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# The life and times of Africa's First Lady of Arachnology, Ansie Dippenaar-Schoeman

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#### BIOGRAPHICAL INFORMATION

Anna Sophia Dippenaar-Schoeman (Ansie) was born in 1948 in Roodepoort, Gauteng, where her parents were shop owners. She is the middle child of three, the siblings being an older sister and a younger brother. Her parents moved to Bronkhorstspruit at the start of her secondary education, where they bought the farm Onverwacht. Much of Ansie's time here was spent outdoors, helping her father on the farm. Biology was also her best subject when she matriculated at Erasmus High School in 1965. Her aptitude for biology and love of the outdoors set the stage for a remarkable and productive career in science.

She started work at the then Department of Agriculture [this department subsequently became the ARC (Agricultural Research Council) in 1994] as a technical assistant in 1967. She was appointed as a team member of a 5-year Dieldrin termite project, where fieldwork was undertaken near Dendron in the Limpopo Province, Pongola in KwaZulu-Natal and Edenville in the Free State, and spent two-thirds of the year sampling spiders as part of the project. She realised that she needed to obtain a degree if she wanted to advance her career and she enrolled at UNISA for a BSc degree with Zoology and Psychology as her main subjects (Zoology was for her work and Psychology for her colleagues) and completed it in 1971.

The Dieldrin project would be the catalyst for a lifelong interest and dedication to spiders. After completing the project, she became a member of the arachnid team, lead by Dr Lenie Meyer. With Dr Meyer as her mentor, Ansie completed all her postgraduate degrees at Rand Afrikaans University (now the University of Johannesburg), which included her BSc honours degree in Zoology (1974) and an MSc thesis on a spider population in strawberries, with special reference to the role of *Pardosa crassipalpis* Purcell (Araneae: Lycosidae) in the control of *Tetranychus cinnabarinus* (Boisduval). She completed her MSc, *cum laude* in 1976 and proceeded with her revision of some genera of the subfamily Misumeninae (Araneae: Thomisidae) of southern Africa as the focus of her PhD.

She also met her husband, Nico Dippenaar, while working on the Dieldrin project. Nico worked as a student in the department during this period. They spent long hours at Dendron doing fieldwork and got married in 1972. Both continued with their studies and obtained their PhD degrees in 1980. Nico was employed at the Transvaal Museum (now the Ditsong National Museum of Natural History), and Ansie accompanied him

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to different localities in South Africa to sample spiders. Their daughter, Nicole, was born in 1983 and she currently works as a Trauma doctor in Pretoria after completing her MBChB degree.

Ansie was promoted to Specialist Scientist and Unit Manager of the Arachnology Unit of the Biosystematics Division, ARC – Plant Protection Research Institute in 2003, and retired in 2013 after 46 years of service to the organisation. She still works at the ARC on a part-time basis as a mentor and continues to identify material for students and the SANSA project. She is an extraordinary professor at the University of Pretoria, an association she has held since 2002, and holds an appointment as a research assistant at the University of Venda. She recently received a B2 rating from the National Research Foundation for the period 2015–2020, independent evidence of her worth and status within the South African and international scientific community.

#### SCIENTIFIC CONTRIBUTIONS

Since Ansie started her career as a young biologist, she recognised the huge potential that arachnology held as a field of research in South Africa. Undoubtedly, the contributions that Drs Lenie Meyer and Reginald Lawrence made into shaping her early arachnological development were significant, both representing prominent arachnologists at the time. As her passion for spiders and other arachnids developed, Ansie saw opportunities at every turn. This has been one of the reasons for her very diverse research profile, which has not only treated spiders, but several of the other arachnid orders. Her research interests are very broad, as demonstrated by her publication list, and include taxonomy and systematics, biodiversity, ecology, biology and predation behaviour of arachnids.

Ansie's early work focused on the impacts of pesticides on spider diversity and the role of spiders in agroecosystems as biological control agents. This research continued for several decades through her involvement in projects in several agroecosystems, including various orchards (avocado, macadamia, pistachio, citrus and vineyards) and cultivated crops (particularly cotton, maize and vegetable crops). This recently culminated in a review paper on the current knowledge of spider biodiversity in South African agroecosystems.

Her taxonomic forays started with work on crab spiders (Thomisidae), which have remained her passion throughout her career. She is widely recognised as an international leader on the group and has collaborated on and supervised several taxonomic studies on the family. She has also published or co-authored taxonomic papers on various other families, including Ammoxenidae, Araneidae, Eresidae, Eutichuridae, Hersiliidae, Oxyopidae, Tetragnathidae, Theraphosidae and Zodariidae. Despite these contributions, it is Ansie's general knowledge of African spider taxonomy that is arguably one of her greatest assets. She has a broad familiarity of the generic diversity on the continent and has over the years built up an enviable collection of taxonomic literature to facilitate her identification work (Fig. 1). Few would argue that she is the leading taxonomic authority on the continent's fauna. Not surprisingly, it is this knowledge that has seen her inundated with specimens that require (often "urgent") identifications (Fig. 2). She has never complained too much about this, stressing the significance of this material in bolstering the National Collection of Arachnida (NCA) collection and providing valuable material for taxonomic study and distribution data.



Figs 1–4. (1) Ansie enjoying tea with some colleagues from the Biosystematics division at the Plant Protection Research Institute (PPRI). In the background are the many files with taxonomic literature on African spiders that would form the basis for the African Arachnid Database; (2) The storage room in the new Biosystematics building, with large numbers of spiders awaiting identification by Ansie; (3) Part of the Arachnology collection housed at the PPRI; (4) Ansie and Rudy Jocqué (right), together with Dr Jons Terblanche (former president of the Agricultural Research Council, centre), at the launch of their *African Spiders* book. Photographs courtesy of Robin Lyle.

With respect to the latter, the specimens sampled during the 5-year Dieldrin project she participated in would form the first accessions of the NCA (non-Acari) collection. Since those first contributions the collection has grown to include more than 60 000 accessions represented by more than 200 000 specimens (Fig. 3). This represents by far the largest arachnid collection on the continent and one of the largest collections of African spiders in the world. Although the bulk of the material in the NCA collection originates from South Africa, many African countries are represented in the collection too. While the expansion of this collection is largely due to Ansie's willingness to identify specimens (one of the key responsibilities of her job at the ARC), she would be the first to give credit to her support staff that have over the years been tasked with the arduous work of labeling, cataloguing and databasing this material so efficiently.

Together with the rise in the status of the NCA collection, Ansie initiated the South African National Survey of Arachnida (SANSA) in 1997, in response to South Africa's obligations to the Convention on Biological Diversity (CBD). This national project has since occupied the bulk of her time, but has been pivotal in focusing and co-ordinating arachnid research in South Africa. The first decade of SANSA saw, amongst others, the digitisation of museum and published specimen records, the better organisation of surveys to sample arachnids, and the attraction of a large number of amateur collectors to participate in the project and contribute specimens from around the country. This phase of SANSA also saw the distribution of a SANSA Newsletter and hosting of a

website on the project, hosted by the ARC, which provides information on the project and its participants, the different arachnid orders, ongoing and published surveys, and other information.

During 2006, Ansie was able to secure funding from the South African National Biodiversity Institute (SANBI) through the Norwegian Development Agency (NORAD) for the second phase of SANSA. As project manager, she directed the planning and execution of field surveys, sorting and identification of material from surveys and museum collections, databasing and digitisation of specimens, and the effective extraction of databased information. The end of the project in 2010 saw the production of the most important summary document on South African spider diversity, the "*First Atlas of the Spiders of South Africa*" (Fig. 5), which documented detailed locality records for more than 2 000 species, including their occurrence within a global context, records from protected areas and agroecosystems as indications of their level of protection and importance as predators in crops, respectively, as well as a preliminary conservation assessment and distribution map for each species.

Aside from this mammoth contribution, Ansie has been particularly effective in promoting arachnids to naturalists and amateur collectors. This has been achieved through a series of photographic field guides, posters and webpages dedicated to the South African fauna, and hosting several identification workshops to get assistance to work through the backlog of specimens submitted for SANSA. The interest generated through these works has drawn considerable interest into South African spiders, inevitably attracting a large number of spider specimens for identification, as well as photo submissions to the SANSA Virtual Museum. She was also one of the founder members of the Spider Club of Southern Africa, which started 40 years ago. Further, Ansie could be considered a biological media celebrity. She has contributed to a multitude of radio discussions, television programmes and popular articles through the course of her career, opening the world of spiders to a national public audience.

Together with Rudy Jocqué, Ansie also published two major arachnological textbooks. "*African Spiders: an Identification Manual*" was a ground-breaking work published in 1997 (Figs 4, 6) that collated information on all of the spider families of the Afrotropical Region, including identification keys to the families, and diagnostic characters, lists of genera and discussions of the natural and taxonomic history of each family. This book served as a precursor to the establishment of the African Arachnid Database (AFRAD), on online resource with descriptive figures of African spiders that can facilitate the identification of specimens. This was followed in 2006 by "Spider Families of the *World*" (Fig. 7), which provided a complete synopsis of global spider family diversity, identification keys, and diagnostic and descriptive characteristics for each family. Aside from these two textbooks, Ansie has authored or co-authored a further seven books, mainly photographic field guides, and also contributed several book chapters (Figs 8–13).

Ansie was particularly instrumental in establishing the Research Group for the Study of African Arachnida (RGSAA) in 1986 in Pretoria. This served as a forum for researchers and amateurs involved in the study of arachnids, and included triannual colloquiums where delegates could share results of their research, discuss projects and spend time together in the field. At the 5th African Arachnological Colloquium (November 1996), the name was changed to the African Arachnological Society (AFRAS). Ansie served as the chairperson of the society from its establishment until 2008, when Charles Haddad was



Figs 5–13. Some of the books that Ansie has published, co-authored or contributed chapters towards: (5) *First Atlas of the Spiders of South Africa* [2010]; (6) *African Spiders: an Identification Manual* [1997]; (7) *Spider Families of the World* [2006]; (8) *How to Collect and Preserve Insects and Arachnids* [1996]; (9) *Spiders of the Kalahari* [2010]; (10) *Goggo Guide* [2010]; (11) *Spiders of the Savanna Biome* [2013]; (12) *Spiders of the Grassland Biome* [2014]; (13) *Field Guide to the Spiders of South Africa* [2014].



Figs 14–18. (14) Group photograph from the 15<sup>th</sup> International Congress of Arachnology, held at Badplaas in 2001, which was organised under the leadership of Ansie (arrow); (15) Ansie spending some time with fellow delegates at the Badplaas congress: from left to right, Jan Bosselaers, Seppo Koponen, Suresh Benjamin and Pekka Lehtinen; (16) The South African contingent at the 17<sup>th</sup> International Congress of Arachnology, held in Brazil in 2007: from left to right, Lorenzo Prendini, Ansie, Leon Lotz, Charles Haddad and Stefan Foord; (17) Ansie, Charles Griswold and Astri Leroy share a lighter moment at the congress dinner of the 10<sup>th</sup> Colloquium of the African Arachnological Society, Rhemardo, 2011; (18) Ansie bids farewell to colleagues at a party held in her honour at the Plant Protection Research Institute in Pretoria in 2013. Photographs courtesy of Leon Lotz (14), Robin Lyle (15, 18), Charles Haddad (16) and Astri Leroy (17).

nominated to take over this responsibility. Ansie lead the organising committees of two AFRAS colloquiums, co-organised the 2008 colloquium, and also lead the organisation committee of the first congress of the International Society of Arachnology to be held in Africa (15<sup>th</sup> ICA), held at Badplaas in 2001 (Fig. 14), a great achievement in its own right. Ansie attended three congresses of the International Society of Arachnology during her career, Badplaas in 2001 (Figs 14, 15), Belgium in 2004 and Brazil in 2007 (Fig. 16), and has not missed a single AFRAS colloquium. AFRAS celebrated its 10<sup>th</sup> Colloquium in 2011, with three of the founding members (Ansie, Charles Griswold and Astri Leroy) on hand to celebrate the occasion (Fig. 17). During the last three decades AFRAS has expanded considerably, and now has more than 100 members from 26 countries internationally. She also served as convener of the 2010 annual congress for biological sciences of the Suid-Afrikaanse Akademie vir Wetenskap en Kuns [South African Academy of Science and Arts].

As a scientific specialist, Ansie has played a major role as a mentor to post-graduate students and has supervised or co-supervised nearly 20 Masters-level studies and four PhD studies. Aside from these, she has provided arachnid identifications to countless ecology students over the years. Her involvement as an extraordinary professor at University of Pretoria has included lecturing on agricultural, veterinary and medically important arachnids and arachnid biodiversity to students in the Medical School and Department of Zoology and Entomology.

# HONOURS AND AWARDS

Ansie's recognition by her peers as an established international researcher is reflected by the awards that she has received over the years. Aside from her long service as the chairperson of AFRAS (1986–2008), Ansie was also honoured to be vice-president of the International Society of Arachnology (ISA) from 1996–1998 and was elected the first female president of the ISA, serving in this role from 2004–2007. She is a fellow of the Royal Society of South Africa, and served as General Secretary from 2008–2011. She served as a member of the Steering Committee of the South African Biosystematics Initiative (SABI) from 2003–2005 and was also used regularly as a reviewer for funding applications to the National Research Foundation of South Africa.

Included amongst the awards that she has received are the following:

- 1991: Agricultural Researcher for the Transvaal Region 1991 (awarded by the Agricultural Writers Association).
- 1991: National Agricultural Researcher for 1991 (national winner awarded by the Agricultural Writers Association).
- 1997: ARC–PPRI Directors Award for excellent work.
- 1998: Joint winner of the 1998 Agricultural Science and Technology "Woman of the year award".
- 2001: Merit Award of the Southern African Association for the Advancement of Science in recognition of devoted service to the advancement of science.
- 2001: ARC–PPRI Directors Award for contributing to the international status of ARC–PPRI through exceptional service in organising the 15<sup>th</sup> International Congress of Arachnology.
- **2008**: Fellow of the Royal Society of South Africa.

- 2009: Finalist of the NSTF awards (SANSA team category).
- 2011: Lawrence Award in recognition of outstanding contributions to arachnology in Africa over a lifetime (African Arachnological Society).
- 2011: Certificate of Achievement in recognition of outstanding contributions to Arachnology in Africa over the past three years (African Arachnological Society).
- 2013: Douw Greeff award for co-author of the best scientific publication published in 2012 by the Suid-Afrikaanse Akademie vir Wetenskap en Kuns.
- 2014: Certificate of Achievement for the best contribution to African Arachnology over the past three years (African Arachnological Society).
- 2014: Stefan Foord and Ansie Dippenaar-Schoeman received the award for the best paper presentation at the 11<sup>th</sup> Colloquium of the African Arachnological Society.

#### WHAT LIES AHEAD FOR ANSIE?

If one looks at the broader arachnological community, it is not uncommon for retirement to only represent a landmark in one's life. Many arachnologists have continued working well into their 80's, or at such time as they are taken from us. After all, they say age (and thus retirement) is only a number... Ansie has joined the ranks of many retired arachnologists that have not left their work behind once they have reached retirement age (Fig. 18). She continues to be heavily involved in SANSA activities, publications and identifications. She is presently involved in the first Red Data assessments of South African spiders, one of the required outputs from the SANSA project. This will lead to the publication of an updated atlas on all the spider species of South Africa. She has now time to continue with research on the Thomisidae and is working on a handbook on them. In between, she is busy with several mosaic art projects and selling handmade cards as part of the *Feed a Child* project. Her new saying is "now I only work for spiders".

### PATRONYMS (\* DESCRIBED IN THIS FESTSCHRIFT ISSUE)

## Species

\*Acanthinozodium ansieae Jocqué & van Harten, 2015 (Zodariidae)

\*Afrarchaea ansieae Lotz, 2015 (Archaeidae)

\**Afroceto ansieae* Lyle, 2015 (Trachelidae)

\*Afroceto dippenaarae Lyle, 2015 (Trachelidae)

\*Andoharano ansieae Zonstein & Marusik, 2015 (Filistatidae)

*Cambalida dippenaarae* Haddad, 2012 (Corinnidae)

Ceratinopsis dippenaari Jocqué, 1984 (Linyphiidae)

Cheiracanthium dippenaarae Lotz, 2007 (Eutichuridae)

Cheiramiona ansieae Lotz, 2003 (Eutichuridae)

\**Cithaeron dippenaarae* Bosmans & Van Keer, 2015 (Cithaeronidae)

*Cydrela schoemanae* Jocqué, 1991 (Zodariidae)

\*Diploglena dippenaarae Haddad, 2015 (Caponiidae)

Eusparassus schoemanae Moradmand, 2013 (Sparassidae)

\*Geraesta ansieae Benjamin, 2015 (Thomisidae)

Hortipes schoemanae Bosselaers & Jocqué, 2000 (Corinnidae)

*Linotetranus annae* Meyer & Ueckermann, 1997 (Linotetranidae)

\**May ansie* Jäger, 2015 (Sparassidae)

\**Melanoblossia ansie* Bird & Wharton, 2015 (Melanoblossiidae)

Palystes ansiedippenaarae Croeser, 1996 (Sparassidae)
\*Pasilobus dippenaarae Roff & Haddad, 2015 (Araneidae)
Prima ansieae Foord, 2008 (Hersiliidae)
\*Pseudomicrommata schoemanae Moradmand, 2015 (Sparassidae)
\*Ranops dippenaarae Russell-Smith & Jocqué, 2015 (Zodariidae)
Selenops ansieae Corronca, 2002 (Selenopidae)
Spermophora schoemanae Huber, 2003 (Pholcidae)
\*Sphaerowithius ansieae Harvey & Mahnert, 2015 (Withiidae)
\*Tusitala ansieae Azarkina & Foord, 2015 (Salticidae)
\*Uroplectes ansiedippenaarae Prendini, 2015 (Buthidae)

#### Genera

Ansiea Lehtinen, 2005 (Thomisidae) \*Ansienulina Wesołowska, 2015 (Salticidae) Dippenaaria Wunderlich, 1995 (Anapidae)

#### ACKNOWLEDGEMENTS

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