

PALNEWS

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Front cover: Photograph provided by Lucinda Backwell - Lucinda chats with Bella Namxwa (interpreter) while Gary Trower plays a mouth-violin at Bere Village in Botswana..

EDITORIAL

Dear Friends and Members of the PSSA,

I hope that the year has started well for you! This issue went from positively miserable on deadline-day to respectably hefty following my remonstrations to the membership - thank you for your wonderful response. Particular thanks go to Francis Thackeray who contributed a sizeable chunk of this issue.

I'm sure I'm not alone in looking forward to the PSSA congress in Cape Town later in the year. Please take note of the most recent circular (p. 23), and visit the conference webpage: <http://pssa.cmc-uct.co.za/> for more information. The deadline for abstract submission is 01 April 2012 (this choice of date could lead to some interesting submissions!). A reminder from Anusuya that you must book accommodation soon, as there will be a big Chemical Engineering Conference running back to back with the PSSA.

Sad news for our society was the passing of founder member Arthur Cruickshank on 04 December 2011. On behalf of the society I extend our condolences to his wife Enid, and their three children and grandchildren. Thank you to Enid for keeping us informed, and to Bruce Rubidge, Mike Raath and John Hancox for the obituary on p. 24. Arthur's UK-based colleague, Mike Taylor, has submitted another obituary that will appear in the next issue of *Palaeontologia africana*. Arthur will be sorely missed, particularly at our biennial meetings, of which he and Enid were regular attendees.

Graham Avery, stalwart of Iziko Museum, retired in January, but far from being the end of an era, he plans to continue his research unencumbered by day-to-day bureaucracy.

Congratulations to Bob Brain on his upcoming publication in the South African Journal of Science acknowledging in full his discovery in Namibia of the earliest animal life in the world, recording their evolution at least 100 million years earlier

than previously recognised. Bob's quiet humility and intrepid perseverance with this study, in the face of much initial opposition, is an inspiration. To make great contributions to science in two such disparate fields as palaeoanthropology and invertebrate palaeontology is a feat indeed!

How amazing that Africa, the least explored, least studied continent, emerges again as the cradle of life - the home of the earliest animal life on record. Imagine what is still out there. I just hope that our government and funding organisations will ensure the continuation of a vigorous palaeontological community - an investment that will see local palaeontologists, with long-term commitment, curating and studying our fossil heritage.

When I was in Toronto last year, my family and I visited the Royal Ontario Museum. How exciting to see our Golden Gate dinosaur eggs (or a replica thereof?) on display. A pity to see no mention of the South Africans who assisted with and facilitated this project, although Prof. Kitching (who discovered the first of the eggs) was briefly featured in the accompanying materials. Additional work on the nesting site, in collaboration with Adam Yates, was featured in January in PNAS (see BPI news, p. 6). Sadly for South Africa, Adam and his family relocated to Australia in November of last year - best of luck to Adam in his new post, and I hope he will continue his productive association with SA palaeontology.

Nice to see the botanists making a media splash too, with Marion Bamford a contributor on a Science paper presenting the earliest evidence of the use of bedding and medicinal plants by humans, at Sibudu cave (p. 7).

On a final note, this is my penultimate issue of Palnews in the capacity of Editor. I think after six years it is probably time to make way for a new editor with a fresh perspective! Please give some thought as to who you would like to nominate as successor at the PSSA congress later in the year.

Best wishes
Rose

ALBANY MUSEUM & RHODES UNIVERSITY GRAHAMSTOWN

Billy de Klerk - Jan. 2012

Not much to report this time around.... During the second half of 2011 I was mostly sedentary being based in the Museum and attending to East Cape bureaucracy (ahhhh!) and occasionally getting some time to continue with research and curation. A highlight for me (and my good wife Vivian) was a three week trip to the USA visiting Washington DC and then touring through, Virginia, North Carolina, South Carolina and Georgia before returning home via Williamsburg and Washington. While in Washington I was able to hook up with Cathy Forster and review our work on the Kirkwood ornithopod paper which is nearing completion. I also had the good fortune spend a day at the Smithsonian (NMNH) with Doug Erwin. Some years ago, while doing field work in the southern Karoo with Bruce Rubidge and Doug, I indicated to him that I had a life-long dream of pouring over the Burgess shale fossils that Charles Walcott had collected in the early part of the 20th century. Doug was happy to spend a few hours with me in the "vaults" of the NMNH in Washington studying these magnificent middle Cambrian (505 Ma) invertebrate fossils - thanks Doug!

While in Atlanta I was able to visit the Fairbank Museum which has the most splendid skeletons of two dinosaur giants of the Mesozoic displayed in their massive central "foyer area" - the sauropod *Argentinosaurus* and the theropod *Giganotosaurus*. One really gets a kick out of being able to see these two magnificent (cast) skeletons in full 3D from all angles. The museum doesn't have much on the research front but provides the most incredible display and educational offerings, particularly for children. Folk in the US are "obsessed" with dinosaurs and one often sees strange models of the beasts used for advertising purposes.



After having pored over the Burgess Shale fossils with Doug Erwin, Billy seen holding a life-size model of *Anomalocaris* - the large predator of the Burgess Shale biota. What a rush!



Entrance to the Fairbank Museum with bronze statues of a small family group of Cretaceous-aged hadrosaurs called *Lophorhothon*.



Giant casts of *Argentinosaurus* and *Giganotosaurus*, at the Fairbank Museum, Atlanta.

Good news I received while on my trip to the US was that my letter/s of motivation to the NRF to renew the contract posts for my three the preparators for an additional year (till end Feb 2013) was approved. What a relief for **Mr Armstrong Khoso**, **Ms Khokela Camagu** and **Mr Lindikhaya Sandi** - they have done a great job this past year in attending to the backlog of fossil preparation and curation that had built up over the years in our department.

My intention is to take retirement at 60 at the end of 2012. So I'm looking forward to doing more woodwork and also continuing with my palaeo work on a regular basis.

Till next time.....
Cheers, Billy



Cowboy riding a fierce-looking theropod and girl on a sauropod in the small town of Natural Bridge, Virginia.

**BERNARD PRICE INSTITUTE FOR
PALAEONTOLOGY (BPI) &
INSTITUTE FOR HUMAN EVOLUTION (IHE)
WITS UNIVERSITY, JOHANNESBURG**

2011 was a year of adapting to the newly revamped building that houses the BPI and IHE, and for Bernhard it meant having to sort through the collections which had been hurriedly placed on shelves following the move.

Wits University has embarked on a process to create six large multidisciplinary research Institutes, and the good news is that Palaeosciences is one of these. The immediate implications are that the BPI and IHE will amalgamated into one large Institute. Since 2009 the BPI and IHE have been accommodated together in one building and have been sharing technical areas - a symbiotic synergy which has had many positive spin-offs for both teaching and research. A consultant has been diligently putting together a business plan for the new institute and this process is now reaching completion.

One of the recent highlights has been the acquisition of a micro-CT scanner which was installed at the Palaeosciences Centre on the last day of January. This has been the culmination of a long process of fundraising, finding the correct accommodation, and strengthening the building to house this 7 ton machine. For all these time consuming logistical arrangements we are very indebted to **Kris Carlson** who has also set up the virtual image processing laboratory with 8 workstations and shortly a new 3-D printer will be installed as well. Several people will undergo training on the CT scanner over the next few weeks and then the facility will be operational. For more information please contact Kris Carlson.

Research

Sadly for us, **Adam Yates** accepted a museum curator position at the Museum in Alice Springs in Australia, with the result

that Adam and Celeste left Johannesburg in November last year. We miss them very much, but wish them well with their exciting new prospect. The recent publication on the Golden Gate eggs which was released on 24 January (Reisz, R. R., Evans, D. C., Roberts, E. M., Sues, H.-D. & Yates, A. M. 2012. Oldest known dinosaurian nesting site and reproductive biology of the Early Jurassic sauropodomorph *Massospondylus*. PNAS online before print. DOI 10.1073/pnas.1109385109) has generated much interest on the radio, TV and printed media over the past week. Apart from his ongoing work on the dinosaur fauna of the "Stormberg", Adam has also been researching marine molluscs from Australia and published a paper in Palaeontology. While in Australia Adam will continue to collaborate with the BPI on dinosaur projects and we look forward to his visits in the future.

On the therapsid front **Fernando Abdala** continues his work on cynodonts and more recently therocephalians as well. He has recently (in collaboration with Tea Jashashvili, Bruce Rubidge and Juri van den Heever) had a manuscript on the taxonomy of the Bauriidae accepted for the special volume, Early Evolutionary History of the Synapsida. In the same volume, he and Liu Jun have a collaborative paper on the taxonomy and phylogeny of traversodontid cynodonts. More recently Fernando has moved on to research on dinocephalians as well, and in January the publication of a paper, "A carnivorous dinocephalian from the Middle Permian of Brazil and tetrapod dispersal in Pangaea, Proceedings of the National Academy of Sciences by Cisneros, J.C., Abdala, F., Atayman, S., Rubidge, B.S., Şengör, C. & Schultz, C.L", generated a great deal of media interest. Two additional projects have resulted in manuscripts which are close to submission: a detailed description of complex multicusped teeth from the Subzone A of the *Cynognathus* Assemblage Zone (with Leandro Gaetano, Helke Mocke and John Hancox) and a survey on dental variability and replacement in the Lower Triassic cynodont *Thrinaxodon* (in collaboration with

Sandra Jasinowski and Vincent Fernandez). Currently Fernando, in collaboration with Virginia Abdala, Susanna Kummell and Marisa Fabrezzi, is busy with an extensive project on the homology and evolution of the hand in synapsids.

Bruce Rubidge continues his research on basal therapsids and, together with Ken Angielczyk, has a paper in press describing the Tap Zone dicynodont *Eosimops*. He is about to leave on his annual field trip to the lower Beaufort, this time to the Sutherland area, together with Fernando Abdala, Mike Day, Sifelani Jirah, Charlton Dube as well as Liu Jun from China and Juan Cisneros from Brazil. It is hoped that Billy de Klerk and Rose Prevec will be joining the BPI crew. The purpose of this trip is to collect fossils from the contact interval between the *Tapinocephalus* and *Pristerognathus* Assemblage to better understand biodiversity changes in the Middle Permian. On the biodiversity front, the PhD thesis of **Mike Day** is progressing well and he is able to determine certain trends in the stratigraphic ranges of individual genera, which will facilitate biostratigraphic subdivision of the lowermost Beaufort. **Sifelani Jirah** has made good progress with his MSc project which he intends completing this year. The upcoming field trip will also provide him with the opportunity to pay a last visit to his field area in the southern Karoo. **Saniye Guven** and **Frank Neumann**, who were married early last year, are now living in Germany and in December their baby daughter was born. Despite additional maternal pressures, Saniye is working hard to complete her PhD on the taxonomy of tapinocephalid dinocephalians. To try and catch up on his research backlog following the additional administrative burden relating to the building alterations at the BPI, Bruce took a six month sabbatical from February to August 2011. In this time he was able to write up several manuscripts relating to the Triassic Beaufort in collaboration with John Hancox. These will shortly be submitted for publication.

Vincent Fernandez joined the BPI in January 2011 as a postdoctoral fellow working with Bruce Rubidge and Kris

Carlson. He is a specialist in virtual image processing and he has been very helpful and co-operative in getting staff of the BPI to become interested in using the new Image processing facility. Vincent is involved in a number of different projects mainly to do with synchrotron of a variety of fossil eggs and also fossil burrows from the Karoo. Some of these burrows have delivered very interesting results and will be reported on in a later issue of Pal News.

Marion Bamford continues with her very active research programme on a number of fronts. In December last year the publication of a collaborative paper describing the oldest evidence of the use of bedding and medicinal plants by humans (Wadley, L., Sievers, C., Bamford, M., Miller, C., Goldberg, P., & Berna, F., 2011. Middle Stone Age bedding construction and settlement patterns at Sibudu, South Africa. *Science* 334, 1388-1391) generated great media interest. During 2011 Marion spent June till August undertaking fieldwork in East Africa where she is involved in several different multidisciplinary collaborative projects. In June she participated in the annual visit to Mugie Ranch and Koobi Fora, Kenya, for the field school with Brian Richmond. In July she joined the team for research on the Early Miocene Rusinga Island and discovered a new fossil plant locality in the Wayondo beds. From July to August she again joined the OLAPP team for fieldwork at Olduvai Gorge. Marion's research programme in East Africa has resulted in several new postgraduate students from Africa who are working at the BPI under her supervision. **Natasha Barbolini** completed her MSc, and has already begun on her PhD on the palynology of the Karoo Supergroup. She has been collecting samples from the entire stratigraphic range of the Karoo, and has been remarkably successful so far in isolating different pollen samples. At long last we may soon have a workable palynostratigraphic subdivision for the Karoo.

Lucinda Backwell and Francesco d'Errico (CNRS, University of Bordeaux) were awarded a SA/France joint

research grant for a project titled "Visions of the past: Kalahari Bushman material culture read by community elders". Their aim is to make a video documentary and book archive of modern Bushman elders describing in their own words, and demonstrating the use of a century-old collection of traditional Bushman artefacts housed at Museum Africa in Johannesburg. Each item is carefully labelled, but even so, some pieces are curious, e.g. "chopsticks" labelled dancing sticks. In December they travelled with Gary Trower (National Museum, Bloemfontein) to Botswana to invite the elders, who welcomed the idea, and agreed to go to Johannesburg in July 2012 to collaborate on the project (see Palnews cover). This research developed out of a study they are conducting of well-preserved organic remains from Border Cave in KwaZulu-Natal. The reanalysis and new dating of artefacts found at the site is revealing that Bushmen technology is much older than expected. Hunter-gatherers inhabiting this cave 40,000 years ago made implements and ornaments similar to those produced by modern Bushmen living a traditional lifestyle. In December Lucinda worked in Bordeaux with Francesco on a manuscript on the Border cave artefacts, and wrote the introduction to the book. Happily, Brent Stirton, a National Geographic photographer, has agreed to take photographs for the book *bonsela!* which means free of charge. **Nonhlanhla Vilakazi** (PhD candidate, BPI) dreamt that Lucinda was heavily pregnant. When asked what that meant she replied that pregnancy is a good thing, it means that all of your dreams will come true. She was right. A manuscript co-authored with Francesco d'Errico and Lyn Wadley (IHE, Wits Archaeology), titled "Identifying regional traditions in Middle Stone Age bone technology. The case of Sibudu Cave" was accepted for publication in the *Journal of Archaeological Science*. The paper describes a collection of bone tools dated 65-61 ka, including wedges, *pièces esquillées*, pressure flakers, smoothers and sequentially notched pieces, previously known only from the Upper Palaeolithic and more

recent periods. Also accepted was a chapter on "Palaeolithic bone tools" in the *Encyclopedia of Global Archaeology*. A paper describing "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) is under review, and a book chapter "Early hominin social learning strategies underlying the use and production of bone and stone tools" in *Tool Use in Animals: Cognition and Ecology*, and first authored by Matt Caruana (PhD candidate, Wits Archaeology), is in press.

Despite having had a very busy year sorting out the collections and tracing specimens following the big move, **Bernhard Zipfel** has had a remarkably productive research programme as well. He has been involved in research on the foot of *Australopithecus sediba* and in collaboration with several people, published a paper on the ankle of *A. sediba* in *Science*. In addition Bernhard has several other collaborative projects on feet of fossil hominids, based on fossil material in the Wits collections.

Outreach

The BPI outreach programme is managed by **Ian McKay** and **Vuyiswa Ngesman** with the assistance of postgraduate students. Through the marketing efforts of Ian and Vuiswe visitor numbers increased to 25283 in 2011 compared to 3843 in 2010 (the year of building alterations) and 6984 visitors in 2009. This programme has evolved since its inception in 2001 and experience has shown that palaeontology is an excellent way of attracting learners into science and technology related careers. It has become apparent that teachers lack training in geology and palaeontology. The problem that most teachers experience is not a lack of awareness, most of them have heard of South Africa's exciting fossil finds such as Mrs Ples or Karabo, however, they lack the conceptual framework to properly understand palaeontology, evolution, fossils and

the time dimension, and to convey this information to their learners. In addition, although most teachers may have access to computers, they lack the basic training and the time to make sense of the abundant on-line resources. Information available on Twitter and Facebook may raise awareness and "preach to the converted" but does little to fill in the huge gaps in most teachers' and learners' knowledge.

The BPI Outreach programme therefore fills a vital niche, by providing teachers and learners with the opportunity to examine a wide variety of fossils, to learn at first hand by speaking to a preparator how fossils are removed from the rocks, and receive accurate, logically sequenced, curriculum-related information in an interactive lecture format. Other venues in Gauteng, such as the Science Centre, or Maropeng serve to stimulate interest in palaeontology, but do not offer the in-depth curriculum-based information required by teachers and learners.

The BPI programme includes a wide variety of offerings that fit with the curriculum and language requirements of learners of all ages and backgrounds:

1. Very young learners (Grade R and Grade 1) draw, model with play dough, and sing about fossils and dinosaurs.
2. Grade 2 to Grade 12 learners can choose from a variety of worksheets and crossword puzzles which they answer while touring the museum and preparation facilities.
3. A "palaeontology kit" with activities for 7 to 12 year olds. The kit enables learners to work in small groups with hands-on experience of real fossils, and variety of educational puzzles and activities.
4. Interactive lectures and slide shows for Grade 10's and 12's on fossils and evolution.
5. A travelling exhibition, with accompanying slide show, which in 2011, made its appearance several times at Sci-Bono Science and the Yebo-Gogo exhibition at Wits.
6. A programme for learners of various ages that can be

taken out to schools, this is becoming more important as it has become apparent that most schools do not wish to travel (because of expense, bureaucracy and risk) and prefer to have experts deliver educational programmes in the classroom.

7. A holiday programme "Switched on to Science" which aims to entertain and attract learners to science, the programme, includes in addition to earth sciences, fun activities like building a hot air balloon and bottle rockets.

8. Lectures and activities that relate palaeontology and earth sciences to contemporary problems, for example "Dinosaurs and Climate Change". These lectures provide an understanding of the past with its five mass extinctions, and climate change. These give perspective of how humans are creating a 6th extinction, and the effects humans are having on the environment.

9. Select groups visit the Karoo fossil store and other facilities- giving them a more in-depth experience of how the palaeontologists operate and the curation process.

10. A comparative teaching kit of casts is available for the teaching of human evolution.

Kitching Fossil Exploration Centre (KFEC)

The KFEC was initiated in 2005 as a combined palaeotourism and outreach project through the collaboration of the BPI and the Albany Museum, with financial support from the Department of Science and Technology (DST) and the generosity of a private donor Mr Ross Foxton. The project was set up in Nieu Bethesda with the idea to show the public how fossils occur in the field and the facility currently attracts in excess of 8000 visitors annually. The guides, who have been trained by the BPI, largely through the efforts of Ian Mc Kay, provide guided tours to the fossil beds and the fossil exhibition and preparation centre. The KFEC, which is set up as a Section 21 Company currently employs four people from the local community (S. Norman, J. Jacobus, G. Baard, M. Bowkers). In 2010 Mr Ross

Foxton purchased a house which is situated close to the fossil beds, and in 2011 generously permitted the KFEC to utilize this house for exhibition and administrative purposes. The house was completely renovated by Mr Foxton, and in May Ian Mc Kay and Gerry Germishuisen, assisted by the KFEC staff, moved all the exhibits from the building previously occupied by the KFEC in the grounds of the Owl House Foundation to the new premises.

Palaeontology Postgraduate Students at Wits:

The following list of students registered at Wits for MSc and PhD degrees gives a perspective of the exciting range of projects which were researched in 2011. Registration is currently taking place, and it appears that there are several new MSc and PhD students for 2012.

PhD Students registered in 2011

Barbolini, N. Gondwanan correlations of Upper Karoo vertebrate biozones using palynology. Supervisors: M. Bamford, B.S. Rubidge.

Chikumbirike, J. Archaeological and palaeoecological implications of charcoal assemblages from the Holocene from Great Zimbabwe and the immediate environment. Supervisors: M. Bamford, A.B. Esterhuysen.

Day, M. Middle Permian continental biodiversity changes as reflected in the Beaufort Group of South Africa: A Bio- and Lithostratigraphic review of the *Tapinocephalus* and *Pristerognathus* assemblage zones. Supervisor: B.S. Rubidge

Gess, R. (graduated 2011) A taxonomic, biogeographic, biostratigraphic and palaeoecological synthesis of the Famennian Witpoort Formation of South Africa (Cape Supergroup, Witteberg Group)..Supervisors: B.S. Rubidge, M. Coates.

Guven (Atayman), S. Taxonomic revision of Taphinocephalid Dinocephalians -the key to understanding Middle Permian tetrapod Biodiversity. Supervisors: B. Rubidge, F. Abdala

Olayiwola, M. Biostratigraphy and correlation within the deep offshore Cenozoic Niger Delta. Supervisor: M.K Bamford

Pereira, L.M., Phytolith analysis of the FwJj 14 site complex, Lake Turkana Basin, northern Kenya. Supervisor: M.K. Bamford.

Taru, P. Identification of mammalian species represented by fossil hairs in *Parahyaena brunnea* coprolites from Middle Pleistocene deposits at Gladysvale Cave, South Africa. Supervisors: L.R. Backwell, L.R. Berger.

Tawane, M. Dental size and frequency of pathologies in the teeth of a small-bodied population of Mid-Late Holocene Micronesians, Palau Micronesia. Supervisors: L. Berger; L.R. Backwell

Val, A. A 3D approach to understanding the site formation process and taphonomy of hominin remains from the Plio-Pleistocene site of Malapa, South Africa. Supervisors: L.R. Backwell, L.R. Berger.

Vilakazi, N. A survey of fossil herpetological remains from selected Hominin-bearing sites in South Africa with the intention of Palaeo-environmental reconstruction. Supervisors: L. Berger, A. Yates

MSc Students registered in 2011

Hattingh, T. A phytolith analysis of archaeological soils from Bokoni terraces, Mpumalanga as a means to plant identification. Supervisors: MH Schoeman; M Bamford.

Leenen, A. (graduated 2011cum laude) Taphonomic contribution of large mammal butchering experiments to understanding the fossil record. Supervisor: J.F Thackeray.

Jirah, S. Stratigraphy and sedimentology of the *Tapinocephalus* Zone (Abrahamskraal Formation) in the area around Merweville. Supervisor: B Rubidge

Nalla, S. (upgraded to PhD in 2011) The axial morphology of hominidae and homininae axial ribs. Supervisors: L.R. Berger, B. Zipfel.

Nxumalo, V. (graduated June 2011) Stratigraphic correlations and 3-Dimensional modelling of the Kalahari-Karoo Sub-Basins in Southwest Botswana, Southeast Namibia and the Northern Cape Province of South Africa. Supervisors: B.S.Rubidge, G. Drennan, J. Neveling

Norton, L. Taxonomic revision of the rubidgeid gorgonopsian (Gorgonopsian, synapsida) using modern morphometric and phylogenetic techniques. Supervisors: B.S. Rubidge, F. Abdala

Parkinson, A.H. An investigation to empirically determine the effect of Ants and Dermestid Beetles on faunal remains: aim of identifying modification criteria and facilitate differentiation between them and termites. Supervisor; L. Backwell.

Recent BPI Publications.

Chapters in Books

Andrews, P., **Bamford, M.K.**, Njau, E-F., & Leliyo, G. 2011. The ecology of vegetation in the Endulen-Laetoli area in northern Tanzania. In Harrison T. (Ed). *Paleontology and Geology of Laetoli, Tanzania: Human Evolution in Context. Volume I: Geology, Geochronology, Paleoecology and Environment. Vertebrate Paleobiology and Paleoanthropology.* Springer Science+Business Media B.V. Dordrecht. pp. 167-200. DOI 10.1007/978-90-481-9956-3_8

- Abdala, F.** & Ribeiro, A.M. 2011. Padrões de diversidade e distribuição de cinodontes não-mamaliaformes do Triássico da América do Sul e África. Diversity pattern and distribution of non-mammaliaform cynodonts in the Triassic of South America and Africa. In Gallo, V (Ed.), *Paleontologia de Vertebrados: Relações entre América do Sul e África*. pp. 101-132.
- Bamford, M.K.** 2011. Fossil woods. In: Harrison T. (Ed). *Paleontology and Geology of Laetoli, Tanzania: Human Evolution in Context. Volume I: Geology, Geochronology, Paleoecology and Environment. Vertebrate Paleobiology and Paleoanthropology*. Springer Science+Business Media B.V. Dordrecht. pp 217-233. DOI 10.1007/978-90-481-9956-3_11
- Bamford, M.K.** 2011. Fossil leaves, fruits and seeds. In: Harrison T. (Ed). *Paleontology and Geology of Laetoli, Tanzania: Human Evolution in Context. Volume I: Geology, Geochronology, Paleoecology and Environment. Vertebrate Paleobiology and Paleoanthropology*. Springer Science+Business Media B.V. Dordrecht. pp 235-252. DOI 10.1007/978-90-481-9956-3_10
- Botha-Brink, J., Abdala, F., & Chinsamy, A.** 2012. Bone histology and radiation of Permo-Jurassic non-mammaliaform cynodonts. In Chinsamy, A. (ed), *The Forerunners of Mammals: Radiation. Biology. Histology*. 223-246. Indiana University Press, Bloomington, USA. ISBN 978-0-253-35697-0.
- Ribeiro, A. M. & **Abdala, F.** 2011. Synapsida: Pelycosauria-Therapsida. In I. S. Carvalho (ed.), *Paleontologia (3ra Edición)*. 111-130. Editora Interciências, Rio de Janeiro.
- Smith, R.M.H., **Rubidge, B.S., & van der Walt, M.** 2012. Therapsid biodiversity patterns and palaeoenvironments of the Karoo basin, South Africa. In Chinsamy, A. (ed), *The Forerunners of Mammals: Radiation. Biology. Histology*. P 31-62. Indiana University Press, Bloomington, USA. ISBN 978-0-253-35697-0.
- Thompson, A., **Zipfel, B.**, Eagleton, S. 2011. 3-D Foot Imaging: axial alignment theory in footwear design, fit and function. In: Karowski, W., Soares, M.M., Stanton, N.A. (Eds.) *Human Factors in Consumer Product Design: Methods and Techniques*. Taylor and Francis Group. pp 334-360.
- Zipfel, B.** 2011. Foreword. In Brenner, J., Burroughs, E., Nel, K. (Eds.) *Life of Bone: art meets science*. Wits University Press. pp 1-7.
- Journal Articles**
- Albert, R.M., & **Bamford, M.K.** (online Sept 2011). Vegetation during uppermost Bed I and deposition of Tuff IF at Olduvai Gorge, Tanzania, based on phytoliths and plant remains. Fifty Years after *Zinjanthropus*: Landscape Paleoanthropology of Plio-Pleistocene Olduvai Gorge, Tanzania. For a special issue of *Journal of Human Evolution* <http://dx.doi.org/10.1016/j.jhevol.2011.07.001>.
- Bamford, M.K.**, 2011. Late Pliocene woody vegetation of Area 41, Koobi Fora, East Turkana Basin, Kenya. *Review of Palaeobotany and Palynology* 164, 191-210. DOI: 10.1016/j.revpalbo.2011.01.004.
- Bamford, M.K.** (online Sept 2011). Fossil sedges, macroplants and roots from Olduvai Gorge, Tanzania. Fifty Years after *Zinjanthropus*: Landscape Paleoanthropology of Plio-Pleistocene Olduvai Gorge, Tanzania. For a special issue of *Journal of Human Evolution* <http://dx.doi.org/10.1016/j.jhevol.2011.07.001>
- Blumenschine, R.J.**, Stanistreet, I.G., Njau, J.K., & **Bamford, M.K.**, Masao, F.T., Stollhofen, H., Andrews, P., Fernanadez-Jalvo, Y., Prassack, K.A., Albert, R.M., McHenry, L.J., Camilli, E.L., Ebert, J.I. (online Sept 2011). Environments and activity traces of hominins across the FLK Peninsula during *Zinjanthropus* times (1.84 Ma), Olduvai Gorge, Tanzania. Fifty Years after *Zinjanthropus*: Landscape Paleoanthropology of Plio-Pleistocene Olduvai Gorge, Tanzania. For a special issue of *Journal of Human Evolution*. <http://dx.doi.org/10.1016/j.jhevol.2011.07.001>
- Bordy, E.M., Sztanó, O., **Rubidge, B.S.** & Bumby, A. 2011. Early Triassic vertebrate burrows from the Katberg Formation of the south-western Karoo Basin, South Africa. *Lethaia*, 44, 33-45.
- Cisneros, J.C., **Abdala, F.**, **Rubidge, B.S.**, Denzel Dias, P. & Oliveira Bueno, A. 2011 Dental occlusion in a 260 million year old therapsid, with saber canines, from the Permian of Brazil. *Science* 331, 1603-1605.
- Cisneros, J.C., **Abdala, F.**, **Atayman, S.**, **Rubidge, B.S.**, Şengör, 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*.
- Du Plessis, M., **Zipfel, B.**, Brantingham, J.W., Parkin-Smith, G.F., Birdsey, P., Globe, G., Cassa, T. 2011. Manual and manipulative therapy compared to night splint for symptomatic hallux abducto valgus: an exploratory randomized clinical trial. *The Foot* 21: 71-78.
- Fernandez, V.**, Buffetaut, E., Maire, E., Adrien, J., Suteethorn, V. & Tafforeau, P. 2012. Phase Contrast Synchrotron Microtomography: Improving Noninvasive Investigations of Fossil Embryos In *Ovo. Microscopy and Microanalysis* 18:179-185 DOI:10.1017/S1431927611012426
- McCarthy, T.S., Tooth, S., Jacobs, Z., Rowberry, M.D., Thompson, M., Brandt, D., **Hancox, P.J.**, Marren, P.H., Woodborne, S. & Ellery, W.N. 2011. The Origin and development of the Nyl River floodplain wetland, Limpopo Province, South Africa: trunk-tributary river interactions in a dryland setting. *South African Geographical Journal* 93(2), 172-190
- Neumann, F.H.**, Scott, L., & **Bamford, M.K.**, 2011. Climate change and

- human disturbance of Fynbos vegetation during the late Holocene at Lake Princessvlei, Western Cape, South Africa. *The Holocene* 21, 1137 - 1150 (online 18 July 2011). DOI: 1177/0959683611400461
- Pickering, R.P., Kramers, J.D., **Hancox, P.J.**, Woodhead, J.D. & de Ruiter, D.J. 2011. Contemporary flowstone development links early hominin bearing cave deposits in South Africa. *Earth and Planetary Science Letters* 306, 23-32.
- Reisz, R. R., Evans, D. C., Roberts, E. M., Sues, H.-D. & **Yates, A.M.** 2012. Oldest known dinosaurian nesting site and reproductive biology of the Early Jurassic sauropodomorph *Massospondylus*. PNAS online before print. DOI 10.1073/pnas.1109385109.
- Soares, M.B., **Abdala, F.** & Bertoni-Machado, C. 2011. Sectorial toothed cynodont from the Triassic Santa Cruz do Sul fauna, Santa Maria Formation, southern Brazil. *Geodiversitas* 33, 265-278. 2011
- Wadley, L., Sievers, C., **Bamford, M.**, Miller, C., Goldberg, P., & Berna, F., 2011. Middle Stone Age bedding construction and settlement patterns at Sibudu, South Africa. *Science* 334, 1388-1391.
- Yates, A. M.** 2011. A new species of watering pot shell (Bivalvia: Anomalodesmata: Clavagelloidea) from the Miocene of the Murray Basin, South Australia. *Palaeontology* 54, 373-384.
- Yates, A. M.**, Bonnan, M. F. & Neveling, J. 2011. A new, possibly relictual, basal sauropodomorph dinosaur from the Early Jurassic of South Africa. *Journal of Vertebrate Paleontology* 31, 610-625.
- Zipfel, B.**, DeSilva, J., Kidd, R.S., Carlson, C., Churchill, S., & **Berger, L.R.** 2011. The foot and ankle of *Australopithecus sediba*. *Science* 333, 1417-1420.

Francis Thackeray

Director: Institute for Human Evolution

In November 2011, Francis Thackeray was invited by Prof. Michel Brunet to Chad to attend a conference in the capital N'djamena. The conference brought together palaeoanthropologists from around the world, and all of the papers were stimulating. Thereafter, we were taken by military plane and helicopter into the heart of the Sahara desert, and we camped near the site where *Sahelanthropus* (Toumai) was discovered. Toumai is a hominid cranium about 7 million years old. It is believed to be close to the common ancestor for

humans and chimpanzees.

The conference coincided with the return of the original Toumai fossil to Chad, having been studied by Michel Brunet and his team in France. An excellent museum has been established in N'Djamena.

I am deeply grateful to Michel Brunet for the invitation to participate in this memorable conference and excursion.

DITSONG (TRANSVAAL) MUSEUM

Bob Brain, Emeritus Curator

For the last 15 years I have been looking for fossils in the ancient limestones of the Nama and Otavi Groups of Namibia, in the hope of gaining new insights into the origin of animal life and the beginnings of predation, a process that I think was critical in the evolution of intelligence and the enlargement of the human brain in much more recent times. This has been a very labour-intensive undertaking and has required the making of 860 thin-sections of limestones, meticulously ground by my wife, Laura, on the back stoep of our home in Irene and the examination of thousands of residues from limestone samples dissolved in dilute acetic acid. I have had the collaboration of a group of enthusiastic and highly competent colleagues. For instance, whenever I found a productive locality for microfossils in a limestone, I consulted Tony Prave of St. Andrews University and Charlie Hoffmann at the Geological Survey of Namibia, who visited the place and decided on the precise relationship of the outcrop to the stratigraphy of Nama or Otavi Group that it happened to be in.

Once I had the microfossils removed from their residues, I examined them with a scanning electron microscope and also consulted colleagues here in South Africa, but mostly in Scotland, for images made possible from their highly

sophisticated electronic apparatus, that I had no concept of before. Now, a major paper is due to appear in the January/February edition of the South African Journal of Science which sets out the position as it is at present. It is entitled: "*The first animals: ca. 760-million-year-old sponge-like fossils from Namibia*" by C. K. Brain, A. R. Prave, K. H. Hoffmann, A. E. Fallick, A. Botha, D. A. Herd, C. Sturrock, I. Young, D. J. Condon, and S. G. Allison. The abstract of this paper reads as follows:

"One of the most profound events in biospheric evolution was the emergence of animals, which is thought to have occurred some 600-650 Ma. Here we report on the discovery of phosphatised body fossils that we interpret as ancient sponge-like fossils and term these *Otavia antiqua* gen et sp. nov. The fossils are found in Namibia in rocks that range in age between about 760 Ma and 550 Ma. This age places the advent of animals some 100 to 150 million years earlier than proposed, and prior to the extreme climatic changes and postulated stepwise increases in oxygen levels of Ediacaran time. These findings support the predictions based on genetic sequencing and inferences drawn from biomarkers that the first animals were sponges. Further, the deposition and burial of *Otavia* as sediment particles may have driven the large positive C-isotopic excursions and increases in oxygen levels that have been inferred for Neoproterozoic time."

Heidi Fourie

The first phase of the Repair and Maintenance programme is nearly complete. Store rooms, display halls and offices now boast new airconditioning systems that can regulate the temperature, or so they claim.

Sussanna and I examined collections at Iziko, Bernard Price Institute, National Museum of Bloemfontein, Council for Geoscience, as well as here at Ditsong National Museum of

Natural History, and we are busy writing-up the results. The Librarian, Tersia Perregil and I are working on a small display for our hexagon. The display will aim to link our two display halls on the upper level.

The volunteers (altogether 5) are busy preparing most recent finds (*Procolophon*), additional preparation on Types as well as material collected by E.C.N. van Hoepen.

IZIKO SA MUSEUM

Graham Avery

I retire on 31 January having hit the "magic" number. However, I plan to use my freedom to work on my research backlog (amongst other things that will keep me out of mischief).

Iziko will launch a new exhibit on 18th February, '*The search for our early ancestors*', which focuses on casts of the two *Australopithecus sediba* skeletons from Malapa and their place in our ancient human history.

Roger Smith, Curator Karoo Palaeontology

July to December 2011

In July last year Claudia Marsicano (Buenos Aires), Fernando Abdala (BPI Wits) and I met up with Dr Roger Swart in Windhoek to complete the fieldwork for our PAST and SA/Argentina collaboration-funded project on the palaeofauna and environments of the Middle Triassic Omingonde Fm in the Otjiwarongo district of Namibia.

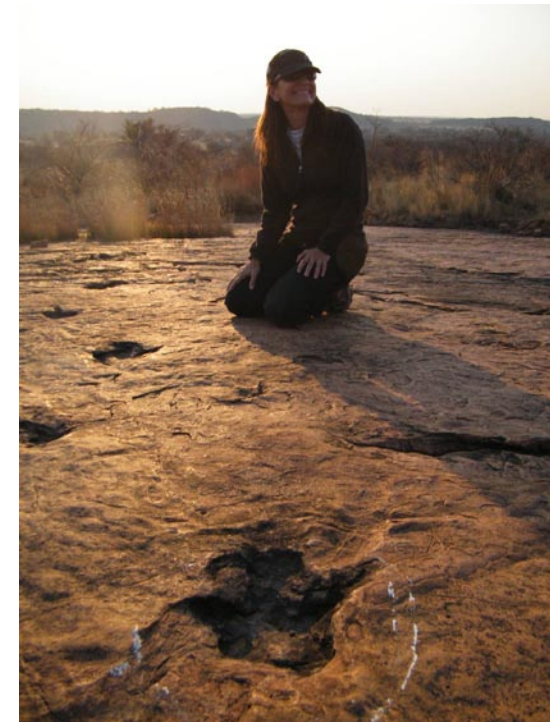
Previous work by the project team showed how vertebrate fossils from Karoo-aged rocks of Africa and South America could be used to reassemble the former landscapes of the supercontinent of Gondwana. Cynodont fossils from Triassic rocks of Namibia, Brazil and East Africa were used

to provide definite proof of faunal links between the Namibian basin and two faunas from East Africa as well as two from South America. We highlighted the Omingonde Formation of Namibia as a key source of information for reconstructing the biogeography of southern Gondwana during the Middle Triassic. The newly discovered Namibian record of *Chiniquodon* is a remarkable biostratigraphic enigma inasmuch as this carnivorous cynodont, previously only known in South America represents the first Ladinian-Carnian taxon discovered so far in African Middle Triassic faunas. Last year the project team made another significant discovery in the Upper Omingonde strata near Mount Etjo - the first African record of the large tuskless dicynodont *Stahleckeria* previously only found in Brazil. We aimed to following up on these exciting discoveries with

1. A systematic search for vertebrate fossils in the uppermost Omingonde Formation which has yielded very few fossils to date;
2. More taphonomic data including skeletal completeness, bone surface modification and sedimentary facies associated with every in situ fossil, to refine the taphonomic pathways and depositional environments;
3. A detailed 2-D panel section of the most prolific vertebrate fossil locality in the cut bank of the Omururu River;
4. Repatriation of fossils previously exported;
5. Begin the taxonomic description of the new dicynodont found last year.

The new dicynodont skull is 70 cm long and was expertly prepared in the Iziko Karoo Laboratory by contract preparator **Georgina Farrell**. It took her 6 months to finish- just in time for me to return it to the Geological Survey museum in Windhoek. The director of the Survey, Dr Gabi Schneider, is currently making arrangements to add our new collection of Triassic fossils to the current display.

Unfortunately, a few hours after arriving in Windhoek my baggage was stolen from a house where we planned to spend the night. This included all my documents, camera and clothes- including passports, ID, keys and probably most importantly my field notebook from last years trip. Fortunately however this did not include my geological section logs and all the fossil localities had already been transcribed onto the GSO database so the loss to science was minimal. After losing a day making arrangements for emergency travel documents and buying some clothes, we finally set up our tent camp at Otjihaenamaparero dinosaur tracksite in the Otjiwarongo District north of Windhoek.



Claudia Marsicano (Univ Buenos Aries) studied these 200 million year old theropod dinosaur tracks in the rocks near our campsite. No body fossils of this large bipedal carnivore have yet been found in Namibia.

For the next 6 days we worked in the field from dawn till dusk battling the grass seeds and thorns that were especially tenacious after the record breaking rainfall in May this year. We ended up with 18 fossils that we could excavate in the time available. These included at least 7 cynodont skulls and associated post crania, 1 large tusked dicynodont skull, 4 patches of disarticulated dicynodont limbs, girdles and other skeletal elements and several interesting but unidentifiable skull elements. They will all need to be prepared before they can be identified. To this end the 7 cynodont specimens have been exported for preparation of which 3 have come to Iziko.



Roger Smith and Fernando Triassic (*is this your new nick-name Fernando? - ed.*) collecting a 235 million- year- old dicynodont skull that is very similar, if not identical to fossils from Brazil.

On returning to Windhoek the fossils were accessioned into the GSO collections and we spent 2 days describing the new Stahleckeriid skull and lower jaw deciding that it was definitely

the same genus as the Brazilian form but we need to see the type-specimen in Germany before deciding whether it is the same species. We drafted an outline of the publication announcing this discovery to be submitted to the journal *Gondwana Research* for publication.



Wits palaeontologist Fernando Abdala doing some first aid on a Triassic cynodont fossil that he has just excavated from the Omururu river locality.

In August Dr Eric Tohver a "palaeomagnetist" from Western Australia asked me to show his research team a new PT boundary section that we have been working on for the past 2 years so that they can drill samples through our biostratigraphically defined boundary to check whether its palaeomag reversal record is the same as has been recorded at PTB's elsewhere in the Karoo and worldwide. I took the opportunity to take an excavating team with me to the Nieu Bethesda area to recover a large therocephalian skull (?*Moschorhinus*) and anterior skeleton that we had to leave behind last year.

With the mechanical expertise of Derek Ohland and Paul October we managed to keep our aging rock drill working long enough to complete the task. Special thanks to Mike Strong, a retired vet and regular volunteer on our trips, who drove his beloved Toyota 4x4 right up to the excavation site .



Paul October and Derek Ohland excavating a large theropod near Nieu Bethesda.

In September masters student **Pia Viglietti** and I traveled to San Juan, Argentina to present papers at a special vertebrate taphonomy symposium within the VIth Latin American Vertebrate Palaeontology Congress. I was a co-convenor, along with Raymond Rogers and Carina Colombi, and we were very pleased with the response to our campaigning ending up with a 2 day symposium and 34 oral presentations. Afterwards Pia and I were especially pleased that we were able to spend an extra 2 days with Carina and Kay Behrensmeyer wandering over the fossil rich Triassic outcrops of the Ischigualasto National Park.

November was the SVP annual meeting in the glitzy Paris hotel, Las Vegas which was an eye-opener for me, and even more so for SA's top preparator, **John Nyapuli**, who attended to receive a special long service award (see next page). Although he must have been overawed by the goings-on he took it all in his stride with his usual whimsical smile- well done John! Another South African was honoured with a lifetime achievement award- **Alfred Walter "Fuzz" Crompton** whose acceptance speech was a stream of reminiscences of his work in South Africa making us all feel very special..

The week before the conference I spent in Seattle visiting Dr Chris Sidor's lab and checking progress on the Antarctic fossils from Jan 2011 that he has started to get prepared. The results are very interesting and at least 2 tentatively new taxa have been uncovered so far and there are plenty more to come. Chris gave a summary of the findings to date at the conference. I gave a seminar on the Lesotho dinosaur trackways to the Univ Washington and Burke Museum palaeobiologists . I also met up with my Antarctic co-workers Adam Huttenlocker and Brandan Peacock as well as Dr Linda Tsuji who presented a paper on Nanoparia, the supposed dwarf pareiasaurian from the Karoo, whose revision was prompted by a specimen that I found near Beaufort West.

February 2012 Claudia and I will travel to south central Patagonia to join Diego Pol and his team looking at the Middle-Late Triassic to E Jurassic vertebrate bearing beds with a view to understanding their taphonomy, palaeoenvironments and age relationships and hopefully find more taxa in common with the southern African faunas. And in April we have planned to join Ken Angielzyk and Juan Cisneros in Brazil in search of the earliest Permian terrestrial vertebrates of Gondwana.

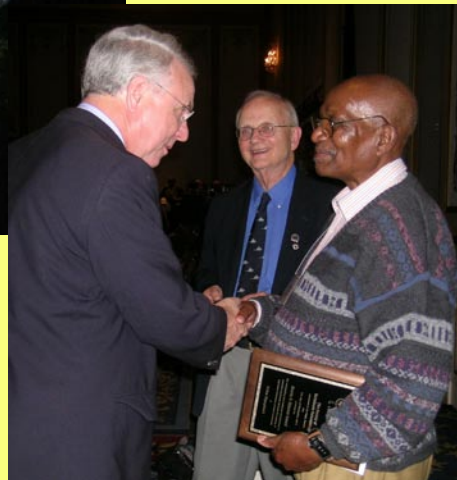
NEWSFLASH: John Nyaphuli receives the Martin F. Skinner award

Thanks to Roger Smith for these photos, and for drawing our attention to John's great achievement! - ed.



John Nyaphuli at SVP in Las Vegas with the coveted Martin F. Skinner award in recognition of his fossil finding and preparation achievements over a long and industrious career.

John Nyaphuli is formally congratulated by SVP society representative Prof Louis Jacobs, and Prof Jim Hopson who has known John for many years is about to make a wise-crack.



University of Cape Town Palaeobiology Research Group

Our UCT Palaeobiology Research Group has had a highly productive year, resulting in several exciting research results and presentations at international conferences. Noteworthy among them, were the paleohistology (ISPH) meeting in Spain where **Anusuya Chinsamy-Turan** did the keynote address, and both **Sandra Jasinowski** and **Aurore Canoville** did oral presentations. In November, all our senior lab members presented papers at the Society of Vertebrate Paleontology meeting in Las Vegas, ranging in topics from tooth-marked cetacean bones to growth of the *Tritylodon* mandible. At this meeting, Anusuya Chinsamy-Turan's edited volume entitled, '*The Forerunners of Mammals: Radiation, Histology, Biology*' (Indiana University Press) was also released.

The end of 2011 also marked a new beginning for several of us from the lab. **Romala Govender** took up the post as Curator of Cenozoic Palaeontology at Iziko South African Museum, Cape Town in September. In December, **Sandra Jasinowski** and **Daniel Thomas** wrapped up their postdoctoral projects and subsequently moved to North America. Sandra is taking a few months off to decide on her next career move, but in the meantime she is busy posting landscape and wildlife photographs on her blog www.cameralucid.com. Daniel has accepted a postdoc at the Smithsonian (Division of Birds) working on colouration of feathers with Helen James. **Tobias Nasterlack** finished his honours project on the palaeobiology of *Cistecephalus*. Like previous honours students **Ian Brumfitt** and **Nick Fordyce**, Tobias is currently writing up his research for publication.

Aurore Canoville is continuing her research on the histology of pareiasaurs and other Permo-Triassic tetrapods to assess lifestyle adaptations. In January this year, **Ragna Redelstorff** joined our research team as a postdoc. She will be

working on the life history, growth patterns and palaeobiology of stegosaurs and basal Thyreophora by examining bone histology.

Besides the above collaborative work, and several research projects on avian and nonavian dinosaurs, Anusuya has also taken on the Headship of the Zoology Department at UCT. She is also busy planning our 2012 PSSA meeting (see 2nd circular in this newsletter), and is co-organising a symposium on Life History at the Society of Avian Palaeontology and Evolution Meeting in Vienna, Austria (June).

We are really excited about the prospect of hosting the PSSA conference, and we are looking forward to seeing you in September.

Publications:

Chinsamy-Turan, A. 2012. *The Forerunners of Mammals: Radiation, Histology, Biology*. Bloomington: Indiana University Press.

John Hancox, Caracle Creek Consulting

Greetings from the fringe.

Been a really long time since I have written anything for Palnews, but having seen Rose recently, coupled to her reminder e-mail, sparked me into gear. As most people know I am not actively involved (read employed) in the palaeo sector anymore, but do keep my eyes on the ground and am really always interested to read Palnews and find out what the real palaeo's are up to.

That being said, I do still keep an interest in the *Cynognathus* Assemblage Zone and its fauna - and particularly on the Early Triassic Driefontein site. This site continues to amaze me, with an abundance of micro-fossil material coming from the bone beds, and some really nice trace fossils recently coming to light as well.



The crew at Driefontein - standing above the main fossiliferous horizon on Brachyopid Hill.



Ptychoceratodus - lungfish toothplate from Driefontein.

Current interest in the fauna from the site is focussed on the fresh water hybodontid sharks (*Lissodus* and *Polyacrodus*), with work in progress with Chris Duffin, Jan Fischer and Jörg W. Schneider. This work includes not only a taxonomic assesement and description, but also isotope work to try and determine the ambient water chemistry. The *Ptychoceratodus* count grows ever more, having reached over 400 individuals. This material was the focus of a study by Daniela Ortiz, which will hopefully be written up some time next year.

Adam Yates, Frank Neumann and myself have also been working on the abundant coprolite material. Remains within the coprolites include material of the earliest post-Paleozoic freshwater bivalves, as well as insects. This work is completed for now and is in press in Plos1.

David Gower continues the write up on the new large erythrosuchid archosaur, and Jennifer Brink-Botha has some of this material on loan for histological thin section analysis. Anjan Bhart-Buller is busy with Adam and myself describing some other new archosaur material (a work in progress so watch this space).

Leandro Gaetano has taken over the study of the complex multicusped (allotherian-like) postcanines from the site. I receieved a final draft of this from Fernando Abdala just before leaving for the UK for Xmas, so it looks like it should be out next year - aiming at JVP.

The site continues to yield more and more specimens of *Palacrodon* (see photo opposite), an enigmatic little reptile that definitely requires more work, now that the sample size has grown to over fifty specimens. Now all we need to do is sort the thousands of teeth and unidentified bones that form the collection. To this end Patrick Lewis and Alicia Kennedy have joined the fray, with three students from Sam Houston State (Texas) working on the teeth at present.



Palacrodon specimen from Driefontein showing the characteristic transversely expanded cheek teeth, with broad mesiodistal contact, and the concave mesial and distal crown surfaces that distinguishes this taxon from proclophonids.



Dicynodont skull in situ - KZN

Dicynodonts still also a firm favourite, and here I have solicited the help of Ken Angielczyk in order to complete the descriptions of *Shansiodon* and *Angonisaurus* (from my Ph.D days). The arrival of Amelie Julia Angielczyk might however put this on hold for a while. Found an amazing dicynodont-rich site down in KZN (photo above) - need some help to get the material out - so if there are any volunteers, please let me know.

Sad to hear of the passing of Arthur Cruickshank - marks the end of a dicynodont era - my condolences to Enid and Family.

Bruce Rubidge and I are still busy finalising some of the Ecca-Beaufort contact research, with one paper in press and one submitted on the nature of the contact in the Grahamstown area.

Being mostly Joburg-based means I had to find something close by to keep my hand in - here thankfully Stephany Potze came to the rescue, and lets me potter at Bolt's Farm, thereby keeping my hand in at cave sedimentology/stratigraphy. James Brink also humours me occasionally and lets me loose on Cornelia every now and again. This work is going well and his team has recently submitted a paper on the hominin tooth discovered at the site (Brink *et al.*, submitted).

Even dabble where no sane sedimentologist would venture and have recently finished a write up on Cretaceous terrestrial palynomorphs from two wells in the Offshore Orange Basin with Andrea Sanderson, Louis Scott and Ian McLachlan. Also formulating (and collecting material for) a palynodebris project with Wladyslaw Altermann and Annette Götz.

Although I am mostly a lost cause, I like to keep in touch with what is happening in SA Palaeontology, so please keep/put me on your mailing lists for reprints.

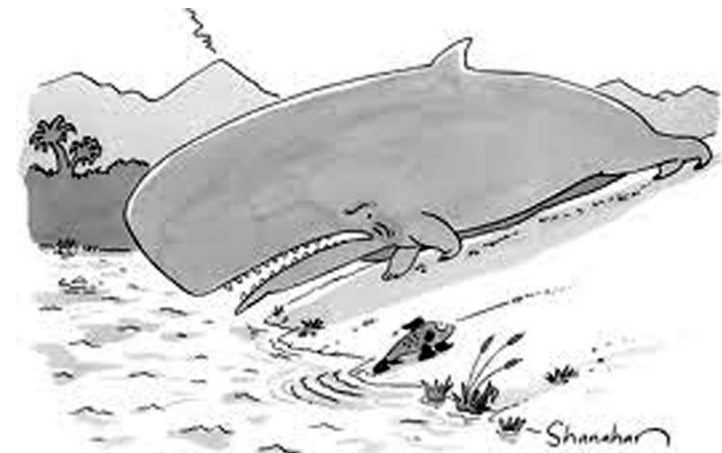
Best Wishes to all for a prosperous 2012.

Recent Publications

- Pickering, R.P., Kramers, J.D., **Hancox, P.J.**, Woodhead, J.D. and de Ruiter, D.J. (2011). Contemporary flowstone development links early hominin bearing cave deposits in South Africa. *Earth and Planetary Science Letters* 306, 23-32.
- De Ruiter, D., Brophy, J.K., Lewis, P.J., Kennedy, A.M., Stidham, T.A., Carlson, K.B. and **Hancox, P.J.** (2010). Preliminary investigation of Matjhabeng, a Pliocene fossil locality in the Free State of South Africa. *Palaeontologia africana* 45, 11-22.

Submitted or In Press

- Brink, J.S., Herries, A.I.R., Moggi-Cecchi, J., Gowlett, J.A.J. Bousman, C.B., **Hancox, P.J.**, Grün, R., Eisenmann, V., Adams, J. and Rossouw, L. (Submitted). First hominine remains from a ~1 million year old bone bed at Cornelia-Uitzoek, Free State Province, South Africa. *Journal of Human Evolution*.
- McCarthy, T.S., Tooth, S., Jacobs, Z., Rowberry, M.D., Thompson, M., Brandt, D., **Hancox, P.J.**, Marren, P.H., Woodborne, S. and Ellery, W.N. (Submitted). The Origin of the Nyl River Floodplain Wetland. *South African Journal of Geography*.
- Rubidge, B.S., **Hancox, P.J.** and Mason, R. (In press). Waterford Formation in the southeastern Karoo: Implications for basin development. *South African Journal of Science*.
- Sandersen, A., Scott, L., McLachlan, I.R. and **Hancox, P.J.** (Submitted). Cretaceous biozonation based on terrestrial palynomorphs from two wells in the Offshore Orange Basin of South Africa. *Palaeontologia africana*.
- Tooth, S., **Hancox, P.J.**, Brandt, D., McCarthy, T.S., Jacobs, Z. and Woodborne, S., (Submitted). Controls on the genesis, sedimentary architecture, and preservation potential of dryland alluvial successions: insights from the incising Modder River, Free State, South Africa. *Journal of Sedimentary Research*.
- Yates, A.M., Neumann, F.H. and **Hancox, P.J.** (In Press). The earliest post-Palaeozoic freshwater bivalves preserved in coprolites from the Karoo Basin, South Africa. *PLoS ONE*.



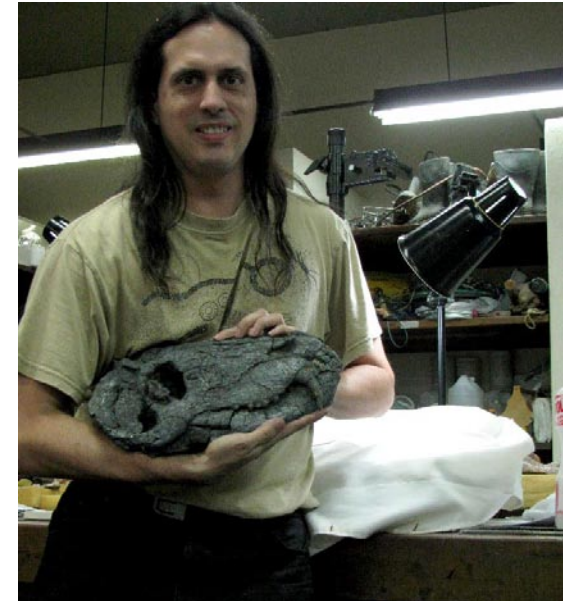
"It's all yours..."

NEWS FROM AROUND THE WORLD

Juan Cisneros - Uni. Federal do Piauí (Brazil)

Last year I was busy working on Permian stuff from Brazil. One project took me to the field with colleagues Ken Angielczyk and Roberto Iannuzzi into the Pedra de Fogo Formation (Parnaíba Basin in North Brazil) where we searched for fossils several weeks under the equatorial sun... pure fun! On another project, I have been busy with BPI colleagues studying basal therapsids collected a few years ago in the Rio do Rasto Formation of southern Brazil, this work resulted in the description of the first basal anomodont (*Tiarajudens eccentricus*) and, more recently, the first carnivorous dinocephalian (*Pampaphoneus biccai*) from South America. Expect more news from these creatures, as we are still working on them!

Juan and an anteosaurid dinocephalian from Brazil.



Dinocephalian *Pampaphoneus* hunting a pareiasaur in the Brazilian Permian - credit Voltaire Neto

Recent publications

Cisneros, J.C., Abdala, F., Rubidge, B.S., Atayman-Güven, S., Celâl Şengör, A.M., Schultz, C.L. (2012) Carnivorous dinocephalian from the Middle Permian of Brazil and tetrapod dispersal in Pangaea. *Proceedings of the National Academy of Sciences*.

Cisneros, J.C. (2011) *Los Fósiles del Tomayate*. eBook.

Cisneros, J.C., Abdala, F., Rubidge, B.S., Dentzien-Dias, P.C., Bueno, A. de O. (2011) Dental Occlusion in a 260-Million-Year-Old Therapsid with Saber Canines from the Permian of Brazil. *Science*, 331: 1603-1605.

Ruta, M., **Cisneros, J.C.**, Liebrecht, T., Tsuji, L. A., Müller, J. (2011) Amniotes through major biological crises: Faunal turnover among parareptiles and the end-Permian mass extinction. *Palaeontology*, 54: 1117-1137.

Norton Hiller

Earthquakes have continued to dominate my life. Those darned faults gave us a not-so-gentle reminder that the crust has still not completely settled down in our part of the world. On the afternoon of Friday 23 December 2011 we had two fairly large shakes; the first just before two o'clock came in at M5.8, followed an hour and twenty minutes later by a M6.0. A nice Christmas present from Mother Earth! This time the quakes were generated by movement on faults just offshore from Christchurch. As I live at the coast, my daughter and her husband, visiting from Canada, got firsthand experience of some quite violent shaking. Fortunately, apart from a couple of pictures jumping off the wall and a vase toppling over and breaking, we suffered no major damage. Over the next 24 hours we felt more than 60 aftershocks, making for a very restless night. The grandchildren seemed to take it in their stride though, and slept through most of them.

Palaeontology has taken a back seat for now. I did manage to present a poster paper on a project I have going, looking at predation on brachiopods in a Late Cretaceous oyster reef, at the Geoscience Society of NZ conference at the end of November. However, back in the office I am working full time on an exhibition dealing with - guess what? Yup, earthquakes!!

Since I last wrote, I have learnt of the passing of several old palaeontological colleagues in the UK, including long-time PSSA member, Arthur Cruickshank. In all, 2011 is a year I will be glad to put behind me.

Thomas (Tom) Lehmann - Senckenberg Research Institute, Frankfurt

Happy new year everybody! It is some time since my last report but I would like to catch up with all of you. I have been working at the Senckenberg Research Institute in Frankfurt (Germany) for 3 years now. My research projects are focused on the Eocene

mammal fauna from the World Heritage site of Messel (Germany), in particular Leptictida and Paroxyclaenidae. Nevertheless, I am still involved in excavations in the early Miocene of Kenya (Rusinga Island), which continues to produce fantastic new fossils that will hopefully soon be published. I continue my work on fossil and extant armadillos (IUCN) including some new DNA analysis by some of my students. Finally, I even had a look-out at some interesting Chinese hedgehog fossils.



Dressed to the nines for our guests (G. Gunnell and K.D. Rose) during the 22nd Senckenberg Conference in Frankfurt.

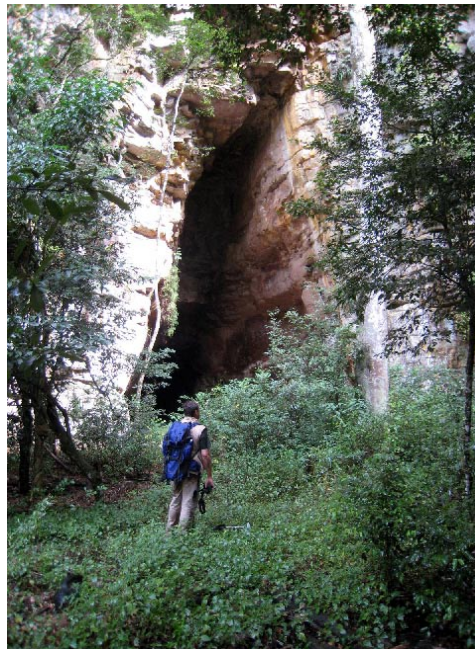
Beyond that, my last two years were mostly dedicated to the organization of the 22nd International Senckenberg Conference - "The world at the time of Messel: Puzzles in Palaeobiology, Palaeoenvironment, and the history of early primates", which took place between 15th-19th November 2011. The conference was a huge success, and many Eocene specialists coming from five continents took part. A specific round table discussion enabled palaeoanthropologists like P.D. Gingerich, E.R. Seiffert, and K.C. Beard to present their different points of view on the origin of anthropoid primates. The famous fossil primate from Messel - *Darwinius masillae* Franzen et al., 2009, aka Ida - was a particular subject of the debate. You can have a look into the conference volume including the extended abstracts, as well as the full

programme, and a video of the round table (coming soon) on our webpage www.senckenberg.de/22ndConference.

I hope to be able to join you in Cape Town for the PSSA this year.
Best wishes,
TOM

A note from Glen Boyd on a new cave discovery:

See adjacent photos of a cave we found down the coast while searching for something unrelated. It is almost inaccessible but for a well hidden ledge down a cliff face to the river below. It has a floor (bed) of metres thick and untouched - would be interesting to know what the history of this "undiscovered" cave is. There is no visible art work.



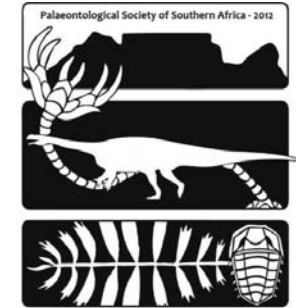
Palaeontological Society of Southern Africa

PSSA BIENNIAL CONFERENCE

5- 8 September 2012

University of Cape Town, Cape Town

<http://pssa.cmc-uct.co.za/>



2nd CIRCULAR

The 17th Biennial Conference of the PSSA is to be held on the middle campus of the University of Cape Town on the picturesque slopes of Devil's Peak in the southern suburbs of Cape Town, South Africa. Contributions on **all aspects** of palaeo-sciences are welcome, including vertebrate and invertebrate palaeontology, palaeoanthropology, palaeohistology, palaeoarchaeology, ichnology, palaeo-histology, biostratigraphy, geochemistry, sedimentology and taphonomy, and any others that you think may be of interest to the delegates of this multi-disciplinary conference.

Registration (conference)

Early Bird registration up to 2 June: students, R1800; PSSA members, R2 800.

Late Registration from 3 June: Students, R2 000, PSSA members, R3100

(For full details and registration please consult the conference website)

Fieldtrips

Langebaanweg preconference trip: please consult the conference website.

Karoo fieldtrip (post conference): please consult the conference website

Abstract Submission

Deadline: 1 April 2012

Abstracts should be submitted online. Formatting instructions will be outlined on the website.

Accommodation

A variety of accommodation is available to suit all pockets! Please refer to the conference website for details.

Provisional conference programme

Wednesday	5 Sept	Langebaanweg Pre-Conference Field Trip (Depart 8h00)
Wednesday	5 Sept	Registration and ice-breaker (from 16h30)
Thursday	6 Sept	Registration, opening, scientific sessions
Friday	7 Sept	Scientific and poster sessions Evening: PSSA Conference dinner
Saturday	8 Sept	Scientific sessions and PSSA BGM
4- 5 day		Post-conference Karoo field excursion (Pls refer to the website for details)

We look forward to seeing you in Cape Town for PSSA 2012

Organising Committee: Prof. Anusuya Chinsamy-Turan (Anusuya.chinsamy-turan@uct.ac.za); Prof. Becky Ackermann (becky.ackermann@uct.ac.za); Dr. Graham Avery (gavery@iziko.org.za); Dr. Romala Govender (rgovender@iziko.org.za); Dr. Emese Bordy (emese.bordy@uct.ac.za); Karoo Fieldtrip: Dr. Roger Smith (rsmith@iziko.org.za); Langebaanweg fieldtrip: Pippa Haarhoff (pjh@fossilpark.org.za)

A TRIBUTE



ARTHUR RICHARD IVOR CRUICKSHANK (1932 - 2011)

Dr Arthur Richard Ivor Cruickshank died in Scotland on 4 December 2011 at the age of 79. He was born in Nairobi, Kenya, on 29 February 1932, where his father was an engineer in the sisal plantations. He received his schooling in Scotland, but wartime restrictions meant that he had relatively little contact during the years of his schooling with his parents, who lived in Africa, although his birthright led to a later lifetime interaction with the continent.

In 1953 Arthur attended Edinburgh University as an undergraduate student, where he studied *Geology* and *Zoology*, and also excelled at target rifle shooting. In this sport he gained a 'Blue', first at Edinburgh University and later at Cambridge. He also took a keen interest in gliding, and was a founder-member of the Edinburgh University Gliding Club. Arthur loved this sport, giving up solo gliding only after having to undergo heart-bypass surgery in 2001, but he continued to fly in two-seater gliders.

During his Honours year in the Zoology Department at Edinburgh University his interest in palaeontology was sparked when he undertook a research project on Carboniferous rhizodontid fishes. In 1958 he registered for a doctorate at Cambridge University under Dr Rex Parrington, working on the dicynodont *Tetragonias*, which Parrington had collected on an expedition to East Africa in the 1930s. This resulted in a very detailed anatomical description of the genus including an analysis of its feeding and locomotor abilities, and began Arthur's lifelong love of dicynodonts.

On achieving his Ph.D., Arthur was appointed to a lecturing post in the Department of Zoology at Edinburgh University and in 1966 he took up a position at Napier College, Edinburgh. While in Edinburgh he met his future wife, Enid, who was then a student from Denholm near Hawick, on the Scottish Borders. They were married in 1963. In 1967 Africa called again and the Cruickshanks moved to the University of the Witwatersrand, Johannesburg, South Africa, where Arthur had been appointed Assistant Director of the Bernard Price Institute for Palaeontological Research (BPI). He had previously visited South Africa in 1963, when he studied the dicynodont *Lystrosaurus* before joining a combined British Museum (Natural History) [now the Natural History Museum, London] and South African Museum [now Iziko Museums] expedition through East Africa.

One of the dicynodonts which he helped to collect on this expedition was subsequently named *Angonisaurus cruickshanki* in his honour by Cox & Li in 1983.

At the BPI Arthur continued to research Triassic dicynodonts and also began to publish on the basal archosaurs from the Karoo, a taxonomic group which until then had been largely neglected. His first postgraduate student, Chris Gow, did his M.Sc. on the milleretids followed by a Ph.D. on *Prolacerta*, which turned out to have more to do with rhynchocephalians than lizards. Also, with his PhD student, Sharon Chernin, Arthur undertook research on Triassic temnospondyl amphibians from Africa. Later, in collaboration with the engineer, Beric Skews, of the University of the Witwatersrand, he undertook a hydrodynamic study of Palaeozoic nectridean amphibians. They concluded that these amphibians, which lived on the bottom of rivers, were 'ambush predators' that raised their heads into the flow to gain a rapid lift force to help them lunge upwards at prey.



During his decade at the BPI, Arthur promoted the teaching of topics in palaeontology in several departments of the University's Science Faculty, including in the departments of Botany, Geology, and Zoology, and as a result a steady stream of post-graduate students came to the BPI for further specialised training in Palaeontology. He had a friendly and easy rapport with students at all levels, and was especially encouraging to the Institute's post-graduate students. His own broad interests meant that he could give valuable academic and practical advice to students from many different backgrounds.

In his quest to promote palaeontology and the teaching of evolution in a South Africa still tightly in the grip of ultra-conservative, Calvinistic policies in education - which specifically forbade the teaching of these subjects in state schools - Arthur was instrumental in designing and setting up interpretative exhibitions in the BPI's small museum, and in promoting visits to the museum by parties of school children, especially those in the younger formative age-groups.

Arthur had joined the BPI at a difficult period in its history, when it was languishing after the departure of its senior scientific officer, A.S. Brink, to join the ill-fated Museum of Man and Science. Its staff was small, essentially consisting of James W. Kitching, then occupying a technical role on the staff, and it was administered on a part-time basis by the retired senior South African geologist, S. H. Haughton. Arthur's appointment was as Assistant Director.

The Cruickshank family returned to Scotland in 1978, from where Arthur continued to collaborate with South African colleagues for many years. At this time the discipline of therapsid palaeontology was in a period of taxonomic 'lumping' following the Broomian era of excessive 'splitting' and in 1979, in collaboration with Andre Keyser, Arthur published a definitive paper entitled *The Origins and Classification of Triassic Dicynodonts*.

His research interests on a variety of tetrapod taxa led to wider investigations with John Anderson, and to the publication of groundbreaking overviews of global Permo-Triassic vertebrate faunal successions and the correlation of fossil faunas from different continents.

In 1985 the Cruickshanks moved to Leicestershire where Arthur had accepted a contract post at the Leicestershire Museums Service. Here he began his work on Jurassic and Cretaceous plesiosaurs which led him back to South Africa, as well as to study these animals in Australia and New Zealand - an interest that occupied him for the rest of his life. The South African link was reinforced with his description of *Leptoclidus*, the only plesiosaur known from the country. His ongoing research, much of it in collaboration with others, has stimulated much work on these animals in recent times.

In addition he explored the application of CT-scanning to study the internal structure of plesiosaur nasal passages as early as 1991, and in the early 2000s was part of the team which scanned a hollow 'mouldic' dicynodont skull fossil inside a block of sandstone from Morayshire. The data were used to create a 3-D computer-generated rendition of the skull, and then to rapid-prototype it in plastic, in one of the pioneering uses of this technique in palaeontology.

Arthur was a founder member of the Palaeontological Society of Southern Africa (PSSA) in 1976, and he remained a loyal supporter of palaeontology in South Africa. He and Enid were regular attendees of the biennial meetings of the PSSA and the South African palaeontological fraternity welcomed and greatly appreciated their attendance. Cruickshank was a long-standing member of the Palaeontological Association and served on its Council as Institutional Membership Treasurer from 1990 to 1992. For many years he was a Fellow of the Geological Society, and also a member of the Institute of Geologists. He also served variously on the councils and committees of the Zoological Society of Southern Africa, the Geological Society of South

Africa, South African Society for Quaternary Research, and the University of the Witwatersrand Faculty of Science. He was on the Museum of Man and Science Board of Governors in South Africa, Chairman of the Dinosaur Society (UK), and sat on the Tutorial and Counselling Staff Committee of the Open University in Scotland. Beyond this, Arthur was a man who always had time for students, and any scientists who enjoyed any of the number of topics in which he was well versed. Failing a long talk on dicynodonts, one could always turn to amphibians, archosaurs or plesiosaurs - and failing that, any aspect of flying.

In 2006 the Cruickshanks moved back to the Borders and lived first in Denholm and then later in Hawick. He suffered the debilitating effects of bowel cancer with remarkable resolve and cheerfulness, and died in the Borders General Hospital at Melrose following a fall at home.

A dedicated family man, Arthur Cruickshank is survived by his wife, Enid, their children Peter, Susan, and David, and three grandchildren.

Bruce Rubidge
Mike Raath
John Hancox



Heidi Anderson with
Arthur and Enid (2010)

Letters from Enid Cruickshank:

These photos were taken at a new display in the refurbished Royal Scottish Museum in Edinburgh. I think both our sons must have been taken to every palaeo site and display there was where-ever we visited and are obviously deciding to continue the tradition with their sons. So we must have done something right!

Best wishes
Enid C



Dear Rose

Please could you convey our family's appreciation of all the emails and messages of support that we received during Arthur's illness and since he died. He kept his interest in palaeo until about the last month of his life when he got too frustrated with his incapacity to cope with his email. That didn't mean to say he wasn't able to have an active conversation with visitors. He was very touched by your request for people to think on him in a recent PalNews and he always remembered his days at the BPI with enjoyment of the palaeo even if the politics were a constant source of irritation.

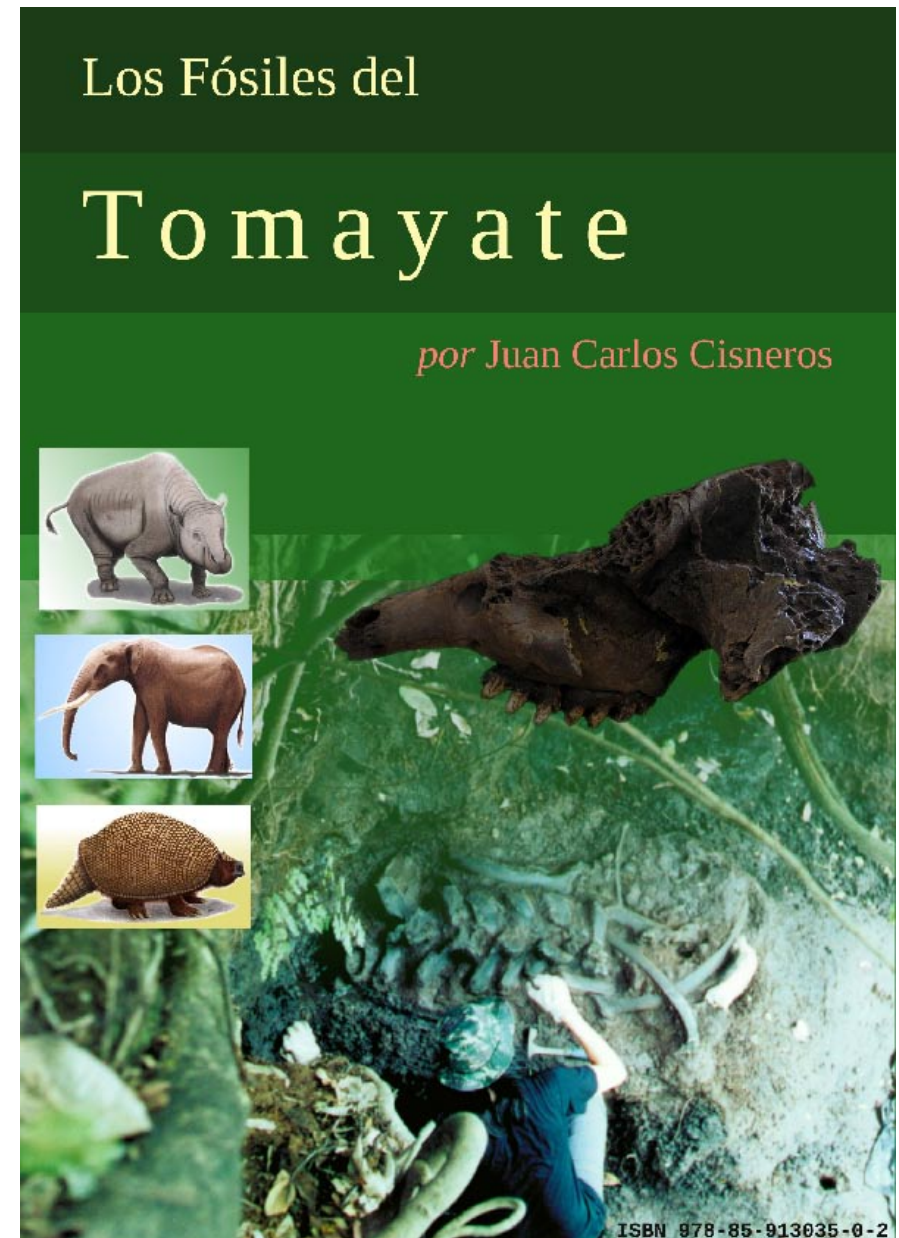
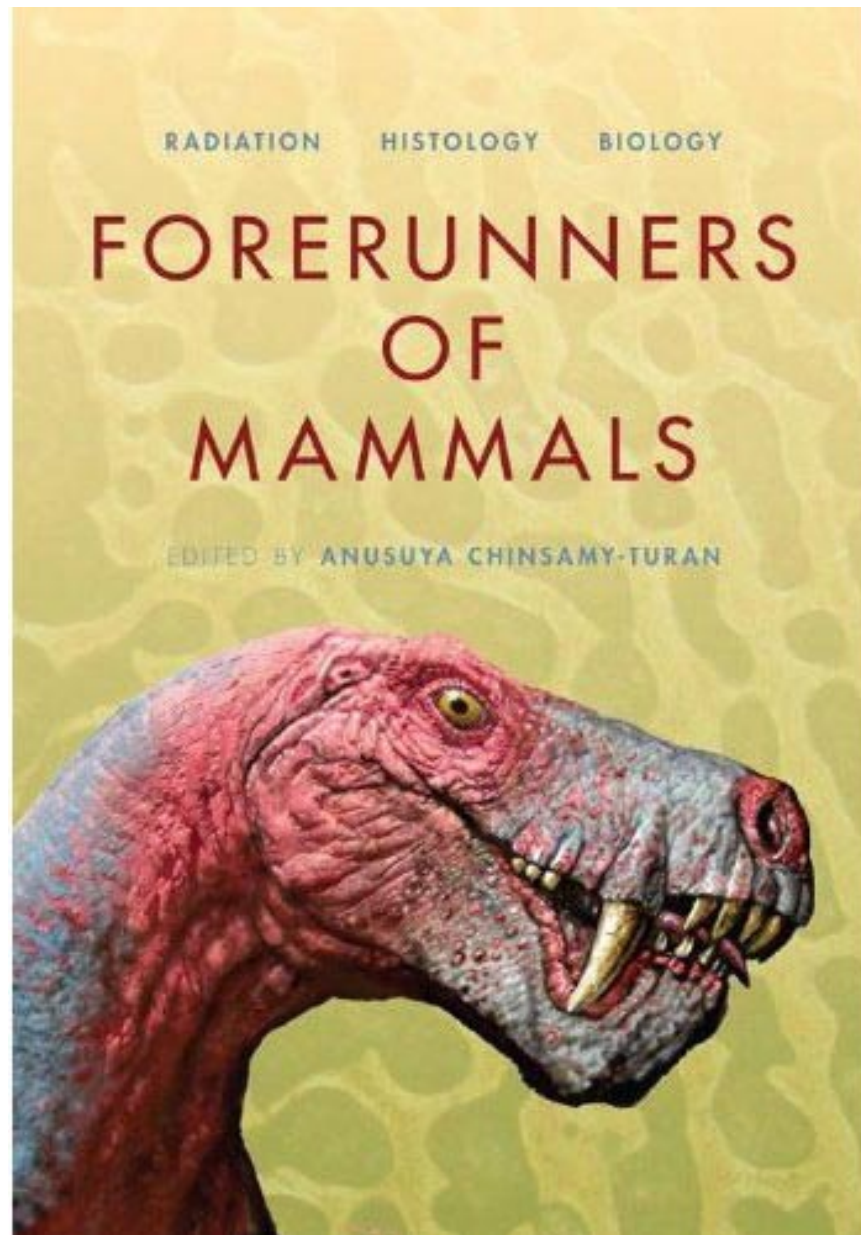
Palaeontology widened my horizons enormously - I would never have had the opportunities to travel that I did as I accompanied Arthur on his wide-ranging trips. Always we were met with friendly faces in fascinating places. After all we started our married life with 3 months in Cape Town in 1963 and not many of my Scottish friends can boast that one! Then visiting East London museum en route to Durban and meeting the formidable lady in charge there - Latimer was she?, and the coelocanth and the *Kanneymeria* skeleton - wow! Nor have many have had to explain to the Customs in Cape Town, as I arrived by ship with two small children a few years later carrying a large box of fossils, that I was actually returning a fossil not taking it away. I've sailed all round Africa - can't do that any more - flown right around the world to meet up with Arthur in Sydney. Driven the length of New Zealand and at least half the width of Australia, never mind the miles and miles of Southern African roads. All because I persuaded him to give a lecture on his fossils to the annual Scottish Universities Conference in 1961 just after he had returned to Edinburgh. What things lead to! And I was just a farmer's daughter who would probably have married another farmer and hardly moved out of Scotland if there hadn't been the other option.

Think of Arthur on the 29 February: he would have been celebrating his 20th birthday and that was another unusual thing about him.

Best wishes and many thanks to you and all South African palaeontologists.

Enid Cruickshank

NEW PALAEO-BOOKS



LETTER TO THE EDITOR

THACKERAYS AND RUBIDGES: COMMON ANCESTORS AND RELATIVES

I note that in a photograph in PAL NEWS (Volume 18, Number 2, page 9, September 2011), Bruce Rubidge (the therapsid expert) and Francis Thackeray (me) are standing in the same group, at a Broom Colloquium, and in the caption there is reference to a certain "**Bruce Thackeray**".

It's true that Bruce is not a common name in the Thackeray family. I happen to know that there is a Bruce Thackeray in Victoria, British Columbia, Canada. Quite possibly he and I have a common ancestor. We may be descended from a Francis Thackeray whose multitudinous descendants (centuries later) are scattered far and wide, globally, across various domains of the disjunct elements of Pangaea.



William Makepeace Thackeray
(1749 - 1813)



Francis Thackeray
(1793 - 1842)

William Makepeace Thackeray (senior, born 1749) is my great great great grandfather and I have his portrait in my study (see image). He was the grandfather of the novelist of the same name (William Makepeace Thackeray junior).

The author of Vanity Fair gave Francis (my great grandfather) a silver teapot, which is still in the family, with an affectionate note with reference to Oxford where my great grandfather Francis Thackeray was ordained a priest by Samuel Wilberforce in 1860, in the year in which the Great Debate was held in the Oxford University Museum. Remarkably, my great grandfather was an amateur palaeontologist as well as a priest, and some of his collections of fossils are still at the museum at Eton School where he was appointed Master.

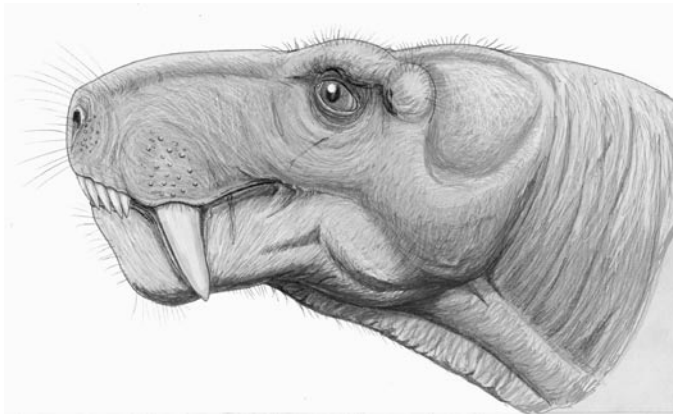
The Thackerays can trace a lineage of generations back to 1066 AD. My very distant ancestors in England went out of their way to record family history. The Victorian Thackerays went so far as to compile a book of ancestors, called "The Pedigree Book", which was updated by my wonderful aunt, Rachel Thackeray, who enthusiastically introduced me to the Natural History Museum in London 50 years ago, when I was taken behind the scenes to see Wonderful Things. The original *Archaeopteryx* made a deep impression on me.

My DNA tells me that I am probably descended from human populations that were centred around France about 30,000 years ago. So I can identify myself with Upper Palaeolithic cave artists whose polychrome paintings of bison, lions, mammoths and horses are so dramatic. I have been privileged to see awesome original Upper Palaeolithic paintings at Lascaux, Chauvet and many other cave sites, and I like to think that they are the work of my distant relatives.

But ultimately I have African origins, and I like to think that I am closely related to Mrs Ples and his family. (See below image, courtesy of Wikipedia).



Even more remarkable is the fact that distant Thackeray relatives (not direct ancestors) can be traced as far back as Permian therapsids, including *Rubidgea*. (See below image, courtesy of Wikipedia). So Thackerays and *Rubidgea* are part of an extended family. And I must try to track down that Bruce Thackeray who lives in British Columbia, as part of Pangaea.



Thanks, Rose, for compiling PAL NEWS !

Francis Thackeray IV

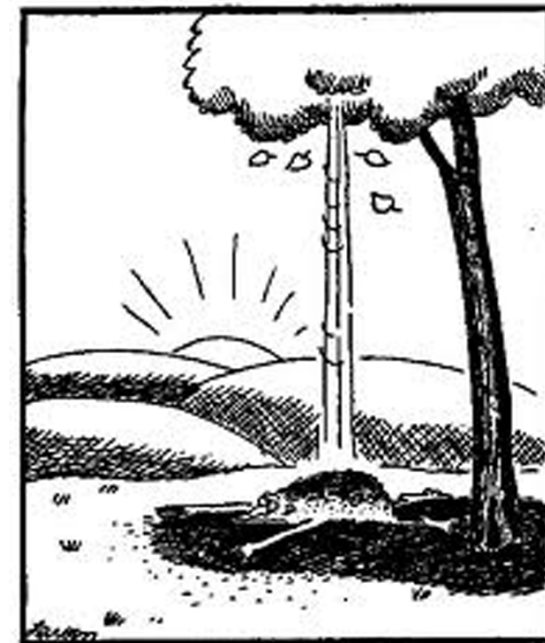
REPLY FROM THE EDITOR

Dear Francis,

Thank you for drawing attention to my grave oversight. It was a travesty to attribute a specimen such as Bruce to your clan, despite the definite possibility that you do indeed share a common ancestor that lived sometime during the last 260 million years. Since I have had some difficulty in deciding to whom I should apologise (to you or to Bruce?), I shall simply state that it is a great honour to be related to you both!

Best wishes

Rose



The Dawn of Man

LINKS AND ARTICLES

Thanks to Francis Thackeray for the following fascinating contribution:

Predator-prey interactions at Swartkrans and Sterkfontein, South Africa

J.F. Thackeray

Director, Institute for Human Evolution

University of the Witwatersrand, Johannesburg 2050 South Africa

Francis.thackeray@wits.ac.za

Copeland *et al.* (1) present an interesting set of strontium isotope data from the teeth of South African australopithecines from Swartkrans and Sterkfontein, indicating that as many as 75% of purported females were non-local individuals, whereas 83% of the purported males were local to the dolomitic cave environment.

There is the possibility of exploring these results deeper in terms of predator-prey interactions. We know that leopards among other carnivores were important agents of accumulation in the Sterkfontein valley in the early Pleistocene (2). Leopards are known to prey upon small primates (including baboons), small antelope and rock-rabbits (*Procavia*) which are the very kinds of animals which are represented in the Swartkrans and Sterkfontein cave deposits and which have been studied by Copeland *et al.* (1).

Remarkably, the small fauna such as *Procavia* and baboons do show a high "local" signal in terms of strontium ratios, reflecting the fact that leopards and other agents of accumulation were preying upon fauna that were local to the dolomitic caves. In terms of the australopithecines (which are known to have been preyed upon by leopards at sites such as Swartkrans (2)), one might infer that among females, leopards preyed primarily on vulnerable non-local individuals who were

not yet assimilated into the social groups of australopithecines.

Conversely, among male australopithecines, it was the territorial local individuals who were more vulnerable to predation on account of being exposed to try to attack or defend through territorial behaviour.

Thus strontium isotope data may have implications not only with regard to differences in land-use and social behavior of australopithecines, but also with regard to predator-prey interactions, recognizing that leopards in particular were important agents of accumulation at Swartkrans and elsewhere.

1. Copeland et al. 2011. Strontium isotope evidence for landscape use by early hominins. *Nature* 474, 76-79. (2011)
2. Brain, C.K. *The Hunters of the Hunted ? An introduction to African cave taphonomy.* University of Chicago Press, Chicago. (1981)



Primitive spelling bees

Academic facebook?

Check out the academic networking site www.academia.edu - an excellent way to follow colleagues' work, and a forum to share publications.

Ancient amoebas

See this article on a recent paper that appeared in *Science*, on 570 million-year-old fossils initially thought to represent embryos of some of the earliest multicellular animals, but now re-interpreted as amoeba-like organisms. The resolution of the x-ray tomography the researchers performed on these tiny fossils is incredible - ten-thousands of an inch, revealing nuclei in the process of dividing!

Thanks to Billy de Klerk for the link:

http://www.wired.com/wiredscience/2011/12/doubt-earliest-animal-fossils/?utm_source=pulsenews&utm_medium=referral&utm_campaign=Feed%3A+wiired%2Fscience+%28Wired%3A+Science%29

Thanks to Francis Thackeray for submitting the following:

Darwinian treasure trove

LONDON (AP) - British scientists have found scores of fossils the great evolutionary theorist Charles Darwin and his peers collected but that had been lost for more than 150 years.

Royal Holloway, University via AP

This image (*you'll have to use your imagination - ed.*) made available on Tuesday shows a polished section of fossil wood from the cabinet of Rev. John Henslow, Charles Darwin's mentor at Cambridge, comprising a 150 million-year-old tree.

Dr. Howard Falcon-Lang, a paleontologist at Royal Holloway, University of London, said Tuesday that he stumbled upon the glass slides containing the fossils in an old wooden cabinet that had been shoved in a "gloomy corner" of the massive, drafty British Geological Survey.

Using a flashlight to peer into the drawers and hold up a slide, Falcon-Lang saw one of the first specimens he had picked up was labeled 'C. Darwin Esq.' "It took me a while just to convince myself that it was Darwin's signature on the slide," the paleontologist said, adding he soon realized it was a "quite important and overlooked" specimen. He described the feeling of seeing that famous signature as "a heart in your mouth situation," saying he wondering "Goodness, what have I discovered!"

Falcon-Lang's find was a collection of 314 slides of specimens collected by Darwin and other members of his inner circle, including John Hooker - a botanist and dear friend of Darwin - and the Rev. John Henslow, Darwin's mentor at Cambridge, whose daughter later married Hooker. The first slide pulled out of the dusty corner at the British Geological Survey turned out to be one of the specimens collected by Darwin during his famous expedition on the HMS Beagle, which changed the young Cambridge graduate's career and laid the foundation for his subsequent work on evolution.

Falcon-Lang said the unearthed fossils - lost for 165 years - show there is more to learn from a period of history scientists thought they knew well. "To find a treasure trove of lost Darwin specimens from the Beagle voyage is just extraordinary," Falcon-Lang added. "We can see there's more to learn. There are a lot of very, very significant fossils in there that we didn't know existed." He said one of the most "bizarre" slides came from Hooker's collection - a specimen of *Prototaxites*, a 400 million-year-old tree-sized fungus.

Hooker had assembled the collection of slides while briefly working for the British Geological Survey in 1846, according to Royal Holloway, University of London. The slides - "stunning works of art," according to Falcon-Lang - contain bits of fossil wood and plants ground into thin sheets and affixed to glass in order to be studied under microscopes. Some of the slides are half a foot long (15 centimeters), "great big chunks of glass," Falcon-Lang said. "How these things got overlooked for so long is a bit of a mystery itself," he mused, speculating that perhaps it was because Darwin was not widely known in 1846 so the collection might not have been given "the proper curatorial care."

Royal Holloway, University of London said the fossils were 'lost' because Hooker failed to number them in the formal "specimen register" before setting out on an expedition to the Himalayas. In 1851, the "unregistered" fossils were moved to the Museum of Practical Geology in Piccadilly before being transferred to the South Kensington's Geological Museum in 1935 and then to the British Geological Survey's headquarters near Nottingham 50 years later, the university said.

Also see the link:

<http://www.pbs.org/newshour/rundown/2012/01/discovering-darwin-from-the-back-of-a-cabinet.html>

PSSA MEMBERS AND FRIENDS - EMAIL

Abdala, Fernando
 Allinson, Matt
 Almond, John
 Anderson, John
 Anderson Holmes, Heidi
 Angielczyk, Ken
 Avery, Graham
 Backwell, Lucinda
 Baker, Stephanie
 Bamford, Marion
 Battail, Bernard
 Bender, Patrick
 Berger, Lee
 Blackbeard, Marc
 Blumenschine, Rob
 Bordy, Emese
 Botha-Brink, Jennifer
 Boyd, Glen
 BPI secretary
 Braga, Jose
 Brain, Bob
 Brink, James
 Browning, Claire
 Butler, Elize
 Carlson, Kristian
 Chinsamy, Anusuya
 Cisneros, Juan
 Coates, Michael
 Codron, Daryl
 Cohen, Brigitte
 Cowley, Ron
 Cruickshank, Enid
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 Govender, Romala
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 Groenewald, Gideon
 Haarhoff, Pippa
 Hancox, John
 Haughton, Kimberly
 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
 Maguire, Judy
 Mason, Tom
 Matthews, Thalassa
 McCrae, Ceri
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Many thanks for your help! -Ed.



**NEXT DEADLINE FOR CONTRIBUTIONS:
 FRIDAY 13 JULY 2012**