

A different world – an emerging continent

Picture the Cretaceous Period, 100 million years ago. Australia is part of the giant super-continent Gondwana that has begun to sunder, but for now remains joined to eastern Antarctica, New Zealand and South America. "Australia" also sits further south on the globe than it does today. Latitudinally positioned between 50 and 85 degrees south, much of southern Australia lies within the Antarctic Circle. Such proximity to the South Pole makes the "land down-under" a place of climatic extremes. In mid-summer, southern Australia is a land of the midnight sun, where the sun never sets, while in winter, the region is subjected to two months of complete darkness. Yet this polar land mass is not the frigid climate that we associate with the Antarctic today. Rather, the movement of the world's changing continents ensures

that warm ocean currents circulate from the tropics towards the South Pole, providing a regional climate that is mild and humid enough to allow woodland environments to prevail, despite the long winters in the south.

Tectonic movements of the Earth's plates have resulted in rising sea levels that have flooded in from Australia's north, submerging one-third of the land mass and dividing the remainder into four large islands. The vast, yet shallow Eromanga Sea now dominates much of Queensland. Of the *terra firma* not claimed by the waters, ancient-style conifers, maidenhair trees and an understorey of ferns, cycads and mosses flourish across this somewhat warmer part of Australia. As for the wildlife that has adapted to deal with this unusual environment – it is like nothing you have ever seen!

Imagine yourself in this world. Ahead of you now is a uniquely Australian dinosaur ambling on all

fours among the cycads. An ornithischian or "bird-hipped" dinosaur, it measures seven metres from the end of its tail to the tip of its snout. This four-tonne giant becomes even more impressive as it rears up on its hind legs to reach a highly placed, vegetative morsel. A tripedal dinosaur, it is endowed with strong back legs and reduced front ones, with a strongly muscled tail and spine that enables it to easily pivot onto its hind legs, while using its tail for balance. Perfectly capable of walking on all fours, it can also 'tiptoe through the cycads' on its hind legs when required. This high-grazing, Mesozoic creature's hands are impressively shod with a pronounced sharpened spike and three middle fingers that are housed together in a hoof-like pad. Looking upwards, you marvel at what is perhaps the strangest part of this creature's anatomy – its face – and you are *somehow* reminded of Jar Jar Binks, from George Lucas'



Photo © Doug Langdon

Star Wars movies. Unlike Jar Jar however, there is nothing fictional about this creature's features. A wide, low skull accommodates an enlarged and upwardly bulbous chamber that is situated between the animal's eyes and mouth. Dominating the animal's snout, this feature eventually gives way to a biting bill – a serrated beak of strong horn that operates in powerful concert with a set of impressive knife-like teeth and strong jaws. It is then that you realise you are looking at an animal that has evolved a perfectly adapted shearing mechanism for making clean work of the tough and spiky vegetation that dominates its Cretaceous environment.

This extraordinary giant is *Muttaburrasaurus langdoni* and fortunately, we do not have to rely on our imagination alone to learn something of this uniquely Australian beast. Those responsible

for its detection and description are only too happy to reflect on their amazing and often amusing journey of discovery!

"Hell, I found a monster today!"

Sitting behind a desk in the Queensland Museum's geosciences facility in Brisbane, surrounded by a library of books on prehistoric life forms and in the process of analysing some impressively large Cretaceous fish is Director Emeritus of the Queensland Museum, Dr Alan Bartholomai, the palaeontologist who brought *Muttaburrasaurus* to the world.

Alan was a young man at the beginning of what would be a 40-year career with the Queensland Museum when his journey with *Muttaburrasaurus* began with a serendipitous delivery by Australia Post.

"I'd been work-

ing at the museum as Curator of Geology for about a year and a half. Since most of my training had been in invertebrates and plants, I was busy coming to terms with the museum's collections, which had a focus on vertebrates – like the collections from Queensland's central west, which included marine creatures such as ichthyosaurs and plesiosaurs. Then one day, out of the blue, Doug Langdon sent the museum a couple of bones from an animal that he had located on the banks of the Thomson River."

It was late 1963 on a clear, hot day when Doug Langdon, a cattle and sheep grazier from Muttaborra, discovered his very own "monster" – which would become one of the best known of all Australia's dinosaurs.

"There was a bit of country on Rosebery Downs Station just below town," said Doug. "The station owners allowed us to graze our cattle there and as my family had the butcher shop in town, I would go down there mustering for a killer." Doug was between two channels of the Thomson River about 5km southeast of Muttaborra and 1.5km northwest of Rosebery Downs homestead when he found the *Muttaburrasaurus*.

"There was a big waterhole down there called the Yellow Hole – it was a rocky outcrop hole made up of flagstone-type stuff and I had been down there mustering a million times before, so on this particular day I just rode straight past it. After going past, though, I realised I had seen something strange. I thought to myself,



Photo © Doug Langdon

The bones of Muttaburrasaurus langdoni on the banks of the Thomson River (far left and inset), as found by Doug Langdon in 1963. Appearing as a pile of rocks, their discovery is testimony to the observation skills of the young bushman from Muttaborra who took these photos for the Queensland Museum after swimming his pony across the creeks following heavy rain on the Thomson River channels the day before.

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