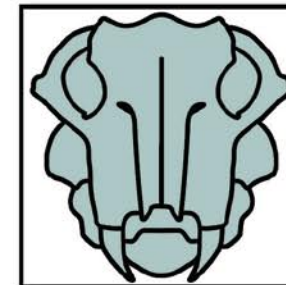


PALNEWS

BIANNUAL NEWSLETTER OF THE PALAEONTOLOGICAL SOCIETY OF SOUTHERN AFRICA

(HALFJAARLIKSE NUUSBRIEF VAN DIE PALEONTOLOGIESE VERENIGING VAN SUIDER AFRIKA)

Vol/Band 17 No. 3



February 2010



100 µm

Elphidium articulatum



500 µm

Ammonia gaimardii



100 µm

Spiroloculina ornata



100 µm

Bulimina marginata



500 µm

Lenticulina formosa



500 µm

*Quinqueloculina
seminulum*



100 µm

Bolivina cf. pseudoplicata



500 µm

*Nodosaria
vertebralis
var. albatrossi*



500 µm

Dentalina filiformis



100 µm

*Virgulina cf.
skagerakensis*



200 µm

Lagena strumosa



200 µm

Amphicoryna scalaris



100 µm

Hastigerina pelagica



100 µm

*Globigerinella
aequilateralis*



100 µm

Globorotalia dutertrei

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Front cover: Foraminifera from sediments of the Thukela Shelf; photographs extracted from a poster presented by Maria Ovechkina at the 50th Anniversary ZSSA Conference, Illovo Beach, July 2009 .

EDITORIAL

Dear Friends and Members of the PSSA,

Many thanks to those of you who sent in your news - there was a great response, and there is quite a substantial issue for your perusal.

There have been some exciting finds reported for the past six months, ranging from new dinos in the Free State to Cretaceous beetles in the Eastern Cape. Rob Gess and Mike Coates have been brewing up more spectacular fishy finds from the Devonian, and there has been a barely suppressed buzz of excitement at the BPI and IHE about a stupendous new hominin discovery made by Lee Burger and his group. I can't wait to hear more!

There has also been a flurry of activity regarding collections management, with lots of effort going into exhibits and curation at the Council for Geoscience (both the Bellville and Pretoria branches), the BPI (including the relocation of the extensive Molteno collections from SANBI), the Iziko SA Museum, the West Coast National Park and the Ditsong National Museum of Natural History.

Some sad news (for us, not necessarily for him!) is that Herbie Klinger, the curator of Invertebrate Palaeontology & Geological Collections at Iziko Museums of Cape Town, is going to retire this year. It is fantastic that he will continue to pursue his research interests from home, but I do hope that his post will be filled by another fossil invertebrate palaeontologist. We really desperately need more people working on our spectacular invertebrate fossil heritage. It is wonderful that we now have a micropalaeontologist in SA academia, Maria Ovechkina, even though she does not hold a permanent position at UKZN.

It is encouraging that the DST/NRF are taking an interest in the plight of SA palaeontology in the midst of the manpower crisis we are experiencing. In October last year stakeholders from most SA institutions currently involved in palaeontological research/curation met with government and NRF representatives at a workshop in Johannesburg, to discuss the status quo of palaeontology in South Africa. Thank you to our president, Johann Neveling, for compiling a report on the meeting (p. 27). Thanks are also due to Mike Raath for his dedication to the task of surveying our national geological and palaeontological collections on behalf of the NRF. It remains to be seen how all of this information will be put to use.

Richard Rubidge's contribution to palaeontology was recognised recently when he was awarded the Stevenson Hamilton Award by the Zoological Society of Southern Africa for his dedicated efforts in the curation of the famous Wellwood collection (see p. 26). Many thanks to Billy de Klerk for bringing this to our attention.

Don't forget the PSSA congress to be hosted by the Two Mikes in KZN later this year (see p. 29-30) for the latest circular). At least the World Cup mayhem should be over by the time you need to make travel arrangements! Also bear in mind another local meeting, the Langebaanweg 2010 conference (see p. 30) in November.

Wishing you all a wonderful and productive year ahead!

Best wishes
Rose

ALBANY MUSEUM & RHODES UNIVERSITY

Rose Prevec

By far the best news to have emerged from the Albany Museum over the past six months is that Billy is well on the road to recovery after having undergone a kidney transplant in November. Such a great relief to see him getting back to his old (young?) self! We can look forward to exciting things from Billy and his dinosaur working group in the next year...

The arrival of a second bundle of joy in April, presented me with even more challenges regarding field and research time last year, but things are picking up again, as I become more proficient at juggling life's many wonderful facets. This is my final year of postdoctoral support through the African Origin's Programme - many thanks to Bruce Rubidge and the NRF for keeping me afloat.

I have been itching to get back to work on the KZN glossopterid floras from Somkhele mine and Kwa Yaya. The Somkhele material in particular contains some new elements that need to be described, and Cindy Looy (Berkeley University, USA) has recovered pollen from the site, which may help to shed light on the age of the flora. I also need to work up a detailed taxonomy in time for Conrad Labandeira's (Smithsonian Institution) visit in May, when we will commence another gruelling session of data collection for our insect-plant interactions project.

Work continues on glossopterid fructifications, in collaboration with Steve McLoughlin (Natural History Museum, Stockholm), and I hope to submit a couple more taxonomic papers during the course of the year, including the most important discoveries from my Ph.D. thesis, on the structure of *Elatra (Hirsutum) leslii*.

Sean Linkermann has registered for a Ph.D. in the Geology Department at Rhodes University this year, under the supervision of and myself. We plan to do lots of E.C.-based

fieldwork in search of new plant fossil localities, so that we can begin to better understand the floras of the Middle Permian and get an idea of how they changed in the prelude to the major Permian-Triassic biological turnover.

Publications:

Aristov, D.S., **Prevec**, R. & Mostovski, M.B. 2009. New and poorly known grylloblattids (Insecta: Grylloblattida) from the Lopingian of the Lebombo Basin, South Africa. *African Invertebrates* 50 (2): 279-286.

Bordy, E.M. and **Prevec**, R. 2009. Lithostratigraphic description of the Emakwezini Formation. *Catalogue of the South African Lithostratigraphic Units: South African Committee for Stratigraphy*.

Prevec, R. and Bordy, E.M. 2009. Book review: *Plant-Arthropod Interactions in the Early Angiosperm History - Evidence from the Cretaceous of Israel*, edited by V. Krassilov and A. Rasnitsyn: *African Entomology* 17(1): 120-121.

Prevec, R., Labandeira, C.C., Neveling, J., Gastaldo, R.A., Bamford, M.K., and Looy, C.V. 2009. Portrait of a Gondwanan ecosystem: a new Late Permian locality from KwaZulu-Natal, South Africa. *Review of Palaeobotany & Palynology* 156:454-493.

COUNCIL FOR GEOSCIENCE

Claire Browning (Cape Town branch)

The Council for Geoscience, Cape Town (Bellville) is moving into newly renovated offices in mid-February. The Council has a fairly extensive collection of fossil material collected by various scientists over the years in the Western and Northern Cape. This collection was recently reorganized and curated by **John Almond** (contracted by the CGS) to make it more accessible for palaeontological research. The next phase of the Bellville fossil collection revamp is to catalogue the collection and enter the data into a digital database that will be compatible with systems used elsewhere in SA. There have also been modifications made to the Bellville offices to include basic research facilities needed for visiting scientists to work on the collection. The main strengths of the collection are the body and trace fossils from the Ediacaran / Cambrian Nama and Vanrhynsdorp Groups,

the Early to Mid Palaeozoic Cape Supergroup and the Permian Ecca Group of the Western Cape.

Anyone who would like more information on the collection can contact me on cbrowning@geoscience.org.za or 021-914 9989.

Johann Neveling (Pretoria branch)

Work has been progressing quietly at the CGS. For the past few months, **Ellen de Kock** has been busy with routine work on the collection, improving the card catalogue and database as well as storage. The volunteer program is running smoothly, meeting once a month on a Saturday to get listing and photography done. **Piet Reitz** is helping every Tuesday morning with small duties in the collection.

Ellen gave a presentation at the National SAMA conference in Port Elizabeth in September 2009, highlighting the challenges and progress on the fossil collection and database. 2010 will bring some personal challenges for Ellen as she will become a first time mom in April and will be on maternity leave until early August this year. All enquiries for the collection in this time can be forwarded to Johann Neveling, but Ellen can still be contacted for urgent matters at her usual email address.

Research time has been very limited for Johann in 2009, but fortunately the first results of three long-running projects were published during the course of the year. He hopes for more of the same and more field time in 2010.

DITSONG National Museum of Natural History (formerly Transvaal Museum)

Stephany Potze

A happy 2010 to all and may this be a great year filled with lots of fossil fun!

I would like to start off by informing you that as of the 18th December 2009 the name Transvaal Museum was officially relegated to the annals of history. The museum's name is now DITSONG: National Museum of Natural History.

2010 kicked off with a hominin postcranial workshop held in honour of Dr Charles Lockwood (5th- 9th January 2010) arranged by Drs Brian Richmond, Carol Ward and Bernhard Zipfel. The museum was visited by the participants on the 7th January and all went very well. The workshop was a great success and congratulations to the above mentioned organizers!

Lazarus Kgasi and I are still working on Bolt's Farm material along with our colleagues from the CNRS in Paris, Drs Dominique Gommery and Frank Sénégas. Fieldwork at Bolt's Farm will take place in April and we are planning a small Bolt's Farm exhibition to be opened at the museum at the end of November 2010.

On the subject of exhibitions, the opening of the dinosaur exhibition entitled "Mesozoic Monsters" has been delayed due to unforeseen circumstances, but the exhibition is due to make its debut in the first half of this year.



Men at work on "Mesozoic Monsters" exhibition

Work with our Hoogland colleagues is going strong. Dr Justin Adams is set to arrive in South Africa in May, and his visit will involve fieldwork, research and discussions about an extension of the chemical laboratory at the museum.

Last year, Matthew Caruana from the University of the Witwatersrand spent a week at the museum to be trained by Lazarus in the art of chemical preparation. Matt has plans for a return visit in March and we hope to establish collaborative projects.



Matt mixing acetic acid in the lab

Exciting and frustrating times lie ahead as the museum is set to undergo a huge renovations and maintenance project, to be carried out by the Department of Public Works. The building infrastructure is what will receive attention in the course of this project and we are all looking forward to working in a newly renovated building at the end of it all. The frustrating part is that all section's collections will have to be temporarily moved to another part of the building while the section in question is being worked on - this will cause

restrictions for visitors wanting access to study the collection. We have not yet received any clarity on exactly when which section will be dealt with, but if any of you have intentions to work on the collection I would advise you contact me by email to make arrangements (potze@nfi.museum or stephany.potze@gmail.com).

I will be off on maternity leave from mid-March, as the little monster is due to arrive on the 1st of April. I will return to the office in mid-August, so again, please contact me via email regarding arrangements to visit the collection before I am set to go on maternity leave.

IZIKO MUSEUMS OF CAPE TOWN

Herbert C. Klinger (Curator Invertebrate Palaeontology & Geological Collections)

I never thought this would happen, but come May I am due for compulsory retirement after having spent more than 40 years working on ammonites and Cretaceous stratigraphy. Now to clear out my office and find a place at home and in my garage for all the books and reprints. Fortunately this is not the end of my career. I may continue to edit African Natural History and finish a couple of ammonite papers with Jim Kennedy, who has arrived at a similar stage of his life. I managed to finish volume 5 of African Natural History - needless to say with lots of help and patience from the producer, Nico Dippenaar. One of the positive sides to retirement is that I will not be involved with moving the collections if the envisaged "courtyard" project materializes. Moving the collection once was bad enough, but that was thirty years ago.

Roger Smith (Iziko SA Museum, Karoo Palaeo Lab)

Permo - Triassic Boundary Projects

In July 2009 I joined palaeontologists Sebastien Steyer (Paris), Chris Sidor (Seattle), Ken Angielzyk (Chicago) and Robyn Whatley (Chicago) on a foray into the Luangwa valley of Zambia. We were fortunate to have 3 local residents, Steve Tolan (as our main guide and amateur fossil fanatic), Adam Goulding (geologist) and Jack Menke (expedition doctor) join us for the month-long expedition. The main aim of the trip was to visit several Late Permian fossil localities in the Madumabisa Mudstone Fm that were originally collected by James Kitching (Wits) and Tom Kemp (Oxford) with a view to checking their co-occurrence of *Lystrosaurus* and *Dicynodon* fossils with the possibility that a complete PT boundary sequence is preserved. We also wanted to check the fauna of the Madumbisa and overlying mid Triassic N'twere Fm to tighten up the biostratigraphic correlation with similar-aged strata in the main Karoo Basin of S. Africa and our recent collection from the Usili and Manda formations of Tanzania.

We had the usual driving adventures negotiating hippo-laden rivers in North and South Luangwa National Parks on our way to some very remote sites where the outcrops were few but the fossils were prolific. A total of 66 separated localities were logged and 64 vertebrate fossils collected for shipping back to Paris, Chicago, Seattle and Cape Town for preparation. They included a diverse array of cynodonts, dicynodonts, therocephalians, gorgonopsians, pareiasaurs and hundreds of amphibian bits. Early stages of prep have already yielded a new cynodont taxon that Chris briefly presented at the SVP conference in Bristol last year.

A 2 week field trip to Nieu Bethesda in November yielded a whole lot more surprises- the palaeo team found another 50 fossils on either side of the PT boundary which have now complicated the original story somewhat. The stratigraphy of the upper Balfour Fm in this area is quite well defined such that



Ken Angielzyk guarded by an armed anti-poaching ranger in North Luangwa National Park, Zambia. Ken is holding a dicynodont skull heavily encrusted with calcarous nodular material that he has just found in mudrocks of the Late Permian Madumabisa Fm.



Archosaur vertebra and spiral coprolites found in a pond deposit along with fish, amphibians, bivalves and stromatolites, from Mid Triassic N'twere Fm, North Luangwa National Park, Zambia.

we were able to confine the systematic collecting and logging efforts to the approximately 160 m thick interval of mudrocks from the top of the Baberskrans Member to the base of the Katberg Formation. Interesting taphonomic and sedimentological patterns are emerging through the extinction event as well as some unpredictable associations of vertebrate taxa that we are waiting to get prepared before making final judgments on their exact identification.

Early-Triassic Recovery Project

This aspect of the extinction story is being covered by **Jennifer Botha** (National Museum Bloemfontein) and myself with a 3 year grant from the DST African Origins Platform via Bruce Rubidge's big Karoo project. Last year Jennifer gave birth so we had to postpone our Bethulie fieldwork which gave us a chance to let the preparation catch up. Two very interesting specimens that have come out of the labs recently are aggregations of articulated therapsids preserved inside large flattened brown-weathering micritic nodules. It is most likely that they died together in either underground burrows or shallow depressions in the floodplain. One aggregation consists of aligned skeletons of *Lystrosaurus*, *Galesaurus* and a small therocephalian, the other is of two partially disarticulated curled long-necked and long-tailed archosauromorphs with an isolated *Lystrosaurus* humerus.

Honours student, **Pia Viglietti**, from UCT geology completed a dissertation on a *Lystrosaurus* bonebed that we recovered from this area a few years back. She may have found some eggshell associated with this chaotic mix of 7 disarticulated sub-adult *Lystrosaurus declivus* specimens. She has shown that they are not so chaotic and that the skeletons really just fell apart with minimal transportation. She has decided to continue working on the origin of these enigmatic bonebeds with a masters project entitled "Fluvial environments, vertebrate taphonomy and palaeosol geochemistry of the Early Triassic Katberg Formation in the Karoo Basin, South Africa".

In September I presented a summary of our biostratigraphic data at the Mesozoic Terrestrial Ecosystems conference in Teurel, Spain followed a week later by a paper at SVP in Bristol on burrowing as a survival strategy in the earliest Triassic Karoo Basin and implications for the evolution of mammals.

Friends of the museum annual Karoo trip

This year 40 Friends of the museum descended on the holiday farm of Meltonworld near Victoria West for the annual Karoo trip. We spent 3 days walking the slopes looking for fossils and reading the rocks. Cindi and Zaituna (two preparators from the Karoo lab) helped me look after the group and made sure that no specimens were abused in the process. Evenings were filled with slide shows and socializing by the log fire in the English pub. Notable fossils collected included a medium sized *Aulacephalodon* skull, a therocephalian (?*Ictidosuchus*), a younginid skeleton and a *Cistecephalus* skull.

African Dinosaur display

This has been a long time in the making but is coming together - we have completed full sized fleshed up models of *Massospondylus*, *Syntarsus*, 2x *Heterodontosaurus* and 2x *Megazostrodon* models for our two dioramas. The skeleton of the large theropod *Suchomimus* from Niger is up and painted, standing behind the *Jobaria* sauropod mount we did last year. I am working with Colin Payne the designer on the script and final paste up for the panels and Zaituna, Cindi and Annelise are working on cleaning up fossils for the display- including some new blocks from the *Euparkeria* bonebed, collected by Gogga Brown, which contain some very nice articulated post crania.

Publications:

Abdala, F. and **Smith, R.M.H.** (2009) Gondwanan Middle Triassic cynodonts and the Namibian connection. *Journal Vertebrate Palaeontology* 29, 837-851.

Angielczyk, K.D., Sidor, C.A., Nesbitt, S., **Smith, R.M.H.** and Tsuji, L. (2009). The postcranial skeleton, taxonomy, biostratigraphy and biogeography of the dicynodont *Kingoria nowacki* (Therapsida, Anomodontia). *Journal of Vertebrate Palaeontology*, 21, 1-14.

- Nesbitt, S., Sidor, C.A., Angielczyk, K.D., **Smith, R.M.H.** and Tsuji, L. (in press). Global radiation of an ecologically distinct dinosaurian sister-group. *Nature* Feb 2010.
- Sidor, C., Angielczyk, K., Weide, D., **Smith, R.M.H.**, Nesbitt, S. and Tsuji, L. (in review). Tetrapod fauna of the lowermost Usili Formation (Songea Group, Ruhuhu Basin) of southern Tanzania, with a new burnetiid record. *Journal of Vertebrate Paleontology*.
- Simon, R., Sidor, C., Angielczyk, K. and **Smith, R.M.H.** (in review) First record of a tapinocephalid (Therapsida: Dinocephalia) from the Ruhuhu Formation (Songea Group) of southern Tanzania. *Journal of Vertebrate Paleontology*.
- Smith, R.M.H.**, Marsicano, C.A. and Wilson, J.A. (2009). Sedimentology and Paleocology of a Diverse Early Jurassic Tetrapod Tracksite in Lesotho, Southern Africa. *Palaios*, 24, 672-684.
- Weide, D.M., Sidor, C.A., Angielczyk, K.D. and Smith, R.M.H. (2009). A new record of *Procynosuchus delaharpeae* (Therapsida: Cynodontia) from the Upper Permian Usili Formation, Tanzania. *Palaeontologia Africana*, 44, 21-26.
- Wilson, J.A., Marsicano, C.A. and **Smith, R.M.H.** (2009). Dynamic locomotor capabilities revealed by early dinosaur trackmakers from Southern Africa. *Plos One*, 4, 1-8.

LIMPOPO UNIVERSITY, MEDUNSA

Johann Welman (Biology Department)

Palaeontology courses have been established for the third years and honours students at the University of Limpopo. We thank BPI and the National Museum who supplied casts for practicals. The emphasis is on South African Karoo and Pleistocene Palaeontology. Research has continued on archosauromorphs and the origin of birds.

Publications:

Klembara J. and **Welman J.** 2009. The anatomy of the palatoquadrate in the Lower Triassic *Proterosuchus fergusi* (Reptilia, Archosauromorpha) and its morphological transformation within the archosauriform clade. *Acta Zoologica (Stockholm)* 90: 275 - 284 (July 2009).

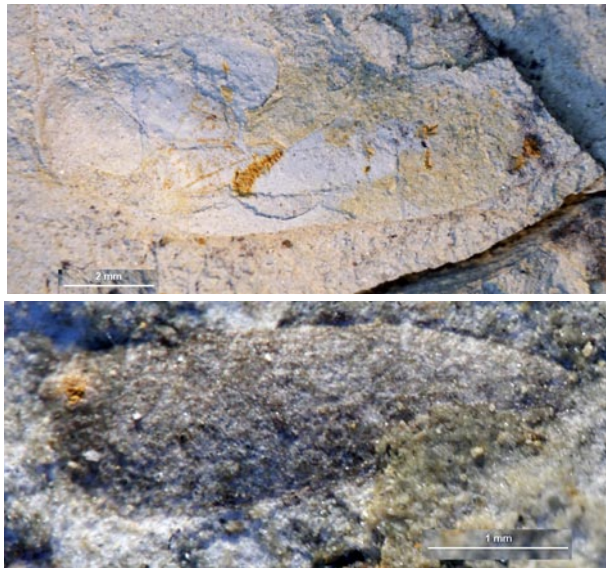
NATAL MUSEUM AND UNIVERSITY OF KWAZULU-NATAL

Mike Mostovski & Burgert Muller (Natal Museum, Pietermaritzburg)

The long-standing myth that no insects can be found in the Lower Cretaceous Sundays River or Kirkwood formations has finally been shattered. Our field trip to Heidelberg (W. Cape) and Sundays River banks (E. Cape) in 2009 has brought a modest but promising harvest. Actually, the remains of one beetle from the Heidelberg area was mentioned more than a century ago by Rogers and Schwarz in their Report on the Southern Districts between Breede River and George (1900), and again by Rogers and Du Toit in *An Introduction to the Geology of the Cape Colony* (1909). McLachlan and McMillan (1976) referred to the same record in their review of the significance of southern Cape palaeontology. This tip was left unnoticed by probably all palaeontologists and we were re-assured on many occasions that hunting fossil goggas in the Kirkwood or Sundays River beds would just waste our time. Being stubborn, we did set off to do a quick survey around Heidelberg and to revisit Sundays River cliffs (Fig. 1) on our way back from a conference in Stellenbosch. Regrettably, we could not spend more than two or three days in each place due to either worsening weather (insect impressions often become completely invisible on wet rocks) or tight schedule. Still, there was enough time to find a rather inconspicuous impression of a beetle elytron (Coleoptera) and a definite water boatman (Heteroptera: Corixidae) (Fig. 2) among countless conchostracans in a quarry near Heidelberg, and another coleopteran elytron at Sundays River! Needless to say how eager we are now to go on a longer trip back to the Cape.



Figures 1 & 2. Fossiliferous beds in a quarry near Heidelberg, W. Cape, and along Sundays River, E. Cape.



Figures 3 & 4. A water boatman from Heidelberg quarry and a beetle elytron from Sundays River.

Maria Ovechkina (Marine Geoscience Unit, UKZN)

The second half of 2009 turned to be quite hectic for me. I was busy preparing and lecturing a course on Invertebrate Palaeontology for second-years at the School of Geological Sciences. It was the first time that I have lectured a full course (in previous years I read only Micropalaeontology).

I was a bit nervous about how it would go, especially after the first test when some students decided that bivalves use their teeth to catch food and the majority of students showed that they have only a very vague idea about the global stratigraphic chart (placing the Precambrian into the Mesozoic was not the worst answer!). After all, everything went well and we finished the course with only one student (of 38!) who failed the exam.

I have been also finalising a paper on planktonic Foraminifera from sediments on the Thukela Shelf and carrying on with identification of benthic forams from the same samples; preliminary results were reported at the 50th Anniversary Conference of the Zoological Society of Southern Africa. In November I received my first NRF rating (Y2), and although I'm quite excited about it I'm still not sure where to put it. The UKZN has renewed my postdoc for 2010 (which means more teaching this year!), and the entire month of February is to be spent aboard the FRS Algoa sailing from Durban to Richards Bay, collecting more mud from the seafloor.

Publications (from both NMSA and MGU):

- Aristov, D.S., Prevec, R. & **Mostovski, M.B.** 2009. New and poorly known grylloblattids (Insecta: Grylloblattida) from the Lopingian of the Lebombo Basin, South Africa. *African Invertebrates* 50 (2): 279-286.
- Olferiev, A.G., Beniamovski, V.N., Ivanov, A.V., **Ovechkina, M.N.**, Seltser, V.B., Kharitonov, V.M. 2009. Upper Cretaceous of north Saratov Region. 1. Bolshevik Quarry section in vicinity of Volsk. *Bull. Moscow Soc. Nature Explorers, Geol. Ser.* 84 (2): 5-22.
- Mostovski M.B.** 2009. Brachyceran assemblages (Insecta: Diptera) as indicators of terrestrial palaeoenvironments in the Late Mesozoic. *Palaeontologia africana* 44: 121-125.
- Ovechkina, M.N., Watkeys, M.K.** & Kretzinger, W. 2009. Nannoplankton in the manganese deposits of the Mozambique Ridge and Mozambique Basin, SW Indian Ocean. *Palaeontologia africana* 44: 126-128.
- Ovechkina, M.N., Watkeys, M. & Mostovski, M.B.** 2009. Calcareous nannofossils from the stratotype section of the Upper Cretaceous Mzamba Formation, Eastern Cape, South Africa. *Palaeontologia africana* 44: 129-133.

UNIVERSITY OF CAPE TOWN

(Palaeobiology Research Group)

Anusuya Chinsamy-Turan had a hectic, but rewarding 2009, and is looking forward to a productive year ahead - especially since her team at UCT has grown somewhat! The "big" item on her agenda is the completion of a book for Indiana University Press on the "The Biology and Histology of the Nonmammalian Therapsids". This will be an edited volume with contributions from several people who have worked in this field- some of them ex-students, like **Jennifer Botha** and **Sanghamitra Ray**, other collaborators like, Bruce Rubidge, Jorn Hurum and Fernando Abdala, and some are invited contributions from Tom Kemp, Roger Smith, Jeremy Green etc. The book is expected to be published in early 2011. Anusuya is also continuing her work on the polar dinosaurs from the North Slope of Alaska, doing new work on Mesozoic birds from China, as well as a bunch of other exciting projects with postdocs and students (see below).

Sandra Jasinowski is now into her 2nd year year of her postdoc at UCT, dividing her time between the Zoology department with Anusuya Chinsamy-Turan, and the Centre for Research in Computational and Applied Mechanics (Engineering) with Daya Reddy. She is using the finite element method to investigate masticatory stress in nonmammalian cynodonts such as *Thrinaxodon*. She is also continuing to examine the relationship between cranial bone histology and function, focusing on the pig, dicynodont, and cynodont skull. Lastly, the relationship between suture form and function is being investigated using finite element simulations, and results will be presented at the upcoming International Congress of Vertebrate Morphology in Uruguay. Sandra is also looking forward to seeing everyone at the PSSA meeting later this year.

At the end of 2008 **Romala Govender** relocated to Cape Town to take up a postdoc opportunity with Anusuya

Chinsamy-Turan at UCT. After a few months of acclimatising to Cape Town's much more relaxed lifestyle, she began working on a project that focussed on the marine mammals from Langebaanweg's 'E' Quarry. Romala will re-assess the phocid seals from 'E' Quarry, and also undertake an analysis of the cetaceans. She will be using anatomical descriptions and landmark morphometric analysis for the taxonomic identification of the material.

Daniel Thomas finished his PhD last year at the University of Otago, New Zealand, and has also joined our paleobiology team at UCT. He is going to be looking at diagenetic changes in fossil bones from various localities in the Western Cape. The bone chemistry and mineralogy of Late Pliocene to Pleistocene antelope and horses from these sites will provide us with an insight into how the original burial environment contributed to bone alteration. We hope to apply Daniel's results a wide range of bone diagenesis issues.

Ian Brumfield will be doing an honours level diagenetic project with Anusuya and John Compton, while **Nick Fordyce** will be doing an honours project with Anusuya and Roger Smith.

Publications:

- Chiappe, L. Marugan-Lobon, J. and **A. Chinsamy**. (in press). Paleobiology of the Cretaceous bird *Confuciusornis*. *Biology Letters*.
- Chinsamy, A.**, Codorniu, L. and L. Chiappe. 2009 The Bone Microstructure of *Pterodaustro guinazui*. *Anatomical Record* 292: 1462-1477
- Chinsamy, A.**, and Tumarkin-Deratzian, A. 2009. Pathological bone tissue in a turkey vulture and a nonavian dinosaur. *Anatomical Record* 292: 1478-1484.
- Govender, R.** & Yates, A.M. 2009. Dicynodont postcrania from the Triassic of Namibia and their implication for the systematics of Kannemeyeriiforme dicynodonts. *Palaeontologia africana* 44: 41-57
- Jasinowski, S.C.**, E.J. Rayfield, E. and **A. Chinsamy**. 2009. Comparative feeding biomechanics of *Lystrosaurus* and the generalized dicynodont *Oudenodon*. *Anatomical Record* 292:862-874.
- Jasinowski, S.C.**, E.J. Rayfield, and **A. Chinsamy**. (in press). Functional implications of dicynodont cranial suture morphology. *Journal of Morphology*.

Jasinoski, S.C., E.J. Rayfield, and **A. Chinsamy**. (in press). Mechanics of the patent premaxilla-nasal suture in the snout of *Lystrosaurus*. *Journal of Vertebrate Paleontology*.

Yates, A. M., Bonnan, M. F., Neveling, J., **Chinsamy, A.**, and Blackbeard, M. G. 2009. A new diverse sauropodomorph dinosaur fauna from South Africa sheds light on sauropod evolution and diversification. *Proceedings of the Royal Society B*, 277: 787-794.

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Bernard Price Institute for Palaeontology (BPI)

The BPI 2010 has started with a great flurry, largely because of building activities which are taking place -- at last we were able to raise sufficient funding to revamp the palaeontology collection and technical areas. You may recall from the last Palnews that the two palaeontological institutes at Wits University the BPI Palaeontology and the Institute of Human Evolution (IHE) are now housed together in the van Riet Lowe Building as from the beginning of 2009. This means that the BPI and IHE share technical areas - this symbiotic synergy has already had many positive spin-offs for both teaching and research in that we now have a much wider range of palaeo-expertise and the atmosphere is vibrant. After many hours of discussing building plans and many modifications by our patient architectural firm, Savage and Dodd, all the collection and technical areas in the basement of the building have been gutted. Collections have been moved to temporary facilities under the diligent supervision of **Cynthia Kemp** and the builders are moving full steam ahead. This phase of building should be completed by mid-year.

Despite building disruptions the staff of the BPI have been very active on the research front. **Adam Yates** has just returned from a short sabbatical in Australia where

he temporally forgot about dinosaurs and spent some time collecting and describing a new molluscan fauna. Adam badly need this break after the exhausting effects of his excellent press release announcing his new dinosaur *Aardonyx* which aroused intense media interest both here and internationally. Not only were numerous radio and television interviews given, a temporary display of *Aardonyx* was set up at Maropeng (Nov. 2009 - Feb. 2010). A major exhibition of African dinosaurs featuring specimens from this project (the full skeleton of *Aardonyx*, and the partial skeleton of '*Syntarsus*') at the Transvaal Museum, is being planned and should be ready sometime in 2010. In the meantime more results from the Heelbo Dinosaur Project are making their way toward publication and we can expect to see more new dinosaurs in the near future.

On the therapsid front **Bruce Rubidge** continues his research on basal therapsids. He has recently completed two papers with Liu Jun and Li Jinling on basal therapsids from China, and together with Ken Angielczyk has published two papers on basal dicynodonts from the *Tapinocephalus* Assemblage Zone. Earlier last year he undertook fieldwork in the Merweville and Prince Albert districts together with **Fernando Abdala, Bernard Zipfel, Charlton Dube, Sifelani Jirah, Raoul Mutter, Luke Norton, Saniye Guven** (BPI), Billy de Klerk (Albany Museum), Jean-Sebastian Marpmann, Thomas Ronge and Jens Thissan (University of Bonn, Germany). During this field trip the three students from the University of Bonn measured stratigraphic sections from the Ecca - Beaufort contact up to the Poortjie Sandstone north of Prince Albert. Also **Sifelanie Jirah** (BSc Honours student) prepared a stratigraphic section and mapped an area from the Ecca-Beaufort contact to a rich dinocephalian bone bed in the Abrahamskraal Formation. Fossil localities were marked on the resulting stratigraphic sections and maps in an effort to increase understanding of biodiversity changes in the

Middle Permian. Just recently **Michael Day** from the UK has joined Bruce as a PhD student. His project is to document the biostratigraphy and biogeography of Middle Permian tetrapods in Gondwana. **Saniye Guven** has continued with her diligent PhD research on tapinocephalid dinocephalians and she is coming up with some exciting ideas on taxonomic re-arrangement of the group.

After a while in the UK, **Merill Nicolas** and her family have returned to South Africa and she is back to working on her Beaufort database. She and Bruce have recently published two papers utilising this database and more are planned for 2010, including collaborative work with Ken Angielczyk and Jorg Froebisch. **Fernando Abdala** continues his work on cynodonts and more recently therocephalians as well. He is busy with a large number of projects, and published many papers in 2009 (see later). The therapsid group at the BPI all attended the Synapsid symposium at SVP in Bristol (see list of conference abstracts). **Rob Gess** is beginning to see the end of his PhD which has been a labour of love and extreme dedication. His activities are spelt out in a separate report (appended).

Marion Bamford had a very busy but enjoyable field season in East Africa with 38 students and almost as many staff on the Koobi Fora Field School that is run by Rutgers University and the National Museums of Kenya. After a week on a private game farm on the Laikipia Plateau learning about modern ecology and taphonomy the team all went up to Koobi Fora Base Camp on the shore of Lake Turkana from where the students learnt how to excavate Pleistocene fossils (Photo). Marion spent the next four weeks in Tanzania excavating in Olduvai Gorge before the OLAPP team moved to Arusha to participate in a conference to celebrate the 50th Anniversary of the discovery of *Zinjanthropus boisei* by Mary Leakey (photo). Many international researchers also attended. Back in South Africa lecturing geology and biology students and dealing with the usual administrative and editorial duties soon dims



Fossil exposures in Area 104,
Koobi Fora, Kenya



Olduvai - Marion at the plinth for "Zinj"
FLK site, Olduvai Gorge, Tanzania.

the memories of the dry, open vistas of East Africa. Marion's travels were not over, however, as she went to the SASQUA conference in Knysna, then to London in late September to attend a symposium to celebrate Peter Andrews' contribution to palaeoanthropological research. Quite a few big names were there too as well as some 'South Africans' such as Ian Stanistreet, Kevin Kuykendall and Judith Masters. In November she went to the ROCEEH workshop (Role of Culture in Early Expansions of Humans) in Frankfurt, and finally in December to Cape Town for a PAST meeting, to visit Dave Braun's Pleistocene site at Elandsfontein (photo) and also Francis Thackeray's African Footprint Project in Langebaan.

Marion's post doctoral fellow, **David Steart**, has finished his two year stay at BPI but is still working on papers on the modern database for leaves and climate reconstruction. He is back in Melbourne and looking for employment. **Frank Neumann** will continue at BPI working on pollen from KwaZulu-Natal, Langebaan and other projects with funding from the Claude Leon Foundation. Frank, Gideon Groenewald and Marion tried to sample for pollen at Braamhoek but even with the assistance of the excavator and forklift we could not core deeply enough (photo).



Elandsfontein exposures, near Langebaan, Western Cape.



Braamhoek wetland, KwaZulu-Natal with Frank and Gideon sampling for pollen.

Lucy Pereira has set up a phytolith database on the Wits web as part of her PhD project so please look it up. <http://web.wits.ac.za/Academic/Science/GeoSciences/BPI/Research/WOPD/Database.htm>

Natasha Barbolini and **Moses Ngcamphalala** are working hard on their MSc projects and we expect a few more postgrads to join the plant group in 2010. We have five Honours students enrolled for 2010 so BPI is literally bursting at the seams. Expansion of the storage facilities and renovations of the labs began in late 2009 so we are now quite used to dust, noise, jackhammers and angle grinders.

NEWS FLASH: Status of the Molteno Fossil plant collection in Pretoria

Heidi Anderson Holmes

In 2010 this large collection will be moved to the Bernard Price Institute at Witwatersrand University. In some ways it will be like going home for the fossils, as that is where John and I first started making this exciting collection back in 1968. When we moved to work at the National Botanical Institute (now SANBI) in Pretoria in 1978 we took the fossils with us on a long-term loan. Over the following years we continued to collect and increased the Molteno collection to more than triple the amount. Alongside the plants we also collected insects, fish and 2 spiders. Over the years we have published this biodiverse flora in a series of monographs. The first book was on the genus *Dicroidium* (1983) the most diverse and important element of the Gondwana Triassic. This was followed by the rest of the Gymnospermous leaves (1989), the interesting attached or associated fertile structures (2003), and then the ferns (2008). We are currently working on the Sphenophyte monograph. Although John and I are now both retired we continue with our research and plan to see the completion of this remarkable flora in published format. This Molteno plant fossil collection rates as one of the best collections in the world from a single formation, over a large geographical area and with careful documentation of all the samples. It will be sought after in the years to come and is already the basis of a comprehensive investigation of the plant/insect inter-relationships by Conrad Labandeira of the Smithsonian Institute in Washington DC, USA. It is with some sadness that I see the end of an era of palaeobotanical research in Pretoria but it promises to be the beginning of renewed interest and research at the University of the Witwatersrand where John and I started off as enthusiastic students under the world renowned palaeobotanist Dr Edna Plumstead.

In July **Lucinda Backwell** and **Andrea Leenen** (MSc candidate PalaeoAnthropology, Wits) returned to Botswana to conduct more bone modification experiments with Kalahari Bushmen (figure below). The team included **Fernando Abdala** (BPI Palaeontology), **Matt Caruana** (PhD candidate PalaeoAnthropology, Wits), Silje Bentsen (Phd candidate Archaeology, Wits) and Gary Trower (MSc candidate, National Museum, Bloemfontein).



Clockwise: Sharing photos of our previous trip, making ostrich eggshell beads, butchering a wildebeest carcass with stone tools and enjoying the spoils that night around the fire.

In August Lucinda and her team conducted their fifth field trip to Heelbo, the large mammal mass death assemblage in Free State Province, South Africa. The team comprised Wits postgraduates and professional excavators from the BPI at Wits and the Florisbad Research Station, National Museum,

Bloemfontein (figure below). Excavations were focused on a 4 x 2 m² area of wildebeest remains at the bottom of the site. The two remaining levels were exposed and lifted, and transported to Florisbad for preparation and curation. This research is made in collaboration with James Brink (Florisbad Research Station), Johann Neveling (Council for Geoscience, Pretoria), Fernando Abdala (BPI Palaeontology) and Lucy Pereira (PhD candidate, Palaeobotany).



Abel Dichakane (National Museum) and Meshack Kgasi (Wits) excavating wildebeest remains at Heelbo.

In December Lucinda Backwell, Francesco d'Errico (University of Bordeaux) and **Matt Caruana** (PhD candidate, PalaeoAnthropology, Wits) presented their latest research on bone tool use by early hominids at a workshop entitled 'Understanding Tool Use. Multidisciplinary Perspectives on the Cognition and Ecology of Tool Using Behaviours' held at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany. They are currently transforming this into a chapter to be published in a book resulting from the conference proceedings.

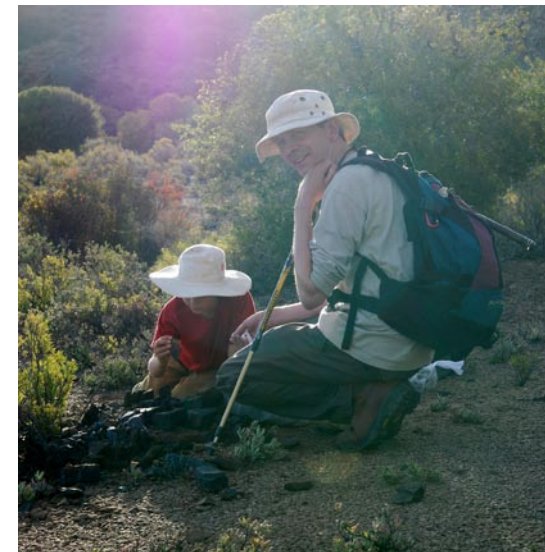
Bernhard Zipfel has been very busy in sorting out and arranging the movement of fossils in the collections as a result of building activities, and in the midst of all this he also organized a week-long workshop on australopithecine postcrania for a large team of South African and international palaeoanthropologists

which was held in January and hosted by the IHE. As is evident from the accompanying publication list Bernhard has had a very productive research year. **Shahed Nalla**, an MSc student being supervised by **Lee Berger** and Bernhard attended the 17th Conference of the International Federation of Associations of Anatomists in Cape Town and presented a poster entitled 'Preliminary note on the proximal end of a costal arch - a potential key to the hominin treasure trove.'

Rob Gess (Bathurst, Eastern Cape): In Late October **Mike Coates** joined me for some enjoyable fieldwork in the Klein Karoo. Our idea was to look for mid Devonian marginal marine fish fossils. Inspired by early collecting by the late Abrahama de Vries, who farmed near the Warmwaterberg, we decided to focus on the base of the Adolphspoor Formation (Bokkeveld Group) - looking for new localities along strike from de Vries' old stamping grounds. We walked many miles and discovered a number of small new localities. We collected shark spines and placoderm remains (including an almost entire carapace), in addition to associated plant and bivalve fossils. It was a very valuable exercise and we both learned a lot about the mode of outcrop etc, which will assist us greatly in future expeditions to the area. The going is quite hard (I think Mike estimated that we found one fossil per 15 000 stones we scanned!) but the rewards are potentially great.

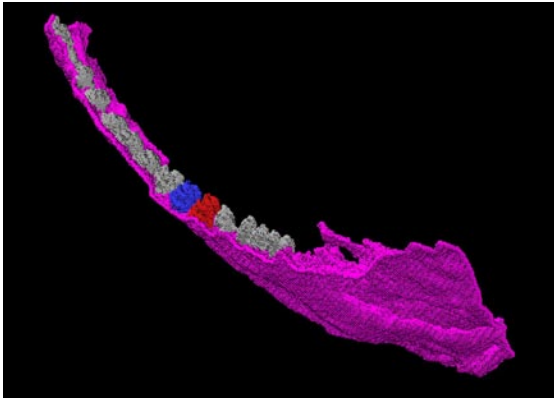
The de Vries collection contains tantalising fragments of articulated shark and acanthodian remains, indicating the potential for great finds. One particularly important de Vries specimen consists of the natural mould of an Antarctilamnid shark jaw, with all its teeth still in place. My attention was first drawn to this specimen by a latex cast of it in the Belville Geosciences collection, made in the mid nineties by John Almond and Fiona Evans. I have a very similar Antarctilamnid jaw, with associated teeth, from the Late Devonian Waterloo Farm site, near Grahamstown, but the teeth of the specimen I collected

are scattered around the jaw, having sloughed off during decay (shark teeth not being rooted into the jaw). From John and Fiona's peel I could see that in the mid Devonian de Vries jaw all the teeth were still perfectly preserved in situ. This is probably unique in so ancient a specimen and therefore of great interest. I loaned the specimen in 2007, from the Montagu Museum, with a mind to try and get better latex peels of it. After examining it, however, I concluded that the specimen might well be damaged by further latex peeling, so I arranged to make a set of neutron scanned slices through it at the Pelindaba reactor.

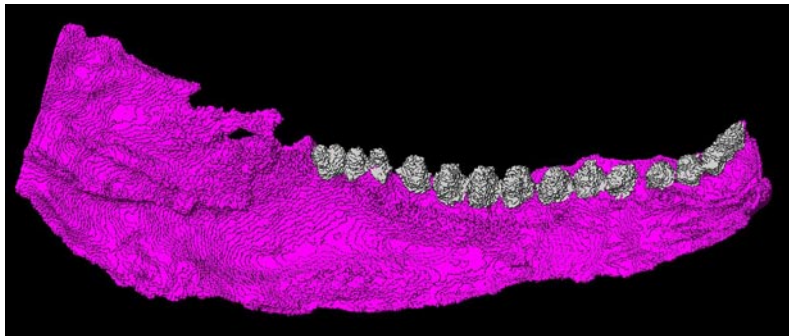


Mike Coates and Merrion Gess fishing in the Klein Karoo

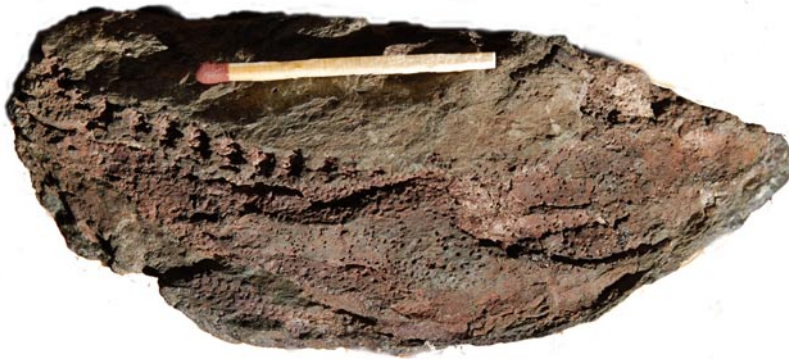
When Mike was out last year I gave him a set of the scans to work with. Back in Chicago another of his students, Justin Lemberg, put them together to produce a 3D digital image of the jaw (see pics). This came out extremely well, despite the somewhat rough nature of the Pelindaba scans. Now we're planning to get the jaw scanned at a top international facility, as we believe we should then be able to get images in which the details of individual teeth are clearly visible. This could be big!



Neutron scanning tomographic image of oblique angle of jaw peel with tooth families 9 and 10 highlighted.



Peel with low density matrix from tooth sockets.



The de Vries Antarctilamnid shark jaw.

BPI Publications for 2009:

- Abdala, F.**, Martinelli, A.G., Soares, M. B., de la Fuente, M. & Ribeiro, A.M. 2009. South American Middle Triassic continental faunas with amniotes: biostratigraphy and correlation. *Palaeontologia africana* 44, 83-87.
- Abdala, F.** & Smith, R.M.H. 2009. A Middle Triassic cynodont fauna from Namibia and its implications for the biogeography of Gondwana. *Journal of Vertebrate Paleontology* 29, 837-851.
- Albert, R.M., **Bamford, M.K.**, & Cabanes, D. 2009. Palaeoecological significance of palms at Olduvai Gorge, Tanzania, based on phytolith remains. *Proceedings 6th IMPR, Quaternary International* 193, 41-48.
- Angielczyk, K.D. & **Rubidge, B.S.** 2009 The Permian dicynodont *Colobodectes cluveri* (Therapsida, Anomodontia), with notes on its ontogeny and stratigraphic range in the Karoo Basin, South Africa. *Journal of Vertebrate Paleontology* 29 (4), 1-12.
- Angielczyk, K.D. & **Rubidge, B.S.** 2009. A new pylaecephalid dicynodont (Therapsida, Anomodontia) from the *Tapinocephalus* Assemblage Zone, Karoo Basin, Middle Permian of South Africa. *Journal of Vertebrate Paleontology* 29 (4), 1-12.
- Atayman, S., **Rubidge, B.S.** & **Abdala, F.**, 2009. Taxonomic re-evaluation of tapinocephalid dinocephalians. *Palaeontologia africana* 44, 88-90
- Backwell, L.** & d'Errico, F. 2009. Additional evidence of early hominid bone tools from South Africa. First attempt at exploring inter-site variability. *Palaeontologia africana* 44, 91-94
- Backwell, L.R.**, Pickering, R., Brothwell, D., **Berger, L.R.**, Witcomb, M., Martill, D., Penkman, K. & Wilson, A. 2009. Probable human hair found in a fossil hyaena coprolite from Gladysvale cave, South Africa. *Journal of Archaeological Science*. 36(6): 1269-1276
- Barale, G., Guignard, G., & **Bamford, M.K.**, 2009. Structure of corytospermaceous ovules from Upper Triassic of Zimbabwe. *Botany* 87, 854-863.
- Berger, L.R.**, Pickering, R., Kuhn, B., **Backwell, L.R.**, Hancox, J. & Kramers, J.D. 2009. The first recorded occurrence of a fossil brown hyaena (*Parahyaena brunnea*) latrine (midden) in a cave setting in Africa from Gladysvale Cave, South Africa. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 279(3-4): 131-236.
- Bordy, E.M., Sztano, O., **Rubidge, B.S.**, & Bumby, A., 2009. Tetrapod burrows in the southwestern main Karoo Basin (Lower Katberg Formation, Beaufort Group), South Africa. *Palaeontologia africana* 44, 95-99
- Cisneros, J.C & **Tsuji, L.A.**, 2009. Nycteroleter affinities of a Permian parareptile from the South African Karoo Basin. *Acta Palaeontologica Polonica* 54 (1): 165-169.

- Collinson, M.E., Andrews, P., & Bamford, M.K., 2009. Taphonomy of the Early Miocene flora, Hiwegi Formation, Rusinga Island, Kenya. *Journal of Human Evolution* 57, 149-162.
- Collinson, M.E., Steart, D.C., Harrington G.J., Hooker J.J., Scott, A.C., Allen, L.O., Glasspool, I.J. & S.J. Gibbons (2009): Palynological evidence of vegetation dynamics in response to palaeoenvironmental change across the onset of the Paleocene-Eocene thermal maximum at Cobham, Southern England. *Grana*, 48, 38-66.
- D'Anastasio, R., Zipfel, B., Moggi-Cecchi, J., Stanyon, R., & Capasso, L. 2009. Possible brucellosis in an early hominin from Sterkfontein, South Africa. *PLoS ONE* 4, e6439.
- d'Errico, F. & Backwell, L.R. 2009. Assessing the function of early hominin bone tools. *Journal of Archaeological Science*. 36, 1764-1773.
- de Ruiter, D.J., Pickering, R., Steininger, C.M., Kramers, J.D., Hancox, P.J., Churchill, S.E., Berger, L.R., & Backwell, L.R. 2009. New hominin fossils from Cooper's Cave (Gauteng, South Africa) and the first U-Pb date for *Australopithecus robustus*. *Journal of Human Evolution* 56(5), 497-513.
- De Wit, M C J, Ward, J.D., Bamford, M.K., & Roberts, M., 2009. The significance of the Cretaceous Diamondiferous gravel deposit at Mahura Muthla in the Vryburg District of the Northern Cape Province in South Africa. *South African Journal of Geology* 112, 89-108.
- Fourie, H. & Rubidge, B.S. The postcranial skeleton of the basal therocephalian *Glanosuchus macrops* (Scylacosauridae) and comparison of morphological and phylogenetic trends amongst the Theriodontia. *Palaeontologia africana*. 44, 27-40
- Govender, R. & Yates, A. M. 2009. Dicynodont postcrania from the Triassic of Namibia and their implication for the systematic of Kannemeyeriiforme dicynodonts. *Palaeontologia africana* 44, 41-58.
- Kammerer C.F. & Abdala, F. 2009. *Procynosuchus* Broom, 1937 (Therapsida, Cynodontia): proposed precedence over *Cyrbasiodon* Broom, 1931 and *Parathrinaxodon* Parrington, 1936. *Bulletin of Zoological Nomenclature* 66: 64-69.
- Jun L, Rubidge BS, & Jinling, L. 2009. A new specimen of *Biseridens gilianicus* indicates its phylogenetic position as the most basal anomodont. *Proceedings of the Royal Society of London*, doi:10.1098/rspb.2009.0883 Published online.
- Jun L, Rubidge BS, & Jinling, L. 2009. New basal synapsid supports Laurasian origin for therapsids. *Acta Palaeontologica Polonica* 54 (3), 393-400.
- Martinelli, A.G., de la Fuente, M. & Abdala, F. 2009. *Diademodon tetragonus* Seeley, 1894 (Therapsida: Cynodontia) in the Triassic of South America and its biostratigraphic implications. *Journal of Vertebrate Paleontology* 29, 852-862.
- Mutter, R.J., & Neuman, A.G., 2009. Recovery from the end-Permian extinction event: Evidence from "Lilliput *Listracanthus*". *Palaeogeography, Palaeoclimatology, Palaeoecology* 284, issues 1-2, 22-28.
- Neumann, F.H., Kagan, E.J., Stein, M. & Agnon, A. 2009. Assessment of the effect of earthquake activity on regional vegetation - High-resolution pollen study of the Ein Feshka section, Holocene Dead Sea (Review of Palaeobotany and Palynology), *Review of Palaeobotany and Palynology* 155, 42-51
- Nicolas, M. & Rubidge, B.S. 2009. Assessing content and bias in South African Permo-Triassic Karoo tetrapod fossil collections. *Palaeontologia africana* 44.
- Nicolas, M. & Rubidge, B.S. 2009. Changes in Permo-Triassic terrestrial tetrapod ecological representation as evidenced from the Beaufort Group (Karoo Supergroup) of South Africa. *Lethaia*
- Philippe, M., & Bamford, M.K. 2009. Houlbert's types for fossil wood: lectotypification and taxonomic reappraisal of *Abietoxylon*, *Ambaroxylon* and *Taxoxylon*. *Taxon* 58, 1349-1356.
- Prevec, R, Labandeira, C.C., Neveling, J., Gastaldo, R.A., Looy, C., & Bamford, M., 2009. Portrait of a Gondwanan ecosystem: A new Late Permian locality from KwaZulu-Natal, South Africa. *Review of Palaeobotany and Palynology* 156, 454-493.
- Rubidge, B.S. & Angielczyk, K.D. 2009. Stratigraphic ranges of *Tapinocephalus* Assemblage Zone dicynodonts: implications for Middle Permian continental biostratigraphy. *Palaeontologia africana* 44, 134-135.
- Sengör, A.M.C. and Atayman, S. 2009. The Permian Extinction and the Tethys: An Exercise in Global Geology: *Geological Society of America Special Paper* 448 86 pp.
- Steart, D.C., Greenwood, D.R. & Boon, P.I. 2009. The taphonomic implications of different decay rates between species in terrestrial and aquatic environments. *Review of Paleobotany and Palynology* 157, 358-374.
- Steart, D.C., Greenwood D.R. & Boon, P.I, 2009. The chemical constraints upon leaf decay rates: Taphonomic implications among leaf species in Australian terrestrial and aquatic environments. *Review of Palaeobotany and Palynology* 157, 358-374
- Yates, A. M. 2009. The oldest South Australian cowries (Gastropoda: Cypraeidae) from the Palaeogene of the St Vincent Basin. *Alcheringa* 33, 23-31.
- Yates, A. M., Bonnan, M. F., Neveling, J., Chinsamy, A. & Blackbeard, M. 2009. A new transitional sauropodomorph dinosaur from the Early Jurassic of South Africa and the evolution of sauropod feeding and quadrupedalism. *Proceedings of the Royal Society B* Published online. doi: 10.1098/rspb.2009.1440

- Zipfel, B., & Berger, L.R. 2009. New Cenozoic fossil bearing site abbreviations for the collections of the University of the Witwatersrand. *Palaeontologia africana* 44, 77-81.
- Zipfel, B., & Berger, L.R. 2009. A partial hominin tibia (Stw 396) from Sterkfontein, South Africa. *Palaeontologia africana*, 44, 71-75.
- Zipfel, B., De Silva, J.M., Kidd, R.S. 2009. Earliest complete hominin fifth metatarsal - implications for the evolution of the lateral column of the foot. *American Journal of Physical Anthropology* 140, 532-545.
- Zipfel, B., De Silva, J.M., Kidd, R.S. 2009. Evolution of the lateral column of the hominin foot - evidence from the StW 114/115 fifth metatarsal (Sterkfontein). *Palaeontologia africana* 44, 186-188.

Palaeontologia Africana:

Volume 44 of *Palaeontologia africana* has been published with 194 pages of research papers, extended abstracts and the PSSA 2008 conference abstracts. The volume was compiled under an editorial panel led by Marion Bamford (Editor) with Lucinda Backwell, Bruce Rubidge and Adam Yates as Associate Editors.

Articles

- Kemp, T.S. — Phylogenetic interrelationships and pattern of evolution of the therapsids: testing for polytomy.
- Nicolas, M. & Rubidge, B.S. — Assessing content and bias in South African Permo-Triassic Karoo tetrapod fossil collections.
- Weide, D.M., Sidor, C.A., Angielczyk, K.D. & Smith, R.M.H.—A new record of *Procynosuchus delaharpeae* (Therapsida: Cynodontia) from the Upper Permian Usili Formation, Tanzania.
- Fourie, H. & Rubidge, B.S. — The postcranial skeleton of the basal therocephalian *Glanosuchus macrops* (Scylacosauridae) and comparison of morphological and phylogenetic trends amongst the Theriodontia.
- Govender, R. & Yates, A.—Dicynodont postcrania from the Triassic of Namibia and their implication for the systematics of Kannemeyeriiforme dicynodonts.
- Geraads, D., Melillo, S. & Haile-Selassie, Y.—Middle Pliocene Bovidae from Hominid-bearing sites in the Woranso-Mille area, Afar region, Ethiopia.
- Zipfel, B. & Berger, L.R. — Partial hominin tibia (StW 396) from Sterkfontein, South Africa.

Technical Note

Zipfel, B. & Berger, L.R.—New Cenozoic fossil-bearing site abbreviations for collections of the University of the Witwatersrand.

Reviewed Extended Abstracts of the 15th Biennial Meeting of the Palaeontological Society of Southern Africa

- Abdala, F., Martinelli, A.G., Bento Soares, M., de la Fuente, M. & Ribeiro, A.M.—South American Middle Triassic continental faunas with amniotes: biostratigraphy and correlation.
- Atayman, S., Rubidge, B.S. & Abdala, F. — Taxonomic re-evaluation of tapinocephalid dinocephalians.
- Backwell, L. & d'Errico, F.—Additional evidence of early hominid bone tools from South Africa. First attempt at exploring inter-site variability.
- Bordy, E.M., Sztanó, O., Rubidge, B.S. & Bumby, A.—Tetrapod burrows in the southwestern main Karoo Basin (Lower Katberg Formation, Beaufort Group), South Africa.
- Browning, C.—Nodular preservation of trilobite fossils from the Bokkeveld Group, Eastern Cape Province, South Africa.
- Manegold, A. — The early fossil record of perching birds (Passeriformes).
- Mannion, P.D. — Review and analysis of African sauropodomorph dinosaur diversity.
- Matthews, T., Marean, C. & Nilssen, P.—Micromammals from the Middle Stone Age (92-167 ka) at Cave PP13B, Pinnacle Point, south coast, South Africa.
- Mostovski, M.B.—Brachyceran assemblages (Insecta: Diptera) as indicators of terrestrial palaeoenvironments in the Late Mesozoic.
- Ovechkina, M.N., Watkeys, M. & Kretzinger, W.—Nannoplankton in the manganese deposits of the Mozambique Ridge and Mozambique Basin, southwestern Indian Ocean.
- Ovechkina, M.N., Watkeys, M. & Mostovski, M.B.—Calcareous nannofossils from the stratotype section of the Upper Cretaceous Mzamba Formation, Eastern Cape, South Africa.
- Rubidge, B. & Angielczyk, K. — Stratigraphic ranges of *Tapinocephalus* Assemblage Zone dicynodonts: implications for middle Permian continental biostratigraphy.
- van Dijk, D.E. — Continental displacement: early lines of evidence that deserve attention.

Institute for Human Evolution (IHE)

Francis Thackeray (Director)

Last year was an exceptionally busy year. Since leaving the Transvaal Museum at the end of January 2009, I've been very pleased to join an exciting group of people associated with the IHE. New discoveries have been made at a new site in the Cradle of Humankind, which **Lee Berger** and his team will be reporting to the world in the near future. If you thought *Ardipithecus* was good, wait till you've seen the new South African material! Although the fossils are still under wraps and strictly confidential, we've had prominent people coming to see them, including the President of South Africa, senior representatives of government, the American ambassador Don Gips, the President of the NRF Albert van Jaarsveld, Bill Branson and others.

The IHE is also proud of the work that **Ron Clarke** continues to do with the "Little Foot" skeleton which has been attributed to an (as yet un-named) second species of *Australopithecus*, different from "Mrs Ples" (*Australopithecus africanus*).

Chris Henshilwood and his team continue to work at Blombos and adjacent sites. **Lyn Wadley** and **Marlize Lombard** are also working on exciting Middle Stone Age material.

L'Oreal has just published a five-volume compendium of books to which **Francis Thackeray** and Francesco d'Errico contributed by invitation, relating to "Beauty in Prehistory". The books (edited by French palaeo-anthropologist Pascal Picq) cover the last 100,000 years, and include reference to extraordinary artefacts and art from many parts of the world, not only South Africa (as at Blombos, excavated by Chris Henshilwood). In his chapter on the concept of beauty in South African prehistory, Francis began by examining "Bushman" words for beauty as listed in the Bleek Dictionary which was initiated in the 19th century. At Yale, Francis had been introduced to the concept of "linguistic palaeontology", in which

words are analogous to fossils. The multiple meanings of certain words have the potential to reflect conceptual associations that existed in prehistory.

Francis was invited to speak on his statistical definition of a species at several venues, including Paris (CNRS), Chicago (Field Museum of Natural History), and the Darwin conference in Alexandria in Egypt, where a theme was "The Cutting Edge of Evolutionary Biology". Francis also attended conferences in Tanzania (to celebrate the 50th anniversary of "*Zinjanthropus*" by Mary Leakey) and in Algeria (where it was remarkable to visit Oldowan sites with artefacts comparable to those from Olduvai Gorge and Kromdraai in South Africa).

The IHE has close and strong links with French colleagues and the Transvaal Museum, as part of the Human Origins and Past Environments (HOPE) programme. Francis has been working with Jose Braga, undertaking CT scans of hominid fossils. Fieldwork continues on Bolts Farm with Dominique Gommery, Frank Senegas, Sandrine Prat (CNRS, Paris), Stephany Potze and Lazarus Kgasi (Transvaal Museum). The exciting discovery of Parapapio at Way Point 160 indicates the potential of discovering hominids between 4 and 4.5 million years old in South Africa, comparable in age to *Ardipithecus ramidus* from Ethiopia. Watch this space!

Brian Kuhn and Francis Thackeray are intending to renew fieldwork at Taung.

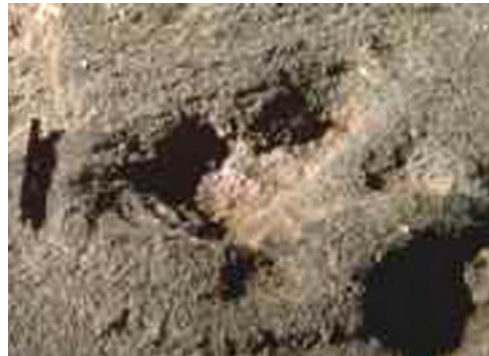
With an international team, Francis Thackeray, Cindy Liutkus, Bernhard Zipfel, Andrea Leenen, David Braun, John Kinahan, Dave Roberts, Matthew Bennett and others are launching an "African Footprint Programme" (AFP), aimed at the study of hominid footprints from various localities in Africa. Of particular interest are human footprints at Nahoon (East London) and Langebaan (Western Cape), comparable in age to spectacular 120,000 year old human footprints which were announced recently by Cindy Liutkus and her team working at Natron in Tanzania. It is suggested that human population

densities may have been relatively high in parts of Africa during a warm interval about 120,000 years ago, during Oxygen Isotope Stage 5e, when the probability of identifying hominid activity (including footprints) may have been relatively high.

I am extremely grateful to everyone who has supported the IHE, including the PAST Trust, the NRF, the University of the Witwatersrand, the Mellon Foundation, the Ford Foundation, and government which (through the NRF) has recently granted R2 million for fieldwork and research relating to new discoveries in the Cradle of Humankind.



Nahoon footprints



Langebaan footprints

For more on the Nahoon footprints, see:

http://www.eastlondon.org.za/nahoon_footprints.html

These 200 000 year-old tracks were found in 1964 by construction workers at Bats cave on the Nahoon Bluff corner near East London. They are thought to have been created by a seven to nine year-old child.

The Langebaan footprints are thought to be 117 000 years old, and were discovered by Dr Dave Roberts in 1995. Follow this link:

<http://www.sawestcoast.com/fossileve.html> to see an article by Dave entitled 'Langebaan Footprints: A Walk with Eve Discovery', describing how he found the Langebaan footprints (article published in The Cape Odyssey, June/July 2002) - Ed.

WEST COAST NATIONAL PARK

Thalassa Matthews (African Origins Project/West Coast Fossil Park (AOP/WCFP) Project Co-ordinator)

& Roger Smith (Head of the AOP/WCFP project)

The AOP/WCFP Project - Maximising the research, educational and tourism potential of the West Coast Fossil Park

Research report back: The AOP/West Coast Fossil Park Project is entering its third and final year. Progress by the research team, which includes a variety of scientists from different institutions and backgrounds, has been excellent, and some 12 papers on the fauna and geology of Langebaanweg (LBW) have been submitted or published. Research team members include **Roger Smith** (Iziko S. A. Museum), **Dave Roberts** (Council for Geoscience), **Deano Stynder** (Iziko S. A. Museum), **Thalassa Matthews** (Iziko S. A. Museum), **Albrecht Manegold** (Senckenberg Museum), **Pippa Haarhoff** (West Coast Fossil Park), **James Brink** (National Museum, Bloemfontein) and **Lloyd Rossouw** (National Museum, Bloemfontein). Research includes studies of niche separation in the hyaenids and feliforms using tooth wear, and an ecomorphological study of the LBW bovids. A phytolith and pollen analysis of fossilized hyaena coprolites is currently underway.

A systematic search, mapping and logging of all surface fossil occurrences within the Park boundary was completed by Roger Smith in March 2009. An area measuring roughly 1200 x 750 m around the current dig site, and extending into the centre of E quarry, was systematically searched for vertebrate fossils and mapped at 1:20 scale on a 50m grid. A total of 31 new fossil localities were logged, some of which will need to be rescued before they disintegrate, while others showed potential for controlled excavation. The map and report will be submitted to SAHRA as part of the West Coast Fossil Park management plan. A total of 75 square metres of the sivathere bonebed has now been uncovered in 3 blocks separated by 2m

wide reference sections that are covered by scaffold walkways. All the larger and more complete exposed bones have been mapped and taphonomically assessed, and a digitized quarry plan is now available for further analysis. The microfaunal data is now needed for this project to be finalised. The excavated material has been stored in labelled sand bags and is being sieved for recovery of the smaller bones and teeth. This is a time consuming task as not only are there some 500 bags of material to sieve, but because they are so rich in microfauna sorting the fossils becomes an even more time consuming exercise. In 2009, we hired and trained two fossil sorters to work at the Fossil Park in an effort to clear the backlog. They are working well and their efforts have produced a study set that is to be analysed by **Ian Brumfitt**, a UCT zoology Honours student, in 2009.

Further research into the micromammals has included, among other things, a geometric morphometric analysis of some murid and soricid species at the site. Relative warp analyses revealed an unexpected similarity between the fossil and modern *Aethomys* (Rock mouse) species in terms of general shape, and the number of *Aethomys* species present at LBW indicates that this genus was undergoing a degree of speciation which does not, according to the fossil evidence, appear to have occurred since. Two soricid taxa from LBW, both of which belong to the genus *Myosorex* (Forest shrew) were found to represent an archaic lineage unrelated to modern southern African *Myosorex* species. AOP Masters student, **Lara Scisio**, is working on peat cores from the Noordhoek, Rietvlei and LBW. In December 2009 a core was drilled to ~50 m depth into known Miocene deposits in Noordhoek in order to acquire suitable organic material for biogeochemical analysis. Virtually complete core recovery for the organic sediments was achieved and these are currently undergoing biogeochemical analysis in the Netherlands by Lara Scisio. Lara has been analyzing the cores under the guidance and mentorship of two world leaders in the field, namely Prof Jaap Damste and Dr Stefan Schouten of the Marine Biogeochemistry & Toxicology of

the Netherlands Institute for Sea Research. The cores from the three areas will provide MAT (mean annual temperature) values from tetraether lipids in peat horizons, as well as biomarker distributions from the same samples. The results from this research will provide ground-breaking environmental information on Miocene climate change.

AOP postdoctoral student **Antoine Louchart** and AOP Research Associate **Albrecht Manegold** have greatly forwarded research on the LBW Aves and have provided descriptions of taxa previously undescribed at the site such as a swallow species, a sandgrouse, a swan and a nightjar. Some of these make a first appearance in the fossil record at LBW, and all provide important palaeoecological information on the site.

The second circular for the Langebaanweg 2010 (15-17 November) conference, entitled Changing Landscapes and Biotas of the Cape West Coast: Miocene to present has been sent out (see p. 30) and preparations are well underway, with outstanding guest speakers lined up.

Tourism developments: As part of the tourism component of the AOP/WCFP project a webpage has been produced and is now up and running (see <http://fossilpark.org.za/>). This provides an entirely new tool with which to advertise the Fossil Park for touristic purposes, as well as the new Education Program which also forms part of the AOP/WCFP program.

New Education Program: The AOP/WCFP project has co-ordinated the development of a new Educational Program for the Fossil Park. The program includes a large number of exciting and innovative, curriculum based worksheets/activities for schools and teachers to use both pre and post-visit to the Park, as well as new programs for visiting schools. Worksheets, background information and class activities are going to be loaded up on the webpage so as to be easily accessible. The new education programs are currently in the process of being implemented and refined.

NEWS FROM AROUND THE WORLD

Patrick Bender

Some palaeontology related news from across the ocean, on the East Coast of Tasmania:

Since leaving the Tasmanian Museum and Art Gallery in 2007 for a teaching job with the Tasmanian Department of Education, palaeontology research has taken something of a back seat. However, I am still involved in an ongoing Tasmanian Museum research project on new fossil finds from the Tasman Peninsula. Last year I managed to involve high school students from Winnaleah District High School, NE Tasmania, in the project. We put together a poster presentation for the national Conference of the Australian Science Teachers Association in July 2009, held in Launceston, Tasmania. An edited version of the poster abstract reads as follows:

"THE USE OF A NATIONALLY SIGNIFICANT SCIENTIFIC RESEARCH PROJECT TO SUPPORT A HIGH SCHOOL SCIENCE PROGRAMME - An earth sciences project, registered at the Tasmanian Museum and Art Gallery, is utilised to support the secondary, 7-10 science programme at Winnaleah District High School, and in doing so, enriches many of the learning aims and goals as outlined and discussed within The Tasmanian Curriculum (Science, K-10 syllabus and support materials: DoE, Tasmania, 2007). The Tasmanian Museum research project is concerned with the identification of new fossil finds from a recently discovered fossil site on the Tasman Peninsula. The poster display illustrates recent ongoing research by the author (PB), assisted by high school students from Winnaleah District High School, thereby addressing a number of Main Ideas and Science Strands from The Tasmanian Science Curriculum, including: Science as a human endeavour, Scientific Inquiry and Scientific Communication. This sort of collaborative research project and program, should assist in developing high quality student learners, as well as high quality teaching."

This year I will be developing the research project further in conjunction with CSIRO's (Commonwealth Scientific and Industrial Research Organisation) new 'Scientists in Schools' program, an initiative designed to foster links between schools and science communities, and thus inspire and encourage students to pursue interests in science.....watch this space!

Arthur Cruickshank (United Kingdom)

The principal item of personal news is that I went to a Review Seminar meeting in Street, Somerset, (England) on 'New' information regarding the marine reptile horizons in the Lower Jurassic around Street, various add-ons were talked about, and we were told that these would be on the Friday preceding the Saturday 31st July main meeting.

Somewhat to my surprise, and Enid's total enjoyment at the surprise, I discovered that it was a day seminar in my honour, to celebrate 50 years of being a vertebrate palaeontologist... so there was a day of informal talks on various aspects of my past! Triassic dicynodonts, field collecting in the Somerset Liassic, Karoo reptiles, among others, and a review of all the old(?) students who had been through the Cambridge lab. of Rex Parrington.

There was a tea, with a superb cake bearing a replica of the Rhomaleosaurus in the Leicester Museum, and visits to the historical fossil collection made by the Clarks of shoe fame,

whose home is in Street.

The evening was devoted to a dinner and an invited lecture by Ryosuke Motani on Ichthyosaurs and their relevance to the Clark Collection and the history of such collections from Street.

It was very pleasing to see the greetings from my South African friends and colleagues, and of course the more local gang.

The Palaeontological Association Review Seminar took place according to plan, on the day that was set aside...



A very large pliosaur was the main headline grabber rather later in the year, which has been acquired by the Dorchester Museum. It really is a monster, and although I had been invited to go to an information fest, in Dorchester, over three days, the 12 hour journey there, and 12 back, rather put an end to my plans. However I hope that my contacts with the beast can be cemented in the spring/summer this year.

Mark and Richard continue to make progress with their theses, and even to the extent of guessing when conclusions will be.

My life with Africa has been enriched through contact with Steve Tolan, who has a computer, an outfit organised to make the best of the Luangwa Valley fauna, both living and fossilised, Oh! and a set of solar panels to work the first item. We swap tales of the getting of fossils in Zambia, Tanzania, South Africa and other places, which I find very relaxing and reminiscent of past days.

So, maybe not such a dull year after all!

Best wishes to all for 2010,

Arthur

Enid Cruickshank

See how we had a magic weekend in Somerset. Arthur was quite astonished at the fuss made of him but thoroughly enjoyed the fuss once he'd got over the shock! And I was given a gloriously enormous bouquet of flowers (I think for being a 'fossil' wife for so long! More probably for filling hollow-legged students with mountains of food....).

http://scienceblogs.com/tetrapodzoology/2009/08/avalon_an_arthurian_adventure_i.php

If you follow the link and then, having read the first part about the reason behind the day and the summary of the talks, go back to the top of the page and find the link to part 2, there is picture of the famous cake (it tasted OK too). Lez Noe was a Ph.D. student of Arthur's, as are Richard Forrest

and Mark Evans. Jeff Liston was kicked into action to do his Ph.D. by Arthur and Jeff and Darren are currently preparing a massive manuscript on Ichthyosaurs prepared by a deceased palaeontologist - Appleby - overseen by Arthur.

Best wishes to all

Enid

(IF we can raise the wherewithal we would love to make it to RSA this year, but last year's Bali wedding and subsequent trip to New Zealand rather drained the coffers!)

Norton Hiller (Canterbury Museum, Christchurch, New Zealand)

Warmest greetings to all my South African chums. Since I last wrote, a little over 18 months ago, I have managed to squeeze in some research among other duties, primarily cataloguing two large collections of brachiopods and Triassic and Jurassic plants. I have been concentrating on brachiopods once more and having gone up from the Devonian to Cenozoic and Recent beasts, I am now on my way back down the column. A current project involves Late Cretaceous brachiopods from an oyster reef, including a bizarre short-looped form.

On the vertebrate front there has been little movement but my latest involvement is with fossil penguins. We have been discovering the joys of CT scanning, having recently acquired a substantially complete Pliocene specimen. We have also obtained more material of Waimanu, believed to be the world's oldest penguin, from Paleocene deposits north of Christchurch. The additional specimens will allow us to build up a more complete picture of this primitive penguin.

I have just returned from the 5th International brachiopod conference, which was a most enjoyable gathering attended by folk from 30 nations. Unfortunately, South Africa was not one of them. Perhaps I should try to get involved in some SA brachs again! I am still working on getting to a PSSA conference.

Publications:

- Hiller, N.**, Fordyce, R.E. 2009. Fossil reptiles. 473-481. In: Gordon, D.P. (editor) New Zealand Inventory of Biodiversity, Volume One: Kingdom Animalia. Canterbury University Press, Christchurch, New Zealand, 566 pp.
- Hiller, N.**, MacKinnon, D.I, Nielsen, S.N. 2008. A review of the systematics, biogeography, and evolutionary relationships of Recent and fossil brachiopods of the Superfamily Kraussinoidea Dall, with descriptions of two new fossil species from New Zealand and Chile. *Earth & Environmental Science Transactions of the Royal Society of Edinburgh* 98: 379-390.
- Hiller, N.**, Robinson, J.H., Lee, D.E. 2008. The micromorphic brachiopod *Argyrotheca* (Terebratulida: Megathyridoidea) in Australia and New Zealand. *Proceedings of the Royal Society of Victoria* 120:167-183.
- Mannering, A.A., **Hiller, N.** 2008. An early Cenozoic neoselachian shark fauna from the southwest Pacific. *Palaeontology* 51: 1341-1365.

Congratulations to **John Long**, who started a new position as Vice President of Research and Collections at the Natural History Museum of Los Angeles County (USA) on Sept 16th last year. Please take note of John's new email address.

Anne Warren (La Trobe University, Melbourne, Australia)
I have officially retired but am finishing several projects, all in the Triassic. The most interesting involves the vertebrates from a new locality in the earliest Triassic of Tasmania. Most of the remains are temnospondyls but Andrew Rozefelds and I have submitted a short communication to JVP on some dicynodont scraps, and Patrick Bender is working on the fish. The temnospondyl skulls (some 15 in all) are of a plesiomorphic brachyopoid, at present indistinguishable from *Bothriceps australis*, a single skull described by Huxley (1859) from an unknown Australian locality. An articulated vertebral column found close by is diplospondylous, a condition found among temnospondyls only in the extremely rare tupilakosaurs.

In my laboratory is a probable brachyopoid from the Early Triassic Terrigal Formation, Sydney Basin, which is relatively complete up to the pelvis and has a body impression. Unfortunately it is preserved from the ventral surface and is in a huge block of siltstone so may never be prepared further.

Finally, I have a half manuscript on a half skull from a large trematosaurid from the Wianamatta Shale (Middle Triassic of the Sydney Basin) that is close to *Microposaurus casei* from the Anisian of the Karoo.

Caroline Northwood is working Grants Administration, **Ross Damiani** is still interested in a job in Palaeontology but in the meantime is working for Southern Biological, **Jillian Garvey** is working on zooarchaeology from Tasmania and New South Wales, **Kate Parker** has taken time off from her rhizodontid PhD, and **Tim Holland** has just finished a PhD on tetrapodomorph fish with John Long and is looking for a postdoctoral position.

Publications:

- Garvey, J. M.** and Hasiotis, S. T. 2008. An ichnofossil assemblage from the Lower Carboniferous Snowy Plains Formation, Mansfield Basin, Australia. *Palaeogeography, Palaeoclimatology, Palaeoecology* 258: 257-276
- Parker, K. E.** & Webb, J. A. 2008. Estuarine deposition and palaeoecology of a mid Viséan tetrapod-bearing unit, Ducabrook Formation, central Queensland: implications for tetrapod dispersal. *Australian Journal of Geology*.
- Jenkins, F. A. Jr., Shubin, N. H., Gatesy, S. M., and **Warren, A.** 2008. *Gerreothorax pulcherrimus* from the Upper Triassic the Fleming Fjord Formation of East Greenland and a reassessment of head lifting in temnospondyl feeding. *Journal of Vertebrate Paleontology* 28: 935-950.
- Warren, A.**, **Damiani, R.** and Sengupta, D. P. 2009. Unique stereospondyl mandibles from the Early Triassic Panchet Formation of India and the Arcadia Formation of Australia. *Special Papers in Palaeontology* 81: 161-173.
- Rozefelds, A. C., **Warren, A.**, and Bull, S. New evidence of Early Triassic dicynodonts (Synapsida) from Australia. *Journal of Vertebrate Paleontology* (in Review).

NEWS FLASH: The STEVENSON HAMILTON MEDAL for 2009 was awarded to **Richard Stephen Rubidge** from Wellwood Farm in the Graaff-Reinet district of South Africa.

The Stevensen Hamilton award is made (at the discretion of the ZSSA council) to persons whom have made outstanding contributions towards the image and awareness of zoology, especially among the general public. In this instance it is specifically for the advancement of the science of Palaeontology. An excerpt from the citation:

"Richard Stephen Rubidge was born on the farm Wellwood in the Graaff-Reinet district of the Eastern Cape Province on 8 January 1929. He received his schooling at the Union High School in Graaff-Reinet and St Andrews College Grahamstown, and after school studied for an agricultural diploma at Glen Agricultural College in Bloemfontein.

Richard has been the custodian of Wellwood for the last 68 years, and the fourth generation of Rubidges to manage the family estate. It is internationally noted for the quality of its Merino sheep stud, established in 1838, which is today the oldest stud in South Africa, and possibly one of the oldest in the world to be managed by a single family. Over the years and up to the present day, the owners of Wellwood have practised scientific farming and so contributed to a scientific database which is of national significance, is available to scientists for research purposes and has resulted in several scientific papers and books.

In addition to managing a productive Karoo farming estate, Richard also curated a large collection of Karoo fossils which had been amassed in the 1930s to 1940s through the passion of his



father Sidney Rubidge in association with Dr Robert Broom, and later the Kitching family from Nieu Bethesda. Broom himself paid 24 visits to Wellwood. This collection of fossils, one of the pioneering Karoo fossil collections in South Africa, has received international acclaim because of the number of well preserved fossilized skulls in the collection and the fact that 118 holotype specimens are curated here.

During the second World War Sidney Rubidge had built a modest building to house his growing collection of fossils. Despite not having a scientific training Richard, realizing the importance of this collection, and at great personal sacrifice and expense, set about ensuring the best possible curation of the collection at a time that farmers were suffering the financial effects of crippling droughts.

Together Richard and his wife Pam with assistance from the Bernard Price Institute for Palaeontological Research at the University of the Witwatersrand, wrote up a detailed catalogue for all the fossils in the collection. The result is that this privately owned and funded collection is today the best curated South African collection of Karoo fossils. Palaeontologists from all continents of the world (except Antarctica) visit this collection for research purposes.

Despite the collection being curated on a Karoo farm, Richard has probably interested more people in the wonders and excitement of Karoo palaeontology than any museum in the country. Perhaps this is the reason why in the early 1990s four of the approximately 25 palaeontologists who were then employed in South Africa, had grown up in the Graaff-Reinet district.

In conclusion, Sidney Rubidge established the Rubidge fossil collection, Robert Broom described the specimens, and Richard Rubidge has made a huge contribution to the nation by taking on the massive ongoing task of curating the collection and making it available for scientific research and education of people."

FEEDBACK: DST PALAEONTOLOGY WORKSHOP

Dear colleagues

Rose asked me to provide feedback on a DST palaeontology workshop that was held in Johannesburg on 9 October 2009. In this contribution I provide a brief summary of the meeting as well as some general observations of my own.

The meeting, which was chaired by Mr Derek Hanekom, deputy minister of the DST, was attended by palaeontologists from nine different research institutions, several DST staff members as well as representatives from SAHRA, the Cradle of Humankind and the NRF. The purpose of the meeting, as verbalized by the Deputy Minister, was to take stock of the developments and challenges in palaeosciences that will guide its future advancement. He noted that South Africa's rich palaeontological heritage gives us a geographic advantage in this field that is widely recognised, and acknowledged that despite this, palaeontology may not always have received the support that it deserves.

This was followed by series of presentations by DST which outlined the department's goals and activities, most of which are familiar to PSSA members. In the ensuing session the scientists outlined the environment and unique challenges that face each of South Africa's research institutions. While a number of different issues were highlighted, a recurring theme evident in these presentations was the risks and limitations posed by the steady decrease in permanent palaeontology research positions in South Africa. I was buoyed by the fact that the government officials present picked-up on and acknowledged this.

From the presentations and discussions at the meeting the following aspects were identified as key focus areas that need to be addressed:

1. Positions & Careers

The critical shortage in permanent positions and the need to establish viable career opportunities for young scientists, coupled with the need to transform the sector, has been identified as being of critical importance. Several remedies were discussed, but we are still far from a solution.

2. Sustainable Funding Framework

This is another area that needs much more thought and discussion, with no solution yet. This does not only refer to the need for more funding - existing funding mechanisms need to be assessed. The need for greater collective planning, fundraising and bidding was highlighted.

3. Collective Palaeontology Strategy

This refers to the need for palaeontologists to collectively strategise about the placement and recruitment of critical Research Chairs and/or centres of excellence across the various Palaeontology Research Institutions

4. Collective Research Strategy

Unfortunately palaeontological research in South Africa is viewed as being fragmented and over-stretched and we need to develop or demonstrate that we follow an overall research strategy for the sector.

5. Collective Training

A collective Honours and/or Masters programme run co-operatively by palaeontologists should be explored to ensure optimal training of students and technical staff.

6. ID of Critical Facilities & Equipment Needs

7. Clarification of Roles & Responsibilities

The different mandates of the universities, museums, science councils and government departments need to be clarified in order to develop a more integrated strategic approach to paleontological research and development.

8. National Collection Strategy

9. National Palaeo-Tourism Strategy

10. Legislative Environment

Palaeontology is impacted by various isolated pieces of legislation and regulation, while it should be governed by a coherent integrated government policy.

11. Collaboration

This refers to the need for increased collaboration in all its various forms. While collaboration between palaeontological institutions was recognized, DST would like to see greater interdisciplinary collaboration. Also, while international collaboration is already taking place through existing contacts, very little use is made of DST's established bilateral agreements. Lastly, collaboration with other African countries remains important and underutilized.

While public awareness and outreach initiatives were not raised as a separate point, it was discussed and remains an area of utmost importance that may need a more integrated approach. In essence this will help to communicate and explain to the nation the government's rationale for their investment in the palaeosciences.

As a way forward it was suggested that several sub-committees, with representation by all relevant stakeholders, be established early in 2010 to look at the following issues: Policy Development (including Legislation, Roles and Responsibilities of role-players, Collections and Critical Entities); Research Strategy; Community Engagement; and Palaeo-tourism.

Personal Observations

Personally I was encouraged by the workshop, although I don't think we are close to any solutions yet. Of importance to me is that the relevant government structures still value palaeontology. This sentiment was underscored by the presence of, and especially the active participation in the workshop by, the deputy minister of the DST as well as the president of the NRF. The government's expressed desire that palaeontology should be an area in which South Africa sets the international Gold Standard, represents an opportunity.

While all participants acknowledged the dire risk posed by shortage of research positions, the available financial resources remain limited and unfortunately these circumstances are unlikely to change in the foreseeable future. This means we will have to be even more innovative in how we package future funding requests and identify sources of funding. As one example, we may not be fully utilizing the funding options available from DST international collaboration programs.

While on this subject I would like to share a concept introduced by Dr Albert van Jaarsveld, (president of the NRF) who referred to the 'U-curve of funding'. Loosely interpreted, this refers to the fact that it is easier to obtain funding if you study something very small or very big. In between these two extremes it is very difficult to obtain funding. We need to get palaeontology closer to either of these extremes, and in particular, we need to start thinking big when it comes to funding applications.

Something that is of some concern to me is that there is a perception within government that palaeontology, as a science in South Africa, is fragmented and somewhat disorganized. This observation surfaced time and again in the meeting and also in the official DST report, and has been used to describe areas as diverse as research strategy, the development of critical facilities, training and outreach. We urgently need to address both real problems in this regard, as well as the perception itself.

As always, public relations and awareness remain very important to palaeontology, but we need to make sure that the DST is part of our target audience, as I get the impression that they are not aware when our actions and output are supporting their goals. In conclusion I believe this meeting represented a first step in the right direction. The tricky part for us now is to support DST in such a way that we develop solutions that not only serve the science, but can also be sold to the minister and the public. - **Johann Neveling**

UPCOMING CONFERENCES



Palaeontological Society of Southern Africa

2nd CIRCULAR – PSSA'10

CONFERENCE INFORMATION

March 2010

Dear Colleagues,

The **16th Biennial Conference of the PSSA** is to be held at the Umgeni Valley Nature Reserve, **Howick**, KwaZulu-Natal.

The conference will run from the evening of **Thursday 5th August** to the afternoon of **Sunday 8th August**, followed by a two-day field trip on **Monday 9th** and **Tuesday 10th August, 2010**.

Conference venue

The Umgeni Valley Nature Reserve is situated just next to Howick, which is only some 25 km on N3 north of Pietermaritzburg. The Nature Reserve offers visitors rich wildlife and beautiful scenery, including famous Howick Falls. It is also in close proximity to shops, banks, and, of course, to a wide range of fossil sites. There are also a number of places of interest in Pietermaritzburg, including the Natal Museum, Voortrekker Museum, Tatham Art Gallery, and *Butterflies for Africa* garden.

Call for papers and posters

We welcome papers and posters on any aspect of palaeontology and palaeoanthropology, including palaeobiogeography, palaeoecology, biostratigraphy, and taphonomy. Potential contributors are encouraged to submit extended (or short) abstracts that include illustrations and references. Review papers, including those from research students, are especially welcome. These abstracts will subsequently be published in *Palaeontologia africana* as they are, i.e. without going out for peer-review. Full research papers may be submitted separately to either *Palaeontologia africana* or *African Invertebrates*, depending on the subject; they will follow normal editorial procedures of the above journals.

Abstracts may be up to four pages long (Times New Roman 12 pt, 1.5-line spaced, 2.5 cm margins on all sides), should include a brief but informative title and names of authors with affiliations and addresses, including email addresses. References should be formatted according to guidelines for *Palaeontologia africana*. Illustrations should be submitted in adequate resolution (600 dpi at print size for bitmap drawings, charts *etc.*, 300 dpi at print size for half-tone illustrations) as TIF files (LZW compression is allowed).

Abstracts must be submitted by email (strictly below 10 Mb) or on CD to arrive no later than **May 31, 2010**, to Mike Mostovski, Natal Museum, Private Bag 9070, Pietermaritzburg, 3200 South Africa (mmostovski@nmsa.org.za).

Registration & Payment of fees

Deadline for registration and payment of conference fees is **June 15, 2010**.

Conference fees: PSSA members – **R950**
Non PSSA members – **R1050**
Students – **R400**
Accompanying persons – **R800**

The conference fee covers:

- Conference materials (excl. accompanying persons)
- Ice-breaker reception
- All meals (excluding drinks) and teas during the conference

Fees should be paid into the Natal Museum bank account:

Natal Museum
Bank: First National Bank
Branch: Midlands Mall
Branch Code: 257355
Account No.: 50950356293
Account type: Business Cheque/Current Account
SWIFT: FIRZAJJ

Please include **reference to PSSA10** into your payment to avoid any possible confusion, and send a deposit slip along with the completed registration form to Mike Mostovski by email (mmostovski@nmsa.org.za) or by FAX +27-(0)33-3450561.

Registration forms are available as both PDF and MSWord RTF files:

http://fossilinsects.net/pssa10_regform.pdf

http://fossilinsects.net/pssa10_regform.rtf

Provisional Programme

Thursday	5 August	16:00–20:00	Registration and ice-breaker
Friday	6 August	8:00–17:00	Late registration, opening, scientific sessions
Saturday	7 August	8:30–17:00	Scientific and poster sessions Evening: PSSA braai
Sunday	8 August	9:00–17:30	Scientific session & society BGM Evening: Conference function
Monday 9 & Tuesday 10 August			Field excursion to fossil sites in KZN

Suggestions for plenary talks, special topics and symposia are still welcome.

Accommodation

Delegates are responsible for booking their own accommodation at the Umgeni Valley Nature Reserve, or at the Howick Falls Hotel and nearby B&Bs. Students may stay in very inexpensive dormitories at the Umgeni Valley Nature Reserve.

Useful links

Umgeni Valley Nature Reserve:

<http://www.wessa.org.za/index.php/KZN/KZN-Umgeni-Valley.html>

Accommodation at Umgeni Valley: <http://www.wessa.org.za/index.php/Branches/KZN-Umgeni-Accommodation.html>

Howick Falls Hotel: <http://www.howickfallshotel.co.za>

B&Bs in Howick: <http://www.sa-venues.com/kwazulunatal/bandb/howick.php>

Post-conference field trips

KwaZulu-Natal is known to host a number of sites displaying fossils from 3-Gyr old stromatolites from the Pongola Supergroup to Holocene archaeological deposits at the Sibudu Cave.

There are two potential post-conference field trips, both involving an overnight stay:

FIELD TRIP A

This will involve a field trip to the Permo-Triassic Beaufort Group and and Triassic-Jurassic Stormberg Group of the Natal Midlands and Drakensberg. The trip will visit fossil sites that contain mammal-like reptiles, trackways, plants and insects.

FIELD TRIP B

This will involve a field trip to the Archaean stromatolites in the Pongola Supergroup, of northern KwaZulu-Natal, to the fossiliferous Cretaceous sedimentary rocks of the Maputaland coastal plain and to the Holocene site of Sibudu cave.

For those with their own transport, the estimated cost for accommodation and food on either of these trips is about R300.

Please indicate in your reply

- (1) field trip you would prefer to attend or whether you do not intend to participate in either trip;
- (2) whether you will have your own transport;
- (3) whether you would be able to take any other people in your own transport.



For additional information please contact:

Mike Mostovski (mmostovski@nmsa.org.za;
+27-(0)33-3410529/3455000)

Mike Watkeys (Watkeys@ukzn.ac.za)

We look forward to seeing you in KwaZulu-Natal!

Langebaanweg 2010

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

Building on the success of the Langebaanweg 2006 mini-symposium and workshop, 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. 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. Please see the information on abstract submission, registration and accommodation for the Conference attached.

Should you have any questions, please contact **Jolandi Ackermann** on the details below.

We look forward to seeing you in November 2010.

With best wishes,
Langebaanweg 2010 Organizing Committee

Jolandi Ackermann
UCT Conference Management Centre
Tel. +27 21 406 6381
Fax. +27 21 448 6263

UPCOMING INTERNATIONAL CONFERENCES

Royal Society Meeting: Biological Diversity in a Changing World

London, UK **19 – 20 April 2010**

Meeting is FREE, but pre-reg. is vital. http://royalsociety.org/Event_WF.aspx?pageid=4294969596&terms=biological+diversity+in+a+changing+world

Special Meeting of the French Geological Society: Jurassic environments and faunas

Lyon, France **22 – 24 April 2010**

This multidisciplinary meeting will consist of two days of indoor
For further information please visit <http://SGF-elmi.univ-lyon1.fr>.

IGCP 572: 2010 Meeting and Field Workshop in South China, International Conference of Geobiology (ICG)

Wuhan, China **4 – 6 June 2010**

<http://geobiology.org.cn/2010meeting> and <http://www.igcp572.org/>.

Contact: Jinnan Tong (e-mail: jntong@cug.edu.cn)

or Zhong Qiang Chen (e-mail: zqchen@cyllene.uwa.edu.au).

4th Workshop on Ichnotaxonomy

Moscow - **21-23 of June 2010**

St. Petersburg and Surroundings - 24-26 of June 2010

For second circular, see <http://jurassic.ru/ichnoIV.htm>

Contact Andrei Dronov: dronov@ginras.ru

The Third International Palaeontological Congress, (IPC3)

London, **June 28 to July 3, 2010.**

<http://www.ipc3.org/>

8th European Palaeobotany - Palynology Conference

Budapest, Hungary **6 – 10 July 2010**

If you are interested in EPPC 2010 Conference, please contact the conference secretariat via the following link, so that we could keep you informed about the latest news and the event. <http://www.eppc2010.org/modules.php?name=home&PHPSESSID=c66f9b069d0c3b494b2deaf7acd3bca3>

Flugsaurier 2010: Third International Symposium on Pterosaurs

Beijing, China **5 – 10 August 2010**

All correspondence (e-mail preferred), including any questions or suggestions, should be sent to Lü Junchang and Dave Unwin.

Lü Junchang: Yilong2010@gmail.com; Dave Unwin: dmu1@leicester.ac.uk

Lost and found: Fossil flies, their lineages and habitats

Symposium at the 7th International Congress of Dipterology, San José, Costa Rica, **8-13 August 2010**

<http://www.icd7.org>

EQMal 2010 - Conference of the European Quaternary Malacologists

Szeged, Hungary **15 – 18 August 2010**

The conference will focus on different aspects of Quaternary environment and stratigraphy, as well as archaeozoological research related to molluscs.

Web updates via the meeting blog at: <http://eqmal2010.blogspot.com/>

For further details e-mail: eqmal2010@gmail.com

The 5th International Conference on Fossil Insects, Arthropods and Amber

Beijing, China, **20-25 August 2010**

<http://fossilinsects.net>

Prof. Dong Ren email: rendong@mail.cnu.edu.cn

8th International Symposium, Cephalopods – Present and Past (8ISCPP)

Dijon, France **31 August – 3 September 2010**

Pascal.Neige@u-bourgogne.fr

Cambridge 2010

58th meeting of the Society of Vertebrate Palaeontology and Comparative Anatomy

19th meeting of the Symposium of Palaeontological Preparation and Conservation

Cambridge, UK, **14-18 September 2010**

<http://www.svpca.org>

SVP's 70th Anniversary Meeting

Pittsburgh, Pennsylvania, USA.

NEW DATES: **10-13 October 2010**

<http://www.vertpaleo.org/meetings/index.cfm>

Geological Society of America (GSA) Annual Meeting 2010

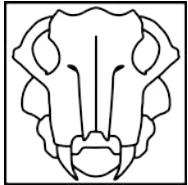
Denver, Colorado USA

31 October – 3 November

<http://www.geosociety.org/meetings/2010/>

LINKS

Please take note that the PSSA website has a new address, as follows:



<http://ru.ac.za/pssa>

Many thanks to Billy de Klerk for managing the site. If anyone has any suggestions or additions, please contact him.

For some reason Google is currently not finding our website, but Billy is going to investigate. I'm sure it doesn't help that we share the PSSA acronym with the Pharmaceutical, Philosophical, Photographic, Physiology, Phycological etc. Societies of Southern Africa! - Ed.

Recent international news (links valid as of 05 March 2010)

Emergence of tetrapods onto land occurred some 20 million years earlier than previously thought

<http://www.guardian.co.uk/science/2010/jan/06/footprints-tetrapods-walked>

<http://news.nationalgeographic.com/news/2010/01/100106-tetrapod-tracks-oldest-footprints-nature-evolution-walking-land/>

True-colour dinosaurs

Two high profile papers on the colour of dinosaur feathers appeared recently in Nature and Science respectively. How amazing that by examining fossilized feathers with an SEM, and documenting the sizes and shapes of melanosomes (microscopic structures that were initially thought to be microbes), deductions can be made about their original colour!

<http://news.nationalgeographic.com/news/2010/01/100127-dinosaur-feathers-colors-nature/>

See a groovy full-colour 3D rendering of a feathered dinosaur (*Anchiornis*):
<http://news.nationalgeographic.com/news/2010/01/100127-dinosaurs-color-feathers-science/>

Q: Why did the *Anchiornis* cross the road?

A: It thought it was a chicken.

Neanderthals dressed up: 50,000-year-old jewelry found at two caves in southeastern Spain.

<http://www.scientificamerican.com/article.cfm?id=neandertal-art-human>

Earliest Eukaryotes? Yet another South African origin.

Organic-walled microfossils in 3.2-billion-year-old shallow-marine siliciclastic deposits

Nature 463, 934-938 (18 February 2010)

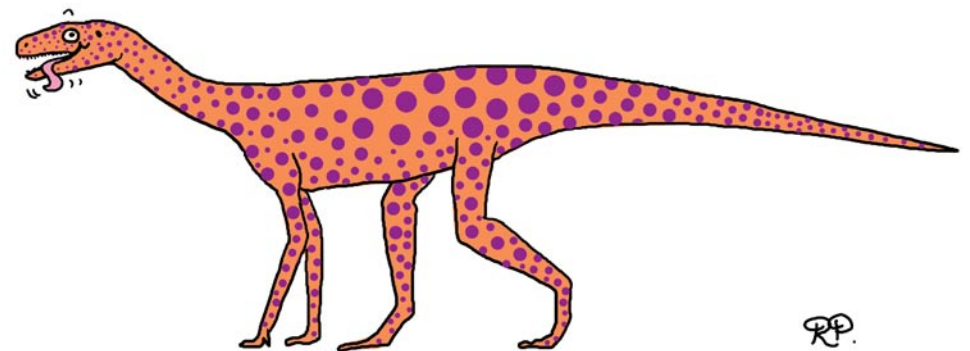
<http://www.nature.com/nature/journal/v463/n7283/full/nature08793.html>

Big dinosaur find: the discovery in Utah of four skulls of a new sauropod species *Abydosaurus mcintoshii* created a stir.

<http://news.nationalgeographic.com/news/2010/02/100224-new-giant-dinosaur-species-skulls-utah/>

Bigger dinosaur find in Africa: Dinosaurs and their closest relatives originated earlier than thought - *Asilisaurus kongwe* (March 04 issue of Nature).

<http://news.nationalgeographic.com/news/2010/03/100303-dinosaurs-older-than-thought-10-million/>



A-silly-saurus

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 Thackeray, Francis
 van den Heever, Juri
 van Dijk, Eddie
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NEXT DEADLINE FOR CONTRIBUTIONS:

MONDAY 05 JULY 2010