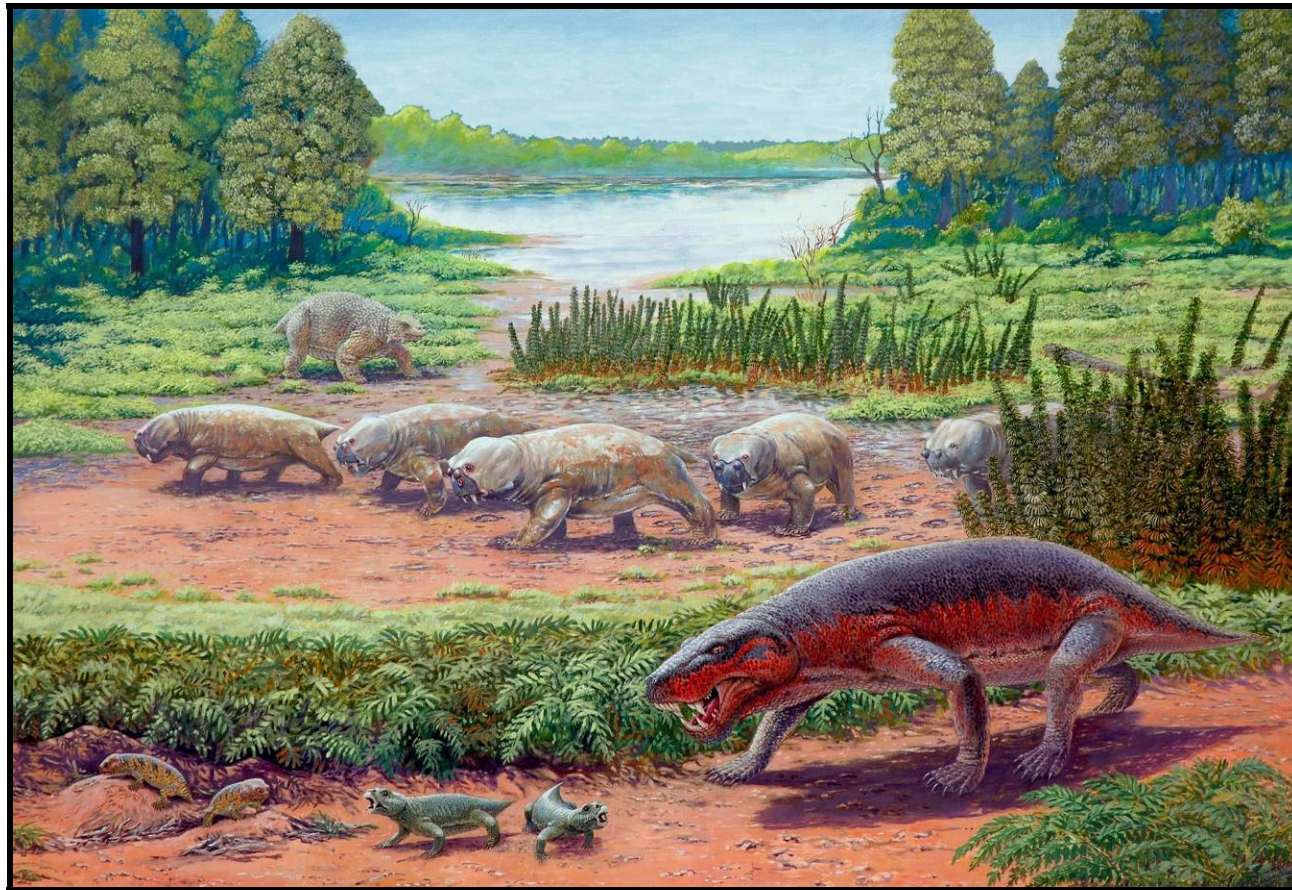


BIANNUAL NEWSLETTER OF THE PALAEOONTOLOGICAL SOCIETY OF SOUTHERN AFRICA

(HALFJAARLIKSE NUUSBRIEF VAN DIE PALEONTOLOGIESE VERENIGING VAN SUIDER AFRIKA)

Vol/Band 19 No. 1

March 2013



CONTENTS

From the Editor	pg 3
President's corner - Bernhard Zipfel	pg 4
News from: Iziko Karoo Palaeo team, Cape Town	pg 5
Ditsong: Museums of South Africa, Pretoria	pg 9
Albany Museum, Grahamstown	pg 9
John Long, Flinders Univ. Adelaide, S. Australia	pg 12
BPI, Wits University, Johannesburg	pg 13
Francis Thackeray, IHE at Wits	pg 29
Heidi & Keith Holmes, Australia)	pg 32
17 th Biennial PSSA Conference, Cape Town	pg 37
SAHRA matters	pg 41
Recent fossil discoveries and press releases.	Pg 49
PSSA E-Mail addresses	pg 52

PalNews/PalNuus is published by the *Palaeontological Society of Southern Africa* for its members. The views expressed are not necessarily those of the Society or its Officers.

Editorial team:

Editor: Billy de Klerk. Tel: 046 622-2312(w) Fax: 046 622-2398; E-mail - b.deklerk@ru.ac.za

Postal address: Albany Museum, Somerset Str., Grahamstown, 6139.

Assistant editor: Rose Prevec (E-mail - r.prevec@ru.ac.za)

Front cover: A reconstruction of *Cistecephalus Biozone* in the upper Permian Beaufort Group of the Karoo - c.254Ma.
Painting in the Albany Museum, Palaeontology Gallery. Artist: Gerhard Marx.

EDITORIAL

It was really great to have seen our palaeontology friends at the Cape Town PSSA'12 conference in September - what a treat. At our BGM meeting our previous editor of PalNews, Rose Prevec, indicated that she was stepping down as she had been editor for SIX years and felt that she had done her time. What a time it was! During those six year Rose elevated the standard of PalNews to new editorial and layout heights. Having an artistic eye, an aptitude for computer graphics, knowhow with the Adobe software etc. we saw good quality issues being circulated biannually. The PSSA thanks you Rose for your dedicated term of office as editor. Your elevated standard for PalNews will be difficult to maintain.

At the BGM it was clear that no enthusiastic member was willing to take on the editorship and eventually Eugene Bergh from (Iziko Museum) said he would give it a shot. To support Eugene, I indicated that I would stand in as backup editor - I clearly had a serious rush of blood to the head. A month after the meeting Eugene, who had had time to reflect on his commitment, realized he would have to stand down and so the job devolved to *moi*. So here I am, a recycled editor of PalNews. I was editor for four years between Sept'92 until Sept'96.

Although our science has been under pressures from various quarters like a lack of job opportunities for graduates, posts being frozen and underfunding, in the past couple of decades I see some rays of light in the system.

- Government has appointed Derek Hanekom to the position of Minister of the Department of Science and Technology (DST). Minister Hanekom has a personal interest in palaeontology and is well aware of the challenges facing our discipline.
- In early September'12 the NRF put out a call for the establishment of a Palaeosciences Center of Excellence (CoE). Such a CoE would receive significant funding for research, bursaries, public outreach programmes and human capital development. Interested parties have submitted their applications and the process has already been through the Phase 1 and Phase 2 evaluations. A decision as which SA Institute will host the CoE will be made shortly.
- Infrastructural renovations are currently being undertaken at the Izoko Museum and significant renovations, in an expanded Palaeontology Department, are taking place at the Albany Museum.

(It's been difficult to move out of an office I have occupied for the past 29 years - ed.)

- Funding from the NRF African Origins Platform (AOP) Technical Skills Grant has facilitated the employment and training of preparators and excavators.
- New palaeo staffing appointments have recently been made like Dr Jonah Choiniere (dinosaurs at the BPI), Dr Rose Prevec (Palaeobotany at the Albany Museum), Prof Annette Götz (palynology at Rhodes University) and Eugene Bergh (invertebrates at Iziko). I'm sure I have missed a few out but nevertheless it is encouraging to see quality personnel being appointed in our institutes.

With these positive developments I'm convinced that our science of Palaeontology has a brighter future in the years to come.

Billy

PRESIDENT'S CORNER - Bernhard Zipfel



It is hard to believe that the first quarter of 2013 is almost gone!! As incoming president of the PSSA, I'm experiencing a slight sense of panic at the thought of what we still need to achieve this year. Regardless, the news in the palaeosciences world is generally good!! First and foremost, a big thank you to Billy deKlerk for being prepared to take on the role of editor of PalNews. Rose Prevac carried out this task admirably for many years and is now taking on a number of other well deserved challenges, including a palaeontological position at the

Albany Museum. Renovations of the palaeontological collections are taking place at the Albany and South African Museums which is always a positive sign of progress. Bruce Rubidge has been appointed as the interim director of the newly established Evolutionary Studies Institute (ESI), and you can expect some exciting developments in the near future. The 2012 PSSA biennial meeting in Cape Town under the leadership of Jennifer Botha-Brink resulted in a list of actions for the new PSSA committee to manage. Without going into too much detail, these include the scheduling of a meeting of fossil collection heads and curators to discuss the way forward on a national micro-focus CT scanning policy. This policy would act in the interest of protecting our precious fossil heritage from uncontrolled access and exploitation. The PSSA will start a process of discourse with SAHRA to explore changing the legislation regarding the permitting and collecting of fossils as current legislation often does not act in the interest of protecting fossils in the field, making it difficult for palaeontologists to comply with the letter of the law. The PIA minimum standards document has finally been released and comments on this are welcomed.

This will continue to be an exciting year with what I believe are very positive developments in the palaeosciences in South Africa. With the continued collaboration, collegiality and friendships that inspire and drive us within our small community, we will move mountains!!

Bernhard

NEWS FROM:

Roger Smith - Iziko Karoo Palaeo team

It has been more than a year since my last Palnews report so this will serve as a brief update. Our collections have all been boxed up ready for moving offsite to an as yet unknown destination in June this year. The entire research and collections area at the South African Museum is undergoing a 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 for the top brass. We plan to have our collection accessible throughout, however, browsing whole groups of specimens will be more difficult whilst offsite.

Research-wise things are driving forward with my NRF Incentive funded PTB Anatomy of an Extinction project coming to a head and a new project on the End Guadalupian extinction beginning to produce results. This is mixed with lots of international collaboration and daily supervision of a really productive Karoo Lab with 5 preparators going full steam.

In the past year I have done two 3 week trips to southern Patagonia with an Argentinian team led by Dr Diego Pol from Trelew museum. We concentrated our search efforts on Late Triassic exposures around small playa lakes sunk into the flat peneplain that makes up much of Santa Cruz province. We were following up on Boneparte's 1979 discovery of an aggregation of *Mussaurus* nestlings in Laguna Colorado Fm. and wanted to find out more about the ontogeny of this sauropodomorph as well as any associated fauna. We have now collected a full growth series of *Mussaurus* with possibly an embryo as well. We have also recovered numerous hard shelled eggs of 3 different sizes and at least 5 nests with up to 25 eggs in each. These occur in limited horizon along with aggregations of up to 15 juvenile *Mussarus* skeletons. This year we also found theropods and a possible sphenodontid. We are writing up a paper on evidence for social cohesion

in *Mussarus* and awaiting preparation to give us more on the associated taxa. Zircons have just been extracted from the juvenile aggregation block which will hopefully confirm the palaeobotanically determined Late Triassic age.



Roger excavating a large Late Triassic sauropodomorph skeleton in Patagonia

In July/ August last year I spent 5 weeks in Zambia and Tanzania with a US team of 5 vertebrate palaeontologists, an isotope specialist and numerous locals. We started in the Mid-Permian outcrops around a small village called Bbondo in southern Zambia. The low Madumabisa Mudstone exposures yielded an unexpectedly rich and diverse assemblage of "Tap Zone" fauna as well as an interesting endothiodont -dominated assemblage that contains elements similar to *Tropidostoma* AZ of South Africa. The Tanzanian leg of the trip was again back in the Ruhuhu Basin consolidating our findings from the previous years. This time we concentrated on expanding the diversity of the newly discovered mid Permian fauna in the Usili Mountain area as well as the Mid Triassic archosauromorphs of the Manda beds. Both areas yielded far more than expected and we are well pleased with the results that are now under preparation in Chicago, Seattle and Paris.

In September last year the Karoo team spent 2 weeks in the Fraserburg area doing the exploratory fieldwork for a new 3 year NRF/AOP funded project on the causes of the Middle-Late Permian faunal turnover (? End Guadalupian extinction) in the Main Karoo Basin. This is in collaboration with Jennifer Botha- Brink (Nat Museum) who will be



Isolated vertebra of a Mid-Triassic archosauromorph in the Manda Beds of the Ruhuhu Basin Tanzania

helping with fieldwork and doing all the histological studies. We concentrated our efforts on strata at the *Pristerognathus/ Tropidostoma* AZ boundary and found

some really interesting fossils including a cast of decline burrow containing a near fully- articulated *Diictodon* in its terminal chamber, several *Endothiodon* skulls and scattered skeletons, a parieasaurian skull and anterior skeleton, several gorgonopsians and therocephalians and as special reward- a beautiful burnettiid skull with lower jaw.

Future plans for this year include helping make a documentary with Niel Schubert based on his book "Your Inner Fish", Friends of the Museum trip to Fraserburg, Fluvial Sedimentology Conference in Leeds, a Karoo research trip to Fraserburg district, and the SVP conference in Los Angeles.

Till we meet again

Roger Smith



*Zaituna in her field gear excavating a *Diictodon* burrow cast at the top of the Late Permian Poortjie Member near Fraserburg.*

HEIDI FOURIE - Ditsong: Museums of South Africa

Curator: Karoo Section - Dept. of Vertebrates

For the past year I have kept busy between research and moving office and collections. The RAMP contractors started late last year with the repairs and painting of the Karoo Palaeontology Section. They should be finished by the end of this month. This has created an opportunity to move the plants and invertebrates from the basement to the newly renovated, better climate controlled, 4th floor store rooms. The Type collection has also found a new home. Dr Kuemmell and I are busy on the draft of our paper on the locomotion and stance of the Therocephalia. Some new and interesting facts came to light. I am also finishing a paper on *Sauropareion* from yet a new locality near Middelburg, East Cape.

Publication: Fourie, H 2013. *The postcranial description of Ictidosuchoides (Therapsida: Therocephalia: Baurioidea). Annals of the Ditsong National Museum of Natural History 3: 1-10.*

Till next time.... Heidi

BILLY DE KLERK & ROSE PREVEC - ALBANY MUSEUM

The good news from the Albany Museum is that our Provincial Government has finally woken up and appointed three (candidate) curators at the Museum filling critical posts in History, Entomology and more importantly in Palaeontology. I am pleased to say that **Dr. Rose Prevec** was the successful candidate to be appointed in the AM Palaeontology Department and her appointment will be finalized in July'13 when her post is made permanent. This is indeed good news in the light of the pending retirement of Billy de Klerk (target date by June'13). This will then also, hopefully, open his vacated post to appoint another palaeontologist in his place.

Highlights during these past number of months:

- Earlier in 2012 the Rhodes University Hugh Kelly Fellowship was awarded to **Dr. Conrad Labandeira** of the Smithsonian NMNH in Washington DC. As a consequence Conrad spent a very productive six month sabbatical in Grahamstown based at the Museum.



Conrad Labandeira looking for plant fossils in a Shamwari road quarry

- We were delighted to host Marion Bamford for a weeklong visit in May'12 Rose and Marion initiated a research project to investigate charcoal fragments that are preserved in the matrix supported conglomerates of the lower Cretaceous Kirkwood Formation at Shamwari Game Reserve. Charcoal fragments were found during a previous field trip when the proximal end of a huge Iguanodontid

femur was discovered at Shamwari. **Rose, Marion, Billy and Conrad** spent a few days in the field exploring for any additional fossils. Fieldwork is novel at this locality as one has to be escorted by an armed game ranger at all times. What a pleasure it is to be in this environment - a high profile reserve with all the game and management support that we were afforded. By all accounts the charcoal is of exceptional quality and the wood microstructure is beautifully preserved enabling good identification.

- During July'12 a short field trip was undertaken with Prof Michael Caldwell (Univ. Alberta, Canada) and Dr Randal Nydam (Arizona Univ., US) to collect fossils and study the geology in the lower Cretaceous Kirkwood Fm. near Addo.
- **Rob Gess** has been appointed to the Permitting committee of the recently established East Cape Provincial Heritage Authority (**EC PHRA**). In addition **Billy de Klerk** was appointed to the council of EC PHRA. Hopefully, with two palaeontologist on board, we'll be able to make a contribution in making sure that our palaeontological heritage is not sidelined in the Eastern Cape.

Shamwari Game Reserve - May'12



Marion and Rose scratching in around in a borrow pit on the Shamwari Game Reserve. Exploring for any plant fossils and possibly a rare vertebrate bone fragment or tooth.

- After our palaeontology teaching stint at Rhodes in Oct'12 Billy arranged a short fieldtrip to the, now disused, Coega brick quarry for students and staff alike to look for fossils in the lower Cretaceous Sundays River Frm. and the overlying Alexandria

Frm. This outing also afforded us the opportunity to convince the management of the Coega IDZ to preserv this fine exposure and not use it as a land fill for the newly developed deep water harbor.



L-R: Leo Goosen, S (student), S, S, S, Rob Gess, S, Dr Paul Martin (Coega), S, John Hepple (at back), Dr Conrad Labandeira, Prof Annette Götz (RU), S. Billy sitting in front. Highly fossiliferous marine sediments of the lower Cretaceous Sundays River Formation seen in the background with overlying Miocene aged Alexandria Formation on the horizon.



Billy de Klerk extracting a large dicynodont that Rose Prevec found just below the P/T boundary in the Lootsberg Pass area of the Karoo. "Having fun with fossils"

John Long - Flinders University in Adelaide (South Australia)



I've just left the USA after 3 years and am now back into full time palaeontological research as the newly appointed Strategic Professor in Palaeontology at Flinders University in Adelaide (South Australia). I'll send updates once I get settled in but at least you can update my status. My new email is john.long@flinders.edu.au

Cheers and best wishes
John

BPI PALAEONTOLOGY at WITS

***Palaeontologia africana* is going electronic!**

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 is taking the helm as Editor, after more than 10 years of excellent leadership by Professor Marion Bamford. 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. Keep those submissions in mind!

For the rest of 2013, please submit your manuscripts via email to Jonah at: jonah.choiniere@wits.ac.za or to Marion at marion.bamford@wits.ac.za.

- O -

Staff and students of the BPI have been very busy having fun conducting research in the past months. **Bruce Rubidge** undertook two weeks of fieldwork in the area south-east of Sutherland in the Northern Cape Province with **Fernando Abdala**, **Charlton Dube**, **Sifelani Jirah**, **Michael Day** (BPI); **Jaco Groenwald** (Sutherland); **Billy de Klerk**, **Rose Prevec**, **Armstrong Khosa**, **Luvuyo Mayi** (Albany Museum); **Liu Jun** (IVPP, China), and **Juan Cisneros** (Universidade Federal do Piauí, Brazil). Numerous fossils, particularly dinocephalians and dicynodonts were collected from the uppermost *Tapinocephalus* and lower *Pristerognathus* Assemblage Zones, and some of these fossils are currently being prepared for morphological and taxonomic research. During this field trip **Michael Day** (PhD candidate) and **Sifelani Jirah** (MSc candidate) were able to measure additional stratigraphic sections through the Abrahamskraal Formation and into the Poortjie Member of the Abrahamskraal Formation, and fossil localities were added to the sections. Apart from visiting his favourite local haunts (Albany Museum, Council for Geoscience, Iziko Museum, National Museum, and Rubidge Collection in Graaff-Reinet). Bruce visited the American Museum of Natural History, The Field Museum, and Smithsonian Museum of Natural

History, and went on a week-long trip to the USA to get ideas to set up a graduate programme in Evolutionary Sciences. This was a very worthwhile venture and provided many good ideas to improve the postgraduate learning experience. Papers published by Bruce in the past few months are titled "High-precision temporal calibration of late Permian vertebrate biostratigraphy: U-Pb constraints from the Karoo Supergroup, South Africa"; "Recognition of Waterford Formation in the southeastern Karoo Basin: implications for Karoo Basin development models"; "Skeletal morphology, phylogenetic relationships, and stratigraphic range of *Eosimops newtoni* Broom, 1921, a pylaecephalid dicynodont (Therapsida, Anomodontia) from the Middle Permian of South Africa" and "Therapsid biodiversity patterns and palaeoenvironments of the Karoo basin, South Africa". A manuscript titled "Biostratigraphic correlation in the Karoo: the case of the Middle Permian parareptile *Eumotosaurus*" is in press. At the 16th Conference of the *Palaeontological Society of Southern Africa* in Cape Town in September, Bruce announced the first biarmosuchian therapsid from the Pristerognathus Assemblage Zone of the Karoo Basin, South Africa, and co-authored 11 other presentations.

Jonah Choiniere

The BPI is delighted to announce the successful hiring of Dr Jonah N. Choiniere. Jonah comes to South Africa by way of New York City, where he recently completed a prestigious Kalbfleisch Postdoctoral Fellowship at the American Museum of Natural History. Jonah did his Ph.D. at the George Washington University in Washington, DC. His research focus to date has been on assessing the relationships of theropod (meat-eating) dinosaurs and the transition to birds. He'll be continuing these studies at the BPI, but also starting to focus on the other branches of the dinosaurian tree. He's already started a fieldwork programme in the Stormberg, with the goal of developing a broad-scale biostratigraphy of the Elliot Formation and deriving absolute dates for Stormberg sediments. As a graduate student, and as a postdoctoral fellow, Jonah worked on theropod dinosaur material from the Early Cretaceous Kirkwood Formation with **Billy de Klerk** of the Albany Museum in Grahamstown. Jonah and Billy will continue their research in this formation with renewed gusto. Lately, Jonah has been down around Clarens, prospecting for new fossils and removing the last of the "Highland Giant" material from exposures of the lower Elliot. He was aided by local dinosaur tour guides **Sue and**

David Groenwald. Jonah is actively looking for postdoctoral fellows and prospective graduate students. Jonah brings with him to South Africa his wife Dr. Kelsey L. Glennon, an expert on genome duplication in flowering plants. Kelsey has started her work here in South Africa on the genus *Helichrysum*, and will be collecting in some of the same areas the Elliot crops out. They have two new American Bulldog puppies to keep them busy.



Midas and Mella, aged 14 weeks (K. Glennon photographer)



Jonah Choiniere in field near Clarens (Sue Groenwald, photographer)



L - R and front to back: Blair McPhee, MSc, David Groenwald, and Jonah Choiniere in field near Clarens (Sue Groenwald, photographer)

Marion Bamford participated in two field excursions in Tanzania in 2012. In April she and her Spanish colleagues sampled soils and plants for their modern comparative phytolith database around Lake Eyasi. They also visited a group of Hadza people, well known for their hunter-gatherer lifestyle (Photo). In July Marion and other members of the

OLAPP team (Olduvai Landscape and Palaeoanthropology Project) carried out more excavations in Olduvai Gorge. They are concentrating on Bed I layers and are still recovering interesting artefacts, bones and plant material. Prof **Rosa Maria Albert** (ICREA and University of Barcelona) and Marion also visited the Serengeti and Ngorongoro crater to collect more modern plant material and soils while avoiding local dangers such as lions and buffalo but had time to stop and have lunch.



Rosa and Marion, Barafu Springs, Serengeti, Tanzania.

Rose Prevec and Marion presented papers at the 9th International Organisation of Palaeobotany Conference at Chuo University in Tokyo, Japan. The city is huge and extremely busy but very clean and organised. The Japanese hosts were very friendly and hospitable. Before the conference the two South African palaeobotanists joined a field trip to Hokkaido to see the northern hemisphere fossil floras as well as experience some Japanese culture. They tried many types of food, the traditional hot springs and visited the recently erupted volcano where steam is still escaping from the fumaroles. The destructive forces of volcanoes was apparent from the few houses left standing.



Volcanic destruction in Japan.

After attending the PSSA conference in Cape Town, Marion and **Sandra Lennox** (PhD candidate) who is focusing her research on identifying woody taxa from charcoal in Sibudu's Middle Stone Age Hearths, attended the 19th Biennial conference of SASQUA (Southern African Quaternary Association) in Namibia at the Gobabeb Training and Research Centre. The conference was well attended with southern African and foreign delegates so there was an interesting array of presentations. Extra activities included climbing the dunes, visiting archaeological sites, geological formations and the famous *Welwitschia mirabilis*.



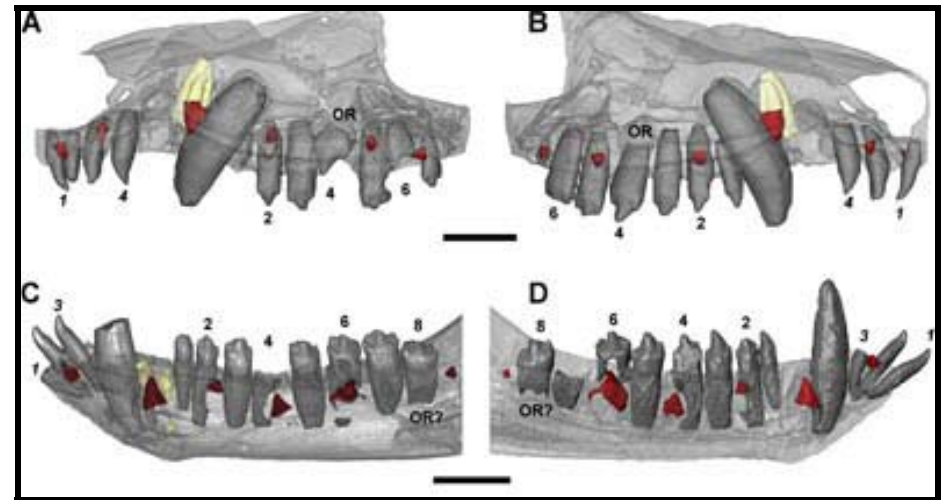
Marion & Sandy sitting next to a Welwitschia mirabilis plant.

The BPI published volume 47 of the journal *Palaeontologica africana* (the only African journal for palaeontology) under the editorship of Marion Bamford, and the palaeobotany collection she curates stands at over 50,000 specimens. It is in the process of being sorted and re-arranged with the help of **Joseph Chikumbirike** (PhD candidate). The modern plant comparative collection is being sorted and leaves mounted onto herbarium sheets with the assistance of **Alex Parkinson** (MSc candidate) and **Natasha Barbolini** (PhD candidate). A few fossil woods have been added to the collection, which is being sorted by **Moshood Olayiwola** (PhD candidate). Marion Bamford and **Gerry Germishuizen** continued with the establishment of a fossil garden outside the Palaeosciences Centre. This facility, apart from being an aesthetic improvement to the building, will be a useful educational centre for undergraduate teaching and Outreach programmes. Marion was voted Vice President of the *Palaeontological Society of Southern Africa* (PSSA) for 2013-2014, and was re-appointed as the African representative for the International Organisation of Palaeobotanists.

Fernando Abdala has been working in different directions. He published in collaboration with **Claudia**

Marsicano from Buenos Aires, Argentina, **Roger Smith** from the Iziko-SAM and **Roger Swart** from Namibia on the findings of a Middle Triassic dicynodont from Namibia similar to a taxon known from the Santa Maria Formation of southern Brazil. This finding strengthens the biostratigraphical correlation between these faunas and indicates that the Namibian fauna may be the youngest Middle Triassic fauna from continental Africa. He also got accepted a manuscript in collaboration with **Sandra Jasinowski** and **Vincent Fernandez**, on the dental replacement of the cynodont *Thrinaxodon liorhinus*. This taxon has been the perennial subject of this kind of study, but this time the replacement was assessed after CT-scans were performed on five different specimens, representing four different ages of the species. The replacement sequence in lower postcanines is alternate, with the replacement wave directed from posterior to anterior. In the upper dentition the sequence is also alternated, but the direction of the replacement wave is unclear. There is an amazing synchrony in the replacement of teeth from side to side. Sandra Jasinowski will be coming to Johannesburg to advance in the second part of this project, which is the analysis of skull ontogeny in *Thrinaxodon*. On the marsupial ontogeny front, **David**

Flores from the National Museum of Natural Sciences, Buenos Aires, visited Johannesburg to work on various projects. They managed to finish a comparative ontogeny of two species of Australian bandicoots, and started with a comparison of two closely related species of New Guinean quoll that differ in size. The macroevolutionary study of the hand in synapsids, in collaboration with **Susanna Kümmell** from Germany and **Virginia Abdala** and **Marissa Fabrezi** from Argentina, concluded with data collection, and moved to the writing phase. On the therocephalian side, Fernando is trying to advance and close a quite delayed project with **Adam Huttenlocker** from the US on the ontogeny and taxonomy of *Theriognathus* from the *Dicynodon* Assemblage Zone, and another with Bruce Rubidge, Mike Day (PhD candidate) and **Christian Kammerer** from the US, on the Lycosuchids from the Karoo Basin. On the cynodont postcranial front he is working with **Elize Butler** and **Jennifer Botha-Brink** from the National Museum, Bloemfontein, on a detailed description of the postcranium of the Early Triassic cynodont *Galesaurus planiceps*.



Three-dimensional rendering of tooth rows in medial view of a juvenile of *Thrinaxodon liorhinus* (TM 80A). A, upper right; B, upper left; C, lower right; D, lower left. Replacement teeth in red, old remnant roots in yellow. Scale bar equals 5 mm.



David Flores and Fernando Abdala after a hectic day's work realize they have made an important discovery.

Lucinda Backwell was on sabbatical last year, so spent most of her time working on manuscripts and data collection. She published an article (co-authored with **Francesco d'Errico**, CNRS, University of Bordeaux, **Marion Bamford**, BPI, and others) on early evidence of San material culture represented by organic artefacts

from Border Cave in South Africa, which shows that many elements of material culture that characterize the lifestyle of San hunter-gatherers in southern Africa were part of the culture and technology of the inhabitants of this site 44,000 years ago. Other published papers concern indentifying regional variability in Middle Stone Age bone technology (co-authored with Francesco d'Errico and **Lyn Wadley** (IHE, Geography, Archaeology and Environmental Sciences, Wits), and the criteria for identifying bone modification by termites in the fossil record (co-authored with **Alex Parkinson**, MSc candidate, BPI, and **Eric Roberts** (James Cook University, Australia). A study was made in collaboration with **Kirsty Penkman** (University of York), **Mike Witcomb** (Microscopy and Microanalysis Unit, Wits), **Rudolph Erasmus** (Physics Department, Wits) and **Lee Berger** (IHE) on 2 Ma porcupine quills in a block of breccia from the early hominin site of Malapa. These were analysed using scanning electron microscopy, protein mass spectrometry, Energy-dispersive X-ray and Raman spectroscopy, and found to be calcium carbonate replacements that do not preserve keratin. Following the discovery of invertebrate modifications on hominin and associated faunal remains from Malapa, an experiment was conducted for six months

under laboratory conditions using 11 invertebrate taxa. Results show that they all modify bone in distinct and characteristic ways, and favour certain types of bone in particular stages of preservation. This research is made in collaboration with **James Harrison** (School of Animal Plant and Environmental Studies, Wits), **Aurore Val** (PhD candidate, BPI), **Alexander Parkinson** (MSc candidate, BPI) and Lee Berger (IHE). Lucinda's interest in Bushman material culture took her to northern Namibia to meet the people of Nyae Nyae, and her research into Late Pleistocene climate change and human occupation took her to Wonderkrater, the spring and peat mound site in Limpopo, to core for pollen. The Wonderkrater site is studied in collaboration with **Terence McCarthy** (Geology, Wits), and pollen analysis is being conducted by **Elysandre Puech** (MSc candidate, University of Bordeaux).



Lucinda with the people of Nyae Nyae, northern Namibia.

Bernhard Zipfel continues to administer and curate the growing fossil collections of the University of the Witwatersrand in parallel with conducting research. He was recently awarded an NRF C2 rating, and voted President of the *Palaeontological Society of Southern Africa* (PSSA) for 2013-2014. Bernard presented two papers on the results of his research at the 16th Conference of the *Palaeontological Society of Southern Africa* in Cape Town, and contributed another two papers at the 81st Annual Meeting of the American Association of Physical Anthropologists in Portland, Oregon. He participated in the Sino-African Forum of Paleoanthropology in Beijing, Peoples Republic of China, where he visited with great pleasure the Institute for Vertebrate Palaeontology and Paleoanthropology in Beijing, The Department of Archaeology at Peking University (Beida), and Xibei University, Xian, in China, before going on to collaborate with **Gen Suwa** at The University Museum, The University of Tokyo, Japan. A study of the lower limb of *Australopithecus sediba* was accepted for publication in the journal *Science*. A second paper on patterns of first metatarsal epiphyseal fusion was published to make a case for the OH 8 hominin foot being an adult as this has important implications for the

status of *Homo habilis*, as was a third; a description of a complete hominin second metatarsal (StW 89) from the 2.0-2.6 million-year-old deposits of Member 4, Sterkfontein Cave, South Africa. Bernard facilitated fossil displays at Maropeng and the new Wits Art Museum.

Ian McKay contributed four chapters to the "MacMillan, Life Sciences Solutions for All" book series: a chapter on Palaeontology for Grade 10 learners and three chapters on Biodiversity of Microorganisms; Biodiversity of Animals and Loss of Biodiversity for Grade 11 learners. He also researched the effectiveness of a programme on fossil fuels presented to high school pupils at Sci-Bono Science Centre as part of Sustainable Energy Week. Based on the assessment the results suggest that the students all learnt a great deal from the demonstrations, handling of fossil fuel samples and modelling of hydrocarbons. The learners gained the most from the hands-on activities and spectacular demonstrations while older learners gained also benefited from a Powerpoint presentation. Results also suggest that the learners' understanding of fossil fuels and their relationship to climate change was poor, resulting in their opinions being shaped by social pressure rather than actual understanding of the concepts and consequences involved. This research was

presented at one international and two local conferences (34th International Geological Congress, Brisbane Australia; Biennial Conference of the Palaeontological Society of Southern Africa; 14th Annual Conference of the South African Association of Science and Technology Centres. A manuscript describing this research is currently in preparation. 2012 was an excellent year for the outreach programme which offering guided tours of the Kitching Gallery and Preparators Laboratory as well as programmes at schools and the Sci-Bono Science Centre. The 2012 programme was managed by Ian McKay and **Vuyiswa Ngesman** with the aid of Post Graduate students and reached 26,512 members of the public, teachers, and school children. An important part of the outreach programme was the development of new programmes - one of the most revolutionary and most fun was a show called **Dinosaurs and Rap!** - the song developed from this show will hopefully reach South Africa's top ten, one day.



Is this really real? A Grade 7 learner at Freewaypark Primary School examines a fossil.

Rob Gess continued his postdoc at BPI researching Late Devonian vertebrates and early terrestrial ecosystems. He attended the Palaeontological society of South Africa conference in Cape Town in September 2012 where he presented a paper on the diagnostic value of tetrapodomorph shoulder girdle bones in establishing the presence of different grades of tetrapodomorphs in

assemblages of disassociated bones. This allows for the identification of tetrapodomorphs of a number of different grades from the Waterloo Farm locality. In addition he has been active in the field of Palaeontological Impact Assessments, which has allowed him to carry out extensive surveys of Eastern Cape Palaeogeology. As the palaeontological representative on the permitting committee of the newly formed East Cape Provincial Heritage Resource Agency (ECPHRA) he is doing his best to facilitate the interests of professional palaeontologists, and to explain their needs and perspectives. He is also delighted that **Billy de Klerk** managed to arrange a suitable office for him at the Albany Museum, where his Waterloo Farm fossil collection is curated. This will be invaluable for working on the material and hosting local and international collaborators.

Vincent Fernandez (Postdoc) continued with his research on fossil burrows from the Lower Triassic of the Karoo. A manuscript on the scan of the burrow containing a *Thrinaxodon* and a *Broomstega* was accepted in PLoS ONE. Other research involving CT- and/or synchrotron scanning includes the study of a fossilised egg from the early Jurassic of Lesotho, sauropod eggshells from the Lower

Cretaceous of Senegal, small eggs from the Lower Cretaceous of Thailand, and a block containing several specimens of a new species of parareptile.

Phillip Taru graduated with a PhD degree in December for a thesis titled "*Identification of mammalian species represented by fossil hairs in Parahyaena brunnea coprolites from Middle Pleistocene deposits at Gladysvale Cave, South Africa*". Congratulations Dr Phill!

Natasha Barbolini (PhD candidate) has been working hard at writing up her thesis on "Gondwanan correlations of Upper Karoo vertebrate biozones using palynology". An initial report on the palynology of the Karoo Supergroup was presented at the PSSA Conference in Cape Town. Natasha travelled to Argentina in November 2012 to collaborate with Drs. Silvia Cesari and Valeria Perez Loinaze, Paleozoic and Mesozoic palynologists working at the Bernardino Rivadavia Natural Sciences Museum in Buenos Aires. A fruitful three weeks was spent discussing and comparing palynomorphs from Argentina and South Africa, as well as learning taxonomic and preparation methods.

Aurore Val (PhD candidate) concluded data collection on the Malapa faunal assemblage and authored two papers, one on 'the taphonomy of the faunal remains from Malapa', and the other on reconstructing the 3D position of the hominins in the site. The results of the hominin research were presented at the *Palaeontological Society of Southern Africa* meeting in Cape Town. She has also been working with Christine Steininger from the Institute for Human Evolution on the primate taphonomy at Cooper's D, and a paper has been submitted. Aurore is in the very final stages of write up, and will submit her thesis shortly.

Michael Day (PhD candidate), **Sifelani Jirah** (MSc candidate) and **Blair McPhee** (MSc candidate) conducted ten days of fieldwork in August between Fauresmith in the Free State and Sutherland in the Northern Cape Province as part of Bruce Rubidge's research team. During this trip the team, but mostly Sifelani, excavated important fossils from the Lower Beaufort in an area where few fossils have been found. These specimens are undergoing preparation and will have significant implications for biozonation and basin development in the Karoo. **Mike Day** also measured a stratigraphic section between the *Tapinocephalus* and *Pristerognathus* Assemblage Zones as part of his study of

the dinocephalian extinction. Two years ago he found a specimen of a biarmosuchian therapsid, which has since been prepared and preliminarily described in a paper titled "First biarmosuchian therapsid from the *Pristerognathus* Assemblage Zone of the Karoo Basin, South Africa" by Rubidge, Day and Abdala. The specimen is similar to the enigmatic genera *Lophorhinus* and *Lobelopex* and seems to suggest that the three specimens represent different stages of ontogenetic development of a single taxon. **Mike Day** is currently writing up his PhD thesis. **Sifelani Jirah** (MSc candidate) was the winner with **Alex Parkinson** (MSc candidate) of the **Bob and Laura Brain** prize for fun with fossils at a prize-giving ceremony held at the PSSA Conference in Cape Town in September. Sifelani is in the final stages of write up of his dissertation "*Stratigraphy and sedimentology of the Tapinocephalus Zone (Abrahamskraal Formation) in the area around Merweville*". **Blair McPhee** submitted his MSc dissertation in which he re-described the *Antetonitrus* type material. He is currently in New Zealand, but plans to return to the BPI to start a PhD in June.



Sifelani Jirah doing what he does best, having fun with fossils!

Joseph Chikumbirike (PhD candidate) continued with data collection for his research on *Archaeological and palaeoecological implications of charcoal assemblages from the Holocene from Great Zimbabwe and the immediate environment*.

Shaheed Nalla (PhD candidate) continued with his research on the morphology of the upper thorax of *Australopithecus sediba* within the context of selected hominoids.

Moshood Olayiwola (PhD candidate) continued with data collection towards his thesis titled "*Biostratigraphy and correlation within the deep offshore Cenozoic Niger Delta*".

Nonhlanhla Vilikazi (PhD candidate) worked on the write up of her thesis titled "A survey of fossil herpetological remains from selected hominin-bearing sites in South Africa with the intention of Palaeo-environmental reconstruction". She is very close to submitting.

Saniye Guven (PhD candidate) continued to make progress

with her taxonomic revision of the Tapinocephalidae, and in the process has been able to greatly reduce the number of valid tapinocephalid genera. A manuscript co-authored with Bruce and Fernando, and titled "Synonymy of the tapinocephalid dinocephalian *Avenantia Kruisvleiensis* with *Riebeeckosaurus longirostris*" will be submitted for publication soon.

Ashley Kruger (MSc candidate) described a new genus of biarmosuchid from Malawi (prepared by **Charlton Dube**) as part of his Honours project, which he will soon publish. Ashley won a prize at the PSSA Conference in Cape Town for Best poster, and is currently working on Anteosuaria for his MSc.

Cameron Penn-Clarke (MSc candidate) won the Geological Society of South Africa prize for the top BSc Honours student in South Africa in 2011. Cameron has been enjoying fields and data collection towards his dissertation titled "*Stratigraphy and sedimentology of the Bokkeveld Group, Cape Supergroup in the Koue Bokkeveld*".

Brigette Cohen (MSc candidate) completed her data collection early in 2012 and has since been busy writing up

her research. She travelled to the PSSA conference in Cape Town last year September where she presented two papers. One was titled *Actualistic investigation of bone modification by caracal and honey badger on domestic rabbit*. This paper outlined some of her preliminary results. She also presented a second paper titled *Corked! The history and importance of humanities favourite beverage*. This second paper co-authored by Aurore Val won Brigitte the Order the Boot prize. In other news Brigitte has slowly been building her jewellery business and hopes to hand in her dissertation in the next month. Thereafter she will be starting a PhD at UCT on the Langebaanweg Formation.

Luke Norton graduated with an MSc degree in December for a dissertation titled "*Relative growth and morphological variation in the skull of Aelurognathus (Therapsida: Gorgonopsia)*". The final results from Luke's dissertation were presented at PSSA conference held in Cape Town in September. Luke is currently preparing a manuscript on the morphological variation of *Aelurognathus* for publication.

Alexander Parkinson submitted his MSc dissertation titled "*Insects as agents of bone modification: Establishing criteria for differentiation and understanding palaeoenvironmental implications*". Alex was awarded a prestigious NRF Innovation scholarship for his future PhD research. The PhD will be completed via publication and will focus on the insect as agents of bioturbation, calcification and decalcification in fossil-bearing breccias within the Cradle of Humankind. He shall also be investigating the possibility of fossilised termitaria discovered at Malapa. Over the past few weeks he has spent a lot of time in the field with **Lee Berger** (IHE), **Lucinda Backwell** (BPI), **James Harrison** (APES) and **Paul Dirks** (James Cook University, Australia) collecting modern insect faunas, and learning about the geology governing dynamics of cave formation in the Cradle.

Eddie Odes (MSc candidate) has been studying the fossil dental remains from Sterkfontein. Recent studies of the dental remains from the Malapa site, a fossil-bearing karstic cave-site located in the Cradle of Humankind, have demonstrated the presence of dental calculus and associated plant material in the form of phytoliths, preserved on the teeth of *Australopithecus sediba* (MH1)

(Henry *et al.*, in press, Henry and Piperno, 2008, Henry *et al.*, 2010), an early hominin from the site of Malapa (Berger *et al.*, 2010). This vital discovery raises the possibility that such material may in fact be present on hominin material from other cave sites in southern Africa, where fossils are preserved under similar conditions. Based on the recent demonstration of dental calculus found on the teeth of the Malapa specimen (MH1), the aim of his study is to establish the presence or absence of dental calculus or tartar deposits attached to the tooth surfaces of other southern African Plio-Pleistocene early hominins.

Since 2009 the BPI and the IHE (Institute for Human Evolution) have been housed together in a single building (now called The Palaeosciences Centre), and in the spirit of rationalization, share all facilities. With the new vision of the University of the Witwatersrand to establish six prestigious multidisciplinary Institutes, in 2013 the BPI and IHE will be combined into a single Evolutionary Studies Institute (ESI). Wits University, via the ESI and its scientific partners (University of Cape Town, Iziko Museum, Albany Museum, Rhodes University, National Museum and Ditsong Museum) has submitted a proposal to

host a Centre of Excellence in Palaeosciences. The BPI was therefore delighted to welcome back former BPI PhD graduate **Merrill van der Walt** as the ESI Administrator. The indefatigable **Evlyn Ho** and **Sarah Sejake** ran a combined administrative office for the BPI and IHE, and proved to be a winning combination. They greatly facilitated research, as did our dedicated technicians **Gerrie Germishuizen**, **Charlton Dube**, **Pepson Mukanela**, **Gladys Mokoma**, **Samuel Tshabalala**, **Petrus Chakane**, **Sifelani Jirah** and **Hosea Nemavhundi**, and Honorary Research Associate **Cynthia Kemp**. Good to know that the Palaeosciences Centre has now acquired a Micro CT Scanner, made possible through a grant from the NRF and Wits to **Kristian Carlson** (IHE), and a 3-D printer with a grant to Kris Carlson and Bruce Rubidge. The Centre has a well equipped Virtual Image Processing room (VIP lab) with eight work stations running the Avizo and VGstudio Max programmes. The laboratory also has surface scanning and microscribe equipment, and houses the Karoo fossil database with GIS capabilities.

Juan Cisneros (BPI graduate now at Universidade Federal do Piauí, Brazil) discovered a new type of basal anteosaurid dinocephalian in Brazil, which is similar to *Australosyodon*,

from the lower Beaufort of South Africa. The following paper was published: Cisneros, J.C., Abdala, F., Atayman, S., Rubidge, B.S., Sengör, C. & Schultz, C.L. 2012. A carnivorous dinocephalian from the Middle Permian of Brazil and tetrapod dispersal in Pangaea. *Proceedings of the National Academy of Sciences* 109(5), 1584-1588. Juan also first authored a description of basal anomodont taxa in the following paper: Cisneros, J.C., Abdala, NF, Rubidge, B.S., Dentzien-Dias, P.C. & Bueno, A De O. 2012. Dental occlusion in a 260-million-year-old Therapsid with saber canines from the Permian of Brazil. *Science* 331, 1603-1605.

Francis Thackeray - Institute for Human Evolution, Wits

In January 2013, Francis was invited to the University of Bergen in Norway to serve as an external examiner (or rather, as "The First Opponent") in a formal PhD thesis Defence. The Defendant, Turid Hillestad Nel, is one of Chris Henshilwood's excellent students. She analysed fossil rodents and insectivores, and presented a splendid thesis on past changes in climate and habitats in the area of Blombos and Klasies River caves. She is now in a good position to take things further and to quantify palaeotemperatures for the late Pleistocene sequences,

using multivariate analyses in the way that Francis did 25 years ago (published in the journal *Climate Change*).

While in Norway, Francis experienced temperatures that were exceptionally cold in the mountains, going down to minus 20 degrees Celsius in places. Waterfalls were frozen solid to resemble old limestone cave formations (stalagmites) except that the spectacular and substantial icicles form quickly in the winter, and last only a few months before spring springs forth. Francis came prepared with Himalayan gear including a yak wool hat and a flask of brandy. He had time to travel through fjords and saw spectacular evidence of past glacial activity.

Returning to South Africa in temperatures of 30 degrees plus, on the other side of the spectrum of temperatures, was a dramatic climatic change, experienced within a week. Many thanks to Chris Henshilwood for the opportunity to travel to Norway, and congratulations to him and Turid for excellent research on fauna from Blombos and Klasies River caves.

In September 2012, Francis was invited to Lewes near Piltdown in Sussex to deliver a lecture on Teilhard de Chardin and Piltdown Man, at a Piltdown conference, to

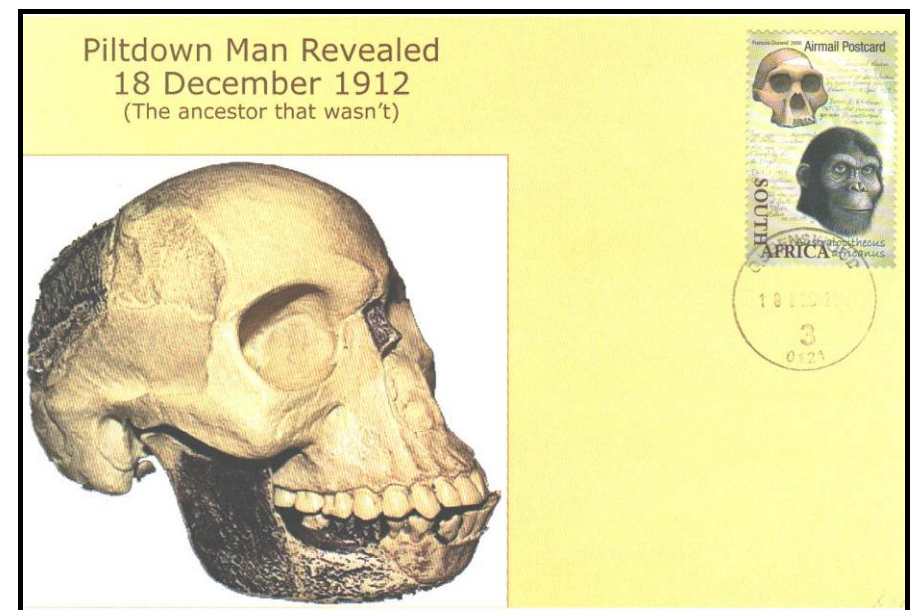
mark the 100th anniversary of the announcement of "*Eoanthropus*" which may have been a joke perpetrated partly by a young French palaeontologist (Teilhard), directed towards old English palaeontologists (such as Smith Woodward, a palaeo-ichthyologist rather than palaeo-anthropologist) who were taken in by the Piltdown Joke/hoax. In January 1913, Teilhard himself said in a letter that the leading French palaeontologist (Marcellin Boule) would not be "taken in, especially since the Piltdown Man fossils are English". Also in January 1913, 100 years ago, Teilhard had written an essay beginning with the words "There was a time when the study of prehistory deserved to be the subject of jokes, and deserved to be suspect". Francis has published on this in the journal called *Antiquity* (February 2012).

Francis has been invited to deliver the Kroon lecture in Amsterdam, on his statistical (probabilistic) definition of a species, with reference to palaeo-spectroscopy. A paper on this subject has been accepted for publication in *Antiquity* (Thackeray and Odes, in press).

With French colleagues (Vincent Balter and Jose Braga), Francis published an article in *Nature*, on chemical evidence of palaeo-diets in *Australopithecus*, *Paranthropus*

and early *Homo* from Kromdraai, Swartkrans and Sterkfontein.

Ludwig Doehne kindly sent in a copy of the commemorative philatelic cover prepared for the centenary of the "discovery" of Piltdown Man. It has a stamp of *Australopithecus africanus* that was issued by South Africa a few years ago.



Limerick offerings from Francis, our honourable "Palaeo-Poet" (ed.) Reprinted from the South African Archaeological Society Newsletter (1983, 6,2:2; 6,2:3).

LESSONS IN EVOLUTION

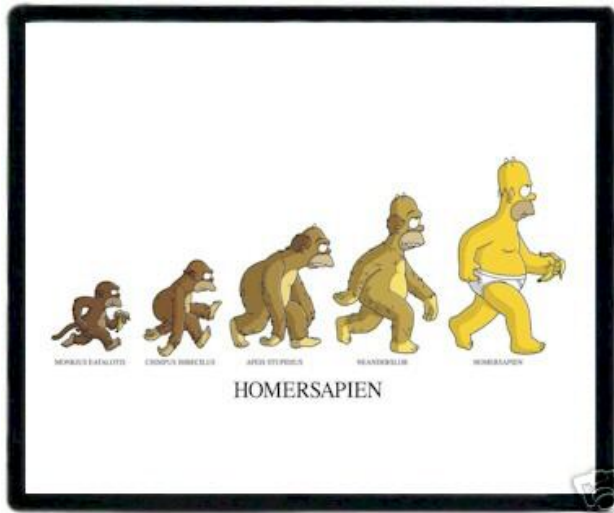
Each lad has a dad and grand-daddies,
Great-grand-dads, great-great ones and grannies.
Great apes in the zoo
Have great ancestry too,
As you see in their family histories.

The apes in the zoo they are these:
Great gorillas and sly chimpanzees.
Orangutans tangling
And gibbons hang-dangling,
But man did not come from them, please.

Orangutans, gibbons with fleas,
Man, gorillas and wry chimpanzees
All have common descent
(you could call it ascent)
From a primitive primate in trees.

Man and apes come from old proto-types.
They evolved (like Ford's model-T types).
But the prototypes pronto
Died out like old Bronto
Leaving pongids and hominid types.

To the Leakeys, Johanson and others,
Were those fossils like cousins or brothers?
Since the bones are so sparse
Don't you think it a farce
To claim which, when you need many others?



PSSA - Gondwana anthem.

Sung to the tune of the SA national anthem.

Nkosi sikeleli Afrika
 Nkosi sikeleli Amerika
 Nkosi sikeleli Australia
 Europe, and Asia
 Nkosi, Antarctica
 Gon Gon Gon Gon Gondwana
 Gon Gon Gondwana
 Gon Gon Gondwana

Words by - Francis Amathambo Thackeray

Heidi & Keith Holmes (Australia)

U3A report on Fossil Plant Excursion - Oct 2012

In mid-October Keith Holmes gave a lecture on Plant Evolution to the U3A in Dorrigo and showed a selection of fossil plants from Devonian (early land plants) to more recent times. A fossil *Nothofagus* leaf got the most attention as *Nothofagus* trees still grow in the Dorrigo area. I was just sorry I did not have a modern leaf alongside (I had picked some ferns, cycads and the *Ginkgo biloba* etc from our garden to show the still living ancient plants).

On Saturday morning Keith led the excursion to the Nymboida quarries. Keith has been collecting there for some 40 years and has now published most of the plants (125 species and a few more to come). This locality has the best described Triassic Flora in Australia and represents a flora growing around ancient swamps which also produced some economic coal seams.



We arrived at the Reserve Quarry late morning and should rather have been there at 6 am. A few people cancelled as the forecast was for a very hot day (it was up to about 40 degrees in the quarry and some registered more in their car). Everybody collected from the dumps and the fossils were fortunately dry but hot.



Keith brought some of his giveaway fossils in his old cedar boxes and I laid them out according to plant groups with labels so everybody could identify what they found.



Then it was soon packing up time and making one's final selection of what to take home. We had 20 people with the one year old staying seated in her pram. Young Tom (in green shirt) brought his bucket to carry the fossils safely home.

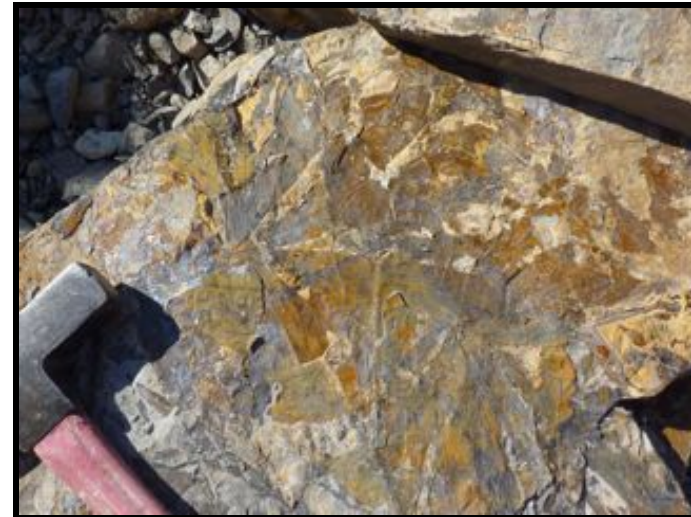


We drove to the second quarry near the old Coal Mine where there is a good exposure showing the rock strata and a coal layer with sandstone at the top. The material

from these two quarries was transported to Grafton and baked into apricot-coloured bricks. The operations were reduced some 20 years ago and have now stopped.



Digging amongst old excavated blocks Mike and Ros hit the jackpot finding two big slabs.



One with a good *Dicroidium zuberi* (forked seed fern leaf) and slab with a large *Ginkgoites denmarkensis* leaf. These blocks have been stained by iron oxides which makes it more difficult to pick out the normal black leaves but makes the rock stronger.

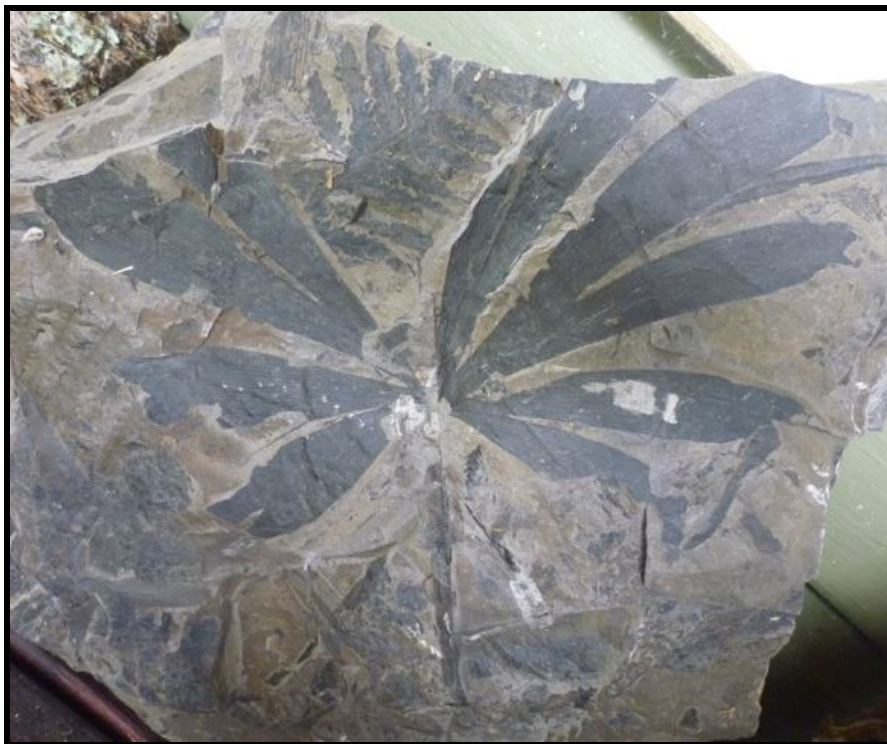
Thanks to everybody who came and made it a special day for finding out about plants which grew in the Triassic times (when early dinosaurs were evolving and eating cycads and seed ferns). This was a time when Australia was part of the supercontinent Gondwana some 230 million years ago.

Photo email by Dr. Heidi Anderson (Holmes) who mainly works on Triassic plants from the Molteno of South Africa.

PS Keith said I should add a photo of the:



Heidiphyllum elongatum leaf which was one of the most common fossils found by everybody at the Reserve Quarry (at centre alongside the cm scale) with *Rissikia media* which look like Swamp cyprus leaves alongside.



A fine leaf of *Ginkgoites denmarkensis* related to the living fossil *Ginkgo biloba* and like the one found on our excursion.

PSSA'12 CONFERENCE

Minutes of the 17th Biennial General Meeting of the PSSA Cape-Town - 8th September 2012

1. Welcome

Presidential Address and welcome by Jennifer Botha-Brink.

2. Minutes of the previous BGM

The minutes of the previous meeting held at Howick (8 August 2010) was accepted.

3. Treasurer's Report

The financial report compiled by Elize Butler was presented by Jennifer Botha-Brink. Many members are in arrears with Society payments and an urgent request was made to pay outstanding fees.

4. SAHRA- matters

In a meeting with SAHRA the following rules were conveyed to PSSA members:

Palaeontology Impact Assessments (PIA)

Phase 1: Is a decision making process by SAHRA and Palaeontologists are not permitted to collect fossils as: Collecting fossils is not the aim of the PIA
The developer cannot pay for the collection of fossils
The person doing the collecting must be qualified to collect (Palaeontologist)

The SAHRA Permit committee must authorize the collecting

In reply to the above the members had the following concerns:

No extra cost will be added if collecting is permitted during Phase 1. Palaeontologists do not have the funds or time for an additional collecting trip back to the site. What happens if fossils are in immediate danger and SAHRA is unavailable (over a weekend)? Members feel that Fossils are rare resources and while doing a PIA they look for fossils for research and document the fossils carefully as they are the experts in the field. Fossils which are properly excavated are safer than those left in the field while waiting for permission to excavate from SAHRA. Developers do not call palaeontologist back after Phase 1 and fossils are left to erode and is lost to science.

There is too much legality involved and legislation must be revised. A letter must be written to the Minister noting palaeontologists concerns and possible changes to legislation.

SAHRA's response: SAHRA is not against the protection of material but a legal process must be followed and ultimate decisions must be made by SAHRA. But if a crisis is encountered, SAHRA can be phoned as soon as

members can and SAHRA may give permission. Members must contact SAHRA with any problems as they (SAHRA) are not aware of member's needs and struggles. SAHRA notes members concern on the fact that developers rarely come back to the Palaeontologist after a Phase 1 study.

- **Desktop studies:** Members are concerned that desktop studies and the monitoring thereof are unsatisfactory.

Members decided that a short ECO training course will be conducted 3 times per year (John Almond in charge).

- **Phase 2:** Permits

Fall under 2 different Laws

- a) Research- the permit is valid for 3 years
- b) From Phase 1- temporary permit

Permits are issued by the SAHRA Committee

- a) To one holder
- b) If there is more than one holder, it must be discussed with SAHRA

SAHRA must at all times know who will be conducting the research and who will be on site. SAHRA has created a database of fossils collected and where scientists work.

- **SAHRA and PHRA**

SAHRA has a National function, while the PHRA is a provincial authority. Three PHRA's exists and they manage Eastern, Western and Northern Cape, while

the rest of the country is managed by SAHRA. Palaeontology and Archaeology falls under these agencies. A PHRA may set its own policies. Both (SAHRA and PHRA), authorities issues permits and are responsible for heritage on a National and Provincial level. When permits are issued by both authorities, 1 report may be submitted to both.

Landowner permission

Proof in writing, has to be submitted to SAHRA that landowners and farmers know what palaeontologists do during 'n collecting fieldtrip and for how long members aim to be on their farms. The permission must be obtained before SAHRA issues a permit. In obtaining landowners permission SAHRA will not be held responsible for palaeontologists' actions.

As it is extremely difficult to get hold of landowners telephonically or e-mail prior to a fieldtrip. When visiting new areas for the first time palaeontologist do not know which farms will be explored and whom the landowners are and members suggested that they get the permission while on the fieldtrip. SAHRA will take this to their lawyers and come back to us.

SAHRA's response: To deviate from the law has a possible risk for SAHRA. To obtain permission from landowners is up to the permit holder. To change the law

takes a long time and members must write to SAHRA with suggestions.

PIA reports

When PIA reports are completed, it is published on the internet. Members have a concern that when GPS co-ordinates of fossils are placed on the internet, farmers will not let palaeontologists on their farms. Members would like to block co-ordinates especially when fossils were not collected during Phase 1. A suggestion was made that the GPS co-ordinates must not be in the report but sent to SAHRA as an appendix.

5. CT scanning and data protection

South African academics have currently two institutions with active CT scanners - namely B. P. I. and Nexa. Digital data is becoming more and more important and with these facilities South African scientists play a more active role in collaboration with international scientist and also with student training.

However, digital data poses risks: CT scanners as well as micro CT scanners need facilities to store terabytes of information. Scientists pay for CT scans. International scientists have access to more funds and have thus more access to additional scans. Once a CT scan has been completed, data can be distributed without permission and local projects can be at risk. Scientists have unlimited

access to digital data and it will become unnecessary for visits to South African institutions. Scans done internationally are unsupervised and various scans can be conducted without permission. In the past some scientists have not returned the specimens to their institutions on time and it was a battle returning the specimens later on. Members feel that it is important that scientists have access to data but that certain regulations must be enforced by all the institutions involved. Permission for specific projects must be granted. Most members feel scans must be treated as part of South African Heritage. Some members feel strongly that international scientists not obeying the rules must be blacklisted and prevented from doing research either in South Africa or at the specific institution. Heads of Palaeontological institutions must compile a policy in the next 8-12 months.

6. PSSA communication

- *Palaeontologia africana* — Progress has been made to have the journal available online linked to the B. P. I. website.
- Palnews — Members expressed their gratitude to the outgoing editor Rose Prevec for doing such a wonderful job for so many years.

- Website — Gratitude was expressed to Jennifer Botha-Brink for the creation and updating of the new PSSA website.

7. SACNASP registration

Palaeontologists must register with SACNASP before any PIA can be conducted.

8. Venue of PSSA conference 2014

The next conference will be held at the Bernard Price Institute, Wits.

9. Election of New Committee

President: Bernard Zipfel

Vice President: Marion Bamford

Secretary: Lucinda Backwell

Treasurer: Elize Butler

Committee Member: John Almond

Student Members: Alex Parkinson & Bridgette Cohen

Web Officer: Jennifer Botha-Brink

Palnews Editor: Billy de Klerk (Eugene Bergh)

10. General

- Alex Parkinson suggested that the Programme and Abstract book of each conference must be signed by all the contributors and preserved in the PSSA archive.
- Members are concerned that not enough Palaeontology posts are being made available.

SAHRA matters



111 HARRINGTON STREET, CAPE TOWN, 8000
PO BOX 4637, CAPE TOWN, 8000
TEL: (021) 462 4502 FAX: (021) 462 4509
WWW.SAHRA.ORG.ZA

MEETING BETWEEN THE PALAEONTOLOGICAL SOCIETY OF SOUTHERN AFRICA and THE ARCHAEOLOGY, PALAEONTOLOGY AND METEORITES UNIT AT SAHRA

Venue: University of Cape Town (Upper Campus)
Date: Friday 7 September 2012
Time: 16h30-19h00

Minutes

Welcome & Introduction: JBB and CS
Apologies: NA
Attendance: NA

Items of discussion:

Introduction: CS gave brief overview of relevant sections of the National Heritage Resources Act (NHRA) and described the difference between the role of the South African Heritage Resources Agency (SAHRA) and that of the Provincial Heritage Resources Authorities (PHRA)s.

1. Permitting processes:

1.1. **Collection of fossils during Phase 1:** MG reiterated that collection of fossils is not permitted in Phase 1, which serves only to identify and map resources and to determine whether they will be affected. Collection of fossils in this phase pre-empts the Heritage Authority's (HA) decision and can see developers paying for unnecessary mitigation measures. Permits are only issued to applicants once the Heritage Authority's (HA's) Permit Committee has agreed on it, taking into consideration both the qualifications and professional experience of the applicant.

Q: Collection of fossils doesn't cost extra and can be done immediately. Who pays for the return trip and where do we find the time? If the law protects fossils, shouldn't we be collecting them to preserve them?

CS: Collection is part of the NHRA process. Phase 1 identifies resources, grades their significance and provides recommendations on any proposed mitigations or suggested conservation interventions. Collecting during Phase 1 pre-empts the HA's legal comment/decision. A CRM practitioner is not liable for costs under the principle that the polluter pays. A permit is required for collection and is necessary to ensure protection and conservation. The Phase 1 practitioner isn't

necessarily the best person to be collecting. It is for the HA to determine if the specialist undertaking the Phase 1 is the appropriate person to collect (S48 notes a HA may determine minimum qualifications).

Q: Are you (the Heritage Authority) better equipped to make the decision?

CS: It is a legal process. We all want to ensure best practice, but then we need to work together.

Q: There are very few qualified palaeontologists to do the research and PIA work. In the field, research and PIA palaeontologists have different agendas. Second trips to collect are not feasible due to time constraints. Citing the legal angle is counterproductive.

Q: Fossils might only be in danger if development goes ahead, but not if it doesn't

CS: If development activity triggers an HIA the onus is on the developer to pay and is responsible for whatever costs arise from SAHRA's request. The cost of compliance is the developer's. The NHRA exists; SAHRA is a public entity and we cannot deviate from the processes we are subject to.

Q: Every fossil is precious

Q: Palaeontological resources are very different to archaeological resources. We look at whole strata of rock that may have a single outlier and therefore have to save that possibly unique example.

CS: We have yet to receive a call saying, "Help, I'm concerned." No-one asks for guidance and collection is happening without permits. This is illegal and we don't want to foster improper practice: if specialists can operate without permits, why can't developers/mines. Why don't you contact us?

Q: Lee Burger did just that, but then that was a research permit.

Q: Palaeontology is under resourced. I do my work over weekends, should I phone you then? Palaeontology is in transition and we are trying not to frustrate developers.

Q: In the last four years I have done about 60 PIAs, a third have recommended Phase 2 mitigation but I have only been called back to do one Phase 2. I have sent photos to SAHRA of fossiliferous borrow pits being rehabilitated at the end of a road work project where Phase 2 was not done.

CS: This is noted and we know there are huge compliance problems. Some developments take a very long time to proceed to initiation; however there is definitely a compliance problem. We can't solve this problem with illegal behaviour. Two wrongs don't make a right.

Q: Why can't a research permit cover PIA collection?

CS: Different sections of the Act cover research and PIAs. In PIAs (Section 38), SAHRA must decide whether Phase 2 should occur. Phase 2 and research permits (Section 35) are generated for different reasons and through different legal processes.

Q: Why can't palaeontologists get collection permits for Phase 1? No developers like palaeontologists. Surveying of deep trenches could precede development

Q: US researchers can collect fossils on public land and the material goes to the federal/state repository. SA system is over-bureaucratized and this endangers fossils. At what level and to whom are permits issued?

CS: Pressed for time and not going to resolve all issues. Need to discuss these matters internally with our legal advisor, Permit Committee and where necessary, Council.

Q: Your primary interest should be protecting fossils like palaeontologists; therefore we should be able to reach common ground due to common interest

Q: NHRA is ill-conceived from a palaeontological point of view. Let's not chase unimportant parts of the act. Why emphasise those elements that are easier to chase up while issues like compliance aren't enforced. Wouldn't it be nicer to get outside? Permits are an important management issue but do not serve to further the aims of SAHRA. Revising the legislation will take a long time.

Q: I realise that SAHRA is overworked, but I am curious that your response to the issue of digital data management was, "Do it yourself."

CS: I thought I'd said that SAHRA attended the CT scanning symposium because we wanted to understand your concerns. The NHRA stipulates what SAHRA can or can't do and so wanted to clarify the permitting issue that was raised during discussions. ,

Q: Most palaeontologists feel any fossil properly excavated and accessioned is safer than a fossil left to weather.

Q: I disagree. Not all fossils are better excavated. Many are more valuable in the veld where they can be access by the public for education and tourism.

Q: SAHRA is discouraging PIAs from being done because there is no time to go back twice.

1.2. Difference between CRM and research permits: MG explained that Section 35 governs research permits. For PIAs, Phase 1 work allows SAHRA to issue a Record of Decision (ROD) and Phase 2 occurs when mitigation measures have been endorsed by the HA and development is to proceed. Research work is done whenever the

research schedule allows. Permit Committee discusses all permit applications and permits are person specific.

Q: There is a big difference between Karroo palaeontology and Cradle of Humankind palaeontology, where the latter is more archaeological in nature. If research permits are granted for five years and are person specific, what if your students change? You should trust the permit holder to act responsibly.

MG: Tell us who is there in your place - call us. We don't need to change the permit, just to know who is on site if the permit holder is not there.

Q: What about field schools?

CS: Send an email detailing who your representative is on site

Q: Make sure you can vouch for the competence of the person and then there will be no problem with the permit.

Q: How long are permits granted for and how long are sites under excavation, do we know?

CS: Research permits are granted for three years and the permit database holds all that kind of information.

1.3. Landowner permission for obtaining permits: CS explained that problems have arisen with requests for landowner permission in writing. SAHRA is a public entity, therefore the need for landowner permission is governed by legislation and policy. Administrative problems arise when this is not done. Verbal agreements (between researchers and landowners) open SAHRA up to litigation in terms of PAJA etc. SAHRA cannot carry the risk of judicial review and civil litigation.

Q: State this on the permit like a waiver or disclaimer.

Q: Make the permit valid only on condition that landowner permission

is granted. This would indemnify SAHRA.

CS: Cannot comment on the legality of this, but we will take it on board.

Q: It is also like this in the US where research is never done without landowner's permission

CS: The problem is not so much action without permission, but provision of proof prior to permit being issued.

Q: It should be SAHRA's duty to get landowner permission.

Q: Farmers are largely uncontactable until you are there in person. Can we get permission when we get there and submit it when we return?

CS: This remains a legal risk for SAHRA, so I need to look to how far we can stretch this without incurring penalties. I will take the matter to forward to get legal counsel.

Q: Why is this issue only coming up now?

CS: SAHRA is evolving and developing. The NHRA is dense and we are working through it. We must ensure we comply and now that there are more of us we can do this better. The Act says we should comply and so we are trying to do it.

Q: Transferring responsibility from permit giver to holder reduces risk. Who would sue SAHRA if a palaeontologist misbehaves?

Q: Where does SAHRA stand in informing the government? If the laws don't work for us, where does SAHRA fit in?

CS: SAHRAs role is to talk to all stakeholders. NHRA talks of best practice and we all want what is best. All legislation can and should change, but this is a long process, via DAC, Parliament etc. This doesn't stop you sending your concerns and suggestions for change to us. Changes in the Regulations are easier to effect than to the Act.

MG: Landowner permission issues have arisen in several cases recently.

There was apparent reluctance on behalf of the palaeontologists to obtain the necessary permission and I had to approach the developer to get it. Call us and discuss problems you are having.

Q: Johann Neveling approached farmers through agricultural unions and still only achieved 50% success. How then do I do it?

Q: SAHRA is effectively blocking a major type of palaeontological project: driving around until you see something interesting.

Q: The majority of palaeontologists do comply, but don't have funding for two trips.

MG: Will try to find a solution, but please don't try to avoid the topic.

Q: Do we phone SAHRA before or try when we're back?

CS: Trying to assess concerns. Will take it back to legal counsel and will get back to you.

Q: Farmers are independent and protective. Most work by verbal agreements and handshakes and are averse to signing documents.

Q: Given the need to follow the law and difficulty of contacting landowner, could farm managers act as proxy?

Q: Often farmers are not on their land and it is therefore difficult to get their permission.

Q: Research focus extends to tribal authorities. These can only be found out once one is there. Much ignorance regarding palaeontology: if we talk about skulls, worry arises regarding ancestors. Do we just talk about rocks?

Q: If fossils belong to the state, who should be giving permission: state or landowners?

Q: I got landowner permission and then SAHRA permit, now landowner wants me to sign lawyer's document, for site in COH.

CS: Legally, if landowner has signed permission and permit has been issued, it is legally binding.

Q: Permission to go on land should be removed as a stipulation for the permit.

Q: That should be easy.

CS: Section 5 - Act must give effect to the Constitution and cannot violate privacy. We can't allow that to happen.

Q: Waiver of liability not likely to be signed by a farmer.

1.4. **Permit application fees:** CS indicated a process of review for the increase of permit application fees was underway. The gazette notice will be circulated for comment.

2. CRM Issues

2.1. **Training of the Environmental Control Officer (ECO) in identification of fossils:** PH reported that in the past 3-4 years, the number of PIAs has increased, mostly in the Northern and Eastern Cape, with few in Mpumalanga and Limpopo Provinces. Is it feasible for ECOs to monitor developments? How would this be accomplished?

Q: I have made this recommendation, but it is very unsatisfactory. Major projects, such as wind farms, cannot be monitored by palaeontologists over several months or years; therefore it is necessary that the ECO be trained to recognise significant fossils. I have only once ever been asked to train an ECO.

Q: I have also made this recommendation, but never been asked to train an ECO.

Q: I have also done it. Do ECOs even exist?

PH: The ECO is independent and reports to the Department or Authority who issued the ROD. Maybe SAHRA should talk to the ECOs

Q: Maybe we need to approach the ECO Association, provide demonstrations, slideshows, etc.

Q: Provide ECO training courses.

PH: We have the same problem in archaeology.

MG: Are we comfortable with an untrained ECO identifying fossils? Isn't this settling because there are insufficient palaeontologists? Wouldn't a palaeontologist be better?

Q: It's always better to have a palaeontologist.

Q: Who would be willing?

KS: Couldn't the palaeontologist be on site with the ECO for a few days to impart site specific knowledge?

Q: The palaeontologist should develop a relationship with the ECO on site, as well as the foreman, digger drivers, etc. A one-on-one relationship would be beneficial.

Q: In US, amateur collectors have clubs and are advantageous to palaeontologists needing to expand their sphere of influence. Could be useful here too.

PH: How would ECOs make decisions about sample size and significance of fossils they encounter?

Q: They should photograph any sighting and submit photos to the palaeontologist.

Q: All workers should be informed.

Q: In Georgia, developers cannot remove anything without a signed report from the palaeontologist following prior research.

Q: Isn't that what the Act says?

MG: Yes, that's what a Phase 1 AIA is.

Q: If you tell, for instance, a road agency that they must stop work if they encounter fossils, they will bulldoze them. Therefore develop a relationship with the ECO and get them to collect and reserve any fossils they find for palaeontologist to inspect.

2.2. Inspection of bedrock after exposure from development: AS asked whether palaeontologists wished to inspect bedrock after exposure and prior to rehabilitation and whether this should be included as a guideline.

Q: Mine exposures on the Western Cape coast are enormously deep, to an extent unlikely to be seen again. These need urgent inspection prior to rehabilitation.

Q: Palaeontologists need road cuttings, quarries, borrow pits etc. Rehabilitation detracts from palaeontological research.

Q: We all concur.

Q: Coal fields, these need to be mined. What can we do?

Q: Nobody works in this area. In a recent desktop PIA, I recommended inspection of the coalface at regular intervals as plant fossils occur in these pits. Inspection after three cycles of three monthly visits showed no fossils and the site was declared unfossiliferous. The fossils occur not in the coal but in the interleaved sediments.

PH: Palaeontologist recommended coal inspection in a case: every 6-12 months for thirty years, but the mine was reluctant to have the palaeontologist on site for lifetime of the mine.

Q: Maybe train mine foremen and organise regular annual or biennial trips. If they were dinosaur fossils, not plants, there would be a different attitude.

2.3. Management of palaeontology considered as national function: CS explained that SAHRA operates within a three tier system. Palaeontologists have expressed concerns that palaeontology is no longer nationally managed which will lead to issues with permitting. Dividing palaeontology and archaeology between provincial

and national agencies would have knock on effects at several levels and it would be detrimental to allow that split.

Q: We work in several provinces. Do we have to submit several reports?

CS: There are only three PHRAs that currently manage palaeontology. SAHRA does the rest. Yes you would have to submit one report to each province. Each PHRA could, in theory, establish their own set of standards.

Q: PHRAs might demand the return of collections to their provinces.

Q: Might that happen?

Q: Some PHRAs are already saying that.

Q: I agree that collections should be kept locally. There is a problem in that palaeontology is lumped with the wrong heritage. It was expected that the PHRAs would be less capable than the national body, but they have proved better. We can't argue for national management if palaeontologists can't provide someone to fill that post.

CS: Surely if there is a palaeontologist in every province, that would create jobs?

Q: The lack of capacity at SAHRA is a problem.

Q: The researcher's institute should keep their material.

Q: That would engender provincial competition to the detriment of less wealthy provinces.

Q: NRF and DS&T are establishing a Centre of Excellence for Palaeosciences at WITS, which will mean that while the main research and collecting focus will be at other institutions, but the main collections will be at WITS. We should be able to report to a national body; provincialisation is ridiculous.

CS: The NHRA management policy stipulates who manages what and at what level. Lobby the minister.

Q: Why must we approach government? I thought you were the intermediary.

Q: No palaeontologists were involved in discussions regarding legislation.

Q: How did authorities dealing with these issues react to previous PSSA meeting?

CS: There has been no response. There is a stall on legislative review. Let's try again.

MG: Most of our palaeontological work is PIA related and linked to NEMA and the environmental process. All of these specialist studies are collated and submitted as a single document with PIA and HIA together and this document goes to one agency. If palaeontology was managed at a national level, two agencies would need to be approached for comment before the process could move forward. Furthermore, all issues in these processes are linked to provinces. I have never had a palaeontologist complain about having to work in two provinces. Rather, most manage PIAs in NEMA process where there is no room for nationalising palaeontology.

Q: It is more important to repatriate South African fossils from other countries.

2.4. Position for a palaeontologist in the APM Unit: CS indicated that SAHRA will advertise the palaeontology post for a third time after receiving no applications in the first round and losing the second round candidate to another organisation. She requested that if candidates are interested to apply.

Q: Must you have a masters? Would an honours degree suffice?

CS: The requirements are the same as for the archaeology posts - a masters is necessary.

Q: Would you consider changing this stipulation if you can't find anyone, or will you dissolve the post?

CS: No, we will not lower the qualification level required. The post will not be dissolved.

Q: Honours not sufficient.

Other matters

Q: When will the minimum standards for palaeontology be finalised?

CS: It will be submitted to Council then circulated to you.

Q: EIA companies post reports on the internet with GPS co-ordinates. Are these open to the public?

Q: In US, all metadata are private and co-ordinates are blocked.

Q: Can we not block these somehow?

Q: This is a particular problem, since we can't collect the fossils.

MG: SAHRIS allows for non-disclosure of locations to public through differing levels of security and access.

Q: People uploading reports to the web are EAPs so make requests to them, it is not SAHRA.

Q: Companies that subcontract PIAs request reports in doc format so we have no idea of the security of our content or data.

Q: EAP companies edit our reports.

Q: I've had contractors sending reports back for review and demanding that I change my conclusion to suit the developer.

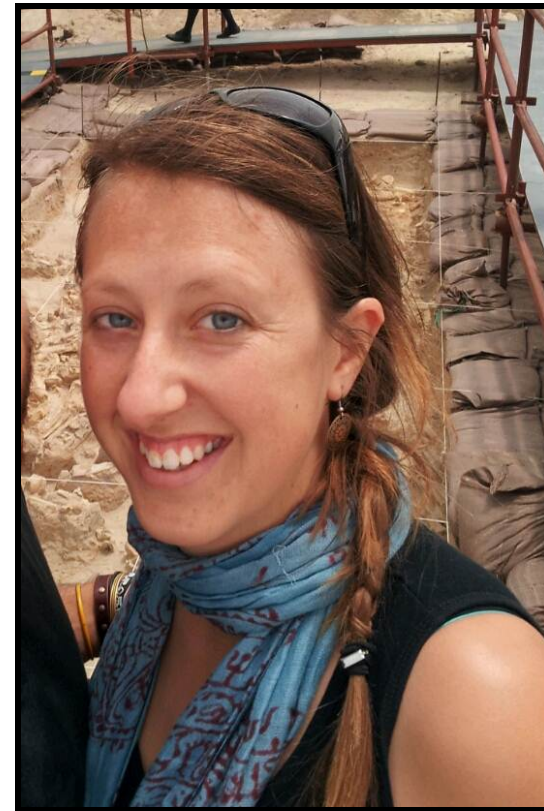
Conclusion: Meeting closed by CS and JBB

Jenna Lavin

As of the 14th January 2013 Jenna Lavin has been appointed at SAHRA as the liaison for palaeontological matters in the Archaeology, Palaeontology and Meteorites Unit.

Some background - Jenna received a BSc in Archaeology and Environmental Science from UCT in 2006. This was followed by an Honours project in 2007. During this period, she realised that, in terms of her research interests, her focus was oriented more towards palaeoenvironments. So for her Masters project she investigated the palaeoenvironments associated with hominin evolution in the KBS Member of the Turkana basin in northern Kenya. While completing her MSc, she assisted Dr D. Stynder in running the 2010 ASU Palaeontology fieldschool at the Langebaanweg Site of the West Coast Fossil Park.

After attaining her MSc in 2010 Jenna started working at the Provincial Heritage Resources Authority of the Western Cape (Heritage Western Cape) as the liaison for all archaeology and palaeontology in the province. During



Jenna Lavin at the West Coast Fossil Park while running a short programme about heritage for high school students from an underprivileged school in Hout Bay in 2012.

the two year she spent at HWC she completed a number of heritage management courses and assessed numerous applications and palaeontological reports while working closely with Drs John Almond and Dr John Pether. The time time at HWC taught her much about the differences required in the approaches to management of palaeontological heritage as opposed to archaeological heritage and built environment heritage.

Currently Jenna's primary interest is in improving and developing the management and conservation of South Africa's significant and extensive fossil record. The function of SAHRA's APM Unit is that of management of archaeological and palaeontological heritage resources, including meteorites. As researchers and scientists, palaeontologists harbour the information required to inform site specific management strategies based on their knowledge of broader geological formations. While in the position at SAHRA, she hopes to foster the relationship between heritage managers (like herself), contract palaeontologists and academic palaeontologists alike so that the common goal of effective and efficient palaeontological resource management can be achieved.

Jenna Lavin's contact details are as follows:

Heritage Officer, Archaeology, Palaeontology and Meteorites Unit.

South African Heritage Resources Agency - SAHRA
111 Harrington Street, PO Box 4637, Cape Town 8000

E-mail: jlavin@sahra.org.za Phone : +27 (0)21 462 4502
Fax : +27 (0)21 462 4509 Web : www.sahra.org.za

Recent fossil discoveries and press releases.

January 16, 2013. A new fossil discovered in Tunisia represents the oldest known ancestor of modern-day sea cows, supporting the African origins of these marine mammals. The find is described in research published January 16 in the open access journal PLOS ONE by Julien Benoit and colleagues from the University of Science and Technology in Montpellier, France.

Some fossils of sea cow ancestors have been found in Jamaica, but the Tunisian fossil is more primitive and pre-dates these, revealing an older ancestor for sea cows that emerged at the same time as other modern mammals.

Unlike whales and dolphins, the evolutionary origins of the sea cow family have been obscure. They share an ancestor with elephants, and it is thought that their oldest relatives were terrestrial animals that gradually adapted to an aquatic life. The last common ancestor of the two species may have lived in freshwater swamps well before the time that the new species described in this study lived.

Though this specimen may not have been the common link between modern day sea cows and elephants, the authors' analyses suggest that this new species lived in fresh water, not sea waters.

More information: Benoit J, Adnet S, El Mabrouk E, Khayati H, Ben Haj Ali M, et al. (2013) Cranial Remains from Tunisia Provides New Clues for the Origin and Evolution of Sirenia (Mammalia, Afrotheria) in Africa.

PLoS ONE 8(1): e54307.

<http://dx.doi.org/10.1371/journal.pone.0054307>

Journal reference: PLoS ONE Provided by Public Library of Science.

At <http://phys.org/news/2013-01-earliest-sea-cow-ancestors-africa.html>

January 23, 2013. Researchers from Wits University and the University of Johannesburg in South Africa, together with international scientists announced on Tuesday, 22 January 2012, the discovery of a two million year old fossil fox at the now renowned archaeological site of Malapa in the Cradle of Humankind World Heritage Site.

In an article published in the prestigious journal Transactions of the Royal Society of South Africa, the researchers describe the previously unknown species of fox named *Vulpes Skinneri* - named in honour of the recently deceased world renowned South African mammalogist and ecologist, Prof. John Skinner of the University of Pretoria. The site of Malapa has, since its discovery in 2008, yielded one of the most extraordinary fossil assemblages in the African record, including skeletons of a new species of human ancestor named *Australopithecus sediba*, first described in 2010. The new fox fossils consist of a mandible and parts of the skeleton and can be distinguished from any living or extinct form of fox known to science based on proportions of its teeth and other aspects of its anatomy. Dr. Brian Kuhn of Wits' Institute for Human Evolution (IHE) and the School of GeoSciences, an author on the paper and head of the Malapa carnivore studies explains: "It's exciting to see a

new fossil fox. The ancestry of foxes is perhaps the most poorly known among African carnivores and to see a potential ancestral form of living foxes is wonderful". Prof. Lee Berger, also of the IHE and School of GeoSciences, author on the paper and Director of the Malapa project notes: "Malapa continues to reveal this extraordinary record of past life and as important as the human ancestors are from the site, the site's contribution to our understanding of the evolution of modern African mammals through wonderful specimens like this fox is of equal import. Who knows what we will find next?".

The entire team has expressed their privilege in naming the new species after "John Skinner, one of the great names in the study of African mammals and particularly carnivores. We (the authors) think that John would be pleased, and it is fitting that this rare little find would carry his name forever."

More information: Adam Hartstone-Rose, Brian F Kuhn, Shahed Nalla, Lars Werdelin, Lee R. Berger (2013): A new species of fox from the Australopithecus sediba type locality, Malapa, South Africa, Transactions of the Royal Society of South Africa,

DOI:10.1080/0035919X.2012.748698

Provided by Wits University . More at

<http://phys.org/news/2013-01-fox-species-malapa.html>

January 24, 2013. (Phys.org)—The discovery of a new bird-like dinosaur from the Jurassic period challenges widely accepted theories on the origin of flight.

Co-authored by Dr Gareth Dyke, Senior Lecturer in Vertebrate Palaeontology at the University of Southampton, the paper describes a new feathered dinosaur about 30 cm in length which pre-dates bird-like dinosaurs that birds were long thought to have evolved from. Over many years, it has become accepted among palaeontologists that birds evolved from a group of dinosaurs called theropods from the Early Cretaceous period of Earth's history, around 120-130 million years ago. Recent discoveries of feathered dinosaurs from the older Middle-Late Jurassic period have reinforced this theory. The new 'bird-dinosaur' Eosinopteryx described in Nature Communications this week provides additional evidence to this effect. "This discovery sheds further doubt on the theory that the famous fossil Archaeopteryx - or "first bird" as it is sometimes referred to - was pivotal in the evolution of modern birds," says Dr Dyke, who is based at the National Oceanography Centre,

Southampton. "Our findings suggest that the origin of flight was much more complex than previously thought." The fossilised remains found in north-eastern China indicate that, while feathered, this was a flightless dinosaur, because of its small wingspan and a bone structure that would have restricted its ability to flap its wings. The dinosaur also had toes suited to walking along the ground and fewer feathers on its tail and lower legs, which would have made it easier to run.

More information:

www.nature.com/ncomms/journal/v4/n1/full/ncomms2389.html

Journal reference: Nature Communications. Provided by University of Southampton <http://phys.org/news/2013-01-dinosaur-fossil-bird-evolution-theory.html>



PSSA MEMBERS & FRIENDS - E-MAIL

Fernando Abdala	Nestor.Abdala@wits.ac.za
Matt Allinson	mattallinson@hotmail.com
John Almond	naturaviva@universe.co.za
John Anderson	jmanderson.gondwana@googlemail.com
Ken Angielczyk	kangielczyk@fieldmuseum.org
Graham Avery	gavery@iziko.org.za
Margaret Avery	gavery@iziko.org.za
Lucinda Backwell	lucinda.backwell@wits.ac.za
Marion Bamford	marion.bamford@wits.ac.za
Patrick Bender	pkabender@yahoo.com
Eugene Bergh	ebergh@iziko.org.za
Bernard Battail	bbattail@mnhn.fr
Lee Berger	lee.berger@wits.ac.za
Emese Bordy	emese.bordy@uct.ac.za
Glen Boyd	glen@karkloof.co.za
Jose Braga	braga@cict.fr
Bob Brain	brainnew@iafrica.com
James Brink	jbrink@nasmus.co.za
Jennifer Botha-Brink	jbotha@nasmus.co.za
Claire Browning	cbrowning@geoscience.org.za
Elize Butler	elize.butler@nasmus.co.za
Matthew Carrano	carranom@si.edu
Anusuya Chinsamy-Turan	Anusuya.Chinsamy-Turan@uct.ac.za
Jonah Choiniere	Jonah.choiniere@wits.ac.za
Juan Carlos Cisneros	juan.cisneros@ufpi.edu.br
Brigette Cohen	jet-cohen@hotmail.com

Daryl Codron	darylcodron@gmail.com
Ron Cowley	ronc@mineval.co.za
Ross Damiani	rossano1973@googlemail.com
Michael Day	Michael.Day@students.wits.ac.za
Billy de Klerk	b.deklerk@ru.ac.za
Bonita de Klerk	bonita.deklerk@students.wits.ac.za
Daryl de Ruiter	deruiter@tamu.edu
Ludwig Dohne	doehne@global.co.za
BPI secretary	bpipal@geosciences.wits.ac.za
Francois du Rand	fdurand@uj.ac.za
Cathy Forster	forster@gwu.edu
Heidi Fourie	hfourie@mitsong.org.za
Rob Gess	robg@imaginet.co.za
Annette E. Götz	a.gotz@ru.ac.za
Romala Govender	rgovender@iziko.org.za
Fred Grine	fgrine@notes.cc.sunysb.edu
Gideon Groenewald	gideon@mmges.co.za
Saniye Guven	saniye.guven@students.wits.ac.za
Pippa Haarhoff	pippah@iafrica.com
John Hancox	jhancox@cciconline.com
Eric Harley	harley@chempath.uct.ac.za
Norton Hiller	norton.hiller@canterbury.ac.nz
Heidi Holmes	hmsholmes@googlemail.com
Keith Holmes	wbkhomes@hotmail.com
Jim Hopson	jhopson@midway.uchicago.edu
Adam Huttenlocker	ahuttenlocker@gmail.com
Sandra Jasinowski	sandra_jas@hotmail.com

Zubair Jinnah	Zubair.Jinnah@wits.ac.za
Mike Johnson	mikedes.johnson@gmail.com
Christian Kammerer	jonkeria@gmail.com
Tom Kemp	tom.kemp@sjc.ox.ac.uk
Gillian King	gillianmking@virginmedia.com
Herbie Klinger	hklinger@iziko.org.za
Jenna Lavin	jlavin@sahra.org.za
John Long	john.long@flinders.edu.au
Johann Loock	loockjc.sci@ufs.ac.za
Marius Loots	mloots@medic.up.ac.za
Colin MacRae	horsebackafrica@colin.co.za
Judy Maguire	questar@icon.co.za
Thalasa Matthews	tmatthews@iziko.org.za
Ian McKay	ian.mckay@wits.ac.za
Jeff McKee	mckee.95@osu.edu
Helke Mocke	helke.mocke@gmail.com
Sean Modesto	Sean_Modesto@cbru.ca
Sello Mokhanya	smokhanya@ecphra.org.za
Mike Mostovski	mmostovski@nmsa.org.za
Tebogo Mothupi	tebogomothupi@yahoo.co.uk
Raoul Mutter	r.mutter@permotriassicfishes.org
Johann Neveling	jneveling@geoscience.org.za
Lucille Pereira	lucille.pereira@students.wits.ac.za
John Pether	jpether@iafrica.com
Stephany Potze	stephany.potze@gmail.com
Sandrine Prat	sandrineprat@hotmail.com
Rose Prevec	r.prevec@ru.ac.za

Mike Raath	mickraath@gmail.com
Ragna Redelstorff	ragna.redelstorff@uct.ac.za
Eric Roberts	eric.roberts@jcu.edu
Callum Ross	rossc@uchicago.edu
Gideon Rossouw	Gideon.Rossouw@nmmu.ac.za
Lloyd Rossouw	lloyd@nasmus.co.za
Bruce Rubidge	Bruce.Rubidge@wits.ac.za
Izak Rust	icrust@iafrica.com
Elizabeth Schaafsma	elizabeth@vodamail.co.za
Louis Scott	scottl.sci@ufs.ac.za
Bridgette Senut	bsenut@mnhn.fr
Chris Sidor	casidor@u.washington.edu
Ann Smilkstein	ann@pastafrica.co.za
Roger Smith	rsmith@iziko.org.za
Christine Steininger	steinic@science.pg.wits.ac.za
Mike Strong	gail@thestrongs.co.za
Mirriam Tawane	tawanem@yahoo.com
Francis Thackeray	francis.thackeray@wits.ac.za
Merrill van der Walt	merrill.vanderwalt@wits.ac.za
Eddie van Dijk	eddie@vandijks.com
Cecilio Vasconcelos	phoenixstarscry@yahoo.co.uk
Marius Vermaak	M.Vermaak@ru.ac.za
Nonhlanhla Vilakazi	nhleiks2002@yahoo.com
Anne Warren	a.warren@latrobe.edu.au
Mike Watkeys	watkeys@geology.und.ac.za
Johann Welman	johann.welman@ul.ac.za
Derik Wolvaardt	wolvaaf@westinghouse.com

Adam Yates	yatesam@gmail.com
Bernhard Zipfel	bernhard.zipfel@wits.ac.za

NEXT DEADLINE FOR CONTRIBUTIONS
FRIDAY, 28th of JUNE 2013

<http://www.palaeontologicalsociety.co.za>