

Greeting **Elliot** the sauropod

Wendy Pyper has a dig at Australia's biggest dinosaur.

Queensland Museum palaeontologist Dr Steve Salisbury regards the mounds of black soil dotting the Mitchell grass plain. 'It's all good, and it's all going to plan,' he enthuses to the disparate group of volunteers gathered around one of the mounds. A murmur of excitement courses through the crisp morning air.

'In the past two days we've found over 400 fragments of surface bone, and as the tractors dig up more of the overburden, we should start to find bigger pieces in the hot spots we've identified. But we've got to work carefully and methodically.'

As a volunteer palaeontologist with two days' experience, I've established a love-hate relationship with the words 'careful' and 'methodical'; torn between a desire to 'find the big one' and a need to comb the black soil for fossilised bone fragments that will provide professional palaeontologists with the clues they need.

So it is for many of the other 12 volunteers, drawn together by the opportunity to unearth 'Elliot', a giant sauropod dinosaur that came to rest in this remote Mitchell grass plain near Winton, in outback Queensland, 95 million years ago.

Sauropods were characterised by long necks and tails, legs as thick as Greek pillars, and disproportionately small heads. The largest sauropods are thought to have exceeded 30 metres in length and weighed 80–90 tonnes, making them the largest animals to have ever walked the Earth.

So when a huge chunk of Elliot's right thighbone and hundreds of other bony fragments were discovered by grazier Dave Elliot in October 1999, it was only natural

that Queensland Museum palaeontologists would pack up their picks and hit the road.

'I'll never forget the synchronised dropping of jaws when we arrived,' Salisbury recalls. 'There were hundreds of pieces of dinosaur skeleton and some of them were massive. The largest was a piece of the right thighbone, or femur, about 60 centimetres high and 50 cm wide. It took two of us to carry it outside and I knew at once that it was a sauropod.'

Using proportions from other sauropod skeletons, Salisbury calculated that Elliot's femur must have been 1.5–1.7 m long. From this and other bones he estimated that Elliot was 16–21 m long, close to 4 m high at the hip and weighed as much as five African elephants (about 28 tonnes). Australia's biggest dinosaur!

In some ways the discovery was no surprise, given that Elliot's remains lie in what Salisbury calls the 'Dinosaur Triangle'.

Nearly all Queensland's dinosaurs have been discovered in this triangle, which stretches between Chillagoe, Boulia and Roma. At its heart lies the Winton Formation, 95–97 million-year-old rock that, between 1959 and 1980, liberated the fragmentary remains of five sauropods (*Austrosaurus* sp.). But finding any dinosaur, particularly one as big and as well preserved as Elliot, is still remarkable.

Once the initial excitement had subsided, the museum team pegged out a huge grid. Surface-fragment discoveries were concentrated in four 'hotspot' areas. A test dig at the femur hotspot unearthed the remainder of the bone, as well as more vertebrae, about 1.5 m beneath the black soil.

'The discovery confirmed our theory that concentrations of bone fragments at the surface correlate with the presence of more complete elements below ground,' Salisbury says.

Twelve months later, and with the generous support of nine sponsors, a second dig was organised. So, on this wintry June morning, I find myself in a dry, windswept paddock, surrounded by enthusiastic volunteers, learning how to dig up a dinosaur.

During our week we experienced a mixture of excitement and tedium as we picked, shovelled, sorted, hammered and raked through the black soil and Mitchell grass. With so much ground to cover it was a relief to watch the 'dino-tractor' gouge out great chunks of earth – for us to sort through later – and uncover the sediments in which Elliot was buried.

At dig's end, three weeks later, museum staff returned to Brisbane with 15–20 bones, including vertebrae, haemal arches, an ankle bone and part of a hip bone.

'The 2002 Elliot Dig was probably the most successful dinosaur excavation carried out by the Queensland Museum since *Muttaborrasaurus* was unearthed back in the '60s,' Salisbury enthused on his return.

'To have found any bones at all makes the dig a success, but to have found so many and in such good condition is a bonus. And we've literally only begun to scratch the surface in terms of what's there.' The Elliot Dig is expected to continue for two years.

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Dig volunteers sift the black soil for tiny bone fragments.

