

PALNEWS

BIANNUAL NEWSLETTER OF THE PALAEOONTOLOGICAL SOCIETY OF SOUTHERN AFRICA
(HALFJAARLIKSE NUUSBRIEF VAN DIE PALEONTOLOGIESE VERENIGING VAN SUIDER AFRIKA)



Vol/Band 17 No. 4

July 2010



From the Editor	3		
News from:		From Around the World	12
Albany Museum & Rhodes University	4	Norton Hiller	12
Billy de Klerk	4		
Emese Bordy	6	Scanning fossils, data bases, data access	
Rose Prevec	7	and data sharing by Francis Thackeray	13
Ditsong NMNH, Pretoria	7	Upcoming palaeo conferences	14
Heidi Fourie	7		
		Newsflash: Oldest multicellular life from Gabon	19
National Museum, Bloemfontein	7		
Jennifer Botha-Brink	7	Looking for a job?	22
University of the Witwatersrand	8	PSSA members and friends - email	23
BPI for Palaeontology	8	New addresses	24
Institute for Human Evolution	10		
		Next Deadline for News	24
I ziko SA Museum	11		
Roger Smith	11		

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.

Editor: Rose Prevec, (r.prevec@ru.ac.za) (Tel: 079 523 4302 / Fax: 046 - 622 9715).
Postal address: Geology Department, Rhodes University, P.O. Box 94, Grahamstown 6140.

Front cover: Photograph of *Australopithecus sediba* by Brett Eloff, courtesy of Wits University (thanks to Francis Thackeray!).

EDITORIAL

Dear Friends and Members of the PSSA,

In mid June, Steve and I fled the World Cup excitement, for a six month North American sabbatical experience. Navigating two South African airports two days after the games began was an interesting experience with two toddlers in tow. We made sure to take along a vuvuzela to express our patriotic sentiments (loudly) to our startled North American neighbours. From the little news that reaches us here of SA, it seems that our country did us proud, and with its own special brand of vigour and vibrance!

It has already been an important year for African palaeontology, with the announcement of the *Australopithecus sediba* discoveries making international news, and being heralded as one of the greatest palaeoanthropological discoveries of all time. Congratulations to Lee Burger and his diverse team of collaborators for the fantastic work they are doing. Another amazing African origin that was announced this month was the discovery of fossils from Gabon that appear to represent the earliest multicellular life known, at a staggeringly ancient 2.1 billion years old! This is significantly older than Bob Brain's sponge-like organisms from the Otavi Group in Namibia (650 million years old), which currently represent the oldest known multicellular life forms. See p. 19 for more on this amazing story.

I am sure many of you are looking forward to the PSSA congress in KwaZulu-Natal in Early August. There is a copy of the PSSA'10 programme on p. 14. I am so sad I won't be able to join you! It is my favourite congress, and no doubt the Two Mikes will make it as special as always. I hope you will find time to read this issue beforehand, particularly Francis Thackeray's article on the creation, documentation and sharing of 'virtual fossils' - a concept that is now a reality with improved access to high resolution CT facilities. He raises some important issues he would like to discuss further at the congress.

In the previous issue of Palnews, Johann Neveling wrote an account of the workshop held by the Department of Science and Technology in October last year, with the aim of assessing the status quo of palaeontology in South Africa. There have been a number of encouraging developments since then, with our Deputy Minister of Science and Technology, Derek Hanekom, playing an active and concerned role in the process. Working groups, to be convened by leading palaeontologists and archaeologists, have been assigned the job of generating and assimilating recommendations on six crucial themes, towards the establishment of an African Origins Strategy. These themes and the convenors of the working groups are as follows: (1) Human capital development (Prof. Bruce Rubidge, Wits); (2) Collections, sites and management (Dr Sven Ouzman, University of Pretoria); (3) Public engagement and understanding (Ms Bonita Benet, District Six Museum), (4) Legislative framework (Ms Mary Leslie, SAHRA); (5) Archaeo- and palaeo-tourism (Dr Edwin Hanisch, University of Venda); (6) Research strategy (Prof. Judith Sealey, University of Cape Town).

Dr Ben Smith (Rock Art Research Institute, Wits), and Dr John Neveling (Council for Geoscience, Pretoria) have been assigned the task of collating all the information generated by the working groups, and aim to have a first draft ready by the end of September 2010.

The upcoming PSSA congress presents an ideal forum for discussion of these issues. Please give this some thought and consider how we can make the most of the potential opportunities coming our way, not just at a personal level, but for the future of palaeontological research in southern Africa.

Please note that the PSSA has a new web address: <http://people.ru.ac.za/amwd/pssa/>. A little on the long and complicated side, but Billy de Klerk is working on improving it and making it more visible on the internet. We will keep you posted.

Wishing you all a happy and productive remainder of the year,
Rose

ALBANY MUSEUM & RHODES UNIVERSITY - Grahamstown

Billy de Klerk

As many of you folk know, I was pretty much out of the Palaeo picture in the second half of 2009 as a result of end stage renal failure and having to deal with dialysis in Port Elizabeth three times per week - and generally going through a dark period. Fortunately both my wife Viv and my sister Charlotte came to my rescue with an offer of a donor kidney. With my sister being a better match, we were able to get the many ducks in a row and schedule a transplant at Groote Schuur hospital (Cape Town) in late November. Both surgeries went well and with my new immunosuppressant drug regime, it took me at least five months to fully recover - so I'm now supporting 3 kidneys; one new one and two rotten ones.

Much of this 2010 half year has seen me desk-bound in Grahamstown, mainly teaching my annual palaeontology course to the Rhodes 2nd year students and being involved in SciFest'10. I was also able to attend to some much neglected curation at the Museum. Thankfully I can now say that I'm at a point where I can comfortably do field work again. My colleague, Luvuyo Mayi, Prof Marius Vermaak (RU Philosophy Dept.) and I were able to join Bruce Rubidge and his "international" palaeontology team (see accompanying photo and insert) in the Merweville area of the western Karoo for a spell of therapsid hunting in late February.

In late June, and at short notice, we had a visit from the Deputy Minister of Science and Technology, Mr. Derek Hanekom. It was heartening to see that a man of his government standing and "clout" has a genuine interest in what is happening on the scientific front in museums, and in particular the state of play within the discipline of palaeontology. Hopefully with his insights, connections and drive, we may see some movement in improving the lot of palaeontology in SA Museums in the near future.



The international team of palaeontologists that assembled in the western Karoo in February 2010 to hunt for therapsid fossils. They included (from left) - Dr Saniye Guven (Turkey), Drs Audrey and Ken Angielczyk (Chicago, US), Dr Billy de Klerk and Mr Luvuyo Mayi (Albany Museum, Grahamstown), Dr Fernando Abdala (Argentina; BPI, Wits), Dr Michael Day (Bristol, UK), Prof Bruce Rubidge (BPI, Wits), Mr Sifelani Jirah (Zimbabwe) and Prof Marius Vermaak (Rhodes University, Grahamstown). Taking the picture (insert) was Prof Tom Kemp (Oxford University, UK). Palaeontologists from six different countries - how international is that!

Our Eastern Cape fossil hunting group has been expanded by the inclusion of one Thomas Lord (11) - the son of a David and Lynette Lord who farm some 30km NE of Hofmeyr in the Karoo (*Cynognathus* Biozone). Thomas has over the past 20 months been reporting on his fossil finds and so far I have had two opportunities to visit and evaluate his discoveries (see attached press cutting from the EP Herald newspaper, June 2010).

In early July Prof. Mike Davies-Coleman (RU Chemistry), Luvuyo and I visited Thomas and spent three days excavating his most important fossil to date - a large, rather well preserved *Kannemeyeria* skeleton. Thomas has also found an additional smaller (fragmented) *Kannemeyeria* and numerous cynodont skull fragments which still need to be identified and the sites explored further. Thomas is passionate about fossils and Earth Sciences generally and has already visited the Rhodes University Geology Department where he says he will study further one day. We certainly need to take time to nurture talent and enthusiasm like this at every opportunity.

On the Cretaceous front my collaborative work on a taxonomic revision of the Kirkwood dinosaur *Nqwebasaurus* (Kirky) with Cathy Forster and Jonah Choiniere of "The George Washington University" in Washington DC is nearing completion. So as you can see I certainly have enough to keep me busy for a while..... Till next time - "Billy the Kid(ney)".

The following article appeared in *The Herald*, 12 May 2010 (<http://www.theherald.co.za/article.aspx?id=561592>).

Meet Hofmeyr's boy 'paleontologist'

2010/05/12

Guy Rogers

WHILE a big fuss has been made, quite rightly, about nine-year-old Matthew Berger and his discovery last month of a fossil hominid in the Cradle of Mankind – we have our own young Indiana Jones right here in the Eastern Cape.

Thomas Lord, 12, is a weekly boarder at Cradock Primary School, and he lives on the family farm Alicedale near Hofmeyr. Whenever he gets home for the weekend, he jumps on his quadbike, collects a few of his friends, the farm workers' kids, and goes hunting for fossils.

Word of his keen eye and his all-consuming passion for fossils has spread, and one of South Africa's senior paleontologists, Dr Billy de Klerk of Albany Museum in Grahamstown, has on two occasions visited him to examine his finds.

De Klerk is planning a third trip in July to excavate Thomas's latest and most exciting discovery – a handful of bones of what seems to be a Dicynodont called

Kannemeyeria, a mammal-like reptile, the size of a juvenile hippo, which lived some 235 million years ago (about 10 million years before the dinosaurs).

Only about a dozen good *Kannemeyeria* specimens have been discovered ever, including one by Thomas's grandfather Willoughby, in the same area, and another by Marjorie Courtney-Lattimer of coelacanth fame, near Tarkastad.

Kannemeyeria is also a significant find because it and others members of the Dicynodont (which means "two dog-like teeth") family mark an evolutionary transition point. They existed during the tail-end of the Beaufort Era and were the last of their reptile line, which then gave way to true mammals, with hair and the bearing of live young.



FOSSIL HUNTER ... Thomas Lord, 12, is pictured here next to fossil bones he discovered on his parents' Hofmeyr farm. They are thought to be from a Dicynodont called *Kannemeyeria*, a hippo-like creature which roamed the area 235-million years ago. **Picture: BILLY DE KLERK**

Thomas chatted to The Herald from the school secretary's office after he was called to the telephone. The unassuming youngster said he had "always liked dinosaurs" but his real interest in ancient bones started when he was about five when his Dad gave him a fossil for a present. Further inspiration came when his parents allowed him to turn an outhouse into his own natural history museum – and then he met Dr De Klerk.

While most youngsters from farms have a fair knowledge of wildlife and the environment, not many are interested in bones, he conceded.

"I suppose they think it's stupid. But I think it's cool."

Thomas's father David farms cattle and sheep which always means a sprinkling of livestock bones dotted around the veld. But these are quite different to fossil bones, he explained.

"A fossil is heavy like a rock and it is more brown in colour."

After travelling out to a particular spot on the quad, the young fossil hunters alight and tramp up the dongas where it is most likely that bones will have been exposed by erosion, he explained. They found the *Kannemeyeria* about 3km from the Lord homestead in an area called Vlekpoort, which is also where a much younger fossil, a 36000-year-old hominid skull, was discovered, in 1962. The Hofmeyr Skull is believed to have belonged to one of the earliest human residents of this area.

The *Kannemeyeria* was embedded in the one slope of a gully and there is a possibility some of the bones would have rolled into it. But the hope is that a large part of the skeleton can be retrieved by careful excavation.

Situated in the centre of the Eastern Cape in arid Karoo grassland, Hofmeyr is great fossil country, De Klerk said.

"Thomas clearly has a good eye but, more than that, he is attuned to fossils, able to pick out their texture, colour and shape even against a confusing background of rock."

Collecting fossils is illegal without an SA Heritage Resources' Agency permit so Thomas has been doing so under the aegis of De Klerk. With the help of his mother, the boy then brings his finds in to Grahamstown. He made his last visit during SciFest and also got a chance to examine De Klerk's own collection.

De Klerk said he had known himself by the age of 10 that he wanted to be a paleontologist, and it was wonderful to see the same passion and certainty in Thomas.

Emese Bordy

Emese Bordy recently took a trip to Russia where she participated in the 4th International Workshop on Ichnotaxonomy (21-23 June, 2010, Moscow and 24-26 June, 2010, St. Petersburg). She had the following to say about this fantastic experience.

'My talk, entitled "Are we ready to close the open nomenclature descriptions of large non-marine burrows?", was well received. The workshop and associated field trip were a once in a life-time experience for me and presented the following occasions:



Snapshot of a lively discussion during the post-conference ichnological field trip, near Lake Lagoda, east of St Petersburg, Russia (June 2010): (clockwise) Radek Mikulas (Czech Republic), Emese Bordy (South Africa) and Dirk Knaust (Norway).

- Networking opportunities and exchange of ideas with specialist colleagues from various European countries (Norway, Poland, Czech Republic, Slovakia, Russia, Latvia). Many of them showed keen interest for collaboration on South African study sites (as you know, currently there are very few local ichnological investigations in spite the ichnological wealth of the country);
- Examination of unique trace fossil specimens (under professional guidance) in the collections of the Palaeontological Museum of the Russian Academy of Science (Moscow) and Geological Scientific Research and Exploration Museum (St. Petersburg University);
- Study of the Paleozoic (Cambrian, Ordovician and Devonian) geology and ichnology of St. Petersburg Region during a 2 day field trip;
- Collection of teaching specimens and teaching photos both during the museum visits and the field trip.

I was fully sponsored by Rhodes University (Development Grant Dev02/2010 and the Dean of Science Discretionary Grant SD 5/2010), and I am very grateful for it.

Rose Prevec

The highlight of the year was a visit from Dr Conrad Labandeira (Smithsonian Institution, Washington DC, USA) in May, to work on the large collection of glossopterid-dominated plant fossils from the Late Permian Kwa Yaya locality. A morphotyping system had been developed earlier in the year, and during the course of Conrad's two week visit, over 6000 plant fossil specimens and their associated insect damage were documented. Work on this material will continue in February next year, as part of our ongoing investigation of the diversity patterns of insects and their plant hosts during the Permian.

The southern Karoo Basin is famous for its abundant vertebrate fossils but less so for its megaflores. Earlier this year Sean Linkermann (Rhodes University), under the supervision of Rose Prevec and Emese Bordy, started an exciting new Ph.D. project aimed at expanding the knowledge of Middle to Late Permian floras from the southern main Karoo Basin. The study involves an extensive search for new plant fossil sites in the southern Karoo Basin which will be used to establish the foundations of a new, floral-based biostratigraphic framework for the region. The first few reconnaissance trips have already resulted in two new, good quality Permian plant fossil sites in areas previously thought to be devoid of significant fossil plant material: the Mpofu site near the town of Fort Beaufort and the Dicky's Farm site outside Kei Mouth. Watch this space!

Recent Publication:

Prevec, R., Gastaldo, R.A., Neveling, J., Reid, S.B., and Looy, C.V. 2010. An autochthonous glossopterid flora with Latest Permian palynomorphs from the Dicynodon Assemblage Zone of the southern Karoo Basin, South Africa. *Palaeogeography, Palaeoclimatology, Palaeoecology* 292: 391-408.

DITSONG NATIONAL MUSEUM OF NATURAL HISTORY (formerly Transvaal Museum)

Heidi Fourie

The long anticipated repair and maintenance programme started with loads of challenges and chaos. Departments are not sure yet when they are moving and when we can resume normal business, at present we can still accommodate all our visitors. I did a two week field work trip in May and will be going back in August to wrap-up my report on the palaeontology of the Groot Brak River, eastern Cape. On Sunday I'm off to Uruguay for the International Congress of Vertebrate Morphologists with a short holiday included.

NATIONAL MUSEUM - Bloemfontein

Jennifer Botha-Brink

After a bit of a quiet period during 2009 (at least on the work front), our department is back to full throttle. In January I completed histological analysis of bone inclusions in carnivore coprolites from the Permian *Tropidostoma* Assemblage Zone for Roger Smith of the Iziko South African Museum and we are hoping to put a manuscript together at some point this year. I conducted two field trips earlier this year in February and April. Adam Huttenlocker, from the University of Washington USA, joined us on the first field trip, which was especially fruitful. We returned to a site in the Bethulie District, where we continue to search for more *Lystrosaurus maccaigi* fossils. We recovered several more specimens, as well as a beautiful, almost complete and as yet unidentified gorgonopsian skull with associated postcrania, which is undergoing preparation. We are currently writing up

our findings regarding this interesting site. Once back from the field Adam and I spent a few weeks working in my bone histology laboratory thin sectioning and collecting data for his Ph.D. thesis on therocephalians.

In April, my team and I joined Roger Smith in the field in order to complete our Early Triassic taphonomy project. We found several interesting specimens including two complete skulls and semi-articulated postcrania of the archosauromorph *Prolacerta*.

May and June were spent completing chapters on cynodont and dicynodont bone histology for a book *Anusuya Chinsamy-Turan* is assembling on non-mammalian synapsid bone histology.

The next few months will be spent completing various manuscripts on the bone histology of tetrapods associated with the End-Permian extinction.

In other news, congratulations to **Elize Butler**, our research assistant at the museum, for obtaining her M.Sc. degree with distinction in May.

Recent Publications:

- Modesto, S. P., D. M. Scott, J. Botha-Brink and R. R. Reisz. 2010. A new and unusual procolophonid parareptile from the Lower Triassic Katberg Formation of South Africa. *Journal of Vertebrate Paleontology*.
- Modesto, S. P. and J. Botha-Brink. 2010. A burrow cast with *Lystrosaurus* skeletal remains from the lowermost Triassic of South Africa. *Palaio* 25: 274-281.
- Modesto, S. P. and J. Botha-Brink. 2010. The Buena Vista and Sanga do Cabral formations of eastern South America: a sequential correlation with the Lower Triassic Katberg Formation of South Africa based on the tetrapod faunas. *Journal of African Earth Sciences* 57: 242-248.
- Botha-Brink, J. and S. P. Modesto. 2009. Anatomy and relationships of the Middle Permian varanopid *Heleosaurus scholtzi* based on a social aggregation from the Karoo Basin of South Africa. *Journal of Vertebrate Paleontology*. 29(2): 389-400.
- Botha-Brink, J. and F. Abdala. 2008. A new cynodont record from the *Tropidostoma* Assemblage Zone of the Beaufort Group: implications for the early diversity of cynodonts in South Africa. *Palaeontologia Africana* 43: 1-6.

UNIVERSITY OF THE WITWATERSRAND

-Johannesburg

Bernard Price Institute for Palaeontology (BPI)

The past six months have been hugely exciting for the BPI and IHE as our new building (**The Palaeosciences Centre**) takes shape. Building operations will come to an end in about six weeks time. While the anticipation of new facilities is wonderful, on the other hand the staff of the two institutes have been admirably understanding and patient as they have had to continue working with builders underfoot ever since October. We have all had to play musical chairs moving in and out of offices and stores as builders renovate around us.

We now have wonderful new preparation, storage and research facilities with lots of space for visitors, so we look forward to welcoming all of you. Under the supervisory eye of **Bernard Zipfel**, **Cynthia Kemp** and her team have almost completed moving the entire Karoo vertebrate collection to its final storage space, and Karoo palaeontologists will be pleased to know that we have tried to minimise boxes to make material easily accessible to researchers! This exercise has been most worthwhile as specimens which have been missing for many years have been rediscovered at last! The palaeobotany herbarium has also moved to much upgraded new premises on the lowermost floor of the building. In addition to the BPI specimens the entire SANBI collection of John and Heidi Anderson has been moved from Pretoria and is now installed in the herbarium.

On the outreach front **Ian McKay** and **Vuyiswa Ngesman** have admirably continued their schools programme despite all the dust and hammering, and ran a very successful holiday programme for learners over the extended World Cup vacation period, much to the relief of many parents who had run out of ideas to keep their children busy.

On the research front all of the staff of the BPI have been very active on many fronts. Marion Bamford has been away for much of the year on various overseas research trips and at the moment is doing fieldwork in East Africa. She also finds the time to supervise Amr Metwally who is working on the Holocene section of a new core from the impact crater Tswaing (Gauteng) for high resolution reconstruction of vegetation and climate changes. Lucinda Backwell, who has moulded her sabbatical leave around teaching commitments, has been extremely active on the research front and is currently away in Botswana doing fieldwork.

In the field of palynology Frank Neumann is currently working on a Holocene core from Braamhoek (KwaZulu-Natal) and Neogene profiles from Langebaanweg (Western Cape). He is also contributing to a pollen taphonomy working group which investigates seasonal variability in modern and fossil hyena scats. Furthering the scatological theme, he is looking for pollen and other biological inclusions in Early Triassic coprolites from Driefontein (eastern Free State) together with Adam Yates and John Hancox. Research on the Holocene palynology of the Cape Flats, Lake Eteza (KZN) and the pollen morphology of the Neuradaceae was finished in 2010 and papers are either published, in press or currently under review. A book chapter and an article about the Holocene palynology of the Dead Sea region was published in 2010, research in Israel in the frame of an ERC funded international working group is ongoing.

Fernando Abdala has been counting the number of species and specimens of cynodonts from Gondwana and recently published a study on changes in diversity of non-mammaliaform cynodonts from Gondwana (in collaboration with Ana Maria Ribeiro from Porto Alegre). He is currently working with Jennifer Botha-Brink and Anusuya Chinsamy on a book chapter on the palaeobiology and diversity of Permo-Jurassic Gondwanan cynodonts. He is also working with Jun Liu from Beijing, on the taxonomy and phylogeny of traversodontid cynodonts for a book chapter resulting from

the 69th Symposium of the Society of Vertebrate Paleontology, held last year in Bristol. On the therocephalian side he is entering the world of geometric morphometrics, working with Tea Jashasvili from the IHE in a study of the taxonomy of Bauriidae, and he is planning a second contribution oriented more towards the functional skull morphology of these forms. He is also making some progress in collaborative efforts with Adam Huttenlocker and Christian Kammerer from the States. On the extant mammal side, a new contribution to our series of studies on postweaning cranial ontogeny in living marsupials (with colleagues David Flores and Norberto Giannini from Argentina) was published this year.

Adam Yates took a well-deserved break from dinosaurs to begin a research program into the evolution of marine mollusc faunas of southern Australia. He spent nearly three months of sabbatical leave in his homeland of Australia and has returned with a rich haul of data. The first paper from this work has already been accepted. Hopefully the future will see this work extended to South Africa. A number of cool-water South African mollusc clades find their sister group in Australia. When the jump across the Indian Ocean was made, and in what direction, remain unanswered questions that need to be addressed. In the meantime he has continued his collaboration with Drs Matt Bonnan and Johann Neveling on the unique dinosaur fauna of Heelbo in the Senekal district. Two new papers on this fauna have been submitted and a third is close behind. When these are published, South Africa will have two new dinosaurs to add to its growing list. Lastly the moving of the collections presented a chance to examine all of the old dinosaur collections that were difficult to see in the past as they were stuffed away in heavy lidded boxes. This resulted in the (re)discovery of a monstrous early sauropod with dimensions that rival Late Jurassic sauropods like *Camarasaurus* and *Apatosaurus*.

Bruce Rubidge has had to juggle tasks between teaching, research and sorting out logistical aspects relating to building

operations, architect plans, the inevitable multitude of building problems, as well as moving and storage of collections. He and several staff and students undertook a worthwhile field trip to the *Tapinocephalus* Zone earlier in the year, and he has just returned from a 10 day trip around the basin to introduce PhD student **Mike Day** to the exciting prospects this biozone has to offer. Mike is undertaking the daunting task of trying to come to grips with tetrapod biodiversity changes through the Middle Permian, and is about to begin his own field programme in the lower Beaufort.

Sifelani Jirah is doing a litho- and biostratigraphic study of the *Tapinocephalus* Zone in the area around Merweville for his MSc. He has already completed stratigraphic sections through the entire Abrahamskraal Formation and has mapped the area south of Merweville in an effort to lithostratigraphically subdivide the Formation.

Saniye Guven is making good progress with her PhD project on a reassessment of the taxonomy of tapinocephalid dinocephalians under the supervision of Fernando and Bruce. She has diligently undertaken additional preparation of much of the good material in South African collections and it seems she will be able to reduce the number of recognised tapinocephalid genera.

Rob Gess is getting on well with his PhD study of the fish from his productive Grahamstown locality and will be submitting soon.

Valerie Nxumalo is in the final stages of her MSc dissertation on the sedimentology and stratigraphy of Karoo basins of Botswana under the combined supervision of Bruce, Johann Neveling and Gill Drennan.

The Department of Science and Technology (DST) and National Research Foundation (NRF) have been very busy putting together a revised **African Origins Platform**, and have involved several PSSA members to assist in the process. The results of this long process will be presented to the PSSA at the conference in Howick. Hopefully this will be the beginning of an exciting new era for palaeosciences in Africa.

Institute for Human Evolution (IHE)

Francis Thackeray (Director)

A highlight of 2010 has been the announcement by **Lee Berger** and his colleagues of a new species of hominid, *Australopithecus sediba*, from the site of Malapa in the Cradle of Humankind. Two skeletons of this new species were described in Science in April. A second paper in the same journal was published by **Paul Dirks** and staff of the IHE (including **Job Kibii**, **Kris Carlson** and **Brian Kuhn**) as well as Honorary Research fellows of the IHE (including **Darryl de Ruiter**, **Steven Churchill** and **Peter Schmidt**), dealing with geology, chronology and fauna. The announcement was made formally on April 8 at Maropeng at a press conference attended by the Deputy President, the Minister and Deputy Minister of Science and Technology, and many other dignitaries. Immediately after the formal announcement, there was widespread coverage, locally and internationally, in newspapers, television, radio and the internet. A great deal of discussion has been stimulated, confirming the importance and significance of the new discovery, but not all are in agreement with the view that the fossils from the site of Malapa constitute a new species in the genus *Australopithecus*. Some prefer to assign it to the genus *Homo*. Berger et al (2010) advocate that the species is best placed in *Australopithecus* and recognize it as a taxon with *Homo*-like features. (I am happy because for many years I have emphasized that there is no clear boundary between *Australopithecus* and *Homo*).

Lee Berger and **Kris Carlson** have been collaborating with **Paul Tafforeau** in Grenoble in France where the synchrotron was used to study the new hominid fossils representing *Australopithecus sediba*.

Discussions continue with Prof Jean-Jacques Hublin of the Max-Planck Institute, in relation to plans for further collaboration using micro-CT facilities. Prof Hublin has expressed a willingness to bring an expensive micro-CT facility to study hominid fossils

curated by Wits and the Transvaal Museum (now called the Ditsong National Museum of Natural History).

Ron Clarke has made good progress with the excavation of the "Little Foot" skeleton of *Australopithecus* from Sterkfontein. He has been working with Lauren Bruxelles on stratigraphy and chronology. The skeleton has been surface-scanned (using laser technology) by a French team.

Brian Kuhn and I have obtained a SAHRA permit to continue work at Taung.

Fieldwork at Bolts Farm continues, including work on fossils from Way Point 160 (the oldest site in the Cradle of Humankind) in association with collaborators from France (Dominique Gommery, Frank Senegas, and Sandrine Prat) and from the Transvaal Museum (Lazarus Kgasi and Stephany Potze).

Jose Braga and I continue the analysis of fossils from Kromdraai.

Together with an American colleague, Zach Cofran, I undertook a morphometric study of 'robust' australopithecines from Kromdraai and Swartkrans. The results were presented at the American Association for Physical Anthropology. With Sandrine Prat, I compared the type specimens of *Paranthropus robustus* and *P. boisei*. The results of both of these studies have been published in the South African Journal of Science.

Christopher Henshilwood and his team have made extraordinary discoveries at Blombos cave, from deposits extending back 100,000 years. **Marlize Lombard** and **Lyn Wadley** continue excellent work on archaeological material from Sibudu. Marlize has left Wits to join the University of Johannesburg, but remains associated with the IHE as an Honorary Research Fellow.

I established a small group of international researchers to co-ordinate research on prehistoric human footprints from various sites in Africa. In December 2009, the first African Footprint Programme (AFP) meeting was held at the Iziko South African Museum in Cape Town where human footprints from Langebaan were laser-scanned using a surface scanner. Footprints from the site of

Nahoon near East London were also scanned. Both localities are dated at about 120,000 years before present, penecontemporary with human footprints from a new site in Tanzania, currently being investigated by **Cindy Liutkus** of Appalachian State University USA. Cindy is a member of the AFP programme. The intention is to make comparisons between human footprints that represent penecontemporary populations of "anatomically modern" *Homo sapiens* from different parts of Africa. Plans are underway to study 35 human footprints from Late Quaternary exposures within the Namib dunes inland of Walvis Bay in Namibia.

It has been a challenge to serve as the Director of the Institute for Human Evolution, but it has been exceptionally stimulating. It's good to think that the IHE is at the cutting edge of palaeoanthropology. I am grateful to everyone who has contributed to the productivity, growth and good-will in the Institute.

Eddie Odes returns to academia, after many years, to pursue his passion for palaeoanthropology. He has been studying archaeology and osteology, and next year Francis Thackeray will take him on as a student.

IZIKO SA MUSEUM - Cape Town

African Dinosaurs open at last!

African Dinosaurs is a new permanent exhibition that opened in Iziko South African Museum on 29 May, after 4 years in the making. As its title suggests, it showcases dinosaurs and their reptilian ancestors that lived in Africa from 225 until 65 million years ago. Highlights are undoubtedly the giant mounted casts of *Suchomimus* and *Jobaria* from North Africa, as well as skull casts of *Sarchosuchus*, the largest crocodile ever, and arguably the largest land carnivore that ever lived - *Charcarodontosaurus*.

Equally impressive are the South African dinosaur fossils that have been brought to life with dioramas featuring life-sized *fleshed up reconstructions of Massospondylus, Nquebasaurus, Heterodontosaurus, Syntarsus* and a pair of early mammals sculpted in super realistic detail doing everyday things like laying eggs, digging for termites, and stalking prey.

A refreshingly open-plan layout with purpose-built cases to highlight the genuine South African dinosaur fossils, original wall-sized artwork and exquisitely detailed life sized-models in natural settings are linked together with easy reading script panels to make African Dinosaurs a very enjoyable and informative museum experience.



Massospondylus overseeing the birth of her hatchlings- a full sized diorama based on the Elliot egg site in the Golden Gate National Park

The project was first proposed by Prof. Anusuya Chinsamy-Turan in back in 2003 who made a successful application to the Lottery Board. Anusuya left the museum for UCT soon after the application was made and it was up to Roger Smith, Derek Ohland and Colin Payne to make it happen along with a brilliant team of local artists, sculptors as well as our in-house taxidermy and workshop staff who put it all together. - Roger Smith



Skeletal mounts of *Jobaria* and *Suchomimus* behind with Tobie Beele's original artwork.

NEWS FROM AROUND THE WORLD

Norton Hiller (Canterbury Museum, Christchurch, NZ)

Kia ora! I don't have much to report for the last six months as much of my time has been spent writing and revising. Additional strange new brachiopods have been recovered from a Late Cretaceous oyster reef so I am encouraged to go back into the field to look for more specimens once the weather improves. Perhaps, the most exciting recent finds were made by an amateur enthusiast whom I encourage and help with identifications. He has turned up two partial skulls: the first is of a phocid seal, only the second from New Zealand I believe, and being Miocene in age, is older than any previous discoveries. The second skull, with associated post-cranial bones, belongs to an archaeocete. We are busy preparing these at present and hope to be in a position to present accounts of them at next April's CAVEPS meeting. Actually, that meeting will be held in Perth, Western Australia so is a convenient hop across the Indian Ocean for you chaps in SA. I hope to see some of you there.

SCANNING FOSSILS, DATA BASES, DATA ACCESS AND DATA SHARING

Francis Thackeray

Director, Institute for Human Evolution, University of the Witwatersrand.

Within the past two decades, scanning techniques have improved dramatically, facilitating the study of the internal anatomy of a diversity of fossils. In the early 1990's, fossils from Wits and from the Transvaal Museum were scanned using Computed Tomography (CT) with a low resolution of about 2 millimetres. Initially, South African hominid fossils were scanned by Francis Thackeray, Fred Spoor, Glen Conroy, Fred Grine and Gerhard Weber, at hospitals in Johannesburg and Pretoria. Scientists were given access to fossils in accordance with agreements with the curators responsible for the collections.

Since the early 1990's, the resolution for scanning has improved greatly, with the use of micro-CT and synchrotrons. Opportunities for micro-CT scanning were made available temporarily through the use of a facility at the CSIR which was operational in Pretoria until about 2000. The CSIR "industrial scanner" was used to study vertebrae of Sts 14, a partial skeleton of *Australopithecus africanus* (Anthony Kirkbride, Simon Yates and Francis Thackeray, 1997, South African Journal of Science 93, 178), and certain hominid teeth (Francis Thackeray and Ugo Ripamonti). Since then, micro-CT scanning was done on many small objects (including teeth and vertebrae) using a portable micro-CT scanner that was brought from the Max Planck Institute in Leipzig by Prof Jean-Jacques Hublin and Matt Skinner. Agreements were signed by representatives of Wits (Mike Raath) and the CEO of the Northern Flagship Institution (for the Transvaal Museum) in 2006. In terms of those agreements, the museum and Wits agreed to provide access to fossils, and in return both institutions were to receive "an archival copy of computed tomographic (CT) data". Publications included articles by Jean-Jacques Hublin, Matt

Skinner, Francis Thackeray and others. The Max Planck Institute has indeed provided archival copies of the data, in accordance with the agreements signed in 2006.

Jean-Jacques Hublin is intending to visit South Africa again with another (much larger) portable micro-CT scanner. This will facilitate the scanning of crania. An advantage is that the scanner would be brought to the institutions where the fossils are curated.

In addition, research staff of the Institute for Human Evolution at Wits (including Lee Berger and Kris Carlson) have been using the synchrotron in Grenoble in France, and the micro-CT scanning facility at Deb-tech (De Beers) in Johannesburg, to study South African hominid crania. The disadvantage is that fossils are exposed to the risk of being transported to the scanning facilities, either locally or overseas.

Following recent discussions, it was felt that the time had come to raise the issues of scanning, access and databases at the PSSA BGM at the conference in August.

It should be mentioned that a meeting about "Databases, data access and data sharing" was held in New York at the American Museum of Natural History in April 2007, with Eric Delson and others, with financial support from the Wenner Gren Foundation. Francis Thackeray was part of that meeting and serves on an international committee as one of two African representatives (in addition to Frederick Kyalo Manthi of the Kenyan National Museums). In advance of the PSSA BGM meeting in August, it is recommended that PSSA members read the article published in *Evolutionary Anthropology* 16: 161-163, Delson et al (2007). The article is accessible on the following website: <http://paleoanthportal.org/Files/report.pdf>. There were positive concluding points at the meeting in New York (see page 163 of the article in *Evolutionary Biology*).

At the meeting in New York in 2007, Francis Thackeray recommended the establishment of an International Data Base (with the acronym INDABA). It is recommended that this proposal

be discussed at the PSSA in August 2010, with reference to the need to do what is best in the interests of research and the long-term conservation of the fossils, bearing in mind that micro-CT scans and synchrotron scans provide "virtual fossils".

I welcome the opportunity for positive discussion at the PSSA conference in August this year...

- Francis Thackeray



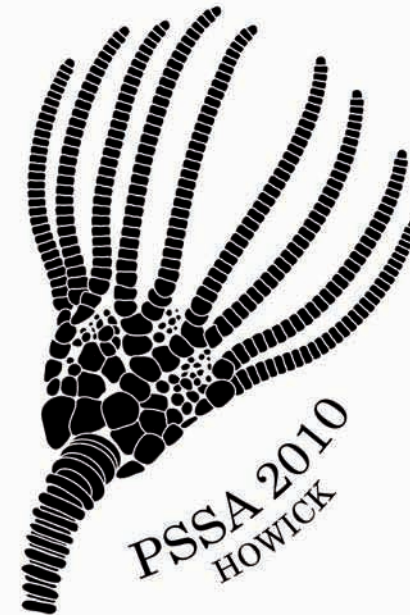
Australopithecus sediba skull, recently scanned (to great effect) by Lee Burger and colleagues at the high resolution synchrotron in Grenoble in France. The 20-odd micron slices resulted in a fantastic tomographic image of the skull, and revealed amazing new details such as the presence of necrophagous insects preserved in association -Ed.

(Photo provided by Brett Eloff, courtesy of Wits University).

UPCOMING CONFERENCES



The 16th Conference of the
Palaeontological Society
of Southern Africa,
Howick, August 5–8, 2010



CONFERENCE PROGRAMME

Thursday 5 August 2010

16:00–18:00 REGISTRATION
18:00–20:00 ICE-BREAKER FUNCTION

Friday 6 August 2010

08:00–08:45 LATE REGISTRATION		
08:50–09:00	Mostovski, M. Watkeys, M.	Opening
NEOPROTEROZOIC & PALAEOZOIC (Chair: M. Watkeys)		
09:00–09:30	Brain, C.K.	Continuing investigations of sponge-like microfossils from Neoproterozoic limestones in Namibia
09:30–09:45	Gess, R.W.	Relative abundance or variable preservational potential? A Late Devonian study
09:45–10:00	Nxumalo, V.	Lithofacies, ichnofacies and facies associations of the Karoo Supergroup in the Gembok Sub-basin of Botswana and Namibia
10:00–10:15	Schneider, J.W.	<i>Arthropleura</i> , <i>Meganeura</i> and Co. – gigantism related to Cope's rule or atmospheric oxygen?
10:15–10:30	Barbolini, N.	Initial report on the palynology of an Early Permian coal seam in Karoo deposits of Botswana
10:30–10:45	Botha-Brink, J.	Bone histology of carnivore coprolites from the Upper Permian South African Karoo basin
10:45–11:00	Van Dijk, D.E.	Further Permian insect fossils from Bulwer, KwaZulu-Natal
11:00–11:30 TEA BREAK		
PALAEOZOIC: SEDIMENTOLOGY, STRATIGRAPHY & PALAEOLOGY (Chair: J. Neveling)		
11:30–11:45	Jirah, S.	Sedimentological, palaeontological & stratigraphic analysis of the Abrahamskraal Formation (Beaufort Group) in an area south of Merweville, South Africa
11:45–12:00	Rubidge, B.S.	The first radiometric dates for the Beaufort Group, Karoo Supergroup of South Africa
12:00–12:15	Van de Walt, M.	Utilising GIS technology for refining Beaufort biozonation
12:15–12:30	Groenewald, G.H.	Palaeontology and construction – A case study at the Ingula Pumped Storage Scheme – Eskom Holdings (Pty) Ltd
12:30–12:45	Groenewald, G.H.	Geology and palaeontology of the Ingula Pumped Storage scheme – Eskom Holdings (Pty) Ltd
12:45–13:00		Discussion
13:00–14:00 LUNCH		
NON-MARINE LATE PALAEOZOIC (Chair: B. Rubidge)		
14:00–14:30	Schneider, J.W.	Biota of playa environments – Permian and modern compared
14:30–14:45	Day, M.	Middle Permian continental biodiversity changes as reflected in the Beaufort Group of South Africa: An initial review of the <i>Tapinocephalus</i> and <i>Pristerognathus</i> assemblage zones
14:45–15:00	Güven, S.	Taxonomic reassessment of the dinocephalian family Tapinocephalidae
15:00–15:15	Jasinoski, S.	Cranial suture morphology and its implications for skull function in therapsids
15:15–15:30	Norton, L.A.	Study of tapinocephalid dinocephalian dentition using synchrotron microtomography
15:30–15:45	Huttenlocker, A.K.	Preliminary report on the bone microstructure and paleobiology of the Perno-Triassic therocephalian <i>Moschorhinus</i> (Therapsida: Eutheriodontia) from South Africa
15:45–16:00	Kurkin, A.A.	New locality with dinocephalian fauna in the European Russia
16:00–18:00 CHAMPAIGN FUNCTION & LAUNCH: <i>Scatterlings of Africa, PAST's 20/20 Vision*</i>		
18:30 DINNER		

*Sponsored by the Palaeontological Scientific Trust (PAST) & Mr Mike Nayler

Saturday 7 August 2010

08:00–10:00 DST WORKSHOP <i>Policy Review: African Origins Strategy</i>		
10:00–10:30 TEA BREAK		
NON-MARINE PALAEOZOIC & EARLY MESOZOIC (Chair: M. Mostovski)		
10:30–11:00	Schneider, J.W.	Insects and tetrapod tracks from the Late Palaeozoic and Early Mesozoic of Morocco, North Africa, as a gateway between Laurasia and Gondwana
11:00–11:15	Bordy, E.M.	Recent sedimentological and palaeontological discoveries in the Lower to Mid-Triassic Tarkastad Subgroup (Beaufort Group, Karoo Supergroup), Transkei, Eastern Cape, South Africa
11:15–11:30	Krummeck, W.	Large burrows of uncertain origin in the Triassic Katberg and Burgersdorp formations, south-eastern main Karoo Basin, South Africa
11:30–11:45	Hancox, J.	Life in an Early Triassic lake: New developments from the Driefontein site, Burgersdorp Formation (<i>Cynognathus</i> Assemblage Zone), South Africa
11:45–12:00	Neveling, J.	Sedimentology of the Early Jurassic, Spionkop fossil locality in the northeastern Free State (Karoo Basin, South Africa)
12:00–12:15	De Klerk, W.J.	The status of the ornithomimid dinosaur <i>Hererodontosaurus tucki</i> in the light of new discoveries from southern exposures of the upper Elliot Formation in the Dordrecht area of the Eastern Cape, South Africa
12:15–12:30		Discussion
12:30–13:30 LUNCH		
LEGISLATION, EDUCATION AND PALAEOLOGY (Chair: W. de Klerk)		
13:30–13:45	Galimberti, M.	Palaeontology and legislation: the current situation and the way forward
13:45–14:00	Rossouw, C.	An overview of Amafa/Heritage aKwaZulu-Natal's objectives in managing palaeontological and geological sites in KwaZulu-Natal
14:00–14:15	Zipfel, B.	Fantastic fossil facilities at the Wits Palaeocentre – upgrading of research and storage areas
14:15–14:30	McKay, I.	Kitching Fossil Exploration Center (KFEC): an experiment in South African palaeotourism
14:30–14:45	Durand, J.F.	The understanding and acceptance of evolution by first year students at the University of Johannesburg
14:45–15:00	Van Dijk, D.E.	Palaeontology for Hands as well as Eyes
MESOZOIC (Chair: E. Bordy)		
15:00–15:15	Kemp, T.S.	On the limits of cladism in palaeobiology, or why we should be looking more carefully at 'characters'
15:15–15:30	Schneider, J.W.	Triassic/Jurassic beetles from Antarctica and their environment
15:30–15:45	Mostovski, M.B.	The Upper Cretaceous Mzamba Formation at Trafalgar, KwaZulu-Natal: A proposed heritage site
15:45–16:00	Brothers, D.J.	Upper Cretaceous (Turonian) Hymenoptera (Insecta) from Orapa, Botswana: an updated review
16:00–16:30 TEA BREAK		
16:30–18:00 POSTER SESSION (Please refer to the list of posters below)		
18:30 BRAAI		

Sunday 8 August 2010

CAINOZOIC PALAEOBOTANY AND INVERTEBRATE PALAEOONTOLOGY (Chair: T. Kemp)		
09:00–09:15	Yates, A.M.	The enigmatic “ <i>Gaskoinia</i> ” <i>bullaeformis</i> Tate, an African cowrie (Gastropoda: Cypraeoidea) in Australia?
09:15–09:30	Bamford, M.K.	Early Miocene floras from Rusinga and Mfwangano Islands, Lake Victoria, Kenya
09:30–09:45	Chikumbirike, J.	Archaeological and palaeoecological implications of charcoal assemblages from the Holocene from Great Zimbabwe and the immediate environment
09:45–10:00	Metwally, A.	Palynological analysis of the Holocene section of a new core from Tswaing Crater, South Africa
10:00–10:15	Neumann, F.H.	A Holocene sequence of vegetation change at Lake Eteza, coastal KwaZulu-Natal, South Africa
10:15–10:30	Discussion	
10:30–11:00 TEA BREAK		
PALAEOANTHROPOLOGY AND ACTUOPALAEOONTOLOGY (Chair: F. Thackeray)		
11:00–11:15	Zipfel, B.	The ‘second australopithecine species hypothesis’ in Sterkfontein Member 4: the post-cranial evidence
11:15–11:30	Nalla, Sh.	The hominin first rib
11:30–11:45	Tawane, M.G.	Dental size and frequency of anomalies in the teeth of a small-bodied population of mid-late Holocene Micronesians, Palau Micronesia
11:45–12:00	Caruana, M.V.	Social learning strategies underlying Early Pleistocene bone tool use
12:00–12:15	Parkinson, A.H.	The effects of termites on mammal and bird bone
12:15–13:30 LUNCH		
LATE CAINOZOIC (Chair: P. Lewis)		
13:30–13:45	Backwell, L.R.	Report on excavations at Wonderkrater, a late Pleistocene spring and peat mound site in the Limpopo Province, South Africa
13:45–14:00	Vilakazi, N.	The identification of fossil herpetological remains from selected Plio-Pleistocene aged fossil bearing sites in South Africa
14:00–14:15	Val, A.	Bat remains from the Plio-Pleistocene site of Malapa (Gauteng, South Africa)
14:15–14:30	Govender, R.	Evidence of shark and cetacean interaction at Langebaanweg, West Coast of South Africa
14:30–14:45	Taru, Ph.	Taxonomic identification of fossil hairs in <i>Parahyaena brunnea</i> coprolites from Middle Pleistocene deposits at Gladysvale Cave, South Africa
14:45–15:00	Collins, K.	Morphological examination of an articulated carnivore ankle using virtual preparation and disarticulation of the specimen
15:00–15:15	Baker, S.E.	A detailed analysis of fossil fauna from Taung, North West Province
15:15–15:30	Cohen, B.	The small mammal assemblage of Cooper’s Cave, South Africa
15:30–15:45	Carlson, K.J.	Virtual preparation of fossilized eggshell from Taung and analysis of surface curvatures
15:45–16:00 TEA BREAK		
16:00–18:00 Awards, PSSA Biennial General Meeting, and Closure		
18:30 CONFERENCE DINNER		

POSTERS

- Browning, C.* – A preliminary study of Quaternary fossil dune snails of the West Coast: Implications for climate change
- Butler, E. & Botha-Brink, J.* – The biology of the South African non-mammalian cynodont *Galesaurus planiceps*
- Galimberti, M.* – Investigating the use of oxygen isotopes in *Turbo sarmaticus* and *Donax serra* for marine palaeoenvironment reconstruction during the Middle Stone Age in South Africa
- Houghton, K.* – Morphometric comparisons between crania of late Pleistocene *Homo sapiens* from Border Cave (BC 1), Tuinplaas (TP 1) and those of modern southern African populations
- Kennedy, A.M., Bhullar, B.-A.S., Lewis, P.J. & Thies, M.L.* – A preliminary analysis of a Plio-Pleistocene herpetofauna from Botswana: A conservative apomorphy-based identification
- Linkermann, S.A., Borden, E. & Prevec, R.* – New macrofloral assemblages from the Middle to Upper Permian of the southern main Karoo Basin, South Africa
- Mokhanya, S.* – Towards establishing a workable strategy for management of palaeontological resources in KwaZulu-Natal Province: Embracing a broad management
- Ortiz, D., Lewis, P.J., Kennedy, A.M., Bhullar, B.-A.S. & Hancox, J.* – Preliminary analysis of lungfish (Dipnoi) tooth plates from Driefontein, South Africa
- Ovechkina, M.N., Green, A.N., Uken, R. & Mostovski, M.B.* – Quantitative changes of calcareous nannoflora from the Holocene off the eastern coast of South Africa
- Roberts, D.* – Palaeotemperature and vegetation reconstruction of Neogene deposits near Cape Town using biogeochemical and palynological tools
- Thackeray, F.* – Genetic and morphometric analysis of Neandertals and *Homo sapiens*
- Thackeray, J.F. & Odes, E.J.* – Cranial comparisons between Sts 5 (Mrs Ples) and other African Plio-Pleistocene hominids: the lack of a clear boundary between *Australopithecus* and *Homo*
- Thies, M.L., Aguilar, M. & Lewis, P.J.* – A morphometric comparison of *Aethomys chrysophilus* and *Micaelamys namaquensis* from northwestern Botswana
- Viglietti, P.* – Origin, sedimentology and taphonomy of an Early Triassic *Lystrosaurus* bonebed, Katberg Formation, Karoo Basin, South Africa
- Yates, A.M.* – A multidisciplinary study of a rich assemblage of coprolites from the Lower Triassic of Driefontein, Free State, South Africa
- Yates, C.* – Unmasking the teeth and skull of *Australopithecus sediba*

13th Conference on Australasian Vertebrate Evolution Palaeontology and Systematics

Perth Cultural Centre
Perth 2011

Wednesday 27th April - Saturday 30th April

1st Circular

Jointly Hosted by Curtin University, Western Australian Museum, Murdoch University and University of Western Australia

You are invited to attend the 13th CAVEPS, a biennial meeting of vertebrate palaeontologists from Australia and around the world.

CAVEPS is a multidisciplinary conference that covers morphology, phylogeny, taphonomy, taxonomy, palaeoecology and palaeoenvironment with respect to vertebrate evolution and we encourage attendance from a wide range of disciplines. In addition to the general sessions within the four days we plan a number of symposia including:

1. Tomography and palaeontology. New techniques in the investigation of old fossils
2. Extinction events throughout the history of Australia
3. Ancient DNA, molecules and isotopes. Rare preservation in the fossil record.
4. Vertebrate Functional morphology
5. Preparatory and museum techniques.
6. Whale symposium

The conference will be held in the heart of the Perth Cultural Centre in the well-equipped State Library Lecture Theatre, which is adjacent to the Western Australian Museum. There are many accommodation options close to the conference venue, from backpackers to 5 star hotels and further information will be provided in future circulars. The venue is within the CBD and has therefore has the advantage of having a huge variety of restaurants, bars and entertainment options right on your doorstep. There will be a welcome function and conference dinner. Post conference field trips will include the famous Margaret River wine area in the south as well as mammal sites and for the early vertebrate workers a tour including the Ningaloo Reef is proposed as well as Devonian reefs and Cretaceous sites.

Please register your interest by returning the following details to k.trinajstic@curtin.edu.au
We are aiming to keep costs as low as possible.

Title:
Name:
Affiliation:
Postal address:
Email address:
Please indicate if you are a student: Yes /No

Please indicate your intention below (Tick the correct box):

CAVEPS 2011 attendance

- ☐ Attending
- ☐ May Attend
- ☐ Unlikely to attend but send further circulars
- ☐ Not interested - Remove my name from the mailing list

Post -Conference Excursion attendance

Carnarvon Basin (Devonian and Cretaceous Marine Vertebrates)

- ☐ Attending
- ☐ May Attend
- ☐ Unlikely to attend

Margaret River (Mammals)

- ☐ Attending
- ☐ May Attend
- ☐ Unlikely to attend

CAVEPS 2011 Presentations

Please indicate the general topic of the presentation (e.g. fish taxonomy, mammalian function morphology...)

General Session - Oral paper - Topic: _____

Poster - Topic: _____

LANGEBAAWEG 2010: Reminder to register and submit abstracts

Changing Landscapes and Biotas of the Cape West Coast:
Mio-Pliocene to Recent

Monday 15 - Wednesday 17 November 2010
Breakwater Lodge, V&A Waterfront, Cape Town

We would like to invite you to register for the Langebaanweg 2010 Conference. The conference forms part of the African Origins Platform/West Coast Fossil Park project - see <http://www.fossilpark.org.za/pages/r-conferences.html>

We have an exciting line-up of guest speakers which includes;

Kay Behrensmeyer Biological and taphonomic processes leading to mass concentrations of land vertebrates in the fossil record

Thure Cerling The expansion of C3 and C4 grasslands: palaeontological evidence

Richard Cowling Palaeobotany and the evolution of West Coast ecosystems

Richard Klein Mammalian Indications for West Coast Environments, Early Pleistocene through Holocene

Curtis Marean Pinnacle Point in context: The Cape Floral kingdom, shellfish, and modern human origins

Philip Rightmire Elandsfontein and hominin evolution in the mid-Pleistocene of southern Africa

Dave Roberts Regional and global context of the southern African west coast

Several researchers and postgraduate students have been working on the geology, floras and faunas of Langebaanweg since 2006, and this meeting will provide a forum for them to present and compare results. The focus of the Langebaanweg 2010 conference will be extended to embrace other west coast fossil sites as an increasing amount of work has been done in the past 5 years on fossil sites which are geographically, if not temporally, close to Langebaanweg.

The Conference will take place at the Breakwater Lodge, V&A Waterfront from Monday 15 to Wednesday 17 November 2010.

To register please contact Jolandi Ackermann at email:

jolandi.ackermann@uct.ac.za, or register online:

http://www.uct-cmc.co.za/Conferences/conf-main.asp?Conf_ID=131&Page=Home

Please contact Thalassa Matthews at tmattthews@iziko.org.za

if you have any further questions.

We look forward to seeing you in November 2010.

With best wishes,

Langebaanweg 2010 Organizing Committee

Langebaanweg 2010

15-17 November

Changing Landscapes and Biotas of the Cape West Coast

2nd Circular and Call for Abstracts

To see the first circular for Langebaanweg 2010 go to <http://www.fossilpark.org.za/pages/r-conferences.html>

Dear Colleagues

CONFERENCE VENUE: After some searching and deliberation the venue selected for the Langebaanweg 2010 conference is the Breakwater Lodge, situated within the Waterfront in Cape Town. You may visit the V & A Waterfront webpage to find out more about the area at: <http://www.waterfront.co.za/Pages/Welcome.aspx>. This venue has the advantage of being easy to get to with shops, banks, restaurants, theatres, travel agents etc. all within walking distance of the conference accommodation. Further information about the conference venue is available on <http://www.breakwaterlodge.co.za/>. Unfortunately we are unable to provide transport to the conference venue. The following information on shuttle services available from the airport may be useful;

AIRPORT TRANSFERS & TOURS: For information, or to book an airport transfer contact Robin Troup, Mpumalanga Experience - wildsafari@worldonline.co.za - Tel +27 82 657 3443 or visit www.wildlifesafari.co.za for online bookings. **Cost:** From R200 per person - single transfer

TAXIS IN CAPE TOWN

Unicab - 0822 250 250

Elite Taxi - 0861 635 483

Cab Express - +27 21 448 1616

Rikki Taxi - 0861 745 547 (These are the cheapest option and would be good for getting to and from the conference venue if you were staying outside the Waterfront. They charge less if more people are going to the same destination, so it would be a good option to join up with other delegates and split the fare).

ACCOMMODATION: We are asking delegates to book their own accommodation. If you do not wish to stay at the Breakwater Lodge where the conference is taking place you will be able to choose something suitable from a list of accommodation which covers a wide price range, and from which it is relatively easy to access the Waterfront. We will also include some accommodation which is close to the Iziko South African Museum for those of you who are planning to do research before, or after, the conference.

STUDENT SUPPORT: Students please note that you may apply to PAST for funding to attend the conference. In order to apply you will need to send in an application letter, a CV, a budget, and a letter of support from your supervisor/lecturer. If you require more information please email: pastoffice@fusionreactor.za.net or past@fusionreactor.za.net.

POST-CONFERENCE FIELD TRIP: We will have a post-conference field trip which will encompass visits to several interesting west coast palaeontological, geological and archaeological sites. The itinerary is still to be finalized, but the trip will start fairly early on the morning of the 18 November and finish at the conference venue in the early evening.

CONFERENCE ABSTRACTS: Please remember we need the conference abstracts for both oral and poster presentations SUBMITTED BY THE 31ST JULY 2010. Guidelines for the abstracts may be found in the attached word document ('abstract guidelines').

PUBLICATION OF CONFERENCE PROCEEDINGS: In addition to the abstracts volume which will be given to delegates at the conference, we would like to publish short articles on research presented at the conference in a themed volume of the *South African Journal of Science*, and with this in view are requesting that delegates submit papers to the editors of the journal by 31st December, 2010. View sajs.co.za/sajs_author.html for author information.

CONTACT Thalassa Matthews at tmattthews@iziko.org.za for more information or to be added to the conference email distribution list.

We look forward to seeing you in November 2010.

With best wishes,

The Langebaanweg 2010 Organizing Committee

NEWSFLASH!

Thanks to Billy De Klerk for bringing the following amazing report to our attention. As he says, this is possibly one of the most important discoveries of the century... If you haven't read about it already, take a look at the July issue of Nature or see the following link: <http://www.sciencedaily.com/releases/2010/06/100630171711.htm>

Paris, 30 June 2010

Discovery of a complex, multicellular life from over two billion years ago

The discovery in Gabon of more than 250 fossils in an excellent state of conservation has provided proof, for the first time, of the existence of multicellular organisms 2.1 billion years ago. This finding represents a major breakthrough: until now, the first complex life forms (made up of several cells) dated from around 600 million years ago. These new fossils, of various shapes and sizes, imply that the origin of organized life is a lot older than is generally admitted, thus challenging current knowledge on the beginning of life. These specimens were discovered and studied by an international (1) multidisciplinary team of researchers coordinated by Abderrazak El Albani of the Laboratoire "Hydrogéologie, Argiles, Sols et Altérations" (CNRS/Université de Poitiers) (2). Their work, due to be published in Nature on 1st July, will feature on the cover of the journal.

The first traces of life appeared in the form of prokaryotic organisms, in other words organisms without a nucleus, around three and a half billion years ago. Another major event in the history of life, the "Cambrian explosion" some 600 million years ago, marked a proliferation in the number of living species. It was accompanied by a sudden rise in oxygen concentration in the atmosphere. What happened between 3.5 billion and 600 million years ago though? Scientists have very little information about this era, known as the Proterozoic. Yet, it is during this crucial period that life diversified: to the prokaryotes were added the eukaryotes, single or multicelled organisms endowed with a more complex organization and metabolism. These large-sized living beings differ from prokaryotes by the presence of cells possessing a nucleus containing DNA.

While studying the paleo-environment of a fossil-bearing site situated near Franceville in Gabon in 2008, El Albani and his team unexpectedly discov-

ered perfectly preserved fossil remains in the 2.1 billion-year-old sediments. They have collected more than 250 fossils to date, of which one hundred or so have been studied in detail. Their morphology cannot be explained by purely chemical or physical mechanisms. These specimens, which have various shapes and can reach 10 to 12 centimeters, are too big and too complex to be single-celled prokaryotes or eukaryotes. This establishes that different life forms co-existed at the start of the Proterozoic, as the specimens are well and truly fossilized living material! To demonstrate this, the researchers employed cutting-edge techniques that allowed them to define the nature of the samples and to reconstruct their environment. An ion probe capable of measuring the content of sulfur isotopes made it possible to map the relative distribution of organic matter precisely. This matter is what remains of the living organism, which has been transformed into pyrite (a mineral formed of iron disulfide) during fossilization. This helped the researchers to distinguish the fossils from the Gabonese sediment (made of clay). In addition, using an ultra-sophisticated, high-resolution 3D scanner (also known as X-ray microtomograph), they were able to reconstitute the samples in three dimensions and, in particular, assess their degree of internal organization in great detail, without compromising the integrity of the fossils, since the method is non-invasive. The clearly defined and regular shape of these fossils points to a degree of multicellular organization. These organisms lived in colonies: more than 40 specimens per half square meter were sometimes collected. Consequently, they constitute the oldest multicellular eukaryotes ever described to date.

By studying the sedimentary structures of this site, which is remarkable both for its richness and quality of conservation, the scientists have shown that these organisms lived in a shallow marine environment (20 to 30 meters), often calm but periodically subjected to the combined influence of tides, waves and storms. In order to be able to develop 2.1 billion years ago and become differentiated to a degree never attained previously, the authors suggest that these life forms probably benefited from the significant but temporary increase in oxygen concentration in the atmosphere, which occurred between 2.45 and 2 billion years ago. Then, 1.9 billion years ago, the level of oxygen in the atmosphere fell suddenly.

Until now, it has been assumed that organized multicellular life appeared around 0.6 billion years ago and that before then the Earth was mainly populated by microbes (viruses, bacteria, parasites, etc.). This new discovery

moves the cursor of the origin of multicellular life back by 1.5 billion years and reveals that cells had begun to cooperate with each other to form more complex and larger structures than single-celled organisms. Several research avenues now need to be explored: understanding the history of the Gabonese basin and why the necessary conditions were gathered to enable this organized and complex life to exist; further exploring the site to enhance the collection of fossils; but also comparing the history of the Earth's oxygenation with the mineralization of clays. The most urgent task, however, remains the protection of this exceptional site.

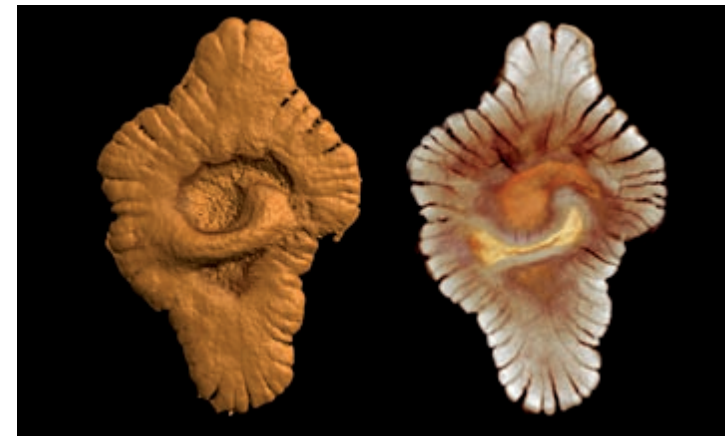


© CNRS Photo Library / Kaksonen

Complex and organized multicellular macrofossil found in Gabon.

Notes:

(1) Made up of around twenty researchers from sixteen different institutions.
 (2) With the participation, in France, of the following institutions: the Centre de Microtomographie de l'Université de Poitiers, the Unité "Histoire Naturelle de l'Homme Préhistorique" (CNRS/MNHN), the company "Etudes Recherches Matériaux" of the CRI Biopole de Poitiers, the Unité "Géosciences Rennes" (CNRS/Université de Rennes), BRGM (French Geological Survey), the Laboratoire d'Hydrologie et de Géochimie de Strasbourg (CNRS/Université de Strasbourg), the Centre de Recherche sur la Paléobiodiversité et les Paléoenvironnements (CNRS/MNHN/UPMC) and the Laboratoire Géosystèmes (CNRS/Université Lille 1/Université d'Amiens).



© CNRS Photo Library / A. El Albani & A. Mazurier

Virtual reconstruction (by microtomography) of the external morphology (on the left) and internal morphology (on the right) of a fossil specimen from the Gabonese site.

References:

Large colonial organisms with coordinated growth in oxygenated environments 2.1 Gyr. El Albani A., Bengtson S., Canfield D.E., Bekker A., Macchiarelli R., Mazurier A., Hammarlund E., Boulvais P., Dupuy J.-J., Fontaine C., Fürsich F.T., Gauthier-Lafaye F., Janvier P., Javaux E., Ossa Ossa F., Pierson-Wickmann A.-C., Riboulleau A., Sardini P., Vachard D., Whitehouse M. & Meunier A. Nature. 1st July 2010.



Thanks to **Ludwig Döhne** for bringing these beautiful 3D dino stamps (complete with viewing glasses) to our attention. They can be purchased from your local SA post office (even in little Grahamstown...).

LOOKING FOR A JOB?

Some helpful person sent these job-seekers links for inclusion in Palnews. I just can't remember who it was, and I can't find the original email - apologies and thanks, whoever you are! -Ed.

(As with other blue highlighted text in Palnews, just click on the link and if you are connected to the web, you should be taken directly to the site. If there is a problem with the direct link, try typing the address into your browser - sometimes these hyperlinks can be a bit twitchy!).

Try these links:

- <http://www.priweb.org/ed/lol/careers.html>
- <http://www.paleoportal.org/>
- <http://www.paleosoc.org>

Best Bets:

- Society of Vertebrate Paleontology Employment & Funding Opportunities: <http://www.vertpaleo.org/membership/jobs.cfm>
- Geotimes Classifieds: <http://www.agiweb.org/geotimes/ads.html#CareerOpportunities>
- Geological Society of America Classified Ads: <http://www.geosociety.org/classiads/>
- PaleoNet Jobs Page: http://www.nhm.ac.uk/hosted_sites/paleonet/Position_Listings.html

Federal and State Job Searches:

- America's Job Bank: <http://www.jobsearch.org/>
- federal employment: <https://www.avuecentral.com/casting/aiportal/control/mainmenu>
- US Geological Survey: <http://www.usgs.gov/ohr/>
- US Environmental Protection Agency: <http://www.epa.gov/careers/>
- USA Jobs: <http://www.usajobs.opm.gov/>

Other listings (mostly Geology/Biology, with the occasional Paleontology listing):

- Association for Women Geoscientists Job Web: <http://www.awg.org/eas/jobweb.html>
- Geological Association of Canada: <http://www.gac.ca/outreach/jobs.php>
- Earthworks-Jobs.com: <http://www.earthworks-jobs.com/>
- Nature Jobs: <http://www.nature.com/naturejobs/index.html>
- New Scientist Jobs: <http://www.newscientistjobs.com/jobs/default.aspx>
- National Science Foundation Career Opportunities: http://www.nsf.gov/about/career_opps/
- EcoEmploy.com: <http://www.ecoemploy.com/jobs/>
- GeoWeb Jobs: <http://www.ggrweb.com/job.html>
- Environmental Careers Organization: <http://www.eco.org/>

Internships/ Fellowships:

- GeoCorps America: <http://www.geosociety.org/geocorps/>
- GSA Congressional Science Fellowship: <http://www.geosociety.org/profdev/>
- Smithsonian Institution Fellowship & Internship Programs: <http://www.si.edu/ofg/>
- National Science Foundation Research Experiences for Undergraduates : http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&from=fund

Advice:

- The Paleontology Portal Career Paths: <http://www.paleoportal.org/>
- MSN Careers: <http://careers.msn.com/>
- Science Careers.org Career Advice: <http://sciencecareers.sciencemag.org/>

PSSA MEMBERS AND FRIENDS - EMAIL

Abdala, Fernando
 Allinson, Matt
 Almond, John
 Anderson, John
 Anderson Holmes, Heidi
 Angielczyk, Ken
 Avery, Graham
 Backwell, Lucinda
 Bamford, Marion
 Battail, Bernard
 Bender, Patrick
 Berger, Lee
 Blackbeard, Marc
 Bordy, Emese
 Botha-Brink, Jennifer
 Boyd, Glen
 BPI secretary
 Braga, Jose
 Brain, Bob
 Brink, James
 Browning, Claire
 Butler, Elize
 Chinsamy, Anusuya
 Cisneros, Juan
 Coates, Michael
 Codron, Daryl
 Cowley, R.
 Cruickshank, Arthur
 Damiani, Ross
 de Klerk, Billy
 de Klerk, Bonita
 de Kock, Ellen
 Döhne, Ludwig
 Durand, Francois
 Fourie, Heidi
 Franz-Odendaal, T.
 Gess, Rob
 Gommery, Dominique
 Govender, Romala
 Grine, Fred

Nestor.Abdala@wits.ac.za
 mattallinson@hotmail.com
 naturaviva@universe.co.za
 Anderson@sanbi.org
 hkhomes55@bigpond.com
 kangelczyk@fieldmuseum.org
 gavery@iziko.org.za
 lucinda.backwell@wits.ac.za
 marion.bamford@wits.ac.za
 bbattail@mnhn.fr
 pkabender@yahoo.com
 lee.berger@wits.ac.za
 blackbeard.m@gmail.com
 e.bordy@ru.ac.za
 jbotha@nasmus.co.za
 glen@karkloof.co.za
 bpipal@geosciences.wits.ac.za
 braga@cict.fr
 brainnew@iafrica.com
 jbrink@nasmus.co.za
 browning.claire@gmail.com
 elizeb@nasmus.co.za
 achinsam@botzoo.uct.ac.za
 cisneros.jc@gmail.com
 mcoates@uchicago.edu
 Codron@ukzn.ac.za
 ronc@mineval.co.za
 plesiocruick@yahoo.co.uk
 rossano1973@googlemail.com
 B.deKlerk@ru.ac.za
 bonita.deklerk@students.wits.ac.za
 ellen@nfi.museum
 doehne@global.co.za
 fd@rau.ac.za
 hfourie@nfi.museum
 1tfraznod@dal.ca
 robg@imaginet.co.za
 dominique.gommery@evolhum.cnrs.fr
 romala@discoverymail.co.za
 fgrine@notes.cc.sunysb.edu

Groenewald, Gideon
 Haarhoff, Pippa
 Hancox, John
 Hiller, Norton
 Hopson, Jim
 Huttenlocker, Adam
 Jasinoski, Sandra
 Jinnah, Zubair
 Johnson, Mike
 Kammerer, Christian
 Kemp, Tom
 King, Gillian
 Klinger, Herbert
 Leenen, Andrea
 Lehmann, Thomas
 Leslie, Mary
 Linkermann, Sean
 Long, John
 Loock, Johan
 Loots, Marius
 Maguire, Judy
 Mason, Tom
 Matthews, Thalassa
 McCrae, Ceri
 McKay, Ian
 McKee, Jeff
 McLachlan, Ian
 Meyer, Lynn c/o
 Mocke, Helke
 Modesto, Sean
 Mostovski, Mike
 Mothupi, Tebogo
 Neveling, Johann
 Nicolas, Merrill
 Odes, Eddie
 Oelofsen, Burger
 Ovechkina, Maria
 Pereira, Lucille
 Pether, John
 Pickering, Robyn

gideon@bhm.dorea.co.za
 pippah@iafrica.com
 jhancox@cciconline.com
 nhiller@cantmus.govt.nz
 jhopson@midway.uchicago.edu
 huttenla@u.washington.edu
 sandra_jas@hotmail.com
 jinnahz@science.pg.wits.ac.za
 mjohnson@geoscience.org.za
 jonkeria@gmail.com
 tom.kemp@oum.ox.ac.uk
 gillianmking@virginmedia.com
 hklinger@iziko.org.za
 past@fusionreactor.za.net
 Thomas.Lehmann@senckenberg.de
 mleslie@sahra.org.za
 seanlinkermann@hotmail.com
 jlong@museum.vic.gov.au
 loockjc.sci@ufs.ac.za
 mloots@medic.up.ac.za
 questar@icon.co.za
 trm@star.arm.ac.uk
 tmatthews@iziko.org.za
 rudget@mweb.co.za
 ian.mckay@wits.ac.za
 mckee.95@osu.edu
 mclachlai@petroleumagency.com
 hfourie@nfi.museum
 helke.mock@gmail.com
 Sean_Modesto@uccb.ca
 mmostovski@nmsa.org.za
 tebogomothupi@yahoo.co.uk
 jneveling@geoscience.org.za
 NicolasM@science.pg.wits.ac.za
 eddieodes@gmail.com
 boelofsen@mweb.com.na
 movechkina@mail.ru
 lucille.pereira@students.wits.ac.za
 jpether@iafrica.com
 robynpickering79@gmail.com

Pickford, Martin c/o
 Potze, Stephany
 Prat, S.
 Prevec, Rose
 Raath, Mike
 Renaut, Ray
 Roberts, Eric
 Rossouw, Gideon
 Rossouw, Lloyd
 Rubidge, Bruce
 Rust, Izak
 Schaafsma, Elizabeth
 Scott, Louis
 Senegas, Frank
 Senut, Brigitte
 Shone, Russell
 Sidor, Chris
 Smith, Roger
 Steininger, Christine
 Stynder, Deano
 Tawane, Mirriam
 Thackeray, Francis
 van den Heever, Juri
 van der Merwe, Mauritz
 van Dijk, Eddie
 Vasconcelos, Cecelio
 Venter, Peter
 Vermaak, Marius
 Vilakazi, Nonhlanhla
 Warren, Anne
 Welman, J.
 Yates, Adam
 Zipfel, Bernard

bsenut@mnhn.fr
 potze@nfi.museum
 sandrineprat@hotmail.com
 r.prevec@ru.ac.za
 mickraath@gmail.com
 sunflowers@ananzi.co.za
 haulbag@hotmail.com
 gideon.rossouw@nmmu.ac.za
 lloyd@nasmus.co.za
 bruce.rubidge@wits.ac.za
 icrust@iafrica.com
 elizabeth@vodamail.co.za
 scottl.sci@ufs.ac.za
 frank.senegas@evolhum.cnrs.fr
 bsenut@mnhn.fr
 russell.shone@nmmu.ac.za
 casidor@u.washington.edu
 rsmith@iziko.org.za
 info.humanorigins@gmail.com
 dstynder@iziko.org.za
 tawanem@yahoo.com
 francis.thackeray@wits.ac.za
 javdh@maties.sun.ac.za
 mauritzvdm@border.co.za
 eddie@vandijks.com
 phoenixstarscry@yahoo.co.uk
 peter@towergroup.co.za
 m.vermaak@ru.ac.za
 nhleiks2002@yahoo.com
 a.warren@latrobe.edu.au
 jwelman@medunsa.ac.za
 yatesam@gmail.com
 Bernard.Zipfel@wits.ac.za



**"You sure it not Triceratops?
 It have three horns."**

NEXT DEADLINE FOR CONTRIBUTIONS:

FRIDAY 21 JANUARY 2011

New Email Addresses:

Gilllian King: gillianmking@virginmedia.com
 Rose Prevec: r.prevec@ru.ac.za
 Mauritz van der Merwe: mauritzvdm@border.co.za