
BEER'N'BONES

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FLINDERS UNIVERSITY PALAEOLOGY SOCIETY

DIGGERS SHEILD 2014:**Proper Preparation Prevents Piss-Poor Performance**

Last contested 16 years ago, the much anticipated revival of the annual cricket competition between FUPS and the F.U. Archaeology Society (ArchSoc) took place on the 30th March 2014. With pride on the line, and gunning for a 3rd straight title (in as many contests), the FUPS team organised themselves with weekly practice sessions at the cricket nets. Evidently, the ArchSoc did not...

FUPS captain Gavin Prideaux won the toss and elected to bat, with the rationale that this would be the best way to ensure everyone would get a turn at batting. Scoring regularly at an average a tick over 4 runs per over, the innings was brought to a compulsory close after 40 overs. ArchSoc managed to hold us to 7/163, but a wise captain's call saw everyone get a bat, by retiring batters after facing 8 overs and allowing them to resume their innings after the 10th wicket fell. Top scoring for FUPS was Sundries on 49 (10 byes, 39

wides), followed by Aidan Couzens on 22 (retired, not out). A stoic captain's knock was brought to a premature end, out for 7, when Aidan called his PhD supervisor and club captain through for an impossible single run, only to leave Gav stranded short of the crease. Other notable performances with the bat for FUPS included Grant Gully with 17 (not out) and Samuel Arman, of the Warradale Cricket Club, out for a Golden Duck in the first over. Under our agreed special match rules, Golden Ducks were allowed to be bought back for a \$10 donation to the fielding club, and Sam continued his innings to reach 15 runs before he was caught out.

To their credit, the ArchSoc showed great stamina in the field at a time when it is at its hardest. Forty overs can feel like a very long time when your opposition's runs are coming consistently, but they did it with their chins up and produced a couple of fine bowling performances. Their best figures belong to one of the Brads who claimed 3/30 for his 5 overs, and Tina bowled on some tight lines to achieve a very economical 1/8 from 5 overs.



Shot! Not a photo of Sam's Golden Duck.

Lunch was taken between the innings, with players and spectators enjoying a fine BBQ and selection of salads; a huge thank you is owed to the many hands that helped to put on such a great lunch!

After the main break, James Moore opened the bowling from the Southern end and managed to snare 2 wickets for 2 runs in the first over, although one was a Golden Duck which was promptly bought back. Gav continued from the Northern end and snatched another wicket in a maiden over, putting ArchSoc straight on the back foot at 2/2 after 2 overs. Another wicket to James and further 2 to Gav saw them slide to 4/6 from the first 6 overs. The writing now clearly on the wall, the skipper called for a change in bowling attack to allow few more players to get amongst it before it was all over. Wickets continued to fall consistently every 1.2 overs, with ArchSoc's innings coming to end in the 14th over and with only 18 runs on the board. For the ArchSoc, Tina was again a stand-out with a top score of 5 runs and, more importantly for ArchSoc, held on to her wicket for 11.3 overs.

The inaugural Walshe Medal (i.e. player of the match) was handed to James for the all-round performance of 19 (not out) with the bat and taking 3/3 with the ball. However, it was the hard work put in by the whole team before the game that made sure they were all able to pull it together for an utterly dominating performance when it counted. Everyone managed to contribute with the bat, either scoring runs or taking advantage of the poor bowling and fielding by running byes. It is also notable that every single person who got a chance to bowl, before it was all over, took at least one wicket, some without any prior game experience with the red ball.

After much anticipation and hype in the Palaeo camp, the Digger's Shield ended up rather reminiscent of the home Ashes earlier in the summer; the home side found themselves somewhat underwhelmed, while the visitors

just wanted it to be over and to go home. Indeed, much like the Ashes, some didn't even wait for it to be over before they left, forcing one ArchSoc player to take to the batting crease twice!

The gauntlet has been thrown down in a most emphatic fashion, but it is hoped ArchSoc are not discouraged and will be able to field a more sporting team next year.

James Moore

FIELDWORK

CAVEPS 2013 Post Conference Trip – Lake Eyre Basin

After a week of geeking out on the latest discoveries in oz palaeo, the post conference trip flung a motley crew back out into the field for discoveries anew. The crew was diverse to say the least, from semi-fossilised professors, through researchers, students and amateur fossil collectors. The geographic coverage was impressive too, with a good contingent from the east coast, as well as a few plucky Chinese researchers.

The caravan set out early and made good time, stopping at Hawker for lunch and getting a few more cartons of essentials. Then further north to Marree for a final taste of civilization as the swags were rolled out at dusk.

The next day we hit the highway briefly before swinging west through scrub and dunes towards Lake Palankarinna. As maps and weary minds were consulted a brief unsuccessful search was made for Stirt's original campsite (which was relocated by the SA museum crew in the 80's). We then hit the final big dunes around Palankarinna, and after an aborted attempt to traverse these with a trailer, we stopped to strike camp and enjoy a lunch of sandwedges and flies.

Palankarina then beckoned, and within an hour the lake was a hive of activity as we explored the various exposures. Here Neville Pledge was in his element, with his unsurpassed knowledge of the exposures, local geography “mammalon hill” and the stories behind them.

Back at camp (where a dingo had earlier been wandering) we settled in with a kick of the footy and few brews. A wonderful addition to our regular chef Carey was tour operator Xavier and his crew who throughout the trip kept the crew fed with a range of campfire delicacies.

The next day we set off for Cooper Creek. This entailed following tracks clearly set out by someone who was not there. Regardless of their direction, the tracks always end up climbing the longitudinal dunes rather than running along the basins. This leg was one of the most memorable parts of the trip. Being flung around the back of a troopie forced quick friendships, and made the politics of vehicle choice after each stop important. The inevitable boggings followed in the soft sand, often with the recovery vehicle becoming the next victim. Another highlight was the CB radio banter, with the mix of nutbag kiwis and hungover students trying to make sense of a professor who refuses to take his GPS off nautical miles.

Late afternoon we arrived at the Cooper and set up camp directly on its banks. A few contingents set off to prospect in the failing light, or to have a look at the avifauna hanging around a few vestigial patches of water still present (and quite funky) in the creek. A superb pink and orange sunset then set in as Gavin pulled out a few of the remaining bottles of plonk left over from the conference.

The next day's breakfast was an innovation of Carey's; sous-vide omelettes, or eggs and

other stuff in zip-loc bags, boiled. An innovative technique to say the least, but not entirely without merit. By the end many of us had the tweaks sorted out and were pumping out delicious omelettes without a single pan needing to be cleaned.

We then set off down the Cooper, driving along the creek being a luxury we could afford with so many recovery vehicles. Not far down the creek Trevor launched himself from his vehicle and returned grinning with a sizable chunk of *Genyornis*. Prospecting then began in earnest, with groups spread around the area and recovering a range of taxa; roos, diprotodontids, and even an elusive scrap of flamingo.

Returning to Marree a few hit the showers, while most preferred another variety of tap. The less said about the following morning the better, least to say it was a slow exit from camp. We struck south for the Flinders Ranges, taking in its impressive views as Uni Adelaide Prof. Brian McGowran navigated us through its history between whacks of his trusty geological hammer. A brief stop off was made to check out the stromatolites, or ‘titite rocks’ as an unnamed UQ professor and Brian Cox lookalike dubbed them. Then a final pub for dinner and more cricket. The next morning we returned to Adelaide in a largely uneventful return and a final close to CAVEPS 2013.

Sam Arman

The St Bathans Odyssey Continues...

It has been a few years since the St Bathans project featured in the Riversleigh Notes – probably a bit too long. Many of our readers have been across the ditch and helped at one time or another in the annual excavations near St Bathans in Central Otago. It is now some 14 years since this project was initiated and

now the list of critters from this fauna has grown to touch on 2 leiopelamtid frogs, a couple each of skinks and geckos, a tuatara, a crocodilian, a land turtle, some 40 birds, about 5 bats and a couple terrestrial mammals. Of course many of these have yet to be formally described, but some notable taxa gained such status in 2013 including the two frogs, a kiwi, and the globally-oldest and first Australasian bittern. So in 2014, under threat of this being the last year of current funding, the team once again assembled and braved the Otago climes in search of that elusive crocodilian, and some small furry critters to augment the spectacular bird fauna.



Mud pie times.

Thus on a Monday morning in the second last week of January some 13 palaeophiles assembled out of the skies in Christchurch and made the trek south, meeting in some rather random fashion kiwi brothers-in-trowels from various places at odd points along the way. Stopping at the Haugh's Quarry in Hakatamea Valley, where Oligocene whale skulls and penguin bones have been abundant,

and reaching Ranfurly via Cromwell and Alexandra we final assembled in Ranfurly Motels after dark. The team this time was Trevor and Jenny Worthy, Steve Salisbury, Alan Tennyson, an Adelaide contingent of Aaron Camens, Elen Shute, Vanesa Di Pietri, a tri-nations lass Rachael Fisher back for her fourth time, a UNSW team and affiliates of Mike Archer, Phil Creaser, Shimona Kealy, and a few ringins such as Marcus Richards and Luke Easton from Otago Uni, and James Proffitt from Uni Texas. Much appreciated short term visitors included Rick Arena and Nic and Maria Rawlence.

We arrived in a summer marred by irritable weather gods – rain and cold seemed to predominate all. In fact Ann and Euan's house had been surrounded in 2 m of snow in October until one night the north wind came and melted the lot in a couple hours – the result the valley's worst floods in decades. The effect of this was marked on our sites: one place where stromatolites were exposed and a valuable rich deposit was only found in 2012 had a strip no less than 4 m wide removed entirely, the whole of the HH section was beautiful and clean and in Mata creek major havoc was played out with rerouting of the creek (fortuitously exposing whole new potential fossil horizons) but simultaneously destroying others. But Aussie luck prevailed and the rain stepped aside and mild fine weather greeted us for the duration – well almost. A single day with a spot of drizzle allowed the team to chase elusive bat fossils in the Nevis shale deposits some 100 km to the west, just over the 1500 m high range to the south of Cromwell.

But the best laid plans can be thwarted by some things so when we arrived at the site on Tuesday morning, we found a digger sitting by a pond of water that was kind of hiding our main quarry. Euan was nowhere to be seen either and this was all explained a day or so

later when we found out that Ann had kind of hurt her back and doctors visits understandably had taken priority. Anyway we got some of the HH1a hole cleared and moved a bit of overburden at the new site upriver, where a new mystacinid bat and an odd mammal humerus from 2013 had whetted our appetites. The team was soon split into three with one heading for this site (HH0) to chase the elusive conglomerates in clays interspersed between 0.5m high stromatolites. In short, several days saw one major lens of such worked out but no more found in the 5m strip we accessed. Hopefully the 41 bags of sediment will reveal nice things. Back on the river bank by the main quarry we found the river had been kind and more of the previously super-rich HH4 bed was exposed. So Aaron and team were tasked with extracting this in large chunks so nothing was crushed. Bags a plenty quickly accumulated on the bank. Downriver a bit, the newish bed of HH6 was relocated and worked for a few days but bones appeared sparse and interest waned pretty soon. But, the old favourite, the bed HH2 which we have targeted for years was soon set upon by Aaron and his team. Determined to do it right no one was allowed to poke at the actual fossil bed till no less than about 8 square meters was all exposed, but the effort paid off with beautiful fossils including very rare skulls and other large bones being found over the next few days. With $\frac{3}{4}$ of a tonne of sediment in bags it is sure some nice small things will also appear in the future. Euan solved the issue of a pump, by getting his going and pumping the quarry dry and repeating the exercise every morning at 7 am while most of us were not really in this world. So on the Monday after we arrived we were able to get the digger back and expose a nice strip of the HH1a bed and so allow excavation there once more. Six action packed days there saw 50 bags of concentrate retrieved from about 15 square meters of the bed. We have

now chased the deposit some 50 metres from the river bank over the range 2-5 m below the terrace getting near 150 square metres of the bed excavated. I think that is a pretty fair effort.

Meanwhile, a third team operated in Mata Creek virtually every day. The aim was to explore a site discovered in 2013 that had revealed a couple intriguing mammal bits among beautiful bird bones. The creek had been kind and the floods had avoided the site so it had been little eroded, and Steve was soon able to relocate the horizon in the 3m high cliff. Two weeks later the cliff was more vertical, very clean and the horizons quite obvious – and 200 sacks of sediment were on pallets in the truck yard in Ranfurly. No nice mammal jaw had exposed itself to Mike's ever hopeful eyes but multiple nice bird bones did appear.

All in all it was an extremely productive trip, totally due to the hard and enthusiastic work of all participants for which our core team is most grateful. I think a result of some 4 tonnes of sediment collected for lab processing and a couple hundred hand-sized fossils wrapped ready for a future unveiling is a result we can all be proud of. Any especial goodies? – well the ever-hoped-for crocodylian skull did a bunk and the mammal jaws full of teeth remained hiding, but no fewer than 3 bird skulls did get found, and very nice specimens of the new duck from high in the section were recovered, and a nice bone of an eagle perhaps was the most rare critter seen. But among the bags etc I am sure multiple nice things will reveal themselves over the coming months. Doubtless some of the team will say, 'Hey bro, get yours arse into gear and sort that sheet' but so long as the fossils bickin and they can sweeng a peek we will see them back agin.

Trevor H. Worthy

Cravens Peak Fishes

In mid-July the Flinders fossil fish crew (John Long, Brian Choo, Ben King), together with Lindsay Hatcher, went to Cravens Peak reserve in an effort to find fossils in 400 million year old Devonian rocks. The site is about as isolated as it is possible to be, sitting on the north-eastern edge of the Simpson Desert. It was a three day trip to get there, via the Birdsville track. This culminated in the successful navigation of a series of 28 sand-dunes within the reserve itself, executed with ever-increasing expertise by John and Lindsay.

The fossil site is a freshwater deposit containing fish fragments as impressions in sandstone, and it represents the first radiation of freshwater vertebrates in Australia, ever. The most common fossil is a large, odd-looking Placoderm called *Wuttagoonaspis*, but the undisputed star character is *Pituriaspis*, which has been found only at this site and is considered unique enough to be assigned to its own vertebrate class. It had a single continuous bone covering its front half and a bizarre, long rostrum, and probably had pectoral fins. Its discoverer, Gavin Young, named it after the hallucinogenic plant Pituri, as he thought he was hallucinating when he first saw it. It is hoped that further information from this poorly known fossil would shed light on an important problem in the origin of jawed vertebrates. There are currently two potential candidates for the sister group to jawed vertebrates: Osteostracans and Galeaspids. Put briefly, Osteostracans share a number of features with jawed vertebrates that Galeaspids lack, but they appear to have a very primitive braincase. More information about the internal structures and the possibility of pelvic fins being present in Pituriaspids could potentially be very significant for this dilemma.

On the first day we set out enthusiastically

from camp through the bush to rediscover the fossil site, following some half-hearted tyre tracks from an expedition in 2006, staking a tyre almost immediately. The site was a low mesa next to a dry lake ("Lake bushy"). The fossils were only found on the surface of conglomerate slabs that occurred in small channels appearing here and there among the red sandstones. Digging was therefore a largely futile exercise, and the only way fossils were found was by turning over rocks that had already weathered out. Since the site had already been thoroughly explored in 1977 and 2006, this meant it was already virtually fished out. After a few days the decision was taken to explore other outcrops, this led to the development of an unfortunate talent for discovering Brachiopods and Nautiloids. It turns out that Ordovician marine sediments look like Devonian freshwater sediments.

The trip was undoubtedly a culinary success, with a particularly delectable Korma cooked in the camp oven as well as a complete lamb roast. This author's contribution was a brutally unhealthy menu of deep fried fish and chips followed by vegemite doughnuts (which were termed Mitey Crusty Balls, watch this space). However, nothing could compare to the magnificence of the gourmet Chiko rolls that we attempted in Quorn on the way up. The pitfalls that are presumably normal on this type of expedition weren't avoidable as we endeavoured to get bogged on the one day we forgot to bring the shovel. A brand new generator also inexplicably broke after three days, leading to desperate attempts to save the beer and food. After a week we accepted that there were not many fossils left, and we made our way back. The highlight of the return trip was a continentally confused ratite (Struth, an Ostrich!) wandering along the Birdsville track. The only explanation is that it flew there.

Ben King

LETTER APOLOGY FROM THE EDITOR

Moving into a lab that is moving labs is not for the faint hearted. After a truly magnificent CAVEPS in 2013, the Flinders Palaeo group appeared to be a well oiled –highly organized and efficient– machine. So we all thought, until the time came for everyone to pack and unpack their university lives, to move an entire two floors up in the same building to natural light and civilization. As well as a compactus full of some of Australia's most important fossil specimens, do you have any idea how much time goes into packing, unpacking and re-shelving multiple libraries?

Flinders palaeo has now expanded from the small basement lab and shared offices many of you were lucky enough to cram into at CAVEPS,



Old lab set up (previous FUPS sorting day)

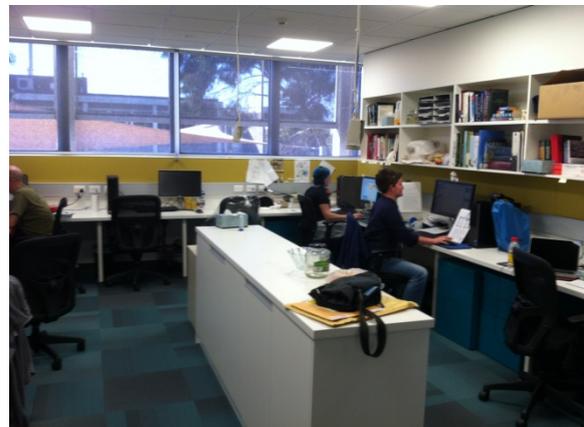
to what are now a mortuary, a prep lab, a research lab, a microscope room, a student office, a post-doc office, a set of private offices, a meeting room/library AND our own double garage with a lean-to. Needless to say, the Palaeo Society bought a full sized beer fridge, and cellared a carton of Coopers Vintage Ale, to occupy all the extra room we seem to have acquired. Fingers crossed we don't have to move again for at least another decade.



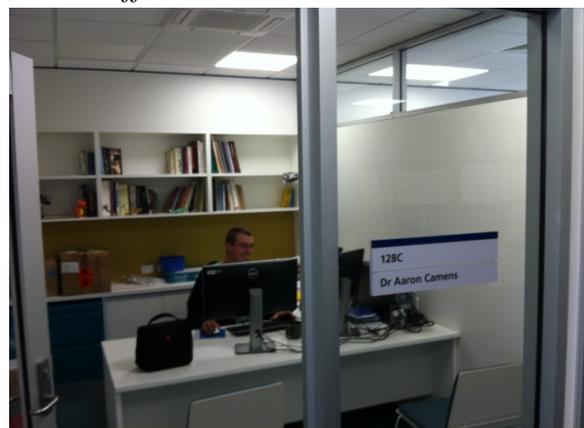
Research lab



Preparation lab



Student offices



Dr Aaron Camens' swanky office

The big move has become our ‘excuse’ for not being organized in getting this issue of Beer’n’Bones out till now, I promise the next one will be in your inboxes before Christmas!

Cheers,

Kailah Thorn

MERCH MERCH MERCH

Plenty of cool things are up for grabs!

	Size	Price
Patches		\$ 8.00
Prof. Flint CDs		\$ 15.00
Stubby holders		\$ 5.00
Magnets		\$ 5.00
Hand lens		\$ 5.00
Jumpers	M	\$ 50.00
	L	\$ 50.00

We are also looking at doing a second run of personalized field work shirts, with the Palaeo Soc logo and your nickname on the chest. New hoodie designs are also being submitted, these can also be personalized for an extra cost. More details will be released by email soon!



FEATURES

DJ BONES - DESK JOCKEY EXERCISE TIPS

A few general day to day exercises to counteract that slumping desk posture. Common symptoms for long hours at the desk are:

Rounded back – slouching posture is a result

of weakening in the upper back muscles and tightness in the pectoral muscles resulting in kyphosis (hunched-back).

Correcting exercise: Isometric bent over flye, thumbs up, holding at top, builds up upper back muscles hold 15 secs, 5 sec break and repeat 2 more times.

Correcting stretches: Pectoral + Wall stretch - Arm against the wall stretch, stretch the tight abdominals to free the pressure on the back, lying pronate lumbar stretch, standing lumbar stretch.

Long hours in a seated posture can lead to tightness in the leg flexors resulting in lordosis (exaggerated arch in lower back)

Correcting exercise: squats – builds strength in quads, glutes and lower back to straighten posture.

Correcting stretches: Standing/kneeling front hip flexor stretch - Lunge hip flexor stretch

DJ Bones (aka Dale Nelson)

NEW FINDINGS ON DIPROTODON (DIP-ROW-TOAD-ON)

New research coming out of the Flinders Palaeo lab resulting from the Lake Callabona field work has brought to light an obvious mistake in previous taxonomic work. It has been observed that a caudal vertebra found on an adult *Genyornis* is in fact part of a *Diprotodon* (Camens pers. comm. 2014).

This presents two explanations, both equally plausible:

1. *Genyornis* is in fact the female morph of *Diprotodon* (Camens pers. comm. 2014), because it lays eggs and no pouched have been observed in other Diprotodons, meaning they are all male.
2. Diprotodons are like geckos and drop their tails when stressed to deter predators such as *Genyornis* (Camens pers. comm. 2014).

A paper for publication in Nature is currently underway to present these new findings.

Kailah Thorn

BEER REVIEWS**Beer reviews - Nullarbor style.****Kilkenny (Widget Cans)**

‘Kilkenny is the ‘Watery Harry’ of Irish Ales’
(*Gully 2014*)

“A great disappointment. Froths like Vesuvius, tastes like dishwater” (*Burke 2014*)

Emu Bitter (Cans)

“Opening is crisp yet clunky. What you would expect from a sandgroper beer, not short on minerals. On the nose it is quite a refreshing lager, not too pungent. Half way between dam water and cat piss. It tastes really good actually, a middle of the road, everyday lager for the hot sweaty miner. Savour with Jatz and cheese.” Effervescence 4/10. Overall 8/10
(*Adams 2014*)

Tastes like throwing hot coals at everyone.
(*Heath 2014*)

Dr Tims (Cans)

“Opening is firm and gaseous. Refreshing on the nose, green. Light on the malt, more jaywalker than pedestrian. Bitter overtones, barley drives it through, kicks it over the line.” Effervescence 4/10, Overall 7.3/10 (*Adams 2014*)

“Tastes like Pale on the burp, the ‘can flavour’ having filtered out.” (*Thorn 2014*)

“Timmeh Timmeh, Timmeh-Timmeeay.”
(*Gully 2014*)

Southwark Bitter (Cans)

“The sound of biting into a crisp apple-moisture and crunch. A juxtaposition between awful and brilliant, the bitter makes you wince but the flavour makes you stay.” 7/10 (*Burke 2014*)

“(opening)That had a bit of everything, like a fine wine with an introduction of an audible palate with a full midrange. (Tasting) First taste has a little bitterness to it. Nice bit of malt. Little bit of sweetness but definitely a bitter. Well balanced.” 7/10 (Bonus points for the advert on the carton-won gold at World Beer Cup in 2000....one single achievement in the entire history of the beer.) (*Prideaux 2014*)

Pabst blue ribbon (tall Cans)

ZZZZZZZZZZZZ...(Heath 2014)

Schweppes Lemonade (cans)

“A satisfying, twist/crack opening. Tastes of sugar with a Wizz Fizz overtone. Metallic aroma, sweet metallic. Pretty writing (on can). Reminiscent of being sick (Lemonade often given to ill people).” Schweppervescence 10/10. Overall 6.275/10. Would have again.
(*Prideaux Jr 2014*)

Palaeo Camp Reviews – Goodiesons Pale Ale

“ABC Beer Review – Initial impression: light fluffy head, aromatic and nutty, hint of tramlines. Slightly overcarbonated, not too many corners. Palate slightly disappointing, lacks complexity. Would quaff.” (*Camens 2014*)

“All the yeasty flavour without the chunky floaties typical of a certain other South Australian brewery” (*Thorn 2014*)

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