

Professor Barbara York Main

BSc, PhD (UWA), OAM

27th January 1929 – 14th May 2019

The Lady of the Spiders, Barbara Main (nee York), left a consummate scientific and literary legacy that was generated by her passion for the natural environment, dedicating her working life to documenting the spiders and other invertebrate inhabitants of Australia.

Barbara was born and raised along with four brothers on a farm in the Western Australian wheatbelt. Being home-schooled enabled her to help her mother with household duties but also gave her time to roam about the family property. She later maintained that this instilled a life-long love of the Western Australian landscape. After attending Northam High School, in 1947 she enrolled in a science degree at The University of Western Australia. In 1951 she was employed as an Assistant Lecturer at Otago University, New Zealand, before returning to Perth to commence a PhD at The University of Western Australia in 1952. Disregarding popular topics for post-graduate projects such as plants, mammals, and birds, Barbara turned her attention to spiders. Her amblings in the Western Australian wheatbelt taught her that there were many more species than previously known and she set about to understand their diversity, their role in the ecosystem and how they had evolved within the landscape. This passion for spiders and the environment set the course for a lifelong career and a glowing international reputation.

Not content with dealing with the rigours of undertaking a PhD project, in 1952 Barbara married fellow University of Western Australia PhD candidate, Albert (Bert) Main (1919–2009), and started a family. Bert went on to forge an impressive career of his own in zoology and the environment. It was probably inevitable that she would marry a fellow biologist, as it was well known that Barbara kept spiders in her room at the University Women's College, deterring many potential suitors.

Barbara completed her thesis in 1956 and became the first female PhD in the Department of Zoology at The University of Western Australia. The zoology building at the time was situated "on the hill" on Mounts Bay Road near the Women's College.

While raising her family in suburban Perth during the 1960s, Barbara continued to study and write about spiders and the environment. She described several new species, including the only Australian blind trapdoor spider, which lives in the deep recesses of various Nullarbor caves. Her published books *Between Wodjil and Tor* (1967) and *Twice Trodden Ground* (1971) represent passionate accounts of the loss of biodiversity after the extensive clearing of the Western Australian woodlands in the early 20th century, focusing on the "Wodjil country" near the family farm. Her strong connection to natural landscapes was evinced in *Twice Trodden Ground*, where she declared that she longed "to return to a wild, lonely, forgotten piece of unwanted 'useless' land no good for



At UWA with friend in 2012 (photo John Banister)

farming ... the sort of place where one finds a kind of earthly anointment".

She was the subject of a BBC and ABC documentary, *Lady of the Spiders*, narrated by David Attenborough and filmed by pioneering cinematographers Jim Frazier and Densy Clyne. The documentary included footage of a population of giant spiny trapdoor spiders that Barbara had commenced studying in the early 1970s. Knowing that the spiders never left their burrows, apart from the adult males during the mating season, she painstakingly tagged each burrow with a metal disc stamped with a unique number. Despite rarely seeing the spiders themselves, this allowed her to document and understand their complex lives in intimate detail, despite their being tucked away at the bottom of deep burrows. She could even tell when a female's babies had emerged from the maternal burrow and made a home of



At North Bungulla Reserve in 2015 (photo Grant Wardell-Johnson)



On receipt of the Royal Society of Western Australia Medal in July 2018 (photo Monica Main)

their own, due to the tell-tale sign of a 'fairy-ring' of tiny new holes a metre or two from the mother's home. Little did she know that a spider tagged in those early years (Number 16) would live until 2016, finally succumbing at the age of 43. This study showcased Barbara's passion and patience, remaining the longest study of any spider population in the world.

Barbara's work explored the close connection that spiders and other organisms have with their surroundings. Land clearing, trampling by stock, weeds, fire, and reduced rainfall (climate change), were all sadly having an effect on her beloved spiders all over Western Australia. She was never more distraught than when she returned to a site she had visited in the 1950s, only to find that a once-thriving population of trapdoor spiders was gone. Landscapes once sprinkled with many different species were now desolate and empty. It was a dagger to her heart.

Barbara's publications inspired an entire generation of scientists. Her 1976 book *Spiders* stimulated young Australian biologists to study spiders more closely. Barbara's collection of museum specimens and her perceptive observations on their environmental requirements have fostered new research on the evolution and taxonomy of these iconic animals, including studies using DNA sequence data. These studies vindicate Barbara's ideas that trapdoor spiders have been part of the Australian landscape for over 200 million years, slowly changing over time to adapt to different climates, soils and environmental conditions. Her taxonomic contributions resulted in the scientific description of over 70 different spider species and genera.

Barbara was an ardent supporter of community organisations, including a lifelong member and most recently Patron of the Western Australian Naturalists' Club. She also served on many boards and committees, one of which was as a member of the WA Museum Board of Trustees from 1982 to 1993, being the first woman to be appointed to this role.

Barbara received numerous accolades during her career, including the Order of Australia in 2011 and the Royal Society of Western Australia Medal in 2018. She was also recognised by other scientists who named numerous spiders and other invertebrates in her honour, including the genera *Bymainiella* (a trapdoor spider), *Barbaraella* (a pseudoscorpion) and *Mainosa* (a wolf spider).

She is survived by her children Rebecca, Gilbert, and Monica, and her grandchildren Eleanor, Marjorie, and Harold.

We are unlikely to see someone like Barbara again. Vale Lady of the Spiders.

Dr Mark Harvey
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The text for this obituary is reproduced from the Western Australian Museum website <http://museum.wa.gov.au/explore/articles/professor-barbara-york-main>