae is still under debate. Here we present the first phylogenetic results based on a molecular study by means of the COI, H3, 18s and 28s markers.

POSTER PRESENTATION

SYSTEMATICS

The genus Mallinella *(Araneae, Zodariidae) in Africa: a lesson in biodiversity*

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This study focuses on tropical forest dwelling taxa, especially the genus *Mallinella*, for which now approximately 150 species are known. Only 27 of these are Afrotropical. The African representatives will be revised and their relationships analyzed on the base of morphological and molecular data. Preliminary results based on the examination of over 2000 samples from collections from many museums, revealed so far 87 new morphospecies of Afrotropical *Mallinella*. These first observations illustrate our poor knowledge of African *Mallinella* diversity and demonstrate the danger of identification of species on the base of spectacular characters. The species *M. kibonotensis* (Bosmans & Van Hove, 1986) will be shown to contain at least seven species. The micro-distribution of these species is particularly interesting in the context of historical biogeography.

PAPER PRESENTATION

SYSTEMATICS

Keeping up the morphology approach: phylogeny of the Zodariidae (Araneae) revisited

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Since the latest, and only, cladistic analysis of the Zodariidae, the number of genera in the family increased from 54 to 78. That study was the first to provide an analysis of the generic relationships of a medium sized spider family on a worldwide scale. As the methodology was still in its infancy, the analysis had different flaws, one of them being that the outgroup was the purportedly most basal genus in the family. Genitalic characters were used without consideration for the intrageneric variation. The present analysis has remedied these shortcomings. It is based on a matrix of 73 ingroup taxa and 106 characters. The outcome of the morphological analysis is remarkably similar to that of the former one. The subfamilial composition of the group remains unaltered and only some minor shifts of a few genera are obtained. The occasion is grabbed to discuss the position of the Zodariidae, one of the few families for which the placement in the Araneae has only recently been documented.

POSTER

BIODIVERSITY

Spiders of the Kalkfontein Dam Nature Reserve

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Kalkfontein Dam Nature Reserve (29°31'17.425"S, 25° 16'39.89"E) is situated 35km from Fauresmith in the Nama Karoo Biome and extends 6482 hectares. The Veld type of the area is described as Eastern Mixed Nama Karoo (Veld type 52). Although not remarkably rich in mammal species or endemism, the fauna and flora of the region is impressively adapted to its climatic extremes. Vegetation consists of a complex mix of grass- and scrub-dominated vegetation types, which are subject to dramatic changes in species composition, depending on seasonal rainfall. The peak rainfall is during January and March. Average annual rainfall is about 431mm. Temperatures range between a minimum of -11℃ in winter to 41℃ in summer. The area in general is prone to extended periods of drought. During a two week period from 7-17 April 2008, SANSA fieldwork was undertaken at Kalkfontein Dam by the second author. During this time, 896 spider specimens were collected from 26 families. Collecting was done by pit traps, beating, sweeping, and active search. Active search was conducted during the day and night. Three grassland and three rocky areas were sampled on the north-eastern side of the dam. The trees and shrubs used for beating were part of the rocky areas. Currently a survey is being conducted by N.A. Josling. A database is compiled of a photographical collection of the spiders found, and is currently standing at 32 families.

PAPER PRESENTATION

ECOLOGY

Biodiversity and ecology of ground dwelling spiders in Yoko Forest Reserve and its surroundings (Kisangani, DR Congo)

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This work, devoted to biodiversity and ecology of ground dwelling spiders of Yoko Forest Reserve and its surroundings, was conducted from January to September 2009. Two methods were used: Distance sampling and Barber trap. In total, 603 specimens of spiders were collected and identified into 12 families, 16 genera and 24 species. Identification was done by using Wild binoculars (Gross. X500) with a cold light adapter and recent literature on African spiders. The "Distance sampling" method gave 478 spiders belonging to four families (Ctenidae, Lycosidae, Heteropodidae and Pisauridae). Ctenidae were the most diversified (three genera and 10 species) and the most abundant (71.54%). A total of 125 spiders were caught with Barber trap and identified into 11 families, 13 genera and 19 species. Ctenidae was again the most represented, with two genera and eight species. Globally, the sex ratio is balanced in all habitats, with slight differences, but not significant. None of the methods seem to favour the capture of one sex over the other. As far as spatial distribution is concerned, the old fallow is dominated by *Pardosa* sp. (Lycosidae) and *Africactenus decorosus* (Ctenidae); the secondary forest by *Anahita lineata*, *Ctenus fallax*, *C. pilosus* and *Africactenus decorosus* (all Ctenidae); and the primary forest by *C. fallax* and *C. pilosus*. *Ctenus pilosus* and *Ctenus* sp. might be the best represented in all sites. Biodiversity is high in the three habitats: 20 species in the old fallow, 19 in the secondary forest and 18 in the primary forest. In addition, 13 species were simultaneously collected everywhere, while 11 are accessories and occupy one or two habitats. These almost similar catches in the three habitats, despite the anthropogenic actions, show that the populations are similar and that spiders have a high resilience. Furthermore, individuals are largely equitably distributed between species. As for the size-habitat relationship, larger spiders are observed rather in the old fallow than in the secondary and primary forests. On the temporal distribution, the peaks lie in June and May for the "Distance sampling", and in July for Barber trap. When comparing these results with those obtained on the right bank of the Congo River, all species caught on the left bank are present on the right bank too. The Yoko Forest Reserve on the left bank and the Masako Forest Reserve on the right bank presents a strong resemblance. So, the Congo River might not be an ecological barrier for spiders. Finally, the Kungulu Island and the arboretum might have a poor spider population.

POSTER

BIODIVERSITY

Species for Africa – a rich biodiversity of insects and spiders collected from one trap in an urban area in Pretoria

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Little is known about the diversity of invertebrates in urban and suburban areas in South Africa. For this preliminary study, the first in the Gauteng (Pretoria area), only a single Malaise trap was used over a year period. Serene Valley is situated in the suburban area of Garsfontein, in Pretoria East (25°47'49"S, 28°17'54"E). It has a small tributary, the Constantia Spruit, of the greater Moreleta River catchment area. The area consists of dense riverine vegetation along the banks of the river with dispersed, small patches of grass stands. The area is surrounded by residential housing, both free standing homes and high density townhouse developments. The trap was placed between two trees in a natural insect flight path. The trap was cleared once a week in summer, and once every two weeks in winter from 29 March 2012 to 17 March 2013. The material was sorted into orders, and a rough estimate of the number of insect and spider morpho-species present in each sample was counted. The insects were represented by 13 orders and at least 54 families, while the spiders (order Araneae) were represented by 25 families and 50 species. There was an expected significant decrease in the number of species during the colder months of the year. Of the 13 insect orders, the Diptera and Hymenoptera consistently had the highest number of morpho-species throughout the year. The orders that had less than five species in a sample were Mantodea, Orthoptera, Thysansoptera, Neuroptera, Blattodea, Ephemeroptera and Mecoptera. Malaise traps are not typically used to collect spiders. Two species of suborder Mygalomorphae (Cyrtaucheniidae and Nemesiidae), both trapdoor spiders, were interesting finds. The jumping spiders were the most diverse, represented by seven species, the sac spiders (Miturgidae: *Cheiracanthium*) were the most abundant with 30 specimens, followed by the nursery-web spiders (Pisauridae) with 18 specimens. The majority of the species were wanderers, and only three web-dwelling families, Amaurobiidae, Linyphiidae and Theridiidae, were sampled. Although this was only a preliminary study, the number of species and the number of individuals collected from the site was high and showed that there is a rich fauna of spiders present in this suburban area. The results provide a good baseline to determine which groups are present and which groups can be researched further. It is recommended that, in future, trapping methods that target some of the other insect groups, and the majority of arachnid groups, be used to obtain a better overall picture of species diversity.

PAPER PRESENTATION

BEHAVIOR

Rain spiders mating: close-up photography explains the mechanisms (Araneae: Sparassidae: Palystes superciliosus*)*

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Rain spiders (*Palystes* spp.) are found throughout South Africa. Their impressive size and habit of entering houses means they are frequently encountered by the public. A pair of rain spiders (*Palystes superciliosus*) was photographed mating, highlighting how photography can explain the behaviour and morphology of invertebrates. A sequence of photographs shows the different parts, how they function, how they are used during mating, and clearly shows the use of the embolus during sperm transfer.

PAPER PRESENTATION

SYSTEMATICS

The species of the genus Cheiracanthium *(Araneae: Eutichuridae) from Madagascar and the Comoros Islands*

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The Afrotropical representatives of the genus *Cheiracanthium* C.L. Koch, 1839 from Madagascar and the Comoros Islands are being revised, and new species are described. Five described species are recognized: *C. africanum* Lessert, 1921, *C. furculatum* Karsch, 1879, *C. insulare* (Vinson, 1863), *C. leucophaeum* Simon, 1896, and *C. ludovici* Lessert, 1921. The internal genitalia of the females of *C. insulare* and *C. ludovici* are described for the first time. Thirteen new species are recognized from Madagascar and the Comoros Islands. In most of the endemic Madagascan species the female genital depression is divided by a central septum and the male cymbial apophysis is bent distally.

PAPER PRESENTATION

SYSTEMATICS

Initial steps towards a phylogenetic study of the Afrotropical Idiopidae (Araneae: Mygalomorphae)

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The phylogenetic relationships of Idiopidae (Araneae: Mygalomorphae) genera are being investigated with a multigene approach, as this will forms the basis of the phylogenetic species concept. Genes used in the study include mitochondrial genes Cytochrome C oxidase (CO1) and ND1-16S, ribosomal DNA genes 18S and 28S and the nuclear coding gene elongation factor 1-alpha (EF-1a). These genes were selected as they are expected to show the different rates of evolution. A sample set of specimens varying in collection age and preservation methods were obtained from the National Collection of Arachnida housed at the Agricultural Research Council – PPRI and used in the initial molecular analyses. The results from the beginning of the phylogenetic study to date are discussed.

POSTER PRESENTATION

SYSTEMATICS

A taxonomic revision of Afrotropical genera of the trapdoor spider subfamily Idiopinae (Araneae: Idiopidae)

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Worldwide, the Idiopidae (Araneae: Mygalomorphae) is represented by 22 genera and 314 species. In the Afrotropical Region two subfamilies, the Genysinae and Idiopinae, are represented by seven genera and 96 species. In this study, a revision of the subfamily Idiopinae, undertaken in the Afrotropical Region, will be discussed. These spiders, also known as the front-eyed trapdoor spiders, use their rastellums to excavate burrows in a variety of soil types during the summer months. The silk-lined burrows are frequently found in open grassy plains, where the soil is soft during the summer period, which enables them to dig or enlarge their burrows, before the soil becomes very hard during the winter months. They are represented by six genera and 71 species but several new species have been identified. Although the Idiopinae are a very uniform and distinctive group of spiders, questions still exist around generic relationships and their diversity, which can only be solved after revisions of all the genera. At present no generic revisions of the Idiopinae in Africa have been done. The genus *Ctenolophus* Purcell, 1904 is an African genus with seven known species and all are recorded from the Southern African region. *Galeosoma* Purcell, 1903 is represented by 12 species and three subspecies and is known only from the southern parts of Africa. Members of the genus *Galeosoma* live in silk-lined burrows made in the soil with the entrance sealed with a wafer-type trapdoor. The female spider uses the hardened posterior part of her abdomen as a false bottom to close and protect the lower part of the burrow. *Gorgyrella* Purcell, 1902 is an African genus with four species and one subspecies from Southern and Eastern Africa. Their burrows are more slanted in the soil. Although the burrow is cylindrical, it widens funnel-like towards the entrance. Eleven species of *Heligmomerus* Simon, 1892 are so far known, five from Southern and six from Eastern Africa. Three species of *Segregara* Tucker, 1917 are known from Africa and they are all recorded from Southern Africa. The genus *Idiops*, with its 89 species, will not form part of this study. The number of possible new species per genus will be presented. Various morphological characters such as the number, size and position of sigilla, tibia II shape, shape of chelicerae and teeth on chelicerae furrow will be evaluated and included in a cladistic analysis. Genetic studies using various genes will be carried out on “fresh” material from type localities.

POSTER

BIODIVERSITY

The National Collection of Arachnida: present status

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The South African National Survey of Arachnida (SANSA) was initiated in 1997 by the Agricultural Research Council (ARC). The aims of SANSA are to discover and describe the Arachnida from South Africa, to compile species lists, to capture this information in a database for use by science and the community, and to use it for conservation planning and sustainable use. An integral part of SANSA is the National Collection of Arachnida (NCA), which was established in 1976. This alcohol collection contains arachnid specimens collected mainly in southern Africa. Extensive collecting was done over the past 46 years and this was supplemented with by-catch from other research projects, student projects and public participation. The NCA is made up chiefly of reference specimens, but also has a type specimen collection of newly described species. All these specimens, together with their valuable distribution and biological data, were used to compile the first national species lists of the Arachnida of South Africa. The NCA contains specimens from six Arachnida orders, 99 families, 594 genera and 1847 species. The collection presently houses more than 60 000 accessions representing approximately 180 000 specimens. A MySQL relational database, made up of different modules, was developed to digitise the primary data of all specimens housed in the NCA since 1976.

POSTER

BIODIVERSITY

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 at the Agricultural Research Council – Plant Protection Research Institute (ARC-PPRI) in Pretoria, South Africa. The collection forms part of South Africa's Agricultural National Public Assets, which the ARC manages and maintains on behalf of the Department of Agriculture, Forestry and Fisheries (DAFF) and the Department of Science and Technology (DST). These holdings contain a wealth of associated taxonomic, biological and geographical information. The collection contributes to various research activities and knowledge generation in the fields of agriculture and natural resource management. It provides support for key services such as identification of predators that affect agricultural production and bio-security. The NCA provides a one-stop specimen identification and advisory service to government, farmers, industry, researchers, students and the public. These services are also essential for taxonomic support for national research projects. Curators of natural history collections 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 catalogue of the spider type specimens deposited in the NCA was recently compiled and is now available to the research community. The spider type specimen collection of the NCA currently contains 1550 type specimens of 205 species, 97 genera and 33 families. Of these, 138 specimens are primary holotypes. Each entry in the catalogue lists the current name of the spider species, followed by the authority, date and page number of the original publication. Additional information included relates to the category of the type specimen, number of specimens, locality with GPS coordinates, province and country, and NCA accession number. The electronic version of the catalogue is available on the ARC website, and will be updated annually. Currently the NCA houses more than 60 000 accessions, representing approximately 180 000 specimens.

PAPER PRESENTATION

SYSTEMATICS

Inconsistency in arachnological terminology: can it be resolved?

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There are many research fields where the same term is applied to different morphological structures, and arachnology is no exception. The lack of clarity and consensus can often lead to confusion and misunderstanding when different specialists use different terms for the same feature. In this talk I will speak about various difficulties caused by inconsistency in terminology. Objective reasons for inconstancies can be considered as follows:

1) Different terms originate from different languages, yet they describe the same structures (e.g. spermathecae/receptacula); some are used simultaneously as valid terms with their original (gender) endings (receptacula, palpus) and with English endings (receptacle, palp).
2) Terms have different etymological backgrounds: functional (e.g. conductor); topographical (e.g. median, terminal); derivative (e.g. tegular, patellar, embolic, radial); descriptive (e.g. lamella, palea); patronymic (e.g. Fickert gland).
3) The same terms can be applied to different things (e.g. haplogynes – as a taxonomic group or as a type of copulatory organ).
4) Many terms have no proper definition (genitalia, embolus, paracymbium).
5) The same terms are applied to non-homologous structures, or *vice versa*, homological structures may be referred to by different terms.

In many cases, such variable terminology causes no problems, but sometimes it can lead to confusion or subjective difficulties:

1) Several editors in respectable journals have their own preferences with regard to which of the alternative, valid terms should be used (e.g. epigyne or epigynum).
2) Some reviewers and editors force authors to use the same terms for non-homologous structures (e.g. haematodocha and conductor in haplogynes).

In my opinion, it would be more practical to use derivative terms (the median apophysis in many groups has a retrolateral position; conductor is too functional and can be applied to different parts). In addition, it is better to use shorter terms (palp but not pedipalp; carapace instead of dorsal shield of prosoma; abdomen instead of opisthosoma). There are no reasons to create uniform terminology for the whole order and maybe it would be practically impossible. It would be better to suppress the habit of editors or reviewers to insist that authors use terms that they prefer.

PAPER PRESENTATION

SYSTEMATICS

Copulatory organs in spiders: can their parts be homologized?

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Most, if not all, arachnologists are confident that parts of the copulatory organs can be homologized at least within each suborder of spiders. In this presentation we will try to demonstrate that even most basic characters such as cymbium, paracymbium, RTA, embolus, spermatheca (=receptacle) cannot be homologized with certainty within Mesothelae, Mygalomorphae or Araneomorphae.

POSTER PRESENTATION

SYSTEMATICS

A first look at the diversity of the spider genus Drassodella *Hewitt, 1916 (Araneae: Gallieniellidae): the species in the National Collection of Arachnida, Pretoria*

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Following the recent transfer of *Toxoniella* Jocqué & Warui, 2002 to Liocranidae, the genus *Drassodella* Hewitt, 1916 is one of four remaining Afrotropical genera of Gallieniellidae. Of the Afrotropical genera, only the endemic South African genus *Austrachelas* Lawrence, 1938 has been subject to revision; *Gallieniella* Millot, 1947 and *Legendrena* Platnick, 1984 remain poorly studied. *Drassodella* is presently represented by seven species, all endemic to South Africa, and most described nearly a century ago. The first step in revising the genus was to examine the material deposited in the National Collection of Arachnida in Pretoria. Fresh material was found for five of the described species: *D. melana* Tucker, 1923, *D. quinquelabecula* Tucker, 1923, *D. salisburyi* Hewitt, 1916, *D. septemmaculata* (Strand, 1909) and *D. vasivulva* Tucker, 1923. A further 10 new species are recognised. Based on this preliminary data of 15 species, there appear to be two distinct species groups. The northern species group, which includes *D. melana* and six new species distributed in eastern and northern South Africa, is characterised by very conservative genitalic morphology in both sexes. This makes recognising which of these morphospecies is *D. melana* impossible, without examining the type specimens. The southern species group includes the remaining eight species, of which four are new. Females display considerable variation in the structure of the epigynal hoods, lateral ridges and spermathecal structure, while males vary in the shape of the embolus, median apophysis, conductor and tibial apophysis. Most of the species appear to be narrow-range endemics; only *D. septemmaculata*, *D. melana* and one new species have distribution ranges clearly exceeding 300 km.

PAPER PRESENTATION

ECOLOGY

Diversity of spiders (Araneae) of the Polokwane Nature Reserve, Limpopo province, South Africa

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A survey of spiders was conducted over a period of a year (March 2005 – Feb 2006) at the Polokwane Nature Reserve. Six different habitat types were sampled: *Acacia tortillis* open savanna, *A. rehmanniana* woodland, false grassland, riverine and sweetthorn thicket, granite outcrop, and *Aloe marlothii* thicket. Four trapping techniques were used: active searching, sweep netting, pitfall trapping and tree beating. A total of 13 821 spiders were sampled during the study, representing 39 families, 156 genera and 275 species. An accumulative species-area plot estimated that the number of families present in the Polokwane Nature Reserve is 40 and the number of species present is likely to be about 300. Thus, 92% of the species present were collected. The majority of families were widespread and abundant in all habitat types and seasons, while ten families were represented by a single species, with only five and fewer spiders caught. Oxyopidae was the most abundant family, representing 25% of the total number of specimens collected. This is the first survey in Southern Africa where the family Oxyopidae was recorded as the most abundant group present. The most diverse families collected during this survey were Thomisidae, represented by 42 different species, which constituted 15.3% of the total number of species sampled.

PAPER PRESENTATION

SYSTEMATICS

A revision of the South African Geogarypidae (Arachnida: Pseudoscorpiones)

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Despite a recent order-level revision published by Harvey (1992), where, through the use of 126 morphological characters, 24 families were recognized, detailed morphological and ecological data is still sorely lacking for the vast majority of pseudoscorpions. Taking this into consideration, the need was recognised to initiate revisions on the poorly-known South African fauna. The family Geogarypidae, originally a subfamily of Garypidae but recently elevated to full familial status, was chosen, as our indigenous fauna only consists of eight described species in two genera (*Afrogarypus* Beier, 1931 and *Geogarypus* Chamberlin, 1930). The proposed study consists of three distinct phases, namely fieldwork, morphological analysis and phylogenetics. Following examination of types and field-collected specimens, 17 morphospecies of *Geogarypus* and four of *Afrogarypus* were recognised. A preliminary molecular analysis using the CO1 gene supports the presence of three clades amongst the South African fauna: *Afrogarypus* (6 spp.), *Geogarypus* (12 spp.) and a third monotypic new genus (1 sp.). Material from two species did not yield viable PCR products. Sequencing using the 28S gene still needs to be conducted, but is predicted to be complimentary with the CO1 results. Initial CO1 analysis shows that *G. robustus* Beier, 1947 and *G. triangularis* Ellingsen, 1912 belong to the *Afrogarypus* clade and will be transferred. The CO1 results also indicate that *G. olivaceus* Tullgren, 1907 and *G. flavus* Beier, 1947 (previously synonymised) are distinct species, and *G. flavus* is revalidated. Here a brief report is presented on the progress of the project thus far, and what still needs to be achieved and how.

POSTER

BIODIVERSITY

A photo gallery of some genera of Salticidae of South Africa

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The family Salticidae is the largest spider family, with a worldwide distribution. From South Africa 67 genera and 265 species are presently known. Salticids are usually diurnal, cursorial hunting spiders with well-developed vision. They are easily recognized by their large eyes and frequently colourful appearances. They are found in a very wide habitat range. The aim of the poster is to showcase some of the genera of South African salticids. Over the last year I went in search of salticids throughout the country with the aim to photograph the different species and to try and document the beauty of these spiders. Each species is photographed by providing both a frontal and dorsal view of the spider. Because the males and females differ, photographs of both sexes (if available) were taken. Juveniles of scarce species are reared to adulthood. Spiders are photographed using a Canon 60D camera, Canon MP E 65mm macro lens, MT 24ex macro twin flash and a homemade diffuser. To date, I've photographed more than a hundred different salticids, of which 29 genera and 65 species have been identified with the help of Dr Charles Haddad and Prof Ansie Dippenaar-Schoeman. Voucher specimens of some specimens are housed in the National Collection of Arachnida and images are donated to the SANSA Virtual Museum.

PAPER PRESENTATION

BIODIVERSITY

Spider diversity of the Addo Elephant National Park

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This study forms part of the South African National Survey of Arachnida (SANSA), initiated in 1997 with the main aim to create an inventory of the arachnid fauna of South Africa. One of the objectives of SANSA is to assess the number of arachnid species presently conserved in protected areas in the country. Of the nineteen national parks of South Africa, check lists of spiders are now available for three national parks, namely Mountain Zebra National Park, Karoo National Park and the Kruger National Park. The relatively poor knowledge of the arachnids of the Eastern Cape provided the impetus to set up a survey for Addo Elephant National Park (AENP). The AENP, an area of 164 000 ha, is 34 km from Port Elizabeth and was proclaimed as a protected area in 1931. It lies in the dense valley bushveld of the Sundays River region and contains five of the seven South African floral biomes. Although specimens of five of the arachnid orders were collected (Araneae, Opiliones, Pseudoscorpiones, Scorpiones and Solifugae, excluding Acari), the primary focus of this study was on the spiders (Araneae), which was done with the aim of providing a baseline for future ecological research. A survey of arachnids in the greater Addo Elephant National Park started in June 2009. AENP ranges in altitude from the fynbos on the Zuurberg Mountains to the forests and coastal dunes of Woody Cape. Addo is also known for its dense areas of thicket and Porkbush/Spekboom (*Portulacaria afra*). This is a preliminary report based on the sampling so far undertaken and the material that has been sorted and identified. Surveys are to continue. To date 42 families represented by 206 species have been recorded, with the Thomisidae (29 species) the most diverse family.

Checklist of the Arachnida of Amanzi Private Game Reserve

Compiled by Charles Haddad, with contributions by Vivian Butler (collector), Leon Lotz, Ansie Dippenaar-Schoeman, Wanda Wesolowska and Jan-Andries Neethling (identifications)

Order	**Family**	**Species number**	**Family morphospecies**	
ARANEAE	Agelenidae	1	1	*Agelena australis* Simon, 1896
	Amaurobiidae	2	1	sp. 1
	Amaurobiidae	3	2	sp. 2
	Ammoxenidae	4	1	*Ammoxenus amphalodes* Dippenaar & Meyer, 1980
	Araneidae	5	1	*Argiope australis* (Walckenaer, 1805)
	Araneidae	6	2	*Caerostris sexcuspidata* (Fabricius, 1793)
	Araneidae	7	3	*Cyrtophora citricola* (Forskal, 1775)
	Araneidae	8	4	*Hypsosinga lithyphantoides* Caporiacco, 1947
	Araneidae	9	5	*Neoscona rufipalpis* (Lucas, 1858)
	Araneidae	10	6	*Neoscona subfusca* (C.L. Koch, 1837)
	Araneidae	11	7	*Neoscona triangula* (Keyserling, 1864)
	Caponiidae	12	1	*Caponia hastifera* Purcell, 1904
	Clubionidae	13	1	*Clubiona* sp. 1
	Corinnidae	14	1	*Afroceto martini* (Simon, 1897)
	Corinnidae	15	2	*Cambalida dippenaarae* Haddad, 2012
	Corinnidae	16	3	*Cambalida fulvipes* (Simon, 1896)
	Corinnidae	17	4	*Castianeira* sp.
	Corinnidae	18	5	*Copuetta lacustris* (Strand, 1916)
	Corinnidae	19	6	*Fuchibotulus kigelia* Haddad & Lyle, 2008
	Corinnidae	20	7	*Graptartia mutillica* Haddad, 2004
	Corinnidae	21	8	*Orthobula* sp.
	Corinnidae	22	9	*Poachelas striatus* Haddad & Lyle, 2008
	Corinnidae	23	10	*Thysanina absolvo* Lyle & Haddad, 2006
	Corinnidae	24	11	*Thysanina* sp. 2
	Ctenizidae	25	1	*Stasimopus minor* Hewitt, 1915
	Ctenizidae	26	2	*Stasimopus oculatus* Pocock, 1897
	Cyrtaucheniidae	27	1	*Ancylotrypa dreyeri* (Hewitt, 1915)?
	Cyrtaucheniidae	28	2	*Ancylotrypa nigriceps* (Purcell, 1902)?
	Cyrtaucheniidae	29	3	*Ancylotrypa pretoriae* (Hewitt, 1913)?
	Cyrtaucheniidae	30	4	*Ancylotrypa* sp. 1
	Cyrtaucheniidae	31	5	*Ancylotrypa* sp. 2
	Cyrtaucheniidae	32	6	*Homostola* sp.
	Dictynidae	33	1	*Archaeodictyna* sp.
	Dictynidae	34	2	*Dictyna* sp. 1
	Dictynidae	35	3	*Dictyna* sp. 2
	Eresidae	36	1	*Dresserus kannemeyeri* Tucker, 1920
	Eutichuridae	37	1	*Cheiracanthium furculatum* Karsch, 1879
	Eutichuridae	38	2	*Cheiracanthium vansoni* Lawrence, 1936

Gnaphosidae	39	1	*Aneplasa* sp.
Gnaphosidae	40	2	*Asemesthes lineatus* Tucker, 1923?
Gnaphosidae	41	3	*Asemesthes oconnori* Tucker, 1923?
Gnaphosidae	42	4	*Asemesthes purcelli* Tucker, 1923?
Gnaphosidae	43	5	*Camillina cordifera* (Tullgren, 1910)
Gnaphosidae	44	6	*Camillina maun* Platnick & Murphy, 1987
Gnaphosidae	45	7	*Drassodes ereptor* Purcell, 1907
Gnaphosidae	46	8	*Drassodes* sp. 1
Gnaphosidae	47	9	*Drassodes* sp. 2
Gnaphosidae	48	10	*Drassodes* sp. 3
Gnaphosidae	49	11	*Drassodes* sp. 4
Gnaphosidae	50	12	*Drassodes* sp. 5
Gnaphosidae	51	13	*Eilica lotzi* FitzPatrick, 2002
Gnaphosidae	52	14	*Leptodrassex* sp. 1
Gnaphosidae	53	15	*Leptodrassex* sp. 2
Gnaphosidae	54	16	*Megamyrmaekion schreineri* Tucker, 1923?
Gnaphosidae	55	17	*Micaria* sp. 1
Gnaphosidae	56	18	*Micaria* sp. 2
Gnaphosidae	57	19	*Nomisia tubula* (Tucker, 1923)
Gnaphosidae	58	20	*Nomisia varia* (Tucker, 1923)
Gnaphosidae	59	21	*Pterotricha auris* (Tucker, 1923)
Gnaphosidae	60	22	*Pterotricha* sp.?
Gnaphosidae	61	23	*Scotophaeus* sp.?
Gnaphosidae	62	24	*Setaphis browni* (Tucker, 1923)
Gnaphosidae	63	25	*Setaphis subtilis* (Simon, 1897)
Gnaphosidae	64	26	*Trephopoda aplanita* (Tucker, 1923)?
Gnaphosidae	65	27	*Trephopoda kannemeyeri* (Tucker, 1923)?
Gnaphosidae	66	28	*Trephopoda* sp. 3
Gnaphosidae	67	29	*Trichothyse hortensis* Tucker, 1923
Gnaphosidae	68	30	*Xerophaeus appendiculatus* Purcell, 1907
Gnaphosidae	69	31	*Xerophaeus aridus* Purcell, 1907
Gnaphosidae	70	32	*Xerophaeus vickermani* Tucker, 1923
Gnaphosidae	71	33	*Xerophaeus* sp.?
Gnaphosidae	72	34	*Zelotes corrugatus* (Purcell, 1907)?
Gnaphosidae	73	35	*Zelotes frenchi* Tucker, 1923
Gnaphosidae	74	36	*Zelotes fuligineus* (Purcell, 1907)
Gnaphosidae	75	37	*Zelotes humilis* (Purcell, 1907)
Gnaphosidae	76	38	*Zelotes sclateri* Tucker, 1923
Gnaphosidae	77	39	*Zelotes scrutatus* (O.P.-Cambridge, 1872)
Gnaphosidae	78	40	sp. indet.
Hahniidae	79	1	*Hahnia tabulicola* Simon, 1898
Hahniidae	80	2	*Hahnia* sp. 2
Hersiliidae	81	1	*Tyrotama australis* (Simon, 1893)
Idiopidae	82	1	*Idiops* sp.
Idiopidae	83	2	*Segregara* sp. 1
Linyphiidae	84	1	*Meioneta habra* Locket, 1968

Linyphiidae	85	2	*Ostearius melanopygius* (O.P.-Cambridge, 1879)
Linyphiidae	86	3	sp. indet.
Liocranidae	87	1	*Rhaeboctesis* sp.
Lycosidae	88	1	*Allocosa schoenlandi* (Pocock, 1900)?
Lycosidae	89	2	*Allocosa tuberculipalpa* (Caporiacco, 1940)
Lycosidae	90	3	*Amblyothele albocincta* Simon, 1910
Lycosidae	91	4	*Evippomma squamulatum* (Simon, 1898)
Lycosidae	92	5	*Geolycosa* sp.
Lycosidae	93	6	*Hippasa australis* Lawrence, 1927
Lycosidae	94	7	*Hogna bimaculata* (Purcell, 1903)?
Lycosidae	95	8	*Hogna transvaalica* (Simon, 1898)?
Lycosidae	96	9	*Hogna* sp. 3
Lycosidae	97	10	*Pardosa crassipalpis* Purcell, 1904
Lycosidae	98	11	*Pardosa* sp. 2
Lycosidae	99	12	*Proevippa* sp. 1
Lycosidae	100	13	*Proevippa* sp. 2
Lycosidae	101	14	*Trabea purcelli* Roewer, 1951
Lycosidae	102	15	*Trochosa* sp.
Lycosidae	103	16	*Zenonina mystacina* Simon, 1898
Migidae	104	1	*Moggridgea* sp.
Mimetidae	105	1	*Mimetus* sp.
Oecobiidae	106	1	*Oecobius* sp.
Oonopidae	107	1	*Dysderina* sp.?
Oonopidae	108	2	*Opopaea mattica* Simon, 1893
Orsolobidae	109	1	*Afrilobus* sp.
Oxyopidae	110	1	*Oxyopes jacksoni* Lessert, 1915
Oxyopidae	111	2	*Oxyopes russoi* Caporiacco, 1940
Oxyopidae	112	3	*Oxyopes* sp. 1
Oxyopidae	113	4	*Oxyopes* sp. 2
Palpimanidae	114	1	*Palpimanus* sp. 1
Palpimanidae	115	2	*Palpimanus* sp. 2
Palpimanidae	116	3	*Palpimanus* sp. 3
Philodromidae	117	1	*Hirriusa arenacea* (Lawrence, 1927)
Philodromidae	118	2	*Philodromus browningi* Lawrence, 1952
Philodromidae	119	3	*Philodromus* sp. 1
Philodromidae	120	4	*Thanatus vulgaris* Simon, 1870
Philodromidae	121	5	*Thanatus* sp. 2
Philodromidae	122	6	*Tibellus minor* Lessert, 1919
Pholcidae	123	1	*Smeringopus koppies* Huber, 2012
Phyxelididae	124	1	*Vidole sothoana* Griswold, 1990
Pisauridae	125	1	*Cispius problematicus* Blandin, 1978
Pisauridae	126	2	*Euprosthenops* sp.
Prodidomidae	127	1	*Austrodomus* sp.
Prodidomidae	128	2	*Theuma capensis* Purcell, 1907
Prodidomidae	129	3	*Theuma maculata* Purcell, 1907?
Prodidomidae	130	4	*Theuma* sp.

Salticidae	131	1	*Baryphas ahenus* Simon, 1902
Salticidae	132	2	*Cyrba nigrimana* Simon, 1900
Salticidae	133	3	*Evarcha prosimilis* Wesołowska & Cumming, 2008
Salticidae	134	4	*Evarcha* sp. n.
Salticidae	135	5	*Heliophanus debilis* Simon, 1901
Salticidae	136	6	*Heliophanus pistaciae* Wesołowska, 2003
Salticidae	137	7	*Heliophanus proszynskii* Wesołowska, 2003
Salticidae	138	8	*Icius insolidus* (Wesolowska, 1999)
Salticidae	139	9	*Langona hirsuta* Haddad & Wesolowska, 2011
Salticidae	140	10	*Langona warchalowskii* Wesolowska, 2007
Salticidae	141	11	*Menemerus transvaalicus* Wesolowska, 1999
Salticidae	142	12	*Mogrus mathisi* (Berland & Millot, 1941)
Salticidae	143	13	*Natta chionogaster* (Simon, 1901)
Salticidae	144	14	*Natta horizontalis* Karsch, 1879
Salticidae	145	15	*Nigorella hirsuta* Wesolowska, 2009
Salticidae	146	16	*Pellenes bulawayoensis* Wesołowska, 1999
Salticidae	147	17	*Pellenes geniculatus* (Simon, 1868)
Salticidae	148	18	*Pellenes tharinae* Wesolowska, 2006
Salticidae	149	19	*Phlegra karoo* Wesolowska, 2006
Salticidae	150	20	*Phlegra etosha* Logunov & Azarkina, 2006
Salticidae	151	21	*Pignus simoni* (Peckham & Peckham, 1903)
Salticidae	152	22	*Pseudicius elegans* Wesolowska & Cumming, 2008
Salticidae	153	23	*Pseudicius gracilis* Haddad & Wesołowska, 2011
Salticidae	154	24	*Rhene amanzi* Wesolowska & Haddad, 2013
Salticidae	155	25	*Rhene lingularis* Haddad & Wesołowska, 2011
Salticidae	156	26	*Thyene inflata* (Gerstäcker, 1873)
Salticidae	157	27	*Thyene natalii* Peckham & Peckham, 1903
Salticidae	158	28	*Thyene thyenioides* (Lessert, 1925)
Salticidae	159	29	*Tusitala barbata* Peckham & Peckham, 1902
Segestriidae	160	1	*Ariadna corticola* Lawrence, 1952
Selenopidae	161	1	*Anyphops immaculatus* (Lawrence, 1940)
Sicariidae	162	1	*Loxosceles simillima* Lawrence, 1927
Sparassidae	163	1	*Olios correvoni* Lessert, 1921
Sparassidae	164	2	*Pseudomicrommata longipes* (Bösenberg & Lenz, 1895)
Theraphosidae	165	1	*Harpactira* sp.
Theridiidae	166	1	*Dipoena* sp.
Theridiidae	167	2	*Euryopis* sp.
Theridiidae	168	3	*Latrodectus cinctus* Blackwall, 1865
Theridiidae	169	4	*Latrodectus geometricus* C.L. Koch, 1841
Theridiidae	170	5	*Steatoda capensis* Hann, 1990
Theridiidae	171	6	*Theridion* sp.
Theridiidae	172	7	sp. indet.
Thomisidae	173	1	*Heriaeus allenjonesi* Van Niekerk & Dippenaar-Schoeman, 2013
Thomisidae	174	2	*Hewittia gracilis* Lessert, 1928
Thomisidae	175	3	*Misumena* sp.
Thomisidae	176	4	*Misumenops rubrodecoratus* Millot, 1942

	Thomisidae	177	5	*Monaeses* sp.
	Thomisidae	178	6	*Runcinia flavida* (Simon, 1881)
	Thomisidae	179	7	*Simorcus lotzi* Van Niekerk & Dippenaar-Schoeman, 2010
	Thomisidae	180	8	*Stiphropus* sp.
	Thomisidae	181	9	*Synema* sp.
	Thomisidae	182	10	*Thomisops sulcatus* Simon, 1895
	Thomisidae	183	11	*Tmarus* sp.
	Thomisidae	184	12	*Xysticus natalensis* Lawrence, 1938
	Uloboridae	185	1	*Uloborus walckenaerius* Latreille, 1806
	Uloboridae	186	2	*Uloborus* sp.
	Zodariidae	187	1	*Chariobas* sp.
	Zodariidae	188	2	*Cydrela* sp. 1
	Zodariidae	189	3	*Cydrela* sp. 2
	Zodariidae	190	4	*Diores femoralis* Jocqué, 1990
	Zodariidae	191	5	*Diores poweri* Tucker, 1920
	Zodariidae	192	6	*Palfuria* sp.
	Zodariidae	193	7	*Ranops* sp.
PSEUDOSCORPIONES	Atemnidae	1	1	*Catatemnus* sp.
	Chernetidae	2	1	*Caffrowithius* sp.
	Olpiidae	3	1	*Horus obscurus*
SCORPIONES	Buthidae	1	1	*Uroplectes triangulifer*
	Buthidae	2	2	*Uroplectes olivaceus*
	Buthidae	3	3	*Uroplectes* sp. 3
	Scorpionidae	4	1	*Opistacanthus pugnax*
SOLIFUGAE	Solifugae	1	1	sp. 1
	Solifugae	2	1	sp. 2
	Solifugae	3	1	sp. 3