



Prize Winner

Science Writing

Year 5 - 6

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Discovering Spriggina: South Australia's Window into Life's Beginnings

Protecting our prehistoric heritage



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The Nilpena Ediacara National Park is unique in the world; it stores evidence of animals living way before our time and their importance, lifestyle, and habitat. Many people, like me, find examining fossils a way of “turning back time” and going into the past to see exactly what life on Earth was like, hundreds of millions of years ago. In June this year, I touched the imprint of a *Spriggina* fossil on an ancient fossil bed, an opportunity made possible by two remarkable South Australians.

The first, Reginald C. Sprigg was born the 1st of March 1919 in Stansbury, Yorke Peninsula and studied geology and zoology at the University of Adelaide.¹ He was a student of the Antarctic explorer Sir Douglas Mawson, and both shared a love of geological discovery and the conservation of Australia's natural landscapes.¹

The Ediacaran fossils which lived on the ancient seafloor about 550 million years ago were discovered by Reg Sprigg in 1946.² He was exploring an old abandoned copper and silver mine site in the Ediacara Hills, when he turned over rocks and found the fossils.^{3,4} This discovery was so important because it provided proof of complex, multicellular animal life before the famous “Cambrian explosion” occurring 541–485 million years ago.⁴ Reg discovered the Ediacaran fossils during an era when he was a mining geologist, and the scientific community was initially dismissive of his finds.⁵ But later on, when the significance became recognised, paleontologist Dr. Martin F. Glaessner named the fossil *Spriggina flouderesi* after him to honour his discovery.²

The *Spriggina* is the earliest known animal to have a distinct horseshoe-shaped “head” and tail (cephalization) and complex segmentation of head, trunk and tapering posterior, with clear left-right symmetry.⁶ It likely glided slowly across the sea floor using its head to ingest the microbial mats (slimy layers of bacteria and algae).⁶ It is not found anywhere else in the world outside the Ikara-Flinders Ranges and is the fossil emblem for South Australia.²

The second notable South Australian was Ross Fargher, the pastoralist owner of Nilpena Station.⁷ In 1985, he showed his friends Pam and Geoffrey Hasenohr around the historic woolshed. Pam noted ripple marks on the stone pavers, which, as an amateur geologist, reminded her of the Ediacaran material she was studying. Ross remembered he had seen more ripple material up on the hill while mustering and they went up and discovered fossil rock slabs, which showed extensive evidence of the Ediacaran rise of early animal life.⁷

Ross carefully guarded the fossils against looting, making sure they remained on site and limiting access to paleontologists for research.⁷ When it came time to sell the property, he was not prepared to sell it to another pastoralist because he feared they would not safeguard the fossils. He negotiated for the sale of the property to the South Australian government in two stages (two-thirds of the station in 2016 and the remainder in 2025), so that the Nilpena Ediacara National Park could be officially opened in 2023.⁷ It is currently being considered for UNESCO World Heritage listing, with a decision to be announced in early 2027.⁸

On my visit to the Nilpena Ediacara National Park, we first explored the Woolshed and looked at the ripple marks on the stone pavers. We walked along a timeline, with posts spaced to represent the vast spans of geological time from the “Snowball Earth” Cryogenian Period, through the Ediacaran and Cambrian periods, the age of dinosaurs, and up to the present day. In the Education Centre, we were taken in a dark room to view an 8-metre fossil bed called “Alice’s Restaurant Bed”. Each of the 40 fossil species on the bed could be identified by the map with a key that was handed out. There was lighting that not only set a mood, but also made the fossils easier to see. A 30-minute video was projected onto the fossil bed that brought the fossils “back to life” by demonstrating their movement and lifestyle.

During the video, I felt as though I had travelled back in time. Watching the animations of the fossils, how they moved, and seeing how life may have existed over 550 million years ago was truly fascinating. There was so much diversity—some fossils moved like jellyfish (e.g. the *Attenborites*, named in honour of Sir David Attenborough), others glided across the sea floor then anchored (e.g. the ribbed *Dickinsonia*), while the frond-like *Funisia* swayed gently in the water. *Funisia* is particularly significant because it provides the earliest evidence of sexual reproduction. I also found the five *Spriggina* fossils scattered across the fossil bed and was able to touch and feel the texture of each one.

This national park preserves one of the world’s most important fossil sites, helping us to understand how complex life evolved long before the dinosaurs walked the face of the Earth. Visiting Nilpena Ediacara National Park made me appreciate how fragile Earth’s ancient history is, and how the actions of ordinary people, such as Reg Sprigg and Ross Fargher, can help preserve it for future generations.



Photos from my Nilpena Station tour on 8/6/26

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