

WINDJANA GORGE: GEOLOGY, HISTORY AND ANTHROPOLOGY

At the meeting on 4 September 1996, Cathie Clement introduced Dr Phil Playford and gave a brief resume of his background. He then talked on Windjana Gorge, which is very dear to his heart. From his first visits during the 1950s he especially remembers the echoing sounds of mobs of cattle and donkeys bellowing and braying in the gorge each night. Now that the gorge is a National Park, these animals no longer water there, and all is quiet.

Phil divided his talk into three sections: the Geology, the History, and the Anthropology of the area, and he told how the 80 metre high gorge has been created by the erosion of the Lennard River through the Napier Range. This range is part of a Devonian reef complex that extends for some 350 km along the northern margin of the Canning Basin. The barrier reef is 350 million years old and is of world-wide renown. It once skirted all around the Kimberley to join with similar reefs in the Ningbing Range, near Kununurra. The Napier Range was appropriately called the Barrier Range by the early settlers. Associated with these ancient limestones, there are large masses of conglomerate that were brought down by torrential streams draining the mountainous landmass of the north Kimberley. Four oil fields (including Blina) and four lead-zinc mines (including Cadjebut and Blendevale) have been found in the Devonian limestones. Active mineral exploration is continuing, with good prospects for further discoveries.

Lloyd Hill is an old atoll and many fossilised fish, ammonoids, and other fossils, of major international importance, are found. The front of the range is the reef margin of Devonian times and it contains many fossilised cyanobacteria and stromatoporoids (coral-like organisms that are now extinct). Present-day stromatolites, such as those at Hamelin Pool in Shark Bay, are built by cyanobacteria (blue-green algae). Behind the Devonian reef rim is Amphipora or spaghetti rock. There are also large fossilised clams and sponges found on the slopes in front of the reef. Microscopic conodont fossils are used to date the reef into 35 zones. A mass extinction occurred in the Late Devonian when a big asteroid may have hit the Earth, blotting out the sun and wiping out many animals and plants, so that cyanobacteria were able to flourish and to build many stromatolites. A regular cyclicity occurs in the back-reef deposits due to regular variations in radiation received from the sun during the Devonian.

E.T. Hardman was the geologist who accompanied John Forrest on his 1883 expedition to this area, and he collected some large bones of Diprotodon from the Pleistocene deposits in Windjana Gorge. Fossil bones of huge crocodiles, up to 15 metres long, and giant turtles from the Tertiary have also been found in the gorge.

In discussing the anthropology, Phil outlined how he was also involved in a 1964 expedition to locate some of the last Aborigines who were still following traditional lifestyles in the Great Sandy Desert. The expedition encountered about 70 nomadic

Aborigines, half of whom had never seen Europeans before. They all moved in to settlements over the next two years.

Phil published the first tribal distribution map of the West Kimberley. Each tribe has its own language, with three tribes covering the Devonian limestone ranges. There are many ancient cave paintings in Windjana Gorge (called Devil's Pass by John Forrest) and these were explained to Phil by Billie Munroe, the last 'full-blood' Aborigine of the Unggumi tribe. Windjana is not an aboriginal name, but a corruption of Wandjina, the name of the dominant figures in cave paintings of the Kimberley, one of whom is depicted in a cave near the gorge. Each Wandjina is a male figure with a rainbow or halo around his head, and no mouth. The Dreamtime stories tell how they now live in the clouds and bring the rain every wet season.

Phil showed a photo of the ruins of Lillimilura, which was set up in 1880s as a sheep station homestead. A large flood in 1890 and stock depredations by the Aboriginal people caused the pastoralists to abandon the station. The police then took it over and the Aborigine Jandamara (Pidgeon) shot Constable Richardson there before embarking on a campaign to drive the white settlers out of the area. There was a battle with the police in Windjana Gorge, where the Aborigines lay concealed in the many caves.

Phil also mentioned the Mimbi Caves and McWhae Ridge, which are in the Lawford Range, at the southern end of the Devonian limestones. They are very important from both scientific and scenic viewpoints. CALM wants to create a Conservation Reserve there but the area would first need to be excised from the Aboriginal owned station, Mt Pierre, and negotiations are proceeding. The caves are superb and the formations are still growing. In the pitch blackness there are seedlings of a plant sprouting in soil on the cave floor -- what is it? Maybe the two large cotyledons of a bloodwood eucalypt. No detailed work has been done on the fauna and flora of these caves yet, and vandalism is occurring, so moves must be made soon to protect this unique area. The stalactites are superb.

All these marvellous formations and geological features were beautifully illustrated by Phil's superb slides which gave us a wonderful feel for this place. No wonder it is so special to him. We thanked him for his most absorbing talk with a round of applause, and he then spent some time answering many questions. After the talk, Cathie Clement showed us a new publication from Magabala Books: Connie Nungulla McDonald's when you grow up, an autobiographical account of a life in which the years from 1933 to 1955 were spent at the Forest River Mission. Cathie also mentioned that a colony of bilbies has been located on the edge of the Great Sandy Desert by some CALM staff in Broome—a very exciting find.

Daphne Choules Edinger