

EST. 1997 BEER 'N' BONES

March: 2026

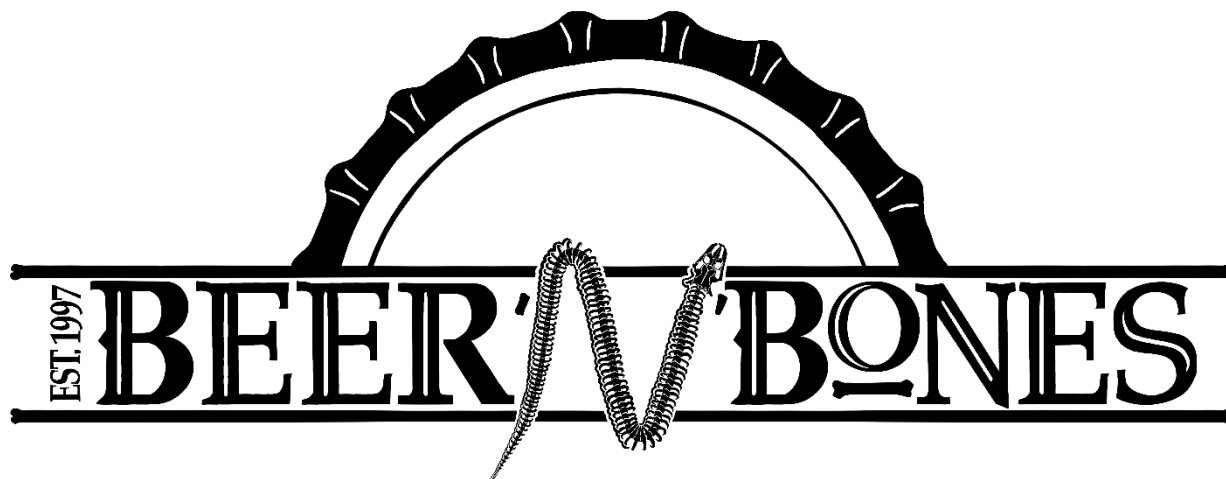
Volume 19, Issue 1



THIS ISSUE

Interview with James Crampton
Bone of the Month
Megalibgwilia choc oat stout
Spinosaurus Mirabilis!!





Volume 19, Issue 1, March: 2026

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Message From the President

Hey FUPSers! It's your president here, Sebastian Palominos Lara. I hope you enjoy this new iteration of *Beer n Bones*. Our press team has been working really hard to get this issue out, and a lot has happened since the last one. Together with the FUPS team, we have multiple events planned for you to enjoy, so stay tuned to our social media to get the latest news!

Message From the Editor

WELCOME EVERYBODY TO THE BIG 2026! As summer comes to a close, it is my honour to present this year's first, albeit short, issue of Beer 'N' Bones. I would like to thank everyone who contributed regardless of the immense time pressure, this wouldn't exist without you!

- Zach.P

Old News

Spinosaurus was so good they released Spinosaurus II.

Sebastian Palominos Lara

After more than a century, a new species of *Spinosaurus* has been named: *Spinosaurus mirabilis*, the “marvellous spined lizard.” Found in the Republic of Niger, this species lived at the same time as the most famous North African species, *S. aegyptiacus*. This new species presents different characteristics from the previously known species, with longer hind limbs that make it closer to the *Jurassic Park* depiction. Most importantly, this new species presents a semi-lunate crest on top of the skull, which gives the species its name, with multiple specimens showing this crest.

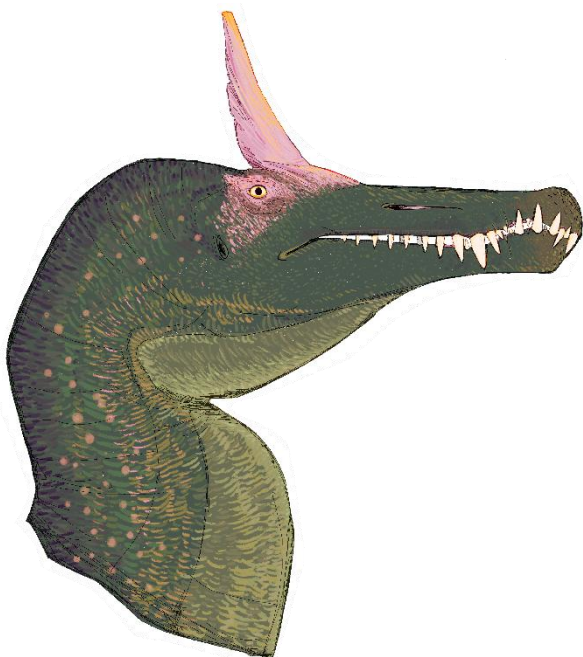


Figure 1: Artist's rendition of *Spinosaurus mirabilis* (Credit: Harrison Morton)

This new paper also informs us about other specimens found in the same campaign that are still undescribed, including a partial *Carcharodontosaurus*, a new rebbachisaur, and titanosaurs.

Ancient Critter Analysis at Naracoorte Caves

Zach Pope

Finally! After decades of mammals taking centre stage at Naracoorte, non-mammalian critters are fighting back. Namely, through two studies released this year, focusing on shore birds, frogs and toads found within the cave deposits.

In fact, the study investigating fossil shore bird was done by one of Flinders own, Karl Lenser! After examining 300 fossils from Blanche Cave, dated from ~60 to 15 kya, 9 species of shore bird have been identified.

Surprisingly, *Pedionomus torquatus*, the plains wanderer, was the most common species, accounting for 55% of the fossils studied. Whilst today the plains wanderer is most often associated with grasslands, its fossils found in Naracoorte indicate it was able to survive a much wider variety of environments in the past than today.

What was the past environment of Naracoorte, you may be wondering? Previous studies have identified Naracoorte's Paleoenvironment as a mosaic of forest and open woodlands throughout the late Pleistocene, the period many of the shore birds called Naracoorte home.

Furthermore, other species of shore birds were identified as species who undertake yearly transcontinental migration. These are species known to rely on wetlands,

and yet, arrive in Australia during summer. For these birds to appear in the Blanche Cave fossil record, it signifies that Naracoorte was home to wetlands that were present year-round during the Late Pleistocene.

This is backed up by the second study by Natasha Lee Hiotis from the University of Adelaide, who identified a variety of frogs (Anura) from within sediment within Naracoorte's Bat Cave. Not only did this study establish further techniques in successfully identifying frog fossils from within cave deposits, it also found that many of the frogs within the deposit preferred woodlands and forests, as well as living within close proximity to permanent water sources.

Hence, these studies provide insight into the past environment of Naracoorte. Furthermore, through studying the small critters that once called Naracoorte home, it may help us understand why megafauna went extinct in the same location.

Neobatrachus pictus

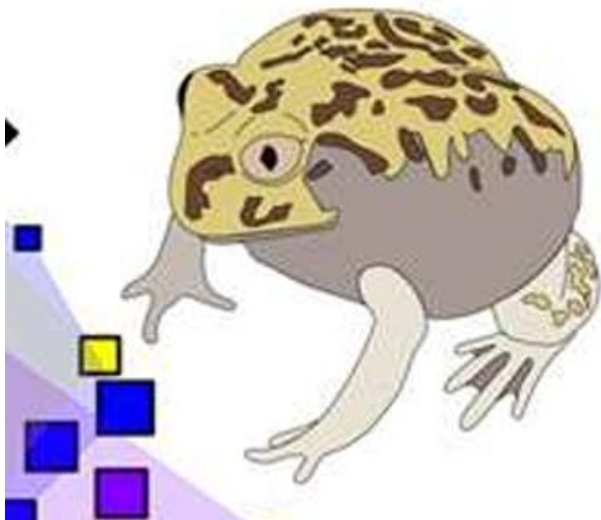


Figure 2: Example of a frog whose remains were found in Bat Cave (Credit: Hiotis, N. et al., 2026)

Bibliography

Lenser, Karl M., Reed, Elizabeth H., and Worthy, Trevor H. 2026. Fossil shorebirds (Aves: Charadriiformes) reveal trends in Pleistocene wetlands at Naracoorte Caves, South Australia. *Palaeontologia Electronica*, 29(1):a2.

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Natasha Lee Hiotis, Elizabeth H Reed, Emma Sherratt, Integrating allometry for accurate identification of Anura fossils from the Naracoorte Caves World Heritage Area, *Zoological Journal of the Linnean Society*, Volume 206, Issue 1, January 2026, zlaf183, <https://doi.org/10.1093/zoolinnean/zlaf183>

Honourable Mentions

Here is a small list of studies that have been released so far in 2026.

FLINDERS RELATED

- The first Early Pleistocene (ca 1 Ma) fossil terrestrial vertebrate fauna from a cave in New Zealand reveals substantial avifaunal turnover in the last million years'
- Deciphering *Cainocara enigma* from the Late Devonian Gogo Formation, Australia
- Comparative anatomy supports the evolution of nocturnality in the extinct Hawaiian Ibis *Apteribis*'

OTHER NEWS

- Biomechanical limits of hopping in the hindlimbs of giant extinct kangaroos
- Scimitar-crested *Spinosaurus* species from the Sahara caps stepwise spinosaurid radiation

Paleo's Across the Pond

Harry Morton

***VUW Professor of Palaeontology;
James Crampton***

Over the holidays Beer'n'Bones was lucky to have an interview with James Crampton, Professor of Palaeontology and Stratigraphy at the Victoria University of Wellington, New Zealand.

James Crampton is an amazing academic who has done awesome work on marine biodiversity, quantitative methods in palaeontology such as mathematical descriptions of biological shape, and exploration of New Zealand's unique geology and biology. And he was super friendly to talk too.

Thanks to everyone who made the trip to Wellington possible!

Q1: "What do you work on here at the University?" [Victoria University of Wellington]

"My interests in the last few years have been trying to understand what I would call biodiversity dynamics; what controls the number of species that can occupy any particular area or the planet. You know... is it possible to keep on slotting in more and more and more species into a given area or is there a natural limit to the number of species that can coexist at any one time. And as a part of that I have been trying to quantify evolution rates, trying to quantify extinction rates and how those things vary over time. So for example one study I did showed that during the Ordovician and Silurian, graptolite

diversity was controlled by Milankovitch Cycles; climate cycles, orbital cycles. So as the planet was wobbling on its- the natural wobbles in its orbit, that was controlling the number of graptoloid species alive on earth. That's just one example of the sort of stuff I've been working on.

Q2: "What got you into Palaeontology originally?"

"Oh I was just one of those kids who was, like you, fascinated by Dinosaurs but I was always interested in, always interested in both biology but also, well geology broadly speaking. You know, the history of the planet and so Palaeontology is the subject that brings biology and sort of geology/planetary history together in one package and you get the whole, you get the best of both worlds and so it was always an interest of mine. I could have gone into marine biology which I also found really interesting but yeah no I ended up as a Palaeontologist."

Q3: "The job opportunities for Palaeontologists can be pretty intimidating, have you got any recommendations on where to look and what jobs young Palaeontologists could go for that they might not know about?"

"Yeah that's interesting... The recommendations I would give is what I give to all students. In very general terms, and this is not specifically about Palaeontology jobs this is about jobs in general, the job market is evolving so

quickly that I don't think we even have names for the jobs that half you folk are gonna get, you know students of today are gonna get. We don't even know what those jobs are because they don't exist yet, they're going to be completely new. So I think rather than- I think students today, and I tell all my students this, I think they spend too much time worrying about jobs. You're better to pick something that interests you, and you will do well. Do well and it's the fact that you do well in your degree that is the most important thing. Get transferable skills, you know just learn how to write something intelligently you know, without relying on AI. Learn how to do quantitative stuff. Learn how to do GIS or fly a drone to do LiDAR or whatever it is. Get those transferable skills and do well and that's what an employer will see. If one's thinking specifically about Palaeontology, I mean there are, you know, Palaeontologists employed all around the world in museums and research institutes. Those numbers, certainly in Australasia, are going down in the last few years but I think they will come up again. But if you've got a good general grounding in Palaeontology and Stratigraphy then, and you do well, then you can teach, you can do research. I think its very hard to specifically give indications for Palaeontology but the general advice that applies to anybody doing a degree. I've had students who've done amazing masters in Palaeontology, really detailed evolutionary studies, that have gone out and just walked into jobs as Geotech engineers. Just because they've done really well, employers have seen that this person is quantitative and really good at doing fieldwork: give them a job, and

they've gone into really good, high-paying jobs. And they aren't necessarily gonna stay there but they come out of their degree and get good jobs so don't think that by doing a degree in Palaeontology that you're locking yourself into a particular career because you're not. As I say, the key thing is to do something that interests you so that you do it well. That's the key bit of advice that I'd give."

Q4: "What has been your favourite project that you have worked on?"

"Oh man that's a hard question! Well, every project I'm currently working on is my favourite one usually.

I mean the particular work I've been doing in the last few years, working on- some colleagues of mine assembled this amazing global dataset of graptolite biodiversity and that's yielded a whole load of studies that really interest me and that's working on the sort of global scale biodiversity questions. But I've also done a whole series of research over many years on New Zealand's Cenozoic mollusc fossil record. New Zealand has got an incredible Cenozoic mollusc fossil record and the thing about New Zealand being that it has been geographically isolated for about 100 million years and even the marine molluscs are sort of captive. They don't just migrate in and out of New Zealand they're sort of captive on New Zealand so you can look at an isolated captive fauna and look and the evolutionary-extinction dynamics of that and so the New Zealand molluscs were a fantastic dataset to do that with. And that's got relevance with the future because you know as the seas around New Zealand

warm the species can't simply migrate south to find their optimal niche because they can't migrate off the New Zealand shelf, there's nowhere to go, so that project got all sorts of relevance. But I still, you know I did my PhD on these giant clams, Cretaceous clams, some of which are 2 metres long and I still have a huge affection for those things, I've got more work I want to do on those so yeah. I don't know if there is a single favourite project, they've all been it, each project has. The thing is as soon as you start doing your own research you find out that whatever it is, you get into it and it becomes really interesting. You might think beforehand 'what's that about' then once you get into it is amazing what you get interested in."

Q5: "Any advice for students looking to network and get involved with other Palaeontologists, especially ones that are already in the field?"

"Oh yeah just grab opportunities, it's amazing if you're open to opportunities. Like you [the interviewer] coming to New Zealand, you saw an opportunity. Just grab opportunities and it's amazing once you- if you- have got this radar out for opportunities it's amazing what comes up. Just talk to people, go to meetings, go to conferences or meetings when you've got the opportunity and just put yourself out there, start talking to people, be confident. It's hard, it's really hard as a young person but you'll find that most professional Palaeontologists, nearly all... the great majority, love talking about their subjects.

So you have somebody who wants to talk, you have people who want to talk about what they do, so just get out there and talk to people. See opportunities, seek opportunities for I don't know... joining on fieldwork, or doing internships or whatever it is, just always be looking out for opportunities and grab them. Just put yourself out there and seek out opportunities to talk to people.

Q6: "What's your favourite prehistoric animal?"

"I knew you were going to ask that. It would still be the giant cretaceous- one of the giant cretaceous clams I worked on. The 2 metre long clam that we still have a very poor understanding of. I mean it's useful, we use it a lot for dating rocks in New Zealand, its very distinctive obviously but, today in the environment there's no 2 metre long clams living just exposed on the ocean floor, they'd get eaten like that. Things would come along and munch them. And yet these things survived very happily in the cretaceous, there was something about their biology or the whole ecosystem, the way the ecosystems were working on the cretaceous' ocean floors that was different from today and we still don't understand. And we also don't understand how old those 2 metre long individuals were. Some clams, these tiny little clams in the arctic that are hundreds of years old and only a couple of centimetres long. So these giant ones in the cretaceous, did they grow to that size really quickly? Maybe because they had symbiotic algae or chemosynthetic bacteria living in them? Maybe? We don't know. We don't know

whether a 2 metre long clam was 5 years old or 500 years old and we don't know why it didn't get eaten. So there's lots of interesting biological questions around these things that we still can't answer but they are spectacular fossils when you see them."

The Mornington Peninsula's Brilliant Balcombe Clay

Ravi Moss

Note: In Victoria, the law states that no rocks are to be broken regarding fossil collection. Mornington Fossil Beach presents a unique geological formation. Digging or damaging of the clay is prohibited and punishable by heavy fines and prosecution.

About an hour's drive south of Melbourne, on Port Philip Bay's eastern coast, lies an exposure of a fine, grey clay

- a Middle-Miocene-aged marine formation. Mornington Fossil Beach's Balcombe Clay (analogous to the Fyansford Formation) preserves some of the world's best marine molluscan fossils. From bivalves and gastropods to brachiopods and even rarely echinoderms and cephalopods, incredible biomass and



Figure 4: 'A view of Fossil Beach in 1872', oil painting by R Scott, in the collection of the Mornington Peninsula Regional Gallery.

biodiversity can be observed. Lamellar teeth are preserved in miniature dogwhelks from aeons past and even the

thinnest shells are captured in this nearly one-of-a-kind glimpse into the Bay's marine ancestry.

Nowhere else on earth are there such complete faunal assemblages with such detailed preservation.



Figure 3 (LEFT): *Austroharpa* sp., coll. Ravi Moss 2024 (outer medial view)

Interestingly, post-colonisation, this site was also home to one of the earliest cement works in Australia, in 1862! Amongst the trees can be found the remains of the well, and the two large kilns. The cement was made from the high-lime concentration in the septaria nodules that form in the Balcombe Clay. The works shut down in due to there being too high a septaria-to-cement ratio

As such, the heritage-listed site preserves a very interesting snapshot, both into the 1800s industrial movement, but also the Middle Miocene - what a combo!



Figure 5: *Austrocypraea contusa* (McCoy, 1877), with flared base, coll. Ravi Moss 2026 (ventral (top left), dorsal (top right), outer medial (bottom left), inner medial (bottom right) views)

Bone of the Month

Gaige Wright

For this issue's bone of the month, we decided to nominate a bat radius found during one of our fossil sorting sessions from material from the Wellington Caves. The specimen in question is pretty small, being around 4 centimetres long, which is pretty average among medium-sized (roughly 25-centimeter wingspan) bats. As for the type of bat it is, given the lack of material, referral beyond Chiroptera (the scientific term for bats) isn't possible. However, given its size and curvature, it may possibly represent a species of microbat. Microbats have been recovered from the Wellington Caves for decades, with fossils of species such as *Macroderma koppa* (a genus of false vampire bat) having been discovered and described from here.

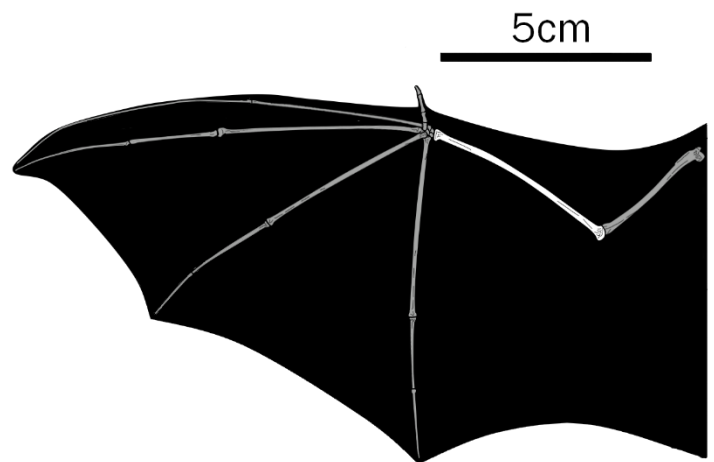


Figure 6: Depiction of radius in relation to wing anatomy (Credit: Gaige Wright)

Last Years Well's Lecture Recap

Liam Lander

The Wells Lecture at Flinders University has been an annual event since 2018, and this year's was special. Not only did it cover the evolution and diversity of Kangaroos, but it was also the first lecture where we were lucky enough to have three speakers. These fascinating speakers were Dr Rex Mitchell, Dr Aidan Couzens and Dr Isaac Kerr. The lecture was initiated by Professor Gavin Prideaux, whose speech was followed by an introduction by Professor Emeritus Rod Wells.

The first speech, presented by Dr Rex Mitchell discussed, the mammalian skull. This speech was quite engaging and covered a range of topics, including Craniofacial Evolutionary Allometry (CREA), feeding behaviours, mechanical advantage and bite force. Some curious parts of this lecture were that some eating behaviours may have an important impact on skull adaptation, potentially more than diet groups in some areas. Also, that CREA is only commonly supported for 11 out of 22 tested mammals indicating that the CREA pattern may be related to bite force.

The second speech was on kangaroo dietary adaptations and was presented by Dr Aidan Couzens. The speech was informative and discussed several topics including how grazing herbivores, such as the kangaroo, experience dental wear while chewing. There was also discussion

of the kangaroo's chewing method, dental anatomy and enamel thickness. Intriguingly, some mammals, such as sheep, perform a lateral chewing motion and have complex teeth with high crowns. Comparatively some other mammals, such as the kangaroo, perform a more vertical chewing motion and have simpler teeth with lower crowns. Grass-feeding kangaroos have thick enamel and are more successful than other species with similar dental adaptations.

Dr Isaac Kerr presented the final topic, which was on the ecology of mammals, specifically the adaptive radiation in Macropodinae. This lecture provided fascinating information, including the features of the ancestral *Dorcopsins*, the locomotion of *Protemnodon viator* and *Protemnodon mamkurr*, and evolutionary trends. Interestingly, the ancestral *Dorcopsins* had adaptations for moving quickly and efficiently through open habitats, but most of their descendants are adapted for other habitats. The earliest known *Protemnodon* species had open habitat mid-speed adaptations, but their descendants did not follow a similar macropodid trend. *Protemnodon viator* was previously considered too big to hop but body mass estimates are now all below the 160kg hopping maximum indicating that it could.

After the lectures, there was a social event which served food, and sold some amazing FUPS merchandise.

Beer Review

Exclusive Megalibgwilia Choc Oat Stout

You're the oldest-known echidna in history. It's the Pliocene, and you're just done a long day of hunting insects through the increasingly arid bushland of southern Australia. With the climate beginning to dry up, what's the one thing a giant echidna needs? That's right, Lobathal Bierhaus's CAVEPS exclusive Choc Oat Stout is the thirst quencher of choice. Creamy and rich in the mouth, with dense, sweet grainy flavours. The balance of a chocolatey sweetness and the classic stout bitterness sits lightly on the tongue, never overbearing. An extinct echidna's dream!

- Ravi

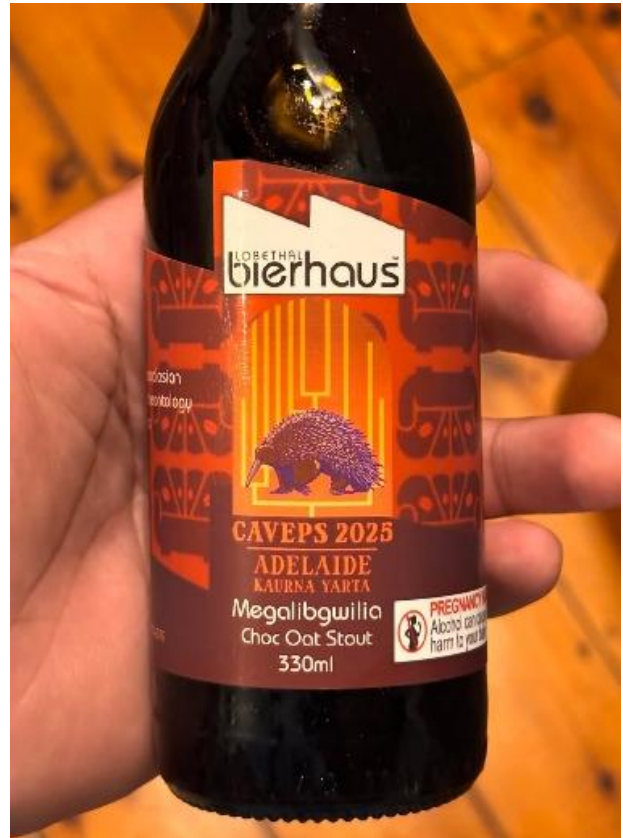


Figure 7: A delicious delicacy for echidna's and Palaeontologists alike!!!(Credit: Ravi Moss)



DO YOU WANT TO
WRITE



FOR

BEER 'N' BONES

WELL YOU'RE IN LUCK!

The Beer 'n' bones team currently taking submissions! All submissions are welcome, as long as they're somewhat Palaeo related.

Here are some general articles we encourage!

- Poetry
- Artwork
- New Studies
- Opinion Pieces
- Beer and Media Reviews
- Travel Suggestions

One last thing: we prefer submissions to be between 200 - 500 words.

Send all submissions to our email:
BeerNBonesSubmissions@gmail.com