Australian Age of Dinosaurs

museum newsletter

June 2018, Issue 26

THE CRETACEOUS GARDEN PROJECT

NEWS FROM THE JUMP-UP

DINOSAUR FOSSILS ON THE JUMP-UP?

Many visitors to The Jump-Up want to participate in or see a real dinosaur dig. However, The Jump-Up is part of a series of mesas known as the Vindex Range and its top (around 75 metres above the surrounding land) represents the height of the Earth's surface between 20 and 30 million years ago. As the surrounding land eroded down over time The Jump-Up remained largely untouched through its resistant cap rock. So, while dinosaurs are found in the low-lying country around The Jump-Up they aren't found on The Jump-Up itself as the rock has been chemically altered by geological processes. Any fossils that may have once been present are now gone.

So, if we can't bring The Jump-Up to the dig, then why not bring the dig to The Jump-Up? Over several months Education Co-ordinator Steven Rumbold moulded

sauropod leg bones based on the fossils of *Diamantinasaurus* and, in late March, they were installed. Set in concrete and covered with sand beneath the shade of a large tree, the new Dinosaur Excavation play area is the perfect way to find out what it's like to dig up dinosaur bones in the Outback.

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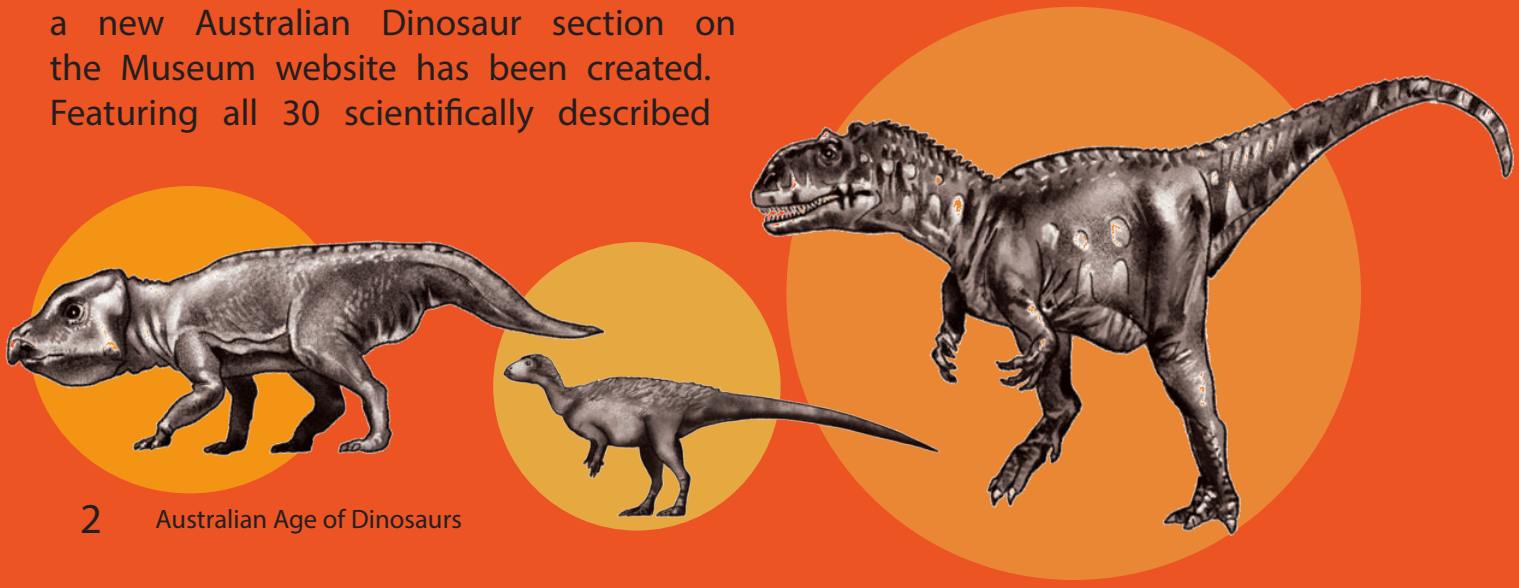
21 DINOSAURS

Not many dinosaurs are known from the Mesozoic of Australia. In fact only 21 have proper scientific names based on fossil material and nine from fossilised footprints. As part of the Museum's education rollout, a new Australian Dinosaur section on the Museum website has been created. Featuring all 30 scientifically described dinosaurs. The information page is the first of many free Australian natural history resources that will soon become available online. Find out more about Australia's unique dinosaur heritage.



NEWS FROM THE JUMP-UP

BUTCH LENTON WAY AND CAR PARK

In March and April the Museum's road from the gate (at the top of The Jump-Up) to the Reception Centre was sealed. The road was cut 150mm into the rock before water was mixed with gravel to pack it down. The new road, named Butch Lenton Way, is 8m wide and sealed with red bitumen. The new car park can now comfortably cater for over 200 cars, caravans and motorbikes at any one time. This project was funded by the Queensland Government and the Museum

RECEPTION CENTRE MAKEOVER

The new welcome desk has been installed at the Museum. The desk features rusted steel cut outs at its front, and wooden cupboards and drawers. The entire Reception Centre was repainted and the awnings at the rear of the building replaced with rusted steel. The makeover is still underway with more updates to come.

DAY STAY FOR PETS

Over the last few years the Museum has received considerable visitor feedback requesting pet friendly facilities on The Jump-Up. To meet this growing need Steven Elliott, a local iron brand maker and working dog trainer, was contracted to design and construct new pet holding pens for the Museum.

Steven completed the task in early June ensuring that visitors' pets now have a safe place to stay while their owners are on tour. The pens will be fully equipped by summer with plenty of water, shade and close proximity to the Reception Centre car park (for those owners that want to check on their fur babies).

DINOSAUR DIG 2018

On 28 May the annual dinosaur dig got underway at Elderslie Station. The dig ran for three weeks and involved 39 participants plus Museum staff, Dr Matt White, Dr Steve Poropat and the Elliott Family. This year the dig was concentrated on two sites: a patch of small bones to the west of the Elderslie shearing shed (site one) and a patch of sauropod bone fragments in a gully south of the shed (site two). The small bones were particularly exciting as the fragments looked to belong to a theropod dinosaur rather than a sauropod.

SITE ONE: SMALL BONES *(THE MARILYN SITE)*
For a couple of days there was plenty of excitement at the suspected theropod site. By mid-week a concentrated raking effort had produced the weathered remnants of ten limb ends and two partial vertebrae that appeared to belong to a medium-sized theropod.

"In spite of the eroded nature of the fossils these are the first non-avian theropod dinosaur vertebrae to be discovered in Queensland."

Dr Steve Poropat

Alongside these fossil fragments, a small bivalve, lungfish tooth plate and fragments of sauropod bone were also recovered. Unfortunately, due to the condition of these fossils, it is unlikely they will be used diagnostically.

On digging further down, to the base of the blacksoil, it became apparent the site was a lag deposit as it did not contain a fossil-

The Marilyn site

Located west of the Elderslie Station shearing shed, diggers uncovered the fossil remnants of a medium-sized theropod dinosaur.

Exposed sauropod femur.

The Ann site

The discovery of Australia's second sauropod braincase and the first associated sauropod skull elements is extremely significant and will give an incredible boost to our knowledge of Australian sauropods.

bearing layer. This could be the result of two scenarios. Either the bones migrated to the site prior to fossilisation or they are all that remains of a fossil-bearing deposit that eroded away many years ago. By the end of the first week site one was exhausted.

SITE 2: LARGE BONE SITE *(THE ANN SITE)*

After the dig participants raked back the blacksoil at the site south of the shearing shed large amounts of bone fragments began to appear. Excitingly, one very large piece of sauropod bone on the eastern side of the site turned out to be half of a left tibia (shin bone); the remaining tibia was soon located below it, still in the ground. When a left fibula was also uncovered below the tibia, with a 1.4m-long left femur beside it, this area of the dig site became the main focus for the first two weeks.

On the second day a small weird-shaped bone was recovered and it was soon identified by Dr Steve as a sauropod braincase. This discovery quickly led the dig team to change from shovels and crowbars to small screwdrivers and brushes. By the end of the second week Dr Steve had identified a number of skull bones including both quadrates and quadratojugals, a left squamosal and both postorbitals along with what appears to be other skull bones or palatal elements.

The eastern side of the dig site also produced possible portions from the back ends of the sauropod's mandibles, as well as a few dorsal ribs. Possible tooth and jaw fragments were identified and are now wrapped up in plaster jackets with the recovered limb bones and ribs. Interestingly, despite finding ribs and

Chevron (tail rib).

skull elements, no vertebrae were found in this section at all.

The western end of the dig site was much closer to the blacksoil layer and, as a result, several bones had become fragmented and beyond repair. These damaged bones included what appeared to be the remains of a number of pelvic bones (ilia, pubes and ischia), a possible sacrum and the right femur. However, a caudal vertebra and chevron in reasonably good condition were found, as well as several foot bones including a metatarsal and two pedal phalanges.

By the third week the going was starting to get tough and the discovery rate dropped back significantly. On Wednesday a drizzling rain made the site too muddy to work but work resumed a couple of days later. Although the 2018 dig didn't match the dazzling rate of discovery of the 2017 Judy site, it is still one of the more successful digs the Museum has held.

As always, these remarkable finds could not happen without the hard work and commitment of a lot of people and the continued support of Ian and Sandra Muir who allow the Museum to hold the digs on their property. Thanks also to the Winton Shire Council for their support with a generator and cold room, to the Elliott family for their earth-moving machinery, to Les McKee for his unbridled enthusiasm in keeping everyone well fed and to the 39 participants who came from all corners of the country to help us. We could not have held the dig without them.

THE CRETACEOUS GARDEN PROJECT

In April the Museum launched the Cretaceous Garden project, an ongoing fundraising initiative to recreate prehistoric Australia within the recessed, and protected gullies of Dinosaur Canyon.

Aside from genetically engineering our own dinosaurs (aka *Jurrasic Park* film franchise) the next best way to transport visitors back in time is to recreate the environment the dinosaurs inhabited. Ninety-five million years ago the landscape was an ever-changing world of receding floodplains, humid climatic extremes and expanses of conifer forests. The Winton area was covered in cool forested wetland on the shores of an inland sea and plants thrived in waterways that were kept flowing by year-round rainfall.

The Museum's Cretaceous Garden was started in 2015 and launched with the opening of Dinosaur Canyon in 2017. Unfortunately, despite the best efforts of Museum staff, the original cycads planted in the sheltered gorges did not survive. A combination of extreme hot weather, an extended

THE CRETACEOUS GARDEN

Cycad
Macrozamia moorei
NATIVE TO AUSTRALIA
This is the tallest-growing species of *Macrozamia* and grows to 7 metres tall with a 50–80cm diameter trunk.

Hoop pine
Araucaria cunninghamii
NATIVE TO AUSTRALIA
The hoop pine can live up to 450 years and grow to a height of 60 metres.

Tree fern
Cyathea cooperii
NATIVE TO AUSTRALIA
This is a fast-growing tree fern that can grow up to 15 metres in height with a 30cm-thick trunk.

Kauri pine
Agathis robusta
NATIVE TO AUSTRALIA
This is a large evergreen tree growing straight and tall to a height of 30–50 metres, with smooth, scaly bark.

Bunya pine
Araucaria bidwillii
NATIVE TO AUSTRALIA
The bunya pine grows to a height of 30–45 metres, and the cones are the size of footballs.

Cypress pine
Callitris columellaris
NATIVE TO AUSTRALIA
The Cypress pine is a small evergreen tree, 4–12 metres high, with a trunk up to 50cm in diameter.

Chinese maidenhair tree
Ginkgo biloba
NATIVE TO CHINA
This tree is found in fossils dating back 270 million years. Ginkgos normally reach a height of 20–35 metres.

drought, termites and shocked root systems was too much for them. While this has been a steep learning curve and a considerable setback, the Museum is determined to try again. With consideration for the lessons of the past, the new trees are younger, smaller and were replanted in pots two years ago to ensure well-established root systems.

To give these new plants the best possible start, planting began in late April as the weather became cooler. The trees were loaded into utes and driven up The Jump-Up from Winton at a leisurely 20km/h - to reduce the chance of windburn. Trees purchased include 12 large 300+kg cycads as well as a number of hoop pines, bunya pines, tree ferns, kauri pines, Cypress pines and several ginkgos.

THE CRETACEOUS GARDEN

THE PLANTING

Guided by David Elliott, Museum staff and many volunteers planted all the trees. Each tree has been treated for termites and had water absorbing crystals placed at the bottom of the hole prior to planting. All the trees are doing well. The Cretaceous Garden, featuring the Valley of the Cycads, has been made possible through the donations and support of Museum members.

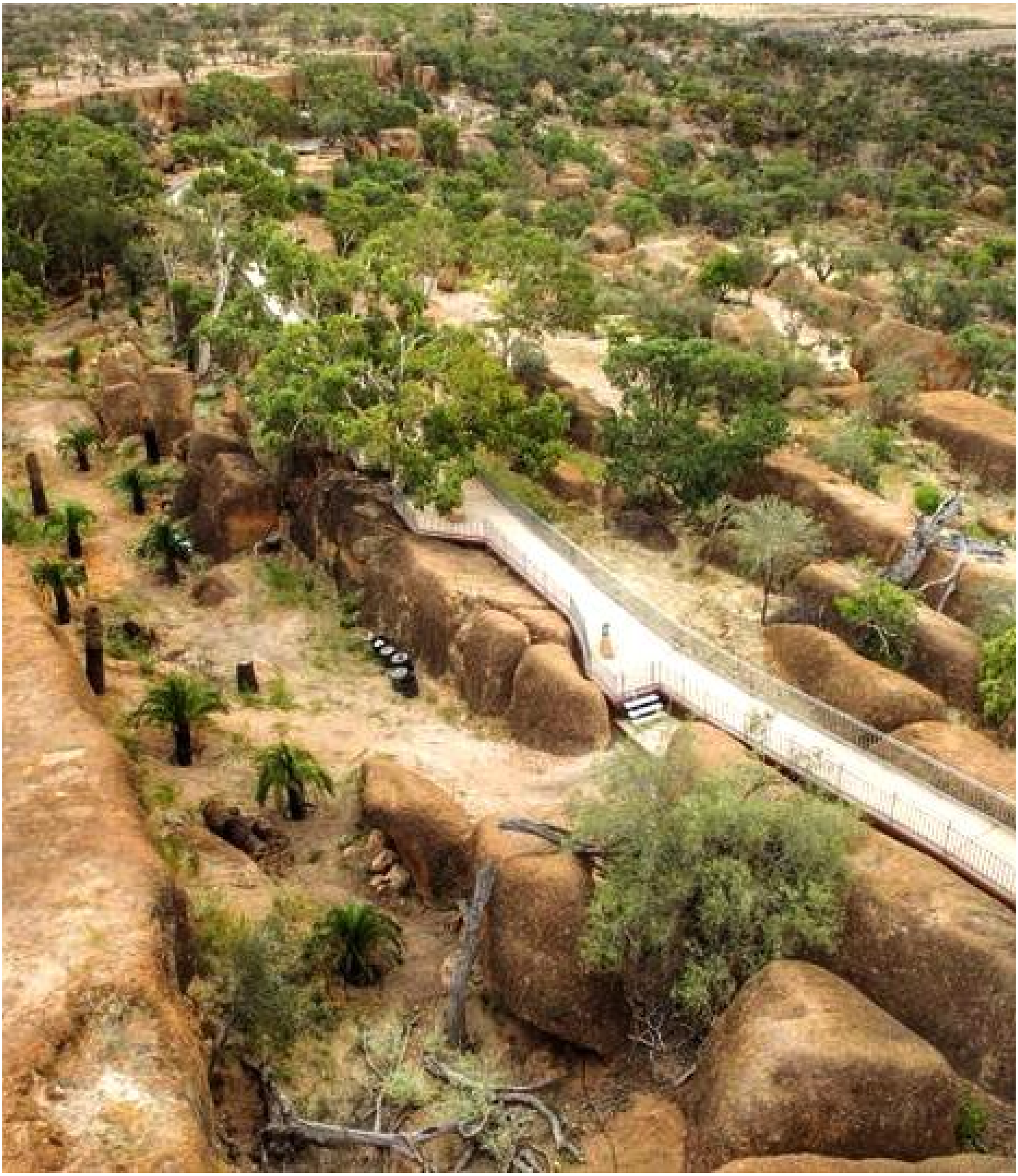
The Museum has raised just over $18,000 since the project was launched. This has been a phenomenal result given the short time frame. There is still much to be done including the installation of a drip feed watering system, sprinklers for the tree ferns, more plants and water features!

Heartfelt THANKS

TO OUR VOLUNTEERS!

The following people have been instrumental in helping to bring the next stage of the Cretaceous Garden to life...

Small planters <50kg
Milton, Melody, Pam, June, Doug, Jim, Maxine, Denise, Joan, Margo and Kate
Transporters
Special thanks to Doug Elliott for getting the big cycads to The Jump-Up
Large planters <500kg
Mel Elliott and the Winton Work Camp
Hole digger (3' wide x 2' deep) and planter
David Elliott



INTERESTED IN DONATING TO THE CRETACEOUS GARDEN PROJECT?

The Museum has only got to where it is today through the enthusiasm and generosity of its members. If you would like to contribute something towards helping us meet the costs of the Cretaceous Garden we would love to hear from you. All of our donors will be recognised on plaques throughout the garden so please stipulate if you do not wish for this to happen.

Donations can be made **online** or if you would like to donate over the phone please contact the Museum's visitor experience officers on +61 7 4657 0712, or email museumfinance@aaod.com.au

JURASSIC WORLD COMPETITION

It's been four years since the theme park and luxury resort Jurassic World was destroyed by dinosaurs out of containment. Isla Nublar now sits abandoned by humans while the surviving dinosaurs fend for themselves in the jungles...

On 15 June the Museum gave away ten free double in-season tickets to *Jurassic World: Fallen Kingdom*. The giveaway received an overwelming response with over 150 submissions to the question: *Which dinosaur from the Jurassic Park movies is your favourite and why?* The top dinosaurs were Blue and the *Velociraptors, Dilophosaurus, Tyrannasaurus rex, Pachycephalosaurus* and *Spinosaurus.*

Thank you to everyone who entered. The winners of the giveaway are:
Jan Capomolla, Inge Daniels, Natalie Foster, Joan Hunt, Galina Laurie, Kirra-Lee McDonald, Katrina Nicoldon, Lauren Ogden, Michael Radel and Will Ridgeway.

WALTZING MATILDA CENTRE REOPENS

After its devastating destruction by fire in 2015, the newly rebuilt $23 million Waltzing Matilda Centre was officially opened on 20 April during the inaugural Winton's Way Out West Fest.

The building was opened by Governor-General Sir Peter Cosgrove and his wife Lady Cosgrove. John Williamson also took to the stage to sing True Blue and Waltzing Matilda.

"Design Collaborator at Cox Architecture, the building's designer, Casey Vallance said, "The Centre was designed to reflect the significance of this iconic Australian song through an architecture and interpretative experience."

AGM AND ANNUAL REPORT

The 2018 Australian Age of Dinosaurs annual general meeting (AGM) was held at 5pm on Sunday 13 May 2018 at The Winton Club, 27 Oondooroo Street, Winton. The AGM was attended by seven company members and ten proxies. The new look Annual Report and expanded operations and finanial reports are a credit to the Museum's new Finance Manager Kelly Lord. For those interested in reading the Museum's 2017 Annual Report it can be viewed or downloaded **here.**

COX COMMENDATION

Cox Architecture have received a commendation for Small Project Architecture by the Australian Institute of Architects for Dinosaur Canyon Outpost. Built to fit seamlessly into the landscape around it, Dinosaur Canyon Outpost is a beautiful resting stop for visitors to enjoy before commencing their journey into Dinosaur Canyon.

WINTON'S SUMMER **RAIN**

In March the rain began to ease around Central West Queensland leaving in its wake a flood line of water approaching the outskirts of Winton. Flood levels peaked at 3.7 metres with muddy brown floodwaters isolating the town and inundating all but one access road. While the town was closer to being an island than an Outback town only a few people were evacuated as a precaution and all houses were spared.

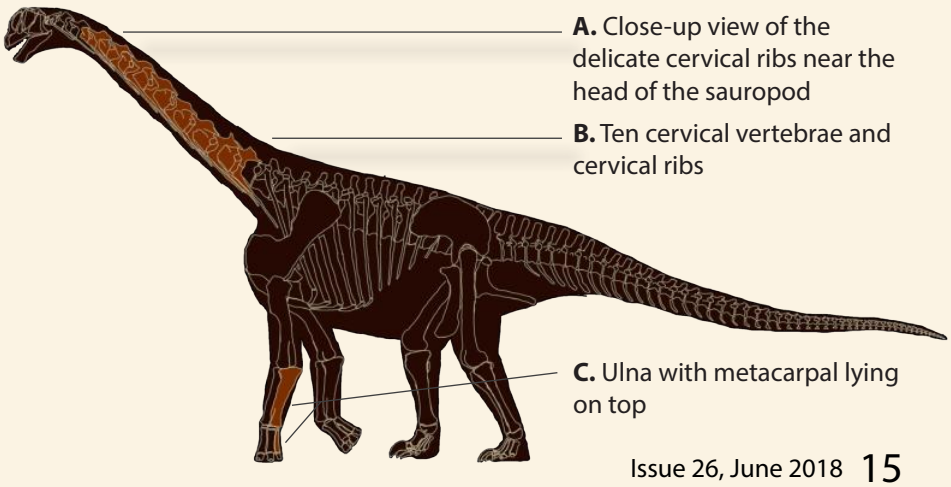
Winton Mayor Gavin Baskett said, "The people that are getting affected by the water might not be too impressed by it, but everyone else has loved the rain. It's always great to see a bit of a flood – that's one way to get the country nice and drenched after five or six years of drought."

The Museum's new sealed road and culverts were instrumental in ensuring the road was accessible after only three and a half days of closure – compared with over three and half weeks in 2016.

Courtesy of Winton Shire Council

JUDY SITE MATERIAL **UPDATE**

Preparation has continued on the Judy site material. Over summer Museum Honorary Technicians worked hard to prepare the young sauropod's ulna (with metacarpal) and flip it for further prep. Other fossils prepared from the site include a femur, coracoid, cervical vertebrae and dorsal vertebrae.



A. Close-up view of the delicate cervical ribs near the head of the sauropod

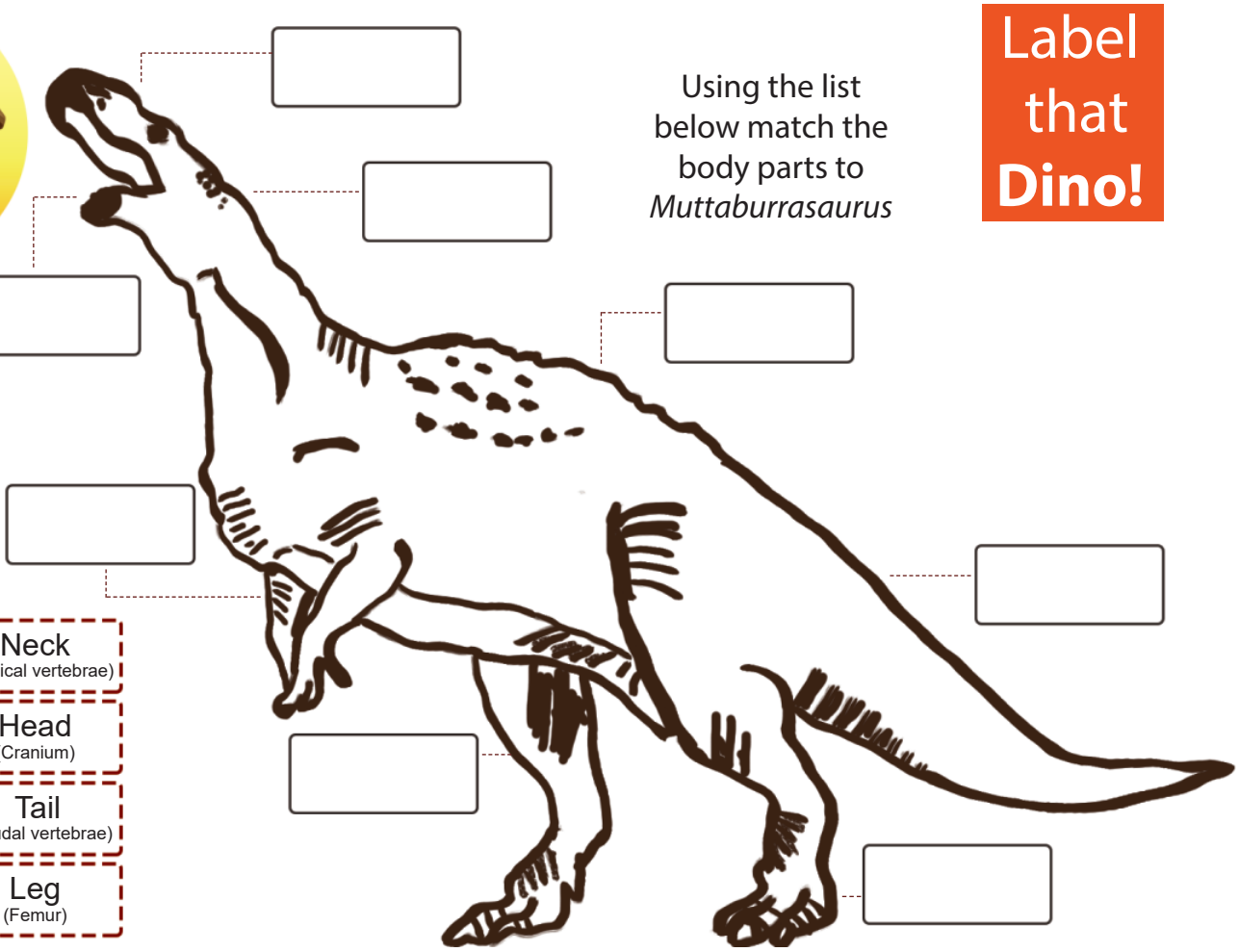
B. Ten cervical vertebrae and cervical ribs

C. Ulna with metacarpal lying on top

PALAEO PETE FUN

Label that Dino!

Using the list below match the body parts to *Muttaburrasaurus*



You bewdy!

- Back (Vertebrae)
- Neck (Cervical vertebrae)
- Foot (Phalanges)
- Head (Cranium)
- Jaw (Mandible)
- Tail (Caudal vertebrae)
- Arm (Tibia and fibia)
- Leg (Femur)

INTRODUCING THE **MUSEUM FIELD GUIDE**

The Museum Field Guide is here! Available only during school holidays to children visiting the Museum. The Field Guide is filled with fun activities and interesting facts about prehistoric Australia.

Available 2018

JUNE/JULY
SEPTEMBER
DECEMBER

COLLECT

Museum passport stamps, spot all the dinosaurs and take home your very own dinosaur plaque tracings!