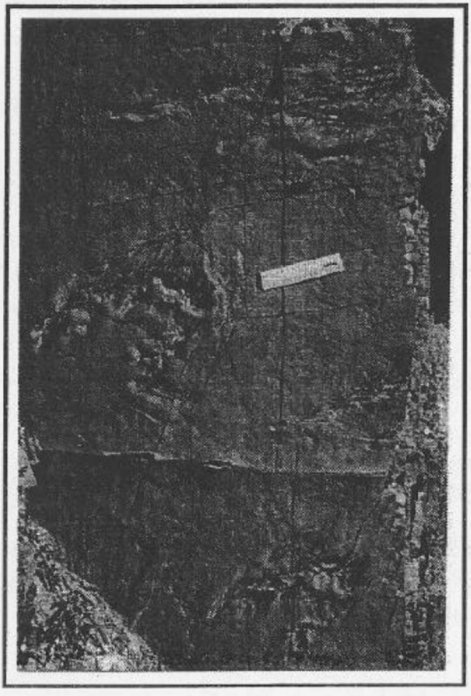
PAL NEWS NUUS

Biannual newsletter of the Palaeontological Society of Southern Africa.
Halfjaarlikse Nuusbrief van die Paleontologiese Vereniging van Suider Afrika.

Vol/Band 13(4) **August 2002** (late edition)



PALNEWS Vol/Bd 13(4)
PALNUUS August 2002

CONTENTS

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Front cover: An eurypterid trackway recently discovered in the Ecca Group exposed south of Laingsburg. See John Almond's report on page 9 for the full story.

FROM THE EDITOR

Greetings and welcome everyone to this, the last issue of PalNews Vol. 13. Most palaeontologists, by the nature of their work, know only too well that time, like the tide, waits for no one, not even people accustomed to working with large slices of it. It is therefore not surprising that another two sets of seasons have passed only too swiftly and the next (12th) biennial meeting of the PSSA is awaiting just around the corner. As you most probably know our meeting will be held at Bloemfontein this year and it promises to be a very interesting and stimulating one. Have a look at pages 4-8 for more conference information.

Looking back at the activities of the PSSA members and friends during the last two years (as is our wont to do in the last issue of a PalNews cycle), it is evident that it has been an extremely busy period for all. Research is actively continuing in several research fields and topics. Focussing on training, the picture is bright with a number of students having completed their masters or doctoral theses. The current crop of students is furthermore large (in number) and they are conducting research on a number of exciting projects. Valuable media exposure was also gained by southern African palaeontology on both the local and international stages. However, ever-changing global and national environments (especially where science & funding is concerned) mean that southern African palaeontology is facing a number of important challenges. Nevertheless, if tackled with the same enthusiasm and capability shown by our members in recent years, we have every reason to look forward to a bright future.

Lastly, I would like to thank everyone who has contributed to PalNews during these last two years. Keep the news and views coming! Thanks are also due to Ria Putter, our unit secretary, who helped me in putting these four issues together. Until we meet in Bloem for PSSA 2002, successful fossicking!

Johann

SECOND CIRCULAR - 12th BIENNIAL CONFERENCE (2002) PALAEONTOLOGICAL SOCIETY OF SOUTHERN AFRICA

1. CALL FOR TITLES AND ABSTRACTS

Dear colleagues, we invite papers on any aspect of Palaeontology, from **Taxonomy to Taphonomy, Evolution to Biostratigraphy, Palaeobiogeography, Palaeoecology, Palaeoclimates and Palaeoenvironments.**

* Please email abstracts to florisbd@nasmus.co.za not later than 6 September 2002.
* The length of your abstract should not exceed half an A4 page (12 size font). No formatting is necessary.

Special topics

1. Biochronology of the late Caenozoic of Southern Africa. Please contact James Brink if you would like to contribute to this session.
2. We also plan a session/discussion on palaeotourism.

Any other suggestions for sessions or special topics are welcome.

2. PROGRAM - October 2002

Thursday 3rd	Late registration & informal reception (evening)
Friday 4th	Scientific sessions
Saturday 5th	Scientific sessions & Posters
Sunday 6th	Excursion to Quarternary sites & reception at Florisbad (There is a parallel excursion to the Sannaspos Anglo-Boer War battle site guided by Johan Loock.
Monday 7th	Scientific session, BGM, Conference dinner
Tuesday 8th - Wednesday 9th	Post-conference excursion to Karoo localities

3. ACCOMMODATION

The following list of hotels and guest houses are recommended. If

you experience any difficulty in reserving accommodation, please contact the organising committee for assistance.

I. Within walking distance from the Conference Venue

* President Hotel***; 1 Union Ave, Naval Hill; (051) 430 1111; E-mail preshot@iafrica.com; Single Room R315 pp, Single Room sharing R195 pp.
* Louis Botha B&B; Waverley; (051) 436 4533; Rooms R65 pp (excluding breakfast).
* Naval Hill Youth Hostel; Arboretum; (051) 430 7266; R55 pp (excluding breakfast).
* Florentia Guest House; 2c Louis Botha Street, Waverley; (051) 436 7847; E-mail florentia@internext.co.za; Single Room R320, Double Room R420.
* Crawford House;, 8 Innes Ave, Waverley; (051) 436 6161; Single Room R325, Double Room R430 pp.
* Villa Deane Guest House; 16 Deane Ave, Waverley; (051) 447 9737; Single Room R200, Double Room R280 pp.

II. Transport needed

* Formula 1 Hotel; 200 Zastron St.; (051) 444 3523; R185/room (containing 1 double bed & 1 single bed) (excluding breakfast).
* Hydro Guest House; 115 Kelner St.; (051) 448 0523; Single Room R190, Double Room R270.
* Holiday Inn Garden Court****; Kimberley Rd; (051) 444 0671; Fax (051) 444 0671; E-mail sophias@southernsun.com; Single Room R559, Double Room R580.
* City Lodge; Nelson Mandela Ave; 444 2974; Single Room R395, Double Room R460 (excluding breakfast).

4. REGISTRATION

The registration fee is R350, which includes:

* Informal reception
* Conference materials
* Tea & Coffee

* Mid-Conference Excursion & Reception at Florisbad
* Conference dinner

Please register as soon as possible. A surcharge of R40 will be added to the fee from 1 September. Cheques should be made payable to **National Museum Bloemfontein** and mailed to *PSSA 2002, National Museum, PO Box 266, Bloemfontein 9300*. Fees can also be paid into the following bank account:

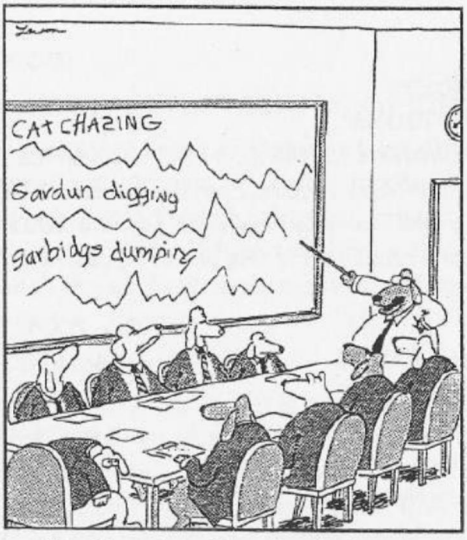
Bank:	ABSA
Account Name:	National Museum
Account Number:	470570202
Branch Code:	334134

Proof of deposit must be faxed (051 4476273) or E-mailed to florisbd@nasmus.co.za.

5. EXCURSIONS

A mid-conference excursion on Sunday 6th October is planned for Quarternary sites. This excursion includes visits to Deelpan, a Holocene site, Erfkroon, a new Florisian locality, and Florisbad, where a late afternoon reception is planned. A parallel mid-conference excursion is planned for the Boer War battle site of Sannaspos under the guidance of Johan Loock. It is planned that this excursion will join the Quarternary excursion for the site tour and reception at Florisbad. The post-conference excursion includes the Ecca-Beaufort boundary near Phillippolis (Tuesday 8th October), overnight at a game reserve on the Orange River, and Triassic localities near Bethulie (Wednesday 9th October).

* Transport will be provided for the mid-conference excursions, but those joining the post-conference excursion will have to provide their own transport.
* Fees for the post-conference excursion are not included in the registration fee, but will be decided once the number of participants is finalised.



"Now if you all would examine the chart, you will notice that — well, well ... seems Mr. Sparky has found something more engrossing than this meeting."

More trouble brewing

CONFERENCE REMINDERS

1. CALL FOR NOMINATIONS

It is time to call for nominations for the next PSSA committee that will be elected at the next BGM as required by the constitution of the society. Marion will be the incoming President for the 2003 - 2004 term, but nominations are required for the following positions:

2001 - 2002	2003 - 2004
President - Juri v/d Heever	Marion Bamford
Vice Pres - Marion Bamford	-
Secretary - Patrick Bender	-
Treasurer - Johann Welman	-
Editor Pal-News - Johann Neveling	-
Conference - James Brink & Loyd Rossouw	-
Additional Members - Heidi Fourie, Hymne Laubscher	-

Nominations for the executive committee must be signed by the proposer and supported by a seconder (both members of the PSSA) and lodged with Jurie v/d Heever (javdh@maties.sun.ac.za) or Marion Bamford (106mab@cosmos.wits.ac.za) on or before 5th October 2002 (second day of the conference). Voting will take place at the BGM.

2. PSSA TROPHIES

All trophy holders are reminded that they have to return their trophies at or before the conference as they have to be re-awarded at the conference dinner. If you forgot whether you are a trophy holder or not, have a look at the names below:

Order of the Boot - Darryl de Ruiter

Lystrosaurus **Shield (best student paper)** - Lucinda Backwell

Lystrosaurus **Cast (best poster)** - Eddie van Dijk

NEWS FROM:

JOHN ALMOND, *NATURA VIVA* cc, CAPE TOWN

After several years in the wilderness, I am currently following up several projects on South African Palaeozoic fossils, including unfinished work on trace and fish biotas from the Cape Supergroup. This involves undescribed and shockingly scrappy fish material from the Bokkeveld and Witteberg Groups, all of Middle Devonian age, as well as large trilobite traces from the Klein Karoo.

My main news on the fossil front is the recent discovery, in conjunction with friends **Hedi** and **Erwin Stummer**, of a giant arthropod trackway (*see front page - Ed*) in the lower Ecca Group of the Laingsburg area, southern Karoo. This is being described in collaboration with Dr Simon Braddy of the University of Bristol, UK, who has published previously with me on South African arthropod traces. The Ecca trackway is about one meter wide and over fifteen meters long - in all respects, the largest invertebrate trackway ever recorded in the world! More importantly, it is unusually complex and well-preserved, showing clear evidence of concurrent feeding and locomotory behaviour in a very systematic - that is to say singularly mindless - pattern. Pronounced raking marks associated with the tracks show that the animal involved was using its appendages to comb through the bottom sediments for food - probably small crustaceans and "worms", both of which are suggested by contemporary ichno-assemblages. On the basis of the number of forked-tipped legs involved, the sheer size of the trackway, as well as this peculiar feeding behaviour we feel that the trace-maker was probably a giant sweep-feeding water scorpion (eurypterid). An almost complete specimen of this group has previously been collected from the uppermost Witteberg Group (Early Carboniferous) of the Great Karoo. Combining body and trace fossil data allows us to estimate a probable length of the Ecca eurypterid of well over 2m - again, almost certainly the largest arthropod known and the mightiest beast of any sort so far recorded from the Ecca Sea. The new trackway indicates that these repulsive microvorous predators persisted locally into the mid Permian, and that they also thrived well offshore, which

Understanding only German, Fritz was unaware that the clouds were becoming threatening.

is also an unexpected development.

Alarmingly, this unique giant eurypterid trackway is rapidly splitting apart along joints and falling piecemeal over a low cliff. Funds are urgently being sought for conservation purposes. Dr Roger Smith and Annelise Crean (Iziko Museums, Cape Town) have generously applied their considerable expertise with Karoo tetrapod trackways to casting a 2.5m-long section of our specimen in silicone rubber - no mean feat considering the precarious situation of the specimen on a crumbling cliff face. From this cast we can construct fibre-glass replicas for research and display purposes. Given the likely laxative influence of giant water scorpions on the vertebrate bowel, no palaeontologist's bathroom would be complete without one.

John Almond

BERNARD PRICE INSTITUTE, JOHANNESBURG

This year is turning into a major teaching year for the BPI. We have no fewer than 7 full-time Honours students and 2 occasional Honours students. The topics on offer range from the Origin of Life, to Synapsids, Dinosaurs and Birds, Biostratigraphy, Human Evolution (to naming just a few). We are fortunate to have a wide range of interests in our Honours class, which means that we expect an ever-increasing diversity of research and publications. The range of projects cover such diverse topics for the palaeoanthropology/geology Honours stream as a cranial description of a hyaenid from Bolt's Farm (**Pedro Boshoff**), description of a diverse Plio-Pleistocene faunal assemblage from the Congo (**Headman Zondo**), and the first meaningful investigation of cave stratigraphy at Gladysvale (**Robyn Pickering**). On a slightly stricter geological stream we have **Chris Wright** working on the section stratigraphy of the Ecca-Beaufort contact in the Estcourt area, whereas projects on the postcranial anatomy of a supposed basal anomodont (**Anthea Bristowe**) and the cranial anatomy and taxonomy of Namibian dicynodonts (**Cecil Vasconcelos**) form part of our vertebrate Honours work. Excitingly, we have also introduced an historical palaeontology stream where **Alistair Wylie** is reviewing the status of Broom's Karoo tetrapod holotypes and specimens. Honours co-ordinator **Alain Renaut** and the other Honours lecturers are particularly pleased with the dedication and enthusiasm of this year's Honours class, the BPI thus has a particularly vibrant atmosphere this year with an exciting sense of expectation for the future.

To complete our lecturing for this term Alain Renaut and **Marion Bamford** ran the second year of their highly successful 'Palaeontology and Palaeoecology' third year course for the School of Animal, Plant and Environmental Sciences (APES) at the University of the Witwatersrand. This course (with the aid of lecturers from APES and efforts of staff and students from PURE) covers the history of life, evolution and changing environments and ecologies from the earliest single-celled organisms to the rise of the hominids. Our focus is on 'origins' and the crucial role South Africa plays in our knowledge of past and ancient life. This dynamic course has been designed to have an integrated approach to the theory

and practical components, providing an unique "hands-on" experience in the study of general palaeontology.

The palaeobotanical section of the BPI has been running full speed this year, and several palaeobotanists have visited the BPI. **Veronique Daviero** and **Georges Barale** from the University of Claude Bernard, Lyon, France came in January as part of the "Mesozoic Continental Floras" project with **Marion Bamford**, supported by a grant from the NRF-CNRS Agreement. Marion took Georges on a whirlwind tour of the South African flora, both fossil and extant. Later this year Marion will be joined by yet another member of this research team, **Marc Phillip** who will be presenting at the *Mesozoic Terrestrial Ecosystems* symposium in Cape Town. **Conrad Labandeira** and **Hallie Sims** from the National Museum of Natural History, Smithsonian Institution, visited in February to look at the insect damage on Permian fossil leaves. **David Beerling**, Sheffield University, UK, popped

In their final year, all research science students are required to take one semester of Maniacal Laughter.

in quickly in April to see what potential our Karoo flora has for oxygen isotope research. **Bernard Gomez** has completed his postdoc at the BPI, on the conifers and amber from the Kirkwood Formation, and has started a second postdoc at the University of Leeds, UK. **Rose Adendorff** and **Andrea Sandersen** have their noses to the grindstone and will finish their theses soon. **Ray Renaut** had to put her MSc on hold for a few months to look after the new Renaut, baby Aidan, born 30 January. Congratulations Ray and Alain! Ray is back at the microscope and computer whenever Aidan sleeps. As nice as it is to visit the extant wood collection in Brussels, it is not possible to do so frequently. Marion has, therefore, started collecting modern wood samples for a reference collection. Although some colleagues have called the several samples "braai wood", the growing collection of thin sections being made by **Doctor Mbenzi** and **Charlton Dube** will outlast any braai!

January saw the official appointment of **Darryl De Ruiter** as a research officer at the BPI working at the Palaeoanthropological Unit for Research and Exploration (PURE) headed up by **Lee Burger**. Darryl has started his lecturing commitments with a fascinating component to the Honours Taphonomy topic, which saw the students receiving in-the-field lecturing and experience on South African Plio-Pleistocene taphonomy. Most of the members of PURE (**Colin Menter**, **Christine Steininger**, **Dorian Staps**, **Lee Burger**, Rodrigo Lacruz) attended the Physical Anthropology conference in Buffalo, New York, USA, in early May where they presented oral papers and posters. Later in May, many of the members of PURE have been involved in the regular *Duke University Field School*. Very exciting collaborations with the University of Arkansas, in particular a massive collaborative GIS project is on the cards (watch this space!). Rodrigo has submitted his MSc and has begun work on his PhD, Dorian has also submitted and has returned to Germany, and Christine is about to complete and submit her MSc. This seems to be a year for submissions, because **Romala Govender** also submitted her MSc, which was awarded in April, and she has started a PhD with Alain Renaut comparing the postcranial physiologies of several dicynodont taxa. **Ashleigh Jeannot** has completed her Honours and started a MSc project with Ross Damiani on lydekkerinids while **Johann Neveling** has submitted his PhD, and is now a "free" man! Ashleigh will be presenting the

findings of her Honours research at the *Mesozoic Terrestrial Ecosystems* symposium (MTE) in July.

Bruce Rubidge has been on sabbatical for most of this year, and we expect several exciting papers and projects to result from this "break?". However, he did manage to go on several field-trips, particularly some interesting ones with **Chris Sidor** (New York College of Osteopathic Medicine, New York Institute of Technology), **Allison Beck** (University of Chicago), and **Doug Erwin** (Natural History Museum, Smithsonian Institution, Washington). He has also been working on some interesting papers on biarmosuchians and 'primitive' dicynodonts with Chris Sidor and **Sean Modesto**. Recently Bruce has been working very hard on his up-coming *Alex du Toit Lecture Series*. In keeping with the BPI research thrust, which relies on work across various times and continents, and apart from several lecturing responsibilities, **Alain Renaut** has been working on the various Triassic dicynodont projects with **John Hancox**, Cecil Vasconcelos and **Ross Damiani**. Some of these results will be presented at the MTE Symposium in Cape Town. He has also made inroads on the long-term gorgonopsian project, which is currently focussing on the morphology, taxonomy and phylogeny of these therapsid carnivores, and will be presenting some of these findings at the First International Palaeontological Congress in Sydney, Australia in the early part of July. Ross Damiani has continued with his research on fossil amphibians of the Karoo, but has also produced some fascinating research on his collaborative National Geographic Project on the *Lystrosaurus* Assemblage Zone, working with **Adam Yates** (Bristol University, UK), **Sean Modesto** (Carnegie Museum of Natural History, Pittsburgh, USA) and Johann Neveling (Council of Geosciences, Pretoria). Some of their work challenges the idea of 'across-the-board' extinctions at the Permo-Triassic boundary.

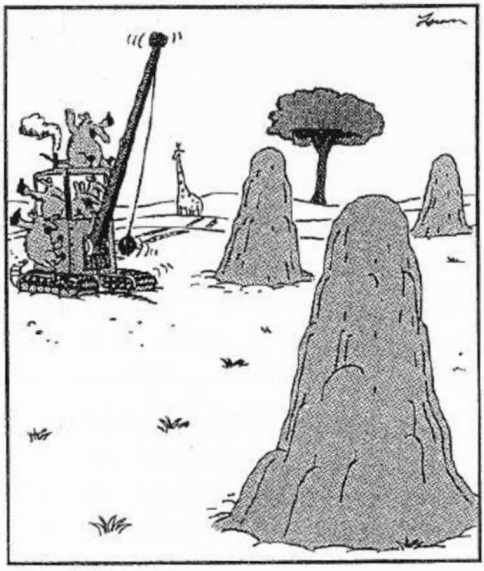
Compiled by Alain Renaut

'IETERMARITZBURG

In April 2001 **Annie van de Venter** resigned from the Transvaal Museum (NFI) and joined **Amafa/Heritage KwaZulu-Natal** as head of the Archaeology Section. Amafa is the statutory body responsible for heritage management in the province of KwaZulu-Natal. We administer permits for all archaeological and palaeontological research and surveys within the province. People requiring permits should contact Annie at 033 394 6543, or e-mail her at amafa.pmb@pixie.co.za

We also request all palaeontologists who are interested in doing pre-development surveys and rescue work to submit their CV's to us in order to register as consultants. This is in accordance to the KwaZulu-Natal Heritage Act, No 10 of 1997, section 27.

Annie van de Venter



Like frozen sentries of the Serengeti, the century-old termite mounds had withstood all tests of time and foe—all tests, that is, except the one involving drunken aardvarks and a stolen wrecking ball.

ARTHUR CRUICKSHANK, LEICESTER

I think this marks a longish layoff, but also a return to something like normality. The problem sprang on me while I was visiting Norton Hiller in Canterbury in March 2001 and was 'cured' by a simple triple bypass in November (*Nothing simple about that! Good to hear you recovered though, Arthur - Ed*). Since when the manuscript on the New Zealand plesiosaurian, that is due to be decribed by Norton and myself (and others), has been languishing a bit. However there is now a cladogram and an intention to complete said work asap. I am deeply indebted to Norton and colleagues for their forbearance, so lets hope its a good one!

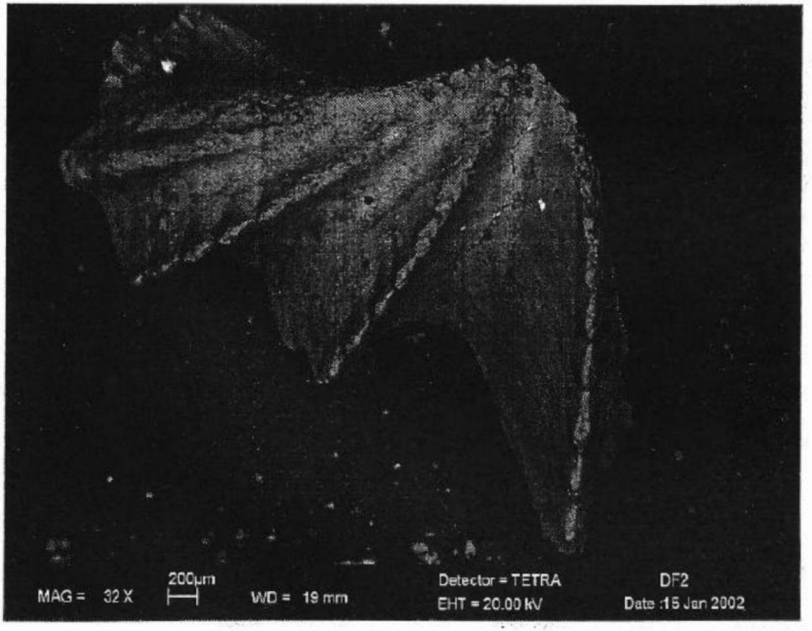
Otherwise **George Illiopolis** progresses his PhD on Pikermi giraffids, and other tephonomic-related topics, nicely with a submission date of somewhere towards the end of the year. I am threatened with more people wanting to work on a burgeoning quantity of newly collected (and new taxons of) plesiosaurs, but I think its high time for others to learn the mysteries, and pleasures, of higher degree supervision! I might actually retire. The list of uncompleted projects allowing.

Arthur

COUNCIL FOR GEOSCIENCE, PRETORIA

Here's hoping that the New Year has started well for everyone.....the start of my (**Patrick Bender**) new year has seen the submission of another paper on a new Late Permian actinopterygian fish from the lower Beaufort Group, to Palaeontologia africana. John Hancox and I managed a few days looking for more fossils at crucial Early to Middle Triassic fossil fish localities in the eastern Cape and northern Free State parts of the Karoo Basin. The *Cynognathus* Assemblage Subzone A abundant fossil site at Driefontein in the northern Free State yielded numerous lungfish toothplates, as did the

Subzone B Winnaarsbaken locality near Burgersdorp in the Eastern Cape. Undoubtably one of the highlights of the trip, was a couple of promising articulated actinopterygian body and fin specimens from an abundant amphibian fossil site near Zastron.



SEM image of lungfish toothplate from Driefontien. (Photo sent in by John Hancox).

The next few months will be taken up with research directed towards presentations at the *Mesozoic Terrestrial Conference* in Cape Town, and the *Gondwana 11* conference in Christchurch respectively. Research for the former conference is geared towards using Triassic fossil fishes (based on specimens from within the upper Beaufort Group) for biozonal, palaeo- ecological,

-environmental and -biogeographic resolution; research for the *Gondwana 11* conference will include Late Triassic and Early Jurassic ichthyofaunal elements from the South African and Lesotho Stormberg Group as well. Within the Palaeontology Section at the CGS, we are busy preparing the small Museum and parts of the Fossil Store at the Silverton head office to receive visitors - thus making some of the wonderful elements of the CGS fossil collection available to members of the public.

During April **Johann Neveling** accompanied **Ross Damiani, Sean Modesto, Adam Yates, Charlton Dube** and **Frans Tshabalala** on a two-week fieldtrip in the Karoo looking for small reptiles and other beasties in the *Lystrosaurus* Assemblage Zone. This work was part of a collaborative project headed by Ross Damiani and funded by National Geographic Society. The exposures in the Middelburg district yielded especially interesting material, but more about that later... For the rest of the year Johann was (almost) consumed by his PhD which he finally completed and handed in during June. He is currently awaiting the examiners verdict and is reportedly now trying to resurrect his social life.

Good news is that we have recently embarked on a collaborative project with the Quaternary Research Unit at Florisbad with the aim to complete the sterling working initiated by Hymne Laubscher on the Plio-Pleistocene vertebrate collection from Basaansklip. On the collection side **Linde Karny** has now completed the curation of the palynology collection and the updating of the palynology database. At present she is moving onto the vertebrate collection as well as being involved in the day to day running of research.

NORTON HILLER, CANTERBURY MUSEUM, CHRISTCHURCH, NEW ZEALAND

Having been silent for some time, I thought it was high time that I communicated once again with my friends and colleagues in SA. Indeed, on checking through back issues of PalNews, I see it was in March 2000 that I last had my news published. In the two years that have elapsed since then I have been quite busy but not always in Palaeontology. Various museum projects have kept me out of mischief but I have managed to look at a few fossils.

On the brachiopod front, I attended the *Millennium Brachiopod Congress* in London in July 2000 and gave a paper on a new Early Miocene fauna from the far north of New Zealand. This is turning out to be a very interesting fauna that differs markedly from the better known Miocene faunas of the South Island. Included among the forms present is a species of *Megerlina*, a genus with which I became familiar when studying the Pleistocene-Recent South African brachiopod fauna. The presence of this genus in the Miocene of NZ raises all sorts of awkward questions about the origin of this group of brachiopods. Work is continuing.

On the vertebrate front, we continue our work on Late Cretaceous marine reptiles. Arthur Cruickshank has already reported on his visit to Christchurch in February-March 2001 (*PalNews, July 2001*). In addition to the project with Arthur, I am involved in a project with staff of the *Institute of Geological and Nuclear Sciences* on obtaining a more precise dating of marine reptile remains. IGNS staff and their European colleagues have devised an elegant biostratigraphy of Late Cretaceous deposits based on dinoflagellates. By extracting dinoflagellates from matrix adhering to reptile bones, we can now assign individual mosasaur or plesioaur specimens to specific zones. This has allowed us to recognise a late Maastrichtian fauna that appears to have replaced a slightly older Campanian-early Maastrichtian fauna.

An interesting development in the last twelve months was the discovery of a new moa swamp deposit. The owner of a newly developed vineyard reported to the museum the discovery of large bones during excavation for a pond. Her description of the site suggested a moa swamp so I was able to call in the people who know about these things. After his initial visit to the site, **Richard Holdaway** was quite excited and we set about establishing an interdisciplinary study of it, involving soil scientists, palynologists and wood scientists, among others. So far the site has yielded the remains of 17 species of native birds, many of them extinct, including the 200 kg giant moa and the giant Haast's eagle. Additional material include the remains of forest trees, tuatara and land snails. The few radiocarbon dates obtained so far indicate a relatively young deposit, around 1000 years BP, so the experts are busy building a picture of the local landscape immediately prior to the arrival of humans.

In December last, my colleague **Ian Macadie** and I organised the 2001 edition of *CAVEPS* (Conference on Australasian Vertebrate Evolution, Palaeontology and Systematics). It was a small, intimate affair but we had visitors from USA and Australia as well as local palaeontologists. Two days of talks were followed by a two-day field trip during which I was accused of trying to drown participants. Well, it's not my fault if the tide was not aa low as it was supposed to be, and wading through rivers is definitely the easiest way to deal with them. You just have to look out for holes. At least the water was not as cold as it might have been.

Sadly, Ian Macadie has now returned to the UK after 30 years in NZ. However, he has promised me that he will continue his work on our Devonian fish remains and he has taken a collection of scales with him.

For all my sins, I have become involved in the organising committee for

Gondwana 11 and I know some of you are intending to come to the conference. I look forward to catching up with you in August!
That is all from NZ for now. Best wishes,

Norton

JOHN HANCOX, SCHOOL O' GEOSCIENCES, WITS

"Notes from the Seds Side"

Seeing as I have missed the deadline for the last two issues, there is quite a lot to report on. Firstly I would like to take the opportunity of very belatedly congratulating **Alain Renaut** on obtaining his Ph.D. and on the birth of his son. Alain and I are working on a number of dicynodont based projects, particularly Namibian and South American forms. In this regard, I spent a week up in Windhoek in early April 2002 looking at the Triassic Namibian material including *Kannemeyeria cristarhynchus*, an eryopoid amphibian and a number of odd cynodont forms – should be a lot of scope for **Fernando Abdala** to work on these when he commences his postdoc later in the year.

Work on the site at Driefontein continues, and **Patrick Bender** and I have just returned from a collecting trip (Figure 1). This site has recently produced teeth of the shark *Lissodus*, lungfish toothplates (Figure 2), as well as numerous other small actinopterygian teeth and isolated scales – watch out for a report back on this material from Patrick at the Mesozoic conference. Other material from the site includes numerous amphibian remains including capitosauroids, and a new brachyopid that formed the core of an honours project by **Ashleigh Jeannot**. *Kestrosaurus*, the most abundant of the capitosaurs from the lower *Cynognathus* Zone, has recently received the attention it deserves, with a manuscript by **Michael Shishkin** and co-workers in press. The new archosaur material from this site is being described by **Andrey Sennikov, Johann Welman, Michael Shishkin** and myself, and is an advanced state of preparation. All in all, this study has

Patrick Bender collecting lungfish material at Winaarsbaken, the type locality of Ptychoceratodus. *(Photo courtesy of John Hancox).*

given us a unique insight into life in an Early Triassic lake, and has considerably tightened up the correlation and dating of the lower part of the *Cynognathus* Assemblage Zone, as well as providing a glimpse into the world of the microfauna of this time.

Fame at last? - It seems that my love of dicynodonts and interest in the *Cynognathus* Assemblage Zone has finally borne fruits, as shown in this clipping from an article by Surkov in the Palaeontological Journal:...

"*The center of origin of the Kannemeyeriidae and Stableckeriidae was probably located in South Africa since the earliest and most primitive members of these families are found there; thus* Kannemeyeria *was recorded in the middle part of the* Cynognathus-**Hancox** *Zone (Shishkin,* et al, *1995) and* Dolichuranus *was recorded in the Omingonde Formation (Namibia) and in the lower part of the Ntawere Formation (Zambia).*" I thought one had to be dead to be part of an assemblage zone!

Emese Bordy has joined us to undertake a postdoc on the rocks of the Elliot Formation, and has identified a number of new sites, especially in the south of the basin. These we hope to re-visit and excavate during the latter half of the year. Other work in the Elliot has included the northern half of the basin, where **Robert Comley** is undertaking his honours project work. The section he is working is particularly important in our basin development model, as well as for the fact that the owners of the farm recently discovered a new small cynodont in the lower part of the sequence (*Euskelosaurus* Assemblage Zone).

Permian-Triassic boundary collecting and sedimentary studies in the north of the basin have finally been written up, with two papers that should have hit the stands by the time of reading this. The first is on the stratigraphic position of *Uranocentradon* and the second, a stratigraphic, sedimentological and isotopic record of the boundary section at Senekal in the northern Free State. Collecting in the south of the basin has also borne fruit, and recent studies on the palaeomagnetic signal by **Michiel de Kock** (RAU) should have a major impact on PTB studies in the nonmarine realm.

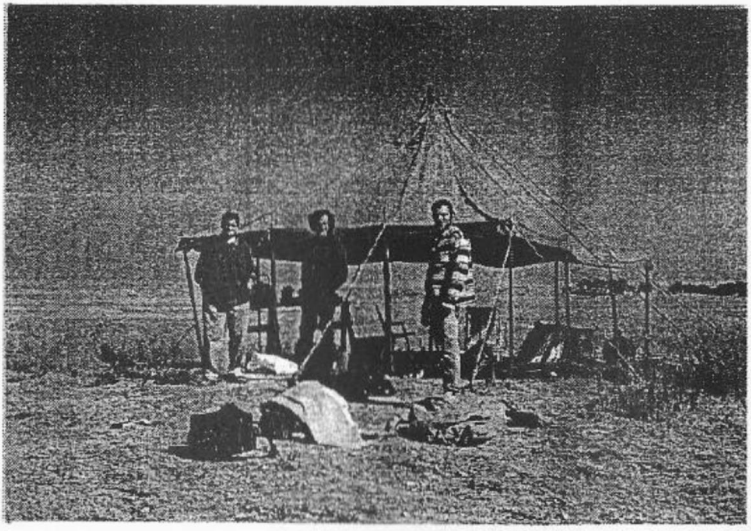
For those of you too busy to keep up with the times, **Bruce Rubidge** and I have tried to condense some of the amazing work done in the past decade in the Beaufort Group into a single paper – my apologies for the alliteration in the title (see below), and to anyone whose work was unintentionally omitted.

Anthony Rutherford's MSc work on the Permian and Triassic rocks around Thaba Nchu continues and although the palaeontological specimen count is still fairly low (apart from masses of wood) this work has shown that this important sector of the basin is more complex than originally thought.

Moving lower in the succession, **Bruce Rubidge** and I spent a useful week in the field in early February 2002 with **Chris Wright** (a Geology/Palaeontology honours student) looking at the Ecca-Beaufort contact in Natal. This sequence is lithologically similar to elsewhere in the basin, but significantly younger (on palaeontological grounds). A number of interesting trackways occur on the boundary and these are being described and interpreted by Chris as part of his honours project.

The Karoo is not the only fossil bearing sequence in southern Africa however, and the Mesozoic rocks of Mozambique have also provided some new material, including numerous Late Jurassic (Kimmeridgian) ammonites which are being described by **Herbie Klinger**, and rare, fragmentary Cretaceous fish vertebrae and fragmentary vertebrate bone shafts. This is not only a beautiful area to work, but, given its proximity to the Majunga Basin during Cretaceous times, has the potential for finding terrestrial Cretaceous vertebrates.

More recently I have also become more and more involved with Pleistocene fossils (or rather the sediments that surround them). In this regard work continues on Cornelia, Mara and Erfkroon. In January and May I met up with **James Brink** and **Llyod Rossouw** at Cornelia to discuss the site and to collect samples for palaeomag studies (Figure 3). Although this is an amazingly rich fossil site, it has to date suffered from problems regarding the dating of the older fills. I have even begun to tread where no sane sedimentologist would go, into the netherworld of cave fills - sort of the geological equivalent of playing three-dimensional chess without half the pieces. In this regard, work is progressing well at Gladysvale, where **Robyn**



James Brink, Rodrigo Lacruz and Lloyd Rosseaux at Cornelia.

Pickering is doing an honours project on the Peabody Chamber, and where **Rodrigo Lacruz** and I have been working on the external deposits. Robyn is planning on continuing the study next year for an M.Sc. and will concentrate on the youngest fill event, provisionally dated at around 214ka.

Lastly most of us at the School of Geosciences have been busy on the preparation of the upcoming book based on the lecture series presented last year. Edited by **Spike McCarthy** and Bruce Rubidge, this book aims to give a southern African perspective to the 4.6 billion year story of earth's history, and is a must for every geologist and palaeontologist alike - completion hoped for later in the year.

The rest of the year hold much promise for South African Palaeontology, with both the Mesozoic (*MTE*) and *PSSA* conferences coming up, as well as a strong South African presence at *Gondwana 11* in Christchurch, New Zealand.

Look forward to seeing you all at one of these conferences, Best regards from the seds side,

John

Recent and In Press Publications

* Damiani, R.J. and Hancox, P.J. New Mastodonsaurid temnospondyls from the *Cynognathus* Assemblage Zone (Upper Beaufort Group; Karoo Basin) of South Africa. *Journal Vertebrate Paleontology.*

* Hancox, P.J. and Rubidge, B.S. Breakthroughs in the biodiversity, biogeography, biostratigraphy and basin analysis of the Beaufort Group. *Journal of African Earth Sciences.*

* Hancox, P.J., Brandt, D. and Edwards, H. Sequence Stratigraphic Analysis of the Early Cretaceous Maconde Formation (Rovuma Basin), northern Mozambique. *Journal of African Earth Sciences.*

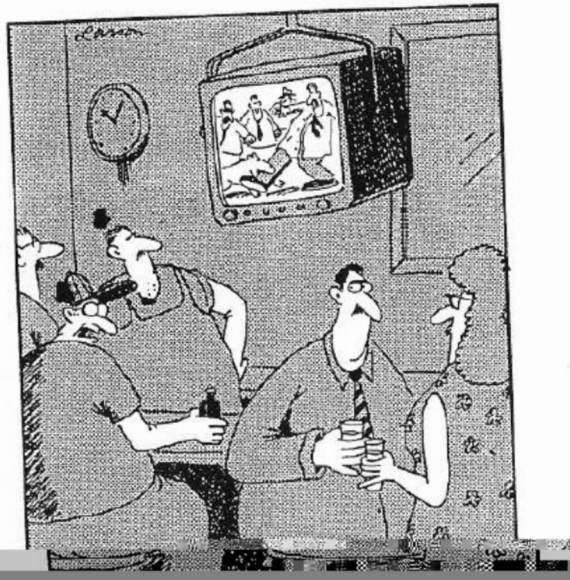
* Hancox, P.J., Brandt, D., Reimold, W.U., Koeberl, C., and Neveling, J. 2002. Permian-Triassic boundary in the northwest Karoo basin: Current stratigraphic placement, implications for basin development models, and the search for evidence of impact. *Geological Society of America Special Paper* 356, 429-444.

* Latimer, E., Hancox, P.J., Rubidge, B.S., Shishkin, M.A. and Kitching, J.W. [illegible] amphibian *Uranocentrodon*, another victim of the end-

Palaeontology and Human Evolution, in Barcelona, Spain. Francis presented a paper on recent work at Kromdraai and other sites, in the context of climatic change and hominid diversity.

Francis was also invited to a conference held in Addis Ababa, Ethiopia, to deliver a lecture on Sts 5 (Mrs Ples) and other fossils, with special reference to CT scanning. Recent results of CT scanning undertaken by Francis and Jose Braga (Bordeaux) indicate that Mrs Ples was adolescent, since the roots of the upper third molars were not completely developed at the time of death. Independent anatomical evidence (cranialmorphology) indicates that "Mrs Ples" was probably a small male. Francis has published these results in the *South African Journal of Science*, with Jose Braga and co-authors, suggesting that Sts 5 represents an adolescent male. So the nickname of Sts 5 has been changed from Mrs Ples to Mr Ples, and now, Master Ples. This conclusion has attracted considerable interest in the media, locally and overseas. Evidently there is growing public awareness of fossils from Sterkfontein and elsewhere in South Africa, as components of world heritage.

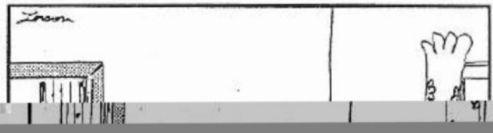
Francis also attended a conference of the *American Association of Physical Anthropologists*, in Buffalo, New York, where he presented a paper on the apparent lack of a clear boundary between *Australopithecus* and *Homo*. He was invited to represent South Africa at a UNESCO conference in Jakarta.



farms are now part of the tourism industry area and people are dependant on all relevant information, including geology and palaeontology, to make a living. If we, as scientists, do not inform farmers of the value of our finds, they will not respect our request to conserve the fossils on their land.

Lastly, you are welcome to contact me regarding the *Maloti/Drakensberg Transfrontier Conservation and Development Project*. This project aims to increase the awareness of the natural heritage of the Drakensberg, and we need to inform both Lesotho and South Africa of the value of our palaeontological heritage.

Gideon



PALAEOBIOLOGICAL RESEARCH GROUP, UCT & SAM, IZIKO MUSEUMS OF CAPE TOWN

Anusuya Chinsamy-Turan - I am thoroughly enjoying my new position as Director of Natural History at Iziko Museums of Cape Town. I am especially enjoying being able to do new exhibitions that are fun and that stimulate interest in Science. I have been very fortunate to work with really great teams over the pass 10 months and we have successfully delivered three new exhibitions at the SA Museum - *Go Bats!*, *Mineral Mania* (Herbi Klinger was one of the scientists involved here), and a smaller but high impact one on the 77 000 year old "*Engraved Ochre*" that Chris Henshilwood and his team published in *Science* earlier this year. Roger Smith is currently involved in our latest effort - *Fossil Stories*, which we hope to have completed and launched on the 23 July. Those of you that are in Cape Town for the *Mesozoic Terrestrial Ecosystems* conference are welcome to the opening function on the evening of the 23 July. Amidst all this, I am still continuing with my research, lecturing at UCT, serving on various committees and supervising my PhD students - as well as being a good "Mom" to my two boys!

Jennifer Botha - I am in the final stages of writing up my PhD thesis on non-mammalian cynodont palaeobiology. The combined approach of using bone histology and isotope analyses to deduce aspects regarding their biology has lead to some exciting results. I have also accepted a post in the Zoology Department at UCT, which involves coordinating a first year zoology course and will keep me very busy the second half of the year. I shall present a paper on a part my thesis work at the *Mesozoic Terrestrial Ecosystems* conference in July. Hope to see everyone there!

Tamara Franz-Odendaal - I have been extremely busy devoting all my time to writing my thesis and papers. I've one manuscript in press in *Paleobiology*, and two submitted to *JVP*. The former documents isotopic evidence from Langebaanweg, which provides valuable insight into the climate regime on the West cost of South Africa during the Early Plio-

cene. The other two manuscripts focus on the dental defects in the fauna from Langebaanweg and include some further stable isotope results. As for my thesis, I hope to finish it off in the next few months and submit it midyear. I have just accepted a post-doctoral fellowship at Dalhousie University in Canada working with Prof. Brian Hall. Although the details of my project are not certain, the research project will focus on the evolution of developmental processes and will definitely have a palaeo aspect. More later...

Sanghamitra Ray - The first half of 2002 has been fruitful for me. Apart from winding down my projects (its almost time for me to go back to India!) three of my co-authored papers were accepted for publication. Recently I submitted a paper with Anusuya on a comprehensive bone histology study of an ontogenetic series of *Diictodon*, resulting in the deduction of its life history strategies and biomechanics. At the moment I am studying the functional anatomy and bone histology of *Lystrosaurus*, which is showing most interesting results. Jennifer, Anusuya and I are also studying the growth patterns of some selected nonmammalian therapsids encompassing the dicynodonts, gorgonopsians, therocephalians and cynodonts.

Some of our publications that are *in press*:

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Knowing how it could change the lives of canines everywhere, the dog scientists struggled diligently to understand the Doorknob Principle.

The Wildlife Management finals

Reminder:

Deadline for contributions for the next issue of ***PalNews*** *is 23 November* 2002