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(HALFJAARLIKSE NUUSBRIEF VAN DIE PALEONTOLOGIESE VERENIGING VAN SUIDER AFRIKA)

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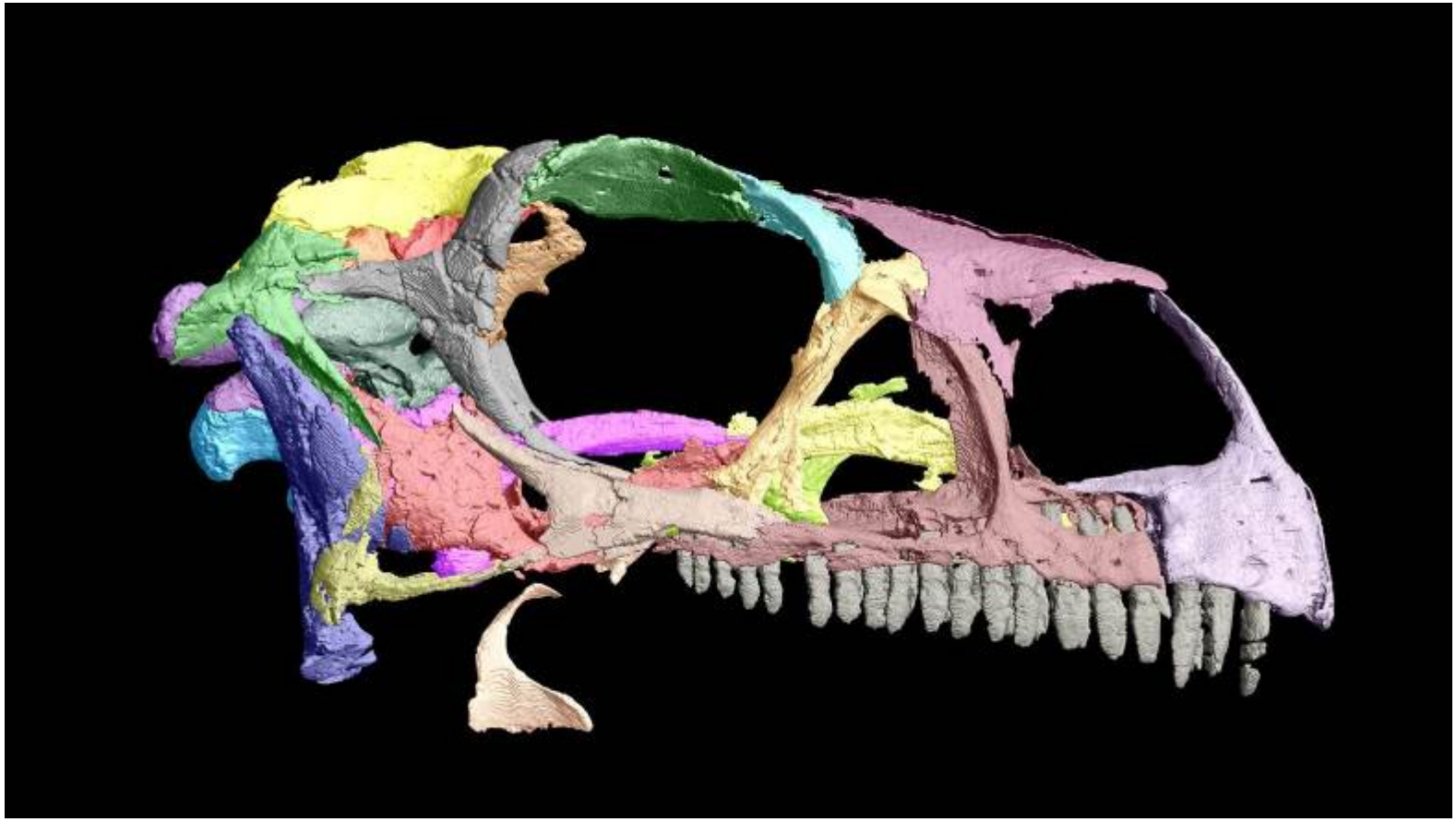

PALNEWS **Vol/Bd 19-4**
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Front cover:
Massospondylus carinatus skull (BP/1/5241) - 176mm long. This 3D digital reconstruction was produced by Kimberley Chapelle at the ESI, University of the Witwatersrand. The program used for the 3D digital reconstruction was VG studioMax 2.2. (Photo: Kimberley Chpl).

EDITORIAL

The first of this year ended on a high note with the PSSA'14 conference in Johannesburg. By all accounts I'm told that this was one of the better conferences we have had over the years. Jonah Choiniere and his ESI team of helpers put on a good show and we congratulate them all. I'm sad to say that this was about the only conference that I was unable to attend since 1988 when I joined up. Our PSSA'16 meeting will no doubt take place sometime in the second part of 2016 very close to time when the Int. Geol. Conf. will take place in Cape Town (24th Aug - 4th Sept.'16). It will be a busy year!

Many thanks to those members who have send in contributions for this PalNews issue. I must commend the palaeontology community for providing so much for this issue. Each issue seems to be getting bigger than the previous one and it's becoming more and more difficult to keep the final file below 4 megabytes for ease of emailing – a technical problem that I'm sure can be resolved. ***Billy (ed)***

PRESIDENT'S CORNER - Marion Bamford

ESI at Wits Marion.Bamford@wits.ac.za

Incoming Presidential address

I would like to thank Dr Jonah Choiniere and his team of dedicated students for all their efforts in making this, the largest and probably most successful PSSA conference. Mr Ashley Kruger needs a special mention as he assisted with the technology and powerpoint presentations. The financial assistance of PAST is also gratefully acknowledged. With their

support we have a large number of students from UCT attending the conference. On that point it is wonderful to see so many students presenting papers and posters at the PSSA.

This is a very good time for palaeontology in South Africa because palaeoscience is one of the National Grand Challenges and is receiving more funding and media coverage than ever before. The DST-NRF offers competitive funding through the African Origins Platform (AOP) and the Centre of Excellence in Palaeosciences. PAST continues to support Palaeosciences in southern and Eastern Africa and there are also more general funding sources from the NRF and outside bodies. I therefore urge the students and researchers to take advantage of these opportunities! The need for qualified palaeontologists is increasing too, with the PHRAs becoming established and new mining or infrastructure developments requiring heritage and palaeoantological impact assessments. The future is bright for us all.

In March this year Profs Marion Bamford and Stefan Grab together with their doctoral student, Jenny Fitchett, hired a helicopter to take them to Mafadi peak in the northeastern Drakensberg, a trip of twenty minutes instead of several days hike. Camping near the highest spot in South Africa (Lesotho has a higher peak) was not the most comfortable experience but the bleak scenery and low vegetation were very interesting. They cored the wetlands near Mafadi peak and now Jenny is analyzing them for pollen and diatoms to determine the past climate.

Camp at Mafadi near the highest spot in South Africa.

Two weeks later Marion and another PhD student, May Murungi and Dr Christine Sievers went down to sealevel, this time to collect modern plant reference material for May's PhD project which is the analysis of phytoliths from Sibudu rock shelter.

Coring at Mafadi – Jenny Fitchett and Stefan Grab.

May Murungi at Sibudu collecting modern plant reference material for her PhD project

As part of a new agreement between the NRF and COSTECH (Commission for Science and Technology, Tanzania) Marion, Dr Christine Steininger and two Honours students, Kathleen Dollman and Silindo Mavu so, joined Prof Charles Muciba, Prof Cassian Magori and the field school of Denver University at Laetoli in northern Tanzania. They visited the famous footprint site that has been covered up for protection since the early 1970s. The Tanzanian government is building a field museum at the site and the footprints will be uncovered and preserved, hopefully attracting tourists and school groups. The South African contingent surveyed other fossil localities and collected fossil and modern teeth for isotope analyses as part of the bigger collaborative palaeoecological project. We also visited Olduvai Gorge so that the students could see this famous site too.

Naibor Soit – standing L-R: Marion Bamford, Henry Bunn, Silindo Mavuso & Kathleen Dollman. Seated L-R: Adriana, Elisha and Tim (students from the Denver field school). Olduvai Gorge in the background.

Cheers till next time - ***Marion***

oOo

Jennifer Botha-Brink – National Museum,
Karoo Palaeontology Department, Bloemfontein.

The Karoo Palaeontology Department at the National Museum has been actively productive in all aspects of research, education and expansion. **Jennifer Botha-Brink** has continued working on several long term research projects including those on the archosauriform *Garjainia* from the *Cynognathus* Assemblage Zone headed by David Gower and the origins of turtle lung ventilation headed by Tyler Lyson. She and **Elize Butler** attended the 73rd Annual Meeting of the Society of Vertebrate Paleontology in Los Angeles, USA in November 2013 and had great fun visiting the Page Museum and La Brea Tar Pits in LA.

Jennifer joined Dr Roger Smith and his team from the Iziko Museums of Cape Town to conduct field research in the Fraserburg District as part of Dr Smith's project on Middle Permian faunal turnover. New collaborations include a bone histology project on Early Pliocene frogs from the Langebaanweg Fossil Park with Thalassa Matthews of Iziko Museums of Cape Town and John Measey of the Centre of Excellence for Invasion Biology in Stellenbosch.

A sabre-toothed cat reconstruction at the Page Museum in Los Angeles

"The one and only time I'll ever be picked up by a Wookiee, in LA or anywhere else!"

The aim of this project is to study and identify the species and compare the specimens with modern *Xenopus*. Dr Matthews presented preliminary results of this project at the PSSA held at the Evolutionary Studies Institute at the University of the Witwatersrand, Johannesburg in July 2014. However, Jennifer's main focus area is investigating the life histories of vertebrates, usually but not always, associated with the end-Permian mass extinction. After taking two months off to recover from a hip operation she has finally been able to return her attention to this research and is currently working on several papers with various colleagues both locally and internationally. One of these includes a collaboration with Dr Daryl Codron from the Florisbad Quaternary Research Department at the National Museum and Dr Jacqui Codron, a postdoctoral fellow funded by the Centre of Excellence for Palaeosciences. The preliminary results of this paper entitled "Predator-prey size relationships in terrestrial vertebrate Permo-Triassic communities of the Karoo Basin, South Africa" was presented at the conference entitled "From Past to Present. Changing climates, ecosystems and environments of arid southern Africa", which was held in tribute to Dr Louis Scott, as well as PSSA 2014. Upcoming events include an invitation to give a Palaeohistology Course to postgraduate students at the Instituto de Geociências – UFRGS, Departamento de Paleontologia e Estratigrafia, Porto Alegre, Brazil in September.

Elize Butler has been busy attending to the fossil collection, but is mostly working hard on her PhD, which involves the description of the morphology and palaeohistology of a new species of gorgonopsian. She presented her preliminary results at PSSA 2014 and is currently organizing a research trip to the PIN in Moscow, Russia to study their gorgonopsian material for comparison.

In very recent news, we have a new addition to the Karoo Palaeontology Department. **Dr Jacqui Codron** who has just completed a Postdoctoral Fellowship with the CoE, has joined the department as an Early Career Researcher in order to thin section and expand upon the Modern Bone Histology Collection in the department. The aims of her research are to investigate bone histology variation of vertebrates living in different ecological niches.

We continued with our Free State Evolution Education Programme in February 2014 and PAST's Walking Tall crew visited 14 schools this year. Their theatre production reached approximately 560 learners. To date, we have visited 21 schools in Bloemfontein, Thaba N'Chu and Botshabelo and approximately 3 060 children. Teachers' workshops were modified this year to comprise lectures on genetics and evolution based on the school syllabus. They were presented by Drs Jennifer Botha-Brink, Jacqui Codron and Daryl Codron. Three workshops in Bloemfontein, Mangaung and Botshabelo were run for 38 schools and 51 teachers attended the presentations.

Recent Publications:

Smith, R. M. H. and J. Botha-Brink. 2014. Sedimentological and taphonomic evidence for drought-induced die-offs during the Permo-Triassic mass extinction in the main Karoo Basin, South Africa. *Palaeogeography, Palaeoclimatology, Palaeoecology* 396: 99-118.

Huttenlocker, A. K. and J. Botha-Brink. 2014. Growth Patterns and the Evolution of Bone Microstructure in Permo-Triassic Therocephalians (Amniota, Therapsida) of South Africa. *PeerJ* 2:e325; DOI 10.7717/peerj.325.

Botha-Brink, J., Huttenlocker, A.K. & Modesto, S.P. 2014. Vertebrate Paleontology of Nooitgedacht 68: *A Lystrosaurus maccaigi*-rich Permo-Triassic boundary locality in South Africa *in* pp. 289-304. C. F. Kammerer, K. D. Angielczyk, and J. Fröbisch (eds.), The Early Evolutionary History of the Synapsida. Springer, Dordrecht, Netherlands.

MacDougall, M. J., S. P. Modesto and J. Botha-Brink. 2013. The postcranial skeleton of the Early Triassic parareptile *Sauropareion anoplus*, with a discussion of possible life history. *Acta Palaeontologica Polonica* 58(4).

Ruta, M., Botha-Brink, J., Mitchell, S.A. & Benton, M.J. 2013. The radiation of cynodonts and the ground plan of mammalian morphological diversity. *Proceedings of the Royal Society B* 280. http://dx.doi.org/10.1098/rspb.2013.1865.

NEWS FROM:

CENTRE OF EXCELLENCE PALAEOSCIENCES

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Jonah Choiniere, ESI at Wits

It's been an eventful year so far up in Johannesburg.

PSSA

In mid-July, I chaired the 18th Biennial Meeting of the Palaeontological Society of Southern Africa (PSSA), hosted by the Evolutionary Studies Institute of the University of the Witwatersrand. We had a record number of attendees, with more than 120 scientists and students from 8 countries delivering more than 80 presentations! I'd like to thank our guest speakers: Dr. Kevin Hand of NASA's Jet Propulsion Laboratory, Dr. Doug Erwin of the Smithsonian Institution, Dr. Cindy Looy of University of California, Berkeley, Dr. Kaye Reed of Arizona State University, and finally Dr. Tony Lelliott from good old WITS. I'm pleased to report that the meeting ran at a profit, and that the media surrounding the event generated the advertising equivalent of 1.6 million rand of publicity for the PSSA. In case you missed the Awards Banquet, here are the honorees:

- **Harrismith Mug - Best Overall Presentation**: Dr Tyler Faith
- **PAST Award for Promising Student Research**: Rob Muir
- **Lystrosaurus Shield for Best Student Oral Presentation:** Ashley Kruger
- **Bob and Laura Brain Fun with Fossils Prize**: Cameron Penn-Clarke and Pia Viglietti
- **Lystrosaurus Cast for Best Student Poster:** Mhairi Reid
- **Order of the Boot:** Alex Parkinson

Finally, we're unanimous: PSSA 2016 will be held in STELLENBOSCH and hosted by Dr. Ryan Tucker!

Fieldwork:

In January-Feb, my old housemate and palaeosciences student Amanda Collado came out from New York to hunt for dinos in the Elliot Formation. Together with my students Blair McPhee, Kimi Chapelle, and Wits student Pia Viglietti, we investigated some theropod trackways near Clarens, checked up on the

Highland Giant site (more work to be done there!), and cut a strat section through the Molteno-Elliot contact near Lady Grey. The results from the latter objective will soon be published in the Journal of Vertebrate Paleontology, in a paper describing a new species of *Eucnemesaurus*!

In February, Dr Rose Prevec of the Albany Museum invited me and Blair McPhee on a trip to the Kirkwood Formation to suss out some new sites. Together with Billy de Klerk, who arrived a little bit later, and with Emese Bordy, Rob Muir, and Devon Bowen, we found some new sauropod vertebrae and investigated the "plant beds". We even found what appears to be a new microsite and are in the process of putting together a review of the vertebrate fauna of the formation. Blair and I stuck around for a week of research at the Albany afterwards, and had a great time studying sauropod vertebrae and visiting the Rat and Parrot.

In May, Dr. Richard Butler of the University of Birmingham (UK) and his two students, Martin Ezcurra and Roland Sookias, came out for two weeks of fieldwork in the *Cynognathus* subzone C. Together with myself, Dr Mike Day, Blair McPhee, and my honours student Kathleen Dollman, we prospected the Bamboeshoek Valley thoroughly and brought back some excellent specimens that are still being prepared. Teaser – one appears to be a specimen of *Titanogomphodon*, sort of a giant version of *Diademodon*.

Students:

- PhD student **Blair McPhee** is toiling away on new material from Heelbo and sauropod vertebrae from the Kirkwood.
- MSc student **Kimi Chapelle** is digitally reconstructing the skulls of *Massospondylus* specimens as fast as she can (see cover).
- BSc Honours student **Kathleen Dollman** completed her degree in June and will be enrolling at Wits for her MSc, studying pneumaticity in the braincase of early crocodylomorphs.
- BSc Honours student **Casey Staunton** is busy collecting morphometric data on the forelimb of *Massospondylus*.

Much more fieldwork and a trip to Germany for SVP beckon in the spring, so the second half of the year promises to be even more hectic than the first!

(Left) Guest speakers and symposium chairs at PSSA 2014. From top left to right: DVC Zeblon Vilakazi of Wits opens PSSA; Dr Kevin Hand gives his keynote address in the Wits Great Hall; Dr Cindy Looy tells us about plant recovery after the Permo-Triassic extinction event; Dr Kaye Reed tells about hominin habitats; members of the Early Life symposium Cameron Penn-Clarke, Doug Erwin, Mehrnaz Siahi, Dr Rob Gess, and Dr Sharad Master; Dr Kaye Reed and husband Dr David Feary.

Opening night at PSSA 2014. From left to right: Dr Jonah Choiniere, Dr Kevin Hand, Honorable Minister Naledi Pandor, Prof Lee Berger, Prof Bruce Rubidge; Kathleen Dollman, Silindo Mavuso, Pia Viglietti, Dr Kelsey Glennon.

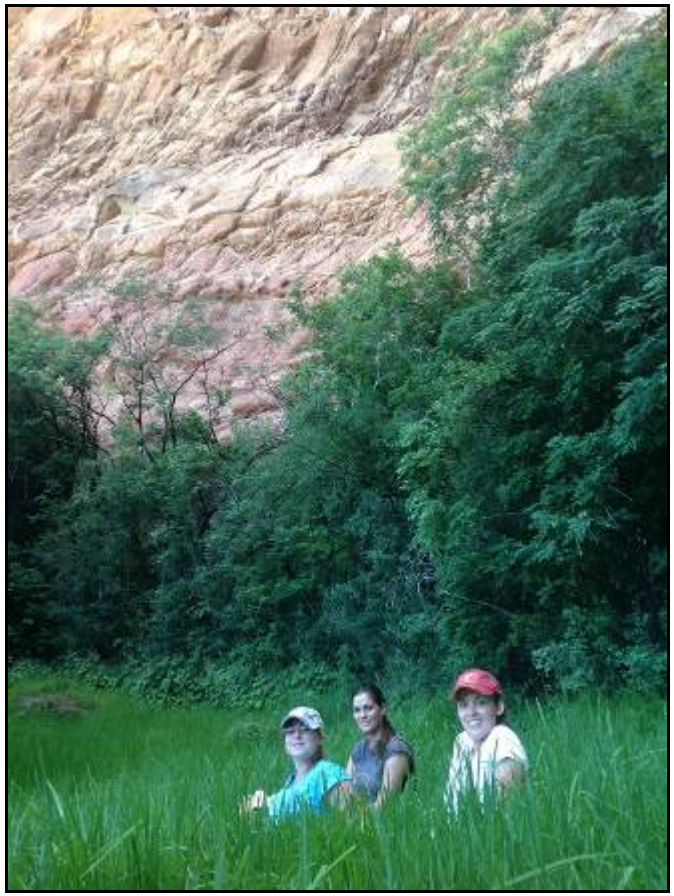
Poster session at PSSA. From top left to right: Casey Staunton tells us about *Massospondylus*' humerus; Kimi Chapelle, Alex Parkinson, Kathleen Dollman, and Casey Staunton pitch their posters; Dr Fernando Abdala, Dr Adriana Mancuso, and Prof Bruce Rubidge speak South American together; Kimi Chapelle showing off her 3D print.

Awards Ceremony at PSSA. From top left to right: a plethora of plaques; Dr Bernhard Zipfel hands off the presidential totem to Prof Marion Bamford; Alex Parkinson takes a ceremonial dop out of the Order of the Boot, with Dr Christine Steininger's help; Dr Kevin Hand showcasing his model Jupiter.

More Awards Ceremony at PSSA. From top left to right: Best Presentation overall goes to Dr Tyler Faith; Cameron Penn-Clarke receives the Bob and Laura Brain "Fun with Fossils" award. Pia Viglietti receives the Bob and Laura Brain "Fun with Fossils" award; Rob Muir wins the PAST Award for Promising Student Research.

Fun at PSSA. From left to right: Drs Jonah Choiniere, Kelsey Glennon, and Kevin Hand talk American together; Pia Viglietti reminds you to stick to your time!

Group photo of PSSA 2014.
Too many palaeontologists to name!



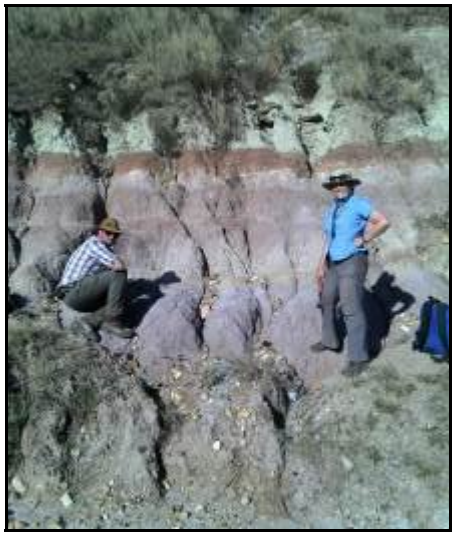
Taking a break from the sun at Mafube Mountain Retreat, Fouriesburg. From left: Kimi Chapelle, Pia Viglietti, Amanda Collado.

(left) Kimi Chapelle shows off the big theropod tracks at Mafube Mountain Retreat, Fouriesburg.
(right) Dr Jonah Choiniere and Blair McPhee at the Highland Giant site, Clarens.

Selfie! From left: Dr Jonah Choiniere, Blair McPhee, Amanda Collado, Kimi Chapelle, and Pia Viglietti.

(left) Field work at the Kirkwood Cliffs. Left to right: **Dr Jonah Choiniere and Blair McPhee.**

(right) Billy de Klerk doing Kirkwood Formation fieldwork near Blaukraans.



(left) **Blair McPhee and Dr Rose Prevec** at a new Kirkwood micro-site near Uitenhage

(right) Collaborator **Dr Richard Butler** (University of Birmingham, UK) enters 'Stormberg Country'

(left) **Kathleen Dollman** with a nice jacket, Cynognathus Subzone C.

(right) **Cynognathus subzone C field crew.** From left: Roland Sookias, Martin Ezcurra, Dr Richard Butler, Blair McPhee, Kathleen Dollman, Dr Mike Day

Mike Day – ESI Wits University

During the first half of this year I have been involved in the usual series of fieldtrips. At the end of February the ESI team head out for the usual late summer fieldwork, this time to collect in the *Pristerognathus* Assemblage Zone (AZ) on the east side of Teekloof Pass, on the Nuweveld Escarpment between Fraserburg and Leeu-Gamka. On this I was accompanied by the old ESI stalwarts: Bruce Rubidge, Charlton Dube, Sifelani Jirah, Pia Viglietti and Cameron Penn-Clarke, but we had a lot of help this year. Marc van den Brandt and Frank Schie joined us from Johannesburg, Vincent Fernandez came out from Grenoble in France to find burrows, Jenna Lavin visited from Cape Town, and a team led by Emese Bordy arrived from UCT to look at the sedimentology.

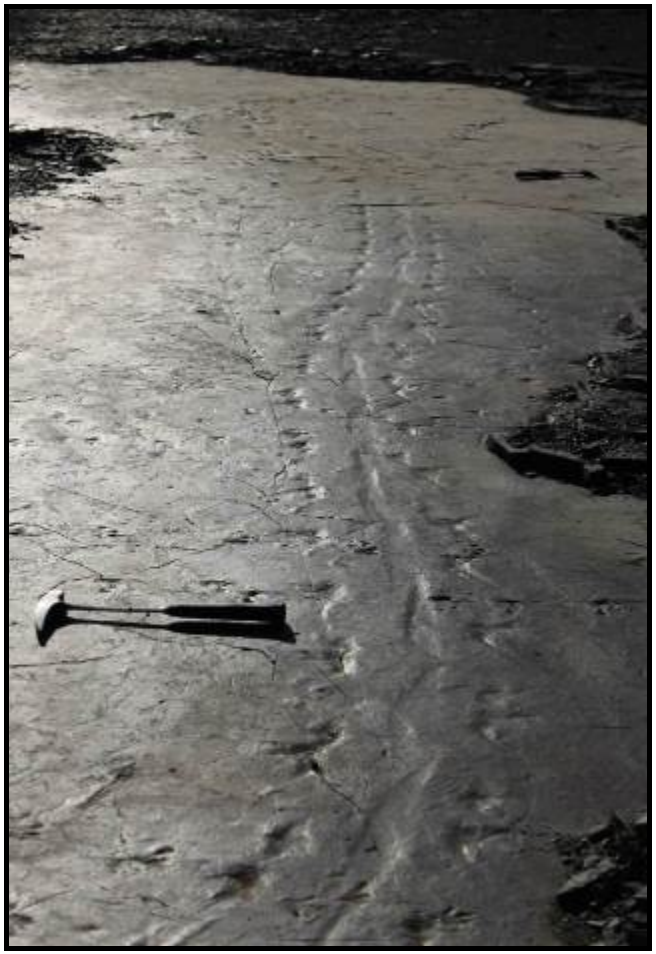
Vincent Fernandez applies some brawn to the excavation of a long, straight, low angle burrow from the upper Poortjie. Member at Teekloof Pass. He had more help than this photo suggests.

Here we were extending our collecting efforts up into the *Pristerognathus* AZ in order to collect data on the tetrapod fauna in the wake of the dinocephalian extinction and to try and pick up the recovery. This was our most productive trip yet with nearly 200 specimens collected.

The team crows over the year's palaeo-harvest: 183 specimens , albeit primarily of *Diictodon*. We seem to find more every year!

Emese Bordy and UCT contingent had to fight off the clamorous demands for knowledge from the young palaeontologists. They had come to investigate the sedimentary transition between the Abrahamskraal and Teekloof formations.

Cameron Penn-Clarke beaming with pride astride the skeleton of the dicynodont *Endothiodon*. Although being quite jumbled, the skeleton was excavated, but not before it had entertained the ladies of Prince Albert who had been led to this distant location by the energetic Judy McGuire.



The tracks of what may be a temnospondyl amphibian as it crawled across a shallow, Guadalupian pool. This footprint site, just outside Sutherland in the Northern Cape, is now a SAHRA-designated palaeoheritage site.

Silindo Mavuso conscientiously records lithology of the near the Ecca-Beaufort contact south of Virginia, Free State, whilst Bruce Rubidge contemplates the sub-zero temperatures and the unsettling possibility that the departmental vehicle had been consumed by a veld fire.

I accompanied Jonah Choiniere and Richard Butler and team to the field in May, where we collected in the *Cynognathus* C Zone and found rather more material than we were expecting to. Great fun was had, not in little measure due to the hospitality of the local farmers.

I also went with Bruce and Silindo Mavuso to Virginia in the Free State to conduct fieldwork for Silindo's MSC project. Silindo was looking for the Ecca-Beaufort contact in the northern part of the basin, which he is currently describing. It was cold, very cold.

I am currently working on a project concerning the dinocephalian extinction at the top of the *Tapinocephalus* AZ, which is taking up most of my time.
Cheers, *Mike*

Natasha Barbolini – ESI, Wits University
Natasha completed her PhD on the Carboniferous - Jurassic palynofloras of the Main Karoo Basin in March 2014, and began her post-doc in April at the Evolutionary Studies Institute, affiliated with the NRF / DST Centre of Excellence. A manuscript together with Marion Bamford on the Permian palynoflora of Botswana was accepted for publication in the Journal of African Earth Sciences. In June Natasha joined Chris Sidor, Ken Angielczyk and Roger Smith's team for fieldwork in the Mid-Zambezi Basin, Zambia in order to sample for pollen. She returned in time to present on work from her PhD at the PSSA'14 conference, where she also chaired the symposium "Environmental change across the Permian-Triassic boundary".

Lusitu in Zambia. (back left): Chris Sidor, Joseph Museba, Roger Smith, Adam Goulding, Ken Angielczyk, Seb Steyer. (front from left): Chanda, Neil Tabor, Steve Tolan, Chuck Beightol. Sterling Nesbitt, Zacks. Natasha's shadow in forground.

Plaster-jacketing an ***Endothiodon*** skull. l-r Natasha Barbolini, Roger Smith and Adam Goulding

Fossil wood at Lusitu, Mid-Zambezi Valley

Woman works while men look on..... **Pumping water at Lusitu village.** (left-right) Joseph Museba, Natasha Barbolini, Seb Steyer (bending down), Sterling Nesbitt, Chris Sidor, Chuck Beightol

Ashley Kruger and Natasha Barbolini preparing for the start of the second day's talks at the PSSA'14 meeting.

Natasha Barbolini introducing plenary speaker Dr Cindy Looy (not shown)

Roger Smith - Iziko Museum, Karoo Palaeontology team, Cape Town.

It has been over a year since my last report back and much has happened so this will just be the highlights. First off- we are still in a state indecision as regards removal of our collection- the good news is that it will in all likliehood stay on site- just move down 2 floors whilst the renovations progress. The prep lab is fully-functioning and looks so good with its new microscopes with fancy flexi-arm stands, courtesy of AOP. The African Dinosaur display demo lab now has a down-the-microscope video camera linked to a large TV screen so that the public can see what Sibu and Cindi are doing.

In November last year we continued collecting the Mid/Late Permian boundary near Fraserburg and came back with a good haul of *Tropidostoma* and *Pristerognathus* AZ fauna. Star fossils included a number of paired up *Diictodon* (to augment the *Diictodon* scattered skeleton with infant bones found in a burrow cast that we collected the year before), a neat *Youngina/Diictodon* adult and infant association, a beautiful *Pareiasaurus* skull with articulated anterior skeleton and best of all- Sibu came across a complete articulated skeleton of *Endothiodon bathystoma.*
Derek Ohland, Sibu and I had to do a separate weeklong excavating trip to bring it back in a single plaster jacket (about

2.7m long) - all done with rock hammers, chain hoists, climbing slings and some skilful 4x4'ing. Georgina is currently preparing it, and it truly is a marvelous specimen.

Loading the plastered *Endothiodon* skeleton near Fraserburg using block and tackle.

The *Endothiodon bathystoma* skull as it was found – it took us 3 hours to find all the bits of skull including the unusual pineal boss -- and 5 days to excavate the entire skeleton

In March this year Claudia Marsicano (Buenos Aries) and Jeff Wilson (Michegan) Paul October (Iziko) and I spent 2 weeks laser scanning trackways in Fraserburg (N. Cape) and Maphutseng (southern Lesotho). Having pretty much mastered the techniques a couple of years ago, we were able to get a very good digital record of the Mid Permian dinocephalian (and probably amphibian) trackways in the upper Abrahamskaal Fm and a ?Late Triassic sauropodomorph trackway in Lower Elliot

Formation. Two open access papers on this work are currently available on the PlosOne website. Incidentally, late last year a bunch of volunteers from the Friends of the museum made a special trip to Fraserburg to clean up the trackway surface- removing vegetation and laying out new walkways for the public to visit without tramping the sensitive parts of the palaeosurface.

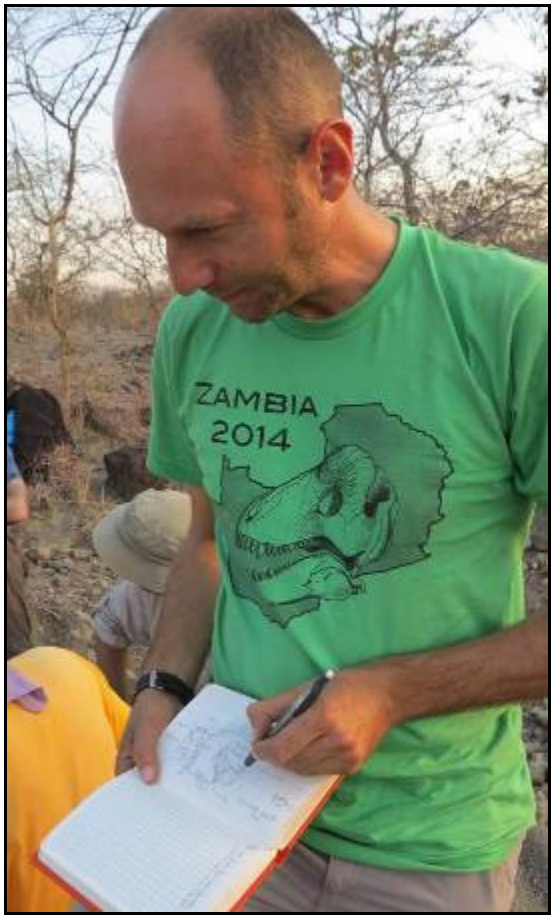
Laudia and Jeff laser scanning the Fraserburg trackway surface after a downpour. The devegetation and newly painted walkways are courtesy of the Friends of the South African Museum

Portable laser scanner (from Michigan) is powered by a small generator and feeds directly to a laptop so we can immediately see how good the coverage is and make sure we don't leave gaps in the scan.

In April Georgina and I led a weeklong Friends of The Museum field excursion to Fraserburg. 25 enthusiasts fuelled by Georgie's cordon bleu picnics resulted in some interesting, and worthwhile finds including a pair of *Robertia* skulls with lots of scattered post crania, and an impressive large gorgonopsian (?*Gorgonops*) skull with articulated right limb.

Pia Viglietti asked me to check out some of her findings in Cradock and Nieu Bethesda district in May. Whilst logging sections of the Barberkrans member she found several in-situ collectable fossils which we brought back. Volunteers Mike Strong and Derek Ohland also found some very useful fossils which Pia logged - one appears to be another juvenile aggregation of *Youngina.* This has been CT scanned at Stellenbosch and we await rendering to confirm the number of individuals. Whilst we were away the second episode of Niel Shubin's "Your Inner Fish", was broadcast on PBS in America to good generally rave reviews except from the creationists. This was filmed last year in the Karoo with Jennifer and I taking them around and doing our stuff. The 3x 50minute episodes are now available on DVD from Kalahari.com and I encourage you dip into your research grants and use it as a teaching aid- the animations are really top class.

My collaborations with the US scientists continued this year with a trip to Mid Permian of southern Zambia in June. A new dinocephalian AZ fauna is emerging from the Madumbisa Mudstone Formation in the northern Zambezi basin which has clear dinocephalian affinities to equivalent aged beds in Karoo Basin, but is different in that the burnettiids and toothy dicynodonts that are comparatively rare in S Africa are amongst the most common faunal remains. I also shipped back a fully prepared (by Georgina) and reconstructed (by George Esau) *Odontocyclops* skull to the Zambian Natural History museum in Livingstone for their first ever Karoo fossil display.



Sebastien Steyer in his expedition shirt doing a quarry map of a scattered dinocephalian skeleton being uncovered in the Mid Permian Madumabisa Mudstone, Zambia.

In search of the "oldest tetrapods in Gondwana" last month I led a team of Argentinian (Claudia Marsicano, Adriana Mancuso), Namibian (Helke Mocke, Ansgar Wanke) and South African (Sibusiso Mtungata, Paul October) on a 3- week expedition to the hyperarid Huab Basin of Namibia. We set up a remote field camp right next to the steep red mudrock slopes of the Gai-As formation in an area north of Doros crater. Potable water being a 4 hour round trip away, we were restricted to 5 litres per person per day and despite the heat we were easily able to go without bathing for 16 days (thanks to baby wipes).

Our base camp "oasis" in the hyperarid Huab River valley of northern Namibia.

Several partial skulls of 2 or perhaps 3 types of temnospondyl, numerous fish skeletons, abundant shark teeth and a variety of coprolites were collected in the first 10 days. We realized that the large septarian nodules were probably hiding the big temno skull so we began targeting the 2 nodule horizons in the lower Gai-As. Two days before departure Sibu followed a trail of vertebrae upslope to a huge in-situ nodule containing a complete half metre-long skull of the elusive big temnospondyl. Unable to trim down the nodule, he and I literally dragged it down slope and into the vehicle. Back in Windhoek, with Helke's invaluable assistance, we managed to get export permits in record time allowing us to bring 13 specimens back to Cape Town for preparation. We were disappointed not finding the pelycosaur that Bruce assured us would be preserved in the same lake margin environment- however we hope to target that next year.

Recent publications

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SHELDON, N D., CHAKRABARTI, R., RETALLACK,G.J., **SMITH R.M.H.** (in press) Mass extinctions, climate change, and enhanced terrestrial weathering?: Contrasting geochemical signatures from the end-Permian and middle-Permian events *Sedimentology* (IF 2.6)

CHRISTIAN A. SIDOR KENNETH D. ANGIELCZYK, **ROGER M. H. SMITH**, ADAM, K. GOULDING, STERLING J. NESBITT, BRANDON R. PEECOOK, J. SÉBASTIEN, STEYER, and STEPHEN TOLAN (in press) Tapinocephalids (Therapsida: Dinocephalia) from the Madumabisa Mudstone Formation (Lower Karoo Group, Mid-Zambezi Basin) of southern Zambia Journal Vertebrate Palaeontology (IF 1.7)

CHRISTIAN A. SIDOR, **ROGER M. H. SMITH,** ADAM K. HUTTENLOCKER, and BRANDON R. PEECOOK, (2014) New Middle Triassic tetrapods from the upper Fremouw Formation of Antarctica and their depositional setting. Journal of Vertebrate Palaeontology 34 (4): 793-801

KENNETH D. ANGIELCZYK, SÉBASTIEN HUERTAS, **ROGER M. H. SMITH,** NEIL J. TABOR, C. A. SIDOR, JEAN- SÉBASTIEN STEYER, LINDA A. TSUJI, AND NEIL J. GOSTLING (In Press) New dicynodonts (Therapsida, Anomodontia) and updated tetrapod stratigraphy of the Permian Ruhuhu Formation (Songea Group, Ruhuhu Basin) of Southern Tanzania. Journal of Vertebrate Palaeontology.

STERLING J. NESBITT, CHRISTIAN A. SIDOR, KENNETH D. ANGIELCZYK, **ROGER M.H. SMITH**, LINDA A. TSUJI (In press) A New Archosaur From The Manda Beds (Anisian: Middle Triassic) of Southern Tanzania and its Implications for character optimizations at Archosauria and Pseudosuchia. Journal Vertebrate Palaeontology

SMITH RMH and BOTHA-BRINK J (2014) Anatomy of a mass extinction: sedimentological and taphonomic evidence for drought-induced die-offs at the Permo-Triassic boundary in the main Karoo

Basin, South Africa. Palaeogeography, Palaeoclimatology, Palaeoecology, 316: 99-118 (IF3.2)

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ANGIELCZYK K.D., JEAN-SÉBASTIEN STEYER[2], CHRISTIAN A. SIDOR[3], **ROGER M.H. SMITH**[4], ROBIN L. WHATLEY[5], and STEPHEN TOLAN[6]
et al (2013) Permian and Triassic Dicynodont (Therapsida: Anomodontia) Faunas of the Luangwa Basin, Zambia: Taxonomic Update and Implications for Dicynodont Biogeography and Biostratigraphy In Kammerer, CF, Angielczyk, KD, Frobisch, J. (eds.) Early Evolutionary History of the Synapsida. Springer, Netherlands, p 93-138

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TSUJI, L.A., C.A. SIDOR, J.S. STEYER, **R.M.H. SMITH**, N.J. TABOR, and O. IDE. (2013). The vertebrate fauna of the Upper Permian of Niger — VII. Cranial anatomy and relationships of *Bunostegos akokanensis* (Pareiasauria). Journal of Vertebrate Paleontology 33:747-763

oOo

Billy de Klerk & Rose Prevec
Albany Museum, Grahamstown.

Rose - The past six months have passed in a blur of PIA work, museum admin, and several fieldtrips. A highlight was attending the PSSA congress in Johannesburg. Many thanks to the crew at the ESI, and especially to Jonah Choiniere, for hosting one of the best PSSA congresses in memory. Thanks also to the teams at SAHRA, WCHRA and AMAFA for taking the time to engage with palaeontologists on heritage management issues, prior to the conference.

A team of students and researchers from the ESI, UCT and the Albany Museum congregated in Kirkwood in February and spent a sweltering week revisiting some of the historically important dinosaur, charcoal and plant localities in the area. It is really great to see this revival of multidisciplinary research on the Kirkwood Formation.

Dr Jonah Choiniere and Ph.D. candidate Blair McPhee of the ESI, continue to work with Dr Billy de Klerk on the dinosaurs and other beasts of the Kirkwood Formation, while the activities of Dr Emese Bordy and her students (including Devon Bowen and Rob Muir) from UCT are making a very valuable contribution towards understanding the neglected geology of the Uitenhage Group.

(l - r) Blair McPhee, Marius Vermaak, Billy de Klerk and Jonah Choiniere studying numerous sauropod vertebrae recovered from the Kirkwood Fm.

Of particular interest, is their anticipated contribution towards a better understanding of the Early Cretaceous palaeoenvironment and depositional settings of the Kirkwood Formation, particularly relating to the impact of wildfires, as well as palaeobotanical aspects in conjunction with Drs. Marion Bamford and Rose Prevec. New charcoal finds are making life interesting for Marion, as studies of these fossils open a new window onto the diversity of woody plants that grew during this time. This broad research collaboration promises to provide important insights into our early Cretaceous ecosystems.

A fieldtrip to the Old Lootsberg Pass area, with Billy de Klerk, Luvuyo Mayi, Armstrong Khoso and Aviwe Matiwane led to the discovery and excavation of several vertebrate fossils and a couple of new plant localities, in a continuing investigation of the Permian Triassic biotas in the area. The Old Lootsberg Pass area is yielding more fossil plants than we have been accustomed to finding elsewhere in this palaeobotanically depauperate interval.

Dr Conrad Labandeira attended the PSSA, and spent three weeks photographing specimens and collecting data on plant-insect interactions at the ESI and Albany Museum. Conrad has donated a magnificent Zeiss stereo microscope to our department to assist us in our current and future work.
Thanks Conrad!

Rose Prevec, Kevin Cole (EL Museum), Luvuyo Mayi, Aviwe Matiwane, Armstrong Khoso and Billy de Klerk in the Lootsberg Pass area scouring the Dicynodon Zone for fossils.

Billy – The main focus of activity over the past six months has been the preparation of the five plaster jacketed blocks containing the partial sauropodomorph that Jonah Choiniere and I, with our large team, excavated late in 2013 (see PalNews - Jan 2014). What a pity that most of this fossil was bulldozed away during the construction of R393 dirt road between the Barkley Pass and Rhodes. At this time, it would appear as if this could be the largest sauropodomorph foot recovered in SA to-date. Loose theropod teeth of varying sizes have been revealed during preparation indicating that this dinosaur was partially scavenged before final burial. The good news is that Blair McPhee, supervised by Jonah Choiniere, will be including this beast into his PhD research.

Left foot (dorsal view) of the of a very big sauropodomorph dinosaur that has been recovered from near the top of the Barkley Pass in the Elliot District of the Eastern Cape.

A portion of the sauropodomorph tail clearly showing the centra with their associated neural spins and chevrons.

Recently one of our Geology students at Rhodes, **Gordon Ballantyne**, reported that he thought he had found a fossil on is parents' farm (while hunting warthog) some 4km south of Adelaide. **Rose** and I put together an enthusiastic group of students, farmers and staff to investigate this report that looked very promising (90km north of Grahamstown). We went out on a Saturday and were well rewarded with Gordon's find. It turned out to be the well-preserved skull, scapula and partial rib cage of a large tuskless dicynodont – most probably *Rhaciocephalus*. We stabilized the fossils and plan to excavate soon.

Gordon Ballentyne showing the position of his dicynodont find.

Right lateral side of the *Rhachiocephalus(?)* skull after partial excavation and stabilization.

Rob Gess –Albany Museum & Rhodes University, Grahamstown

Rob has continued with his post-Doc at Rhodes, focussed chiefly on his ongoing excavation of the Late Devonian Waterloo Farm shales. Late January saw the digital early release of a paper (*1) co-authored with Professor Mike Coates (U. of Chicago), on the Chondrichthyan remains from Waterloo Farm. This paper provides a redescription of *Plesioselachus* based on new material and reinterpretation of the original type material. In addition it provides a description of a new shark species from Waterloo Farm, diagnosed within the genus *Antarctilamna*. The new material provides unique examples of complete cartilaginous elements attributable to this genus.

In February Rob was joined for four weeks by Dr Cyrille Prestianni of The Royal Museum of Natural History in Belgium. Cyrille and Rob are working on some of the Late Devonian fossil plant material excavated by Rob over the last twenty plus years. They have already published notes on the rooting structure of the lycopod, *Leptophloem* (*2).

In July Rob attended the PSSA biennial conference at Wits and presented a paper on reconstructing two species of the placoderm genus *Africanaspis* from Waterloo Farm, based on analysis of placoderms that he is doing in conjunction with Professor Trinajstic of Curtin University (Perth). The conference was not only informative but well organised and highly enjoyable. It was great to see everyone again and some valuable networking resulted.

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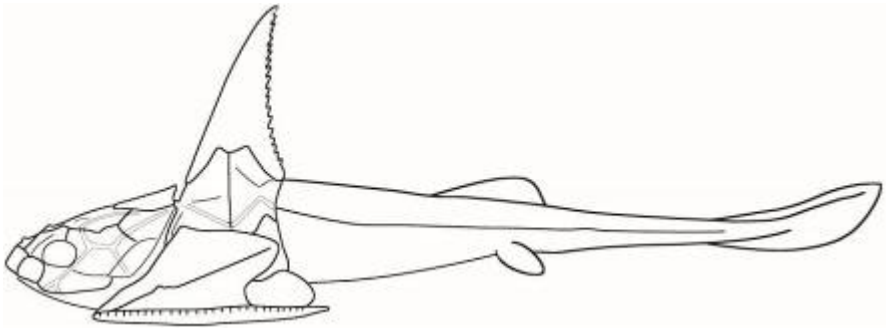
Pictures of part and counterpart of a 2cm long ***Africanaspis*** **hatchling** (or birthling) found about a month ago.



An ***Africanaspis*** **species** reconstructed from dissociated adult plates and soft tissue remains.

Helke Mocke - National Earth Science Museum, Geological Survey of Namibia - Windhoek.

At the beginning of 2014 I attended a workshop on "Marketing for Namibian Museums". This workshop was organized and funded through the Museum's Association of Namibia and provided some valuable insights as to how the National Earth Science Museum can attract more tourists, students and school groups.

Research work on a Chiniquodontid cynodont from the Omaruru River in Central Namibia as part of a Masters project through the Evolutionary Studies Institute at the University of the Witwatersrand progressed well, with the first preliminary description of postcranial bones of the Namibian Chiniquodontid. As part of this research I was able to visit the collections of the Museum of Comparative Zoology, Harvard University, in Boston, Massachusetts, USA.

The first fully preserved pelvis for a Chiniquodontid cynodont.

The French-Namibia Palaeontology Expedition with Drs Martin Pickford and Brigitte Senut to the Sperrgebiet was undertaken from the 29th April to the 16th May in Southern Namibia. The main point of interest about the field survey was the discovery of mammals at Eoridge, a site that had previously yielded only snails and tortoises. These mammals were represented by the teeth of a large hyracoid (dassie) and rodent teeth originally part of an owl pellet.

Partial jaw with teeth of a hyracoid at Eoridge, in the Sperrgebiet, Namibia.

A large amount of graptolite fossils and Ediacara replicas from Australia were generously received from Dr Pat Vickers Rich as part of an exchange between the School of Geosciences, Monash University, Australia and the National Earth Science Museum.

I was able to attended the PSSA' meeting in Johannesburg and presented a lightning talk on my MSc findings.

This year the Geological Survey is proud to host the 7th Conference for the African Association of Women in Geosciences under the theme "Earth Sciences and Climate Change: Challenges to Development in Africa" on the 3rd to 9th of November in Windhoek, Namibia.

Please visit the website http://www.aawg.org/ for more information or email any queries to aawg7.whk@mme.gov.na.

Francis Thackeray – EIS at Wits
Palaeoanthropology:-Probabilities of conspecificity

Introduction

Hublin (2014) has highlighted a problem that is currently being discussed in the context of Plio-Pleistocene hominin fossils from Dmanisi (Georgia) and Africa, relating to "the limits of a paleontological species". This problem may be approached using a morphometric method of the kind developed by Thackeray (1997, 2007) and Thackeray et al (1997), recognising that boundaries between species such as *Australopithecus* and *Homo* are not necessarily clear.

METHOD AND MATERIALS

The method uses homologous pairs of measurements of crania obtained initially from modern conspecific vertebrate species, using least squares linear regression to quantify the degree of scatter around a regression line associated with the general equation y=mx + c, where m is the slope and c is the intercept. Thackeray *et al* (1997) reported central tendency of the log-transformed standard error of the m-coefficient, known as "log se_m" and which is based on pairwise comparisons of conspecific specimens in museum collections of extant taxa. The initial sample of measurements was extended to include pairs of chimpanzees, gorillas as well as humans. Central tendency was associated with a mean log se_m value of -1.61 +/- 0.23 (Thackeray, 2007). This log se_m value was claimed to be an approximation for a biological species constant (T), expressed through geographical space and evolutionary time, associated with a statistical (probabilistic) definition of a species that could be applied to fossils, including specimens attributed to *Australopithecus* and early *Homo* (Thackeray, 2007).

Log se_m values have been calculated for pairs of Plio-Pleistocene African hominin fossil crania, including those attributed to *Homo erectus* (KNM-ER 3733 and KNM-ER 3883 from Kenya), *Homo habilis* (OH 24 from Tanzania and KNM-ER 1813 from Kenya), *Australopithecus africanus* (Sts 5 and Sts 71 from South Africa), and *Paranthropus boisei* (OH5 from Tanzania, as well as KNM-ER 406 and KNM-ER 732 from Kenya).

RESULTS

Pairwise comparisons of Plio-Pleistocene specimens listed above, with specimen A on the x axis and conspecific specimen B on the y axis, and *vice versa*, result in a mean log se_m value of -1.62 +/- 0.11. This is not significantly different from the mean log se_m

value of -1.61 +/- 0.23 published by Thackeray (2007) based on pairwise comparisons of conspecific modern taxa.

DISCUSSION AND CONCLUSIONS

This approach offers the potential to assess probabilities of conspecificity when many pairs of fossils are compared, even those that have been attributed to different taxa. However, recognising criticisms from Gordon and Wood (2013), it is necessary to take into account the range of variation of log se_m values when pairwise comparisons are made between specimen A (on the x axis) and specimen B (on the y axis), and *vice versa*. This range of log se_m values for pairs of specimens is designated Delta (Δ log se_m). The mean range of log se_m values for pairwise comparisons of modern conspecific primates is small, in the order of 0.03, contrasting with much larger Δ log se_m values (in the order of 0.3) when comparisons are made between differently sized modern specimens of different genera (Sue Dykes, pers. comm). Log se_m and Δ log se_m values, when taken together, have potential for assessing probabilities of conspecificity.

The mean Δ log se_m value for pairwise comparisons of the fossil specimens listed above is relatively low (0.08), consistent with the consensus view that these pairs are indeed conspecific, supported also by the mean log se_m value of -1.62 +/- 0.11 for the same pairs of fossils. This mean log se_m value of -1.62 and its corresponding standard deviation of 0.11, for pairwise comparisons of the Plio-Pleistocene hominin specimens, are almost identical to the mean log se_m values and associated standard deviations obtained from pairwise comparisons of conspecific chimpanzee species studied by Gordon and Wood (2013). They calculated the following mean log se_m values:
-1.61 +/- 0.087 (female-female comparisons of *Pan paniscus*)
-1.62 +/- 0.095 (male-male comparisons of *Pan paniscus*)
-1.61 +/- 0.094 (female-male comparisons of *Pan paniscus*)
-1.62 +/- 0.100 (female-female comparisons of *Pan troglodyes*)
-1.60 +/- 0.109 (male-male comparisons of *Pan troglodytes*)
-1.60 +/- 0.116 (female-male comparisons of *Pan troglodytes*)

The results can be assessed in the context of log se_m values obtained by Thackeray and Odes (2013) for pairwise comparisons of specimens attributed to *A. africanus* and *H. habilis* (dated between 2.6 and 1.8 million years), and for pairwise comparisons of specimens attributed to *H. habilis* and *H. erectus* (dated between1.8 and 1.6 million years). In these comparisons using log se_m values relative to modern comparative data, it appears that there is a high probability of conspecificity (mean log se_m =-1.60 +/- 0.07) when *A. africanus* and *H. habilis* specimens are compared against each other for the period within 2.6 and 1.8 million years. Similarly, it appears that there is a high probability of conspecificity (mean log se_m = -1.64 +/- 0.11) when *H. habilis* and African *H.erectus*

specimens are compared against each other for the period within 1.8 and 1.6 million years. These observations raise the question as to whether *A. africanus*, *H. habilis* and *H. erectus* in Africa are part of a continuum, of the kind suggested by Thackeray and Odes (2013) in the context of "palaeospectroscopy", recognising that there are not necessarily clear boundaries between Plio-Pleistocene hominin species. A solution to this problem is to assess probabilities of conspecificity. Thackeray and Odes (2013) appeal for the approach using log se_m values "to address morphological changes through evolutionary time, associated with anagenesis, without relying on the Linnaean binomial system of nomenclature".
Fifty years ago, the hominin species *Homo habilis* was described by Leakey, Tobias and Napier (1964) on the basis of early Pleistocene fossils from Bed I at Olduvai Gorge in Tanzania. Several palaeontologists observed that the East African specimens attributed to *H. habilis* were similar to South African Plio-Pleistocene fossils attributed to *A. africanus* from Taung (described initially in 1925 by Raymond Dart) and from Sterkfontein (described by Robert Broom after 1936). Robinson (1965) claimed that the specimens attributed to *H. habilis* should instead be considered to be australopithecines. This claim is supported by the log se_m statistics reported here and by Thackeray and Odes (2013).

Just as there are not clear boundaries between hominin species, so too there is not a clear boundary between the genera of *Australopithecus* and *Homo*. A probabilistic approach to taxonomic definitions is called for.

ACKNOWLEDGMENTS

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http://antiquity.ac.uk/projgall/thackeray335/

Francis Thackeray

Palaeontological Society of Southern Africa

18th Biennial Meeting
University of the Witwatersrand
11-14 July 2014

Presidents Address – Bernhard Zipfel

13th of July 2014

Welcome everyone to the 18th PSSA Conference, and many thanks to Dr. Jonah Choiniere and the organising committee for organising PSSA 2014 here in, and I have to admit to being biased, the hub of Palaeoacademia!

Dr. Billy De Klerk has done a wonderful job with PalNews. There has been a good response to his calls for news and we would like to thank all members that had made contributions in the past year or so. Members have made a great effort in sending text with lots of photos, cartoons, web sites of palaeo interest and change of membership information (email addresses, resignations, new members etc.). Since July 2013 Rose Prevac has a fully tenured post in the Dept. of Sport Recreation Arts and Culture (EC Gov.) as a Scientist/Palaeontologist. She will effectively take over from Billy as HOD at the Albany Museum once his retirement is finalized.

The Karoo Palaeontology Department at the National Museum Bloemfontein together with Jennifer Botha-Brink and colleagues ran the Free State Evolution Education Programme from 24 February to 07 March 2014. PAST's Walking Tall crew visited 14 schools and their theatre production reached approximately 560 learners. Teacher's workshops were modified this year to comprise lectures on genetics and evolution based on the school syllabus.

The Iziko Museum collections have all been boxed up and moved offsite. The entire research and collections area at the South African Museum is undergoing major building works that will go

on for at least 2-3 years. The renovations will considerably increase the collections space as well as add another floor of offices.

I am also happy to announce that the PSSA's upgraded website has successfully been running. Many thanks to Jennifer Botha-Brink, Alex Parkinson, Billy de Klerk and Rose Prevac for their help. The aim of the website is to post important information about the society and to make our newsletter, Palnews, more accessible, and also provides pertinent information about impact assessments, legal and heritage related issues. Interestingly, members of the public have accessed the website, and this has led to a number of enquiries regarding concerns about fossils, the law, possible fossil finds and information on training and education. The website is by no means complete, previous suggestions about posting information regarding evolution and its teaching as well as a tourism protocol, are still possible additions.

Starting with Volume 48, *Palaeontologia Africana* will be freely available online via the University of Witwatersrand's website. The archive of back issues is currently being scanned, and will also be made freely available as issues are processed, with the goal of having the entire journal digitized by 2015. Meanwhile, Dr. Jonah Choiniere, after years of excellent leadership by Professor Marion Bamford has taken over as editor. Marion will stay on as an Associate Editor, along with Professor Bruce Rubidge and Dr. Lucinda Backwell. Finally, the Editorial Panel has made it their objective to obtain an ISI listing for Palaeontologia Africana by 2015.

The Evolutionary Studies Institute (ESI), formed through an amalgamation of the Bernard Price Institute for Palaeontological Research (BPI) and the Institute for Human Evolution (IHE) was officially opened as one of the new 21st Century Institutes of Wits University on 1 July 2013. Currently research of the Institute focusses largely on the fossil hominin record of southern Africa, as well as the palaeobiology of the rocks of the Karoo Supergroup. As the institute matures it will broaden its multidisciplinary scope of research to include incorporating the disciplines of palaeontology, palaeoanthropology, molecular biology, genetics, geosciences, archaeology, geography, biology, ecology and climatology. Professor Bruce Rubidge has been appointed as the interim director of the ESI. The ESI has since been busy with all its programmes, from fieldwork to outreach and more. The contents of the Phillip Tobias Fossil Primate and Hominid Laboratory have been moved to a new facility at the Wits Palaeosciences Centre. This laboratory now houses the world's largest hominin collection and is arguably, the finest facility of its kind in the world.

On the research productivity front, there are simply too many projects to start mentioning names. Another series of papers on

Australopithecus sediba have been published, discoveries of burrows, new dinosaur, therapsid and botanical finds abound. A new hominin discovery at Dinaledi in the Cradle of Humankind in December 2014 has been made and a large workshop to study the material has already happened in June. It has been a good two years.

PAST still remains our stalwart South African source of funding. Most people see PAST as a funding agency. In fact the substantive funds that PAST hand out is only a part of their work.
PAST has a strong overarching, pan-African mission, which is to shape a positive environment in which African science leadership can flourish by:
1) Enhancing the continent's image through recognition of it as the evolutionary birthplace of everything that makes us human.
2) Bringing together leading business people, government seniors and top scientists to grow all aspects of the science and in so doing, developing a strongly positive view of Africa as the ancestral homeland of every person on the planet.

PAST's vision addresses the fact that the human story is an African story, and therefore that we are all custodians of the continent's incredible ancient heritage. They are currently celebrating their 20th birthday and over the 20 years they have awarded over $5 million dollars to research programmes. This excludes the funds for education and outreach which form a substantial part of our disbursement. We wish them every success for the next 20 years, and thank them for their support. I encourage you to follow them on FB and Twitter especially once their website is overhauled.

A number of meetings were held with the PSSA. One in connection with the use and distribution of micro-CT data and its accompanying intellectual property; the input from PSSA members and the industry as a whole was substantial which resulted in the resolution that exceptions could be made for the export of CT data. Two meetings were held with SAHRA discussing everything from the new SAHRIS system, to permitting, to the illegal fossil trade. These meetings were productive, and we thank SAHRA for their initiative to engage with us.

With the advent of the Evolutionary Studies Institute and Centre of Excellence paving the way in cutting edge palaeoscience, the continued work of the Bloemfontein Palaeontology Unit, the revamped Iziko Museum, laboratories around the country that are dedicated to specialized fields such as fossil preparation, palaeohistology, phytoliths and palynology, the future seems bright. We do what we do out of passion for the fossils we love, the collaborations, friendships and comradery we experience!! I thank you!!

PSSA'14

Minutes - 18th Biennial General Meeting of the PSSA Johannesburg – 13th July 2014

1. Welcome

A Presidential address was made by Dr. Bernhard Zipfel, Curator of fossils, University of the Witwatersrand. Dr. Zipfel welcomed everyone. He thanked Dr. Jonah Choiniere and the Organising Committee for an excellent conference, and Dr. Billy de Klerk for compiling our contributions to Palnews. It was announced that Dr. Rose Prevec will take over as Head of Department at the Albany Museum in Grahamstown. The Iziko South African Museum in Cape Town is under construction for the next two to three years; however, the Karoo Collection is still accessible to researchers. Dr. Jennifer Botha-Brink was thanked for setting up the PSSA website, which has been well received by the public, and commended for her work on school outreach, made in participation with the Walking Tall theatre production. *Palaeontologia africana* volume 48 is now available online via the Wits University website thanks to Dr. Jonah Choiniere, who has replaced Professor Marion Bamford as Editor of the journal. He hopes to digitize the entire journal by 2015. The Evolutionary Studies Institute (ESI) was officially opened as a 21st Century Institute on the 1st of July 2014 under the Interim Directorship of Professor Bruce Rubidge. It currently encompasses Karoo and hominin evolution, but plans to expand. The hominin vault recently moved from Wits Medical School to the (ESI on East Campus. It is the largest hominin collection in the world. Lots of discoveries are being made and much research is being conducted. He thanked PAST for their contribution to the Palaeosciences, congratulating them on 20 years since their origin. Dr. Zipfel concluded by reporting that it was agreed by the Micro-CT scanner Committee that virtual micro-CT data be shared, and that meetings with SAHRA regarding fossils, the law, trade, permitting, etc. have been positive and productive.

2. Apologies

Dr. Billy de Klerk, Professor Robert Blumenschine, Ms. Andrea Leenen.

3. Minutes of the previous BGM (Cape Town 5-8 September 2012)

Accepted as a true reflection: Proposed: Professor Bruce Rubidge; Seconded: Mr. Alexander Parkinson.

4. Matters arising

None.

5. Treasurer's report 2012-2014

A financial report was presented by the Treasurer, Ms. Elize Butler. Total income R38,668. Total expenditure R6,120. Bank balance at end of period R160,183.00. See a detailed Financial Report for the period

03 August 2012 to 31 May 2014 attached. Professor Bruce Rubidge suggested that the incoming Committee spend the money.

6. PSSA Communication

a. **Palnews.** Dr. Billy de Klerk to be sent contributions. Dr. Jennifer Botha-Brink suggested regulated communication between Members. Mr. Alexander Parkinson agreed to create a facility to send messages to Members.
b. **Website.** Same as above.
c. ***Palaeontologia africana.*** Dr. Jonah Choiniere reported that publications are available as pdfs, currently being uploaded on D-space (archive for journals). Text recognition is enabled in Google. ISI listing is a difficult process, so planned for 2017. Dr. Choiniere to investigate Google Scholar to increase citations.

7. PSSA administration

a. **Changes to bank account.** Ms. Elize Butler to change PSSA financial system to internet banking.
b. **Registration as a non-profit organization.** Decided against prior to the meeting.
c. **Formal accreditation by PSSA.** Professor Bruce Rubidge suggested that the incoming Committee contact the Archaeological Society to enquire how they are proceeding with this matter.
d. Dr. Rose Prevec raised the issue of SACNASP registration being a requirement to conduct Palaeontological Impact Assessments (PIAs). Ms. Jenna Lavin (SAHRA) to clarify the situation for the next issue of Palnews.

8. SAHRA

a. It was reported that Ms. Jenna Lavin (SAHRA representative) met the previous day with a representative panel of palaeontologists to discuss illegal trade in fossils, permitting and Palaeontological Impact Assessments. Minutes of that meeting are to be approved and included in the next issue of Palnews.
b. Ms. Jenna Lavin said that current legislation is very broad, so SAHRA is drafting regulations applicable to Palaeontology. Professor Bruce Rubidge suggested a workshop on how to conduct Palaeontological Impact Assessments. The matter of an Environmental Control Officer was raised. Dr. Gideon Groenewald did not think that they are a viable option. Ms. Jenna Lavin suggested a memorandum of agreement between developers and impact assessors, in which students could check on progress every few months.

9. Venue for next conference in 2016

Dr. Ryan Tucker was elected to host the next conference at Stellenbosch University, a nomination seconded by Ashley Kruger. Dr. Choiniere suggested that Dr. Tucker contact all PSSA Members regarding their availability in 2016.

10. Election of new Committee

New President: Professor Marion Bamford

Vice President:	Dr. Rose Prevec
Secretary:	Dr. Lucinda Backwell
Treasurer:	Ms. Elize Butler
New Committee Member:	Dr. Jonah Choiniere
Palnews Editor:	Dr. Billy de Klerk
Student Members:	Ms. Brigitte Cohen, Ms. Kimi Chapelle

11. General

Micro-CT scanning. Dr. Kristian Carlson reported on the facility, saying that there is now a link to the facility on the web. He requested that applicants and users correspond with him via his CT-scanner email address. A Management Committee is in place to review applications, which should be question-driven and detailed. The review process takes at least two weeks. Images of the item(s) should be included, and information on the dimensions provided to assess feasibility.

Professor Francis Thackeray extended a vote of thanks to Dr. Bernhard Zipfel and the outgoing Committee for their service over the past two years.

There being nothing further the meeting was closed.

Awards

- **Bob & Laura Brain 'Fun with Fossils' award:** Cameron Penn-Clark, Pia Viglietti
- **Lystrosaurus award** – best poster - Ms Mhairi Reid
- **Lystrosaurus shield** for best student presentation: Ashley Kruger
- **James Kitching award (Harrismith Mug)** for best overall presentation: Dr Tyler Faith
- **Order of the boot** (for the most unbelievable presentation, even though it may be the brilliant truth): Alexander Parkinson.
- **NEW Award from PAST** for most promising young researcher (R10 000): Mr Robert Muir

PSSA - Financial Report

Period: 3 August 2012 to 31 May 2014

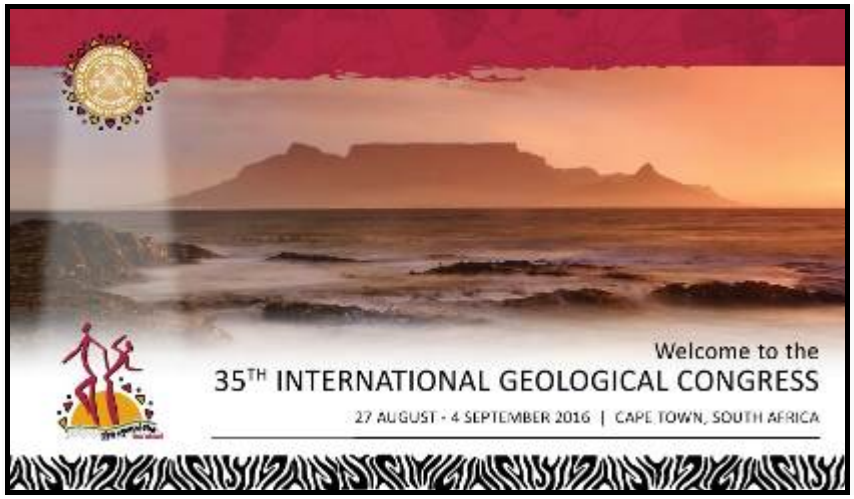
	2012/2014	2010/2012
BANK BALANCE at beginning of period	**R 122,461**	**R 118,323**
Current account	R 26,725	R 29,258
Special Deposit Account	R 95,736	R 89,065
INCOME	**R 38,668**	**R 13,783**
Conference	R 22,657	R 4,402
Financial assistance from PAST	R 0	R 0
Subscriptions	R 10,561	R 2,710
Income	R 5,450	R 0
		R 6,671
EXPENDITURE	**R 6,120**	**R 9,645**

Bank charges	R 1,773	R 1,684
Conference expenses	R 0	R 0
Website/Fine Design	R 650	R 4,624
Travel costs - SAHRA meeting	R 3,492	R 3,337
Other expenses (Afrihost)	R 205	R 0
BANK BALANCE at end of period	**R 160,183**	**R 122,461**
Current account	R 59,273	R 26,725
Special Deposit Account	R 100,910	R 95,736

Conferences, recent fossil discoveries & press cuttings.

35TH INTERNATIONAL GEOLOGICAL CONGRESS

27 AUGUST - 4 SEPTEMBER 2016 | CAPE TOWN, SOUTH AFRICA



More information - www.35igc.org

4th International Palaeontological Congress

http://www.ipc4mendoza2014.org.ar/

XVIII International Congress on the Carboniferous and Permian

http://kpfu.ru/iccp2015

AfQUA - Conference

We'd like to bring your attention to a new conference series entitled "The African Quaternary: environments, ecology and humans" (AfQUA). If you have not received it already, a brief overview is given below in the second circular for the

inaugural conference to be held in Cape Town in January/February 2015. Further details can be found on our website: http://afqua2015.com/

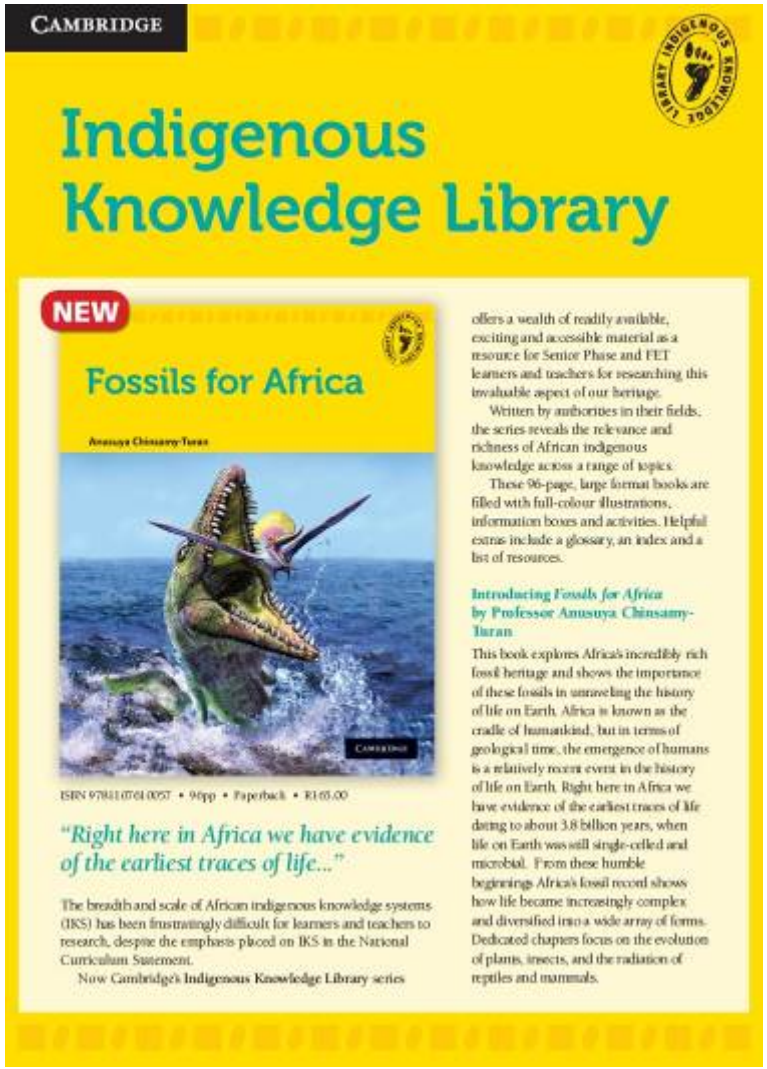
Venue University of Cape Town, Cape Town, South Africa

Dr Lynne J. Quick,
AfQUA 2015 Organising Committee.
Department of Environmental & Geographical Science
University of Cape Town, Rondebosch 7701 RSA

The African Quaternary:
environments, ecology and humans

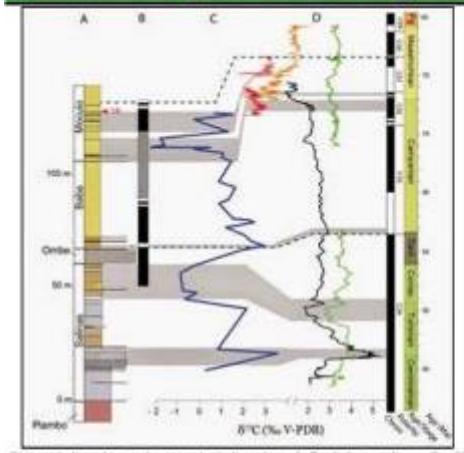
Conference and workshops 30 January - 7 February 2015

Anusuya Chinsamy-Turan – University of Cape Town
Here is the flyer for my new book which will be published in September. Anusuya
PS did you see all the fuss about our new feathered dinosaur?
http://mg.co.za/article/2014-07-15-winged-changyuraptor-adds-feather-to-sa-scientists-cap



Extracts from GSAf Newsletters - Lopo Vasconcelos

Richest marine reptile fossil bed along Africa's South Atlantic coast is dated at 71.5 mya



Chemostratigraphy and magnetostratigraphy of Bentiaba section. Credit: Strganac

A new study uses carbon isotope dating to determine the first precise age for this bed, and ties the western coast of Africa to 30 million years of global geologic records

Paleontologists at Southern Methodist University have measured the carbon isotopes in marine fossils to precisely date for the first time 30 million years of sediments along Africa's South Atlantic shoreline.

The researchers matched the pattern of ratios of carbon-13 and carbon-12 isotopes in marine fossils from Africa's South Atlantic shoreline to known patterns of carbon ratios in fossils found elsewhere in the world. From that they determined the age of the coastal sediments at a fossil locality near the southern Angolan village of Bentiaba, said paleontologist Christopher Strganac, lead author on the study.

The analysis focused on a sequence of shoreline sediments totaling 140 meters thick. Their age spans a timeline of nearly 30 million years, from 95 million years ago to 68 million years ago. That period was about 40 million years after Africa and South America split, allowing the South Atlantic Ocean to slowly emerge.

The analysis revealed that the richest marine reptile fossil bed on Africa's South Atlantic dated to 71.5 million years ago, he said. This new date at the Bentiaba locality is more than 2 million years older than the estimated date of about 69 million years previously assigned to those marine beds by earlier researchers.

Africa's South Atlantic coast is remarkable in plate tectonics as the place where part of the prehistoric supercontinent Gondwana split 130 million years ago into what we now call Africa and South America.

"The precise age for these rocks allows better understanding of the ancient life and environments at Bentiaba by placing them accurately within the history of the ancient South Atlantic," said Strganac, a doctoral student in SMU's Roy M. Huffington Department of Earth Sciences. "It's a benchmark now from the Southern Hemisphere with which we can better understand ancient life at that time."

The precise dating was made possible by new scientific dating techniques. The age of the rocks hadn't previously been assessed because Africa's South Atlantic shore -- noted for its puzzle-like fit with South America – has few localities with well-exposed rocks of this age. Also, it has been essentially unexplored by scientific expeditions since the 1960s largely because war and unrest prevented exploration in the previous century.

The new measurements stem from the work of Projecto PaleoAngola, an international team of scientists who in recent years have explored Angola and discovered an abundance of fossils. Their discoveries include the bones of dinosaurs, whales, mosasaurs and other ancient life from what is the richest marine reptile fossil bed along the South Atlantic coast.

Strganac and his co-authors report their findings in the Journal of African Earth Sciences.

"This improvement in understanding the ages of the rocks along the shore is a great first step in trying to understand the climatic and evolutionary events that accompanied the growth of this ocean," said vertebrate paleontologist Louis L. Jacobs, also a co-author on the study and co-leader of Projecto PaleoAngola. Jacobs describes Angola as "an untapped frontier" for fossil hunters.

More at http://www.sandiegouniontribune.com/2014/05/richest-marine-reptile-fossil-bed-along.html

Microbes indicted in ancient mass extinction

At the end of the Permian period, marine microbes may have given off so much methane and made the oceans so acidic that shelled creatures, similar to the fossils shown, would have gone extinct

By Ashley Yeager, March 31, 2014

About 252 million years ago an estimated 96 percent of all species were wiped from Earth, and now scientists have a new suspect in the killing — methane-belching microbes.

The archaea *Methanosarcina* got faster at making methane by acquiring a gene from another microbe and then reproducing quickly, fueled by nickel spewing from Siberian volcanoes. The extra methane would have made the oceans acidic and added sulfur compounds to the air, driving the extinction of life at sea and on land, a team of researchers suggests March 31 in the *Proceedings of the National Academy of Sciences*. An earlier report estimated that the die-off happened in less than 60,000 years.

At http://www.sciencenews.org/blog/science-ticker/microbes-indicted-ancient-mass-extinction

Microbe's innovation brought doom to Earth

The physical environment can produce sudden shocks to the life of our planet through impacting space rocks, erupting volcanoes and other events.

But sometimes life itself turns the tables and strikes a swift blow back to the environment. New research suggests that the biggest extinction event on record may have been initiated by a small, but significant change to a tiny microbe.

The end-Permian (or PT) extinction event occurred 252 million years ago. It is often called the Great Dying because around 90 percent of marine species disappeared in one fell swoop. Similar numbers died on land as well, producing a stark contrast between Permian rock layers beneath (or before) the extinction and the Triassic layers above. Extinctions are common throughout time, but for this one, the fossil record truly skipped a beat.

"The end-Permian is the greatest extinction event that we know of," said Daniel Rothman, a geophysicist at the Massachusetts Institute of Technology. "The changes in the fossil record were obvious even to 19th Century geologists."

Understanding the cause of this biological devastation requires understanding the geochemical clues that go along with it. Chief among these clues is a sudden swing in the balance of carbon isotopes stored in rocks from that same time period.

If geologists can find what disrupted the carbon, they'll likely know what killed off so much of the Earth's life forms. Several theories have tried to explain the carbon perturbation as, for example, massive volcanism, or a drop in sea level, but none of these environmental causes have fully matched the data.

Rothman and his colleagues have identified a different culprit—one coming from biology rather than geology. They argue in the Proceedings of the National Academy of Sciences that the carbon disruption and, consequently, the end-Permian extinction were set off by a particular microorganism that evolved a new way to digest organic material into methane.

With this genetic innovation, these methane-producers, or methanogens, ran rampant across the ocean, overturning the carbon cycle. The resulting changes in ocean chemistry would have driven many species to extinction.

"This shows how unstable Earth's systems are," Rothman said. "A very small event in the microbial community can have an enormous impact on the environment."

More at http://www.geologypage.com/2014/03/microbes-innovation-brought-doom-to.html

Giant mass extinction quicker than previously thought: End-Permian extinction happened in 60,000 years

Artist's rendering of the landscape during end Permian extinction. Credit: José-Luis Olivares/MIT

February 10, 2014, Massachusetts Institute of Technology.

The largest mass extinction in the history of animal life occurred some 252 million years ago, wiping out more than 90 percent of marine species and 70 percent of life on land -- including the largest insects known to have inhabited Earth. Multiple theories have aimed to explain the cause of what's now known as the end-Permian extinction, including an asteroid impact, massive volcanic eruptions, or a catastrophic cascade of environmental events. But pinpointing the cause of the extinction requires better measurements of how long the extinction period lasted.

Now researchers at MIT have determined that the end-Permian extinction occurred over 60,000 years, give or take 48,000 years -- practically instantaneous, from a geologic perspective. The new timescale is based on more precise dating techniques, and indicates that the most severe extinction in history may have happened more than 10 times faster than scientists had previously thought.

"We've got the extinction nailed in absolute time and duration," says Sam Bowring, the Robert R. Shrock Professor of Earth and Planetary Sciences at MIT. "How do you kill 96 percent of everything that lived in the oceans in tens of thousands of years? It could be that an exceptional extinction requires an exceptional explanation."

In addition to establishing the extinction's duration, Bowring, graduate student Seth Burgess, and a colleague from the Nanjing Institute of Geology and Paleontology also found that, 10,000 years before the die-off, the oceans experienced a pulse of light carbon, which likely reflects a massive addition of carbon dioxide to the atmosphere. This dramatic change may have led to widespread ocean acidification and increased sea temperatures by 10 degrees Celsius or more, killing the majority of sea life.

But what originally triggered the spike in carbon dioxide? The leading theory among geologists and paleontologists has to do with widespread, long-lasting volcanic eruptions from the Siberian Traps, a region of Russia whose steplike hills are a result of repeated eruptions of magma. To determine whether eruptions from the Siberian Traps triggered a massive increase in oceanic carbon dioxide, Burgess and Bowring are using similar dating techniques to establish a timescale for the Permian period's volcanic eruptions that are estimated to have covered over five million cubic kilometers.

"It is clear that whatever triggered extinction must have acted very quickly," says Burgess, the lead author of a paper that reports the results in this week's *Proceedings of the National Academy of Sciences*, "fast enough to destabilize the biosphere before the majority of plant and animal life had time to adapt in an effort to survive."

Pinning dates on an extinction

In 2006, Bowring and his students made a trip to Meishan, China, a region whose rock formations bear evidence of the end-Permian extinction. geochronologists and paleontologists have flocked to the area to look for clues in its layers of sedimentary rock. In particular, scientists have focused on a section of rock that is thought to delineate the end of the Permian, and the beginning of the Triassic, based on evidence such as the number of fossils found in surrounding rock layers.

Bowring sampled rocks from this area, as well as from nearby alternating layers of volcanic ash beds and fossil-bearing rocks. After analyzing the rocks in the lab, his team reported in 2011 that the end-Permian likely lasted less than 200,000 years. However, this timeframe still wasn't precise enough to draw any conclusions about what caused the extinction.

Now, the team has revised its estimates using more accurate dating techniques based on a better understanding of uncertainties in timescale measurements.

With this knowledge, Bowring and his colleagues reanalyzed rock samples collected from five volcanic ash beds at the Permian Triassic boundary. The researchers pulverized rocks and separated out tiny zircon crystals containing a mix of uranium and lead. They then isolated uranium from lead, and measured the ratios of both isotopes to determine the age of each rock sample.

From their measurements, the researchers determined a much more precise 'age model' for the end-Permian extinction, which now appears to have lasted about 60,000 years -- with an uncertainty of 48,000 years -- and was immediately preceded by a sharp increase in carbon dioxide in the oceans.

More at http://www.sciencedaily.com/releases/2014/02/140210213923.htm?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+sciencedaily%2Fearth_climate+%28Earth+Climate+News%29

Unique chromosomes preserved in Swedish fossil

This is a fern fossil. Credit: Photo: Benjamin Bomfleur

Researchers from Lund University and the Swedish Museum of Natural History have made a unique discovery in a well-preserved fern that lived 180 million years ago. Both undestroyed cell nuclei and individual chromosomes have been found in the plant fossil, thanks to its sudden burial in a volcanic eruption.

The well-preserved fossil of a fern from the southern Swedish county of Skåne is now attracting attention in the research community. The plant lived around 180 million years ago, during the Jurassic period, when Skåne was a tropical region where the fauna was dominated by dinosaurs, and volcanoes were a common feature of the landscape. The fossilised fern has been studied using different microscopic techniques, X-rays and geochemical analysis. The examinations reveal that the plant was preserved instantaneously, before it had started to decompose. It was buried abruptly under a volcanic lava flow.

"The preservation happened so quickly that some cells have even been preserved during different stages of cell division", said Vivi Vajda, Professor of Geology at Lund University.

Thanks to the circumstances of the fern's sudden death, the sensitive components of the cells have been preserved. The researchers have found cell nuclei, cell membranes and even individual chromosomes. Such structures are extremely rare finds in fossils, observed Vivi Vajda.

"This naturally leads us to think that there must be more to discover. It isn't hard to imagine what else could be encapsulated in the lava flows at Korsaröd in Skåne", said Vivi Vajda.

Professor Vajda has carried out the study with two researchers from the Swedish Museum of Natural History, Benjamin Bomfleur and Stephen McLoughlin. The fern belonged to the family Osmundaceae, Royal Ferns. In modern times, royal ferns grow in the wild in Sweden and are also a common garden plant. Living representatives of this family are very similar in appearance to the Jurassic fossil, which suggests that only limited evolutionary change has taken place over the millennia. By comparing the size of the cell nuclei in the fossilised plant with its living relatives, the researchers have been able to show that the royal ferns have outstanding evolutionary stability.

"Royal Ferns look essentially the same now as they did during the Jurassic Period, and are therefore an excellent example of what we call a living fossil", said Vivi Vajda.

Professor Vajda has also dated the rocks surrounding the fossil by studying pollen and spores preserved in these rocks. Their analysis revealed that the lava flows are around 180 million years old, from the early Jurassic Period. These results have considerably refined previous radiometric dating conducted on nearby volcano cones. In addition, the research study shows that spores from royal ferns, as well as pollen from coniferous trees, including cypress and cycad, are found in large quantities in the volcanic rock. This is evidence of varied vegetation and a hot, humid climate at the time when the area was engulfed by a disastrous volcanic eruption.

The unique fern fossil was collected in the 1960s, near Korsaröd in central Skåne, by farmer Gustav Andersson who donated the fossil to the Swedish Museum of Natural History. The fossil remained forgotten in the museum's collections for over 40 years before it came to the attention of the researchers. The research findings have now been published in the latest issue of the journal Science.

Note : The above story is based on materials provided by Lund University

At http://www.geologypage.com/2014/03/unique-chromosomes-preserved-in-swedish-fossil.html

oOo

Palaeo Humour - Mike Raath

I've seen the light! http://vimeo.com/77443872

"Hello. We are Darwin's Witnesses. May we have five minutes of your time to share with you the good news about Evolution?"

oOo

Dinosaurs to roam Johannesburg & Cape Town

Date:
Johannesburg: 20 June – 20 July 2014
Cape Town: 2–21 August 2014

Venue:
Johannesburg: Sandton International Convention Centre
Cape Town: CTICC

Ticket pricing:
Tickets available from **Computicket**

Adults	R140 a person
Kids (0–18 years)	R95 a child
Family of four	R395 a family
School groups (>20)	R85 a person (weekdays and pre-bookings only)

Imagine really walking amongst dinosaurs – moving, roaring, life-size dinosaurs. For the first time since real dinosaurs roamed the planet, South Africans will be able to experience their true splendour at Days of the Dinosaur: The Exhibition, presented by Huisgenoot, YOU and DRUM, at the Sandton International Convention Centre from 20 June to 20 July, and the CTICC from 2 to 21 August 2014.

What to expect:
- 45 life-size dinosaur robots
- 3D cinema
- Excavation zone
- Dino Ride (for the youngsters)
- Large interactive area for kids

For more information visit:**www.daysofthedinosaur.co.za**

Imagine really walking amongst dinosaurs – moving, roaring, life-size dinosaurs. For the first time since real dinosaurs roamed the planet, South Africans will be able to experience their true splendour at Days of the Dinosaur: The Exhibition, presented by Huisgenoot, YOU and DRUM, at the Sandton International Convention Centre from 20 June to 20 July, and the CTICC from 2 to 21 August 2014.

This internationally-renowned exhibition truly brings education and entertainment together with scientifically-accurate dinosaur exhibits made possible by some of the most advanced robotics in the world.

Days of the Dinosaur will undoubtedly be enjoyed by the whole family during an experience designed to be educational, interesting and fun all at once. Having travelled as far as Paris and Barcelona, this famous exhibition now brings its more than 45 life-size dinosaur robots and two skeletons to create a memorable experience for South African families.

Other attractions at the exhibition include a 3D cinema, excavation zone, Dino Ride for youngsters, and large interactive area for kids.

Don't miss out on this unique experience that will enthral visitors' imaginations. Group ticket options include the **School Groups** package (only available as pre-bookings for weekdays) at

R85 per learner for groups larger than 20, and the **Family of Four** package, at R395 per family. Individual tickets are also available; all ticket options can be booked through Computicket.

www.daysofthedinosaur.co.za

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Addendum

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(If you'd like an updated full version of this issue of PalNews let me know and I'll send one)

Helke Mocke - National Earth Science Museum, Geological Survey of Namibia - Windhoek.

At the beginning of 2014 I attended a workshop on "Marketing for Namibian Museums". This workshop was organized and funded through the Museum's Association of Namibia and provided some valuable insights as to how the National Earth Science Museum can attract more tourists, students and school groups.

Research work on a Chiniquodontid cynodont from the Omaruru River in Central Namibia as part of a Masters project through the Evolutionary Studies Institute at the University of the Witwatersrand progressed well, with the first preliminary description of postcranial bones of the Namibian Chiniquodontid. As part of this research I was able to visit the collections of the Museum of Comparative Zoology, Harvard University, in Boston, Massachusetts, USA.

The first fully preserved pelvis for a Chiniquodontid cynodont.

The French-Namibia Palaeontology Expedition with Drs Martin Pickford and Brigitte Senut to the Sperrgebiet was undertaken from the 29th April to the 16th May in Southern Namibia. The main point of interest about the field survey was the discovery of mammals at Eoridge, a site that had previously yielded only snails and tortoises. These mammals were represented by the teeth of a large hyracoid (dassie) and rodent teeth originally part of an owl pellet.

Partial jaw with teeth of a hyracoid at Eoridge, in the Sperrgebiet, Namibia.

A large amount of graptolite fossils and Ediacara replicas from Australia were generously received from Dr Pat Vickers Rich as part of an exchange between the School of Geosciences, Monash University, Australia and the National Earth Science Museum.

I was able to attended the PSSA' meeting in Johannesburg and presented a lightning talk on my MSc findings.

This year the Geological Survey is proud to host the 7th Conference for the African Association of Women in Geosciences under the theme "Earth Sciences and Climate Change: Challenges to Development in Africa" on the 3rd to 9th of November in Windhoek, Namibia.