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PAL NEWS
PAL NUUS

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

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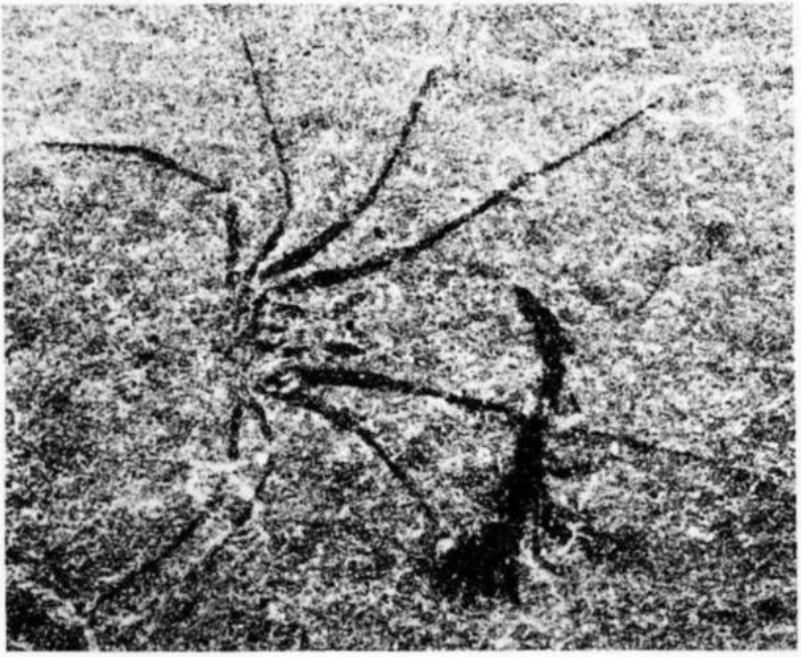

Fossil Spider from the Molteno Formation (x10) PRE/F/18560 (see article on page 4).

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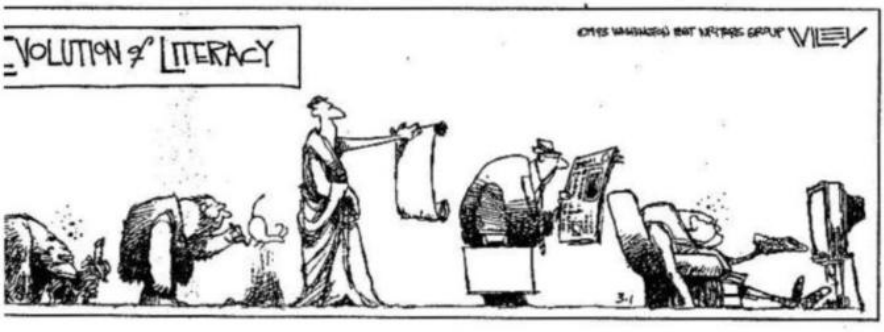
EDITORIAL

Greetings!

In response to the questionnaire that I sent out to all members with the last issue of Pal News I have prepared a *Membership Directory* which is enclosed. I was a little disappointed with the low level of questionnaire returns as only 40 members, out of a total membership of 128, responded. All members have nevertheless been included - some with more information than others. I envisage that this directory would be updated every two years and sent out to with the first issue of Pal News after the biennial PSSA conference. If any members would like to make alterations to their entries they should submit the changes to me before December 1994.

Also enclosed is the first circular for the PSSA'94 conference which is to be held here in Grahamstown - "the City of Saints". Or organising committee (Norton Hiller, Mike Raath, Jokel le Roux, Eric Anderson and myself) have already started the conference ball rolling. If you intend joining us in "Settler Country" in September 1994 please send in your first circular returns to Norton ASAP.



THE OLDEST SPIDER IN SOUTHERN AFRICA ?

CLASS	Arachnida
ORDER	Aranea
FAMILY	?Pisauridae
GENUS	*Whatsthename*
SPECIES	*somethingnew*

Dr John Anderson found this exciting and unique specimen on 7 January 1993 whilst carefully chipping through his Upper Umkomaas collection which had been collected between 19 - 23 December 1992 (see cover photo). At the time he had been checking individual slabs under the stereo microscope. After 25 years of collecting from the Molteno Formation have yielded some 25000 catalogued slabs which include 983 insect specimens. This is the first spider that has been found (PRE/F/18560a,b).

FOSSIL SPIDERS IN SOUTHERN AFRICA: The only other Southern African fossil spiders that I am aware of are from Orapa (middle Cretaceous) and were collected by Dick Rayner and students. Do you know of any others?

FOSSIL RECORD: The fossil record of spiders is mainly from the Northern Hemisphere. About 100 genera are known from the Devonian and Carboniferous; only a few from the Mesozoic; almost 200 genera from the Tertiary; and over 5000 genera from the Quaternary (Treatise Invertebrate Zoology OOOO).

IDENTIFICATION: This spider is somewhat similar to a beautifully preserved specimen from Orapa belonging to the family Pisauridae and Dick Rayner (17 February 1993) suggested that this Molteno spider could also be placed here. The family Pisauridae includes the fisher and nursery web spiders. The former are common around the edges of ponds, lakes and streams. They are rapid moving and have long legs which are splayed out symmetrically like an eight-spoked wheel while at rest. The Molteno fossil mirrors this arrangement. Compare with the picture on page 22 (SPIDERS by Newlands and de Meillon, 1986; Struik) and note that the spider in the upper picture has a missing leg. ***Hedi Anderson.***

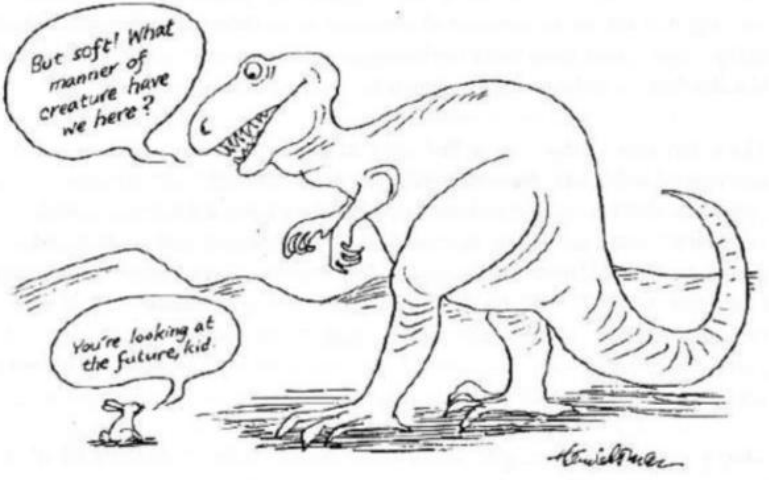
If anybody can shed more light on the topic of fossil spiders please contact:
***Dr Hedi Anderson**, National Botanical Institute*
Private Bag X101, PRETORIA 0001, RSA.
Tel. (012) 804-3200 Fax. (012) 804-3211

THE FIRST BRITHOPODINE DINOCEPHALIAN FROM THE SOUTHERN HEMISPHERE

Brithopodine dinocephalians have in the past been known only from the Upper Permian of Russia, and are considered to be the most primitive dinocephalians known. Recently a brithopodine dinocephalian has been discovered in the Lower Beaufort of South Africa near Prince Albert Road in the souther Karoo. Its morphology correlates closely with *Syodon*, the most primitive brithopodine genus. This find is significant in that it is the first skull of a brithopodine ever found outside Russia, and also because it is so very primitive in its morphology. The presence of this specimen in South Africa provides new evidence for a much wider distribution of the earliest and most primitive therapsid faunas, and is of importance when assessing the place of the origin of the mammal-like reptiles and the origin of mammals.

Bruce Rubidge

oOo



A RESPONSE TO DR JURIE VAN DEN HEEVER'S PRESIDENTIAL ADDRESS

Wouter Holleman - Albany Museum

Jurie's presidential address was published in the Dec. 92 issue of Pal News (Ed.)

Congratulations are in order. It is refreshing to see the problems that result from a fundamentalist/creationist approach to evolution addressed so eloquently. It is of course a problem that not only palaeontologists come across; all involved in the life sciences do from time to time. And it is this problem that we as life scientists need to address if we are to impinge in any way on how evolutionary concepts, and all that proceed from them, are taught in our schools and universities in the "New South Africa".

How? I believe it is very often a case of 'evolutionists' and 'creationists' talking past each other. Neither of the parties usually have any knowledge of the basis from which the other party argues. Evolutionists generally do not know let alone understand the Biblical sources of creationist argument; creationists know little of evolutionary biology and even less about the way in which science works.

Furthermore many of us have experienced the penchant 'creationists' have for quoting references totally out of context, both Biblical and scientific, and, very sadly, very often have little understanding of that very Biblical material they so blandly use to defend their arguments.

The other side of the coin is that very many scientists are extremely arrogant and are wont to dismiss the arguments of those 'outside' the understandings which scientists share as plainly stupid. The bottom line, I believe, is that both parties can learn from each other. As scientists we need to try to understand the basis of creationist/fundamentalist argument. We need to also to learn to communicate our understanding of evolutionary biology clearly, without jargon and with the recognition that we do not have answers to everything. And this point is particularly important because we also have to create an understanding of how scientific enquiry works.

May I offer a few thoughts about what seems to lie at the root of what I believe is a misunderstanding.

The first of these - and the prime factor - is surely the first few chapters of the Book of Genesis in the Bible. Few people - on both sides - have in fact read it, let alone tried to make some sense out of it. It is a very complex piece of writing. As a start then, read the first four chapters of Genesis. When confronted with an argumentative creationist first ascertain whether he/she has recently read it and, if not, suggest that they do, preferably with an authoritative commentary.

The first place where creationists come unstuck is that few realise that there are two renderings of the story of Creation in Genesis and that they do not read the same. The first, and the one most commonly remembered, ends half-way through v.4 of chapter 2. The second, of a different and older tradition, begins there and continues to the end of the tale of Cain and Abel.

Both these tales are very ancient and probably existed as oral tradition for many centuries before they were written down, probably about 600 BC. At the time there were several creation mythologies around; the Sumerians, Babylonians, Egyptians, Assyrians, Greeks and Romans all had their own. These different mythologies all had aspects in common and were all the result of people trying to explain the world around them, where it came from and how they fitted into it. As scientists we still do very much the same thing today.

It is helpful too to understand what myths are, because myths have been created by all peoples in all ages; we still create them today. Myths are not true stories - most are fictitious, but they embody what one might refer to as eternal truths. Like fables, which also are not true stories, myths often convey a moral.

The early Jews too had their creation mythologies, and that is exactly what the Genesis stories are. There are however some very important differences between these and others current at the time. In all the others creation required some kind of substrate to be performed upon. There was already something. And, since the only creative act obvious to people was the act of procreation, the 'creator' was never singular, but required some other party to help in the act.

The Jewish creation mythologies are unique in that what God created He created from nothing and He wrought His creation absolutely alone. This is very clearly related in the first Genesis story. The other very important aspect of this particular story is that what God created was good, in whatever way we wish to

interpret the word. That this story follows a fairly logical sequence from 'day' to 'day' has conveniences for creationists for it fuels their argument for creation because 'science' so nearly approximates the Biblical rendering.

The second Genesis creation myth has less to do with the creation, but much to do with the relationship between man and God, man and fellow man and the existence of evil and its nature. It is a very complex piece of writing and never written to be literally interpreted.

The next problem area we need to come to grips with is embodied in the word "dominion". This one word is probably the main cause of an anthropocentric world view, which Jurie van den Heever spoke of too. And one does not have to be a fundamental creationist to have an anthropocentric world view!

If we take "dominion" out of its Biblical context we can simply give it a dictionary definition: "lordship, sovereignty, control". Man is the pinnacle of creation (even evolution!), the centre of all things, and the world with all its resources are his to use. Why, it is so stated very clearly in Genesis (Ch.1,v.26-30). However, within its Biblical context dominion embodies the concept of custodianship or stewardship. There is no implication that God has abdicated His creation. It is the old tale of rights vs responsibilities. We have no rights unless we fulfil certain responsibilities.

This is clearly stated in the second creation story: God places Adam (a Hebrew word which means 'man' in generic sense) in the Garden of Eden, the embodiment of His creation, to use it for his own purposes and to look after it for God Ch.2,v.15). The whole tale of the serpent and the tree of the knowledge of good and evil is another way of saying, "If you break the rules, you get into trouble." And is that not exactly where we find ourselves today with an abused environment?

With information of this kind at our disposal evolutionary biologists are in a better position to communicate with creationists. There is actually not an argument between evolutionary theory ('science') and the Biblical creation stories. They fulfil two entirely different (but not mutually exclusive) purposes. Science attempts to explain how the world is put together and how it works. By its very nature the process of scientific enquiry is 'self-correcting'. If evidence acquired

through observation or experimentation does not fit a particular hypothesis, the hypothesis has to be altered or discarded and another proposed. It is a perpetual search for truth. The Bible has to do with a different kind of truth, but truth nonetheless. It deals almost exclusively with relationships between people and between man and God, his creator or whatever other name you wish to use. Implicit in that, and stated so in the Genesis mythology, is man's relationship with his environment as one of custodianship. Some 'primitive' tribal peoples understood that.

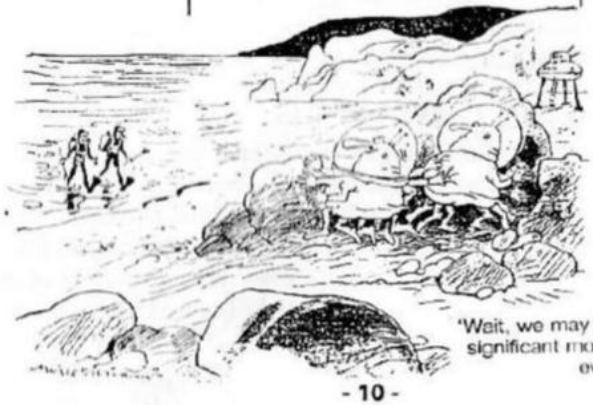
As evolutionary biologists we are enormously privileged because, whether we overtly believe it or not, we are the explorers of creation. We are on the cutting edge of discovering how the incredible diversity of life was created. Evolutionary theory does seek to answer why. And we do not have to be apologetic about our science; let us proclaim it boldly, without feeling embarrassed about it; why should the search for truth be embarrassing? However, a little hubris is in order too.

Wouter Holleman

I'm sure that many PSSA members read with interest the feature article in the April 26, 1993 issue of **Time** *magazine titled "The truth about Dinosaurs". Unfortunately the follow up letters to the editor on this piece were not published in the South African edition of* **Time** *of 17 May. It was only in the June 7 issue that the subject was again raised in the form of two letters in response to letters published in the 17 May issue. I have taken the liberty of reproducing one pertinent letter from this June 7 issue (Ed.).*

AS A DINOSAUR PALEONTOLOGIST AND an unabashed evolutionary biologist, I must respond to the letters you published. All historical pursuits, ranging from sciences like paleontology, evolutionary biology, geology and astronomy to historical chronicles like the Bible, are inferential in nature in that they study things and events that cannot be observed directly. Even though historical scientists don't wear lab coats or carry test tubes, they are indeed scientists. They frame hypotheses that can be tested or refuted by observable phenomena. This is the criterion by which creationism fails. Evolution is a fact that has survived rigorous testing. As for readers who ask "Who cares?" about dinosaurs, they'll have an answer from the millions of people who will marvel at the wonders of the movie *Jurassic Park* when they see it this summer.

Lawrence M. Witmer, Ph.D.
Old Westbury, New York



'Wait, we may just have landed at a significant moment in this planet's evolution.'

News from BPI Palaeontology, Wits University - Marion Bamford.

True to form, James Kitching has again been heavily involved with fieldwork in the Karoo - this time in the Abrahamskraal Formation of the Karoo. Here he has amassed a wealth of new biostratigraphic data, and even discovered a new type of the Burnettid therapsid. Honours students Elizabeth Latimer and Lauren Freeman also undertook fieldwork for their major projects in the Abrahamskraal Formation in the Laingsburg district, and it is hoped that the results of their projects can be combined with the biostratigraphic research of James Kitching.

Bruce Rubidge and Richard Lewis, together with John Nyaphuli (National Museum, Bloemfontein) spent two weeks looking for fossil reptiles on the Ecca-Beaufort contact between Matjiesfontein and Sutherland. Bruce is continuing his research on the most primitive therapsids, and is currently trying to correlate them with earliest therapsids which are known from Russia. At the same time he is involved with collaborative projects with Gillian King (SA Museum, Cape Town) and John Hancox to describe the postcranium of various dicynodont genera. Bruce and Anusuya Chinsamy have recently completed a study on the bone histology of various dicynodont genera and conclude that these plant eating animals were very conservative in their bone tissue structure, apart from *Diictodon* which appears to have had some physiological difference. Together with Jurie van den Heever (University of Stellenbosch), Bruce is in the final stages of a redescription of the enigmatic dinocephalian *Styracocephalus* as a result of several specimens which were "found" in the collections of the South African Museum.

Chris Gow, together with Lars Juul undertook collaborative fieldwork with Drs Roger Smith, Gillian King (SA Museum, Cape Town) and David Norman (Sedgewick Museum, Cambridge) to collect fossils from the Elliot Formation in the Eastern Orange Free State. Chris and John Hancox have recently submitted a paper on a very rare, but well preserved cynodont from the Lower Elliot Formation. At present Chris is gearing himself up to attend the non-marine Triassic Symposium in Albuquerque in October.

David Dilkes recently completed his PhD at Erindale College, University of Toronto, Canada, and is doing a Post Doc at the BPI. He is currently preparing up the skulls of the rhyncosaurs *Howesia* and *Mesosuchus* in order to do a long overdue redescription of the cranial anatomy of these two genera.

The postgraduate students in the department have all been progressing well with their projects:

Grigor Aitken and Sue de Villiers, both MSc students doing palynological studies under Dr Ann Cadman, are in the writing up stages of their dissertations. Another MSc student, Rob Fox, has just started a project under Ann's supervision.

John Hancox is busy with sedimentological, lithostratigraphic and biostratigraphic research on the rocks of the Upper Beaufort (Burgesdorp Formation) and the Molteno Formation and is currently writing up his MSc. Recently he has discovered a new genus of dicynodont in the upper Beaufort which will have important consequences for the biostratigraphy of the upper Beaufort.

Heidi Fourie continues with the mammoth task of preparing the postcranial skeletons of therocephalians for her PhD.

Lars Juul from Copenhagen, Denmark, started as a PhD student in the department at the beginning of this year and is now doing research on the taxonomy and functional biology of the early prosauropod dinosaurs from South Africa.

Dr Marion Bamford is continuing with her fossil wood studies and has expanded her research to include the Karoo woods. Much work was done on these woods years ago but ideas have changed since then and the data need to be reassessed and added to. Fossil wood from the Olifants River, near Vredendal, collected by Dr Mike Picker of UCT and Prof John Moore of Rhodes, has provided some interesting data on the past climate and presence of taxa no longer naturally occurring on this continent.

The final stage of the Museum, the hominid display, is being tackled and will soon be completed. Richard Lewis met with an unfortunate motorbike accident and is finding that the plaster cast on his left leg greatly reduces his mobility. The Museum is open to the public during normal University hours.

oOo

News from Anusuya Chinsamy, Univ. of Pennsylvania, Philadelphia, USA.
I have had a very exciting 6 months here in the United States. There has been plenty to do, see and learn. Being in Philadelphia and working with Peter Dodson is great! Also since I am virtually half-way between Washington and New York, going to the Smithsonian or AMNH is a short 1-2 hour trip. In the AMNH the 55 ft high exhibit of a *Barosaurus* rearing up on its hind limbs to defend its young from a vicious *Allosaurus* is quite spectacular. It was also quite an experience to work through the huge collections of dinosaurs in the basement. I found the Smithsonian's exhibition of fossil Cetaceans most impressive - rarely does one ever see an exhibition of fossil Cetaceans as good as this. The Academy of Natural Sciences in downtown Philadelphia is a great Museum too - wonderful geology and dinosaur exhibits.

In October last year, shortly after I arrived, I attended the SVP meeting in Toronto, Canada. It was a very good experience for me since I had the opportunity to meet many of the North American Palaeontologists, many of whom I had known previously only by name. I also met several people who at some time or the other passed through South Africa, such as Tim Rowe, Jim Hopson, Nick Hotten, Fuzz Crompton etc. At this meeting I presented a summary of my work on the bone histology of *Massospondylus* and *Syntarsus*. I also managed to sneak a visit to the Royal Ontario Museum to see their wonderful dinosaur exhibits!

Since returning from Canada I have been very busy preparing thin sections of growth series of *Dryosaurus, Coelophysis*, and *Pachyrhinosaurus*. At present I am writing up the bone histology of *Dryosaurus*, which incidently differs from both *Massospondylus* and *Syntarsus* in that no growth rings are deposited. *Coelophysis* bone is very similar to that of *Syntarsus* in having growth rings and well vascularized zonal bone. I am also involved in a project with Luis Chiappe looking at the bone histology of Cretaceous birds such as *Patagopteryx, Hesperornis* and *Enantiornithes*. I am also looking at the bone of various extant animals. I will keep you posted on my findings!

I have just recently returned from a trip to California where I spent some time with David Archibald in San Diego. Here I also had the opportunity to see the San Diego State Museum where they had a special exhibition on ....robotic insects! Interesting, but not my cup of tea since I feel people can see real live

insects in motion rather than such mechanized creatures! I also had the opportunity to visit the wonderful San Diego Zoo - the enclosures are large and absolutely beautifully designed. They even include "games" for the chimpanzees and Gorillas. Unlike in most other zoos these animals are happy in their cages. After a weekend of sight seeing I had to "sing for my stay"; I presented a talk on the more recent bone histology work that I have done to the Biology Department at SDSU. This department is doing some interesting work particularly in systematics - plants, lizards, dinosaurs, fishes etc. From San Diego I went to San Francisco, where I met with Dennis Carter who is a Mechanical Engineer specializing in biomechanics. He and his group at Stanford University, are involved in various aspects of Orthopaedics and do a lot of work on the mechanical properties of bone. Here I presented a talk on the bone histology of the archosaurs that I have studied so far.

In June I am off to Montana where I will meet up with Jack Horner and his group. Needless to say I am absolutely thrilled at the prospect of seeing their much talked about dinosaur collections and the histology work that they are doing. I will also have the opportunity of meeting Armand De Riqclés who will also be visiting Montana at that time.

For those who might be interested, I have two papers *in press* in *Modern Geology* (one on *Massospondylus* bone histology and the other on the Image Analysis work that I have done). Bruce and I have a paper *in press* in *Pal. Africana* on the bone tissue structure of members of the Dicynodontia. I also have a paper *in press* on the bone histology of the secretary bird and the ostrich which will be published this year as part of the Proceedings of the Society of Avian Palaeontology and Evolution (Frankfurt, 1992).

Other news.... Steven Speilberg's Jurassic Park will be screened around June 12 and as you can imagine dinosaur mania is extremely high these days ....dino cereals, dino biscuits, dino stuffed toys, dino robots.... and *everybody* has read the book!

I hope I will be able to meet some of you at the SVP Meeting or the Nonmarine Triassic Symposium in Albuquerque, New Mexico in October. Until then or the next Pal News, with my very best wishes to all of you .... its cheerio from me!

Anusuya

News from Anne Warren - Zoology Dept. La Trobe Univ. Australia
After attending her first PSSA conference in September last year Anne just couldn't resist joining the PSSA as a full member - welcome to the ranks Anne and we hope to see you in Grahamstown for PSSA '94! (Ed).

After leaving South Africa I spent a few weeks in the UK, attending the Volcanism and Early Terrestrial Biotas conference and visiting museum collections. I then flew to India where I particularly enjoyed the hospitality of our colleagues at the Geological Studies Unit of the Indian Statistical Institute. Their temnospondyl collections are exciting. Some of Senguptas' chigutisaur material (Norian, Maleri Fmn.) "looked" very much like the Elliott Fmn. brachyopoid I saw at the BPI., while Mukherjee has some beautiful new capitosaur skulls from the Middle Triassic Denwa Fmn.

Now back home, I am preparing more immature specimens from the Arcadia Fmn., and may have a young plagiosaur, as well as several rhytidosteids. Later, when it has been cast, I will be preparing the dorsal surface of *Laidleria*, although having seen the intractable nature of the matrix, I now understand why it wasn't prepared earlier! Natalie Schroeder is extracting more of the Cretaceous temnospondyl material from Victoria in breaks between sessions manning the jackhammer for Tom Rich who is this week winding up ten years work at "Dinosaur Cove".

Later this year I hope to look at the Argentinian chigutisaurs before attending the SVP meeting at Alburquerque and visiting collections of North American Temnospondyls. Caroline Northwood is busy writing drafts of several chapters of her thesis, and continues to find new and interesting material among the scrap. We are leaving foe a three week field trip to Queensland towards the end of April. We both would like to thank the members of the PSSA for their kindness and hospitality to us during our stay in South Africa.

Anne Warren - 7 April 1993.

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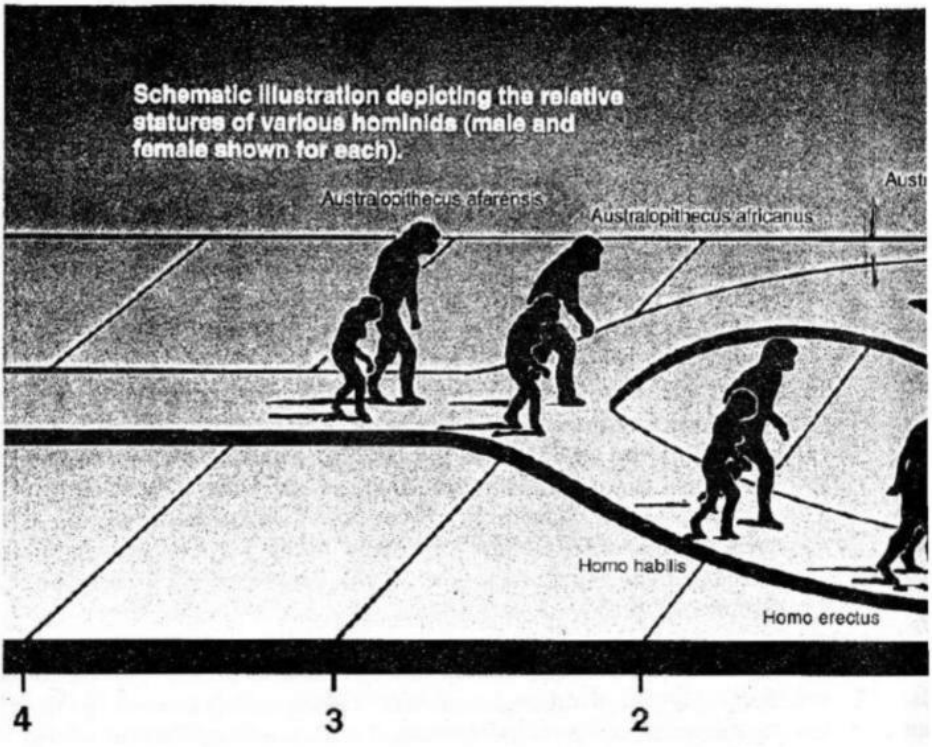
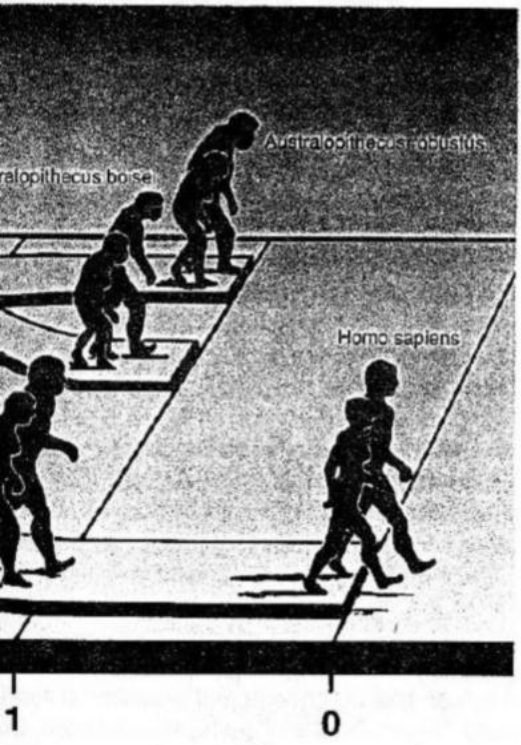


You will notice from the above diagram that the relative size of females has increased markedly with evolution. If this trend continues will we see a rise in female chauvinism or will equality of the sexes be a well established concept?

(A contribution from Norton Hiller)

oOo



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Frogs before dinosaurs

London — The oldest existing footprints in Britain, made 100 million years before dinosaurs existed, have been discovered by scientists near Howick. They belong to the ancestor of the frog. — Foreign Service.

Fossil find brings trouble

SYDNEY — The father of two children who unearthed a valuable fossilised egg on a beach near the Western Australia city of Perth, is beginning to wish they'd never found it.

Since nine-year-old Jamie Andrich discovered the rare elephant bird egg, which is believed to have floated from Madagascar to Western Australia, their home has been bombarded with abusive phone calls and even a concrete slab which was hurled through the window.

Mr Daryl Andrich said he feared someone was trying to steal the fossil, which is at least 2 000 years old.

International bidders have offered big money for the egg.

Mr Andrich, said he had received an offer of A$250 000 (US$173 500) from undisclosed Japanese bidders.

Despite the tempting Japanese bid, however, the egg will be sold in Autralia since the country's Protection of Moveable Cultural Heritage Act prohibits exportation.

The children aged six, eight and nine, found the massive egg, measuring 80,5 centimetres in circumference, two weeks ago while walking in sandhills, 245 kilometres north of Perth.

Experts at the Western Australian Museum believe the egg washed down a Madagascan river and floated across the Indian Ocean to Western Australia thousands of years ago.

The Madagascan elephant bird was a giant, flightless bird that became extinct about 2 000 years ago.

EP Herald 4-9-93

News from James Brink - National Museum, Bloemfontein.
I have temporarily left the issue of black wildebeest evolution to focus on the Florisbad equids as part of a wider study of Late Pleistocene mammals. It appears that material previously identified as Equus burchelli may have been mis-identified. At the moment I am exploring this issue further.

I have re-opened the third testpit at Florisbad and I plan to take it down to bedrock in order to provide a continuous section for Dr Rainer Grün, Quarternary Dating Research centre, Australian National University. Dr Grün will be the guest of the Centre for Science Development (HSRC) and has been invited to apply the ESR dating technique to the lower levels at Florisbad. He will be in South Africa from 29 July until 15 August 1993 and will also give lectures in Johannesburg, Bloemfontein and possibly Cape Town.

oOo

News from Johann Welman, National Museum, Bloemfontein.
On March 18 our palaeontology department was visited by Roger Smith, Dave Norman, Gillian King, Chris Gow, Lars Jule and Clive Booth. Dave and Roger gave very interesting lectures at the Zoology and Geology Departments of the University of the Orange Free State on "Owen and the Dinosaurs" and "Trace fossils from the Karoo" respectively.

Early in the year, John Nyaphuli joined Bruce Rubidge on a two-week field excursion down to the Cape and helped with the collection of a number of fossils. A well preserved fossil tree trunk, over ten metres long, was reported from Edenville. This site was visited and it was found that the tree, which is very similar to the ones at the church in Senekal, is still in situ. The local community was aided in preserving the tree which will be used as a tourist attraction.

Johann is continuing his research on the early archosaurs. Recent publications of the department include one by Johann as co-author with Jim Clark on the laterosphenoid in early archosaurs and one by Patrick Bender and James Brink on the large mammals from Cornelia.

oOo

News from Rhodes University, Grahamstown - Norton Hiller.

Palaeontological work in Grahamstown has continued to be concentrated on the late Devonian fish and plant site on the N2 bypass road cutting. **Robert Gess** has now joined the team primarily as a collector and he has been responsible for recovering numerous additional placoderm specimens and a great deal more plant material. **Eric Anderson** has just completed a preliminary manuscript on the fish but work on the plants has slowed up considerably since **Fiona Taylor's** departure. Conchostracans have now been positively identified from the site but there is a growing collection of "oddballs" that we cannot assign with confidence to any biological group.

Sue Frost has recently started a MSc study of the Kirkwood Formation in the "Iguanodon Hoek" area of the Bushmans River valley with a view to reconstructing the environmental and climatic conditions in which our stegosaur lived.

Norton Hiller continues to find fascination among the brachiopods. Recent field work near Uitenhage has unearthed a genus not previously recorded from the Bokkeveld Group. This adds to the variety of chonetacean brachiopods in South Africa and strengthens the connection with the South American faunas.

Recent Publications:

Hiller, N. & Taylor, F. F. 1992 Late Devonian shoreline changes: an analysis of Witteberg Group stratigraphy in the Grahamstown area. *S. Afr. J. Geol.*, **95**: 203-212.

Hiller, N. 1993 A modern analogue for the Lower Ordovician *Obolus* conglomerate of Estonia. *Geol. Mag.* **103**: 265-267.

oOo

News from Herby Klinger, S.A. Museum, Cape Town.

After nearly twelve years in my department (Wacky) Jaque Blaeske finally decided to pull up roots with mother and sister and return to the USA. We all will miss her diverse talents and indepth knowledge of allergies and medical matters. Fortunately I was able to get Samantha Black installed in the vacated post. Now everyone is happy - myself included.

My colleague Zeev (Zebra) Lewy from the Geological Survey of Israel intends spending part of his sabbatical in the Museum. I am expecting him at the beginning of July. When I was in Jerusalem, Zeev showed me his marvellous collection of heteromorph (abnormally coiled) ammonites from the Upper Cretaceous of Israel and other oddities - including brain casts of teleosts and pterosaurus. He intends writing up some of these faunas while he is in Cape Town. Zeev would also like to participate in field trips. So if anyone intends doing some field work between July and September, contact Zeev at the S.A. Museum if you need some extra geological expertise.

The Baculitidae monograph is slowly nearing completion. After this, if anyone tells me ammonites all look the same I will wholeheartedly agree - as far as beculitids are concerned anyhow. As soon as the baculitids are out of the way, I intend resuming work on the Zululand borehole faunas and all the remaining heteromorph ammonites. With Zeev here, I should be able to get some feedback.

50/50 used one of my ammonites for their programme last Sunday. Unfortunately I missed the programme, but am pleased that fossils other than dinosaurs or mammal-like reptiles have found their way into the programme. Perhaps for the next programme I can take off my shirt and pose with my ammonites.

P.S. There is no truth in the rumour that Jaque intends settling in Waco, Texas.

Herby Klinger

oOo

News from the Transvaal Museum - correspondent Francis Thackeray

Bob Brain is finishing the monograph on Swartkrans. Ginny Watson continues work on ungulate fauna from Gladysvale and Plovers Lake. Francis has been offered an Honorary Professorship associated with the University of Pretoria; the Geology Department of the University will be helping with work at Kromdraai.

A very successful conference on climate and hominid evolution was held in Virginia in May. It was organised by Elizabeth Vrba (now at Yale); there was a strong South African delegation, consisting of Bob Brain, Tim Partridge, Louis Scott, Margaret Avery and Francis. It was particularly interesting to see the high resolution in some of the palaeoclimatic data, notably the oxygen isotope record for the last 5 million years from cores studied by nick Shackleton of Cambridge University. This record showed gradual changes between 3 and 2 million years ago, rather than a sudden climatic "event" at 2.5 Myr B.P.

After the conference in Virginia, Bob went to see the Burgess Shale in Canada. Francis went to Baltimore to see Pat Shipman and Alan Walker (John Hopkins University), and then on to New York Natural History Museum, where a new exhibition on human evolution has just been completed. Ian Tattersall was responsible for putting it together - to my mind it's the best exhibition of its kind in the world, and well worth a visit.

Francis Thackeray

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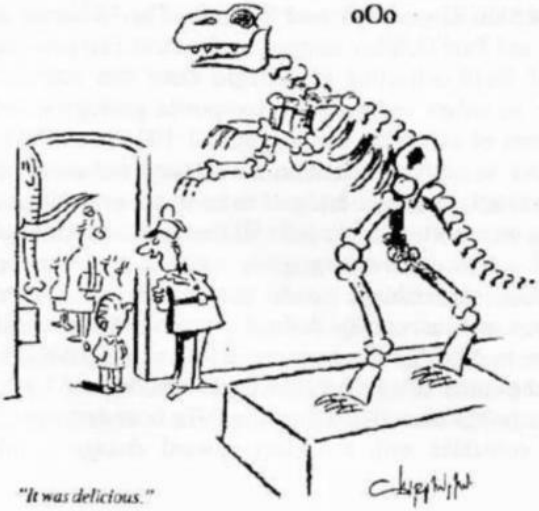

"It was delicious."

News from Roger Smith, S.A. Museum, Cape Town

P-Tr Boundary and the Exhumation of Uncle Clive.

The study of global mass extinctions in the geological past has become more popular over recent years with the rising concern for environmental changes that are taking place today. The greatest mass extinction of all time took place some 250 million years ago at the end of the Permian Period. Palaeontologists have estimated that, over the last 5-10 million years of the Permian Period, between 75 and 96 percent of living species on Earth "rapidly" became extinct. More than 150 years ago, this mass extinction was chosen as the boundary between the Permian and Triassic periods based on the observed changes in rocks and fossils in many parts of the world. However, these rock successions and their fossils all originated in a marine setting and it was only later that workers began to piece together what happened on land at this time. The stratigraphy of terrestrial sequences is characteristically "punctuated" by numerous time gaps when sediments were either not deposited or were deposited and eroded again before they could be locked into the rock record. The Karoo Sequence of Southern Africa may be an exception in that it appears to contain a relatively continuous record of terrestrial sedimentation from 300 to 180 million years and may therefore be an ideal sequence to investigate what was happening in continental Gondwana whilst the Tethys Sea was having a faunal crisis. In October/November 1992 a 15 day-long field trip to the southern Free State was undertaken to investigate outcrops of the previously mapped Permian/Triassic boundary sequences along the Caledon River valley near Bethulie. The "A"-team of Roger Smith, Annelise Crean and Paul October camped on the farm Fairydale and spent 10 days doing detailed fossil collecting in a single kloof that contained good exposures of the P-Tr boundary sequence. A composite geological section of nearly 100 vertical metres of sediments was logged at 1:100 scale. The localities of all in situ fossils were accurately plotted on the sections and on sketch maps and taphonomic details noted. Fossils considered to be worth preparing and those that were unidentifiable were collected. At least 90 fossils were located of which 30 were collected. The biostratigraphic boundary between the Dicynodon/Theriognathus Assemblage and the overlying Lystrosaurus/ Procolophon Assemblage was accurately defined to within 5 metres of strata. Based on its occurrence in other Gondwanan countries Lystrosaurus is regarded as a Triassic form and the faunal change between the Dicynodon and Lystrosaurus Zones in the Karoo Basin has been defined as the P-Tr boundary. In the study area this 5m interval coincides with a distinct upward change in lithofacies

suggesting a change in depositional style from meandering to braided rivers possibly in response to climate but more likely the result of lowering of base level. One extensive bedding plane outcrop in the upper part of the section contained some 27 skeletons of Lystrosaurus scattered over an area of only 260x60m. Their positions and host rock geology were mapped at 1:500 scale to investigate the possible causes of such a concentration. After locating a particularly well preserved articulated 2 metre-long Lystrosaurus skeleton it was decided to collect it for display. Three full days were spent bringing the skeleton out of the kloof in two plaster jackets. All water, plaster, hammers etc. had to be lugged down the steep slopes to the excavation site. Two bemused farm labourers and a makeshift stretcher were used to carry the two jackets out of the kloof to the nearest vehicular access. This fossil, nicknamed "Uncle Clive", because it was a bit long in the tooth, was publically prepared as part of the "Dinosaurs Alive" show at the Cape Town Waterfront over the Christmas holiday period.

On returning to Cape Town, 2 days were spent in the Karoo National Park working on the Fossil Trail. The skull of a large 2.5m long Bradysaurus that we had previously excavated was finally tracked down to an un-numbered specimen in the fossil store of the Geological Survey in Silverton. After placing the skeleton on the hiking trail in its new glass case (after Annelise had finished some cosmetic preparation on the teeth) we were ready for the "recapitating" ceremony. Reporters, park officials, the farmer, his wife and the labourer who originally found the specimen back in 1975 were present to see " Jezebel" re-united with her skull.

Roger Smith

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Doctor Dinosaur goes to Clocolan.

Dr David Norman from the Sedgewick Museum in Cambridge, England visited the SAM Karoo Palaeontology Department last month to study the collections and set up some joint research projects with Gillian King and Roger Smith on some of the SA dinosaurs. David is well known internationally for his research on dinosaur taxonomy and palaeoecology as well as two popular books, "The Illustrated Encyclopaedia of Dinosaurs" and "Dinosaurs". His contribution to a recent TV series in Britain caused him to be dubbed "Doctor Dinosaur" by the press, a nickname that followed him to South Africa.

To give David an introduction to dinosaur hunting in southern Africa we took him to the eastern Free State where we camped in two deserted rondavels on a farm called Mequatling, between Clocolan and Excelsior. The panoramic view from the camp was magnificent. Several weeks of soaking rains had turned the lowland grasslands green and hundreds of long-tailed wydahs and bishop birds were noisily defending territories. The uplands are all capped by a distinctive yellow-weathering sandstone (Clarens Formation) which protects the dinosaur-bearing red and purple mudrocks beneath (Elliot Formation).

Each day was spent clambering around on the crumbling red cliffs of the Elliot Formation looking for fossil bones. For some the novelty of searching for fossils rapidly diminished as temperatures rose. Janet was on the point of flying home after the first day but she persevered and to her credit managed to last 2 weeks. In this area the cleanest rock exposures are the steepest so only the more sure-footed were able to search the upper slopes. Dave Norman had a slow start until he shredded the skin on his hands and knees on what he afterwards described as a "controlled slide" down a particularly steep exposure of mudrocks. However, his luck changed after this initiation ceremony and he started finding fossils.

On most days fieldwork was abruptly terminated by four-o-clock thundershowers leaving plenty of time for sleeping, bathing wounds, sticking together broken fossils ("glyptalling"), jogging, cooking and making merry. During our stay we hosted numerous visitors who swelled the numbers so that at full strength the fossil "circus" included the Museum party of Dave Norman, Gillian King, Clive Booth, Annelise Crean, Janet Goodall and Roger Smith, the BPI crew from Wits, Chris Gow, Marina and Bruce Rubidge (+ two children), plus students Lars Juul from Denmark, David Dilkes from USA, Carol Aston and Sue De Villiers from Wits. Feeding and washing the hordes was no problem but sleeping in the crowded all male rondavel proved a little difficult. Apart from the cacophony of nasal, anal and other noises emanating from the occupants there was an unidentified snake that kept returning to the warmth of the doorstep, causing great anxiety among the midnight pee-ers.

One day we ventured into Bloemfontein to buy supplies and give lectures (Dave at the Museum, Roger at the University) which was enough to earn us all a steak supper courtesy of the National Museum. Although no complete large dinosaur skeletons were located there was plenty of bone to keep everybody optimistic.

Clive found a piece of Heterodontosaurus lower jaw which he reckoned was "rarer than hen's teeth", Chris was pleased with his Tritylodon skull, David Dilkes took home a tiny Pachygenelus skull and Janet brought back her very own Euskelosaurus vertebra. Roger found part of a fabrosaurid skeleton that according to Dave Norman could be older than any found before, as well as a nice primitive crocodilian skeleton with skull.

The trip was funded by Engen, the Royal Society of SA, the SA Museum and FRD. Three *Trail 60* rucksacks were kindly donated to the Department by Karrimor. All in all a most enjoyable fieldtrip that not only generated some good research material but also introduced several novices to the agonies and ecstasy of dinosaur hunting in South Africa.

Roger Smith

Recent publication:

Smith, R.M.H. (1993) Vertebrate Taphonomy of Late Permian Floodplain Deposits in the Southwestern Karoo Basin of South Africa. *PALAIOS*, **8**, p.45-67.

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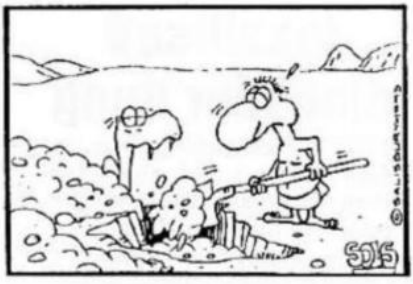

Australian schoolchildren find ancient egg on coast

A GIANT egg thought to be from a long extinct bird from Madagascar has been found by schoolchildren in Western Australia. Palaeontologists from the Western Australian Museum in Perth believe that the egg floated across the Indian Ocean from Madagascar, a distance of about 6000 kilometres.

The egg, about 80 centimetres in circumference and 30 centimetres long, is believed to be from the elephant bird *Aepyornis titan*. The flightless bird became extinct in Madagascar about 300 years ago. It was about 3 metres tall and weighed more than 450 kilograms.

"We are 99 per cent sure that the egg is from *Aepyornis*," says John Long, curator of vertebrate palaeontology at the museum. "We will need a core from the shell to confirm the identification."

The egg is likely to be thousands rather than hundreds of years old because it was found a kilometre inland among ancient sand dunes that once marked the shoreline.

Three primary schoolchildren found the egg last Christmas near Cervantes, about 250 kilometres north of Perth. The children took it to school as part of "show and tell" and it was not shown to the museum until last week.

A smaller egg from the elephant bird was found at Scott River 200 kilometres north of Perth in 1930. "That was thought to be a fluke, but it appears that it wasn't," says Long.

The egg is protected under the Australian heritage act and cannot be exported from the country, but it can be sold in Australia. With money from a benefactor, the museum is negotiating to buy it. The two families want hundreds of thousands of dollars, but are unlikely to get it, says Long.

Ian Anderson, Melbourne

27 March 1993

They wear fossilised dinosaur dung

THE hottest selling item in Jack Garvin's rock and fossil shop in Burbank, California, is fossilized dinosaur dung.

The stone-like, colourful chunks of dung — called coprolite — are made into jewellery, says Garvin, who sells about 45 kilos a year.

People June 1989

Fossil Philately - Billy de Klerk

New stamp issues, not mentioned in the previous issue of Pal News include:-

SWEDEN - 3 October 1992, Prehistoric Creatures (DIAGRAM!!!!).

2.80kr - Plateosaurus (herbivorous dinosaur)
2.80kr - Crocodile, *Thoracosaurus scanicus* (late Cretaceous period).
2.80kr - Rhinoseros, *Coelodonta antiquitatis*.
2.80kr - Mammoth, *Mammuthus primigenius*.

TANZANIA - 1992, Prehistoric Creatures.

10/- Stegosaurus	15/- Triceratops	25/- Edmontosaurus
30/- Plateosaurus	35/- Diplodocus	100/- Iguanodon
200/- Silviasaurus		

UGANDA - 1992, Prehistoric Creatures.

50/- Kentrosaurus	250/- Hypsilophodons
400/- Peloneusters	1000/- Megalosaurus

THAILAND - 1 Jan 1992. Centenary of the Department of Mineral Resources.

2b - Palaeontologists at work, dinosaur skeletons.

MONTSERRAT - 1 Mayl 1992. Centenary of the Death of Sir Richard Owen, 1804-1892. Dinosaaurs.

$1.00 - Tyrannosaurus $1.15 - Diplodocus

$1.50 - Apatosaurus $3.45 - Dimetrodon

The third set of stamps depicting fossils of the TRANSKEI will be issued on 18 June 1993. This issue of four stamps (35c, 70c, 90c and R1.05), again designed by Lambert Kriedemann, will be date stamped in Bizana and shows a selection of vertebrates - Fabrosaurus(??), Diictodon, Chamatosaurus and Rubidgea. This issue will also include a commemorative envelope, the design of which is as yet not known.

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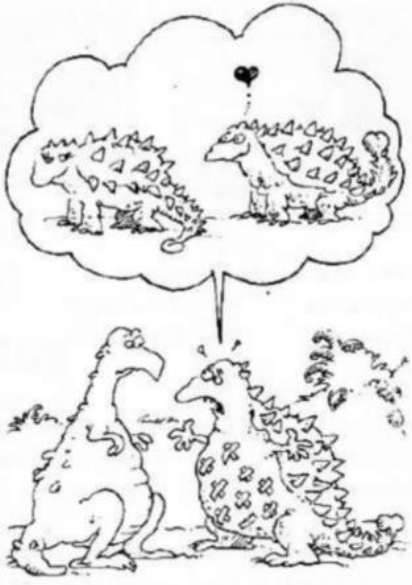


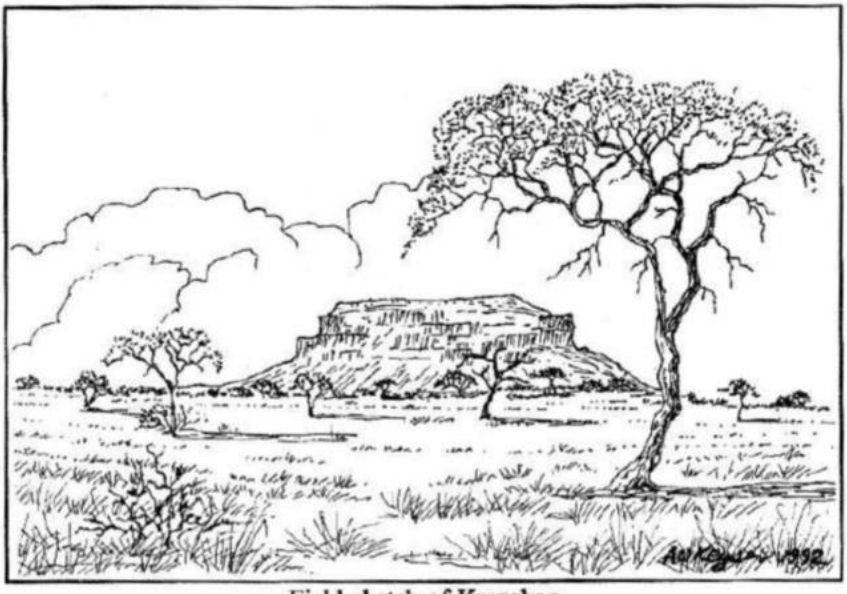
PALAVER

This column gets its name from the verb, palaver, "to discuss, to jaw" (O.E.D.); it is a column in which anybody can chew on any subject, just as anybody can (if they dared or cared) on Hyde Park Corner in London. In this issue, André Keyser gets his teeth into the fossil bones (or rather the lack thereof) at Kranskop near Nylstroon.

Kranskop, Nylstroom - Why lie?

On the excursion of our society to Makapansgat at the toll gate near Nylstroom, a colleague asked me about the geology of the high flat-topped mountain to the east of the road, known as Kranskop. I replied that the hill consisted of conglomerates and quartzites of the Waterberg Group. At this a second colleague interrupted the conversation assuring us that the mountain was of Karoo age and that he himself, and also the late Dr E C N van Hoepen, had found dinosaur bones on it. I then asked this colleague if he was not confusing Kranskop with Buyskop immediately north of Warmbaths which contains rocks of known Karoo age. The colleague assured me that he knew about Buyskop and the occurrences of dinosaur fossils there, but that he had also found fossils on Kranskop. The two gentlemen then moved back along the aisle between the seats of the bus telling the delegates that the Kranskop rocks are of Karoo age and that one of them had found dinosaur bones there with the utter assurance of the true professional inerrancy.

I felt at the time that my professional integrity was drawn in doubt publically, and hence this epistle. Kranskop is indicated as Waterberg on the 1:000 000 Geological Maps of South Africa of 1958 and 1970. The mountain itself is not indicated on the 1925 or 1984 versions of the map but only Waterberg rocks are shown in the area. It is shown as consisting of Waterberg Group rocks on the Nylstroom 2428 Geological Map of 1978, with rocks of the Alma Formation at the base and Schilpadkop Formation as the caprock. The geology of the mountain is also described by H Jansen (1982). The geology of the Waterberg Basins in the Transvaal, Republic of South Africa: Mem. Geol. Surv. S.A. 71.



Field sketch of Kranskop

To make doubly sure I climbed the Mountain this week to ascertain whether there was not a relict of Karoo at the very top. I found that the whole Mountain consists of massive thick beds of conglomerate with clasts of felsite, quartzite and banded ironstone. Occasional thin beds of coarse-grained reddish brown quartzite occur on the slopes. The very top of the mountain is made up of a thick bed of conglomerate. I did not see any indication of fossil bone.

There can be no doubt that the whole of the mountain is made up of rocks belonging to the Waterberg Group with an age of between 1300 to 1700 Ma. Long before there were any donosaurs on earth.

I challenge my two friends to show me an in situ dinosaur bone on the Nylstroom District Kranskop or one within 10 km of it.

A.W. Keyser

CONFERENCES

*** 8th PSSA Conference**
Rhodes University & Albany Museum, Grahamstown - *September 1994*
Contact: Prof Norton Hiller, Geology Dept., Rhodes University, Grahamstown, 6140, Tel. (0461) 22023 Fax 29715.
OR Dr Billy de Klerk, Albany Museum, Somerset Street, Grahamstown, 6140, Tel. (0461) 22312 Fax 29715.

FUTURE MEETINGS OF OTHER BODIES

*** Four million years of Hominid evolution in Africa**
An international conference in honour of Dr Mary D. Leakey's outstanding contribution in Palaeoanthropology.
Arusha International Conference Center, Arusha, TANZANIA, *8-14 August 1993*
Contact Prof. CC Magori, Chairperson, PO Box 65453, Dar-es-Salam (Tel 27081 Fax 255-051-46229) OR Dr FT Masao, Vice-Chairperson, c/o Arch. Unit, PO Box 35050, Dar-es-Salam. Tel. 72306 Fax 255-051-49052.

*** 2nd International Palaeozoic Microvertebrate Symposium**
(In conjunction with 90th Birthday Anniversary of Professor Walter Gross (1903-1974)
Berlin, Germany - *August 1993*
Contact: Dr S Turner, Queensland Museum, P O Box 3300, South Brisbane, Qld 4101, Australia.

*** Mesozoic Fishes: Systematics and Paleoecology**
Eichstätt, Germany, *9-12 August 1993*
Contact: Gloria Arratia, The University of Kansas, Museum of Natural History, Dyche Hall, Lawrence, Kansas 66045.2454, USA, Tel: (49) 913.864.45.40.

*** Carboniferous to Jurassic Pangaea**
Calgary, Canada, *15-19 August 1993*
Contact: B. Beauchamp or A, Embry, Geol. Surv. Can., 3303-33rd St. NW, Calgary, AB. T2L 2A7, Canada

*** International Trilobite Meeting**
Kitab State Geological National Park, Uzbekistan (former USSR)
Late August - early September 1993.

• **Arkell International Symposium on Jurassic Geology**
London, *7-20 September 1993*
To celebrate the 60th anniversary of the publication in 1933 of W.J. Arkell's monumental and influential work "The Jurassic in Great Britain". Conference chairman id Dr John Cope (Cardiff) and the Conference Secretary is Dr Stewart Brown (Petroleum Sci. Tech. Inst., 25 Ravelston Terrace, Edinburgh EF4 3EX. Tel. 031-451-5231, Fax 031- 451-5232).

• **Fourth International Workshop on Agglutinated Foraminifera**
Krakow, Poland, *12-19 September 1993*
Contact: Eiva Malata, Institute of Geological Sciences, Jagrellonian University, PL - 30-063, Krakow, Poland.

• **Third International Conference on Rudists**
Mexico City, Mexico, *November 1993*
Contact: Dra. Blanca Estela Buitrón, Instituto de Geologia, UNAM, Ciudad Universitaria, Delg. Coyoacán, 04510, México, D.F. MEXICO.

• **12th International Symposium on Ostracoda**
Czechoslovakia, *1994*

• **Forams '94**
Berkeley, California, *June 1994*
Contact: Jere H Lipps, Museum of Paleontology, University of California, Berkeley, CA 94720 USA.

• **Fourth European Palaeobotanical/Palynological Congress**
Heerlen, Netherlands, *September 1994*
Contact: GFW Herngreen, Geological Survey of The Netherlands, PO Box 157, 2000 AD Haarlem, The Netherlands.

• **4th International Congress on Jurassic Stratigraphy and Geology**
Mendoza - Neuquén provinces, Argentina, *15-26 October 1994*
Contact: Dr AC Riccardi, Casilla de Correos (PO Box 886, 1900 La Plata, Argentina. Tel (54-21) 39125 ext.37. Fax (54-21) 530189

Reminder: Deadline for contributions for the next issue of PAL News is

30 November 1993

PSSA

MEMBERSHIP DIRECTORY

June 1993

(Annexure to Volume 9(2), July 1993)

PSSA Membership

June 1993

This Directory will be updated in December 1994. If any member would like to add or modify their entry please send the modifications to:

Dr Billy de Klerk
Albany Museum
Somerset Street
GRAHAMSTOWN, 6140

Almond, Dr John E., Geological Survey, P.O. Box 572, BELLVILLE, 7535
Tel. (021) 948-4754 (w), 462-3622 (h).
Interests: Palaeozoic, Invertebrates, Palaeobiology, Trace fossils, Palaeoenvironments. [Biostratigraphy, Amateur involvement in palaeontology/geology].

Anderson, Dr Heidi M., Botanical Research Institute, Private Bag X101, PRETORIA, 0001
Tel. (012) 804-3200 Fax 804-3211
Interests: Mesozoic (Karoo) Palaeobotany, Evolution of plants, Molteno flora [Fossil insects].

Anderson, Dr M.E. (Eric), JLB Smith Inst. of Ichthyology, Private Bag 1015 GRAHAMSTOWN, 6140
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Email: ihma@hippo.ru.ac.za
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Avery, Dr D.M. (Margaret), Palaeontology Dept., S.A. Museum, P.O. Box 61, CAPE TOWN, 8000
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Interests: Palaeoenvironments, Micromammals, Quaternary, Caenozoic vertebrates.

Avery, Dr Graham, Archaeology Dept., S.A. Museum, P.O. Box 61, CAPE TOWN, 8000
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Interests: Vertebrates, Taphonomy, Palaeoecology, Palaeoenvironments, Caenozoic vertebrates.

Bamford, Dr Marion, BPI - Palaeontology, University of the Witwatersrand, Private Bag 3, WITS, JOHANNESBURG, 2050
Tel. (011) 716-2715 (w) 442-9791 (h) Fax 716-8030
Interests: Caenozoic palaeobotany; Wood; Palaeoenvironments; Phytogeography; Angiosperms; Gymnosperms [Glossopteris Flora]

Berger, Mr Lee R., Dept. of Anatomy, Univ. of the Witwatersrand, 7 York Road, Parktown, JOHANNESBURG, 2193
Interests: Working on Gladysvale caves north of Johannesburg. Hominids

Boonstra, Mev I., Plataanweg 48A, Nerina, DURBANVILLE, 7500.

Botha, Carla, 443 Millers Mile, Lynnwood, PRETORIA, 0081.
Tel. (012) 47-5146.

Brain, Dr C.K. (Bob), Transvaal Museum, P.O. Box 413, PRETORIA, 0001
Tel. (012) 322-7632

Brink, Mr James S., National Museum, P.O. Box 266, BLOEMFONTEIN, 9300
Tel. (051) 479609 (w) Fax 479681 30-0278
Interests: Quaternary Mammals; Extinction; Palaeoecology; Taphonomy [Human evolution]

Busbey, Dr A.B., Dept. Geology, Texas Christian University, FORT WORTH, TX 76129, USA

Cadman, Dr Ann., Botany Department, Univ. of the Witwatersrand, P.O. Wits, JOHANNESBURG, 2050
Tel. (011) 716-4250 (w) Fax 716-8030, 706-7388 (h)
Interests: Palynology

Chinsamy, Dr Anusuya, Anatomy, Animal Biology, School of Veterinary Medicine, 3800 Spruce Street, PHILADELPHIA, PA 19104-6045, USA
Tel. 215-474-1916 898-8784, Fax 215-898 9923
Interests: Bone histology; Palaeophysiology; Dinosaurs; Vertebrates [Hominids; Taphonomy]

Cluver, Dr Mike A., S.A. Museum, P.O. Box 61, CAPE TOWN, 8000
Tel. (021)24-3330 (w) Fax 24-6716, 913-1855 (h)
Interests: Vertebrates

Cooke, Dr H.B.S. (Basil), 2133 - 154th Street, WHITE ROCK B.C., V4A 4S5, CANADA
Tel. (604) 536-0363
Interests: Mammals, Pliocene, Pleistocene, Biostratigraphy, Africa [Palaeoanthropology]

Cooper, Dr M.R. (Mike), Dept. of Geology, Univ. of Durban-Westville, DURBAN, 4001

Cruikshank, Dr A.R.I. (Arthur), 72 Thirlmere Road, Hinckley, LEICESTERSHIRE, LE10 0PF, UNITED KINGDOM
Tel. (455) 611193 (h) (533) 554100 (w), Fax (533) 473011
Interests: Vertebrates, Dicynodonts, Archosaurs, Sauropterygia, Gondwana Biostratigraphy [Experimental functional morphology; Development of new techniques]

Dahlmann, Mrs Rowena, P.O. Box 229, RANDPARK RIDGE, 2156
Tel. (011) 726-6220 (w) 793-4073 (h)
Interests: Biology teacher. Interest in palaeobotony, dinosaurs and general palaeontology.

de Klerk, Dr W.J. (Billy), Albany Museum, Somerset Street, GRAHAMSTOWN, 6140
Tel. (0461) 22312/97, Fax 29715 26075 (h)
Email: plad@hippo.ru.ac.za
Interests: General palaeontology, Vertebrates and Historical (East Cape) palaeontology. Curation, documentation and display of fossils.

Deacon, Dr Janette, National Monuments Council, P.O. Box 4637, CAPE TOWN, 8000
Tel. (021) 23-6310 Fax 22-1992

Dingle, Prof. Richard V., S.A. Museum, P.O. Box 61, CAPE TOWN, 8000
Tel. (021) 24-3330 (w) 439-3781 (h) Fax 24-6716
Interests: Micropalaeontology, Oceanography, Palaeoenvironments, Biostratigraphy.

Döhne, Mr J. Ludwig, P.O. Box 2510, KEMPTON PARK, 1620
Tel. (011) 972-8859 (h) 978-2162 (w)
Interests: Hominids, trilobites and fossil philately.

Durand, Mr J.F. (Francois), Geological Survey, Private Bag X112, Silverton, PRETORIA, 0001
Tel. (012) 841-1911 Fax 841-1203/21

Falcon, Dr R.M.S. (Rosemary), P.O. Box 41086, Craighall, JOHANNESBURG, 2094
Tel. (011) 783-4231(h & w) Fax 484-3193
Interests: Coal geologist. Palaeobotony, Palynology, coal-related palaeoenvironments, palaeoclimates, palaeostratigraphy [Vertebrates and trace fossils].

Fouche, Ben, Private Bag X38, PIET RETIEF, 2380.

Fourie, Ms Heidi, BPI - Palaeontology, University of the Witwatersrand, Private Bag 3, P.O. WITS, JOHANNESBURG, 2050
Tel. (011) 716-3009 (w) Fax 716-8030, 484-2445 (h)
Interests: Mammal-like reptiles; Biostratigraphy; Vertebrate Morphology [Palaeoenvironments]

Fourie, Prof Steve, Dept. Zoology & Entomology, Univ. Orange Free State, BLOEMFONTEIN, 9300

Fox, Mr R.F., 30 Grey Avenue, Albemarle, GERMISTON, 1401

Galton, Dr Peter M., Biology Dept., University of Bridgeport, CT 06601, USA

Gow, Dr Chris E., BPI - Palaeontology, Univ. of the Witwatersrand, P.O. Wits, JOHANNESBURG, 2050
Tel. (011) 716-2727 Fax 716-8030, 882-5586 (h)
Interests: Vertebrates; Morphology; Evolution; Biogeography; Ecology [Everyting from Algae to Apes].

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Gricius, Mnr A.J., P.O. Box 520, SILVERTON, 0127

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Groenewald, Mr Gedeon H., P.O. Box 2, CLARENS, 9707
(0143) 256-1471 (h&w)
Interests: Karoo verebrates; Palaeoenvironments; Trace fossils; [Informal education, field tours, APASA]

Groenewald, Mrs Sue M., P.O. Box 2, CLARENS, 9707
(0143) 256-1471 (h&w)
Interests: General interest in fossils and palaeoecology [Informal education]

Haarhoff, Miss Pippa, S.A. Museum, P.O. Box 61, CAPE TOWN, 8000
Tel. (021) 24-3330 Fax 24-6716
Interests: Fossil birds, Palaeoenvironments

Hall, Prof A.V., Bolus Hebarium, University of Cape Town, Rondebosch, CAPE TOWN, 7700
Tel. (021) 650-3772 (w) 64-4637 (h)
Email: avhall@uctvax.uct.ac.za
Interests: Palynology, palaeoenvironments and modern plant distributions.

Hammond, Marcia, 28 Wemmer Drive, DISCOVERY, JOHANNESBURG, 1709

Harley, Prof. Eric H., Dept. of Chemical Pathology, Medical School, Univ. of Cape Town, RONDEBOSCH, 7700
Tel. (021) 47-1250 x 222 (w) 72-3642 (h) Fax 478955
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Interests: Sequencing of DNA; Molecular systematics; Molecular evolution [Origin of cordates, Evolutionary history of Bovidae and Cetaceans

Hayes-E'Silva, Mr J., 23 Assegaai Avenue, Thornton, CAPE TOWN, 7460

Hendey, Dr Q.B. (Brett), Museum of Natural History, P.O. Box 4085, DURBAN, 4001

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Interests: Brachiopods; Palaeoenvironments; Systematics; Taphonomy; Palaeoecology [Devonian plants; Palaeogeography]

Hopson, Prof Jim A., Dept. of Anatomy, University of Chicago, 1025 E 57th Street, CHICAGO, ILLINOIS, 60637, USA

Human, Mej A., Bartholomeu Dias Museum, Posbus 371, MOSSELBAAI, 6500

Johnson, Dr Mike R., Geological Survey, Private Bag X112, Silverton, PRETORIA, 0001
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Kemp, Dr Tom, The University Museum, Parks Road, OXFORD, OX1 3PW, ENGLAND, UK.
Interests: Vertebrates.

Kerr, Miss S.J., Dept. of Geology, Univ. of the Witwatersrand, P.O. Wits, JOHANNESBURG, 2050

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Tel. (011) 683-8318 (Surgery) 339-4366 (Wits) 682-1752 (h)
Interests: Plio-Pleistocene carnivores; Evolution

King, Dr Gillian, S.A. Museum, P.O. Box 61, CAPE TOWN, 8000
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Interests: Karoo tetrapods

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Lee-Thorp, Dr Julia, Dept. of Archaeology, University of Cape Town, Private Bag, RONDEBOSCH, 7700
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Interests: Stable isotopes; Diets; Palaeoenvironments; Biological apatites [Evolution and Climates].

Loock, Mnr Johan C., Dept. Geologie, Univ. OVS, Posbus 339, BLOEMFONTEIN, 9300
Tel. (051) 401-2364 (w) 47-8501 (Fax) 47-8125(h)
Interests: Palaeoenvironments, Karoo Biostratigraphy.

Loots, Dr Marius, Posbus 5023, PRETORIA, 0001
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MacRae, Dr Colin S., Geological Survey, Private Bag X112, PRETORIA, 0001
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Interests: Palynology; Palaeoenvironments; Palaeobotony; Biostratigraphy; General.

Maguire, Dr Judy M., P.O. Box 684, Silverton, PRETORIA, 0127
Tel. (012) 835743 (h & w)
Interests: Taphonomy; SA Hominid sites; General Palaeobotany & background (teaching) to hominid evolution. The theory and practice of taxonomy esp. palaeobotanical. History of palaeontology in SA (Fossil finds and Fossil fundis')

McKee, Dr Jeff, Dept. Anatomy & Human Biology, Wits Medical School, 7 York Road, PARKTOWN, 2193

McMillian, Dr Ian K., SOEKOR, 151 Frans Conradie Drive, PAROW, 7500

Meyer, Mrs E.G., 40 Talisman Avenue, BEDFORDVIEW, 2008

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Murfin, Mr G.P., 35 Willie Bam Street, Murrayfield, PRETORIA, 0184

Myburgh, Dr J.G., Boegoeberg No. 2, Bergboegoelaan, Florauna, PRETORIA NOORD, 0182
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Interests: Taphonomy.

Newman, Mr & Mrs Barney, 41 Hoop Street, PEARSTON, 5860

Norman, Dr Dave, Sedgwick Museum, Department of Earth Sciences, Cambridge Univ. Downing Street, CAMBRIDGE, CB2 3EQ, ENGLAND
Interests: Director - Sedgwick Museum, Vertebrates, Dinosaurs

Oelofsen, Dr Burger, Seevisserye, Privaatsak 13184, WINDHOEK, 9000, NAMIBIA

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Interests: Palaeozoic invertebrates, Bokkeveld, Trilobites, Cretaceous fossils.

Oosthuizen, Mr R. de W., P.O. Box 39484, Morelettapark, PRETORIA, 0044

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Interests: Karoo Sedimentology, Palaeoenvironments, Taphonomy, Systematics, Evolution of Palaeozoic & Mesozoic tetrapods. Palaeozoic & Mesozoic biogeography.

Rubidge, Mr Richard, Wellwood, P.O. Box 204, GRAAFF REINET, 6280
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Academic Amateur! General / Palaeoenvironments [Trace fossils].

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Smith, Dr Roger M.H., S.A. Museum, P.O. Box 61, CAPE TOWN, 8000
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Interests: General palaeontology

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Thackeray, Dr J. Francis, Dept. of Palaeontology, Transvaal Museum, P.O. Box 413, PRETORIA, 0001
Tel. (012) 322-7632 (w) Fax 322-7939 991-2821 (h)
Interests: Vertebrates, Palaeoenvironments, Taphonomy, Hominids, Taxonomy [Museum displays; educating general public and correcting misconceptions]

Theron, Dr J.N. (Hannes), Geological Survey, P.O. Box 572, Bellville, CAPE TOWN

Turner, Dr A., Human Palaeontology Research, Medical School, Liverpool University, LIVERPOOL, ENGLAND.

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Visser, Prof Johann N.J., Dept. Geologie, Univ. OVS, Posbus 339, BLOEMFONTEIN, 9300

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Interests: Vertebrates, Amphibian

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Interests: Vertebrates, Fossil Reptiles [Stratigraphy]

Wolvaardt, Mnr D., Gladde Grond, ALIWAL NOORD, 5530

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Tel. (318)231-5304 (w) (318)988-0460 (h)
Interests: Palaeobotany, Palynology, Palaeoecology [Plant-animal interaction, Reproductive biology of fossil plants]