

Ediacara Fossil Expedition.

3-6th September 2021

26 Waterhouse Club members joined the Ediacaran Fossil Expedition which was for three nights and two days and based at the Prairie Hotel in Parachilna. With the recent nomination for the Flinders Ranges for World Heritage listing the Waterhouse Club was privileged to show to our members the Ediacara Fossils at Nilpena Station and at the Ediacaran old township site. A guided tour along the Brachina Gorge Geological Trail as well as examining the Acraman Meteorite ejector site in Bunyeroo Gorge made for an interesting and comprehensive tour through some of the Flinders Ranges significant sites.

On the first day we travelled in a private car convoy of four people in each car to the south and into Brachina Gorge. A perfect spring morning departure at 8am with about an hour drive to the Brachina Gorge Geological Trailhead information bay. Here Tim Tolley, the Expedition leader, introduced our Museum scientists. Dr Vic Gostin gave a geological explanation of what we were all looking at around us, and explaining what was here over the preceding 600 odd million years. Dr Jim Gehling also spoke on the palaeontology, geology and history of the Brachina Gorge with a colourful explanatory introduction to the fossil remains which we were about to encounter. We had several stops along the route looking out for Yellow foot Rock Wallabies in the Brachina Gorge, being very difficult to spot in the shadowy morning light. At the Bunyeroo turn off we stopped at 'The Space connection' car park for an explanation of the Acraman event. After understanding the significance of the meteorite event, we drove south to the start of the Bunyeroo Gorge. From the car park there, we followed a track into Bunyeroo Creek to examine the Acraman ejector remnant site. Here a detailed explanation of the how and why of a meteor crash landing some 300 hundred kilometers away in the Gawler Ranges about 600mya had started Vic's investigation into the fascinating marker debris layer traced into the Flinders Ranges. A full explanation was given by Vic while sitting around impact ejector material in the rocks that we could actually see and touch.

From here we returned to Brachina Gorge and all proceeded to the Trezona site. A longish walk along and up the Brachina Creek into Enorama Creek (or on a rough track for those who couldn't easily walk) to the Golden Spike (GSSP Site named on 16/2/2014) where Jim spoke with his usual passion and

authoritative detail on this benchmark for the Cambrian Period. A return walk to the Trezona stop for lunch which was supplied by the Prairie Hotel in the shade of magnificent redgums was a delight.

After lunch a short drive to the east to see the stromatolites not far from the roadside. These amazing rocks when pointed out are the beginnings of life on Earth. We then slowly headed back to the Prairie Hotel at Parachilna with a stop at some archaeocyaths obvious in the creek bed, which come to “life” especially when water is poured onto the white rocks. Then a bit further on a stop at the south wall of the Brachina Creek to see some of the first Ediacaran fossils found in the Flinders Ranges, followed by another stop to see “where the worms turned” about 540 mya. Again, we stopped to observe Yellow foots in the evening light before a leisurely drive back to our hotel.

Dinner at the Prairie and a short talk by Jim and Vic rounded off a great introduction to the Flinders Ranges.

The second day commenced with an 8am start with the group divided into two groups of 15 people. Both groups travelled in convoy north to the Nilpena Station Gate, where there is a large car park area adjacent to the Site entrance. A team photo was taken at the newly completed gate at the most impressive stone entrance into the Ediacara Nilpena Fossil site.

The morning group went in the tour bus with Jim Gehling driven by Ross Fargher the new “tour” leader for the Nilpena Fossil Site. A look in at the old woolshed at Nilpena, with Ross explaining how the site was initially found by Reg Sprigg and gradually how the significance of the site over the next 50 years was understood. Here we saw the meshwork of an accumulation of many large slabs of ripple rock sandstone at the entrance to the old shearing shed that segued us to the beginning of the underwater biota of the Ediacaran life. Then a short drive out to the Ediacara “tennis court” site. We were the first tourists to experience the new walkway which is a safe and easy way to now closely observe the extent of the fossils. This is a wheelchair friendly access to the site. This newly completed path shows off the many excavation sites that the SA Museum has been involved with over the last 30 years.

At the same time the other group of 15 expeditioners went with Vic and our guide from the Wilpena NPWS, Mr Alan Harbour and his son Anikin, to the old remnant township of Ediacara, which had been quite active in the 1850s. This was a very rough track in through Beltana station land (4wd essential) with several stops to see the remnants of the old derelict town. A bit further on

towards Lake Torrens we arrived at the old mine site where Alan gave a good description of the old mining life. Here we had morning tea before slowly driving back via the Ediacara site where Reg Sprigg found the first Ediacara biota in 1946, and on and on towards Old Beltana.

We all met at the Beltana Community Hall for a sit-down lunch. This was supposedly going to be provided by the local group, but due to a few issues the Prairie Hotel did the catering. A wonderful permanent Art display is in the hall, which is a very comprehensive collection of art 'in the Flinders'. There was time to wander around the Beltana old town and look at the way it was. The old railway station was worth a look at as it was such a magnificent edifice from the late 1800's.

In the afternoon we did a swap over of the two groups, with all arriving safe, worn out and hungry at the Prairie for our farewell dinner and speeches.

After a full breakfast the next day we all departed under our own steam.

Thanks to Vic Gostin and Jim Gehling and the Fargher Family for making this popular expedition come to life after all the Covid-19 restrictions. We hope to repeat this expedition in August 2022

Tim Tolley, Expedition Leader; with thanks to Margie and Don Heylen.