

RETURN TO DINOSAUR DREAMING

By Lesley Kool

I am delighted to announce that Parks Victoria have renewed our excavation permit, allowing us to return to the home of Dinosaur Dreaming – the Flat Rocks site, near Inverloch.

Apart from a one day dig in October 2017 we have not excavated at the Flat Rocks site since March 2013, making it six years since we were last there. We have not been idle during that time. The discovery of a partial upper jaw from a tiny mammal at the Eric the Red West site, in the Otway Group, was the catalyst for the move from Inverloch to Cape Otway. Consequently the Dinosaur Dreaming team moved over to the Otways in the summer of 2014 and returned each year until 2017. Many amazing discoveries were made at that site during that time, including a 20cm long theropod dinosaur claw and a number of isolated theropod and ornithopod dinosaur bones and teeth. At the end of the 2017 field season four associated blocks of fossil layer were collected that contained eleven bones. At first it was thought that the bones all belonged to one individual, but subsequent preparation revealed that the bones belonged to a number of individuals including a small theropod dinosaur, a small ornithopod dinosaur and a turtle. Even though they were from a number of animals, the significance of that many bones in close proximity was very exciting and the team intend to return to Eric the Red West later this year to continue excavating in the area where the blocks were collected.

Due to a number of factors the Dinosaur Dreaming project was unable to procure a renewal of the Parks Permit for 2018 so the decision was made by Dr Tom Rich and Professor Pat Vickers-Rich to instead concentrate on the third established Victorian fossil locality at Koonwarra, north and inland of the Inverloch site. The Koonwarra site is the same age as the Inverloch site, but it is a lake deposit not a river deposit. Consequently the fossils from this site are preserved quite differently to the coarser sediments at Inverloch. Beautifully preserved fish, insects, plants and feathers have been recovered from the Koonwarra locality (see previous postings for more details) and some exceptional specimens were recovered during the 2018 field season.

After further consultation with representatives from Parks Victoria, Dinosaur Dreaming was granted a renewal of the excavation permit in November 2018. Plans were quickly underway to conduct a short, three week dig at the Flat Rocks site in February 2019, but because there was no time to organise a training program for new volunteers we were restricted to offering volunteer positions to experienced members only. The reason for a return to the Flat Rocks site instead of Eric the Red West is because of the discovery that was made following the one day dig at the site in October 2017. Rock collected on that day was processed during a weekend rock-breaking session in November of that year. Although there was not a lot of rock collected a number of well-preserved small bones were found, including the second known multituberculate mammal jaw from Australia.

The first multituberculate jaw was found at the Flat Rocks site during the 2004 field season and was subsequently named *Corriebaatar marywaltersae* after two ladies who have made significant contributions to Victorian Palaeontology. *C.marywaltersae* is the oldest evidence of the primitive multituberculate mammals in the southern hemisphere and the Flat Rocks site is the only place in Australia where it has been found. The first specimen consists of a single premolar tooth and jaw fragment, but the tooth is so distinctive that it could only have come from a multituberculate. The specimen that was found in November 2017 is much more complete than the holotype. Even though it also only possesses the distinct premolar, much more of the jaw is preserved, including the root sockets for the large incisor in front of the premolar and the small molar behind the premolar. Much

more information about this individual can be obtained and will help palaeo-mammalogist Tom Rich to narrow down the origin of this group of primitive mammals that no longer exist today.

The upcoming Dinosaur Dreaming dig at the Flat Rocks site will commence on Saturday 9th February and conclude on Friday 1st March 2019. We will be concentrating on the area where the mammal jaw was found and I am sure that there will be a number of exciting discoveries made over the course of the three weeks.

If you are in the area during that time, please come down to the site (it is on a public beach at The Caves) and make yourselves known to us. Don't forget that we can only access the beach 3-4 hours either side of low tide, so consult a tide chart to make sure you arrive at the right time.



The Dinosaur Dreaming site at Flat Rocks, near Inverloch, Victoria. Courtesy of L. Kool's collection.



Holotype of multituberculate mammal Corriebaatar marywaltersae

Corriebaatar marywaltsae – the first specimen, found in 2004. Courtesy of S. Morton, Monash University.