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**The Evolution and Ecology of early animals:
The view from the Ediacaran from South Australia.**



Soft-bodied fossils of the late Precambrian Ediacara Biota are critical to the understanding and interpretation of the unfolding of animal life on this planet. The record of diversity and ecological innovation are exceptionally well preserved in these Ediacaran of South Australia.

In particular, excavation of fossil beds at the National Heritage Site of Nilpena, west of the Flinders Ranges has exposed over 300 square meters of fossiliferous surface providing an opportunity for thorough study of the record in-situ.

Through study of these excavated beds, we have shown that fossils of the Ediacara Member represent the “second wave” of the Ediacara Biota with a significant increase in diversity and morphological disparity from older deposits. Further, these beds record the oldest evidence of active mobility and the first whiff of skeletonization. Various modes of reproduction are also recorded. Interestingly, the Ediacara Member also demonstrates a level of patchiness on par with the rest of the Phanerozoic and rivaling modern settings.