

Tribute to Dr Stephen Davies: ornithologist, conservation biologist and mentor (26 April 1935–29 October 2020)

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Stephen John James Frank Davies had a career as remarkable as his appearance. At his funeral in the small, quaint, stone church in Wooroloo, Western Australia (WA), his second-youngest daughter Frances commented that early in his life he had cultivated a look that lay somewhere between eccentric scientist and scarecrow; it was a welcome moment of light relief on a very sad occasion. With his death, the scientific community of Australia, and indeed the world, lost one of its greats; and many of us lost someone who had influenced our lives more than perhaps we realised. For Stephen was many things to many people, not just an ornithologist of international renown, but a pioneer researcher and conservationist, mentor, breeder of Shropshire Sheep, husband, father, grandfather, lay preacher, mentor and friend.

Born in Kings Cross, Sydney, Stephen often appeared pleased with his origins in a somewhat dubious suburb that was in such contrast to his patient and cultured manner.

He spent his early years on Thursday Island in the Torres Strait where his father, also Stephen Davies, was Bishop of Carpentaria. His father's ministry covered the Northern Territory, northern Queensland and the islands of Torres Strait, but the diocesan cathedral was on Thursday Island, so that was his first home. The threat of a Japanese invasion in 1942 forced the family to return to mainland Australia, where he boarded at The King's School in Parramatta (and for a year at The Elms School, Colwell, in England). Early on, Stephen showed a keen interest in natural history, particularly ornithology. In 1952, in recognition of his scholastic abilities, The King's School awarded him a scholarship to attend Cambridge University. Stephen returned to Australia in 1956 with an Honours degree in Zoology to take up a position as an Experimental Officer with CSIRO's Wildlife Survey Section, in Harry Frith's waterbird group.



Fig. 1. Stephen Davies with emu chicks (photo provided by family, photographer unknown).

Stephen was sent out, in his early 20s and largely by himself, to research the impact of magpie geese (*Anseranas semipalmata*) on the fledgling rice-growing industry of the Northern Territory. It was the sort of field ecological study that was to become his lifelong passion. Over 30 years later, he joined Mike and Mandy Bamford in a BirdLife Australia study into waterbirds of the great river floodplains of the Northern Territory, and around the campfire he happily related stories of wading through swamps in search of goose nests, learning about their complex mating system, and the link between rainfall, rising water levels and breeding. When asked the obvious question about the dangers of saltwater crocodiles (*Crocodylus porosus*), he commented that he never saw one. In the 1950s, crocodiles had been hunted almost to extinction. In 1971, crocodile hunting was banned, and the numbers increased dramatically. It took some effort to convince Stephen that it was no longer safe to stride around wetlands to look for birds. He was soon convinced when a 4 m crocodile cruised past the sandy spit where he had been standing the previous day.

Two years after joining CSIRO, Stephen moved to Wildlife Research's Western Australian laboratory; first on the campus of the University of Western Australia, and later at Helena Valley, on the outskirts of Perth. He also made the research move from magpie geese to emus (*Dromaius novaehollandiae*) and white-tailed black-cockatoos,¹ although he never lost his fondness for magpie geese. In order to continue his study of their behaviour, he established a captive but free-flying colony around *Waters Upton*, his home at Mt Helena, east of Perth. It was his research on emus for which many will remember Stephen. More than a few people commented on the resemblance of the tall, gangly man with unruly, professorial hair and wild eyebrows to the emu (Fig. 1). In fact, Matcham Walsh, leaseholder of *Mileura Station* on which Stephen conducted his long-term study of the ecology of emus and their habitat, called Stephen 'Eem' because of this resemblance.

Stephen's research into emus was interrupted early when he returned to Cambridge University on a CSIRO scholarship to conduct his Ph.D. Emus and magpie geese being in short supply in England in 1961, his doctoral thesis was on behaviour in barberry doves (*Streptopelia risorii*). While in England, he participated in an expedition to Lapland. While he often spoke of this trip in terms of the adventure of going to a remote area under arduous conditions, its true value can be seen in the precise records he kept.

While in Cambridge, he also found time to take up Morris dancing and marry Wendy Adams, a biology undergraduate, although the story goes that he arranged for her passage to Australia before he proposed to her.

Upon his return to Australia in 1964, Stephen resumed his research into emus and black-cockatoos, with the latter being handed on to Denis Saunders in 1968, allowing Stephen to focus on the former. The emu research occurred largely on *Mileura Station* in the Murchison, where the Walsh family gave Stephen almost free rein. His aim was to understand the ecology of the emu in the often harsh environment of inland WA. In addition to a list of scientific papers and a book (Ratites

and Tinamous of the World), it resulted in a board game which models the breeding success and patterns of movement of emus in response to drought and rain. For many years Stephen used this game to teach university students about how Australian ecosystems work.

Emu research gave Stephen the opportunity to trial many and varied research techniques, and to investigate other aspects of the ecology of the arid pastoral country that occupies so much of Australia. He studied other birds, delved into caves to study bats, and marked individual mulga *Acacia aneura* trees to see what became of them over time. In 1990, the Bamfords participated in a study to revisit his marked mulgas and found as we looked through photographs taken in the mid-1960s, many of which featured Stephen as well as a tree, that neither the tree nor the man had changed much in appearance. This said a lot about both and resulted in a publication that noted the longevity of individual mulga trees.

Some of Stephen's methods to study his beloved emus were truly innovative. He scattered marbles around water troughs in the hope that the birds, notorious for eating anything, would swallow them. His plan was then to search out emu droppings far and wide and check them for marbles as a way of measuring the movement of the birds. He learnt more about the interests of the station hands, who collected the marbles to play games with them. He also interacted with station hands when he devised a system whereby emus would mark themselves with a stripe of paint as they came to a water trough to drink; it was a station hand who set off the trigger. More success was had with banding emus, but for that Stephen had to design his own super-sized bird bands, as the national banding scheme had nothing suitable. In keeping with his persona, they were the only bird bands ever to have 'please return' followed by an address, rather than a simple (and to Stephen unnecessarily abrupt) 'return'. Catching emus was another story and in some cases involved perching on the bonnet of a short wheel-base Land Rover driven at high speed through the scrub, trying to drop a noose on the end of a long pole over the neck of a running emu. Surprisingly, it worked sometimes and, even more surprisingly, no-one was badly hurt in the process. It was a time when scientists could take risks in pursuit of their career, in a way no longer possible because of restrictive occupational health and safety guidelines.

Through this research period in the late 1960s, with long periods of time away from home but a growing family (eventually four daughters), Stephen began to develop an interest in ornithology outside scientific institutions and universities. So began his long and productive association with the Royal Australasian Ornithologists Union (RAOU) that became BirdLife Australia, an organisation of professional and non-professional ornithologists. He liked to remark, with his dry and whimsical sense of humour, that it was probably the only organisation with a name that began with Royal and ended in Union.

Stephen became Officer-in-Charge of CSIRO Wildlife Research in WA in 1969, a position he held until his resignation from CSIRO in 1983. His resignation was driven by his increasing disenchantment with the direction of management

¹What was then the white-tailed black-cockatoo is now two taxa, Baudin's *Calyptorhynchus baudinii* and Carnaby's *Calyptorhynchus latirostris* black-cockatoos.

of the government organisation. He went from CSIRO to become the inaugural director of the RAOU, a position in which he believed he could do much more for conservation than in CSIRO. Because the RAOU could not afford the air fares required for him to live in Perth and work in Melbourne, he either drove his aging and distinctive BMW across the Nullarbor or took the 30-hour bus journey. When in Melbourne, he slept on a camp stretcher in his office at RAOU headquarters in an old house in Moonee Ponds.

From the late 1960s Stephen became increasingly engaged with the broader ornithological community as he saw the value in observations from ornithologists other than professionals. This was a radical step for a scientist at a time when the people who now use the term 'citizen science' had not even been born. In 1970, Stephen organised the annual campout of the RAOU at *Wanjarri Station*, in WA's Goldfields. He organised participants to undertake bird surveys, published the results, and used the information gained to assist the transfer of the station lease to the Crown as *Wanjarri Nature Reserve*. This was the first of a number of pastoral leases purchased by the Crown and made into nature reserves.

In 1974, the first International Ornithological Congress to be held in the southern hemisphere took place in Canberra. With Harry Frith, Stephen was a key part of the organising committee. His skills came to the fore when an air transport strike led him to charter flights to ensure participants got to Canberra. He convened an international symposium on 'Breeding of Birds in Southern Continents'. This was at a time when birds in the southern hemisphere were seen as poor cousins to those of the northern hemisphere, but when the first inklings of remarkably complex ecology, such as cooperative breeding, were being discovered.

While still with the CSIRO, Stephen was President of the RAOU from 1975 to 1978, a period when the first Atlas of Australian Birds was set in motion. It has gone on to become Birddata, arguably one of the key international biological databases with its emphasis not just on location records, which are easy and not all that useful, but on repeat measures of abundance which allow the detection of change. In the mid-1980s, Stephen believed that climate change was something to watch out for and that it could not be studied unless there were data to detect trends in animal populations.

Despite, or perhaps because of, his level of involvement with the RAOU on a national level, Stephen was also deeply involved with the WA branch of the organisation. He was branch Chair from 1971 to 1984. In that period he moved the group forward, first using the Atlas as a sort of 'rallying cry' and then, in 1981, helping to arrange funds to appoint Roger Jaensch to run the South-West Waterbird Project. This gave the WA branch a project, an office, and an RAOU employee based in Perth. WA Bird Notes, although dating back to the 1950s, blossomed and the office soon moved from Roger's spare room to offices in Canning Bridge, and then to Perry House. With the impetus supplied by Stephen, the branch, now known as Birdlife Western Australia, has thrived.

The national organisation also thrived under Stephen's directorship from 1984 to 1988. The massive undertaking of the Handbook of Australian, New Zealand and Antarctic Birds (HANZAB) was initiated, the organisation gained respect in both science and conservation with the motto 'conservation

through knowledge', and a plethora of projects took wing from systematic surveys of shorebirds, which was to become Shorebirds 2020, to conservation projects targeting threatened species. The membership grew, and Stephen often paraphrased from John F. Kennedy, saying 'ask not what the RAOU can do for you; ask what you can do for the RAOU'. To him, the RAOU meant Australia's avifauna.

Stepping back from the RAOU in the late 1980s, he focused on one of his passions: teaching and mentoring young scientists. During his time with CSIRO and then RAOU, he lectured and supervised students at the University of WA. In the late 1980s, he took up Adjunct Professorial appointments at Murdoch and Curtin Universities. He put these to good effect, lecturing, leading field trips and encouraging other academics to bring groups of students to his farm at Kokeby, about 100 km east of Perth, to study everything from soils to plants and wildlife. He regularly organised bird-banding weekends at his property and was happy to demonstrate his cooking skills, learnt during a period of Army national service. The stew with dumplings was excellent, the porridge with salt was not. He returned to *Mileura Station* with students year after year, and when the stone hut at Ejah burnt down, he rebuilt it with a team of students. He noticed students who had what it might take and encouraged them to get involved in projects as volunteers to start their careers, and on many occasions found them jobs. He was a supervisor for Honours and Ph.D. projects for many, and a mentor for many more. Many students found themselves doing things they would never have contemplated because Stephen somehow made circumstances happen.

Projects in which Stephen played a key role are legend and central to the development of ornithology and science-based conservation in Australia. In addition to such milestones as the Atlas and HANZAB, he helped establish Eyre Bird Observatory, on the Great Australian Bight, leading the early working parties that repaired the old telegraph station in the mid-1970s. He was: president of the Gould League of WA and was instrumental in settling them into the magnificently located Herdsman Lake Wildlife Centre; an inaugural Trustee of World Wide Fund-Australia; a supporter of Malleefowl research groups; a guiding force behind the Capel Wetlands Centre; and part of a network that maintained a captive population of the Woylie *Bettongia penicillata* while the species declined in the wild. He was also chair of many committees. When not being a scientist, he maintained a pedigree line of Shropshire Sheep, hand-shorn and shown (with regular awards) at the Perth Royal Show for half a century. In Stephen's honour, in 2019, the Royal Agricultural Society established the Stephen Davies award for 'Overall Champion British Breed Sheep'. He was there to see the inaugural medal awarded. Happily, one of his granddaughters is looking to continue with the Shropshires.

Stephen had awards but did not seek them: an honorary doctorate from Cambridge; a finalist for Senior Australian of the Year; a Fellow of BirdLife Australia; and awards for his publications. His greatest award was probably the reward he felt in witnessing the achievements and successes of his many protégés.

Stephen is survived by Wendy, their daughters Elizabeth Read, Marion Seymour, Frances Davies and Sarah Weiss, 10 grandchildren, one great-grand-daughter, and by many scientists who perhaps only now realise how much he guided their development.