

GERALD NEWLANDS (1941–2022)

On 26 May 2022, Dr Gerald Newlands, the eminent South African arachnologist and medical entomologist, passed away at the age of 80 in High River, Alberta, Canada, after a protracted illness. He is survived by his wife, Santa (Susanna) Newlands, and, in South Africa, his sister, Edith Wolff.

Gerry, as he was known to friends and colleagues, was born on 16 November 1941 in Pretoria, South Africa, to George and Sheila Newlands. A polymath and Renaissance man, Gerry was keenly interested in science from an early age. His sister, Edith, recalled how, in primary school, he turned the garden store room into a natural history museum, with shelves lined with ‘snakes bottled in formaldehyde, skulls of monkeys and other animals’ and a sign on the door announcing: ‘Museum Entrance: One Penny’. The proceeds from visits to his museum by neighborhood children assisted Gerry to develop a science lab and photographic studio, in another room of the family home, from which ‘many an explosion’ was heard and felt reverberating through the floorboards.

Despite a warning from the Principal that he would not complete the final matriculation examination (high school diploma) ‘if he continued along the path he was pursuing’, Gerry matriculated from Clapham High School in 1959. He went on to pursue a lifetime career in science and receive five higher education qualifications, all completed by studying part time while employed.

Gerry began his scientific career in 1960 as a biochemical laboratory technician in the Department of Biochemistry at the Faculty of Agriculture, University of Pretoria (hereafter ‘UP’), where he worked until 1969. While working at UP, Gerry pursued a National Diploma for Chemical Technicians from Pretoria Technical College, qualifying in 1964, and completed two years of a BA (taking subjects such as Archaeology, Anthropology, History of Philosophy, and Systematic Philosophy) part time at the University of South Africa (hereafter ‘UNISA’), Pretoria. Meanwhile, his interest in arachnids, and particularly scorpions, developed in his spare time.

In 1967, Gerry met his future wife, Santa Herbst (Fig. 1A), at the Merensky Library, UP. Santa recalled how, soon after meeting, Gerry invited her to his small apartment in Pretoria to hear his progress playing the violin, which he was in the process of learning. Gerry neglected to mention that his apartment was painted black and contained about 100 live scorpions in glass terraria on the bookshelf. While Gerry played the violin, Santa kept her eyes ‘on those scorpions, which would try to climb up the glass and then slide back down again’. Gerry and Santa married three months later, in 1968.

In 1969, Gerry was appointed to the position of Museum Assistant in the Department of Lower Vertebrates and Invertebrates at the Transvaal Museum (hereafter ‘TM’, now known as the Ditsong National Museum of Natural History), Pretoria, where he conducted research on scorpions and other arachnids (Figs. 1D, 2A) until 1974. During this

period, Gerry conducted several field trips to collect scorpions in the northern and eastern Transvaal. Wendell Krook, a former colleague at UP (Fig. 1E) who participated in some of these excursions, recalled Gerry’s incredible ability to observe and find the elusive arachnids: ‘Every rock Gerry turned over sheltered a scorpion while all the rocks I turned over were uninhabited’.

In addition to curating and helping to expand the arachnid collection into the largest on the African continent, Gerry published numerous important scientific papers on the taxonomy, ecology, behaviour, and biogeography of southern African spiders and scorpions while at the TM (Appendix 1; Fig. 3A). Many of these early publications were ahead of their time conceptually, in terms of the hypotheses advanced concerning evolution, speciation and functional morphology, and technically, in terms of the maps, photographs and technical illustrations presented, all prepared by Gerry himself. Among Gerry’s notable discoveries from this period are the record for world’s longest scorpion, *Hadogenes troglodytes* (Peters, 1861), at 21 cm, and the venom-squirting ability of thick-tail scorpions of the genus *Parabuthus* Pocock, 1890 (Appendix 1).

Gerry’s field collections also resulted in the discovery of new arachnids, some of which still await description. He described and named seven new taxa—two violin spiders, two flat rock scorpions and three burrowing scorpions (Table 1)—over the course of his career. The flat rock scorpion, *Hadogenes newlandsi* Prendini, 2001, was later named in his honour.

In 1974, Gerry graduated with a BS degree (majoring in Zoology and Physical Geography) from UNISA, completed part time while at the TM. The same year, Gerry and Santa moved to Johannesburg where Gerry was appointed to the position of Medical Entomologist at the South African Institute for Medical Research (hereafter ‘SAIMR’), a position he held until 1983 (Fig. 1B). As well as conducting research, Gerry lectured on Medical Entomology in the Department of Tropical Pathology at the Medical School of the University of the Witwatersrand (hereafter ‘Wits’), Johannesburg, from 1981 to 1983.

While at SAIMR, Gerry completed a BS Hons degree (majoring in Zoology) at Potchefstroom University (hereafter ‘PU’, now known as Northwest University), graduating with distinction in 1975. Soon after graduating, Gerry enrolled for an MS degree (again majoring in Zoology) at PU, under the supervision of Pieter D. Theron. That same year, he received an award from the British Council to visit the British Museum of Natural History (hereafter ‘BMNH’, now known as the Natural History Museum), London, UK, for three months to study the arachnid collections.

Several significant papers, e.g. a review of the buthid scorpion fauna of Zimbabwe coauthored with Colleen B. Martindale, Gerry’s colleague at SAIMR, were published in this period (Appendix 1). Together with Bernd P. W. Fratscher, another colleague at SAIMR, Gerry conducted extensive fieldwork in the deserts of Namibia and South Africa using his Suzuki SJ410 4×4 jeep and, when the jeep could go no further, his Suzuki 400S scrambler motorbike



Fig. 1: Gerald Newlands. **A** with Santa Newlands at the University of Calgary, Canada, early 2000s; **B** at the South African Institute for Medical Research (SAIMR), Johannesburg, with scorpions *Uroplectes planimanus* (Karsch, 1879) (left) and *Parabuthus transvaalicus* Purcell, 1899 (right), 1980; **C** in High River, Canada, late 2000s; **D** at the Transvaal Museum, Pretoria, South Africa, early 1970s; **E** with Wendel Krook in High River, Canada, mid 1990s. Photos © Santa Newlands (A, D), SAIMR (B), Adam Jeeva (C), Wendel Krook (E).

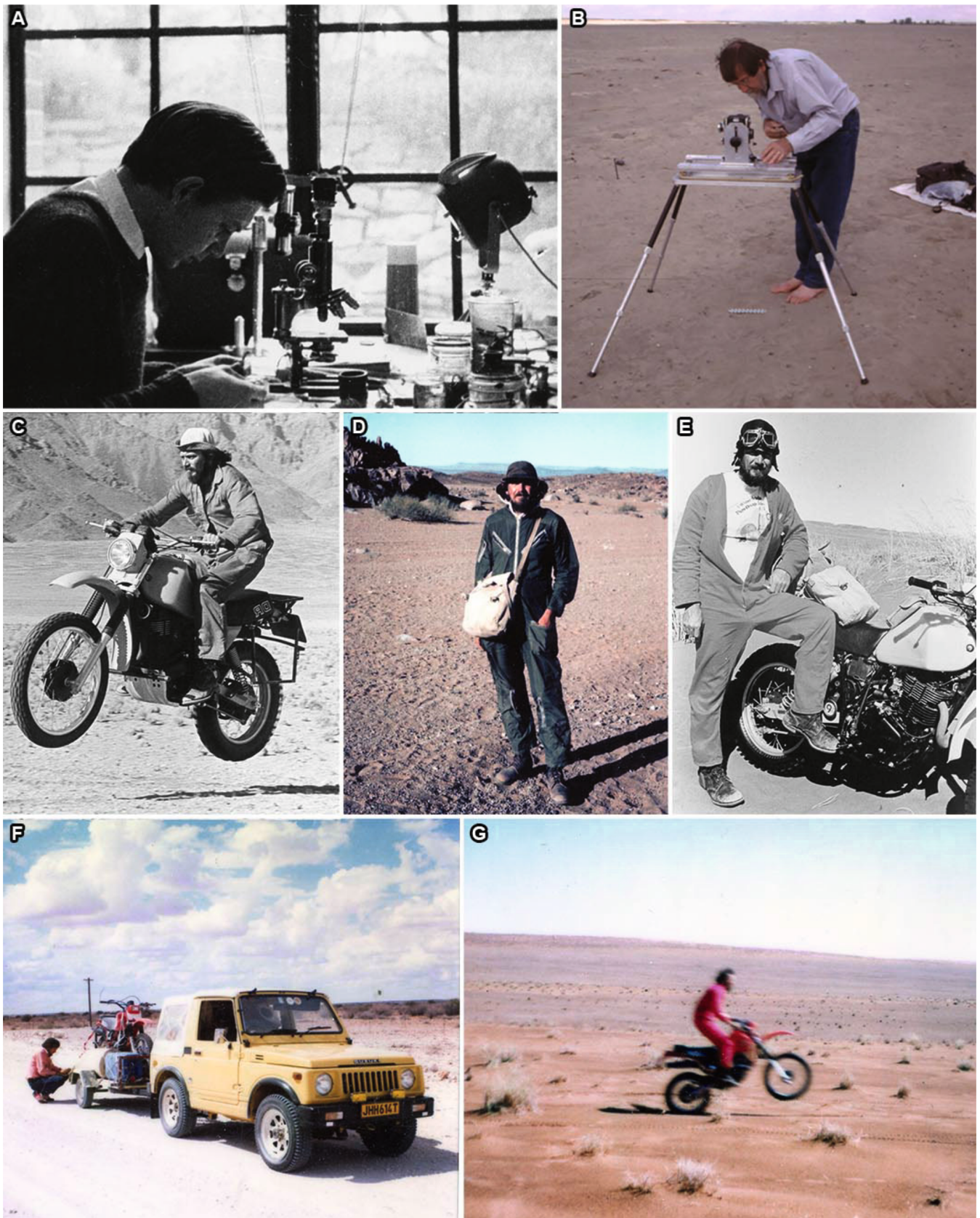


Fig. 2: Gerald Newlands. **A** in his office at the Transvaal Museum, Pretoria, South Africa, 1969; **B** photographing 13,000 year old horse and camel tracks at Wally's Beach, Canada, using an apparatus he designed and built to take stereo pairs of images that could be viewed in three dimensions, early 2001; **C–G** conducting fieldwork to collect arachnids in the deserts of Namibia and South Africa, with his Suzuki SJ410 4×4 jeep (**F**) and Suzuki 400S scrambler motorbike (**C–G**), while based at the South African Institute for Medical Research, Johannesburg, late 1970s–early 1980s. Photos © Santa Newlands (**A**, **C–G**), Brian Kooyman (**B**).

(Fig. 2C–G). A keen motorcyclist, Gerry used his scrambler to reach such inaccessible places as the Uri-Hauchab inselberg surrounded entirely by the sand sea of the central Namib Desert, Namibia. According to Santa, he was happiest when ‘out on his motorcycle, zooming across the countryside collecting samples that he could study’.

In 1980, Gerry graduated with distinction from PU for an MS thesis revising the flat rock scorpions of the genus *Hadogenes* Kraepelin 1894 (Appendix 2). This groundbreaking study was one of the first applications of molecular systematics (both cytogenetics and allozyme electrophoresis) together with morphology, to the taxonomy of any group of arachnids. Although the revision per se was never published, several influential publications emerged from the project. These included a paper that was among the first to demonstrate the existence of cryptic species complexes in arachnids with karyotype and allozyme data, coauthored with Anthony C. Cantrell of the South African National Center for Occupational Health, and an unusual new species of rock scorpion formally described in 1997, with the author (Appendix 1).

Following his MS degree, Gerry was offered a doctoral scholarship from PU in 1980, to continue his research on the systematics of flat rock scorpions, in particular the *Hadogenes tityrus* (Simon, 1888) species complex. However, during his years at SAIMR, Gerry had become increasingly interested in the medically important arachnids of southern Africa and the clinical symptoms and signs of their envenomation, publishing several landmark papers on cutaneous necrosis caused by the bites of yellow sac spiders (*Cheiracanthium* C. L. Koch, 1839) and violin or recluse spiders (*Loxosceles* Heineken & Lowe, 1832) (Appendix 1). Consequently, he changed plans and enrolled for a PhD in Medical Entomology at the Wits Faculty of Medicine, supervised by a multidisciplinary committee comprising C. Isaacson, J. J. Rippey, S. D. Berson and P. Atkinson.

In 1983, Gerry and Santa returned to Pretoria, where Gerry took up a position as Lecturer (1983–1987) and, subsequently, as Senior Lecturer (1987–1989) in the Department of Entomology at UP, teaching Clinical Entomology to

the medical students and Insect Physiology to the science students. While at UP, Gerry continued publishing on araneism in southern Africa. Among several notable contributions from this period was the first report on the necrotic action of the venom of six-eyed sand spiders, *Sicarius* Walckenaer, 1847 (now in the genus *Hexophthalma* Karsch, 1879).

Gerry’s research on cytotoxic spider envenomation culminated in his graduation, in 1987, with a PhD on necrotic arachnidism in southern Africa (Appendix 2). Although the taxonomic aspects of his PhD dissertation were never published, seminal papers on the epidemiology, diagnosis and treatment of araneism appeared in the ensuing years (Appendix 1). Between 1986 and 1987, Gerry also published four well-illustrated popular books on southern African scorpions, spiders and other venomous creatures (Appendix 1; Fig. 3B–E). These books, published in English and Afrikaans editions, were among the first such contributions on African arachnids since the late 1960s.

Between 1989 and 1992, Gerry worked as a part-time lecturer on Medical Entomology in the Department of Community Health at UP, and as a freelance photographer, while continuing to publish papers on medical entomology and, in 1989, a popular book on malaria and mosquitoes in the southern African context that appeared in English and Afrikaans editions (Fig. 3F). He was also appointed as Research Associate of the Department of Lower Vertebrates and Invertebrates at the TM, enabling him to access the library, microscopy facility and arachnid collection. From 1991 to 1992, Gerry presented seven week-long, advanced workshops on microscopy and scientific photography for the microscope company, Leica.

The uncertain political situation in South Africa during the late 1980s and early 1990s led Gerry and Santa to apply for citizenship and emigrate to Canada in 1992. They settled in High River, near Calgary, Alberta. In 1993, Gerry joined the Department of Archaeology at the University of Calgary (hereafter ‘UC’) as Adjunct Associate Professor, where he shared his expertise in microscopy and scientific photography in a Biotechnology Course for Archaeologists, and in Workshops on Scientific and Technical Photography to the science faculty and students.

While collaborating on occasional publications on arachnids and medical entomology with colleagues in South Africa, Gerry embarked on a new phase of his scientific career, publishing four archaeological papers, which combined his interest in ancient southern African rock art with his expertise in photography and microscopy (Appendix 1). These papers describe how to construct a simple camera lucida to make accurate sketches of rock art; provide details of the appropriate preparations, technology and technique for photographing rock art; and discuss the validity of using photographs to record and compare the deterioration of rock art. Gerry continued to devote his time and energy to photography until his retirement in 2009 (Fig. 1C).

Over the course of his life, Gerry produced 66 printed publications, including five popular books (each with English and Afrikaans editions), 37 papers in peer-reviewed sci-

Taxon	Distribution
Araneae	
Sicariidae	
<i>Loxosceles parrami</i> Newlands, 1981	South Africa
<i>Loxosceles vonwredei</i> Newlands, 1980	Namibia
Scorpiones	
Hormuridae	
<i>Hadogenes lawrencei</i> Newlands, 1972	Namibia
<i>Hadogenes newlandsi</i> Prendini, 2001	South Africa
<i>Hadogenes zumpti</i> Newlands & Cantrell, 1985	South Africa
Scorpionidae	
<i>Opisthophthalmus carinatus lawrencei</i> Newlands, 1969	South Africa
<i>Opisthophthalmus concinnus</i> Newlands, 1972	Botswana, Namibia, South Africa
<i>Opisthophthalmus wahlbergi robustus</i> Newlands, 1969	South Africa

Table 1: Spider and scorpion taxa described by, or dedicated to, Gerald Newlands.

ence periodicals, six papers in edited volumes and conference proceedings, 16 articles in popular science publications, and two published abstracts, collectively totaling over 570 pages (Appendix 1). Gerry was the sole author on 47 (71%) of these publications and first or second author on 13 (20%) and 6 (9%), respectively. Fifty-four (82%) of the titles are concerned with arachnology, two with other invertebrates, four with archaeology, two with microscopy and photography (the four archaeology papers are also concerned with photography), and one with botany. Among the 59 zoological titles, 24 (41%) concern medical entomology, 22 (37%) concern taxonomy and systematics, and 13 (22%) concern behaviour, ecology and biogeography.

In addition to his printed publications, Gerry presented more than twenty papers, posters and workshops at local and international conferences (Appendix 3) and was an active participant in committees, panels, societies and organizations, including the Centre International de Documentation Arachnologique (now known as the International Society of Arachnology); Spider Club of Southern Africa; International Society of Toxinology; Malaria and Mosquito Research Group of Southern Africa; Research Group for the Study of African Arachnids (now known as the African Arachnology Society); Medical Research Council Community Work Panel for Vectors and Parasites; Haemorrhagic Fever Team Consulting Medical Entomologist at H. F. Verwoerd Hospital (now known as Steve Biko Academic Hospital), Pretoria; and Bureau of Freelance Photographers, London.

Although keenly interested in photography from an early age, Gerry began to take photography more seriously in 1960. Over the years, he developed unique technological expertise in cameras, microscopy, and imaging, which was put to good use in his research. As recalled by Wendel Krook, 'Gerry's knowledge of photography was legendary, and every problem was an opportunity for him to come up with a unique solution ... He would make many specialist tools himself when these were not readily available'. One such example concerns work done by Gerry in collaboration with Brian Kooyman of the UC Department of Archaeology in the early 2000s, at the Wally's Beach archaeological site near Cardston, southern Alberta, Canada (Fig. 2B). According to Kooyman:

'The site is at the bottom of an irrigation reservoir and can only be accessed when the reservoir has been drawn down for irrigation. When the reservoir was built in the 1950s, the water covered and killed the vegetation and ever since, each year the now seasonally exposed sediments have been subjected to wind erosion such that about 1.5–2 m of sediment has been removed. This has exposed a surface, over 13,000 years old, covered with the tracks of mammoths, horses, camels, bison, musk ox and other animals hunted by people in this period when the ice age was ending. As the sediments are unconsolidated—this is not rock—the tracks are destroyed each year when exposed. Single photos do not give the three-dimensional structure of the footprints so Gerry constructed a device that allowed us to take stereo pairs of photographs which could be superim-

posed (as is done, for example, with aerial photographs in mapping) to give a 3D image. The camera was mounted on a movable slide on the tripod, the first photo was taken, and the camera was then slid sideways by the precise amount needed for a second photo to provide sufficient overlap for 3D imaging. Here, he is seen photographing camel tracks. The mammoth, horse, camel, and musk ox are all extinct now, of course, so these are rare, highly significant traces of these animals that we almost never see'.

Similarly, Gerry developed innovative techniques for photographing ancient rock art, some so faint and faded that it is almost impossible to see. Three of Gerry's inventions, including a vibration damper for photomicrography, macrophotography and telephotography, a new type of microscope for variable relief stereophotomicrography with oil-immersion and other objectives, and a new type of cancer diagnostic scanner, were patented. Another five inventions—a new traction mechanism for vehicles, a new protein separation device, a new optical instrument to assist scientific illustration, and an electronic flash to enable high speed photographs of insects in flight—were in development during the final years of his life.

Many of Gerry's natural history photographs have been published internationally since 1968 in scientific and technical books or periodicals such as *Time Life*, *Reader's Digest*, *Purnell's Encyclopedia*, and *The Last Neanderthal* (1999, published by the American Museum of Natural History, New York). His technical photographs have been used in museum displays and for teaching medical students at several academic institutions, including the BMNH, the Swiss Tropical Institute, Basel, the London School of Tropical Medicine, Wits Medical School, and the TM. In the 1990s, Gerry's macrophotographs and photomicrographs won silver and bronze awards in the category Scientific Photography at the Ilford Pro-Photo Awards competition (1991); honorable mention in the annual Canadian Photo Life contest (1992); and first prize in the Leica International Photomicroscopy Competition (1993).

Gerry also indulged in artistic photography. His pictorial photographs have been displayed at the Portfolio Gallery in Kensington, London (1991) and the Art Gallery of the Department of Fine Art at the University of Calgary (1994). A portfolio of his pictorial photographs was published in the Summer 1994 Issue (96) of *Camera Canada*.

Besides photography, Gerry was talented in other art forms and prepared all the line drawings to illustrate his scientific papers. In a 1994 facsimile from Canada to one of his mentees, the late Alexis Harington, in South Africa, Gerry remarked:

'As to the preservation of the beetles, it would be in order to decapitate them and possibly a VERY LIGHT AND BRIEF exposure to formalin might be good if not too much trouble. While I no longer have a microtome available, I would like to prepare horizontal plane sections through the abdomen as I need to make drawings of the anatomical features involved with the hydroquinone-hydrogen peroxide defensive secretions. I also need to make sagittal sections of fleas, so if you see any of these creatures, please grab them



Fig. 3: Gerald Newlands, selected publications (Appendix 1). **A** *Annals of the Transvaal Museum* 26: 199–210 (Newlands 1970); **B** *Struik pocket guides for southern Africa: spiders* (Newlands & De Meillon 1986); **C** *Struik pocket guides for southern Africa: venomous creatures* (Newlands & De Meillon 1987); **D** *The insight series: scorpions* (Newlands 1987). **E** *Spiders & scorpions of southern Africa* (Newlands 1987). **F** *Malaria and mosquitos in southern Africa* (Newlands 1989).

too as they are virtually unknown in this part of the world. The Mountain Beaver has nice big (9 mm long !!!) fleas but the species is virtually extinct and would be very hard to get hold of here'.

Before emigrating from South Africa, Gerry undertook a detailed study of San (Bushmen) rock art and performed many tracings of rock engravings, some of which were displayed at UC. Ancient European rock art, as well as the art of the Renaissance period, also fascinated him. Gerry made jewellery from gold and silver in his spare time. He was teaching himself watercolour painting before he became ill. Although he never mastered a musical instrument, he loved

music, especially opera and classical music from the Baroque era.

Those who knew Gerry personally describe him as kind, sensitive, gentle, and humble, with a wry sense of humour, as a perfectionist and a remarkable storyteller who used the medium of photography to share his experiences of the natural world. Throughout his life, Gerry was constantly striving to learn new skills and make new discoveries. In addition to his many, diverse contributions to science and natural history, Gerry Newlands will be cherished for his curious, inquisitive mind.

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Lorenzo Prendini

Appendix 1. Publications of Gerald Newlands (chronological order)

- VAN SCHAICK, N. W. & NEWLANDS, G. 1963: The problem of breeding a red African violet. *South African Journal of Science* **59**: 55–59.
- NEWLANDS, G. 1969: Two new scorpions from the northern Transvaal. *Journal of the Entomological Society of Southern Africa* **32**: 5–8.
- NEWLANDS, G. 1969: Scorpion preparation for scientific study and display. *Journal of the Entomological Society of Southern Africa* **32**: 491–493.
- NEWLANDS, G. 1969: Scorpion defensive behaviour. *African Wild Life* **23**: 147–153.
- NEWLANDS, G. 1970: Das Praeparieren von Skorpionen fuer Wissenschaftliche Untersuchungen und Sammlungen. *Arbeitsberichte der Südwestafrika Wissenschaftliche Gesellschaft* **9**: 8–10.
- NEWLANDS, G. 1970: A re-examination of some southern African scorpion species (Arachnida: Scorpionidea). *Annals of the Transvaal Museum* **26**: 199–210.
- NEWLANDS, G. 1971: Scorpion research at the Transvaal Museum. *Bulletin of the Transvaal Museum* **10**: 6–7.
- NEWLANDS, G. 1972: Notes on psammophilous scorpions and a description of a new species (Arachnida: Scorpionides). *Annals of the Transvaal Museum* **27**: 241–257.
- NEWLANDS, G. 1972: A description of *Hadogenes lawrencei* sp. nov. (Scorpiones) with a checklist and key to the South West African species of the genus *Hadogenes*. *Madoqua, Series II*: **1**: 133–140.
- NEWLANDS, G. 1972: Preliminary report on investigations concerning violin spider bite (loxoscelism) in southern Africa. *South African Museums Association Bulletin* **10**: 158–161.
- NEWLANDS, G. 1972: Ecological adaptations of Kruger National Park scorpionids (Arachnida: Scorpionida). *Koedoe* **15**: 37–48.
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- NEWLANDS, G. & RUHBERG, H. 1978: Onychophora. In M. J. A. Werger (ed.), *Biogeography and ecology of southern Africa. Monographiae Biologicae* **31**: 677–684. The Hague: W. Junk.
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- NEWLANDS, G. 1993: Assessing change in rock art by comparing recent and old photographs. *Pictogram* **6**: 7–9.
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- FILMER, M. R. & NEWLANDS, G. 1994: Araneism in Africa south of the equator with a key to clinical diagnosis. *Diseases of the Skin—Pharmacy Journal of Skin Disorders* **8**: 4–10.
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- NEWLANDS, G. & PRENDINI, L. 1997: Redescription of *Hadogenes zumpti* Newlands & Cantrell 1985: an unusual rock scorpion (Scorpiones, Ischnuridae) from the Richtersveld, South Africa. *South African Journal of Zoology* **32**: 76–81.

Appendix 2. Unpublished manuscripts, MS thesis and PhD dissertation of Gerald Newlands

- NEWLANDS, G. [undated, c. 1969]: Collecting and preserving scorpions for scientific study. Unpublished ms., 3 pp.
- NEWLANDS, G. 1975: An investigation into the functional morphology of the labrum-epipharynx and pre-buccal groove in the feeding organs of the Scorpiones and Araneae. Unpublished ms., 20 pp.
- NEWLANDS, G. [undated, c. 1975]: Venomous South African arachnids. Unpublished ms., 8 pp.
- NEWLANDS, G. 1980: *A revision of the scorpion genus Hadogenes Kraepelin 1894 (Arachnida: Scorpionidae)* with a checklist and key to the species. M.S. thesis, Potchefstroom University.
- NEWLANDS, G. 1986: *Necrotic arachnidism in southern Africa*. Ph.D. dissertation, University of the Witwatersrand.

- NEWLANDS, G. & JOUBERT, J. J. 1998: Incidence of tampan and relapsing fever in Kavango, Namibia. Unpublished ms. intended for *South African Medical Journal*.

Appendix 3. Oral presentations and posters of Gerald Newlands

- NEWLANDS, G. 1976: Medically important spiders of southern Africa. *International Symposium on Medicine in a Tropical Environment*, Pretoria.
- NEWLANDS, G. 1977: Notes on the bite of the spider, *Chiracanthium* (Clubionidae). *Second Congress of the Entomological Society of Southern Africa*, Pretoria.
- NEWLANDS, G. 1980: High relief stereophotography of chromosomes at high magnification. *14th Congress of the International Association of Medical Laboratory Technologists*, Durban.
- NEWLANDS, G. 1980: The spider genus *Sicarius* and the action of its venom. *Third Congress of the Entomological Society of Southern Africa*, Pretoria.
- NEWLANDS, G. 1980: Studies on the scorpion genus *Hadogenes* Kraepelin, 1894. *Zoological Society of Southern Africa Mini Symposium*, Potchefstroom.
- NEWLANDS, G. 1981: Preliminary report on the spider *Sicarius* (Araneae: Sicariidae) and the action of its venom. *1° Simpósio Internacional Sobre Serpentes em Geral e Artrópodes Peçonhentos*, Instituto Butantan, São Paulo.
- NEWLANDS, G. 1982: Rock scorpions (Scorpiones: Scorpionidae: *Hadogenes*) in southern Africa with special attention to distribution and speciation. *Spider Club of Southern Africa*, Johannesburg.
- NEWLANDS, G. 1983: Functional morphology of spider feeding organs with special reference to *Latrodectus*, *Loxosceles*, *Sicarius* and *Chiracanthium*. *Mini Symposium*, University of Pretoria.
- NEWLANDS, G. 1983: *Loxosceles* (Arachnida) and loxoscelism in southern Africa. *Fourth Congress of the Entomological Society of Southern Africa*, Johannesburg.
- NEWLANDS, G. 1984: The pathology of cytotoxic spider bite and the efficacy of antivenom therapy. *Interscience '84*, University of the North, Pietersburg.
- NEWLANDS, G. 1984: Satellite remote sensing—the megametre vantage point of scorpion phylogeny. *Remote Sensing Symposium*, Johannesburg.
- NEWLANDS, G. 1984: The diagnosis and pathology of loxoscelism (violet spider bite). *Medical Technology Congress*, Port Elizabeth.
- NEWLANDS, G. 1985: The medically important spiders of southern Africa. *Public Health Symposium*, National Institute for Tropical Diseases, Tzaneen.
- NEWLANDS, G. 1985: Spiders as laboratory animals. *Symposium on Exotic Animals in Research*, South African Association for Laboratory Animal Science, Pretoria.
- NEWLANDS, G. 1986: The clinical diagnosis of spider bite in southern Africa. *First Colloquium of the Research Group for the Study of African Arachnids*, Pretoria.
- NEWLANDS, G. 1987: 9.9 million tampan in Kavango. *Sixth Congress of the Entomological Society of Southern Africa*, Stellenbosch.
- NEWLANDS, G. 1988: Functional morphology of medically important spider mouthparts and the clinical significance thereof. *Second Colloquium of the Research Group for the Study of African Arachnids*, Swakopmund.
- NEWLANDS, G. 1990: The spider's mouth—a case of déjà vu? *Third Colloquium of the Research Group for the Study of African Arachnids*, Pietermaritzburg.
- NEWLANDS, G. 1990: Review of medical arachnology. *Third Colloquium of the Research Group for the Study of African Arachnids*, Pietermaritzburg.
- NEWLANDS, G. 1990: Use of the Wild M-400 microscope for the photography of arachnids. *Third Colloquium of the Research Group for the Study of African Arachnids*, Pietermaritzburg. [Poster].
- NEWLANDS, G. 1991: A new and scientific approach to the photographic recording of San (Bushman) and other primitive rock art. *Symposium of the Southern African Rock Art Research Association*, Johannesburg.