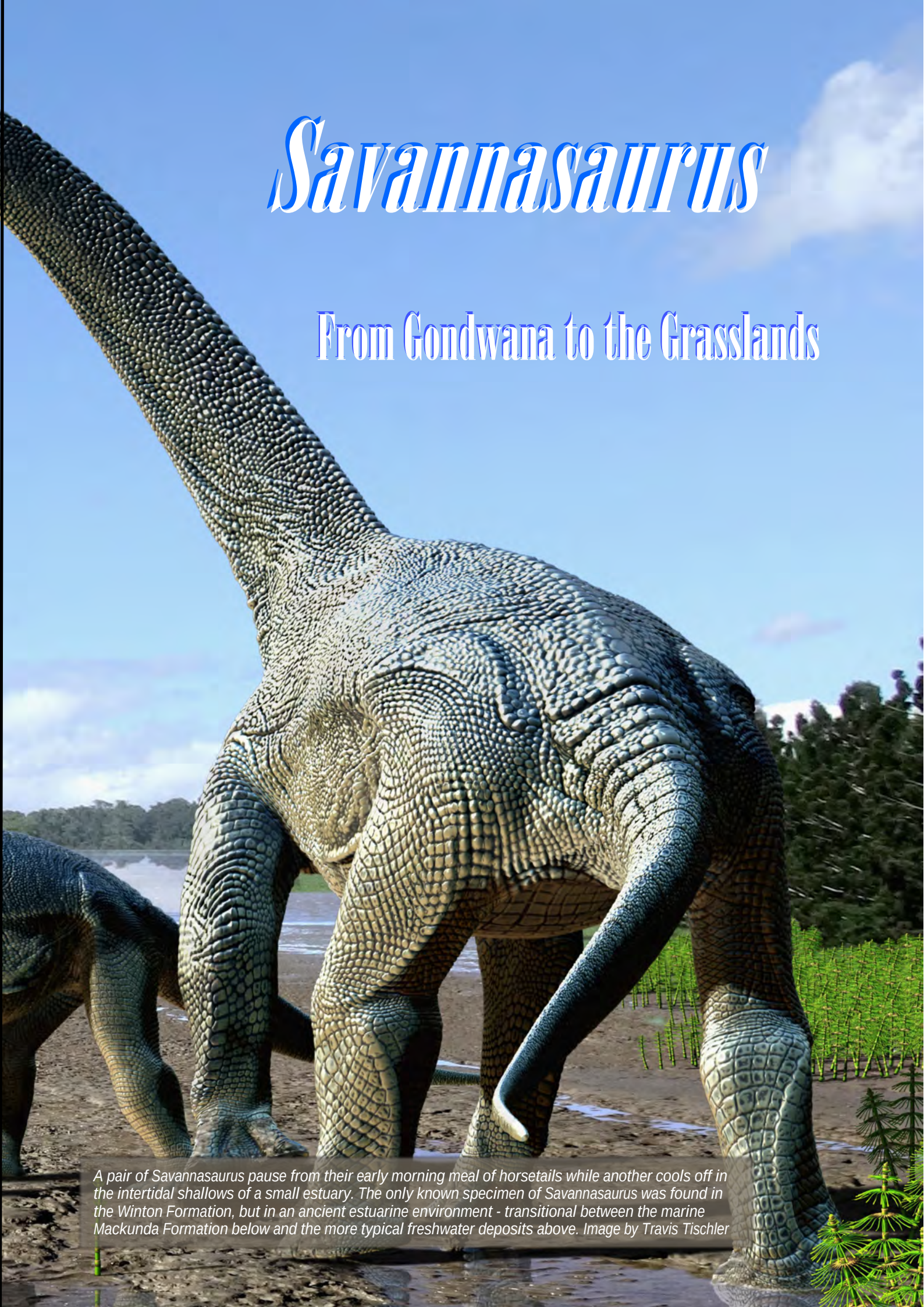
Story by Dr Stephen Poropat

Savannasaurus

From Gondwana to the Grasslands



A pair of Savannasaurus pause from their early morning meal of horsetails while another cools off in the intertidal shallows of a small estuary. The only known specimen of Savannasaurus was found in the Winton Formation, but in an ancient estuarine environment - transitional between the marine Mackunda Formation below and the more typical freshwater deposits above. Image by Travis Tischler

Shipping containers. Although often used for the purpose that gives them their name, that is not their only use. In some places, people live in them. In others, they convert them into barns or pools. And at the Australian Age of Dinosaurs (AAOD) Museum, shipping containers are used to store fossils.

The Fossil Preparation Laboratory on The Jump-Up houses five shipping containers, each named after its contents. The most important ones, as far as I am concerned, are the two that house the greatest number of dinosaur bones: "Elderslie" and "Belmont". Until October 2016 the "Belmont" container was better known by another name: the "Wade" container. Every tour group that has ever been through the Lab has passed this container, but more often than not it would have been padlocked shut and attracted little attention.

Although Wade was generally off limits to visitors, virtually every volunteer who worked at AAOD from 2006 to 2014 would have become intimately familiar with the Wade's fossils. To them, Wade was a fixture in the Lab, figuratively a piece of the furniture; he would literally have been so too, had Matt White, in sheer frustration during preparation of a specimen, realised his dream of converting Wade into a series of designer doorstops!

Wade, of course, is a dinosaur, and the reason the container name changed is that he's not in the Wade container any more. Although the removal of a dinosaur from a shipping container might not sound like headline news, in the case of Wade it actually was. However, that's far from the whole story; we need to rewind a bit.

Early days and discoveries

In March 2005 grazier David Elliott was mustering sheep on Belmont station, north-east of Winton when he spotted a few fragments of dinosaur bone on the ground. Two pieces in particular caught his eye. At first David thought they were the ends of a theropod limb bone, and that the shaft of the bone was missing. However, when he took them back to the homestead, his wife Judy clicked the two ends together... and revealed a practically complete sauropod toe bone! Knowing that his find would be of great interest to palaeontologists at the Queensland Museum (QM), David emailed a photo of the bone to Dr Scott Hocknull, then Curator of Vertebrate Palaeontology, with the subject line "Ho-hum, yawn". Needless to say, the bone was far from "ho-hum" to Scott – it was a ripper of a find! Nevertheless, the site from whence the toe had come was stuck with the facetious nickname of Ho-Hum.

In July 2005, following five years of excavation, the Elliot site on Belmont was finally depleted. With a few days spare before QM staff and volunteers were due to depart, it was decided that a test dig should be held to see what was to be expected of the Ho-Hum site (see AAOD #4 *End of an Era, Birth of an Age*). It was soon apparent that the bone fragments David had found came from a large siltstone concretion that was situated just below the surface and there were many more fragments of bone around it. Encouraged by this discovery, a full-scale excavation was planned for September that year.

The Ho-Hum dig commenced in September as planned and it was soon apparent that the concretion, which proved to be around half the size of a bus, was packed with sauropod bones. Unfortunately, being so close to the surface, the top of the concretion had been thoroughly infiltrated by black soil and was breaking up in such a way that it could not be extracted whole. This made excavation a very mundane job as each piece of rock had to be numbered, removed, washed, and then renumbered so that it could be re-joined to its neighbours at a later date. The labelled rocks were then stacked on a pallet along with other rocks from a similar part of the concretion. In contrast to the exterior, the centre of the concretion was quite solid. Being too large to remove as a single unit, it was broken up along pre-existing gypsum-filled cracks using a jackhammer. By dig's end the fossiliferous rocks filled seventeen pallets, and it was clear that limb bones, ribs and vertebrae were all preserved.

Mere days before the end of the September dig news reached Belmont of the passing of Dr Mary Wade, a prominent Australian palaeontologist. Mary was a close friend of the Elliott Family and had been a staunch supporter of AAOD. To honour her memory, the Elliotts decided to immortalise her surname by nicknaming the Ho-Hum dinosaur Wade. Although named after a woman, the masculinity conveyed by the name Wade meant everyone referred to this dinosaur as a "he".

At the end of the 2005 dig a narrow trail of rocks leading away from the main concretion was uncovered. With hopes that they too would produce a bony treasure, a second dig was held in September 2006. Unfortunately, the trail of rocks, which proved to be shaped remarkably like a sauropod's tail, were barren and the dig was abandoned.

Freeing Wade – the work begins

David and Judy had decided before the dig at the Ho-Hum site that the preparation of any new dinosaur discoveries would take place in Winton, and that the finished bones would also remain in the district to be put on display. For this to happen, however, AAOD needed a preparation laboratory – and where better to base it, initially at least, than Belmont? With the help of the Queensland Museum, private contributions, and a July–September 2006 *Australian Geographic* fundraiser called "Free Wade!" (which raised almost $16,000), the laboratory was set up in the Belmont motorbike shed. Naomi Calleja, AAOD's first full-time employee, moved into the jackaroos' quarters and numerous volunteers began making their way out to Belmont to prep dinosaur bones – working in the shed by day and sleeping in the property's shearers' quarters by night. Little did they know just how long their task would take.

In September 2006 a mesa, now known as The Jump-Up, was donated to AAOD by the Britton family, providing the planned Museum with a home. Also in 2006 AAOD began excavating two new dinosaurs, and because one of them wasn't a sauropod, these specimens were prioritised at Wade's expense. I would protest at the cheek of the dinosaurs in question, but neither of them had cheeks! In July 2009 the Fossil Preparation Laboratory at The Jump-Up opened, and on the same day Scott

What do you do with a concretion the size of a small bus when it is packed with dinosaur bones and cracked into thousands of pieces? That was the dilemma which confronted Australian Age of Dinosaurs and the Queensland Museum at the Ho-Hum Site in September 2005 (above). The alleged big rock full of bones was easily dealt with the following year. After ***carefully excavating around a long concretion on the southern side of Wade's carcass, the 2006 dig team*** *(below) were given the satisfaction of smashing it into pieces. There was not a scrap of bone in it.*

Hocknull and colleagues named Winton's first three dinosaurs – the queue-jumping theropod *Australovenator* (Banjo) and the sauropods *Diamantinasaurus* (Matilda) and *Wintonotitan* (Clancy). Three years later, in April 2012, the Reception Centre building opened with a brand new Holotype Room in which *Australovenator* and *Diamantinasaurus* were displayed in all their glory. But what of Wade? Well, unfortunately Wade wasn't finished yet! Preparators came and went, with some visiting many times, year after year, but it was not until 2014 that it could finally be said that all of the pieces worth preparing had been completed.

Even before Wade was fully prepared, it was clear that he was different from all other sauropod dinosaurs ever found in Australia. As such, he needed to be kept secret. Once the Lab had been moved to The Jump-Up, Wade specimens were whisked away as soon as they were prepared and sequestered in the Wade container with the rest of the bones. Portions of Wade were used as training pieces for new volunteers, since both the bone and the rock in which it was preserved were solid. Even the heaviest-handed volunteer would have struggled to damage a Wade specimen! For this reason we can confidently state that virtually every volunteer preparator between 2006 and 2014 has been involved in preparing Wade. Despite not having hands in the strictest sense, it is fair to say that this sauropod has touched a lot of people. The completed Wade specimen is testament to the literally thousands of hours of work freely contributed by hundreds of willing volunteers over a period of almost nine years. You know who you are, Wade workers – take a bow! Wade would still be in a pile of rocks on pallets without you.

Following the Ho-Hum dig in September 2005, the Elliott family commenced ***preparation of Wade's bones on a makeshift bench. The humerus being prepared*** *by Judy Elliott (above) was thought to be complete until it was discovered that one end had been trodden on and crushed prior to fossilisation.*

Introduction to a phenomenon

When David Elliott discovered Wade, back in March 2005, I was a 20-year-old undergraduate student at Monash University, starting the third year of my Arts/Science Bachelor. I had been obsessed with palaeontology (and especially sauropod dinosaurs) since I was four years old, and had coordinated my undergraduate degree in such a way that it would equip me with the skills and knowledge needed to become a palaeontologist. As a teenager I had done work experience at the Monash Science Centre with Lesley and Gerry Kool and Pat Vickers-Rich, so my passion for palaeontology was not in doubt. Nevertheless, despite the fact that I had been on two digs on the Victorian coast with Dinosaur Dreaming, I was still very much a novice.

A lot changed between 2005 and my first visit to the AAOD Museum in October 2010. By this time I was no longer a complete novice. I had been on four dinosaur digs in Victoria with Dinosaur Dreaming, conducted fieldwork in Western Australia, the Chatham Islands and Brazil, and was a PhD candidate at Monash University with six months to go until submission. I had a lust for change and the exciting discoveries being made in Winton beckoned me like a moth to a flame.

It was on that first trip to AAOD that I became aware of the existence of Wade. My photos from that trip include a few nearly finished bones that had not yet been confined in the Wade container. I can't even remember if I was allowed access to the Wade container on that trip; although if I had, there would not be any photographic evidence to jog my memory! Back in those days, Laboratory Manager Trish 'Tricky' Sloan was pretty strict about what could and could not be photographed and, if necessary, she would have stood guard in order to keep unwanted visitors out!

Whenever it was that I took my first sneak peek inside the Wade container, I do remember being figuratively blown away by what I witnessed. Several shelves lined each side of the container, and all were filled with fully-prepared portions of Wade: vertebrae (and fragments thereof), limb bones of various shapes and sizes, flat sheets of bone from the shoulder or chest, and a seemingly endless cavalcade of ribs. The *pièce de résistance*, however, was not on the shelves, but on the floor at the back of the container. This was the undercarriage of Wade's pelvis, a sinuous shield of bone one metre across at its widest point and mounted in a fibreglass cradle. As soon as I saw it, I knew (as had David, Scott and many before me) that Wade was special. It had to be one of the most complete sauropods ever found in Australia, and it was, as far as I knew, unique.

A transformative experience

Fast forward to September 2012. By then I had visited Winton at least five times and attended two AAOD Museum digs, so I was becoming somewhat of a pro. I had been working as a postdoctoral research fellow at Uppsala University in Sweden for a year, and had used that time to pore over the sauropod specimens held in Uppsala, including the magnificent mounted skeletons of *Euhelopus zdanskyi* – the first sauropod ever named from China.

I had been informed earlier in 2012 that two sauropod experts, Professor Paul Upchurch and Dr Phil Mannion, were planning to visit Australia from

Affectionately known as the Prep Shed, the lab at Belmont (above) operated from September 2006 until early 2009 and welcomed many volunteers. One of these, Marylyn Baldy, stayed until she had prepared ***Wade's complete pelvic girdle*** *(far right), an effort that saw her working* ***for nine weeks straight. AAOD's first*** *full-time employee, Naomi Calleja (right) spent thousands of hours supervising volunteers while working on the bones of Wade, Matilda and Banjo.*

England. I could scarcely believe my luck as I had read many of their papers (Paul's in particular), and knew that Paul had been working on sauropods since the early 1990s, at a time when I was starting primary school! Although the timing of their trip did not align with my time in Australia, I deliberately changed my schedule so that I could study sauropods with them at both the Queensland Museum in Brisbane, and at AAOD in Winton.

By this time I thought I was getting to grips with all things sauropod – how wrong I was. Witnessing Paul and Phil at work, discussing the minutiae of sauropod anatomy and interrelationships with them, and finding out that they'd visited museums in Asia, both Americas and throughout Europe to examine sauropod fossils firsthand, made me realise how far I had to go before I could even contemplate considering myself a specialist in sauropod palaeontology. Their breadth of knowledge was seemingly endless.

Before their visit Scott Hocknull (who was leading the research on Wade at the time) asked Paul, Phil and me if we would like to be involved in the Wade project, and we all accepted. Although I did not have time to study Wade's bones with Paul and Phil due to commitments back in Sweden, I decided to make it my mission to study Wade in detail when I returned to Winton in 2013.

Reassembling Wade

2013 was a fantastic year. I published my first three scientific papers on dinosaurs, the AAOD dig at the Pete site was a resounding success and, best of all, I met my partner Elise on the dig! While in Winton, I also started work on the giant fossil jigsaw puzzle known as Wade.

If all the king's horses and all the king's men couldn't put Humpty Dumpty back together again, they would have had no chance with Wade. Thankfully, though, AAOD has a not-so-secret weapon when it comes to jigsaw puzzles: Judy Elliott. Using the

Wade register Excel spreadsheet, she and I grouped homeless fragments with those from similar sections of the site, and gradually puzzled the bones back together. Some were easy, like the limb bones, whereas others were far more difficult. The hardest was the sacrum, which was gradually pieced together from more than a dozen fragments that looked like mere lumps of rock rather than pieces of bone. After weeks of puzzling Judy and I had the bulk of the skeleton together, although there are still hundreds of small fragments that have not been joined!

On tours and in conversation, I had often heard AAOD staff talking about how complete Wade was. The estimates varied from 25–60%, and the upper estimate would have made Wade the most complete sauropod ever found in Australia by a country mile (appropriately enough for the Winton area). However, when Judy and I had finished puzzling, it soon became clear that this estimate was excessive.

Counting the braincase (without its roof) as one bone and excluding the teeth, the skull and jaws of most sauropods comprise 49 bones. Wade's skull was not preserved as far as we know and we don't know how many neck, back or tail vertebrae he had. Based on comparisons with other sauropods, we can assume that he had 15 neck vertebrae, 10 back vertebrae (with two ribs each), a sacrum, 40 tail vertebrae and 20 or so Y-shaped bones called chevrons. In total, then, we would expect 106 bones in Wade's spine and rib cage. Last time I checked we had one neck vertebra, eight back vertebrae, around 14 ribs, the sacrum and five tail vertebrae: a total of 29 out of 106.

In Wade, we have two out of four expected shoulder bones, both chest plates and eleven of the 28 expected bones from the front legs. Of the six bones in the pelvis, Wade preserves four, but from the back legs only two out of a possible 42 bones have been found. All up, from the limbs and limb girdles, we have 21 of an expected 82 bones.

By my count, 50 of Wade's bones are preserved, out of an expected total of 237, making him around 21% complete. On the face of it, this figure seems low – you wouldn't want to get 21% on a maths exam! But how does it rate against other Australian sauropods? As far as I can tell, in terms of percentage completeness, Wade is in third place. The type specimen of *Diamantinasaurus* (Matilda) is in second place with more than 50 bones, and it gets more and more complete each year as preparation on this specimen is ongoing. In first place (so far), however, is *Rhoetosaurus brownei*, a Jurassic sauropod found near Roma in 1924, which preserves more than 60 bones. The bones of Rhoetosaurus are housed at the Queensland Museum; however, despite the fact that they were collected more than 90 years ago, many are still in storage waiting to be prepared.

Most of Wade's bones were preserved inside a huge concretion that was, to a large degree, breaking down due to the elements. However, the subsequent digging, retrieval, numbering, washing and renumbering process that involved over a dozen people in 2005 meant that some small, seemingly barren rocks that actually contained bone were accidentally discarded. This contributed to quite a few connections between bones being lost, which made the jigsaw puzzling harder than it probably should have been. Nevertheless, Judy and I had enough information to go on to reconstruct most of the bones and, as a follow-up, to identify the position of each bone within the concretion.

Setting up several bones as they would have been when they were still in rock, we took photographs of each site section from all possible angles. I then used these images to make 3D photogrammetric models using the software package AgiSoft PhotoScan. Once I had made several of these models from multiple specimens, we put them into a single 3D digital workspace. When we connected the site sections together (based on field markings), we realised something astonishing. The sacrum was positioned immediately above the pelvis, the back vertebrae were in approximate order (albeit not in articulation) in front of the pelvis and the ribs were spread out on either side. Although not in life position, many of Wade's bones were very close to it!

Digital modelling of the Wade carcass led us to realise that his bones had only been shifted slightly after he died. There is even evidence of a possible bone-shifting agent: a tooth, similar to those of *Australovenator*, was found with Wade, and it is quite possible that this was lost by a theropod as it scavenged his carcass. Water might also have played a part in shifting the bones around, but the prime mover might have been something else entirely.

Several sections of the Ho-Hum site were termed "chunder zones" because they comprised numerous fragments of bone that had been displaced from life position and mashed together with ancient mud and fossil plant matter. These areas appear to have been caused by other dinosaurs, possibly sauropods, trampling over Wade's carcass. The most obvious example of this was the beautifully preserved rear half of one of the back vertebrae, found immediately adjacent to a portion of the site riddled with bony debris and turned into mush. Another was Wade's right humerus which preserves a sauropod footprint. What should have been a perfect bone is missing one end due to a large footfall that crushed through the surface and drove the bone veneer deep into the centre of the limb.

Once Judy and I had worked out the layout of the site, the observations that I had made of Wade's anatomy started to make more sense. It had proven difficult to work out the order of the back vertebrae, for example, and some pieces took on new meaning when additional fragments were pieced together. This layout enabled me to make a detailed description of Wade's skeleton and, combined with the notes I took in 2013 and early 2014, formed the basis for a full anatomical description that I intend to publish in the near future.

My research on Wade taught me a lot about this animal. He was around 12–15 metres long, at least 2.5 metres tall at the shoulder and hips, and around 15–20 tonnes in mass. As far as titanosaurs go, Wade was medium-sized – the largest were at least twice as long and probably four times as heavy. I identified several similarities between Wade and *Diamantinasaurus*, suggesting that they were close cousins, but found few features in common between Wade and *Wintonotitan*, implying that they were more distantly related.

The Wade paper

In August 2014 I received an email from Scott Hocknull, offering me his position as lead author on the research paper that would announce Wade as a new species. Scott was becoming increasingly uncertain that *Savannasaurus* was a unique type of sauropod and, aware of my desire to specialise in sauropod research, was willing to let me take the lead role. This was a difficult decision for him considering that he had been part of

*In 2009 the lab at Belmont was relocated to the AAOD Museum on The Jump-**Up where work on Wade's bones continued.** Construction of volunteer accommodation at the Museum in early 2011 saw an increase in preparation, including the dorsal vertebrae being worked on by Tony Moore (above left) and a rock full of surprises being contemplated by long-term volunteer Bill Hanley (above right). It was not until 2015 **–** a decade after the Ho-Hum dig **–** that preparation of Wade was complete.*

*The unprepared right sternal plate of Wade (above left) after it was fitted and glued back together. The numbers and reference marks on this specimen were used during the dig in 2005 to help identify and re-join individual pieces to their correct position later. The same specimen following preparation (above right) **shows the outstanding preservation of Wade's bones** in spite of numerous cracks running through them **– also demonstrated by the numerous cracks running through Wade's** prepared right metacarpals (below).*

The original toe bone of Wade discovered by David Elliott in early 2005 following preparation (above). To date this specimen is still the only metatarsal that is known from Wade.

Dr Steve Poropat lugs vertebrae out of the Wade container for a Savannah Guides School presentation (below). A combination of jigsaw puzzling, photogrammetry and many hours of poring over site records and specimen preparation data enabled Steve and Judy Elliott to identify the relative positions of bones within the siltstone concretion before it was dismantled at the dig site. Connecting these bones together (right) proved that many of them were close to life position when they became fossilised.

the Wade excavation, and had been intending to work on Wade for years. Nevertheless, I was happy to take the lead on the paper, and I set myself a target: I would have the paper submitted before the middle of 2015.

Phil, Paul and I divided most of the labour between us. I wrote the bulk of the paper, including the introduction, description and discussion. Phil ran the analyses that helped us determine Wade's position on the sauropod family tree. Paul ran the analyses that would help us work out where Wade had come from. One of our biggest questions was: when did Wade's nearest relatives live, and where? Did Wade originate in Australia or did his ancestors disperse into Australia from elsewhere? Our analyses suggest that *Savannasaurus* and *Diamantinasaurus* were each other's closest relatives. We also found that their next closest relatives were from Asia and South America. When Wade was alive, Asia and Australia were separated by more ocean than they are today. However, both South America and Australia were connected to Antarctica at that time, suggesting that South America was much more likely to have been the place where Wade's ancestry lay. On this basis, we suggested that Wade's ancestor had trekked from South America, across Antarctica, into Australia at some stage between 105 and 100 million years ago. Prior to that time, the South Pole appears to have been too cold (albeit not frozen over) for sauropods, but 105 million years ago the planet warmed, allowing sauropods to traverse the Antarctic continent and end up, either accidentally or intentionally, in Australia.

Other people made huge contributions to the paper too. Scott Hocknull combined the 3D models of Wade's bones that Judy and I had made (and many of his own 3D models) into a comprehensive site map

of the bones as they would have been in the concretion. Travis Tischler produced skeletal and life restorations of Wade, and although I cannot confidently confirm all of his artistic interpretations of Wade's anatomy, his image of "Wade and Friend", a pair of sauropods on a horsetail-riddled mudflat (title page of this story), is simply captivating.

Submitting Wade

On 10 April 2015, a little after midday, I submitted the Wade manuscript to the journal *Nature*. Little more than eight hours later, I received a rejection letter via email – possibly the quickest manuscript turnaround in history! We had known that submitting our paper to *Nature* was a long shot, but we didn't expect our bullet to ricochet in our faces quite so quickly.

Somewhat demoralised, but not really surprised, my co-authors and I picked ourselves up, dusted ourselves off and reformatted the paper. Almost exactly one month later, on 10 May, I sent the Wade manuscript to the journal *Science*. I started getting a bit jumpy at 5.00pm – anticipating another eight hour rejection, perhaps – but that did not eventuate. However, ten days later the dreaded email came: our paper had, again, been rejected without review. Mortified at the pattern emerging, we resolved to try again.

On 21 July, a little after midnight, I padded up, stepped up to the plate and took my third swing at submitting the Wade paper – this time to *Nature Communications*. Eight days later we were gratified to receive notice that Wade had passed the first hurdle: our paper had gone out for review, so that other scientists could scrutinise our work. Almost exactly one month later I received an email informing me that Wade had been rejected again. One scientist had given a favourable review; the other, not so much. The journal's editor went with the latter, and Wade was homeless once more. Three strikes, and I was out!

I contacted my colleagues and, almost immediately, Paul drafted a letter of appeal. We sent it to the editor, but it was not until we sent a reminder email one month later that we received a response. When we realised how much of an uphill battle it would be to get the paper accepted in *Nature Communications*, we decided to submit it elsewhere.

As you can imagine, this whole process was pretty demoralising. Without Paul and Phil's help, I doubt that I would have been able to bring myself to submit the paper again. However, after a long silence from me, Phil revived my desire to finish the paper with a simple email – a figurative prod to see if the project was still going ahead. He and Paul modified and reran their analyses, and I reformatted the manuscript, rewrote several sections and wrote several new ones. By April 2016 we were ready to go again.

On 16 April 2016, a little more than a year after I submitted the Wade paper to *Nature*, I hit "submit manuscript" on the website for *Scientific Reports*, an open access online scientific journal. Within a week our paper had been sent out for review. Months passed and we heard nothing. Finally, on 15 July we received word that the reviewers had requested only minor revisions. The finish line was so close we could just about reach out and touch it.

The only issue left was copyright. This process was utterly diabolical; being an open access journal, *Scientific Reports* had to ensure that they did not breach any copyright laws. After more than a month of increasingly terse emails we finally ticked all the boxes and our paper was sent to the editor one last time.

Accepted, at long last!

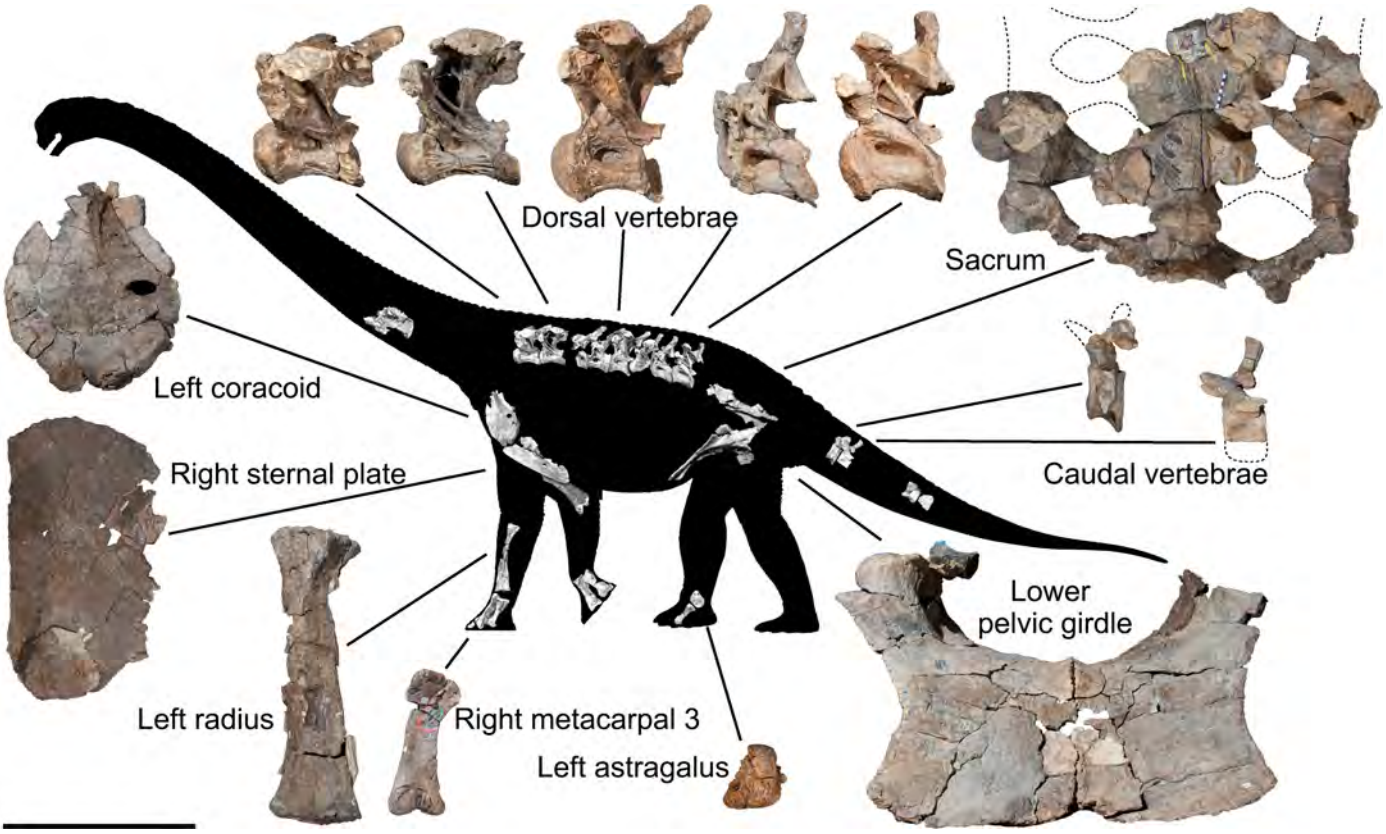
QANTAS Flight 632 hit the tarmac in Brisbane at around 8 pm on 13 September 2016. After an uneventful two-hour flight from Melbourne I was happy to be back in Brisbane. A seemingly omnipresent stewardess announced over the loud speaker that mobile phones could be switched out of flight mode. Within a minute I was checking my email and, almost

United Kingdom sauropod experts Prof Paul Upchurch and Dr Phil Mannion help Queensland Museum palaeontologist Dr Scott Hocknull fit the pelvic girdle of Wade together (above). Visiting the AAOD Museum in October 2012, these highly regarded palaeontologists collaborated with Dr Stephen Poropat to produce a manuscript introducing Savannasaurus elliottorum to the world.

instantaneously, I was buzzing with excitement. Sitting in my inbox, waiting to greet me, was an email that I had been waiting, nay, hoping, to receive for fifteen months. Its message was simple, but so satisfying:

"We are delighted to accept your manuscript entitled *New Australian sauropods shed light on Cretaceous dinosaur palaeobiogeography* for publication in *Scientific Reports*. Thank you for choosing to publish your work with us."

Prior to receiving this email I had had more than a dozen scientific papers accepted for publication. This acceptance email, however, filled me with more elation than the rest combined: if I had clenched my fists in celebration any harder, my fingers would have gone straight through my palms! With that simple bliss-inducing email, it was official: I was about to achieve my childhood dream of naming a dinosaur. The news that Wade had been accepted spread like wildfire among the staff at AAOD. I arrived in Winton on 9 October (after 21 hours in a bus) and within a few days a plan for the relocation of Wade from his container to the Museum's Holotype Room had been hatched. The AAOD staff and I set out the vertebrae in their life positions on polystyrene foam



A selection of the better-preserved bones of Savannasaurus and their skeletal positions (above).
Modified from Poropat et. al New Australian sauropods shed light on Cretaceous dinosaur palaeobiogeography.
Scientific Reports 6, 34467. http://www.nature.com/articles/srep34467

On 20 October 2016 Savannasaurus elliottorum, ***Australia's 20th named dinosaur, was announced by Dr Stephen Poropat and*** *colleagues via the open access online journal Scientific Reports. Prior to the release, the bones of Wade were moved from* ***their shipping container to the AAOD Museum's holotype room where David Elliott and Stephen*** *(above) relax from their efforts of setting them up for public display. Savannasaurus* ***is now a popular addition to the Museum's public tour offering.***

cradles and then, below that, mounted the rest of the bones as close to life position as possible. On 12 October the container, which for so long had shrouded Wade in secrecy, was effectively cleared out.

With Wade finally on public display, there was only one task left to carry out. Our embargoed press release was sent out to journalists all over the globe on 17 October. In the three days that followed I received calls from media outlets including *The New York Times*, *National Geographic*, *Australian Geographic*, *Cosmos Magazine* and several from dear old aunty, the Australian Broadcasting Corporation (*ABC*). One ABC journalist even took it upon herself to meet me at the airport on 20 October, mere minutes after my plane from Longreach to Brisbane landed, so that she could get an exclusive for the morning news! It was a weird, exciting sensation, and definitely a nice change from the struggle of trying to be heard in the competitive world of scientific publications.

The world has a new dinosaur species!

On 20 October 2016, at 11.00pm (in Queensland, at least), the Wade paper was finally published. It was decided long before I became involved in the research that Wade would be named *Savannasaurus elliottorum*: "The Elliott family's savannah lizard". By the next morning, thanks to all of the interviews conducted prior, *Savannasaurus* was an international superstar.

I was invited to appear on *ABC News Breakfast* at 6.45am on 21 October. As the live television interview approached I was given an earpiece and microphone. I then sat, in an otherwise empty room, looking down the barrel of the camera, unable to see either my interviewers or myself. Time ticked by. I felt my heart rate accelerate. Nerves… nerves unlike any I'd had before. And then a wave of calm washed over me; soothing thoughts flowed through my mind. You've got this. All you have to do is share *Savannasaurus* with the world. My heart rate slowed, I relaxed and, after what seemed like an age – but was less than five minutes – the interview was over. Virginia Trioli and Mike Rowland signed off. I could breathe again.

The rest of the day was a happy blur: friends, family and other palaeontologists messaged or called to congratulate me, journalists emailed or called asking for interviews and the media avalanche hurtled on. By day's end I was utterly exhausted. However, Elise had a surprise in store – a wonderful night out with friends, capped off with a delicious *Savannasaurus* carrot cake!

Epilogue

Towards the end of that heady day I called David Elliott, the man who started it all with his "ho-hum" discovery. He was delighted with the volume of media attention the *Savannasaurus* paper had garnered, even more so because he had only had to give a few interviews! Prior to the release of *Savannasaurus* I already had a lot to thank him for. David gave me the opportunity to work on AAOD fossils. He invited me to attend AAOD's digs year after year. And now, he had helped me realise my childhood dream of naming a dinosaur - and not just any dinosaur, but an Australian sauropod dinosaur! It was an absolute privilege to name a dinosaur after him and his family, and I hope that our collaboration continues long into the future.

The resplendent *Savannasaurus* specimen – still Wade to his friends, and there are many of them – is now on public display in the Holotype Room at the Australian Age of Dinosaurs Museum in Winton. I view it as a fitting testament to the efforts of so many people; many of whom I have never met. It is my hope that the Elliott family, AAOD, the Queensland Museum, the dozens of past and present AAOD staff, the hundreds of past and present AAOD volunteers, and each and every one of my co-authors feel proud for playing their part in revealing *Savannasaurus elliottorum* – Australia's twentieth named Mesozoic dinosaur – to the world.

The Author

Dr Stephen Poropat is a research fellow at the Australian Age of Dinosaurs Museum of Natural History and a major contributor to the Australian Age of Dinosaurs Journal. His interest lies mainly in the evolution and geographic distribution of sauropod dinosaurs through time, with a particular focus on Australian Cretaceous sauropods.