



AGRICULTURAL RESEARCH COUNCIL
PLANT PROTECTION RESEARCH INSTITUTE
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PROGRESS REPORT

PPRI Ref: 14/5/3/J12904/7

PROJECT TITLE: THE SOUTH AFRICAN NATIONAL SURVEY OF ARACHNIDA

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PROGRESS REPORT 2008/2009

SOUTH AFRICAN NATIONAL SURVEY OF ARACHNIDA

PERIOD 01 APRIL 2008 – 31 MARCH 2009

RESEARCH ORGANISATION: Agricultural Research Council
PROGRESS REPORT FOR PERIOD: 1 April 2008—31 March 2009
TOTAL AMOUNT SPENT: R500 000
PROJECT LEADER: Dr A.S. Dippenaar-Schoeman
ASSISTANT PROJECT LEADER: Mr C. Haddad

INTRODUCTION

SANSA is an umbrella project dedicated to unify biodiversity research on spiders in South Africa, and is coordinated by a team at the Agricultural Research Council in collaboration with the South African National Biosystematics Institute. SANSA runs on a national basis in collaboration with other institutions with an interest in the arachnid fauna. The aims are to describe and document the fauna for conservation assessments and sustainable use. It addresses aspects including: surveys; on-line biodiversity informatica; awareness through road-shows, talks and lecture series, media releases, product development and an online virtual museum; capacity building through the training of post-graduate students, as well as in-house training; and an electronic newsletter.

MAIN ACTIVITIES, HIGHLIGHTS AND DELIVERABLES

1. FIELD SURVEYS

1.1 SANSA SURVEYS



The Limpopo SANSA sampling team

Five SANSA teams surveyed areas within South Africa following a specific protocol that includes beating, sweeping, pitfall trapping, litter sifting, hand collecting, night collecting and Winkler traps. The following grids were sampled during the report period:

| Locality | Province | Grid | Field work manager |
|--|----------|------|--------------------|
| Anysberg Nature Reserve | WC | 3320 | R. Lyle |
| Atherstone Nature Reserve | LP | 2426 | S. Foord |
| Bewaarkloof Nature Reserve | LP | 2429 | S. Foord |
| Blouberg Nature Reserve | LP | 2328 | S. Foord |
| Caledon Nature Reserve | FS | 2926 | L. Lotz |
| Calitzdorp – Ladysmith | WC | 3321 | R. Lyle |
| Jansenville | EC | 3224 | R. Lyle |
| Leopard Creek Private Conservation Reserve | LP | 2327 | S. Foord |
| Lydenburg | MP | 2530 | J. van As |
| Marakele National Park | LP | 2427 | S. Foord |
| Olivenkloof Farm | LP | 2427 | S. Foord |
| Ophathe Game Reserve | KZN | 2831 | C. Haddad |
| Platberg Nature Reserve | FS | 2829 | J. van As |
| Prince Albert | WC | 3322 | R. Lyle |
| Sterkstroom | EC | 3126 | R. Lyle |
| Sutherland | NC | 3220 | R. Lyle |
| Tussen-die-Riviere Nature Reserve | FS | 3026 | L. Lotz |
| Wonderkop Nature Reserve | LP | 2328 | S. Foord |

1.2 OTHER SURVEYS

Many conservation managers have become involved by providing sites for arachnid sampling, and in some cases, staff collected arachnids for the project. This level of involvement is essential in providing baseline biodiversity data of arachnids that can be used in conservation assessments and planning in reserves, as well as in the training of volunteers, students and reserve staff in survey and monitoring practices. Other surveys include material received from the public, student projects and consultants. The following material has been received for identification:

1.2.1 PUBLIC PARTICIPATION

Gouritz Mond (Helen Leibel) = **270**
 Hermanus (Victor Hamilton-Atwell) = **101**
 Kommetjie (Swannie) = **20**
 Oudshoorn (Zanie van der Walt) = **35**
 Worcester (Hennie van der Walt) = **35**
 Jeffreysbay (Linda Wiese) = **180**
 Clocolan (Allen Jones) = **30**
 Loxton (Chris Stuart) = **25**

TOTAL IDENTIFIED: 796



Team that sampled in the Baviaanskloof

1.2.2 STUDENT PROJECTS

- Silaka Nature Reserve (Walter Sisulu University) = **35**
- Spider survey in the Northern Brand-se-Baai and Koingnaas (University of Cape Town) = **78**
- Spiders on Proteas = **35**
- Survey of the farm Doornkloof, in the Riemland, Northeastern Free State (University of the Free State) = **70**
- Survey in the National Botanical Gardens in Bloemfontein (University of the Free State) = **80**
- Survey of the Kruger National Park (University of Pretoria) = **250**
- Survey of Erfenis Dam Nature Reserve (University of the Free State) = **84**

TOTAL IDENTIFIED: 612



Sampling at Entebeni

1.2.3 OTHER PROJECTS

- Spider Club Survey—Lowveld National Botanical Garden = **20**
- Pretoria National Botanical Garden = **45**
- iSimangaliso Wetlands Park = **270**
- Thuthuka savanna project = **180**
- ERA -Karoo = **1376**
- Kruger survey= **150**
- Gauteng survey = **80**
- Cape Nature reserves = **65**
- Mkhambathi Nature Reserve = **1200**

TOTAL IDENTIFIED: 3386



Sampling in the Free State

1.3 SURVEYS PER PROVINCE

The large number of projects presently underway are listed below. In some cases the surveys are in progress (IN PROG.), while in others the material still needs to be sorted and identified (IDEN). Certain surveys are complete and the check lists are in preparation (IN PREP.) or have been submitted for publication and are in press (IN PRESS).

EASTERN CAPE

- Addo Elephant National Park **NEW PROJECT**
- Baviaanskloof **SAMPLED 2008 IDEN**
- Hogsback Afromontane Forest **SAMPLED 2008 IDEN**
- Jeffreysbay **IN PROG.**
- Kei Mouth Coastal Forest **IDEN**
- Mpopu Nature Reserve **IN PROG.**
- Mkhambathi Nature Reserve **SAMPLED 2008 IDEN**
- Silaka Nature Reserve **SAMPLED 2008 IDEN**

FREE STATE

- Caledon Nature Reserve **2008/9 SANSА IDEN**
- Doornkloof, Riemland **SAMPLED 2008**
- Erfenis Dam Nature Reserve **IN PROG.**
- Franklin Nature Reserve **SAMPLED 2007/8 IDEN**
- Golden Gate National Park **SAMPLED 2006/7 IDEN**
- Kalkfontein Dam Nature Reserve **2007/8 SANSА IDEN**
- Mpetsane Conservation Estate **IN PROG.**
- National Botanical Garden (Bloemfontein) **IN PROG.**
- Sandveld Nature Reserve **2007/8 SANSА IDEN**
- Tussen-die-Riviere Nature Reserve **2008/9 SANSА IDEN**

KWAZULU-NATAL

- Hluhluwe-iMfolozi Park **IDEN**
- Isimangaliso Wetlands Park **IN PROG.**
- Ithala Nature Reserve **SAMPLED 2007 IDEN**
- Maloti-Drakensberg Transfrontier Park **SAMPLED 2005/6 IDEN**
- Mkhuzi Nature Reserve **SAMPLED 2007/8 IDEN**
- Ophathe Game Reserve **2008/9 SANSА IDEN**
- Phinda Resource Reserve **IDEN**
- Sani Pass **SAMPLED 2005/6 IDEN**
- Tembe Elephant Park **IN PRESS**
- Vryheid Nature Reserve **SAMPLED 2006/7**

LIMPOPO

- Blouberg Nature Reserve **2007/8 SANSА IDEN**
- Entabeni Nature Reserve **2007/8 SANSА IDEN**
- Leopard Creek Private Reserve **2007/8 SANSА IDEN**
- Limpopo Valley **IN PROG.**
- Mogalakwena Nature Reserve **2007/8 SANSА IDEN**
- Palala River Reserve **NEW PROJECT**
- Soutpansberg Conservancy **LONG TERM SURVEY**
- Welgevonden Nature Reserve **IN PROG.**

GAUTENG

- Botanical Gardens: Pretoria; Walter Sisulu **IN PROG.**
- Kliprivierberg Nature Reserve **IN PROG.**
- Suikerbosrand Nature Reserve **SAMPLED 2006 IDEN**

MPUMALANGA

- Kruger National Park **IN PROG.**
- Lowveld National Botanical Garden **IN PROG.**
- Steenkampsberg grasslands **IN PROG.**

NORTHERN CAPE

- Augrabies National Park **IN PREP.**
- Central Karoo **IN PROG.**
- Richtersveld National Park **IDEN**
- Tswalu Game Reserve **IDEN**

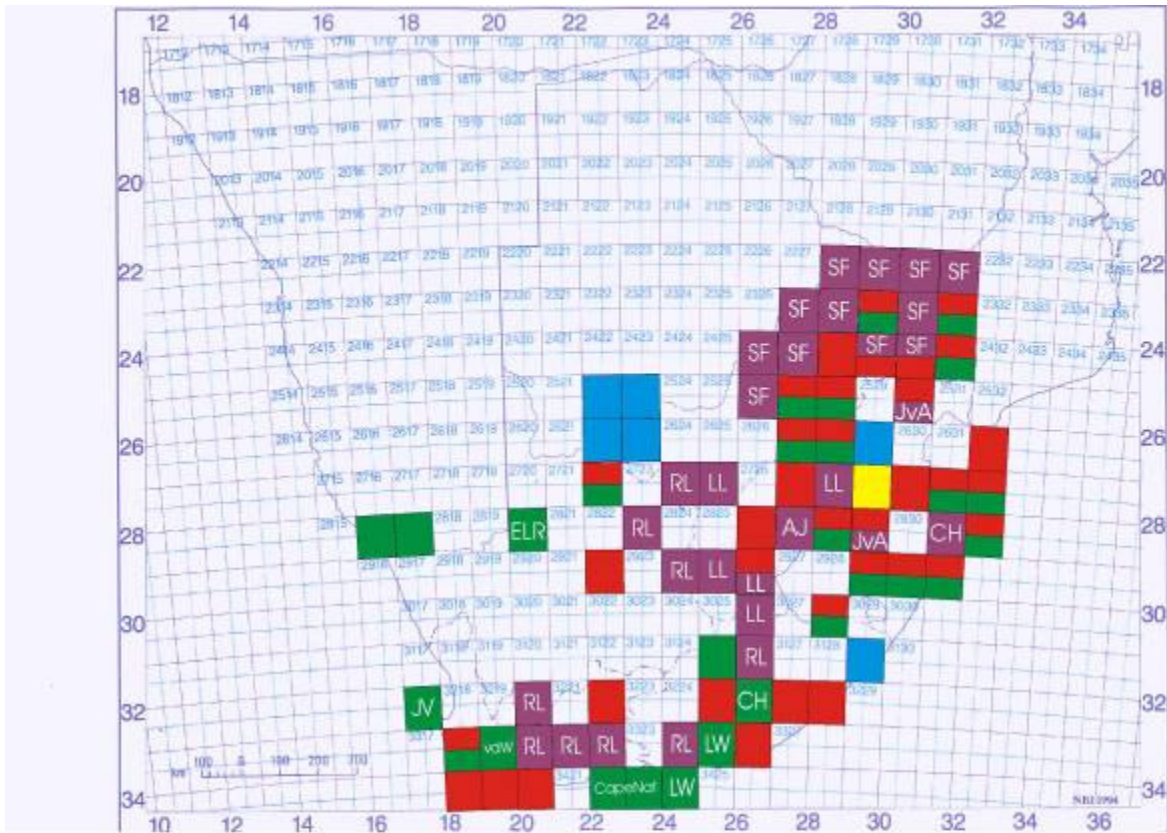
NORTH-WEST

- Pilanesberg Nature Reserve **IDEN**
- Rustenburg Nature Reserve **IN PREP.**

WESTERN CAPE

- Anysberg Nature Reserve **2008/9 SANSА IDEN**
- Boland Mountains **IN PROG.**
- Bontebok National Park **IN PROG.**
- Brackenfield Nature Reserve **IN PROG.**
- Cedarberg Wilderness Area **IN PROG.**
- De Hoop Nature Reserve **IN PRESS**
- Fernkloof Nature Reserve **IN PROG.**
- Gamkasberg Nature Reserve **IN PROG.**
- Goukamma Nature Reserve **IN PROG.**
- Gouritzmond **IN PROG.**
- Jonkershoek Nature Reserve **IN PROG.**
- Kamanassie Nature Reserve **IN PROG.**
- Keurbooms Nature Reserve **IN PROG.**
- Knysna area **IN PROG.**
- Kogelberg Nature Reserve **IN PROG.**
- Limietberg Nature Reserve **IN PROG.**
- Oudtshoorn **IN PROG.**
- Outeniqua Nature Reserve **IN PROG.**
- Robben Island **2005/6 IDEN**
- Robberg Nature Reserve **IN PROG.**
- Swartberg Nature Reserve **IN PROG.**
- Table Mountain National Park **IN PROG.**
- Worcester Nature Reserve **IN PROG.**

1.4 GAP ANALYSIS



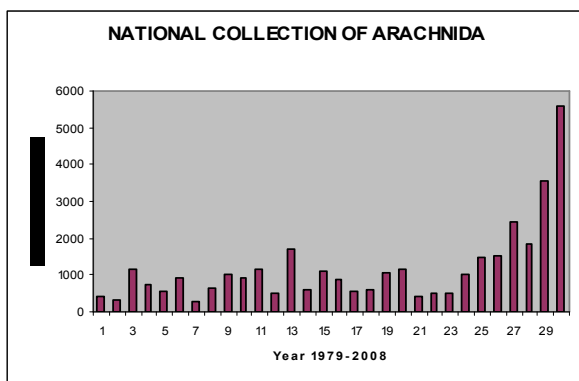
- Previously sampled, but additional sampling may be necessary
- Previously poorly sampled, but current surveys underway
- Well sampled, representative of area
- Well sampled, additional surveys currently underway
- New long-term survey to be initiated soon
- Sampled - SANSA Red Data Listing

One season's sampling still needs to take place during 2009/10, which will focus on grids in the North-West Province and Northern Cape, which remain the most poorly-sampled

2. CAPTURE OF DATA

2.1 NATIONAL COLLECTION OF ARACHNIDA

- A total of **6 280** records representing about **12 000** specimens were identified, georeferenced and databased during 2008. The increase in number of annual records is shown in the figure below.



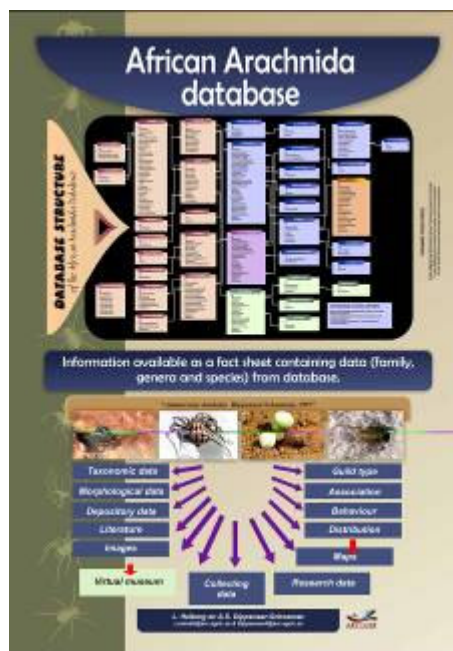
Curation of the Collection

2.2 SANSA DATABASE

The SANSA database contains information on all the published papers on Arachnida housed in 16 museums throughout the world. The total number of entries to the SANSA database is presently **12 800** georeferenced records.

2.3 AFRAD DATABASE

- The main aim of AFRAD is to provide information on the Arachnida fauna of Africa that will provide essential baseline information needed to be able to identify species to address issues such as conservation and sustainable use.
- The AFRAD expert system is available online on the ARC web site (www.arc.agric.za see quick link AFRAD). This database is a valuable source of information and will be of great help when starting with the Red Data list.
- Information is available on the taxonomy, morphology, guild, behaviour, association, distribution and literature relevant to each species.
- This will be the baseline information for the conservation assessments.
- Data to about 60 genera and 80 species have been added to database



2.4 IMAGE DATABASE

As part of SANSa, images of all the species are generated using the following methods:

- High resolution images of morphological characters of species are taken with a digital camera mounted on a microscope that is connected to a computer. Images of the dorsal and ventral view, distinguishing characters as well as the genitalia are taken.
- These images are linked to a taxon database.
- These are available as FACT SHEETS online through the AFRAD database at: www.arc.agric.za see quick link AFRAD.
- During the report period > **3600** images were taken of known species and with information added to the database.

Pignus simoni (Tembe)

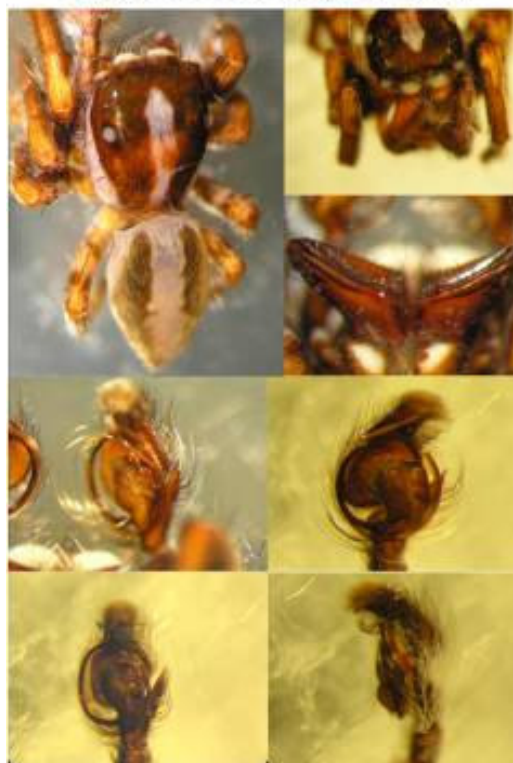


Plate developed by Charles Haddad

2.5 LITERATURE DATABASE

- Literature forms the basis of research.
- At the ARC we have an extensive literature database.
- All these records are databased with the relevant keyword to help with the efficient extraction and use of the data.
- Pdf files of new SANSa publications are available directly from the website.
- The older descriptions dating from 1800 are scanned and some of the data incorporated into the AFRAD database.
- Many of the older descriptions are in languages other than English and most of the literature has already been translated.
- All the species entries in the AFRAD database are linked to the literature database.



Some of the literature at ARC on spiders

3. IDENTIFICATION OF SPECIMENS

3.1 SPECIMENS SAMPLED

During the report period the following identifications were undertaken:

- Identified and databased: **6 800**
- Identified but still to be databased: **5 000**
- Material sorted that still needs to be identified: **±3 000**
- Material still to be sorted: **±5 000**

3.2 MATERIAL HOUSED IN OTHER MUSEUMS

SPIDERS

Thomisidae and Corinnidae material from all the museums were identified. During June-July 2008 Charles Haddad visited the MRAC collection in Belgium for three weeks to identify their Corinnidae material. Several bottles of unidentified Corinnidae from the Natal Museum in Pietermaritzburg have also been identified.

SCORPIONS

All the unsorted and unidentified material from six museums were sorted and identified by Dr Lorenzo Prendini (American Museum of Natural History) during February-March 2009, totalling more than **4000** specimens.

3.3 COLLABORATION WITH SPECIALISTS

Close collaboration exist between SANSA and specialists abroad. This can be seen in the number of recent revisions on African taxa undertaken by taxonomists abroad. During the report period the following contacts were made:

- Dr Rudy Jocqué (Belgium) for identification and revisions of Zodariidae, Ctenidae and Chummidae.
- Mr Richard Gallon (U.K.) for identification and revisions of Theraphosidae.
- Dr Wanda Wesolowska (Poland) and Dr Galina Azarkina (Russia) for identification and revisions of Salticidae.
- Dr Jeremy Miller (Netherlands) and Dr Charles Griswold (U.S.A.) for identification and revisions of Eresidae.
- Dr Jason Bond (U.S.A.) for identification and revisions of trapdoor spiders.
- Dr Mark Alderweireldt (Belgium) and Dr Tony Russell-Smith (U.K.) for identifications of Lycosidae.
- Dr Matjaz Kuntner (Slovenia) for identification and revisions of Nephilidae.
- Dr Ingi Agnarsson (U.S.A.) for identification of selected Theridiidae.

3.4 VISITORS INVITED THROUGH SANSA



Dr Tony Russell-Smith, retired researcher from the U.K., visited the Spider Unit from 10-24 August 2008 to identify Lycosidae and Linyphiidae material.



Lorenzo Prendini of the USA spent 3 weeks in Pretoria identifying scorpions. The team that assisted him: (Back) Stefan Foord (collector), Lorenzo Prendini, Petro Marais; (Front): Sma Mathebula, Annette van den Berg and Connie Anderson.

3.5 NEW DATA

3.5.1 NEW RECORDS

Not only are new species being discovered through the surveys but also new distribution records for South Africa. The following list of new genus or species records is the result of the identification of recently collected material:

Agelenidae *Malthonica* sp.
 Araneidae *Gea transversovittata* Tullgren, 1910
 Corinnidae *Graptartia granulosa* Simon, 1896
 Gnaphosidae *Zelotes hananganensis* FitzPatrick, 2007
 Lycosidae *Allocosa tuberculipalpa* (Caporiacco, 1940)
 Miturgidae *Cheiracanthium punctipedellum* Caporiacco, 1949
 Oecobiidae *Oecobius putus* O.P.-Cambridge, 1876
 Oxyopidae *Oxyopes dumonti* Vinson, 1863
 Philodromidae *Thanatus multipunctatus* Strand, 1906
 Philodromidae *Thanatus lamottei* Jezequel, 1964
 Salticidae *Tanzania* sp.
 Salticidae *Colaxes* sp.
 Salticidae *Belippo* sp.
 Sparassidae *Olios aristophanei* Lessert, 1936
 Sparassidae *Olios freyi* Lessert, 1929
 Theridiidae *Euryopsis funebris* (Hentz, 1850)
 Thomisidae *Synema reimoseri* Lessert, 1928



New philodromid genus

3.4.2 NEW GENERA AND SPECIES RECENTLY DESCRIBED OR DISCOVERED

- MITURGIDAE:
 - Cheiracanthium angolensis* (recorded from Nelspruit)
 - C. dippenaarae* (Roodeplaat Dam)
 - C. minshullae* (Ndumo Game Reserve)
 - C. shiluvanensis* (Leydsdorp and Jozini)
- ZODARIIDAE:
 - Australutica africana* (Soutpansberg)
 - A. normanlarseni* (Kommetjie)
- ATYPIDAE:
 - New species of *Calommata* from Blouberg and Erfenis Dam
- THOMISIDAE:
 - Two new species of *Simorcus*
 - Two new species of *Parabomis*
 - New species of *Sylligma*
- PHILODROMIDAE:
 - New genus of Philodromidae
- CORINNIDAE:
 - Three new genera of Corinnidae with 10 new species described from South Africa:
 - Fuchiba aquilonia*, *F. capensis*, *F. montana*, *F. similis*, *F. tortilis* and *F. venteri*
 - Fuchibotulus bicornis* and *F. kigelia*
 - Poachelas montanus* and *P. striatus*
- SALTICIDAE:
 - New species of *Belippo*, *Tanzania*, *Pseudicius* and *Colaxes* (Ophathe Game Reserve)
 - Mexcala meridiana* (Sabie)
 - Aenigma incognita*, *Bianor eximius*, *Evarcha mirabilis*, *E. striolata*, *Habrocestum africanum*, *Icius nigricaudus*, *Phlegra arborea*, *P. certa*, *Pignus pongola*, *Pseudicius venustulus*, *Rhene pinguis*, *Thyenula fidelis* and *T. magna* (all Ndumo Game Reserve)
 - Massagris natalensis* (Ndumo and Ophathe Game Reserves)

4. TRAINING OF TAXONOMISTS AND PARATAXONOMISTS



Robin Lyle completed her M.Sc with distinction from the University of the Free State. The title of her study was "A review of the Afrotropical tracheline sac spiders (Araneae: Corinnidae), with revisions of three genera." Charles Haddad was her supervisor and Ansie Dippenaar-Schoeman the co-supervisor. The three genera she revised are represented by 75 species of which 68 are new to science. Her thesis was 365 pages long and included 460 drawings, several colour plates and electron microscopy images. She is a born taxonomist and we hope that she will continue with this enormous task of describing and documenting our spider fauna.

René Fourie is busy with her M.Sc study at the University of the Free State on the ecology of spiders in the Erfenis Dam Nature Reserve. She has received two awards from the University, one from the Entomological Society of Southern Africa as the best Honours student, and the other the IMP Innovative Solution prize as the best Honours student.



Charles Haddad is busy with his Ph.D study at the University of the Free State revising genera of the family Corinnidae.

Alet Honibal is busy with her M.Sc at the University of Pretoria. The title of her study is "A revision of genera of the subfamily Dietinae (Araneae: Thomisidae)."



IN-HOUSE TRAINING AS PARATAXONOMISTS

- Sma Mathebula (ARC-PPRI)
- Petro Marais (ARC-PPRI)
- Annette van den Berg (ARC-PPRI)
- Students involved in survey work at University of Pretoria and the Tshwane University of Technology.
- Undergraduate and post-graduate students involved in surveys at the University of the Free State.



5. AWARENESS

SANSA tries to play an important role through outreach and capacity building efforts. We have a new generation of young people to train and make aware of science.

5.1 WEBSITE



- SANSA has an extensive website that can be viewed at www.arc.agric.za see quick link SANSA.
- It contains information on the activities of SANSA with additional information on:
 - all the arachnid orders
 - the surveys
 - medically important spiders
 - arachnid research
 - virtual museum
 - copies of newsletters and reports
 - AFRAD
- The site is updated regularly

5.2 NEWSLETTER



- An electronic newsletter is distributed every 3-4 months.
- It is also available on the SANSA website.
- Three newsletters totaling 46 pages have been distributed to >250 interested parties.
- The newsletters contain information on the progress of SANSA:
 - * Survey results
 - * New projects
 - * New species
 - * Short articles
 - * Interesting entries to Virtual Museum

5.3 VIRTUAL MUSEUM

SANSA has attracted a great deal of public interest from amateur and professional naturalists. The development of an internet-based SANSA Virtual Museum has resulted in an influx of images of arachnids that are available for view by interested parties worldwide, thereby creating greater awareness of the project and encouraging further involvement and research. A total of **882** entries about 1700 photographs has been received.



Virtual Museum entry

5.4 LECTURES AND PUBLIC TALKS

DIPPENAAR-SCHOEMAN, A.S. 2008. Spiders and scorpions of medical importance. 5th year medical students, University of Pretoria.

DIPPENAAR-SCHOEMAN, A.S. 2008. Why are spiders so unique? Meeting of the Magaliesberg Hiking Club.

DIPPENAAR-SCHOEMAN, A.S. 2008. Spiders, the farmers' best friends. Invited talk at Pess Biz meeting of the Pest Control Association.

DIPPENAAR-SCHOEMAN, A.S. 2008. Spiders unique invertebrates. Invited talk at the Northern Branch of the Royal Society of South Africa.

DIPPENAAR-SCHOEMAN, A.S. 2008. The South African National Survey of Arachnida (SANSA). Meeting Central Office ARC.

DIPPENAAR-SCHOEMAN, A.S. 2009. Spiders and scorpions of medical, veterinary and agricultural importance. 2nd year Students, University of Pretoria.

HELBERG, L. & DIPPENAAR-SCHOEMAN, A.S. 2008. AFRAD the on-line databases available to the public. (live demonstration) Meeting Central Office ARC.

KASSIMATIS, E. 2008. Presentation on spiders to 60 students of the University of Lesotho.

KASSIMATIS, E. & ANDERSON, C. 2008. Spider talk to 34 pre-primary school children.

LOTZ, L. 2008. Spinnepoppe in tuine. Tuinbou Klub, Bloemfontein.

LOTZ, L.N. 2009. General talk on spiders given to children at Langenhoven Park Library, Bloemfontein.

RUSSELL-SMITH, T. & DIPPENAAR-SCHOEMAN, A.S. 2008. Spiders the farmers' best friend. Meeting Central Office ARC.

VAN DEN BERG, A. 2008. The wonder world of spiders. Irene Preprimary School.

5.4 MEDIA ARTICLES

DIPPENAAR-SCHOEMAN, A.S. 2008. Vioolspinnepoppe skaars in SA, en nie aggressief. *Beeld* (21/5/2008).

DIPPENAAR-SCHOEMAN, A.S. 2008. Ongewone beroepe—die boer se beste vriend. *Rooi Rose* (June 2008).

DIPPENAAR-SCHOEMAN, A.S. 2008. Everything you want to know about violin spiders. www.arc.agric.za (see quick link SANSA).

DIPPENAAR-SCHOEMAN, A.S. 2008. Spiders: the farmers and gardener's best friend. *Pest News* Winter: 6.

5.5 NEW POSTER



New poster released to public—sponsored by Oppeheimer & Son

5.5 TV AND RADIO

DIPPENAAR-SCHOEMAN, A.S. 2008. Radio talk 12/2008: Vioolspinnepoppe. *Radio Laeveld*.

DIPPENAAR-SCHOEMAN, A.S. 2008. Vioolspinnepoppe in Suid Afrika. *Radio Pretoria*.

DIPPENAAR-SCHOEMAN, A.S. 2008. Radio interview: *Talk Radio 702* - Can spiders fly?

DIPPENAAR-SCHOEMAN, A.S. 2008. Radio interview: *Radio Namakwaland*—Spinnepoppe en hul rol in die natuur.

DIPPENAAR-SCHOEMAN, A.S. 2008. Radio interviews as part of the panel "Hoe verklaar jy dit" *Radio Sonder Grense*. [3 recordings] broadcast during November 2008.

DIPPENAAR-SCHOEMAN, A.S. 2008. Radio interviews as part of the panel "Hoe verklaar jy dit" *Radio Sonder Grense*. [3 recordings] broadcast during March 2009.

DIPPENAAR-SCHOEMAN, A.S. 2008. TV. Spiders the farmers best friend. *Africa Agriculture* SABC 2.

DIPPENAAR-SCHOEMAN, A.S. 2008-2009. Series of talks on *Radio Laeveld* every Tuesday afternoon Total number of live recordings 75.

6.1 SCIENTIFIC PUBLICATIONS

- DIPPENAAR S.M., DIPPENAAR-SCHOEMAN, A.S., MODIBA, M.A. & KHOZA, T.T.** 2008. A checklist of spiders (Arachnida, Araneae) of the Polokwane Nature Reserve, Limpopo Province, South Africa. *Koedoe* 50: 10-17.
- DIPPENAAR-SCHOEMAN, A.S. & MYBURGH, J.G.** (in press). A review of the cave spiders (Arachnida: Araneae) from South Africa. *Transactions of the Royal Society of South Africa*.
- DIPPENAAR-SCHOEMAN, A.S., VAN DEN BERG, A. & PRENDINI, L.** 2009. Spiders and scorpions (Arachnida: Araneae, Scorpiones) of the Nylsvley Nature Reserve, South Africa. *Koedoe* 50: 1-9.
- FOORD, S.H.** 2008. Cladistic analysis of the family Hersiliidae (Arachnida, Araneae) of the Afrotropical Region with the first records of *Murricia*, and the description of a new genus from Madagascar. *Journal of Afrotropical Zoology* 4: 111-142.
- FOORD, S.H., MAFADZA, M., DIPPENAAR-SCHOEMAN, A.S. & VAN RENSBURG, B.J.** 2008. Micro-scale heterogeneity of spiders (Arachnida: Araneae) in the Soutpansberg, South Africa: a comparative survey and inventory in representative habitats. *African Zoology* 43: 156-174.
- GALLON, R.C.** 2008. On some poorly known African Harpacticirinae, with notes on *Avicuscodra arabica* Strand, 1908 and *Scodra pachypoda* Strand, 1908 (Araneae, Theraphosidae). *Bulletin of the British Arachnological Society* 14: 232-246.
- HADDAD, C.R. & DIPPENAAR-SCHOEMAN, A.S.** (in press). A checklist of the non-acarine arachnids (Chelicerata: Arachnida) of the De Hoop Nature Reserve, Western Cape Province, South Africa. *Koedoe*.
- HADDAD, C.R., HONIBALL, A.S., DIPPENAAR-SCHOEMAN, A.S., SLOTOW, R. & VAN RENSBURG, B.J.** (in press). Spiders (Arachnida: Araneae) as indicators of elephant-induced habitat changes in the Maputaland Centre of Endemism, South Africa. *African Journal of Ecology*.
- HADDAD, C.R., LOUW, S.VDM. & PEKAR, S.** 2008. Commercial pistachio orchards maintain lower density and diversity of spiders (Araneae): a study from South Africa. *African Plant Protection* 14: 24-36.
- HADDAD, C.R. & LYLE, R.** 2008. Three new genera of tracheline sac spiders from southern Africa (Araneae: Corinnidae). *African Invertebrates* 49: 37-76.
- HADDAD, C.R. & RUSSELL-SMITH, A.** (in press). A comparison of spider diversity patterns in the Mkomazi Game Reserve, Tanzania and the Ndumo Game Reserve, South Africa (Arachnida: Araneae). *African Journal of Ecology*.
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CHECKLIST OF THE SPIDERS OF SOUTH AFRICA

A first checklist containing the names of 1998 species are now available.

6.2 CONGRESS/SYMPOSIUM PARTICIPATION

DIPPENAAR-SCHOEMAN, A.S. 2008. South African National Survey of Arachnida – past and present. Congress of the Royal Society of South Africa, Cape Town.

DIPPENAAR-SCHOEMAN, A.S. 2008. National atlassing programmes the way to go for invertebrates in South Africa. Gauteng Nature Conservation Research Symposium, November 2008.

DIPPENAAR-SCHOEMAN, A.S. 2008. South African National Survey of Arachnida: present status of the spiders of the Gauteng Province, South Africa (Arachnida: Araneae). **[Keynote address]**. Gauteng Nature Conservation Research Symposium, November 2008.

DIPPENAAR-SCHOEMAN, A.S. & HADDAD, C.R. 2008. **[PAPER]** . SANSA the way forward. Annual Congress of the *Suid-Afrikaanse Akademie vir Wetenskap en Kuns*.

HELBERG, L. & DIPPENAAR-SCHOEMAN, A.S. 2008. **[POSTER]** AFRAD an on-line database. Annual Congress of the *Suid-Afrikaanse Akademie vir Wetenskap en Kuns*.

7. MEETINGS

7.1 STEERING COMMITTEE

- The third Steering Committee meeting took place in April 2008 at SANBI. During the meeting Ansie Dippenaar-Schoeman (project manager) and Charles Haddad (assistant manager) reported back to the Committee under the chairmanship of Prof Michelle Hamer.
- A full report is available on the website at: www.arc.agric.za (quick link SANSA).
- The committee was satisfied with the progress that SANSA had made and approved the finances for the period 2008-2009.

7.2 SANSA WORKSHOP

- ARC-PPRI and the University of Venda organized the 9th African Arachnological Colloquium held from 2-8 February 2008 at Lajuma in the Soutpansberg.
- During the meeting the second workshop of the South African National Survey of Arachnida (SANSA) was also held. SANSA was 10 years old in 2007.
- During the keynote talk the research of the past 10 years and the plans for the future were discussed.
- A total of 11 posters and papers on SANSA were presented during the workshop.



SANSA workshop delegates

8. THREATENED SPECIES DATABASE UPDATED WITH RED LISTING INFORMATION FOR PRIORITY SPECIES

SANSA phase II is part of a long-term project that will ultimately result in the preparation of a Red Data list for approximately 500 species of spiders and scorpions in South Africa.

This Red Data list will provide information that is essential in policy development for the conservation and protection of arachnids, particularly species that may be threatened by collecting (e.g. scorpions and baboon spiders), development (e.g. trapdoor spiders) and climate change.

ATTENDING WORKSHOP

SANBI's Threatened Species Programme hosted a Red List Training workshop to boost Red Listing knowledge and experience in Southern Africa from 14-16 July 2008. The workshop was attended by Ansie Dippenaar-Schoeman and Petro Marais as part of the commitment to the SANSA project. The workshop covered theoretical and practical aspects of producing Red List assessments for birds, reptiles, plants, butterflies, fish, and all other organisms. Participants received hands-on training and supervision on how to gather data and create assessments and how to deal with the problems commonly associated with Red Listing in South Africa.



Opisththalmus pallipes

DATA GENERATION

The data presently gathered through the SANSA database, SANSA field work and NCA collection contains important information for the conservation assessment, and data gathered through AFRAD and the Image database will also contribute to the assessment.

Collaborative efforts to involve foreign arachnologists in taxonomic studies is bearing fruit. All of the material examined during each revision is included in the SANSA database once identified and published, providing current information on the genera studied. This is particularly important for families that have not been studied taxonomically for decades - figures were not provided in many of the original descriptions, and these studies will facilitate the accurate identification of specimens. The revisions also provide valuable locality information that can be used in preparing the Red Data assessments.



Opisththalmus intermedius, a very rare species
Photo: Wil Lemmer

SEE APPENDIX 1 FOR TEMPLATE

POSITIVE OUTPUTS OF SANSA PROJECT

1. Expansion of scientific collections through SANSA field work, student projects and public participation.
2. Increased quantity of specimens becoming available for systematic research, covering a much broader geographical area than previously available museum material.
3. Discovery of new genera and species.
4. New distribution records for the South African fauna.
5. An image library for each species.
6. Complete datasets on the arachnid fauna of South Africa.
7. Datasets available for testable theories and patterns, e.g. indicator species, macro-ecological patterns, invasive species, global warming, species richness of habitats and biomes, impacts of agriculture and anthropogenic disturbance on species, baseline data for long-term monitoring, and assessment of regional endemism.
8. By-products: checklists, field guides, posters, AFRAD datasets, first Red Data list in preparation.
9. Increased awareness and public participation.
10. Students and staff trained in spider identification, specimen processing, statistics and databasing.
11. Greater collaboration with conservation agencies by providing arachnid data for use in management planning.
12. Improved knowledge of the natural history of particular species.
13. Increased publication outputs on the South African fauna, covering taxonomy and systematics, ecology, biology and biodiversity.

SUMMARY OF RESULTS

- **SANSA –surveys undertaken: 18**
- **Other surveys: 24**
- **Number of specimens counted and identified: 11 800 spiders 4000 scorpions**
- **Number of specimens NCA database: 6280 entries 12 000 specimens**
- **Number of specimens available for databasing: 5 000**
- **Number of images take: 3600**
- **Number of Virtual Museum entries: 882 entries about 1700 images**
- **Number of SANSA database: 3 400**
- **Awareness: number of talks 15; radio talks 85; TV 1**
- **Scientific publications: 24**
- **Conference presentations: 5**
- **Newsletters: 3**
- **Media reports: 3**
- **Talks and lectures: 15**
- **New species about: 45**
- **New records: 17**
- **Foreign visitors: 2**
- **Products: new poster and first spider checklist**

TEMPLATE-RED DATA LIST ASSESSMENT

Scientific Name: [including authority details]

Synonym/s: [if there has been a taxonomic change in the last 5 years or if widely used]

English Common Name: [if known]

Other Common Names: [if known and state language]

Order:

Family:

Distribution/Geographic Range: [state countries & provinces (if known) of occurrence; state locality data (include collection date if known); include distribution map if possible]

Current Population Trend: [indicate increasing, decreasing, stable or unknown]

Taxonomy: [any taxonomic notes of relevance]

Phenology:

Natural History: [any notes of relevance, e.g., mode of dispersal, generation length, specialist feeders, etc.]

Population: [(if known) state population size (i.e., number of mature individuals), abundance (i.e., rare, scarce, common, etc.), number and size of subpopulations, number of locations, degree of fragmentation]

WHERE:

population size: the total number of individuals of a given species, measured as the number of mature individuals only.

mature individuals: the number of individuals known, estimated or inferred to be capable of reproduction.

subpopulations: geographically or otherwise distinct groups in the population between which there is little demographic or genetic exchange (typically one successful migrant individual per year or less).

fragmented: most of the individuals of the species are found in small and relatively isolated subpopulations.

location: a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the species present.

Habitat and Ecology: [describe habitat (Is species habitat specialists?), state particulars about breeding ecology if relevant]

Possible habitat types: [indicate suitability of possible habitat types for species as: SUITABLE (main or preferred habitat/s, habitat/s containing major subpopulations, habitat/s with high population densities), MODERATELY SUITABLE (secondary habitat/s, habitat/s containing minor subpopulations, habitat/s with low population densities), or UNDEFINED (data deficient, possibly suitable or moderately suitable as inferred from the ecology of the species)]

1. Forest
 - 1.1 Temperate
 - 1.2 Subtropical/Tropical Dry
 - 1.3 Subtropical/Tropical Moist Lowland
 - 1.4 Subtropical/Tropical Mangrove
 - 1.5 Subtropical/Tropical Swamp
 - 1.6 Subtropical/Tropical Moist Montane
2. Savanna
 - 2.1 Dry
 - 2.2 Moist
3. Shrubland
 - 3.1 Temperate
 - 3.2 Subtropical/Tropical Dry
 - 3.3 Subtropical/Tropical Moist
 - 3.4 Subtropical/Tropical High Altitude
 - 3.5 Mediterranean-type Shrubby Vegetation
4. Grassland
 - 4.1 Temperate
 - 4.2 Subtropical/Tropical Dry Lowland
 - 4.3 Subtropical/Tropical Seasonally Wet/Flooded Lowland
 - 4.4 Subtropical/Tropical High Altitude
5. Wetlands (inland)
 - 5.1 Permanent Rivers/Streams (include waterfalls)
 - 5.2 Seasonal/Intermittent/Irregular Rivers/Streams
 - 5.3 Shrub Dominated Wetlands
 - 5.4 Bogs, Marshes, Swamps, Fens, Peatlands
 - 5.5 Permanent Freshwater Lakes (over 8 ha)
 - 5.6 Seasonal/Intermittent Freshwater Lakes (over 8 ha)
 - 5.7 Permanent Freshwater Lakes (under 8 ha)
 - 5.8 Seasonal/Intermittent Freshwater Lakes (under 8 ha)
 - 5.9 Freshwater Springs and Oases
6. Rocky Areas [e.g., inland cliffs, mountain peaks]
7. Caves and Subterranean Habitats (non-aquatic)
 - 7.1 Caves
 - 7.2 Other Subterranean Habitats
8. Desert
 - 8.1 Hot
 - 8.2 Temperate
9. Coastline
 - 9.1 Rocky Shores [includes rocky offshore islands and sea cliffs]
 - 9.2 Sand, Shingle or Pebble Shores [includes sand bars, spits, sandy islets, dune systems]
 - 9.3 Estuarine Waters
 - 9.4 Intertidal Mud, Sand or Salt Flats
 - 9.5 Intertidal Marshes [includes salt marshes]
 - 9.6 Coastal Brackish/Saline Lagoons
 - 9.7 Coastal Freshwater Lagoons

10. Artificial – Terrestrial
 - 10.1 Arable Land
 - 10.2 Pastureland
 - 10.3 Plantations
 - 10.4 Rural Gardens
 - 10.5 Urban Areas
 - 10.6 Subtropical/Tropical Heavily Degraded Former Forest
11. Introduced Vegetation
12. Other [\[note details\]](#)
13. Unknown

Threats (causes of species decline): [\[if known, indicate severity and extent; can be in the past and/or present and/or future using a time frame of 3 generations or 10 years, whichever is longest\]](#)

Possible Threats:

1. Habitat Loss/Degradation (human induced) [\[e.g., agriculture, mining, infrastructure development, invasive alien species \(directly impacting habitat\), change in native species dynamics \(directly impacting habitat\), fires, etc.\]](#)
2. Invasive Alien Species [\[directly affecting the species\]](#)
3. Harvesting [\[hunting/gathering\]](#)
4. Accidental Mortality
5. Persecution [\[e.g., pest control\]](#)
6. Pollution [\[affecting habitat and/or species\]](#)
7. Natural Disasters [\[e.g, drought, storms/flooding, temperature extremes, etc.\]](#)
8. Changes In Native Species Dynamics
9. Intrinsic Factors [\[e.g., limited dispersal, poor reproduction, high juvenile mortality, low densities, skewed sex ratios, slow growth rates, population fluctuations, restricted range, etc.\]](#)
10. Human Disturbance
11. Other [\[note details\]](#)
12. Unknown

Conservation Actions: [\[indicate presence in protected areas and national/international legislation\]](#)

Utilization: [\[Is the species utilized in any way, e.g., medicinal uses, food, etc.?; Is there a local, national/international trade in the species?\]](#)

Literature References: [\[cited in full\]](#)