Newsletter of the African Arachnological Society

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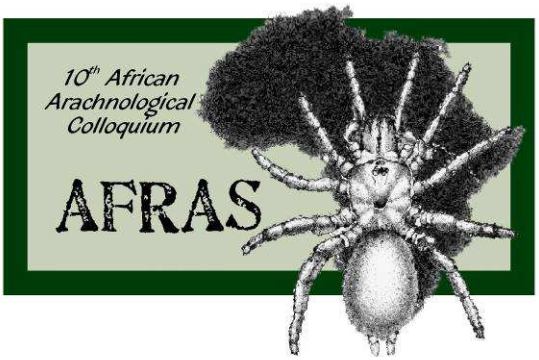
IN THIS ISSUE

THE 10th COLLOQUIUM OF THE AFRICAN ARACHNOLOGICAL SOCIETY



The logo for the 10th Colloquium of the African Arachnological Society

It is almost time for the 10th Colloquium of the African Arachnological Society. It is being held at Rhemardo, near Naboomspruit, Limpopo Province from the 31st of January until the 4th of February 2011. From the number of abstracts it is clear that some really interesting talks will be presented, by both local and international delegates.

As usual, there will be a number of prizes given for best oral presentation, best poster, best student presenter and “Catch of the Day”. One of the most exciting, and often the most breath-taking competition, is the photographic competition. Please feel free to send any photographs of African arachnids that you feel are worth entering to Robin Lyle at Robin@ditsong.org.za. Anyone who has a passion for African arachnids is welcome to enter, even those not attending the colloquium.

Other important highlights of the colloquium include a SANSA workshop, the AFRAS general meeting and a display of new arachnid books.

Petro Marais (maraisP@arc.agric.za) and Robin Lyle (Robin@ditsong.org.za) are convenors of the conference and can be contacted with any enquires about the colloquium.

LETTER FROM THE EDITOR

With the recent release of the latest SANSA newsletter, and this newsletter, it is clear that 2010 was a busy year for all at the various institutions. Not only was 2010 the year Africa hosted its first Soccer World Cup tournament, but it was also the International Year of Biodiversity. The research done in the past year by our members has helped to increase the diversity and knowledge of the African arachnid fauna.

Best wishes for 2011! May it be a great year for all!

18TH INTERNATIONAL CONGRESS OF ARACHNOLOGY

The 18th International Congress of Arachnology was held from 11-17 July 2010 in Siedlce, Poland. At least 33 presentations/posters focused on or included African arachnids in their content, which bodes well for future research and collaboration on the continent's fauna. Of special interest were the plenary lectures delivered by Rudy Jocqué on the distributional patterns of African arachnids, and by Gonzalo Giribet on the biogeography of Opiliones, in particular the Cyphophthalmi. Congratulations are due to Hannah Wood, whose presentation on archaeid spiders and their relatives won the prize for best student presentation! Charles Griswold was also elected as President of the International Society of Arachnology for the next three years. Congratulations!

Attending the 18th International Congress of Arachnology were (from left to right) Bernhard Huber, Galina Azarkina, Charles Griswold, Hannah Wood, Jeremy Miller, Nikolaj Scharff, Charles Haddad, Martin Forman, Mark Harvey and Jiri Kral (Photograph by P. Jäger).

Presentations from the conference:

AGNARSSON, I.: Phylogeny and sociogeography of *Anelosimus* spiders (Poster).
ÁLVAREZ-PADILLA, F., UBICK, D. & GRISWOLD, C.E.: Interfamilial phylogenetic relationships of goblin spiders, based on morphological data (Araneae: Oonopidae) (Paper).
ÁLVAREZ-PADILLA, F., UBICK, D. & GRISWOLD, C.E.: Three new genera of goblin spiders from Madagascar (Araneae: Oonopidae) (Poster).
AZARKINA, G.: Aelurillinae (Araneae: Salticidae) of the world (Poster).
FOORD, S.H., MUELELWA, M.I., DIPPENAAR-SCHOEMAN, A.S. & STAM, E.M.: Towards a standardised and optimized protocol for rapid biodiversity assessments: spider species richness and assemblage composition in two savanna vegetation types (Paper).
FORMAN, M., KRÁL, J. & HADDAD, C.R.: The cytogenetic approach reveals speciation events in social spiders *Stegodyphus* (Araneae: Eresidae) (Poster).
GIRIBET, G.: Opiliones as models for evolutionary biogeographic studies - vicariance, dispersal, translocations (Paper).
GREGORIČ, M., AGNARSSON, I., BLACKLEDGE, T. & KUNTNER, M.: Phylogeny and behaviour of enigmatic orbiculariansː Zygiellidae and the giant orbweaver *Caerostris* (Paper).
GRISWOLD, C.E., WOOD, H.M. & CARMICHAEL, A.: The lace web spiders (Araneae: Phyxelididae) of Madagascar: phylogeny, biogeography and taxonomy (Paper).
HADDAD, C.R.: Revisions of the cryptic Castianeirinae (Araneae: Corinnidae) of the Afrotropical Region: exceptional species diversity, unusual biogeographical patterns and evolutionary novelties (Paper).

Attending the 18th International Congress of Arachnology were (from left to right) Peter Jäger, Wanda Wesołowska, Robert Bosmans, Rudy Jocqué and Tamas Szuts (Photograph by C. Haddad).

HARMS, D. & HARVEY, M.S.: Vicariance and the evolution of ancient pseudoscorpions: subfamily Pseudotyrannochthoniinae (Arachnida: Pseudoscorpiones: Chthoniidae) (Poster).
HARVEY, M.S.: Chthonioid pseudoscorpions: phylogeny based on morphology (Paper).
HOLM, C. & MAJER, M.: Foraging in social spiders (Poster).
HUBER, B.A.: Reconstructing the pholcid tree: a progress report (Paper).
JOCQUÉ, R.: Distribution patterns of Afrotropical arachnids: staying ahead of shifting baselines (Paper).
KARAMAN, I.M.: The classical taxonomic approach towards a phylogenetic system of the Cyphophthalmi (Opiliones) (Paper).
KLANN, A.E. & BIRD, T.: Ultrastructural characterisation of *Hexisopus* spermatozoa in comparison to other solifugid species (Poster).
KOŘÍNKOVÁ, T., KRÁL, J., PEKÁR, S. & HADDAD, C.R.: Cytogenetic data do not support a close relationship between the families Mimetidae and Palpimanidae (Araneae: Araneomorphae) (Paper).
KRÁL, J., DULÍKOVÁ, L., KOŘÍNKOVÁ, T., MUSILOVÁ, J., VÍTKOVÁ, M., HEDIN, M., HENRIQUES, S.S. & HADDAD, C.R.: Evolution of the karyotype and sex chromosome systems in mesothelid and mygalomorph spiders (Paper).
KRÁL, J., PASTUCHOVÁ, M., MUSILOVÁ, J., KOŘÍNKOVÁ, T., ŘEZÁČ, M., VÍTKOVÁ, M., HUBER, B.A. & HADDAD, C.R.: Evolution of holocentric chromosomes and X1X2Y system: two karyotype traits found in basal clades of araneomorph spiders (Araneae: Araneomorphae) (Paper).
KUNTNER, M., TRONTELJ, P., ARNEDO, M., LOKOVŠEK, T. & AGNARSSON, I.: A molecular species level phylogeny of nephilid spiders (Paper).
LOPARDO, L., GIRIBET, G. & HORMIGA, G.: Phylogeny of the spider family Mysmenidae and evolution of web architecture in "symphytognathoids" (Araneae: Orbiculariae) (Paper).
MADDISON, W.P.: Phylogenetic radiation of salticid spiders: so many species, so little time (Paper).
MAJER, M., SVENNING, J.-C. & BILDE, T.: Macroecological approach to evolution of group living in spider genus *Stegodyphus* (Araneae: Eresidae) (Paper).

Axel Schönhofer (left) and Majid Moradmand (right), two recent AFRAS additions (Photograph by C. Haddad).

INSTITUTIONAL NEWS

18TH INTERNATIONAL CONGRESS OF ARACHNOLOGY

MARHABAIE, M. & MILLER, J.: A revision of *Gandanameno* (Araneae, Eresidae) and the promise of cybertaxonomy (Poster).
MAXWELL, E.N., MILLER, J. & BINFORD, G.: Molecular and morphological analysis of *Sicarius* systematics across a wide geographic range (Paper).
MORADMAND, M. & JÄGER, P.: Taxonomic revision of the genus *Eusparassus* Simon, 1903 (Araneae: Sparassidae), Part 1: finding diagnostic characters (Poster).
MURIENNE, J., BENAVIDES, L.R., HORMIGA, G. & GIRIBET, G.: Phylogeny and biogeography of Ricinulei (Paper).
PEKÁR, S., BLACKLEDGE, T. & CODDINGTON, J.A.: Evolution of stenophagy in spiders (Araneae): evidence based on the comparative analysis of spider diets (Paper).
PLANAS, E. & RIBERA, C.: Not so banal after all; latest evidence on *Loxosceles* diversity in Canary Islands and Northwestern Africa (Paper).
SZUTS, T., CARMICHAEL, A., SAUCEDO, A. & GRISWOLD, C.E.: A preliminary global phylogeny of the giant goblin spiders (Araneae: Orsolobidae) (Paper).
VAN HEERDEN, J.: The distribution of *Horus* Chamberlin (Arachnida: Pseudoscorpiones: Olpiidae) (Paper).
WOOD, H.M., GRISWOLD, C.E., GILLESPIE, R.G. & ELIAS, D.O.: Archaeid and mecysmaucheniid spiders and their relatives (Araneae: Archaeidae, Mecysmaucheniidae): phylogeny, biogeography and evolution of the carapace morphology (Paper).

C. Griswold and other arachnologist letting their hair down and strutting their stuff on the dance floor (Photograph by C. Haddad).

NATIONAL MUSEUM, BLOEMFONTEIN

Leon Lotz, at the National Museum, Bloemfontein, has been busy with a number of ongoing revisions and projects. Currently he is busy with revisions of the Afrotropical genera *Cheiracanthium* and *Cheiramiona* (Miturgidae). As Leon says "New species are still popping up all over the place".

It seems that Leon will be soon starting his revision of the Afrotropical Sicariidae, a project that has been in the pipeline for some time. He has also found two possible new species of Afrotropical Archaeidae, however, more material is needed before the descriptions are finalised.

Work is being done to refine the keys to the southern African species of Opiliones and Pseudoscorpions, another interest of Leon's.

A number of talks were also given to members of the public.

DITSONG NATIONAL MUSEUM OF NATURAL HISTORY (FORMER TRANSVAAL MUSEUM)

The Transvaal Museum has officially changed its name and is now know as the DITSONG National Museum of Natural History. At the name change function the new logo (seen above) was presented for the institution.

Robin Lyle has been busy publishing the results from her Master's thesis. The paper "A revision of the tracheline sac spider genus *Cetonana* Strand, 1929 in the Afrotropical Region, with descriptions of two new genera (Araneae: Corinnidae)" by R. Lyle and C. Haddad, is the publication from one chapter of her thesis. In this paper the Afrotropical *Cetonana* are separated from the European and American counterparts and transferred to the newly established genus *Afroceto* Lyle & Haddad. The paper discusses variations in leg spination, and presence or absence of ventral cusps, as the basis for the separation. A new genus *Patelloceto* Lyle & Haddad includes three new species. This genus is characterised by its unique genitalic morphology. The males have a large retrolateral patellar apophysis and a large dorsal tibial apophysis, while females have broad membranous median septum separating the small lateral spermathecae.

Male and female of *Afroceto martini* (Simon, 1897), the type species of the genus *Afroceto* Lyle & Haddad.

Male and female of *Patelloceto secutor* Lyle & Haddad the type species of the genus *Patelloceto* Lyle & Haddad.

Visit the recently launched website of the Ditsong National Museum of Natural History: www.ditsong.org.za/naturalhistory.htm

INSTITUTIONAL NEWS

Another paper, titled: "The male of *Fuchiba tortilis* Haddad & Lyle, 2008 and three new species of *Spinotrachelas* Haddad, 2006 (Araneae: Corinnidae: Trachelinae) from South Africa" is also in press. In this paper, three new species of the previously monotypic genus *Spinotrachelas* are described. From the material examined, it appears that the *Spinotrachelas* is still endemic to South Africa. Two of the three species are found in the Western Cape Province, and the third species, *S. namaquensis* Lyle, in press, is found in the Northern Cape Province.

The new species of *Spinotrachelas, S. namaquensis* Lyle.

CALIFORNIA ACADEMY OF SCIENCE

Titanoecidae and Amaurobiidae

Lina Almeida-Silva is a PhD student at University of Sao Paulo in Brazil and is co-supervised by Antonio Brescovit at the Instituto Butantan (Brazil) and Charles Griswold at California Academy of Sciences (USA). These authors recently reported the first Titanoecidae from Africa, recording *Pandava laminata* from the coastal regions of Kenya, Tanzania and Madagascar:

Almeida-Silva, L., C. Griswold and A. Brescovit. 2010. Revision of the Asian spider genus *Pandava* Lehtinen (Araneae: Titanoecidae): description of five new species and first record of Titanoecidae from Africa. *Zootaxa* 2630: 30–56.

Lina also visited the CAS in August and September of 2010 as a Lakeside International Scholar, where she studied South African macrobunine amaurobiids that were loaned from museums in Pretoria and Bloemfontein. Among the more than 1700 specimens studied she discriminated more than 40 species in 15 genera, most new to science. Lina's PhD thesis will include a generic revision and phylogeny of the Macrobuninae, which occur in Africa and South America.

Goblin spiders, Oonopidae

Supported by the Goblin Spider Planetary Biodiversity Inventory (PBI) project, a team of USA scientists including Alma Saucedo, Fernando Álvarez Padilla, Darrell Ubick and Charles Griswold (California Academy of Sciences), Natalia Chousou Ploydouri, Rosie Gillespie (UC Berkeley) and Daniela Andriamalala and Gustavo Hormiga (George Washington University) are studying the oonopid fauna of Madagascar and the Indo-Pacific region. Saucedo, Álvarez Padilla, Ubick and Griswold are describing about 40 new species in five new genera from Madagascar. Chousou Ploydouri is studying *Orchestina* of Madagascar and the Indo-Pacific. Andriamalala is studying *Opopaea*, *Farqua* and *Lisna* of Madagascar and surrounding islands.

Giant Goblin Spiders, Orsolobidae

Anthea Carmichael, Tamas Szuts and Charles Griswold of California Academy of Sciences are studying the global phylogeny of Orsolobidae using molecular data. A preliminary tree was presented at the 18th International Congress in Poland, which suggested that the fauna of Orsolobidae from each continent (Africa, South America, New Zealand and Australia) is monophyletic and endemic. We are hoping to collect more tissues, especially from South Africa and New Zealand.

Assassin Spiders, Archaeidae

Hannah Wood, supervised by Rosie Gillespie and Charles Griswold, is completing her PhD at UC Berkeley, which includes a global phylogeny of the Archaeidae including living representatives from Australia, Africa and Madagascar and fossils from Europe and Myanmar. She is using light microscopy and micro-CT scanning to study the fossils in amber and add them to a data matrix with the modern genera. She is also completing a molecular phylogeny for all the archaeid species occurring in Madagascar and South Africa.

She has future plans to study the feeding strategies, ecology and chelicerial biomechanics of archaeids in a phylogenetic context, and expand her taxonomic and phylogenetic studies to other Palpimanoidea. Hannah won the prize for best student presentation in systematics and evolution at the 18th International Congress in Poland.

Upcoming expeditions

Hannah Wood and Charles Griswold will visit South Africa in January 2011 for a collecting and museum trip, emphasizing the Free State and KwaZulu-Natal. Lina Almeida-Silva and Charles Griswold plan to visit South Africa in October and November 2011 for a collecting and museum trip, emphasizing the Western Cape, Free State and Mpumalanga. They will particularly be searching for archaeids, amaurobiids, oonopids and orsolobids, phyxelidids and zoropsids.

UNIVERSITY OF VENDA

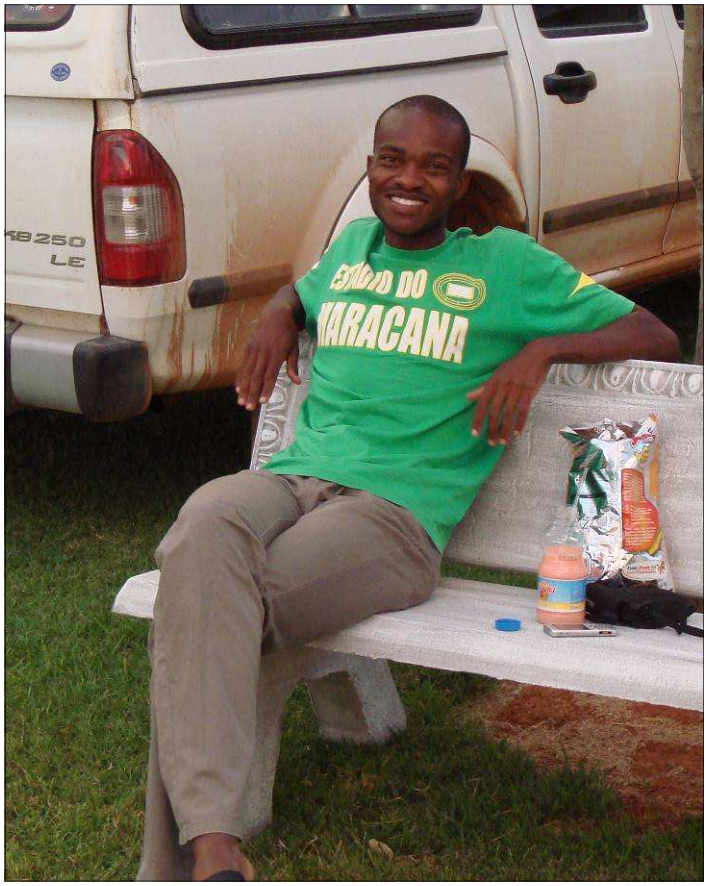
Stefan Foord and his students at the University of Venda have been busy this year. After completing her honours on spiders and beetles in cultural landscapes in Venda, Daisy Thononda has received a bursary from the Centre for Invasion Biology to study spiders and beetles (carabids and tenebrionids) across the North-South altitudinal transect in the Soutpansberg. She will join Caswell Munyai, who is completing his Masters on the ants of the transect and the medium-term objectives is to monitor invertebrates with pitfalls traps twice a year during the wet and dry seasons for the next five years detailing the impacts of an ENSO cycle. The short-term focus is to establish what drives diversity of spiders along this gradient, while the longer-term objectives is to monitor the rate and impact of global climate changes on these invertebrate assemblages.

INSTITUTIONAL NEWS

LUTHER SESHOTHELA'S EXPERIENCE AS INTERNSHIP AT THE ARC

"It seems like last month when I was appointed as a casual worker then an intern here at ARC-Roodeplaat: Spider Unit but it has actually been 10 months. This is because I feel at home and also enjoy what I am doing here. The internship focuses on spiders collected at Cederberg Wilderness Area in the Western Cape, I am learning all the skills and steps involved from when the spiders are collected in the field until they are preserved in the NCA (National Collection of Arachnida). Some of the highlights include going for my first field collection in the Northern Cape with Robin Lyle and Petro Marais. It didn't feel like it was the first time because of the support I got from the two ladies. The three-week field trip also taught me to work as a team either when we were collecting or running day to day activities such as cooking, washing dishes etc. I also had a chance to present a poster during The South African Academy for Science and Art: Biological Sciences division which was held here at ARC-Roodeplaat. I would like to express my gratitude to DST/NRF for the intership, ARC for hosting me, staff of the Spider Unit, especially my mentor Prof. A.S Dippenaar (I couldn't have asked for a better mentor) who have and still are making my experience here fulfulling, not forgetting Robin Lyle for giving me an opportunity to share my experience in the newsletter."

Luther Sethothela was given an opputunity to do an internship with Ansie Dippenaar-Schoeman at the Agricultural Research Council by the Department of Science and Technology.



Luther relaxing while heading back home after his first trip to the field (Photograph by R. Lyle)

ROYAL MUSEUM FOR CENTRAL AFRICA

Colleagues at Tervuren have been working hard throughout the year with a number of interesting results being found. Here are some of the interesting happenings at the museum:

• Wouter Fannes continued with his work on Afrotropical Oonopidae for his PhD. In collaboration with Rudy Jocqué, he has also started the revision of a new genus characterised by a series of dorsal ridges on the first tibia.

• Rudy Jocqué made a 2-week trip to the Democratic Republic of the Congo to train students in sampling the different strata of miombo woodland, which is an extensive tropical seasonal woodland. The first miombo woodland canopy samples ever were obtained during this trip. One of the Congolese students experienced African arachnids first hand. The student was bitten on the thumb by a female *Pterinochilus murinus*. He suffered from severe pain and mild swelling of the finger, but 24 hours later all symptoms were gone.

• Domir De Bakker already started sorting some of the miombo canopy samples. The first results indicate that the most abundant family is Thomisidae. Theridiidae are rare and there are no Linyphiidae! Oonopidae contain *Orchestina* and *Opopaea* as usual. For the first time the Zodariidae are represented by *Akyttara* species, which replaces *Asceua,* which was so far the only regular zodariid genus in the canopy. A possible new species of the recently described genus *Planochelas* has been found.

THE SPIDER CLUB OF SOUTHERN AFRICA

The Spider Club has been very busy lending a hand to a researcher in need and running numerous sampling projects. They have been helping Anna Rising from Sweden, who is researching *Euprosthenops* silk for medical applications. Anna asked if anyone in South Africa could send her some gravid adult females to be housed in the Stockholm Zoo and Aquarium (Skansen-Akvariet). Members of the Spider Club were happy to lend a helping hand. The club visited a game farm near Marble Hall in October and collected 5 adult female *Euprosthenops australis*, which they were promptly despatched by courier to the Stockholm Zoo. It is hoped these spiders will establish a colony, which will produce silk that will be readily and constantly available to the research group. These spiders will be kept at the Stockholm Zoo and Aquarium where they have an exhibition on spiders and other exotic (to Sweden) creatures. According to Anna the spider exhibit is very popular - not surprising to spider lovers!

Two localities were sampled during the course of 2010. The Spider Club ran two field trips on consecutive weekends in January at Witbank Dam Nature Reserve to collect grassland spiders. The reserve is a typical and largely unaltered example of the Highveld grassland biome (Bankenveld). Many specimens were collected from pit traps, bush and grass sweeping and by hand, which Astri Leroy sorted and accessed into her own register. Many have already been deposited in the National Collection with Ansie Dippenaar-Schoeman and her team but many more still have to be sorted.

INSTITUTIONAL NEWS

THE SPIDER CLUB OF SOUTHERN AFRICA

Final sorting and accessing of specimens from several years' collecting at the Lowveld National Botanical Garden in Mbombela, Mpumalanga Province is ongoing. John and Astri were ably and enthusiastically helped by Jurie Kasselman, Eugene de Kock of Lowveld Spiderwatch, Lou-Nita le Roux of SANBI and Schalk Schoeman of PPRI, Nelspruit.

John Leroy photographing spiders in the Lowveld National Botanical Garden (Photograph by A. Leroy).

Astri and John Leroy, both members of the Spider Club, have been busy with a number of projects with the general public. Astri presented public spider identification at the Kloofendal Nature Reserve in Roodepoort. The course was organised by The Friends of Kloofendal Nature Reserve (FroK). The courses are carried out in the summer months and consist of an oral introduction to spiders, the handing out of worksheets and a quick slide show to illustrate life cycle and diversity of the African fauna. After the introduction is done, an hour or two of collecting and observing the these creatures in the veld follows. Next a course in the use of a microscope is given to delegates so that they can identify already preserved specimens of some commonly found species to families level. Astri also led a spider walk at the Cullinan Conservancy.

Spider Identification course at Kloofendal,from left to right: Joan Faiola, Astri Leroy, Karin Spottiswood (Friends of Kloofendal Nature Reserve) and Peet van der Ark (Photographed by J. Leroy).

In between these courses, a number of talks were given to the African Nature Training and East Rand Honorary Rangers. John Leroy gave illustrated talks on spiders for the Johannesburg Camera Club, the Johannesburg Photographic Society and at the Gauteng Regional Photo Congress.

A highlight for Astri was her interview by National Geographic for their "Caught in the Act" programme. She spoke on the Pisauridae familay giving special attention to the genus *Thalassius*.

In January 2010 John and Astri were invited to the Okavango Delta in Botswana by the Conservation Unit of Wilderness Safaris to do a mini-survey of arachnids in some of their concessions. They did intensive work, collecting, photographing and doing preliminary identifications over a week around Kaparota staff training camp. The camp manager, Brian Rode got actively involved and submitted photos. From this outing the Leroys have decided to put together a booklet and CD, "Some Okavango Spiders" illustrating the spiders likely to be encountered by tourists and staff. The idea of this booklet is for the game guides to use it and to leave a copy at the reception of each camp for the tourists to look at. It is aimed at demystifying spiders and to assure both staff and tourists that spiders are not a threat to people. In fact they are allies in the war against insect-borne diseases such as malaria.

The Leroys also gave an illustrated lecture on spiders to the students at the staff training camp, Kaparota. They showed the staff the diversity of spiders around them and reassured them that spiders are really not dangerous compared to most of the larger mammals they deal with quite happily on a daily basis.

The cover for the booklet of spiders found in the Okavango.

THERAPHOSID RESEARCH ON FREGATE ISLAND, SEYCHELLES

Greg Canning is currently working on Fregate Island in the Seychelles. He is working on a paper with a proposed title of “Habitat selection and aspects of the ecology of a theraphosid spider, *Nesiergus insulanus* on Fregate Island, Seychelles”.

Very little is known about *N. insulanus* which is only known from Fregate Island. The work being done on the ecology of the species includes habitat and microhabitat selection, prey preferences, possible predators, as well as their distribution and density on the island. If time allows, Greg is hoping to investigate various aspects of the reproductive cycle.

The impact of habitat degradation and restoration on this species will also be determined. The need for this study is very important since there is an active, ongoing habitat restoration project on the island.

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THERAPHOSID RESEARCH IN ON FREGATE ISLAND, SEYCHELLES

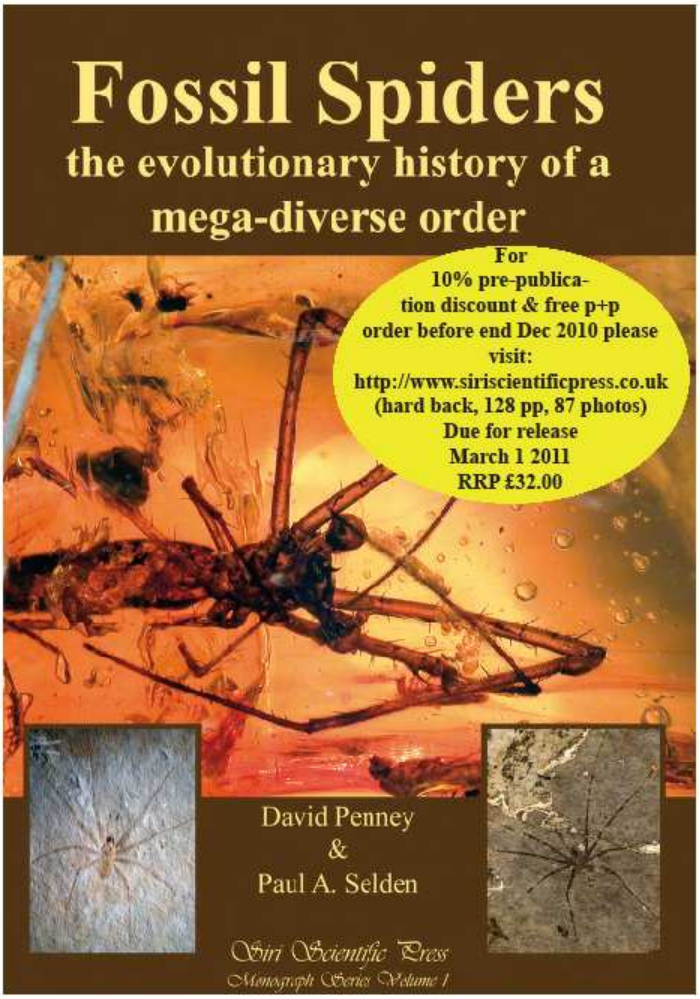
An up close photograph of a theraphosid burrow on Fregate Island, Seychelles (Photograph by G. Canning).

A theraphosid burrow in a tree on Fregate Island, Seychelles (Photograph by G. Canning).

SANSA WEBSITE

On the website of the South African National Survey of Arachnida (SANSA) a 'spider of the week' is displayed from a photograph chosen from entries submitted to the virtual museum at www.arc.agric.za/home.asp?pid=3272.

ARACHNOLOGY BOOKS FOR SALE (RECENTLY RELEASED)



Please feel free to contact David Penney for details regarding the purchasing of this book at david.penney@manchester.ac.uk

SHORT ARTICLE

MIMICRY IN A SOUTH AFRICAN PSEUDOSCORPION

By Jacques van Heerden

Dept of Ecology and Resource Management

University of Venda

Limpopo

The pseudoscorpions are a neglected order of the Arachnida in general (Harvey 2002), which might be due to their cryptic habits, but perhaps also because they are regarded as an insignificant component of the mesofauna. However, most species occur in a narrow humidity range and therefore have potential as bio-indicators. One example is *Hansenius* (Tullgren), a cheliferid pseudoscorpion, which occurs in leaf litter, humus and compost where the humidity exceeds 40% (pers. obs.).

A hundred and thirty-six species of pseudoscorpions have been described for Southern Africa (Dippenaar-Schoeman & Harvey 2000), but large parts of South Africa and many habitats have not been properly sampled. The only systematic sampling was done in the early 1950's by a Swedish expedition, reported on by Beier (1955). That this picture is very incomplete, as evidenced by the fact that nine species of the olpiid pseudoscorpion *Horus* Chamberlin have been described from southern Africa (including Zimbabwe, Namibia and Lesotho), but recent mitochondrial DNA analyses from twenty localities in the Eastern Cape, Northern Cape, KwaZulu-Natal and Free State have revealed that there are at least twice that number of species represented in the southern half of the country (Van Heerden & Taylor in prep.).

Horus is typically found associated with rocks: in the Beaufort, Ecca and Dwyka formations they usually occur in tiny cracks in the rock; they have more rarely been found under rocks or under the bark of trees, and one record is from a termite nest (Beier 1964). It is a sit-and-wait predator and the normal prey are small ants, such as *Linepithema humile*, the Argentine ant, and its area of activity is 25 to 50 square centimeters. The young, eight to twelve per clutch, just move sufficiently far away from the mother to establish their own territory; males will move longer distances (perhaps several meters) to mate. Upon discovery, the animal remains motionless for up to a minute, after which it will slowly move away, seeking another narrow crevice in which to disappear. In captivity *Horus* cf. *obscurus* specimens do not exhibit any marked aggression towards one another, but each will establish its own territory in a container and when moving around will avoid getting too close to conspecifics (pers. obs.).

This general behaviour was observed in virtually all cases where I personally collected *Horus.* The one notable exception was at Redlands, southeast of Prieska in the Northern Cape. On a bare patch of ground there were a number of flat stones and rocks, 30 to 50 cm in diameter, which offered the only habitat for *Horus* (Fig. 1.) In this very arid and very hot environment the flat stones offer no refuge because it is too hot underneath them, which is why *Horus* specimens were only found under the large boulders. In winter the bigger rocks may also offer better protection against the cold. The habitat is shared with a species of cocktail ant (*Crematogaster*), where the workers are about the same size as *Horus*, i.e. 3-5mm long; both species are dark brown (almost black) in colour.

There are two remarkable facts about the Redlands *Horus* species (Van Heerden & Taylor in prep.). Firstly, they have become fully gregarious and the territorial behaviour observed elsewhere is not observed. Secondly, they act in accord and when the boulder is turned over, virtually all individuals underneath the rock – which may number 20 or more – immediately start dashing around and, like the cocktail ants, they lift their abdomens when doing so. They are clearly imitating the behaviour of the ants as a defence against some or other predator, possibly a lizard

A similar reaction, but with isolated animals and for brief periods of times (10 seconds at most), was observed once with a non-gravid female collected north of Grahamstown, and also in the case of a tritonymph near Fort Beaufort (pers. obs.). It could be that the 'cocktail behaviour' is latent in all *Horus* species, but usually only finds expression in circumstances like those of the Redlands species.

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Fig. 1. The site at Redlands, near Prieska, Northern Cape: *Horus* was found in large numbers under the bigger rocks (Photograph by J. van Heerden)

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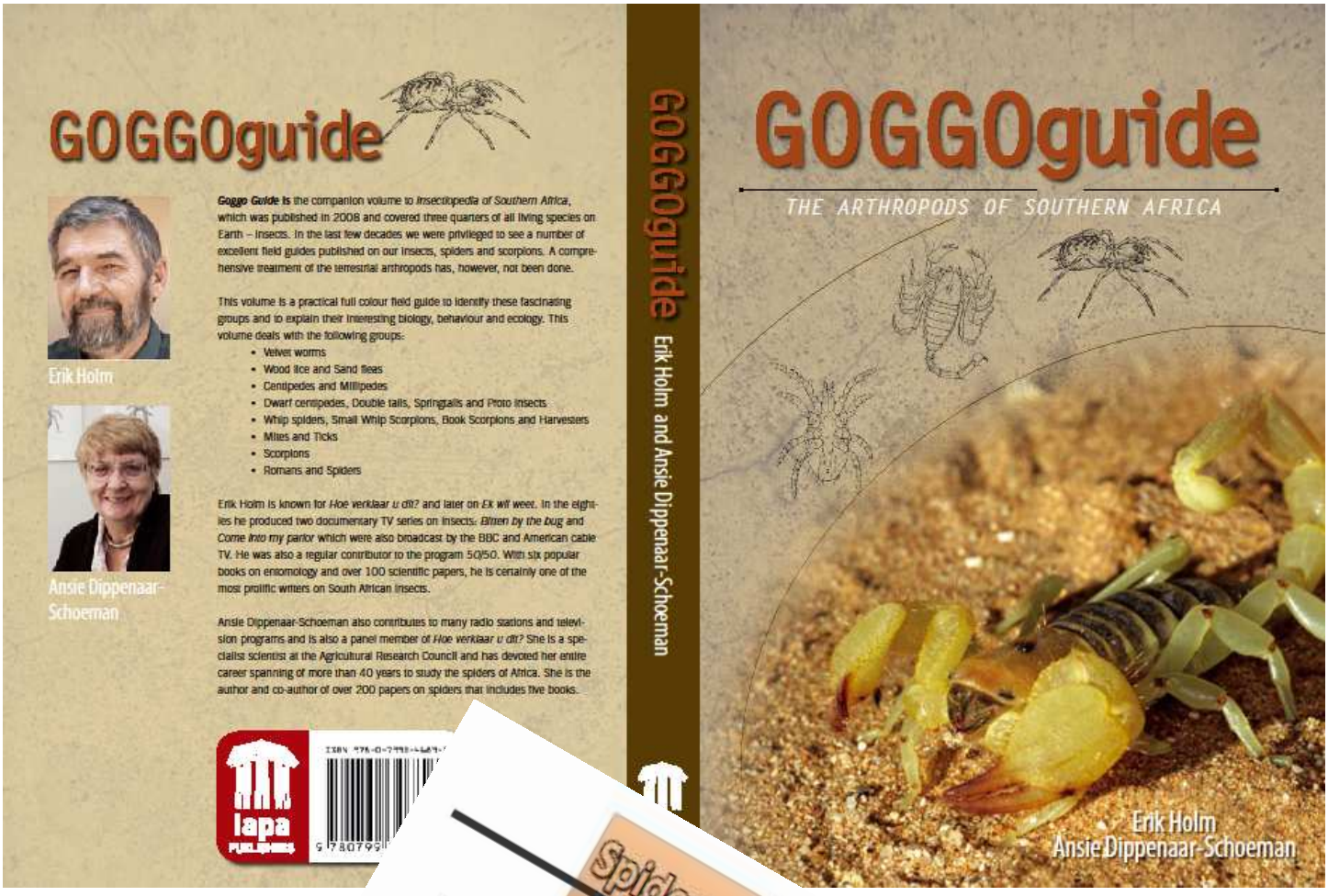

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Best wishes for 2011! Have a great one!