Newsletter of the Arachnological Society of Africa

Newsletter 19

This is the newsletter of the African Arachnological Society (AFRAS). The aim of AFRAS is to foster interest in arachnids (non-Acari) of the African continent

IN THIS ISSUE

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7th INTERNATIONAL CONGRESS OF ARACHNOLOGY

The 17th International Congress of Arachnology is planned to take place from 5-11 August 2007 in São Pedro, Brazil. This is the first time that the International Congress will be hosted by a South American country. The congress venue is the hotel Fazenda Colina Verde located within the tourist area of São Pedro, 180 km from the Capital City of São Paulo. The hotel lies in an area of 200 000 m², typically rural, with various native forests and water fountains, with the privilege of being right within the bucolic area of São Pedro, considered the Embroidery Capital.

Please visit the website for regular updates or organisers can be contacted at:
isacongress@butantan.gov.br

9th AFRAS COLLOQUIUM

The 9th African Colloquium of Arachnology will be held at Lajuma in the Soutpansberg early in 2008. The colloquium will be jointly organized by Dr Stefan Foord of the University of Venda and the spider ladies at the ARC.

Lajuma is situated in the northern part of South Africa in the Limpopo Province high up in the Soutpansberg Mountain Range between Makhado and Vivo. The area is famous for its breathtaking mountain scenery and pristine wilderness.

Lajuma has been declared a National Heritage Site and forms part of the Thavho Ya Muno Private Nature Reserve.

The area has a rich arachnid fauna and 337 spider species have so far been recorded from there including a number that are new to science. Lajuma has research, conference and accommodation morev information is available from their website at www.lajuma.com.

People interested in receiving the first newsletter to be distributed early in 2007 can contact: Ansie at DippenaarA@arc.agric.za or Stefan Foord at sfoord@univen.ac.za.

Left: Lajuma

NEW BOOKS

"Spider families of the World"

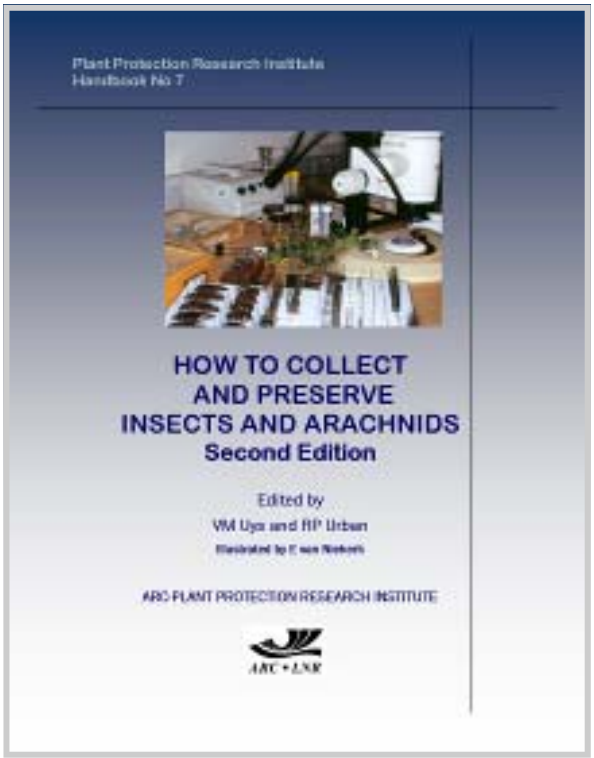
A new book, *Spider Families of the World* by Rudy Jocqué and Ansie Dippenaar-Schoeman, was released in September 2006.

Spiders are widely feared and much maligned, yet their natural and academic importance can not be overstated. They comprise one of the largest groups of land animals, are common and abundant wildlife in every garden and are frequently found in houses. They are important predators in all ecosystems and their intricate webs are tangible records of their complex behaviour. Only a few species are dangerous to humans. Spiders are excellent subjects for teaching the young to observe and appreciate nature. With their interesting behaviour they make ideal topics for school and expo projects.

The main objective in producing this book was to provide the reader with a complete overview of the 107 spider families of the world. The book is easy to use and contains keys to all families and shortcuts to spiders with remarkable features. For each family, general information on morphology, natural history, distribution and their taxonomic status is provided. The book is richly illustrated with line drawings and colour images. The book fills a gap that has existed for a long time, since the previous such overview dates back for more than a century.

To order: *MRAC Leuvensesteenweg 13, 3080 Tervuren, Belgium publications@africamuseum.be / Fax: +32 2 7695511/ Tel: +32 2 769 5208*

ISBN: 90-75894-85-6
336 pp., b/w illustrations, with 32 pp. colour plates
Price: 55 euros



"How to Collect and Preserve Insects and Arachnids"

The continued demand for an easily accessible general handbook for collecting and preserving insects and arachnids, with a southern African slant, prompted the production of a second edition of this handbook.

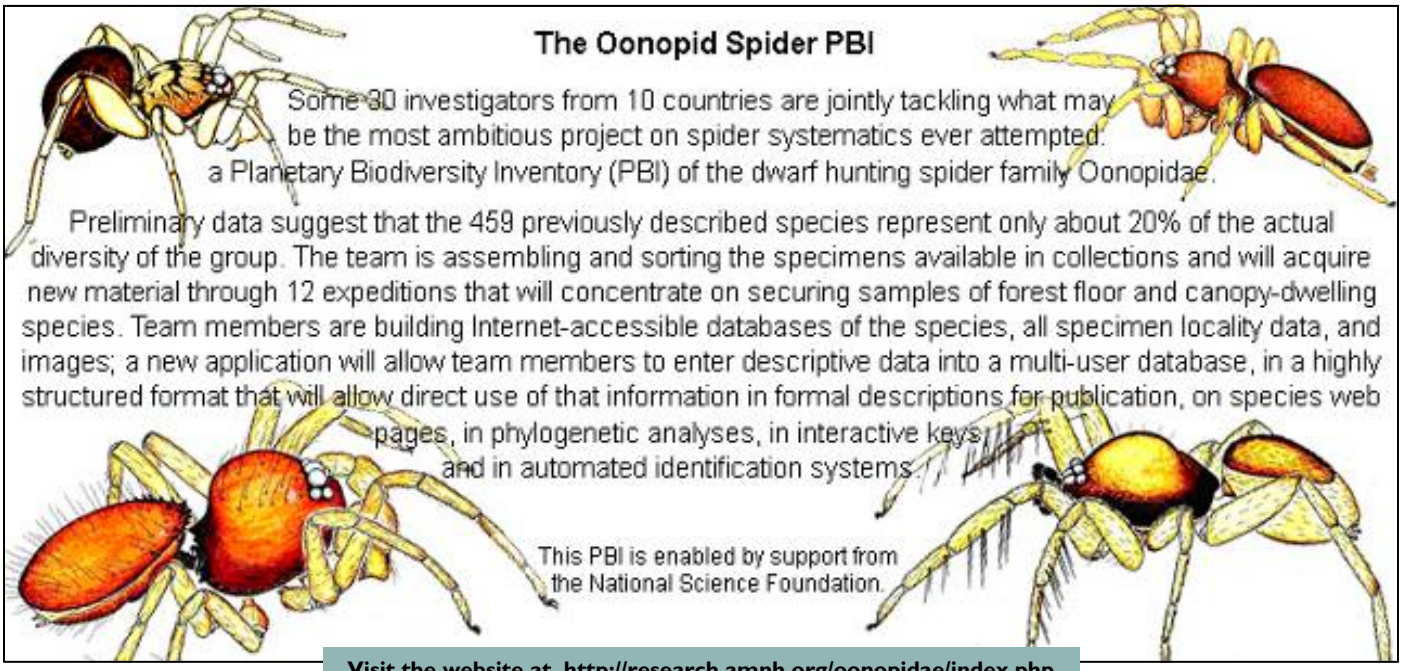
This edition has been given a complete update giving it a modern, contemporary look. Photographs are included wherever possible. In addition to students and amateur naturalists, this publication should prove indispensable to workers in the fields of: crop protection; natural resource management and medical and veterinary science.

Editors: **Vivienne Uys** and **Ros Urban**

This book costs R100-00 (VAT included) and may be ordered from:

ARC-PPRI Publications

E-mail: infoppri@arc.agric.za



Visit the website at http://research.amnh.org/oonopidae/index.php

Launch of the second phase of the South African National Survey of Arachnida

A four-year inventory and conservation assessment programme (South African National Survey of Arachnida)— aimed at documenting the spider, scorpion and other arachnid fauna of South Africa and at identifying species threatened by extinction — was launched on the 4th September 2006 at the Botanical Gardens in Pretoria. This is a partnership programme between the Agricultural Research Council (ARC), and the South African National Biodiversity Institute (SANBI) and funds (2.1 mil R over 4 years) have been made available for this second phase of SANSA. The event was attended by several members of the South African National Biodiversity Institute (SANBI), the Group Executive manager of ARC, Dr Mishak Molope, and a range of other prominent members of the conservation community.

During this second phase of SANSA, SANBI is providing some core funding and logistical support. SANSA is the first major project on invertebrate fauna being undertaken by SANBI since its transformation from the former NBI (National Botanical Institute). SANBI is a statutory body under the Department of Environmental Affairs and Tourism, charged with monitoring and reporting on the status of biodiversity in South Africa, with helping the South African government to meet the requirements of the international Convention on Biological Diversity, to which South Africa is a signatory, and with implementing provisions of the *National Environmental Management: Biodiversity Act* of 2004 (NEMBA).
The ARC will continue to coordinate this second phase of SANSA. Most of the work will be undertaken at the Spider Research Centre in Pretoria, which forms part of the Biosystematics Division of ARC-PPRI. This unit is the largest centre of arachnid research in the country, having more than fifty years of experience working with arachnids. The project consists of five initiatives addressing aspects such as accessing existing data, gap analysis, surveys, identification of existing data, awareness, capacity building and compiling products such as books, CDs and scientific papers.

For more information visit the website at www.arc.agric.za (search SANSA)

New: SANSA Newsletter

The first electronic newsletter of the South African National Survey of Arachnida has been distributed. Ansie Dippenaar-Schoeman of ARC-PPRI is both the editor of the newsletter and coordinator of SANSA.The aim of the letter is to keep everybody updated on the arachnid activities in South Africa. This fully electronic newsletter will be distributed to all interested persons free of charge and will be produced three times a year. In the first letter the background and present status of SANSA is discussed. Interested persons who would like to receive the newsletter can contact Ansie or can download it from the SANSA website at www.arc-ppri.agric.za (see SANSA).

NEWS SNIPPETS

Interesting identification

The Identification and Information Services at Spider Research Centre in Pretoria provide all kinds of information to the public and research community. One of the most interesting samples that was identified during 2006 was the 55 spider specimens collected from the stomach contents of the Nile crocodile. The sample contained five different spider species but the most abundant was that of the fish-eating spider of the family Pisauridae.

Scorpion Systematic Research Group's website

The scorpiologists have set up the website of the Scorpion Systematics Research Group (http://scorpion.amnh.org) where news of their activities and a full list of publications and downloadable PDF's can be

First SANSA workshop

A total of 42 people attended the first workshop of the South African National Survey of Arachnida that was hosted at the South African Biodiversity Institute in Pretoria on 4 September. The participants included stakeholders, arachnologists and end users such as the conservation agencies of the provinces. Feedback on the role of SANBI in the new Biodiversity Act was provided, as well as the first phase of SANSA. The work plan of the second phase partly funded by NORAD was discussed and important feedback was received from the participants. The SANSA database forms a very important part of the project and important inputs were made by the ARC-IT developers.

Contact: Ansie Dippenaar-Schoeman at DippenaarA@arc.agric.za

Useful information

Very handy translation site address:
http://www.worldlingo.com/en/products_services/worldlingo_translator.html

Martín Ramírez (ramirez@macn.gov.ar) has made a temporary page on dissecting, **mounting, and preparation hints**—available on: http://aracnologia.macn.gov.ar/temp/mounting/mounting.htm

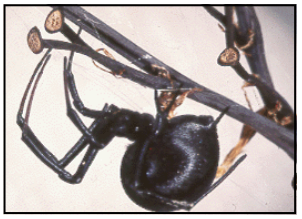
Arachnoleptic fit:
the frantic dance performed just after you've accidentally walked through a spider web.

Interesting article

Bond, J.E. & Beamed, D.A. 2006. A morphometric analysis of mygalomorph spider carapace shape and its efficacy as a phylogenetic character (Araneae). *Invertebrate Systematics* 20: 1-7

Spiders a problem on export grapes

Spiders are found in and around grape vineyards. They prey on insect pests that are found associated with grapes. However, several spider species construct silk retreats in the stems of the grapes. When the grapes are harvested the spiders are inadvertently packed with the grapes. The grapes are chilled prior to being transported. The chilling causes spiders to become dormant and immobile, making their way to retailers and consumers' homes.



Live spiders that are exported with grapes cause great concern when they emerge alive from containers on arrival in overseas countries. The Spider Research Centre in Pretoria has received several queries regarding spiders collected from exported grapes. During a recent survey undertaken by APHIS on the border of Namibia and South Africa, a total of 107 spiders represented by four families and five species were identified with the dominant species *Cheiracanthium furculatum* (sac spider) and *Latrodectus geometricus* (brown button spider). This is important new information as both species are recognized as of medical importance in Southern Africa.

African Folklore

In Swaziland these solifugids (*Solpugema hostilis*) are killed by the local people. They are then groundup and fed to hunting dogs to better their performance as hunters.

Kyle Harris

WELCOME

Joey Baijoo

Natal Museum

Juthika (Joey) Baijoo is the new Collections Officer for the Arthropoda Department (wet collection) at the Natal Museum. She has completed a Bachelors degree in Zoology at the University of KwaZulu-Natal, Pietermaritzburg. She has a keen interest in marine ecosystems and marine animal husbandry. This stems from her part-time work experience, as a student, at uShaka Marine World. Her responsibilities as collections officer includes: data basing of material as well as maintaining these databases in accordance with national and international standards, supervision of both local and international loan material, assessment of storage conditions and their impact on collections, developing and implementing collection management policies and finally providing access to collection data for researchers both locally and abroad.

Spider Research Centre, Pretoria

Simangele (Sma) Mathebula is the new research assistant at the Spider Research Centre. She is busy with her BSc degree (Microbiology and Genetics) and hope s to add Zoology as a major next year. Her duties include assistance with the curation of the National Collection of Arachnida, support with the South African National Survey of Arachnida and assistance with surveys.

Sma Mathebula

Allet Honiball

MSc student

Allet Honiball is busy with her MSc degree. Her research deals with the systematics of the spider subfamily Dietinae of the family Thomisidae. She is registered at the University of Pretoria and work's at the Spider Research Centre in Pretoria.

Allet is a keen collector and has already undertaken several trips to search for members of the group she is working on. She also extends a helping hand in the laboratories looking after the live spiders and building them terrariums. Allet's project will be concluded next year.

Ms. Trudy Peyper is the new collection manager in the Arachnology Department of the National Museum in Bloemfontein. She came over from the Botany Department of the museum to become fulltime assistant at the arachnids.

New AFRAS members:

Carol Smith: firstaidpriority@absamail.co.za
Cheryl Dehning: Cheryl@innercirclestudios.co.za
Charles Midega: cmidega@mbita.mimcom.net
Danie Smit: Danie.Smit@improchem.co.za
James Harrison: Harrison@nfi.org.za
Miemmie Prinsloo: miemmiep@d-bit.co.za
Morne Zeelie: morne@taxidermy.co.za
Musa Mlambo: musa4life@webmail.co.za
Nadine Fischer: nadinefischer83@gmx.de

INSTITUTIONAL NEWS

BELGIUM

Koninklijk Museum voor Midden-Afrika,
Tervuren
Team-leader: Dr Rudy Jocqué

- The redescription of the enigmatic taxon *Pseudoctenus meneghettii* Capor, 1949 from Kenya is finished. It is a remarkable taxon that does not belong in the Ctenidae! Wait for the paper to see the surprise.
- A phylogenetic analysis of the Zodariidae at genus level is under way and nearing completion.
- Revisions of Zodariidae and more precisely of the Cydrelinae have been taken up again. Some of these are in the final stage of redaction.
- Rudy is now member of the steering committee of the PBI on Oonopidae (see Fannes' contribution hereunder) and will be supervising studies on Afrotropical representatives.

Wouter Fannes

Within the framework of the alpha-taxonomy, phylogeny and anatomy of these minute and understudied spiders, the Oonopidae, are investigated. The study focuses on the West and Central African fauna, which is particularly poorly known. Special attention is also given to the abundant and highly diverse, but hitherto largely unexplored, oonopid fauna that was recently found to live in the canopy of certain African rain forests.

Domir De Bakker

A first in-depth ecological analysis of canopy spiders was presented at the last European Colloquium of Arachnology held in Sitges, Spain. Analysis of canopy spider diversity from Kakamega Forest (Kenya) showed that almost no differences could be observed between small isolated fragments and the central main forest. Similar results were obtained for beetles but for that insect group some edge effects could be observed. Study of canopy spiders however, remains problematic because the samples contain a lot of new species and virtually nothing is known on their ecology. Still, after fogging about 192 trees in that forest, no species saturation could be observed. This means that obtaining a complete picture of canopy spider diversity even in one forest is really hard. The statistical analysis remains to be refined and the results are expected to appear soon.

A second analysis was shown in a poster at the same colloquium. This concerns the results of our own expedition to Kakum National Park in Ghana last November (2005). Herein we present the first data on canopy spiders from lowland rainforest in Africa. As for Kakamega, we could not find any statistical differences between diversity and composition of canopy spiders between primary and secondary rainforest (recovering for about 40 years). This is probably due to the fact that no clear boundary was present between both forest types (neighboring habitats) and that the resilience of the canopy fauna is very high, in other words that recolonization occurs very fast.

In the near future, a sampling campaign in Luki Forest Reserve in Democratic Republic Congo is planned (November 2006). The main idea is to sample different types of forest that were subject to different silvicultural practices and compare canopy spider diversity. Without a doubt, many new species will appear here again giving work to systematicians for several years.

Katrijn Loosveldt

In July 2006, a project concerning the study of spiders in the canopies of deciduous forests of the tropical rainforests was approved by the Federal Government. During the next 4 years Katrijn will investigate canopy spider communities of several African woodland and wooded savanna habitats. In a first phase existing collections from Tanzania, Mkomazi, sampled by O. Krüger and G. McGavin of the University of Oxford) and from Ivory Coast (Komoé NP, sampled by K. Mody of the University of Würzburg) will be studied.
In a second phase a field campaign will be organized and the intention is to sample in woodland and wooded savanna in West Africa and in Miombo in the southern part of Africa. This project has a high scientific interest since this will be the first data on spider communities from the canopy in woodland and wooded savanna in Africa. Katrijn started on the 1st of October 2006.

Rimma Seyfulina

Rimma has a one year contract to work in Tervuren. Her research is focused on Linyphiidae. She has studied the Linyphiidae of the canopy from the samples that were treated by Domir De Bakker. A first contribution was delivered in the shape of a poster during the European Colloquium of Arachnology held in Sitges: "The first data on assemblages of Linyphiidae (Araneae) in African forest canopy". Perhaps not surprising but the majority (76%) of the 84 taxa in these collections is new with several new genera (more than 10). A large proportion (26%) of the species collected from the canopy belongs to *Mecynidis*.

CALIFORNIA ACADEMY OF SCIENCE

During January-March 2006 **Jeremy Miller** and **Hannah Wood** of the California Academy of Science travelled through Madagascar and South Africa collecting specimens and tissues and recording behavioural observations for the Assembling the Tree of Life project (AToL) project.

Jeremy studies members of the family Theridiidae (*Latrodectus)* and Hannah is interested in the Archaeidae. They did the whole of "South Africa in 30 days". Except for a flat tyre here and there they were very successful in collecting everything they were looking for including Chummidae in Eastern Cape. The first description of a new archaeid species collected by Hannah and named after her — is already in press. Read more p. 12.

SLOVENIAN ACADEMY OF SCIENCES AND ART

Dr Matjaz Kuntner, an associated professor at the Institute of Biology, Slovenian Academy of Sciences and Arts, Ljubljana, Slovenia, Charles Haddad (University of the Free State) and Gregor Aljancic (University of Ljubljana) went on a field trip to KwaZulu-Natal to collect golden orb-web spiders (*Nephila* spp.) and several related taxa. Research was also conducted on the natural history of several nephilines, including *Nephylengys cruentata* and *Clitaetra irenae*, with particular focus on the web-building behaviour.

Sampling was conducted in six different reserves, namely Ndumo Game Reserve, Tembe Elephant Park, Kosi Bay Nature Reserve, Sodwana Bay National Park, the Greater St Lucia Wetlands Park (Gwala-Gwala Forest) and the Hluhluwe-Umfolozi Nature Reserve. The trip was only moderately successful in terms of capturing the desired nephilines, which could be attributed to the recent dry spell experienced in KwaZulu-Natal. This group of spiders typically has population explosions following periods of very high rainfall.

Nonetheless, very valuable data was generated for *C. irenae*, whose natural history was previously largely unknown. Additionally, specimens of a large number of spider genera were captured for molecular studies as part of the Assembling the Tree of Life project (ATOL), a large-scale international project aiming to determine the relationships of spider taxa based on morphological and genetic features.

Matjaz in action

Following the arrival of his wife in South Africa after the KwaZulu-Natal section of the trip, Matjaz, Gregor and Irena continued collecting in the Kruger National Park, Swaziland, Greater St Lucia Wetlands Park, and along the east and south coast of South Africa.

THERAPHOSID RESEARCH IN THE UK

Richard Gallon of the UK is continuing with his revisions of various theraphosid genera of Africa. He is presently looking at the West African subfamily Eumenophorinae and making some good progress on the genus *Phoneyusa. Harpactira* and *Harpactirella* are next.

For his research he is trying to visit at all the type localities to obtain new live material and especially to try and collect material of both sexes. Richard and Thomas Ezendam of the Netherlands visited South Africa in April this year and unfortunately due to the complete chaos with the permit system in South Africa (each province has its own rules and regulations) they were caught in the Western Cape without all the documents required by that province (it would have been something like 21 permits).

All the researchers in South Africa tried to intervene but without success and they were charged with illegal collecting and fined.

There was an uproar in the scientific community and presently procedures are underway to address this problem. The first workshop with all the stakeholders is planned for early 2007.

Ed. This is probably of little help to Richard and Thomas, but they were instrumental in sorting out the problems around collecting in South Africa.

Richard Gallon

Thomas Ezendam

New Baboon Spider Discovered in Survey of Kruger

This was the heading of an article that appeared in the Krugerpark News recently. It was "big news" that a new species of baboon spider *Ceratogyrus paulseni* was recently described from the Kruger National Park by Richard Gallon.

This new species was collected by Martin Paulsen and Ian Engelbrecht while busy with a survey in the KNP. As part of the South African National Survey of Arachnida (SANSA) an inventory of the Arachnida of the Kruger National Park is underway.

So far surveys show that *C. paulseni* is endemic to the park and it has a very small distribution range, as it has so far only been found from an area around the Letaba Camp. Preliminary data indicate that most of the other baboon spider species recorded from the park namely *Augacephalus junodi* (Simon, 1904), *A. breyeri* (Hewitt, 1919), *Idiothele nigrofulva* (Pocock, 1898), *Ceratogyrus bechuanicus* Purcell, 1902, *Harpactira gigas* Pocock, 1898 and *Idiothele nigrofulva* (Pocock, 1898) have a wider distribution pattern. However, grid bloc surveys are needed to determine their conservation status, especially that of *C. paulseni*.

NAMIBIA

Gobabeb Training and Research Centre

Dr Joh Henschel

- The rainfall season 2005/2006 yielded double to ten-fold the expected amount of rainfall in Central Namibia. This increased the activity and populations of several species. For example, numerous large *Prosolpuga schultzei* are currently active at Gobabeb.

- The long-term annual population censuses of corolla spiders (*Ariadna* cf. *masculina*), spoor spiders (*Seothyra henscheli*) and dancing white lady spiders (*Leucorchestris arenicola*) are going into the 9th, 19th and 20th seasons respectively. Fieldwork is currently being conducted on this.
- Thomas Nørgaard completed his PhD on the "Nocturnal long-distance navigation in the Namib Desert wandering spider *Leucorchestris arenicola* (Araneae, Sparassidae)" at the University of Zürich. Several papers are emerging from this work. Thomas is returning to Gobabeb in October to continue this work as a post-doc, specifically to refine the study of vision being involved in navigation.

- Several visitors to Gobabeb were involved in faunal or systematics studies. Tharina Bird from the National Museum continued her work on the populations of solifugids of the interdune plains and the gravel plains. Dirk Kunze from Germany (University of Mainz) is engaged in a revision of sparassids, that include some species from the area around Gobabeb. Greta Binford from USA (Lewis and Clarke College) made use of Gobabeb facilities in order to plan and conduct her work on the Sicariidae from other areas of Namibia. We are looking forward to seeing the results of these studies.

- Mor Solomon from Israel (S de Boqer) completed her fieldwork under our auspices on social spiders *Stegodyphys dumicola* (Eresidae) at study sites in eastern Namibia. This work is in collaboration with Yael Lubin. Analyses of population structure on the basis of genetic variation of *S. dumicola* by Deborah Smith, Yael Lubin and other colleagues are making good progress.

"Long-term monitoring of a population of spoor spiders *Seothyra henscheli* is in its 19th year - pictured here is a male walking in search of a female during June 2006."

National Museum of Namibia

Tharina Bird

- Yet again, EduVentures, the educational data-gathering museum programme, took up most of what was happening this year! The April '06 expedition was to the Baynes Mountains in the remote north of Kaokoland on the border of Angola and Namibia. Three Himba boys of the area joined the expedition and we were able to learn a lot from each other – about nature in general and invertebrates in particular. The second expedition for 2006 took place in August in the Sperrgebiet, and with the extremely good rains Namibia had this year, the choice of the Sperrgebiet (as part of the Succulent Karoo) for an expedition was "just right". Apart from the many plants in flower, and the abundance of insects we found - and this in an area one usually has to WORK HARD to find but a few specimens - the most amazing collection made was that of the spiders! With just over 4300 invertebrates collected in total on this trip, 801 were spiders! This is the highest ratio of spiders to insects ever collected on any of our collecting trips so far. And what is more, a very high percentage of the spiders were adults (even males!).

- This year we also initiated what we call Science EduVentures – an opportunity for school learners to do a scientific project under the guidance of a Namibian scientist. All the research projects were centred around the current hot topic of uranium mining allowed to take place within one of Namibia's most pristine parks, the Namib-Naukluft park. Through various projects done by schoolchildren, a vast amount of specimens were collected and valuable data were gathered. Again, the exceptionally high rainfall figures for this year, which turned the desert into all shades of green, made this data even more interesting and valuable. As a reward for their hard work, nearly all projects received a medal on the national level, while the project done by the deaf learners was awarded the creativity award on the international Science Fair for their development of signs for the different kinds of invertebrates and arachnids. In line with this Science EduVentures project, a science laboratory for children and students has been established on the museum property.

- Another project currently sidelined in the Arachnid department is the "Shadow Hunter Project" which studies the evasive black mongoose species in Namibia. One of the aspects of this project looks at the food of this rare mammal. For this, their dung, collected from the field over a period of weeks, are carefully dissected and analysed. This scat analysis already produced some rather nicely preserved body parts of scorpions and spiders.

- The Gamsberg survey has finally come to an end and some material has already been sent out to the relevant specialists. Three weather stations acquired a while ago have been placed on Namibia's three highest mountains, namely the Brandberg, Gamsberg and Auas. The Brandberg station is now fully functional, but, unfortunately, the of the Gamsberg and Auas mountains, erected a while ago, are still experiencing hick-ups. This will hopefully soon be sorted out. These weather stations will help to interpret the high fluctuations experienced in many Namibian invertebrate fauna populations.

NAMIBIA NEWS CONTINUED

- Foreign visitors are always welcome, and dr. Lorenzo Prendini paid yet another visit to Namibia, looking for some of the more rare and evasive scorpion species still needed for DNA analysis for his review of the *Opisthopthalmus* genus. Not only did he find most of the *Opisthopthalmus* he came for, but some new species of *Parabuthus* and even *Hadogenes* were also collected. The search for *Brandbergia haringtoni* is, however, still on (each time entailing climbing the difficult Brandberg).
- As for the collections, adding geo-reference data to all the specimens where this is still lacking, is still ongoing. This forms an integral part of the Namibian Arachnid Atlassing (NAA) project.
- And finally, solifugids got some exposure this year when a Namibian stamp series on biodiversity became available at Post Offices. One stamp depicts the solifugid *Ceroma inerme*, together with its intertidal zone habitat.

ZIMBABWE

- Meg Cummings with the help of Tony Russell-Smith and other arachnologists is busy preparing another paper on the diversity of spiders in her 0.6 ha garden in Zimbabwe. Five papers on the spiders in her garden have already been published.
- The first papers on the *Zelotes* research of Moira Fitzpatrick have been published. We are waiting for the "big one."

LESOTHO

As part of the African Arachnida database (AFRAD) all published records are entered into a database with their distribution records. Presently 55 species of spiders have been recorded from Lesotho. However, this number will increase as more data is entered and the unsorted material collected in Lesotho are identified.

SWAZILAND

The same is true for Swaziland. Presently 27 species have been recorded from Swaziland but the number of species will increase as material already collected still needs to be identified.

MOZAMBIQUE

We know a little more about the arachnid diversity of Mozambique. Presently 147 species have been recorded from Mozambique but the number of species will increase as more material is collected. The Spider Research Centre presently has as Memorandum of Agreement with the Niassa Game Reserve in Mozambique to add material collected by Colleen and Keith Begg to the AFRA database. So far about 90 specimens have been collected.

BOTSWANA

Presently 224 species are know from Botswana. No surveys are presently underway from researchers within Botswana. Some collecting is being done by South Africans visiting the country such as Charles Haddad who will undertake a collecting trip to the Okavango in December 2006.

SOME MORE NEWS SNIPPETS

Prey capture observed in Oxyopes

Location: Farm Tshisimane, Western Soutpansberg.
Date: 19 November 2005
Conditions: Overcast, 14H45, just after a thunderstorm. Elevation: 1380 m asl. Topography: mountainous with valleys. Flora: mixed dense woodland.
Termites had emerged just after a short, intense thunderstorm lasting approximately 25 minutes. I noticed that *Oxyopes* the most abundant spider on shrubs in the woodland at the time, occupying the upper third of the plants. I observed on two occasions, these spiders leaping out and seizing a termite on the thorax, that came within approximately 1,5 cm. The spider would rely on a safety line to retract back to the plant again.

What was very evident on both occasions was how quickly the termite was subdued, or paralysed. From the time the prey was seized, until total paralysis, approximately 3-5 seconds. To compare this prey item with other species of prey, I presented an active *Oxyopes* in the farmhouse windowsill with a live fly of similar size using tweezers. The spider seized it and paralysis also set in, approximately 3-5 seconds later.

These findings suggest that *Oxyopes* venom to be extremely efficient in comparison; even against other hunting spiders using similar tactics such as salticids, and lycosids. An example of an exception is the Clubionidae, which subdue prey in similar duration, I suspect due to the size of the fangs, and the amount of venom injected, since *Oxyopes* fangs are significantly shorter than those of clubionids. The other two possibilities are, nature and strength of the venom, and quantity injected. These comparisons are merely superficial; more data comparison is required for confirmation.

Rupert Harris

Some more oxyopid news

* Another interesting observation reported on oxyopid behaviour by a hunter showed that a *Oxyopes* sp. favours the dung of buffalo as hunting ground. Over several years observations indicated that *Oxyopes hoggi* are present on dung heaps of buffalo. The spider can be recognized by its elongate abdomen and pale colour. One spider per dung heap occurs and it was observed feeding on the flies and other insects attracted to the dung.

* During a collecting trip to Tswalu Kalahari Game Reserve in the Northern Cape Province, South Africa some interesting observations were made on a green lynx spider. After good rains the field was covered with Kalahari Sour Grass also known as Bushman's Grass (*Schmidtia kalahariensis*). This grass has an unpleasant smell and is covered with glands that produce an acidic substance that cause skin irritation and makes it unpalatable for most herbivores. This annual grass is available for a relative short period after good rains. We took more than 60 sweep net samples of the grass and were surprised to find numerous individuals of only *Peucetia viridis* in the sweep net samples. *Peucetia viridis* is known from a wide area throughout Africa and the Mediterranean Region and seems to be more common from drier regions e.g. Algeria, Morocco, Ethiopia, Namibia, Botswana and South Africa. Apparently this spider inhabits this grass for a short period of time, while available after rain. It would be interested to do further research to see what they prey on.

Ansie Dippenaar-Schoeman

SOUTH AFRICA

ARC-Spider Research Centre

Team leader: Dr Ansie Dippenaar-Schoeman

The ARC team this year consisted of Ansie, Annette van den Berg, Almie van den Berg (in part), Connie Anderson, Petro Marais, Elizabeth Kassimatis and Sma Mathebula.

TAXONOMIC RESEARCH: The revisionary work on the Thomisidae of the Afrotropical Region continues. Allet Honiball, a MSc student is busy revising a group of genera of the subfamily Dietinae while Petro van Niekerk of the University of South Africa is busy with a revision of the genus *Simorcus*. Ansie is working through the unidentified museum material to extract and identify all the thomisids. The first papers on the thomisids of Yemen will be published in the Fauna of Arabia soon. An identification manual on the Thomisidae of Southern Africa is progressing slowly.

IDENTIFICATION SERVICES: Numerous projects of students are underway and at ARC the final taxonomic identifications are done or confirmed. A total of 10 000 spiders were identified for students of the Universities of Venda; Limpopo; Pretoria; Free State and KwaZulu-Natal. This excludes the 7000 spiders collected during the Maluthi-Drakensberg project (see p. 13).

NATIONAL COLLECTION: Time was spent in cleaning the data while upgrading the present ACCESS database to a MYSQL database. The specimen data was successfully transferred to the new database. This project was partly funded by SABIF.

SURVEYS: Numerous surveys as part of the South African National Survey are underway. Surveys of the fauna of Lesotho, Swaziland, Helsgate (KwaZulu-Natal), Tswalu Game Reserve, Ndumo Game Reserve and Tembe Nature Reserve continue (see list of publications).

DATABASES: A lot of data have been entered into the African Arachnida Database (AFRAD) and the South African National Survey of Arachnida database.

SPIDER EDUCARE PROGRAMME: A total of 23 talks; 3 courses, 34 radio talks and 4 TV presentations were given this year.

Ansie Dippenaar-Schoeman presented a three lecture course to the second year students of the Department of Zoology and Entomology of the University of Pretoria. The course "Arachnida of medically, veterinary and agricultural importance in South Africa" is supplemented by a 40-page course manual.

The Spider Research Centre at PPRI, received R50 000 from SABIF (South African Biodiversity Information Facility) to capture primary specimen data of specimens housed in the National Collection of Arachnida into a relational database for 2006. An amount of R60 000 will be available for 2007.

Training courses: Ezemvelo

Dr Ansie Dippenaar-Schoeman was invited to present a weekend specialist training course at Ezemvelo Nature Reserve near Bronkhorstspruit as part of the specialist weekend courses funded by the Oppenheimer Trust. The first two courses were presented in 2005, the third in October 2006. Ansie and Petro Marais spent a very enjoyable weekend at Ezemvelo catching spiders and teaching a group of very enthusiastic black students more about spiders.

School attending course at Ezemvelo

Effect of Bt-cotton on spiders

Bt-cotton, containing and expressing genes from the soil bacterium *Bacillus thuringiensis*, is specifically toxic to lepidopteran larvae but little is known about its impact on predators such as spiders. The Spider Research Centre participated in a project of the University of Pretoria to determine the effect of Bt-cotton and endosulfan applications on spider populations. Surveys were undertaken over two cotton growing seasons (2001/2002 and 2002/2003) at Marble Hall, South-Africa. Plant dwelling spiders (n=227) were counted while scouting the plants. Ground dwelling spiders (n=3776) were collected with pitfall traps during the both seasons and identified to species level. The ground dwellers were represented by 21 families, 49 genera and 54 species.

During the first season a total of 2 431 spiders were collected from the pitfall traps: 945 spiders from Bt-cotton and 1 486 from non Bt-cotton (control) plots, while in the second season a total of 780 were collected, 415 from Bt-cotton and 365 from the non Bt-cotton (control) plots. A total of 565 spiders were collected from the endosulfan sprayed non-Bt-cotton fields during the second season. The Lycosidae (n=2 359) comprised 62.5% of all spiders collected in the pitfall traps, followed by the Theridiidae (n=757) with 20.1% and Linyphiidae (n=342) with 9.1%. *Steatoda erigoniformis* (Theridiidae) (n=744) was the most abundant species representing 19.7% of all the spiders collected followed by *Pardosa clavipalpis* (Lycosidae) (n=624) with 16.5%, an undetermined *Trabea* sp. (Lycosidae) (n=592) with 15.7% and another lycosid *Pardosa crassipalpis* (n=543) with 14.4%. Neither Bt-cotton nor the application of endosulfan had apparent negative effects on ground or plant dwelling spiders in the field. Spiders should therefore be able to continue playing a role as biological control agents in Bt-cotton fields.

SOUTH AFRICA CONTINUED

ARC-Spider Research Centre cont.

Spider Unit to participate in the Greater St Lucia Wetland Park project

Dr Ansie Dippenaar-Schoeman was invited to act as mentor scientist for the spider taxon in the Greater St. Lucia Wetland Park (GSLWP) – Rare, Threatened and Endemic Species Project. It is a joint initiative of Ezemvelo, KZN Wildlife, The Wildlands Conservation Trust, and the GSLWP Authority within the context of the Lake St Lucia Living Lakes program. A list of 227 spider species that are known from the GSLWP was compiled from the National Collection of Arachnida database.

Bloemfontein

National Museum, Bloemfontein

Leon Lotz

- Revisionary work on the Afrotropical genera *Cheiracanthium* and *Cheiramiona* (Araneae: Miturgidae), Archaeidae and Sicariidae continues.
- During the year articles have been printed or are under review on: a new species of *Cheiramiona* (Araneae: Miturgidae) from Namibia; new species of Archaeidae; review of the *Cheiracanthium* species of the Afrotropical Region.
- Documention of the arachnid fauna of the Free State continues.
- Preparing a checklist of the Opiliones of South Africa continues.
- Collaborative research projects include: documenting the invertebrates of the National Botanical Garden, Bloemfontein, with the Entomology Department of the National Museum; identification of spiders, scorpions and opilionids to determine patterns in the soil composition and structure, recovery of vegetation, and changes in mite, insect, spider and small mammal communities after fire in a grassland ecosystem, Erfenisdam Nature Reserve, Free State Province; identification of the Miturgidae of the Maluti-Drakensberg bioregion.
- Six talks on spiders were given to different school and university groups.

***Cheiracanthium*—sac spiders**

University of the Free State

- Work at the Ndumo Game Reserve is heading towards the final year. So far, 457 species of arachnids have been collected, and a checklist will be published soon (Haddad *et al.* in press). Research continues on the epigeic spider communities of different habitats, biology of myrmecophagous and termitophagous spiders, and sampling of material for karyological and DNA analyses.
- During 2005, a new project was launched to study the effects of controlled burning in a grassland ecosystem at the Erfenis Dam Nature Reserve in the Free State Province. The results are based primarily on a pitfall trapping survey, which was completed during October 2006. Additionally, two student projects were initiated. The first aims to study the spider communities in four contrasting grassland types (René Fourie), and the second to study spider communities on three shrubs and trees (*Rhus ciliata*, *R. lancea* and *Acacia karroo*) in the reserve (Anel Grobler). At the completion of the study a checklist of the arachnids of the reserve will also be published as part of SANSA.
- In mid-April 2006, Charles Haddad accompanied the Slovenian researchers Matjaz Kuntner (Slovenian Academy of Sciences) and Gregor Aljancic (University of Ljubljana) on a field trip to KwaZulu-Natal to collect golden orb-web spiders (*Nephila* spp.) and several related taxa. (For more information on the research of Matjaz see page 7).

Charles Haddad, Matjaz Kuntner and Gregor Aljancic

- Robin Lyle's MSc, a review of the Afrotropical tracheline sac spiders, is progressing well. The study includes revisions of the genera *Thysanina* (Lyle & Haddad, in press), *Trachelas* and *Cetonana*. These genera are emerging as very species rich compared to the number of described species for each. Robin hopes to complete her study by November 2007.
- Charles Haddad's PhD on the castianeirine sac spiders of the region is progressing slowly, largely due to involvement in other projects. *Cambalida*, one of the focus genera, is turning out to be a very complicated and problematic genus to work with, and hopefully some sense can be made of the group. The focus during 2007 will be on the genus *Copa*, a revision of which he hopes to complete by the end of the year. Several papers on the taxonomy of Corinnidae will be published before the end of the year (see publications list).
- International collaboration continues with various foreign researchers, including Wanda Wesolowska, Rudy Jocqué, Bernhard Huber and Richard Gallon (for identification of survey material), Martin Ramirez (ATOL project), and Jiri Kral and Franticek Stahlavsky (karyological studies).

SOUTH AFRICA CONTINUED

Spider research at the University of Venda

Team leader: Dr Stefan Foord

- While completing my PhD in 2004 I had the good fortune of receiving a grant from the NRF under their Thuthuka program. The extent of the proposed study is both large and ambitious as it focuses on diversity of spiders in the Savanna biome of South Africa. The aim is to document patterns of spider diversity at various scales and investigate the environmental variables underlying these patterns. In addition to the broad-scale focus, we need to develop an understanding of the small-scale variation of spider diversity and the initial phase of the project has focused on this aspect. The Soutpansberg provides an ideal study site for these kinds of questions because of its varied topography and associated microclimatic variability. With Dr. Berndt Janse van Rensburg (University of Pretoria) and Prof. Ansie Dippenaar-Schoeman the first quantitative survey of spiders in the Soutpansberg was started in 2004. Maria Mafadza took responsibility for this as part of her MSc studies at the University of Venda and she is currently writing up her MSc thesis based on the results of three intensive surveys of five major habitat types of the Soutpansberg.

- A study on the use of spiders as biodiversity surrogates in collaboration with Dr. Ed Stam in 2005-2006 has enabled us to broaden the extent of semi-quantitative, comparable spider surveys throughout the Soutpansberg. The surveys for this study are completed and another MSc student, Mulalo Muelelwa, is currently working on the material from this study. Mulalo, with the help of undergraduate students, will be responsible for curating a reference collection, database and digital Museum of representative specimens of all species caught in the Soutpansberg Region, a valuable resource for future surveys.

Students enjoying the course

- A recent second year student excursion to Lapaplala Wilderness School allowed us to catch some spiders in the Waterberg. Ian Engelbrecht was responsible for the organisation and teaching component for the spiders and he really got the students heavily involved in catching and identifying their spiders. We hope to make this an annual event.

- Second year students sorting out their morpho-species at Lapaplala Wilderness School in September 2006.

- The next phase of the study will include an altitudinal, south-north, transect over the Soutpanberg that will give a clearer picture of environmental factors structuring spider assemblages in the Soutpansberg. These altitudinal sites can potentially act as long term monitoring sites for the effects of global warming. Very little monitoring of invertebrates assemblages over long periods of time has been done in the Limpopo province. These studies are crucial if we were to determine the long term determinants in spider community changes.

Spiders in the Western Cape

Norman Larson

- After a slow start to spidering in the Western Cape with the arrival of various researchers. Jeremy Miller and Hanna Wood, both from California Academy of Science, arrived on an extended trip of South Africa and Madagascar. Jeremy collected and photographed all the targeted species for the Tree of Life project and *Latrodectus indistinctus* for his world revision of the genus. Although Hanna's interest lay in the Archeidae, which does not appear to occur in the Western Cape, she did some stirling collecting for Jeremy. When hungry, Hanna would sit down on strike and only resume after eats and drinks.

Hanna on strike!

- Matjaz Kuntner from the Slovinian Acadamy of Science, assisted by his wife Irena, arrived in Cape Town and were able to collect *Avellopsis capensis* for his revision of the Deinopidae. This spider was photographed and filmed. Matjaz also photographed and collected a possible *Meta* sp. that may be new. Newlands Forest again lived up to expectations and its diverse spider fauna never ceases to amaze.

- Less fortunate was that Richard Gallon did not make it to Cape Town, but fortunately his confiscated theraphosids are in safe keeping, and will, once mature, be returned via the South African Natural History Museum, for his revision of *Harpactira* and *Harpactirrella.*

- Lectures where given, arachnid queries were answered and people cured of arachnophobia. In progress are various arachnid lists for various reserves and National Parks in the Western Cape. Various visiting entomologists also helped to keep things active..

A REQUEST FROM NORMAN

Norman is interesting to compare the egg sac construction and covering between *Palystes* sps. So if you have any such observation forward it to him please.

SOUTH AFRICA CONTINUED

University of KwaZulu-Natal

Team leader: Prof. Michelle Hamer

Michelle and her team are presently involved in a large terrestrial invertebrate survey project in the Maloti-Drakensberg Transfrontier Park. The project was initiated by the Inland Invertebrate Initiative, and is funded by the World Bank and administered by the University of KwaZulu-Natal.

The aims of the project are to provide basic inventory information on terrestrial invertebrates in the Drakensberg using a stratified survey approach; to advise on invertebrate diversity conservation planning; to advise on the possible effect of human intervention on biodiversity; to provide the foundation for research into the processes affecting invertebrate diversity; to provide inventories with species level identification for selected invertebrate taxa for each location and to provide where possible conservation status for each species and undertake IUCN Red-listing of key threatened species.

The project was designed around a strategy of sampling of a large number of sites over a relatively short period of the summer. This is to control for seasonal variation in diversity that will allow data collected on the survey to be compared across the survey area, compatible with surveys of other survey projects (e.g. vertebrates), and to be ecologically referenced.

This strategy will miss diversity through the rest of the year, but a key principle of this project is that is will not completely sample the diversity, but rather will focus on key invertebrate taxa which are important in terms of conservation, functionality, and have high potential as indicators of ecological (rather than biodiversity) processes.
The project only focus on some invertebrate groups. These are groups that are (1) easy and cost effective to sample using repeatable methods, (2) that have experts that are willing to identify them, (3) represent a range of functional groups, (4) are likely to be indicators of ecological processes, (4) have high levels of endemism and (5) will most likely be of high conservation priority in the Drakensberg.

Spiders (>7000 specimens) were one of the taxa that were sampled and identified with the help of Ansie Dippenaar-Schoeman (Thomisidae ea), Charles Haddad (Corinnidae) and Leon Lotz (Miturgidae).

NEWS FROM ASTRI AND JOHN LEROY

- Sorting of the specimens collected at The Ruimsig Butterfly Reserve, in Ruimsig Roodepoort to continue.
- Same for the arachnids collected in the Gauteng caves.
- Revision of little copyright free handbook "Hands on Highveld Spiders" printed with line drawings and published by WESSA (Wildlife and Environment Society of SA) and aimed at pre-primary and primary school teachers underway.

University of Limpopo

Team leader: DrSusan Dippenaar

Under supervision of Susan Dippenaar and Ansie Dippenaar-Schoeman two students are presently busy with their MSc studies. They are busy with a year long survey of the biodiversity of the spiders of the Polokwane Nature Reserve, Limpopo Province.

Annette, Tembile and Mogadi

Mokgadi Modiba:

This study report on the diversity and present status of the spider fauna of the Polokwane Nature Reserve. The study started in March 2005 and ended in February 2006. Three habitat types were sampled namely: open savanna dominated by *Acacia tortillus* trees; woodland with *Acacia rehmanniana* as the dominant tree species and the very unique Polokwane Plateau False Grassland, the last remaining undisturbed example of this very localized vegetation type. Spiders were caught using four different methods namely active searching, sweep netting, tree beating and pitfall trapping. The aim of the study was to collect and compare spiders associated with different vegetation types within the reserve, using abundance and species richness indexes and to compile the first checklist for the reserve. A total of 7821 specimens were caught belonging to 33 families and 95 genera representing more than 190 species. Ten percent of the known spiders of South Africa are presently protected in the Polokwane Nature Reserve.

Thembile Khoza:

The current study was initiated to determine the diversity and to compile a checklist of spiders found in the Polokwane Nature Reserve. The Polokwane Nature Reserve has a significant portion that includes a unique and very threatened vegetation type known as the Polokwane Plateau False Grassland. The study was conducted from the beginning of March 2005 to the end of February 2006. This was the first collection of spiders in the reserve and provides valuable data for the reserve as well as to the limited existing information on the Savanna Biome, Limpopo Province and will also improve our knowledge of spiders in South Africa. Three different vegetation types were selected as sampling sites. Four collection methods (active searching, sweep netting, tree beating and pitfall trapping) were used to catch spiders. Collected specimens were preserved in 70% EtOH, studied with a stereo microscope and identified. Sampling was done once a month, for four consecutive days per sampling site, using a different method everyday but with the pitfall traps opened for the whole period. A total of 6033 specimens belonging to 32 families, 115 genera and more than 149 species were collected.

SOUTH AFRICA CONTINUED

University of Pretoria

Team leader: Dr Barendt van Rensburg

Barendt is involved with Stefan Foord of the University of Venda and Ansie Dippenaar-Schoeman in a Thuthuka project of the NRF to determine the diversity of the arachnids of the Savanna Biome.

One of his MSc students **Kyle Harris** has completed the field work of his survey to assess and monitor local scale impacts of prickly pear (*Opuntia stricta)* on arthropod assemblages in the Kruger National Park, South Africa.

The aims of the project are as follows:

- To examine habitat specificity of beetles and spiders and variation in these assemblages, within a habitat system characterized by different levels of prickly pear (*Opuntia stricta)* invasions.
- To identify groups of species that are characteristic of each *O. stricta* invasion level (indicators), as well as species that may be used to monitor changes in invasion levels (detectors). Detector species will be used to predict change in the intensity of *O. stricta* invasions.

The study site was in the Skukuza region of the Kruger National Park. Three different infestation levels of *O. stricta* were surveyed, a high-infestation site, a medium infestation site and a site completely free of *O. stricta*. Twenty-five pitfall traps were used within each treatment. Sampling occurs bi-monthly over a twelve-month period and during each sampling month the traps were left open for ten days and cleared every second day. In addition to the pitfall traps, active searching and leaf litter sifting methods were employed to search for spiders.

With the help of Ansie Dippenaar-Schoeman sorting and identification of the arachnid material is underway.

A major component of the South African National Parks mission statement is to maintain biodiversity in all its natural facets and fluxes. The results of this study will therefore benefit KNP, as it will highlight the impact of invasive weed species.

When you work in a National Park you need to look out for elephants—Kyle Harris in action.

Team leader: Dr Michael Somers

Michael and his MSc student Mandisa Mgobozi moved from the University of Transkei to the University of Pretoria

Mandisa's MSc project looked at the efects of an invasive weed on the diversity and abundance of spiders in an African savanna. Her study used spiders as bioindicators on the effect of *Chromolaena odorata* on invertebrate diversity. Nearly all the protected areas in KwaZulu-Natal have already been invaded by this weed and it grows as an aggressive colonizer in different habitats in different parts of the world. *C. odorata* invasion historical maps within the reserve were analysed and areas that have been invaded for *ca* 20 years, *ca* 10 years and less than 1 year were identified. In addition, in areas that were infested *ca* 10 years ago, sites that were cleared less than 2 years ago and between 3-5 years ago were also identified.

She sampled a total of 6 treatment sites including the control site. Each site in each treatment contained 10 pitfall traps (n= 360 pitfall traps). Vegetation beating was also employed. The sampling was done seasonally. This study is anticipated to show the effect of *C. odorata* infestation durations on invertebrate fauna and will determine if the system actually does rehabilitate after clearing of the weed.

Another aspect of this is study is to determine the effects of mega ungulates on invertebrate diversity still mainly focusing on spiders. This study will determine the effects of mega herbivores on invertebrate diversity; compare the diversity and density patterns of spiders in relation to the different rainfall regimes of Hluhluwe and iMfolozi and also determine the difference between the diversity indices of the different grass types.

Mandisa with the help of Ansie has completed sorting and identification of her material.

Mandisa Mgobozi at one of her study sites

Spider Club News

The Spider Club of Southern Africa is an environmental interest group. Their aim is to encourage and develop interest in arachnids and to promote this interest by all suitable means.
During 2006 they have organized several event and outings with the highlight being the trip to Hluhluwe-Umfolozi Game Reserve in KwaZulu-Natal in May.

They are also now actively involved in the South African National Survey of Arachnida.
For a list of forthcoming events see their website at: www.spiderclub.co.za or contact Miemmie Prinsloo at miemmiep@d-bit.co.za

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African Xmas tree (photograph Allen Jones)

From Africa we wish you all well for 2007