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AFRAS NEWS

African Arachnological Society

2017 No. 26: 1-14

IN THIS ISSUE

FEEDBACK ON THE 12th AFRAS COLLOQUIUM
22-25 January 2017

The 12th AFRAS colloquium was hosted by the University of the Free State and the ARC. It was held at the Goudini Spa in the Worcester district, Western Cape, South Africa. The objectives of these Colloquia are to promote research on the African Arachnida (non-Acari) and to provide a forum for the discussion of research on African arachnids in oral presentations, posters and work-shops, as well as informal discussions.

- A total of 40 delegates and five accompanying persons attended the colloquium, from as far afield as Belgium, Israel, Russia, Czech Republic, Nigeria, Sudan, Zimbabwe, UK and USA.
- 37 papers and 17 posters were presented during the colloquium
- Two workshops were held, organized by Dr Ansie Dippenaar-Schoeman on the South African National Survey of Arachnida (SANSA), and by Dr Gerbus Muller on medically important spiders
- We also celebrated the 20th year of SANSA and 30th year of AFRAS.

Delegates at the Colloquium

Editor: Ansie Dippenaar-Schoeman
DippenaarA@arc.agric.za
Co-editor: Charles Haddad
haddadcr@ufs.ac.za
Secretary: Robin Lyle
LyleR@arc.agric.za
Distribution and Treasurer: Petro Marais
MaraisP@arc.agric.za

WEBSITE
http://afras.ufs.ac.za

THE 12th AFRAS COLLOQUIUM cont.

AFRAS AWARDS

Dr Leon Lotz of the National Museum in Bloemfontein received the Lawrence award for his dedication to African arachnids over the past 30 years at the Colloquium.

Delegates at the Colloquium

Prof Stefan Foord of the University of Venda received the award for the best contribution to African Arachnology over the last three years (2015-2017). This is for his long-term survey research and participation in the SPACE programme (see page 8). Stefan was also elected as the new chairman of AFRAS at the colloquium.

OTHER COLLOQUIUM AWARDS

POSTER AND PAPER AWARDS

Best student poster: Gary Edwards (*Ammoxenus*)
Runner-up: Liezl Whitehead (grass tussocks)
Best poster: John Midgley (*Ceratogyrus*)
Runner-up: Reginald Christiaan (Namaqua National Park)
Best student presentation: Pavel Just (Geogarypidae)
Runner-up: James Lichtenstein (*Stegodyphus*)
Best presentation: Tharina Bird (Solifugae)
Runner-up: Jonathan Pruitt (*Stegodyphus*)

PHOTOGRAPHIC AWARDS

Best non-spider arachnid photo: Ruan Booysen (scorpion)
Best spider action photo: Norman Larsen (diving Zodariidae)
Best spider portrait photo: Leon Lotz (Eresidae)

CATCH OF THE DAY

Yura Marusik

Robin Lyle and Charles Haddad handing out the awards to Tharina Bird, Ruan Booysen and Pavel Just

Colloquium photographs provided by Norman Larsen

RESEARCH IN SOUTH AFRICA

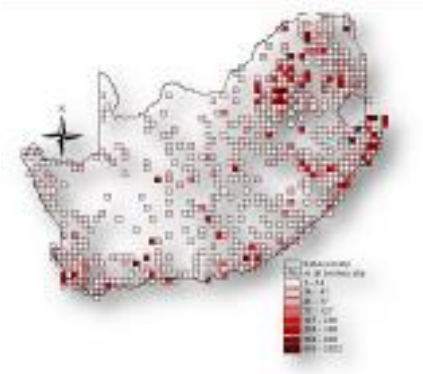
SANSA CAKE

To meet the requirements of the CBD, the South African National Survey of Arachnida (SANSA) was initiated in 1997. This national project has several aims:

- to document and describe the arachnid fauna of South Africa;
- to consolidate all the available data on South African arachnids into one relational database;
- to make this biodiversity information available to science;
- to address issues concerning their conservation and sustainable use.

SANSA is 20 years old this year and during the colloquium we held a tea party to celebrate this anniversary.

WHAT HAPPENED DURING THE LAST TWENTY YEARS



Extensive sampling took place over the last 20 years and the SANSA database contains a wealth of biodiversity data that are used to provide answers to ecological questions. SANSA has played an important role in unifying and strengthening arachnid research, with the major thrust to discover and document the spider diversity in South Africa. SANSA has provided the foundations for a more integrative approach to spider diversity research. The importance of capacity development to improve the quality and integration of biodiversity information was demonstrated. During the workshop we discuss the present status of knowledge, constraints to improving this, and the future directions for research. Future research should build on this legacy by linking taxonomic diversity with that of functional diversity, predicting the response of this diversity to global change drivers. Functional approaches will link these studies to ecosystem processes. Global collaborative studies at several sites following standardised sampling protocols and focused research questions would add value to the SANSA collection and the importance of spiders for the health of ecosystems.
A total of nine papers and 12 posters on SANSA were presented at the 12th AFRAS colloquium in January 2017. Some of the highlights are shown on the next few pages.

DIPPENAAR-SCHOEMAN, A.S., HADDAD, C.R., FOORD, S.H., LYLE, R., LOTZ, L.N. & MARAIS, P. 2015. South African National Survey of Arachnida (SANSA): review of current knowledge, constraints and future needs for documenting spider diversity (Arachnida: Araneae). *Transactions of the Royal Society of South Africa* 70: 245–275.

AFRAS COLLOQUIUM cont.

What we have done

- Presently 71 spider families, 471 genera and 2240 species are known from South Africa.
- The First Spider Atlas of South Africa, containing information on 2003 species, with maps showing their distribution, is available on the SANSA website. An updated National species list is in preparation.
- The first Red Listing project to determine the conservation status of spiders is underway. Results so far indicate that 61% are endemic to the region, with >400 species having a restricted distribution and are known only from a few localities in South Africa.
- In South Africa, Salticidae is the most diverse family with 345 spp., followed by the Gnaphosidae with 175 spp. and Thomisidae with 143 spp.
- Since the start of SANSA 38 revisions were undertaken and a total of 571 new species were discovered and described, with another 50 that are in the process of being described.
- Distribution ranges of more than 300 species known from the rest of Africa were extended to include South Africa.
- Information on habitat requirements showed that the Savanna Biome is the most diverse with 1230 species from 62 families, followed by the Fynbos Biome with 1014 from 67 families.
- Thus far, 51 families with 238 genera and 413 species have been recorded from crops in South Africa.
- At present >192 protected areas are or have been surveyed in South Africa, including biosphere reserves, national parks, reserves, state forests, RAMSAR sites, botanical gardens and conservancies.
- Provincial diversity is highest in KwaZulu-Natal, with 1122 spp. from 63 families, followed by Western Cape, with 966 spp. from 68 families, and the Limpopo Province, with 928 from 62 families.
- A total of 2500 Virtual Museum entries were made.
- The number of specimens identified during the last 20 years: >61202 spiders entries; number of NCA specimens in database: about 70000 specimens.
- Awareness activities include talks, newsletters (26), factsheets, website, colloquia, training courses etc.
- Products produced: handbooks (9) and posters (5)
- Conference presentations: 18 at international and 24 at local congresses.
- Student projects and degrees: >27.
- Participation in National projects: NRF Thuthuka projects; various NRF programmes; Foundational Biodiversity Information Programme (FBIP): Karoo Bio-Gaps Project, Species pages for the Encyclopedia of Life project and Fragmentation of the faunal diversity of Eastern Cape Forests project.
- Contributed towards the National Biodiversity Assessment (NBA) and Western Cape Biodiversity Spatial Plan (WCBSP).

RESEARCH PROJECTS IN SOUTH AFRICA

AGRICULTURAL RESEARCH COUNCIL—PRETORIA

KAROO BIOGAP PROJECT – SPIDERS CONTRIBUTE TO FILLING BIODIVERSITY INFORMATION GAPS IN THE KAROO

The South African National Biodiversity Institute (SANBI) has secured funding from the National Research Foundation (NRF) Foundational Biodiversity Information Programme (FBIP) to sample the biodiversity in the Karoo. The funding is used to help provide the Department of Environmental Affairs (DEA) with foundational biodiversity data that will contribute to the Shale Gas Exploration Strategic Environmental Assessment (SGE SEA). Currently, the Karoo is poorly surveyed and existing biodiversity data has major gaps, especially in the area targeted for shale gas exploration. Spiders are one of the eleven taxa to be studied as part of this project. The project contributes to the South African National Survey of Arachnida (SANSA), as sampling will be done at sites in the Karoo where little or no sampling has been done before. All specimens sampled will be stored in the National Collection of Arachnida and all data-based records will be shared with SANBI.

CONTACT: Robin Lyle at LyleR@arc.agric.za

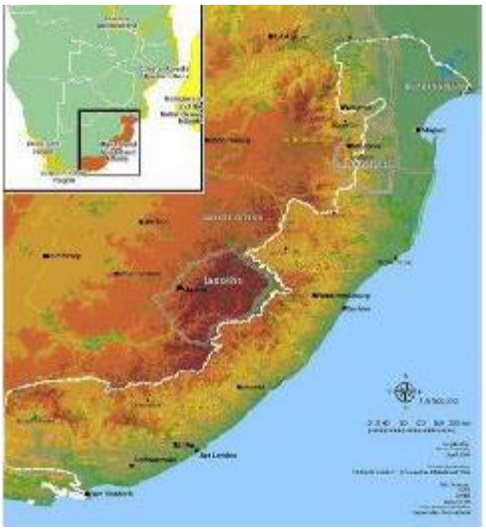
Members of the ARC involved in the Karoo project

THE EFFECT OF HABITAT FRAGMENTATION ON THE FAUNAL DIVERSITY OF EASTERN CAPE FORESTS

Forests make up only 0.56% of South Africa's land area, but display unusually high biodiversity. Naturally patchy, they have been further fragmented by human activities: nearly 50% of indigenous forests are estimated to have experienced anthropogenic fragmentation, which together with the introduction of alien plantations, has led to range changes in dependent faunal species. Recent work has shown that half of South Africa's forest dependent bird species have experienced range declines since 1992, mostly in the former Transkei and Ciskei home-lands of the Eastern Cape. Two primary causes of these declines are habitat loss due to deforestation and forest degradation. In terms of global change, significant deforestation has taken place between 1990 and 2013/4, as indicated by National Land Cover data. Forests are important in terms of the bio-economy as they have traditionally been harvested by local rural communities, but post-democracy have experienced increased pressure for fuel wood and building material collection, grazing, burning for cultivation, and collection of plants for medicine. Further degradation occurs where utilization of particular tree species by humans leads to declining forest condition, although boundaries may remain intact. Legal logging of indigenous trees takes place in only two forests in SA (Knysna and Pirie), but recently, larger scale illegal logging and harvesting of other plant material by commercial interests has been increasing, creating a potential conflict between these operations and communities which are partially dependent on forests for their livelihood.

The proposed area of study forms part of the Maputaland-Pondoland-Albany (MPA) Biodiversity Hotspot. Eastern Cape forest diversity has been well-documented only in terms of trees; and faunal diversity has been conspicuously poorly documented. As such, this area represents an excellent candidate for a FBIP, particularly as the Eastern Cape contains 46% of SA natural forests. While the forests of Kwazulu-Natal have been relatively well-documented, Eastern Cape forest diversity has been well-documented only in terms of trees, and faunal diversity has been conspicuously poorly documented elsewhere.

CONTACT: Robin Lyle at LyleR@arc.agric.za



The aim of the project is to survey the faunal composition of the forests in the Eastern Cape, in particular for six forest subtypes which may be inadequately conserved. This will involve recording species occurrence and identity; population abundance and viability; the collection of DNA barcodes; and studies of population genetics in selected taxa. Time period: 2016 to 2018.

Preparing the first Red List of the spiders of South Africa

A Red List is far more than just a list of species and their conservation status; it is also a tool to help focus future research. Before Red Listing can be done a large amount of specific species information is needed. This includes: 1. Currently known distribution data of each species, compiled from the literature, Spider World Catalog, information from the SANSA databases and Virtual Museums; 2. The taxonomic status of each species, indicating when it was described, from where, when last sampled, whether it was recently revised, whether known from both sexes, and if any identification tools are available; 3. Other information on the species, such as images, a common name, information on habitat, biology and behaviour, and environmental data to determine possible threats.

Not only will we have a list indicating the rare and possibly threatened species, but we will know which species are Data Deficient. This information is important to help direct survey efforts in future to try to recollect specimens from type localities, to do redescriptions, and describe both sexes of a species. Eventually, with all this data that is fed into a Red List online database we will have datasets available for all South African spider species. An additional benefit is that this information will also feed into the online species pages that are being generated by SANBI as part of the Encyclopedia of Life.

CONTACT : Ansie Dippenaar-Schoeman at DippenaarA @arc.agric.za and Robin Lyle at LyleR@arc.agric.za

RESEARCH PROJECTS IN SOUTH AFRICA

UNIVERSITY OF THE FREE STATE

Species pages for the Encyclopaedia of Life project of SANBI

The Species Pages project with Charles Haddad (project leader) and Ansie Dippenaar-Schoeman (compiler) is very busy generating data for inclusion in the Encyclopaedia of Life project of SANBI. For the contract period 2016-2017, data on 500 species are being compiled. Presently, pages for the species of the Araneidae, Atypidae, Ammoxenidae and Thomisidae have been completed.

For each species page, all available data on a species is included, such as:

- taxonomy,
- ecology,
- biology,
- morphology,
- distribution, and
- literature

This information will be made available on the website of the Encyclopaedia of Life. Through the development of these species pages, we hope to raise public awareness of the importance of spiders as predators in terrestrial ecosystems, their unappreciated natural beauty, and their significance as a group of conservation importance.

Contact: Ansie Dippenaar-Schoeman at Dippenaara@arc.agric.za and Charles Haddad at haddadcr@ufs.ac.za

REVISION OF THE GENUS *DRASSODELLA* (Gallieniellidae)

Mr Zingisile Mbo, an M.Sc student at the University of the Free State, under supervision of Dr Charles Haddad, recently completed his study revising the endemic South African spider genus *Drassodella*. Preliminary results of this work were presented at the last AFRAS colloquium in 2014 and also last year at the 20th International Congress of Arachnology in the U.S.A.

His study covered material from several major collections in South Africa and abroad. The seven currently known species of *Drassodella* were all redescribed and illustrated for both sexes, except for *D. purcelli*, which is still only known from the females. Twelve new species were discovered in the study, most of which are known from both sexes. All of these species are endemic to South Africa and the genus is yet to be collected beyond our country's borders.

This revision allowed for the recognition of two clear species groups based on genitalic morphology. The *D. salisburyi* species group is predominantly recorded from the southern parts of South Africa, while the *D. melana* species group occurs predominantly in eastern and northern South Africa, as far north as the Soutpansberg Mountains. Most of the species are narrow range endemics; *D. septemmaculata* has perhaps the broadest distribution range of approximately 400km.

Drassodella are exclusive ground-dwelling spiders and are usually collected by leaf litter sifting, pitfall traps or hand collecting under logs and rocks. They have now been recorded from all of South Africa's biomes. Their pretty markings, consisting of abdominal spots or stripes, makes them easy to recognize from other ground-dwelling gnaphosoid spiders.

Contact: Zingisile Mbo at mboz@ufs.ac.za

Drassodella vasivulva (Western Cape)

Drassodella amatola in litt. (Eastern Cape)

RESEARCH PROJECTS IN SOUTH AFRICA

NATIONAL MUSEUM, BLOEMFONTEIN

SPIDERS

There are two Sicariidae papers in review:

LOTZ, L.N. An update on the spider genus *Loxosceles* (Araneae: Sicariidae) in the Afrotropical region, with description of new species.

LOTZ, L.N. An update on the spider genus *Hexophthalma* (Araneae: Sicariidae) in the Afrotropical region, with description of new species. (The species of *Sicarius* in Africa have recently been reverted to the genus name *Hexophthalma*).

CURATION OF COLLECTION

The work on the re-identification of the spiders in the NMBA collection has progressed to the Sparassidae. Interesting finds in the Sparassidae so far are:

- A species of *Palystella* from Ndumo.
- Species of *Sarotesius* (see photos) from Harrismith area in the Free State. *Sarotesius* were previously only known from East Africa. This *Sarotesius* sp. has a body length about of 6mm.

Sarotesius sp.

SOME POST-COLLOQUIUM FIELDWORK AND FUN

Do you know what really compliments an international colloquium in the Western Cape? A week-long post-colloquium fieldwork trip together with a foreign colleague who shares the same research interests as you. The colleague in question was Mr Pavel Just from the Czech Republic, who is currently doing research on the chromosomes of pseudoscorpions to delimit cryptic species. A perfect complement to my own morphological research on the group.

Setting off the morning after the colloquium ended, our route took us from the Fernkloof Nature Reserve in Hermanus to the Kirstenbosch National Botanical Gardens in Cape Town. We also made a quick stop at the Cape Point Nature Reserve for some site-seeing before departing for the De Hoop Vlei Nature Reserve outside Bredasdorp on day three. For the final stretch we used my extended family's vacation home in Mossel Bay as our home base. From there we conducted excursions to the Woodville Indigenous Forest and Kaaimansgat near Wilderness, Jubilee Creek Nature Reserve outside Rheenendal and finally to the Valley of Ferns outside Knysna. On our way back to Bloemfontein we took the time for some final site-seeing by going on a tour of the Congo Caves outside Oudshoorn. The trip proved very successful, as many species of pseudoscorpions, spiders and harvestmen were collected.

Contact: Jan-Andries Neethling at ja.neethling@nasmus.co.za

Pavel Just sorting through some leaf litter at the De Hoop Vlei Nature Reserve.

Pavel Just taking photos while site-seeing at the Cape Point Nature Reserve.

All photos courtesy of J.A. Neethling.

RESEARCH PROJECTS IN SOUTH AFRICA

UNIVERSITY OF VENDA

Several projects on arachnids are underway at the University of Venda, such as SPACES and elevation surveys in the Soutpansberg.

Spider diversity on communal lands

Over the next eighty years the African savannah will change profoundly. Human populations in Africa are predicted to increase by 400% and the savannah has been targeted for the food production requirements of the continent. Very little has been done to assess the impacts of this on spider diversity. As part of Limpopo Living Landscapes, which is a project done in collaboration with German counterparts within the **SPACES** (Scientific Partnerships for Complex Earth Systems), a programme funded by the German Federal Ministry of Education and Research (BMBF), we studied spider communities in and around villages using pitfall traps. These villages are surrounded by croplands and low density rangelands (Fig. 1). We recorded 115 spider species and found some interesting results, which include that although the villages had lower species diversity, their functional diversity was the same as that of the rangelands – while functional diversity was significantly lower in the croplands, with significant implications for ecosystem function within an increasingly transformed landscape. These results have been submitted to the *Ecosystems* journal and represent the first attempt measuring functional diversity of spiders in South Africa. The manuscript is based on work done by Evans Mauda as part of his M.Sc with considerable input from Dr Grant Joseph, a postdoc in my laboratory.

Figure 1. Googlemaps image of one of the villages with surrounding rangelands and crops.

The DROUGHT ACT experiment

Within the Limpopo Living Landscapes project, we've also been monitoring spider assemblages as part of a drought and grazing experiment that has been set up near Limpopo University. The experiment consists of 4 blocks with four treatments randomized within these blocks (Figs 2 and 3). Data will be analysed as part of Alvin Ratshibvumo's honours project and includes three years of sampling. A *Calommata transvaalensis* male has been collected here, and represents the first record of the species for this region. Up until now the species has only been known from Pretoria, the Soutpansberg and Magaliesburg.

CONTACT: Stefan Foord at stefan@foord.co

Figure 2. Block and plot layout for the DROUGHT ACT experiment near Polokwane.

Figure 3. Grazing exclusion plot and rainout shelter in the background.

Spider diversity increases with elevation on an isolated mountain in arid savanna of southern Africa

S.H. Foord & A.S. Dippenaar-Schoeman

The following paper was presented at the colloquium

In general, taxon richness decreases with elevation or peaks at mid-elevations. The response of spider diversity to elevation is largely unknown. Here we report on the long-term patterns of spider diversity across a north-south elevational transect of an inselberg in the tropics of Africa. Spiders were trapped twice a year (wet and dry) between 2009 – 2016, with pitfalls set out in 5 ´ 2 grids,
replicated four times at 11 elevational sites set out at 200 m elevational intervals between 800 –1700m a.s.l. in the Soutpansberg, Limpopo Province, South Africa. A total of 224 species were recorded. Generic richness generally increased with elevation (species richness had a similar pattern) and there was considerable seasonal and inter-annual variation. Structural habitat complexity interacted with mist precipitation at higher elevations on the mountain to drive diversity and endemicity. The importance of refugia for the maintenance of diversity are discussed.

NEWS SNIPPET

Ansie Dippenaar-Schoeman was appointed as an Adjuct Professor in the Department of Zoology, housed in the School of Mathematics and Natural Sciences at the University of Venda from 1 Feb 2017 to 31 Dec 2019.

RESEARCH IN ZIMBABWE

Spiders and holistic management practices at Debshan Ranch, Shangani, Zimbabwe

S. Sebata, C.R. Haddad, S.H. Foord & M. FitzPatrick

The multiple benefits of mob grazing are attracting considerable attention. These, among others, include increased soil organic matter, weed control and grass health. However, its impact on the arthropod fauna has not been studied yet. We use a matched pair design (grazing vs. no grazing) in three areas of the Debshan Ranch, western Zimbabwe, to assess the response of spider diversity to holistic planned grazing at six time intervals (surveys): before, during, 1, 3, 6 and 10 months after cattle introduction. At each of the six sites, sampling points were positioned 50, 100, 200 and 400 m along four perpendicular transects leading away from the cattle kraal (shelter) for a total of 16 sampling points. Spiders were sampled using pitfall traps and sweep netting at each of the sampling points. Generalized linear mixed models with Poisson error structure for family richness and spider abundance values were used to model the effects of grazing and distance from kraal. Spider abundance and family richness caught by pitfalls in the first four survey periods is significantly higher than caught by sweep nets. Although there has been a significant increase in spider abundance caught in the sampling periods, grazing had a negative effect on spider abundance but not spider family richness. Moreover, grazing interacts with distance to produce higher abundance of spiders at the furthest distance class. The intermediate disturbance hypothesis suggests that diversity peaks at intermediate levels of disturbance. The abundance model explained 60% of the variation, whereas the richness model explains only 9%. Data field collection for the time intervals of 6 and 10 months after cattle introduction still has to be done. Spider identification for all spiders has been done to family level; taxonomic resolution to species level is still ongoing.

Sicela Sebata presenting her talk at the 12th AFRAS colloquium

Debshan Ranch, Shangani, Zimbabwe

AFRAS COLLOQUIUM POSTER

RESEARCH IN SWAZILAND

FIRST CHECKLIST OF THE SPIDERS OF SWAZILAND

At the AFRAS colloquium a poster was presented by Kate Braun and Ansie Dippenaar-Schoeman.

Kate is presently busy compiling the first checklist of the spiders and other arachnids from Swaziland. There have been limited surveys of the spiders found in Swaziland, with only occasional collections and observations made over the years. The objective of this project is to compile a preliminary checklist based on all existing records that could be located. Identification of the spiders was carried out, although in some cases identification to species level was not possible, particularly with photographic records. This is still an ongoing project, as there are currently specimens awaiting identifications, and further investigation of records held by other organisations is needed.

Presently 184 species from 36 families are known from Swaziland. The Araneidae with 32 spp. is the most diverse family, followed by the Salticidae and Thomisidae both with 22 spp. each. The 184 species represents less than 10% of the number of spiders found in South Africa, and comparison with percentages for other groups of plants and animals suggest that further investigation of records will reveal many more species.

FAMILY, GENERA AND SPECIES OF SWAZILAND

Amaurobiidae	1	1	**Palpimanidae**	1	1
Araneidae	17	32	**Philodromidae**	3	4
Caponiidae	1	1	**Pholcidae**	2	3
Corinnidae	6	6	**Phyxelididae**	2	3
Ctenidae	1	2	**Pisauridae**	5	9
Cyrtaucheniidae	2	2	**Salticidae**	13	22
Eresidae	1	4	**Scytodidae**	1	3
Eutichuridae	2	3	**Segestriidae**	1	1
Gnaphosidae	5	5	**Selenopidae**	2	4
Hersiliidae	1	1	**Sparassidae**	5	6
Linyphiidae	2	2	**Tetragnathidae**	2	4
Lycosidae	7	9	**Theraphosidae**	4	4
Migidae	2	2	**Theridiidae**	7	8
Mimetidae	1	1	**Thomisidae**	13	22
Nemesiidae	1	1	**Trachelidae**	1	1
Nephilidae	2	4	**Trochanteriidae**	1	1
Oecobiidae	1	1	**Uloboridae**	2	2
Oxyopidae	3	7	**Zodariidae**	2	2

SOME INTERESTING SPECIES

Salticidae *Parajotus* sp.

Araneidae *Singa* sp.

Araneidae *Isoxya sp.*

RESEARCH IN NIGERIA

Ecological studies of spider fauna in Awka, Southeastern Nigeria

O.D. Nwankwo & S.C. Ewuim

Abstract of the paper presented by Daniel at the Colloquium.

A study of spider communities in four habitats (farmland, fallow, marshy and forest) was conducted in Awka, south-eastern Nigeria between April 2012 and March 2013. Pitfall trap, sweepnet and jarring methods were used and the influence of some abiotic factors investigated. Two of the nineteen families found were new to Nigeria. Fallow habitat with 15 families and 337 individuals was the most productive habitat among the four, while the farmland showed the

highest diversity index of 2.11. Lycosidae was the highest in abundance, species diversity and distribution within and across habitats. All four families recorded in the forest were also found in all the other habitats, except Zodariidae, which was not found in the marshy habitat. The other three habitats have exclusive families. A Duncan test showed that there was a significant difference between pitfall trap effort and the other methods in both abundance and species richness. Correlation coefficients showed a significant relationship between efforts of sweepnet and jarring methods, and temperature. Spiders caught by pitfall traps from fallow and marshy habitats showed a significant relationship with rainfall. Uloboridae and Nesticidae were the new additions to the family list of the very little known Nigerian spiders. Lycosidae was found to be the most abundant

and dominant group in the area. While all the methods were good, pitfall trapping was the most efficient and the only method to collect Zodariidae. Rainfall and temperature showed some level

of influence on the population and distribution of spiders in marshy and fallow habitats, particularly.

Daniel O. Nwankwo

His study area

Some further feedback from Daniel on his study

About 28 families from a total land mass of 910,770 Sq km^2 divided by the tropical humid climate into four distinct unique vegetation zones is a very poor record for Nigeria. These differences in climatic conditions resulted in the tropical rainforest from the southern tip to the prevailing desert condition at the extreme north. In between these is the savannah vegetation covering most part of the country; from part of the southeast and southwest through the northcentral to most part of northeast and northwest. The fourth vegetation type is the mountain vegetation found in places like Jos plateau, Mambila mountain, Adamawa plateau etc.

The 25 families previously recorded from Nigeria came from small locations, mostly of the rainforest region and the boundary between rainforest and savannah, leaving most part of Nigeria untapped.

Our present work, which is on the "**Ecological studies of spider fauna in Awka Southeastern Nigeria**", aims at finding the diversity and distributions of spiders in Awka and to also understand how some physical variables influence these diversities and distributions, if possible. This study will in the long run provide the platform for further studies on spider diversity and distributions at least in all the six geopolitical zones of Nigeria. We will be glad to welcome interest from colleagues outside Nigeria, who may be interested in helping or collaborating with us to achieve this aim.

Contact: Daniel O. Nwankwo at daniel.nwankwo@fuoye.edu.ng or

daniel.nwankwoo@yahoo.com

RESEARCH IN THE SUDAN

Manal Siyam has been collecting arachnids in the Republic of Sudan, and has recently published two papers providing an overview of the spiders from the country. Based on this data, 153 species are now known from the Republic of Sudan (113 spp.) and South Sudan (59 spp.). The following paper was presented at the colloquium:

An overview of the spiders of Sudan

M.E. Siyam, J.A. Dunlop & H.K. El-Hennawy

Sudan covers a large area of eastern Africa and is of particular biogeographical interest for hosting a range of environments. A number of 153 valid spider species for Sudan, in its traditional sense, is based on the published literature. Following the political division of the country into the Republic of the Sudan and South Sudan, this translates into 113 and 59 species for these two countries, respectively. Six species of spiders (Arachnida: Araneae) are newly recorded from a series of localities in the eastern part of the Republic of the Sudan. *Crossopriza pristina* (Simon, 1890) (Pholcidae) was found at Tokar and New Halfa. These represent the first African records of this species. *Hippasa cinerea* Simon, 1898 (Lycosidae) was found at New Halfa, *Pardosa oncka* Lawrence, 1927 (Lycosidae) and *Wadicosa fidelis* (O. Pickard-Cambridge, 1872) (Lycosidae) were both found in the Dinder National Park. *Plexippoides favescens* (O. Pickard-Cambridge, 1872) (Salticidae) was found at New Halfa, and *Pseudicius spiniger* (O. Pickard-Cambridge, 1872) (Salticidae) – already known from South Sudan – is here reported from the Dinder National Park in the Republic. Additionally, we offer several new locality records for five species previously documented from the Republic of the Sudan. *Afroflistata fradei* (Berland & Millot, 1940) (Filistatidae) was found at New Halfa, *Ocyale pilosa* (Roewer, 1960) (Lycosidae) was found in the Dinder National Park, *Pardosa injucunda* (O. Pickard-Cambridge, 1876) (Lycosidae) was found at New Halfa, Kassala and in the Dinder National Park, *Thomisus daradioides* Simon, 1890 Thomisidae) at Khashm El-Gerba and at New Halfa, and *Plexippus paykulli* (Audouin, 1825) (Salticidae) at New Halfa, Kassala and in the Dinder National Park. This brings the total species count for the Republic of the Sudan up to 119. Additionally, some new localities for five species already known from this country are documented.

Contact: Manal E. Siyam, manal.siyam@gmail.com

Manal Siyam and Robin Lyle

P. Webb

Thomisus daradioides Thomisidae), female and male

NEWS SNIPPET

'Dead' social spider nest and a convincing salticid ant mimic

Nests of the social spider *Stegodyphus dumicola* (Eresidae) are fascinating. I do not wish to refer here to their nest architecture, nor the behaviour of these spiders in relation to their nests – although interesting in themselves. Rather, this piece is about the *other* species often found inside *Stegodyphus* nests. Some of these 'other species' share the nest with the social spiders; others, such as palp footed spiders (Palpimanidae), pass through the nest to feast on the inhabitants; and yet others seem to move in after the *Stegodyphus* spiders have disappeared from the nest, for whichever reason. Often, so it seems, these form their own small communities inside the newly vacated nests. These 'other species' provide a different kind of intrigue and, often, an element of surprise. A recent brief monitoring of *Stegodyphus* nests provided just such a surprise.

On the afternoon of 14 January this year, my husband and I drove around the perimeter of the campus of the Botswana International University of Science and Technology (BIUST). BIUST is a relatively new university built in the village of Palapye, about 250 km north of Gaborone in Botswana. The campus is large, about 2500 ha in size, and most of the campus and surrounding environment is still bush. There is thus ample wild-life, vertebrates and invertebrates, on and around campus. Amongst the invertebrates on campus are two species of social spiders, *Stegodyphus domicola* and *S. mimo-sarum*. Our aim for driving that day was to get an idea of the percentage of nests still "alive" and active compared to a few weeks earlier.

While investigating a nest with few strands of what looked like relatively recent silk, we disturbed the nest slightly -- and out jumped a large ant. It looked a bit like the *Cam-ponotus fulvopilosus* group of ants, characterized by the coloured hairs (usually greyish to yellowish shades of brown) that cover the abdomen. If we were surprised to see these ants in a *Stegodyphus* nest, we were even more surprised to see the 'ant' connected to a line of silk. We concluded that we were dealing with a very convincing ant mimic, and collected it. With a hand lens we confirmed its identity as a male salticid*. Smaller (real) ants also poured out of the nest after we disturbed it – a clear sign that the nest is 'dead' with regard to its original social spider inhabitants. We thus removed the entire nest for dissection.

Back home and under the microscope I dissected the nest. Inside were two more speci-mens, both subadult females, of the salticid ant mimic. In addition to these ant mimics, the nest contained an entire colony of ants with eggs and all, a lepidopteran caterpillar, numerous psocopterans, and four additional spiders (one female oxyopid, one small male salticid, and two very juvenile spiders I was unable to identify further). Although we classified the nest as dead for our purposes (no more *Stegodyphus* spiders in it), it was pretty much alive for other species, which comprised a surprising mix of arthropods, including some perfect spider ant mimics!

*Since the nest was dissected very shortly before the 12th AFRAS colloquium to be held in Worcester, I took the male ant mimic with me, and gave it to Vida van der Walt who took these beautiful photos. From these photos, Charles Haddad identified the species as "almost certainly *Kima africana*".

Kima africana

Photos by Vida van der Walt

Contact: Tharina Bird at tharinab@gmail.com

20th INTERNATIONAL CONGRESS OF ARACHNOLOGY

Four southern African Arachnologists attended the congress in Colorado: Charles Haddad, Zingisile Mbo, Stefan Foord and Tharina Bird.

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