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PAL NEWS NUUS

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"You still haven't answered me, Professor, do you think this fossil is a significant find then?"

By Gerhard Marx, Albany Museum

EDITORIAL

Thanks to all contributors especially to Roger Smith who has contributed significantly to making this edition of PalNews a rather "fat" one!

The organisation of the PSSA Conference is well underway. It has all the makings of a great success. There are a record number of delegates and more than forty papers will be presented. Dave Norman, Director of the Sedgewick Museum, and a specialist on dinosaurs, is the invited speaker. We can look forward to some good discussions!

The time has come for me to relinquish the Editor's Chair and to bid farewell to all of you since my fortune takes me to Philadelphia, U.S.A. It has been a very rewarding experience to serve you as editor of the PalNews. I thoroughly enjoyed it and wish to thank all the members who have put pen to paper (or is it fingers to computer) for each issue. Without you willing contributors, Palnews would not exist. I trust that you will continue to support the new (yet to be chosen) editor and let PalNews roll on....



Dr Anusuya Chinsamy
BPI Palaeontology
Wits University

BELATED NEWS for the December issue.

News from Arthur Cruickshank, England

Plesiosaurs hit the big-time in July (1991) with the publication of the idea that they used their narial system entirely for water borne scent detection - and back-to-front into the bargain! (Cruickshank, Small and Taylor, Nature, 352:62-64). Since when we have done some more CAT- scanning on bits of the skull behind the narial region; but waiting for a Saturday morning when the pressure is off the scanner is taking some time! Mike Taylor and I gave a preliminary (very) account of a huge *Pliosaurus brachyspondylus* skull (1.5m long) at the VPCA meeting in Oxford, which shows that the basic muscle system does not seem to change with size, but that other things do, such as gullet diameter, in order to enable even larger chunks of meat to be swallowed. The Pliosaur Project runs along at speed, with 4 papers in press or review, another very nearly ready to go to the Scottish Journal of Geology on a series of cervical vertebrae from an enormous Rhaetian glacial erratic (and you can't get more exotic than that!) - and the revised *Pliosaurus* MS to be finalised before Christmas (1991)!? We plan about 10 papers in all before the money runs out in 1993! Phew!

I was very pleased to meet Anusuya Chinsamy in Oxford in September, and hope that she will not be the last member of the BPI to come to these annual gatherings! Seeing its about 13 years since the last time a member attended! It was certainly impressive to see what can be done with high-tech analytical techniques on bone.

The dates for the next VPCA meeting are 15-18 September 1992, In Bristol, (Geology Department, Queens Road, BS8 1RJ)) and being organized by Mike Benton. See ya there.

News from the Geological Survey, Cape Town.

A number of research projects on the palaeontology of the Late Precambrian to Mid-Palaeozoic marine sediments of the Western Cape are currently in progress at the Geological Survey in Cape Town (J. E. Almond, J. N. Theron, P. G. Gresse).

- a. Trace- and dubiofossils from the Late Proterozoic - Early Cambrian NAMA and VANRHYNSDORP of Namaqualand. A restricted fossil assemblage, including algal strings, possible algal-cemented pellets, sandcoral endoskeletons, large backfilled horizontal burrows

("Planolites"), and a variety of other traces have been found. Trilobite traces are notably absent throughout the sequence. The complex feeding trace *Phycodes*, which occurs abundantly in Cambrian sediments, demonstrates a puzzling variety of burrowing behaviour which will be the subject of a separate study (in collaboration with Prof. A. Seilacher, Tübingen).

(P.G.G. & J.E.A.)

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b. Biostratigraphically and palaeoenvironmentally significant trace fossils from the Early -to Mid-Palaeozoic CAPE SUPERGROUP, especially arenaceous parts of the succession lacking body fossils. Initial work is focusing on new and previously collected material of the ichnogenera *Arthrphycus* and *Cruziana*, various species of which have now been recorded from several levels within the Cape Supergroup. *Cruziana* from the lower part of the Bokkeveld Group represent one of the richest Devonian trilobite ichnoconozones known. Well-preserved associated traces such as *Scolicia* and *Asteriacites* will form the basis of future studies.

(J.E.A. & J.N.T.)

- c. Shelly marine invertebrate faunas from the BOKKEVELD GROUP (early - Mid Devonian).

Current work involves the systematics of the diverse, poorly-known bivalve fauna as well as a variety of minor groups, and the taphonomic analysis of the shelly assemblages. A comprehensive, well - illustrated atlas of the whole fauna, which should cater for the non-palaeontologist as well as the amateur, is in preparation.

(J.E.A. & J.N.T.)

- d. Invertebrate faunas of the CEDARBERG FORMATION (latest Ordovician, CAPE SUPERGROUP).

A variety of new faunal elements, including inarticulate brachiopods and several arthropod taxa, have recently been collected and are currently being described in collaboration with overseas workers. A konservat-Lagerstätte containing conodonts with preserved soft tissue has also been discovered.

(J.N.T. et al)

- e. Survey of microfossil assemblages from the CAPE SUPERGROUP (Early - to Mid- Palaeozoic).

Samples of promising black shale units from horizons throughout the Cape Supergroup succession have been collected and are now being analysed for microfossil content both here and abroad.

(J.N.T. et al)

News from Dick Rayner, BPI Palaeontology, Wits University.

Conference

Monument Grube Messel - Perspectives and Relationships

6-9 November 1991

Exceptionally well preserved fossil biotas - the so-called *Lagerstätten* - are the jewels of the fossil record - no doubt about it. Palaeontologists have sought long and hard for them. The information that these outstanding fossil assemblages yield provides not only details of extinct forms, and therefore an indication of the differing levels of diversity in the past, but ecological and evolutionary relationships that are often missing from other localities. The *Lagerstätten* contribution to our knowledge of the fossil record is therefore as remarkable as their preservation. Indeed Jack Sepkoski, in his 1981 factor analysis of Phanerozoic marine diversity, found that 20% of the clades he used were known **exclusively** from three of the major Palaeozoic *Lagerstätten* (Hunstrückschiefer, Burgess Shale and Mazon Creek).

This German conference was to examine why particular fossil assemblages are so significant. All in all, it was a celebration of several of these remarkable fossil sites, and involved workers from all over the world. Centre stage was the Messel site itself, and the thorough work of the German palaeontologists impressed all the delegates. Their fossils have been recovered from a disused oil shale quarry, a few kilometres from Darmstadt. We visited the site, and the quarry now resembles an open crater, about a kilometre in diameter and 200 metres deep. The analogy has been taken further, and several workers believe that the shales, which are Eocene in age, accumulated in a volcanic crater (or Maar).

Although fossil *Lagerstätten* are all unique, by virtue of their biotas, there are some similarities - in preservation, sedimentation etc. These issues were addressed in depth with the presentation of several taphonomic papers. It is,

of course, important to know how the fossils got there in the first place. The exceptional detail preserved in the Messel fossils, however, attracted most interest. This allowed such precision in the various studies, that the fossil animals (in particular) seemed to come alive during the presentations. One notable paper traced micro-evolutionary changes in birds through the sedimentary succession. In another, the author was able to identify the diet of the Messel bats from perfectly preserved insect cuticle in their guts!

Other European localities represented were also from Germany, there were some from France, Denmark and the UK. Outside Europe, the Green River Formation of Western North America and the delightfully named Horsefly lake deposits of British Columbia, delighted fish workers in particular. Chinese workers presented results from studies on fossils from their Eocene lakes, and recently discovered Eocene mammals from Australia were the basis for three papers. But perhaps the most remarkable example of preservation came from the Santana Formation, NE Brazil. In fossil insects, sub-cellular details were preserved - including nucleii and other organelles. And you can't ask for better than that!

News from the Survey Pallies - Colin MacRae, Geological Survey, Pretoria.

Things are trundling along just fine at the Survey. Eva Endrody is busy working on the thorny problems surrounding different practices in palaeobotanical taxonomy. She still eagerly awaits responses to her challenges issued in previous issues of PalNews. Andre Keyser is still working through the dumps of Haasgat and is involved with Lee Berger from Palaeo-Anthropology Research Unit (Wits Medical School), in the excavations at Gladysvale Caves. Watch the press towards the end of May for exciting news! Barry Millstead continues his research on the palynology of the New Vaal Colliery and also on some samples from Zimbabwe. He recently almost single handedly organized the Natal Fossils 2000 week-end field trip. According to all accounts that reached my ears, this was a great success. Well done Mate! Francois Durand is busy working on the results of this field collecting in Natal and is supervising preparation of some of the collected material. He is involved in a joint project with Francis Thackeray looking at *Lystrosaurus* teeth. He is also putting in many extra hours work on SASAP activities. A map reading course and fieldtrip to Haasgat have been recently organized for the amateur society, both fully subscribed. A number of interesting and informative lectures have also been laid on and well attended. Chris Gow and Lee Berger will be presenting lecture in the near future. Yours faithfully is still wielding the "whip" of

encouragement and dabbling now and then in things palynological. Looking forward to the conference in September.

News from Prof Kitching, BPI Palaeontology, Wits University.

As to date, I have unpacked, sorted and classified a very large number of fossil mammalian remains from the Limeworks deposit at Makapansgat. The sorting also included assigning the specimens to provenance within the deposit.

During January 1992, I accompanied the Nova Public Broadcasting TV crew to the above mentioned site for the purpose of filming sections within the Limeworks. Enlarged photographs will be exhibited in the hominid hall at the American Museum of Natural History early in 1993.

In February and again in March I accompanied Dr. Bruce Rubidge and postgraduate students on fieldtrips to the Sterkstroom /Molteno area and to the Senekal district where we looked at the Burgersdorp - Molteno and Elliot Formation contacts. On the more recent trip some good dinosaurian remains were collected from the Elliot Formation near Rosendal. Specimens of the amphibian Parotosuchus and fragmentary remains of the cynodont, Cynognathus were also collected from a pebble lag within the Cynognathus-Diademodon Assemblage Zone in the same area.

News from Anusuya Chinsamy, BPI Palaeontology, Wits University.

My research on the bone tissue structures of the dicynodonts is now completed and I am presently writing up the work for publication. The other project which I am involved in concerns the use of skeletochronology to ascertain the age structure and longevity of the Namib lizard, Angolosaurus skoogii.

In June, I will be presenting a paper on the ontogenetic growth patterns of the birds Struthio and Sagittarius, at the SAPE (Society of Avian Palaeontology and Evolution) Conference in Frankfurt, Germany. The post conference excursion will be to the Messel site - I am really looking forward to visiting this incredible fossil locality.

Finally in October, I will say farewell to "friends and foe" at Wits to accept a post doctoral fellowship at the University of Pennsylvania, Philadelphia. I

intend looking at ontogenetic series of Triassic, Jurassic and Cretaceous dinosaurs from North America and Mongolia. This would permit a phylogenetic, stratigraphic and geographic perspective on dinosaurian growth rates.

At the end of October I will be attending the SVP meeting in Toronto, Canada. I am quite thrilled at the prospect of attending this meeting. I am looking forward to meeting some of our American colleagues, many of whom I only know by name.

See you in September!

NOTE: Future editor - you are guaranteed of some News from me for the December issue!!

News from Ann Cadman, BPI Palaeontology, Wits University.

The number of palynologists at the BPI has trebled since the last edition of PALNEWS: two Masters students have joined me in the bowels of the earth in our palynology lab. Sue de Villiers is working with me on Tertiary sediments from Namaqualand, while Grigor Aitken is studying Permian coals from the Witbank area. Colin Macrae is the co-supervisor of Greg's project.

I am also looking at some Tertiary sediments from off the west coast. The data will be presented at the 8th International Palynological Conference in France later this year, the paper being in collaboration with Louis Scott and Ian Corbett.

Sue, Greg and I attended a very informative and enjoyable palynology workshop at Louis' lab in Bloemfontein recently. It was really good to meet most of the other palynologists in the country, and particularly to learn that we all suffer from the same uncertainties!

Modern pollen studies still keep me pretty busy. These studies involve daily monitoring of both pollen grains and fungal spores at several sites around the country. The object of this is to establish both spatial and temporal variation of these bio-aerosols. One of the study sites, at Vanderbijl Park, is running in conjunction with the Vaal Triangle Air-Pollution Study, a multi-disciplinary project investigating the entire range of atmospheric pollutants.

A further modern study is investigating the allergenicity of several indigenous taxa. This is in conjunction with the MRC, Pretoria and Medical School, UCT. The significance of this study lies in the fact that desensitising treatment currently administered to allergic individuals in this country is based on responses to northern hemisphere plants. There is a possibility that our plants may contain species-specific antigens, and that such therapy is therefore not targeting the problem.

Such studies may not have only a strictly modern application. Maybe one of these days I'll be able to astound you with something really exciting in the great "Who pipped whom?" debate in the world of the australopithecines. Maybe it wasn't a case of competition or climatic change or dietary niches or hunting skills or any other of the preferred theories. Maybe it was an intolerance to certain grass antigens that spearheaded the whole movement (whatever *that* might mean!). The following bit of madness suggests that others have had similar thoughts.

DINOSAUR PALYNOLOGY

From the American Association of Stratigraphic Palynologists' Newsletter, October 1991, Volume 24, Number 4, submitted by the Editor?

Did you know that the pollen grain was responsible for discoveries of great magnitude during the 20th century: the first definitive evidence for the existence of atoms, estimates of the physical constant known as Avogadro's number, a mathematics for describing randomness in quantum mechanics and a metaphor for small fluctuations in economics. It is the truth!

In 1827 Robert Brown was observing pollen grains through a microscope. He had a problem with the chaotic movement of these small particles in the water droplet on the slide. Brown studied the movement s in detail and later his name was given to the phenomenon - Brownian motion. Einstein found the source of Brownian motion -inadvertently in 1905 - while seeking proof that atoms were real physical entities, but that's another story. Robert Brown's curiosity about pollen was the lead into some of the fundamental discoveries of the century.

Long before Robert Brown graced our planet, pollen may have had an influence on the life and death struggle of the dinosaurs. It is not difficult to show that the slow decline of the dinosaurs and ultimately their extinction at

the end of the Cretaceous, corresponds to the rise and proliferation of the angiosperms. It is silly to say the dinosaurs died of hayfever. However, considering the very real response of the human organism to angiosperm pollen, in spite of our evolution during the angiosperms, it is easy to contemplate the incapacity of *T. rex* with constant sneezes, drippy nose, swollen eyes and perhaps even unconsciousness due to angiosperm pollen. These are the human responses to angiosperm pollen who is to say that physical harm these same microscopic particles may have had on the primitive respiratory systems of the dinosaurs. This may not have the appeal of extraterrestrial influence but it is certainly backed by, at least, as much evidence as the impact theory.

Having stuck my neck out this far, let us consider other wonders of the angiosperm world which could have influenced the evolution and extinction patterns of herbivores and those animals which preyed on them, as well as human history. In May 1991 issue of *The Atlantic* (vol. 267, no.5, P. 44-50) there is a fascinating article titled "Infectious Terrorism" by R.S. Root-Bernstein. The early part of the article tells of a battle in 67 B.C. in which the Roman general Pompey set out to conquer King Mithridates of Pontus. King Mithridates force was hopelessly outnumbered - but the peculiarities of an angiosperm saved them.

Mithridates and his men retreated to an area near Trabzon on the Black Sea coast of Turkey. The King, who spoke 22 languages and had an insatiable curiosity, had a chief advisor known as Kateuas who is known as the first herbalist of record. During Kateuas' extensive study of plants he learned of another battle which occurred at Trabzon, 300 years earlier in 401 B.C. Kayeuas noted that the hills were covered with beautiful rhododendrons and the woods harboured rich beehives and recognized the significant strategic opportunity of the hills of Trabzon. Although Kateuas did not know why, he did know that if Pompey's troops ate the abundant honeycombs that were found in the woods, the results would be most unpleasant for Pompey. Indeed, Pompey's troops indulged in honey-feasting, went into drunken convulsions and were massacred by the waiting army of Mithridates.

The honey of Trabzon is known as "mad honey". We know that the poison in the honey of Trabzon is a grayanotoxin. Grayanotoxins are produced by various species of rhododendrons and laurels and are present in the nectar for making honey which is highly toxic. The symptoms of grayanotoxin poisoning includes excessive salivation, vomiting, loss of coordination, tingling and burning sensations in the mouth and extremities, low blood pressure, decreased heart rate, muscular weakness and sometimes convulsions. Although few

attacks are fatal, even a small amount of "mad honey" can result in total incapacitation, which lasts for about 24 hours.

There are many toxins and other chemicals in flowering plants, we humans have learned to use these to our benefit and sometimes our own destruction. However, it is quite possible that these toxins found in the flowering plants and their pollen could have had a major role in the extinction of the dinosaurs whose decline parallels the diversification of the angiosperms.

FOSSILS ARE WHERE YOU FIND THEM.

Chris Gow, BPI Palaeontology, Wits University

The purpose of this note is to place on record a potentially interesting fossil locality in the Northern Transvaal. When I heard that Mr. Nick van Wyk of Potgietersrust knew of a fossil locality near Limburg I was intrigued, as a glance at the geological map shows that this area is all ancient igneous terrain. But hang on. Near the Harry Oppenheimer Agricultural High School is a dry watercourse where the powerful electric pumps which supply the school with water are situated. Excessive removal of ground water accounts for the fact that the stream no longer flows. Mr. van Wyk used to catch Tilapia in this stream as a youngster. The area is covered with surface deposits of calcrete in which scattered bones occur, and more to the point an older buried calcrete, pure, well consolidated and about a meter thick is exposed in the stream banks. It was from the latter that Mr. van Wyk collected good fossil material many years ago (including a possible hominid skull), as luck would have it they were nicked from his bakkie in Pretoria. So there you have it. If dry, hot thornveld with the chance of a hominid or two turns you on - go for it!

News from BPI Palaeontology Students, Wits University.

Heidi Fourie has graduated on the 7 May 1992. Her MSc. dissertation was on the description of the skull of Emydops (Therapsida: Dicynodontia). She will be undertaking a PhD study of the pectoral and pelvic girdles of the theracephalia and will attempt a reconstruction of the muscles and posture of the animals. She also intends examining the phylogenetic relationships of the group.

A skull of Hipposaurus boonstrai in a good state of preservation has been loaned to the BPI by the Geological Survey and is presently being prepared by Carol Aston an MSc. student. This is only the third skull of H. boonstrai that will have been described, and hopefully will yield information to clarify the phylogenetic relationships within the infra-order Biarmosuchia and other early mammal-like reptiles.

Grigor Aitken has returned after a year at the Business School and a short spell overseas to do a MSc. on the Palynology of the Number 5 Coal Seam. This will be supervised by Dr Ann Cadman and Dr Colin Macrae. The Palynology of the Number 5 Seam has not been looked at before and the results will prove to be very interesting.

Sue de Villiers is also undertaking an MS. in Palynology. She is working on Tertiary sediments from the Namaqualand coast. The removal of colloidal clay has proved to be a problem and various methods are under trial in the lab. The palynology of the Tertiary of South Africa is not very well known, which is a pity as it is a very active period in angiosperm evolution: the flowering plants were continuing their Cretaceous diversification and the ferns were at their most prolific. The other Southern continents had already split away from Africa by plate tectonics so the local flora was developing its own special character, but it had not as yet been ravaged by the effects of the dropping temperatures causing the Ice Ages in the Northern Hemisphere. Sue's work therefore has a valuable contribution in interpreting the Southern African Tertiary pollen deposits.

News from Bruce Rubidge, BPI Palaeontology, Wits University.

Over the past year the staff of the BPI have been involved in working through the collections. James Kitching has undertaken the mammoth task of re-sorting the Makapansgat collection, while Grigor Aitken and John Hancox have been organising the trace fossil and invertebrate fossil collections. Heidi Fourie has recently completed entering the Karoo fossil collection on a computer database, and is currently busy with the skeletal collection of extant animals.

Bruce Rubidge, John Hancox and John Nyaphuli spent two weeks in the field on the farm Combrinskraal, north of Prince Albert, trying to ascertain the vertical limits of the *Eodicynodon-Tapinocanius* Assemblage Zone. For one week Roger Smith and his "A" team joined us, and mercifully were able to swell our rather meagre finds from a horizon where fossils are not all that

plentiful.

John Hancox has started on the fieldwork for his MSc on the contact zone between the Beaufort Group and the Molteno Formation. Apart from detailed lithological and palaeoenvironmental work he will also be taking cogniscence of the fossils in these units, and will hopefully be able to refine the biostratigraphic subdivision of the rocks of the uppermost Beaufort.

John also accompanied **Razina Meer** (Honours student) on a 10 day research trip to the Beaufort-Molteno contact in the Rozendal district where Razina is doing her honours project.

In February Bruce spent a few days at the University of Stellenbosch with Juri van den Heever looking at specimens of the enigmatic and strange "dinocephalian" *Styracocephalus* with a view to establishing its taxonomic affinities. At the same time Bruce spent a few days at the South African Museum working with Gillian King and John Hancox on a description of the postcranium of *Eodicynodon*.

After more than 5 months of trying to get a "visa" to visit Russia, the necessary documents have finally been granted, and Bruce and Gillian King have left on a month-long trip to study Permian therapsids in Moscow and St. Petersburg.

We look forward to hearing about your trip in the next issue - Ed

News from Herbert Klinger, South African Museum

After a pleasant, but apparently rather expensive stay in England, Samantha Black is back in my department, taking care of the photography of ammonite after ammonite. Madel Joubert is updating my references and putting them on to computer. Jacque Blaeske is putting all the described and figured specimens on computer. I am still resisting pressure to put the whole invertebrate collection on computer. I can see very little benefit in putting unidentified and unlocalized material on computer merely for the sake of being able to say that the collection is now on computer. Garbage in, garbage out!

After a rather too long incubation period in the editorial office, my article with Jim Kennedy on the Barremian ammonite family Ancyloceratidae has finally appeared in print. At present we have two more papers in press. One on the Maastrichtian baculitid genus *Eubaculites*, and another on the affinities of the

At present I am working on the ammonite family *Baculitidae* in South Africa, with a review of the systematics of the family and discussion on phylogenetic trends. The gist of this was presented in a joint paper with Jim Kennedy in London last year at the ammonite symposium.

This is an extremely frustrating group, and for once I tend to agree with my critics that all ammonites look the same. They are all straight, stick-like ammonites. Development of ornament and complexity of the suture lines is very variable, and it appears that similar, isochronous and heterochronous trends occur in different geographic regions. To unravel the systematics I am writing all over to try and get hold of casts or photographs of type specimens. Unfortunately many type specimens in Germany and eastern Europe were destroyed during WW II. Thanks to Mike Cooper for sending me specimens of *Baculites sulcatus* from excavations at the Wild Coast Casino; these really helped.

The second definitive issue of fossil stamps of the Transkei are due out in September. These depict invertebrates from Mzamba, including, of course, an ammonite on the 40 cent stamp and another on the FDC. These are all based on specimens in our collections, illustrated by Lambert Kriedemann. These should make ideal Christmas cards for my fellow philatelic addicts.

Jim Kennedy is coming out in August for three weeks field work in Zululand. I am to meet him in Durban. Somehow he has managed to find enough funds to pay for both of us. This leaves me with extra money for the 4th Cretaceous Symposium in Hamburg in September and October. Hopefully I can also return to Tübingen for a few days.

News from Michael deBraga, Canada

Our trip to South Africa was indeed quite fruitful. Preparation of the specimens which Robert Reisz and I borrowed, both from the BPI and Cape Town is proceeding well. They are excellent materials and should help both my research and Robert's immensely. Otherwise, I personally have been kept busy working on a couple of projects with my former supervisor, Dr. Robert Carroll at McGill University.

Our group of five here at Erindale (myself, Michel Laurin, David Dilkes, Sean Modesto, and Robert) is now finishing up the academic year and hence all of the teaching responsibilities. We hope this will free up more time for research. As well, Robert is going on sabbatical this year and hopes to get a lot of things

the teaching responsibilities. We hope this will free up more time for research. As well, Robert is going on sabbatical this year and hopes to get a lot of things done. He is presently committed to eleven projects and hopes to complete some of them by the end of this year. Field projects for next year are now being planned, but for this year we will return to our Upper Carboniferous locality in Kansas. We will spend 60 days there this year thanks to a generous grant from the National Geographic Society.

Robert is still planning to work out some of the details for the proposed joint Canadian-South African-Russian enterprise, including funding for the collection expeditions in both Russia and South Africa.

I cannot say enough about the people I met and how welcome everyone made me feel. I will always cherish my visit to South Africa. I plan to revisit sometime in the next two years.

7th BIENNIAL PSSA CONFERENCE

The staff of the BPI Palaeontology are all involved in arrangements for the PSSA conference which is to be held at the Institute from 6-9 September.

There has been a good response to our call for papers and several overseas delegates have submitted titles as well. We are thrilled that Dr. Dave Norman, Director of the Sedgewick Museum, has accepted our invitation to attend the conference as our special guest.

After the conference there will be a 2-day excursion to the famous hominid sites of Kromdraai, Gladysvale and Makapansgat.

We are looking forward to seeing you at the BPI in September!

Delegates Presenting Papers : PSSA Conference 1992

Margaret Avery,	Dr	The environment of early hominids as indicated by Micromammals
Marion Bamford and Mike de Wit	Dr Mr	Fossil Wood from the Brandvlei area, Bushmanland as an indicator of

Lee Berger	Mr	The Palaeontology of the Gladysvale Caves site
C K Brain	Dr	Precambrian palaeontology in southern Africa : its status and prospect
James Brink	Mr	The Fossil history of the black wildebeest <i>Connochaetes gnou</i> , in southern Africa
Bruce Cairncros	Dr	Palaeoenvironments of the Vryheid Formation (Ecca Group) in the N. Karoo Basin.
Anusuya Chinsamy	Dr	To be advised.
Basil Cooke	Dr	1. Elephant remains from the Transvaal Cave Breccias. 2. Undescribed suid remains from the Transvaal cave breccias.
Janette Deacon	Dr	Palaeontology and the National Monuments Council
Francois Durand	Dr	A new computerised National Palaeontological Catalogue
Jorge and Anita E'Silva	Mr & Mrs	Amateur Palaeontology: A Personal Perspective.
Ed February	Mr	Rainfall Reconstruction by analysis of Xylem Anatomy: Implications for Palaeontology.
Heidi Fourie	Ms	Internal Skull Morphology of <i>Emydops</i>
Chris Gow	Dr	The First Mousetrap: Why we are not extinct
Gideon Groenewald	Mr	"Advanced" burrows from the Burgersdorp Formation, Beaufort Group, South Africa

Eric Harley	Prof	DNA analyses of modern and ancient materials
Norton Hiller	Prof	A Modern Analogue for the Ordovician Obolus Conglomerate
André Keyser	Dr	The development of Gladysvale Cave
Julius Kieser and Francis Thackeray	Prof Dr	Body size and carnassial length in modern and fossil carnivores
Gillian King	Dr	To be advised
James Kitching	Prof	To be advised
Cleopatra Klapsidis	Miss	Are crocodiles homodont?
Eva Kovacs-Endrody	Dr	The interim approach of raw data. A critique of the Anderson's volumes
Julia Lee-Thorpe	Dr	Reconstruction of the environment of Swartkrans using isotopic ratios of fossil fauna
Colin MacRae	Dr	Age of the Whitehill Formation in the Hopetown area, Northeastern Cape Province, South Africa
Judy Maguire	Dr	Appropriation of species names for non species: the illegitimacy of species in the Anderson & Anderson palaeoflora volumes (provisional)
Tom Mason	Prof	Beaufort Group Ichnofossils: Trace fossils in woody substrates
Judith Masters	Dr	To be advised

Jeffrey McKee	Dr	Origins of the Genus <i>Papio</i>
Barry Millstead	Dr	The age of the Coal Measures in the Northern Karoo Basin
Dave Norman	Dr	To be advised
Caroline Northwood	Ms	Palaeoecology and Taphonomy of Arcadia Formation tetrapods
Mike Raath	Dr	To be advised
Dick Rayner	Dr	To be advised
Guillermo Rougier	Mr	To be advised
Bruce Rubidge	Dr	Comparison of Late Permian therapsid faunas from S.A. and Russia.
Friedemann Schrenk	Dr	The Hominid Corridor of S-E-Africa
Roger Smith	Dr	Sedimentology and ichnology of floodplain palaeosurfaces in the Permian Beaufort Group, Karoo Sequence, South Africa
Francis Thackeray & Julius Kieser	Dr Prof	Quantification of variability in shape of the dental arcade of <i>Homo sapiens</i> : Comparison between modern and late pleistocene specimens from southern Africa.
Jurie v d Heever	Prof	To be advised
Anne Warren	Dr	The Last Last Labyrinthodonts?
Ginni Watson	Dr	Glimpses from Gondalin
Johann Welman	Mr	The relationships of the South African proterosuchids

News from James S. Brink., National Museum, Bloemfontein.

As part of my work on inland and coastal mammalian faunas of the Late Pleistocene I am at present focusing on the fossil history of the black wildebeest. A recent examination of wildebeest specimens from the southwestern Cape indicates that animals were smaller in the coastal zones than those from the interior. These patterns are still being investigated.

A fortunate by-product of rescue work on the bone occurrence at Maselspoort, on which I reported earlier, was the recovery of some well-preserved and complete wildebeest remains. Since my previous report, we have systematically excavated the rest of the bone accumulation. The occurrence is certainly unusual in that it consists mainly of articulated wildebeest limbs and the upper portion of a human body. The human remains are clearly not part of a burial, as only the skull, both clavicles and arms were found. Almost all bone remains were found to be articulated, postdepositional carnivore interference. My preliminary impression is that these remains were deposited by the ancient Modder River in a state of semi-decomposition, with the ligaments and skin still intact. It is likely that some dismemberment by carnivores had taken place before deposition. Some of the wildebeest bones have been sent to QUADRU to be radiocarbon dated.

News from Johann Welman, National Museum, Bloemfontein.

John Nyaphuli of the National Museum, accompanied Bruce Rubidge for a very successful two week fieldwork excursion in the southern Cape in February. Bender and Welman took five groups of pupils on palaeontological excursions to Dewetsdorp in February in cooperation with the Geology Department of the UOFS.

A team consisting Patrick Bender, James Molieleng and Christiaan Nyaphuli went down to the Bethulie Show where they demonstrated fossil preparation techniques to the public. Patrick left the National Museum at the end of February to become curator of the Geological Collection under the auspices of the Africana Museum.

At the end of April, Johan Welman joined Johan Looock and his postgraduate students for a five day fieldschool. Also in April, Welman and Petrus Chalats presented a workshop on fossil casting techniques at the National Museum as part of the technical conference of the Anatomical Society in Bloemfontein.

A publication on the presence of the *Cynognathus* zone in the northeastern Orange Free State by Welman, Groenewald and Kitching appeared in the S.A.J.Geol. while an article on the stratigraphic range of *Namaichthyes digitata* by Bender, Rubidge, Gardiner, Looock and Bremner was published in the S.A.J.Sci.

News from Norton Hillier, Geology Dept. Rhodes University, Grahamstown.

The Grahamstown team continues to be busy with our Devonian plant and fish site. Unfortunately, Fiona Taylor has left the University, having gained her Honours degree, to seek employment in the real world. She still however maintains an interest in the fossils and is determined to do further work on the plants. Eric Anderson and Robert Gess have turned up several more fish specimens and the Australian colleagues with whom we have been corresponding are quite excited about the fauna. We will report further at the conference in September. For myself, thoughts of brachiopods continue to dominate my waking moments, few though they are, and several projects are in the pipeline.

News from Gillian King, South African Museum, Cape Town.

In October I finally managed to do something which I've been looking forward to for a long time - attend the North American Society of Vertebrate Palaeontology annual meeting. This year it was in San Diego which must be almost as perfect a place for a conference as Cape Town - a beautiful city, good food, lots to do and a lovely climate. But, believe it or not, the participants did actually attend papers. However, the most useful part of the conference, as always was meeting people at the array of social functions arranged for us. Everywhere I went I was accosted by people who wanted to know about the possibilities of working/studying/visiting South Africa.

While I was in the US I visited Harvard, the AMNH, the Smithsonian and the Field Museum, as well as Stony Brook (Long Island) to try to get down to some work on *Lystrosaurus* with Fred Grine. The project is looking at skull allometry with a view to trying to distinguish species of *Lystrosaurus*.

The paper that Bruce Rubidge and I completed on small toothed dicynodonts has been accepted by the Zoo Journal of the Linn Soc, and is now in press. Also in press and due out shortly is a short paper on the palaeobiogeography of Permian anomodonts. I have also just submitted a paper on species-level taxonomy of *Diictodon* to the SAM Annals.

At the moment I am busy describing the postcranial skeleton of *Eodicynodon* (again with Bruce), the postcranial skeleton of a bauriid therocephalian (courtesy of Johan Welman), and sexual dimorphism and reproduction in *Diictodon*. I shall be starting a project on skull structure and function of *Endothiodon* with Laurie Walter of Chicago State University shortly.

Bruce and I are visiting palaeontological collections in Moscow and Leningrad in May. We hope to return in one piece (or should that be two pieces?).

News from Roger Smith, South African Museum, Cape Town.

HOME B SILTS (14-21 APR 91)

The Museum's acquisition of a new 4x4 field vehicle gave me the opportunity to fulfil a longstanding desire to do field studies of the Homeb Silt Formation and Khommabes Pan deposits in the Kuiseb River valley near Gobabeb. The aim was to document modern and sub-recent flash-flood sedimentation and their bioturbation with a view to refining the interpretation of ancient arid zone deposits, especially those at the top of the Karoo Sequence of Southern Africa. Through negotiations with Dr Mary Seely of the Desert Ecology Research Unit at Gobabeb, myself and co-worker, Prof Tom Mason of the University of Natal managed to secure accommodation at the station.

We spent four days in blistering heat gathering field data from the type section at Homeb village in the Kuiseb canyon. To the local inhabitants this was not unusual, in fact "Homeb" is the Topenaar word for oven. By 10.30am each day the temperature was over 35 degrees C making the dongas intolerable to work in. Nevertheless, we completed the documentation of sedimentary facies and trace fossils without collapsing, and even had time to show off our knowledge to a party of Gobabeb scientists.

The Homeb Silts are 20 000 year-old relics of Kuiseb River alluvium. Their sedimentological and pedogenic characteristics suggest that in the past the river flowed more frequently and for longer periods and probably flowed out to sea rather than into an end-point delta as it does today.

Some of the more interesting trace fossils were discovered at Khommabes Pan, a relict playa lake deposit in the Namib Sand Sea. These include a new species of fossil termite nest (c.f. *Termitichnus*) which we will describe in due course.

A follow up visit has been planned for early next year to look more closely at the desiccation sequence of the modern river bed and map the trace fossil assemblages at Khommabes Pan.

FRIENDS TRIP TO GRAAFF REINET (31 JUL-4AUG 91)

Some 36 dedicated Friends of the Museum were subjected to the rigours of fossil collecting in the Graaff Reinet district in the middle of winter. Despite the sleet and freezing wind they managed to get out each day for short bursts of activity before returning to the comfort of the Cambdeboo Cottages.

Many thanks to Lex Bremner and the Rubidges for their help and hospitality during this trip.

In July this year they will be trying their luck again at some of Mike Cluver's old stomping grounds on Meltonwold in the Victoria West district.

FRASERBURG MUSEUM FOSSIL DISPLAY (3-7 SEPT 91)

About 2 years ago the Fraserburg Recreation and Tourism Society asked the S.A.Museum to mount a small display in their local museum to illustrate the fossil wealth of the area. Our response was positive, providing adequate funds were made available for us to work with.

Last year the Fraserburg Municipality and Regional Services Council budgeted a total of R10 000 for mounting the fossil display and maintaining the fossil reptile footprints (the Gansfontein palaeosurface) that are located on the outskirts of the town. Their proviso was that this work had to be completed in the 1991 calendar year.

Appeals by the local museum to local farmers to donate display specimens, were not successful. Many of the local farmers donated vertebrate fossils but none were suitable for display. However, some are of scientific interest including a *Pristerognathus* post-cranial skeleton and a nest of 5 infant skeletons of an as yet unidentified taxon.

We selected a number of fossils that commonly occur in the Fraserburg area from the Department's storeroom, to be given to their museum on a 5-year renewable loan.

The week before travelling to Fraserburg was spent script writing, printing labels, mounting photos, cutting and painting panels, coating and packing fossils and buying spotlights.

Annelise Crean and I spent the following week (2-6 Sept.) setting up the fossil display in Fraserburg. Four wooden framed cases had already been built to blend in with the Cape Dutch building which houses the museum. Plenty of local help was available and good co-operation with the Municipality allowed the electrician to fix up lighting for us before we left. The almost-finished result was well received by the Tourism society although an official opening will have to wait for the finishing touches.

SHORT FIELD EXCURSION TO GRAAFF REINET DISTRICT (23-27 OCT 91)

Prof. Peter Ward, a visiting scientist from the University of Washington, requested that I show him outcrops of Karoo strata which are equivalent in time to the global Permo-Triassic extinction event. His research specializes in the causes and effects of mass extinctions, a topic on which he has published many articles and a book.

The aim of this excursion was to locate several clean outcrops of the Permian/Triassic transition in the terrestrial strata of the Karoo Basin and prove them to be fossil bearing. It is hoped that NSF will sponsor one of Prof. Ward's students in an investigation of the sedimentology and fossils in these sections as an MSc project.

Another visiting scientist, Patrick Spencer, from Bristol University was invited along. Although he is not a field palaeontologist, he does work on Karoo procolophonids and welcomed the opportunity to see how they are found and collected.

It is hoped that as more overseas researchers venture into the Karoo to set up similar research projects, the South African palaeontologists will be approached to collaborate with them and perhaps, in future, they may be invited to participate in field studies overseas.

FIELDTRIP TO UPPER KAROO FOSSIL LOCALITIES IN THE SOUTHERN FREE STATE AND EASTERN CAPE (29 OCT-7NOV 91).

It is not often that the Karoo palaeontologists in South Africa come together in the field to share their knowledge and experiences whilst working towards a common goal. This happened in November 1991 and I was fortunate to be invited to join the party. The trip was organised by Johann Welman (National Museum, Bloemfontein) and Gideon Groenewald (National Parks Board, Golden Gate) who have been asked to lead a field excursion to the "upper" Karoo strata for Geocongress delegates in July 1992.

The aims of this trip were to study the sediments and fossils at numerous localities in the southern Free State and Eastern Cape and select those worth including in the Geocongress itinerary; to document the selected outcrops for compilation of a fieldguide; to find, stabilise and mark vertebrate fossils at each of the selected sites and, most important for me, to assess and discuss the potential for individual and collaborative research projects in these areas.

The field party included the two organisers, Prof James Kitching and Dr Bruce Rubidge (BPI Palaeo. Wits Univ.), Dr Bob Brain (Transvaal Museum), Johann Look (Univ. OFS), and myself. We travelled from Bloemfontein to Bethulie, around the southern foothills of the Lesotho Highlands as far as Maclear then back via Aliwal North, Thaba Nchu and Golden Gate. A total of 20 sites were examined covering upper Karoo strata from the Katberg Sandstone Formation,

containing numerous skeletons and burrows of *Lystrosaurus* and *Thrinaxodon*, through the *Cynognathus* / *Diademodon* sediments and into the dinosaur-bearing redbeds of the Elliot Formation.

Bob Brain was interested in finding any siliceous cherts that may contain fossils of primitive multicellular organisms such as rotifers. We collected numerous cherty nodules from the Elliot mudstones for him to section.

I was particularly interested in a laterally continuous, mature calcic palaeo-soil in the middle of the Elliot Formation which contains so many *Tritylodon* bones that James has informally named it the "*Tritylodon* Acme Zone". Numerous tap-root concretions which are indicative of drought resistant vegetation that grew in these ancient arid zone soils are worthy of more detailed investigation. To this end I asked James Kitching to help me find fossils in three sections near Clocolan in March 1992.

The highlight of the trip for me was finding a complete *Trirachodon* skull with slightly gaping lower jaw. Preliminary preparation has confirmed that the full dentition is preserved.

In the evenings, James's anecdotes of early workers in the Karoo provided light relief from the protracted discussions of Karoo stratigraphy, proposed research topics and the future of such research in South Africa. These informal interactions were the real reward for all who took part and it is hoped that similar trips may be arranged in future.

KAROO NATIONAL PARK FOSSIL TRAIL (9-14 DEC 91)

Acting on recommendations that I made in a report to the National Parks Board concerning the upgrading and expansion of the outdoor fossil display in the Karoo National Park, a team from the Department of Karoo Palaeontology spent a week excavating a large, 2 metre-long *Bradysaurus* skeleton on a farm near Beaufort West.

The skeleton was discovered by the farmer in 1975. A year later he showed it to a fossil collector working for the geological survey who then "robbed" the skeleton of its skull. After considerable persuasion the farmer agreed to let us lift what remained of the skeleton, transport it to the Park and display it on the Fossil Trail.

I have a cine film that was taken at the time of excavation and am now trying to trace the skull in the GSO stores. Hopefully I will be able to return the skull to its original owner for the benefit of the hundreds of visitors who walk the trail every year.

FIELD TRIP TO NATAL MIDLANDS (26-31 JAN 92)

Last year I was pleased to be made an Honorary Research Associate of the Marine Geoscience Unit at the University of Natal, in recognition of the collaboration between myself and Prof. Tom Mason.

In February this year we travelled to the Estcourt area of Natal to investigate a number of Karoo fossil localities that have recently been found by local farmers. Outcrops of Karoo strata in the Natal Midlands are rare, being mainly confined to run-off channels or dongas of limited lateral extent. Nevertheless, fossil bones have been found in these dongas and it was our task to visit as many localities as time would allow so as to stabilise and collect the fossils, plot the localities onto topocadastral maps and document the stratigraphic succession.

Able guided by Mr David Green, a local farmer/ naturalist, we spent four days in the dongas visiting all the known fossil sites. One site, known to us as McFie's donga, was strewn with segments of silicified tree trunks. Prof. Mason discovered fossil beetle borings in some of the logs which have eroded out of the Estcourt Fm. Preliminary investigation suggests that these could be the earliest recorded occurrence of wood-borers. Tom will be presenting these findings at this years PSSA conference.

Very large tusked dicynodont skulls, provisionally identified as *Dicynodon lacerticeps*, occur in argillaceous strata immediately above the Eccla/Beaufort transition in the Estcourt area. Similar fossils, although generally smaller, occur in the southern part of the basin around Graaff Reinet. However, here they are nearly 2000m above the Eccla/Beaufort boundary. This is a clear illustration of the diachroneity of the Eccla/Beaufort boundary in the main Karoo Basin.

It appears that the Estcourt Formation includes strata that are the time equivalent of the Adelaide Subgroup in the southern part of the Karoo Basin; more specifically, the upper Balfour Formation and the upper Teekloof Formation. This is based on the occurrence of latest Permian *Dicynodon lacerticeps* fossils in all these strata.

In the Natal Midlands the Estcourt Formation is only 400m thick and gradationally overlies subaqueous strata of the Eccla Group. It appears that this part of the basin only became colonized by terrestrial animals some 5 million years after the southern parts of the basin. The low diversity of fossils in the *Dicynodon/Therapsid* Assemblage Zone around Estcourt could reflect a peripheral community living outside the optimal habitat or perhaps a remnant fauna of the latest Permian that was in decline towards End-Permian extinction.

On the farm De Hoek, numerous skulls and skeletons of *Lystrorhina* were located in dark reddish-brown mudrocks above the remnant *Dicynodon lacerticeps* fauna. *Lystrorhina* is widely regarded as an early Triassic dicynodont and it is therefore likely that the De Hoek sections contain an uninterrupted record of the End-Permian mass extinction on land. A feature which is certainly worthy of more detailed investigation. To this end it is hoped that funds may be generated to support a student.

The field trip was funded through FRD research grant (RS) and the University of Natal.

COLLECTING TRIP TO THE SOUTHERN KAROO AND EASTERN FREE STATE (2-19 MAR 92)

This trip was organised to follow-up some of the potential vertebrate fossil collecting sites that I visited during the reconnaissance trip late last year. It was also intended to promote future collaborative research partnerships with Dr Bruce Rubidge and Prof James Kitching of the Bernard Price Institute at Wits University.

The Karoo Palaeo-team consisted of myself, Annelise Crean, Paul October and Harry Wright, a volunteer student from England. For the first week we were joined by Mike and Gail Strong who are enthusiastic Friends of the Museum. The first camp, beside a windpump on Blaukrans, some 40km east of Prince Albert, was rather crowded as we squeezed in beside Bruce Rubidge's BPI team under the only shade tree in the district. Four days were spent looking for fossils in an effort to establish the uppermost stratigraphic occurrence of *Eodicynodon* and the lowermost occurrence of *Diictodon*. Only three fossils were found but they prove that these two dicynodonts did co-exist and their biostratigraphic ranges do overlap.

The main camp of the trip was on the farm Maquatling in the Clocolan district. We were very fortunate in persuading James Kitching to join us for a week. His 20 years of experience in collecting from the dinosaur-bearing "red beds" of the Elliot Formation provided a constant stream of valuable and mostly unpublished information. I spent most of the time logging the sedimentology of the *Tritylodon* Acme Zone which is a 3-4m thick interval that has yielded all the fossils of this genus so far located in South Africa. The aim of this work is to explain why the stratigraphic range of *Tritylodon* is so short and how most of the specimens became fragmented before final burial.

Meanwhile the rest of the team walked the slopes in search of dinosaurs. Annelise found the star fossil of the trip being a complete and uncrushed skull of *Massospondylus*, one of the early dinosaurs whose fragile skulls are only rarely preserved. She is currently eagerly preparing her find. I collected one of several large balls of burrowed sandstone that could be fossilised termite nests from the Triassic Elliot Formation. If this origin can be confirmed they may prove to be the oldest termitaria that have been found.

No one can say that you have'nt been busy! - Ed.

ITS A GROUPY WORLD

Professor Tony Hall has revived his long-standing interest in the grouping process. Humanity has a powerful grouping sense that it is in continual use: reading, speaking, and listening to music are common examples where it works at millisecond speeds. In using the sense in any academic field, numerous factors affect the result. For instance, when tired the mind slides unknowingly into making stereotypes, faulty groups with simple labels, rather than using the full suites of properties which should influence the detection of natural groups. Classifiers well versed in their material take full account of external contexts which consist of the relatives of the items they classify. Groups made by the less learned are weaker for this lack of context. These and many other aspects need to be taken into account in understanding classification, especially when it comes to designing computer programs for making or detecting groups.

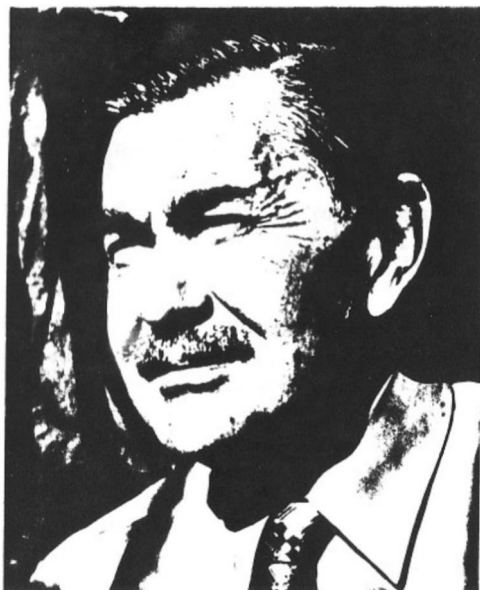
A crisis of lack of confidence is developing on computer methods. It is reasonable to expect that they should be able to resolve all kinds of groups down to the most delicate informational structures. In fact, most cannot: many cannot "see" these groups because coarse coding hides nuances in the data and informational distortions give unwanted biases. The standard computer grouping packages get the user to pick one of a large choice of resemblance tests which is then combined with some or other linkage method. Advice on these choices is at best thin. One author advocates: try many, they stimulate the mind! Some methods cannot detect the most common kind of natural group (polythetic) which despite having all its properties riddled with exceptions, is still easily detected by skilled classifiers.

Tony has termed this an appalling situation for such a basic process in all disciplines. He has set about constructing a unifying theory (Biological Journal of the Linnean Society 42: 425-456). He has written a high-resolution computer program that meets the terms of the theory. It has some two dozen jointly acting options to make it cope with a wide variety of data. The program is large, 150 pages of Fortran code, but it fits into a basic microcomputer. Here, for 100 items it takes 50 minutes to group them and to test the quality and distinctions of each cluster; the same data were processed by it in a third of a second in a minicomputer. Palaeontologists are all compulsive group makers and Tony would like some data sets to use with the program. The quality tests that go with the groups are fascinating and lends a great deal of interest to the results.

Correspond with Prof. Tony Hall at the Bolus Herbarium, University of Cape Town, Rondebosch, 7700.

(Fax 021 650-3726, E-mail avhall@uct.ac.za).

OBITUARY
Alun Rhun Hughes



Alun was born at Red Wharf Bay, Anglesey, North Wales on 16 July 1916 and died in Johannesburg on the 23 April 1992., only four months after his retirement from 44 years of anatomical and palaeontological employment in the Anatomy Department of the University of the Witwatersrand. Despite his recent bouts of severe illness Alun was not ready to retire. Were it not for his failing health he would have continued his twice-weekly visits to his site of Sterkfontein - just as he had for the past 25 years. During that time, he transformed the small, rubble-strewn and overgrown quarry into an extensive, neat and visually-appealing excavation site and place of pilgrimage for palaeoanthropologists and other visitors from all over the world. They came to see the vast excavation that Alun had supervised and to hear him talk of his latest discoveries and theories about numerous early hominid fossils he had unearthed. They would listen to his opinions drawn from a wealth of technical expertise and familiarity with fossils sites and personalities. They would hear him reminisce about the old days with Prof. Dart in the Anatomy Department, about Dr. Broom, about fossil hunting days at Makapansgat and about Alun's research into bone-collecting and modifying habits of porcupines and hyaenas, about people and events long gone. Now Alun too has gone and we will miss him, his friendship, his humour, his experience and his conversations but we will not forget him for he too, like the fossils he found, was a link with an eventful past.

R. J. Clarke

Palaeoanthropology Research Unit : Medical School, Wits University.

PALAUVER

Janette Deacon (National Monuments Council)

In reply to the anonymous comment about the National Monuments Council published in the December 1991 issue of PalNews, the following may be of interest.

The National Monuments Council is responsible for issuing permits to anyone wishing to "destroy, damage, excavate, alter remove from its original site or export from the Republic" any fossil or palaeontological finds, material or object. Applications received are mailed for comment to members of the Council's Science Committee and if no objections are received, the permit is issued after two weeks. In cases where a permit is needed sooner, the secretary will telephone or fax Committee members for their views. In all cases, however, the final responsibility for issuing permits rests with the Council, not with an archaeologist as claimed by 'Anon'.

The Chairman of the Science Committee is a professional geologist, Johan Loock, who has had some palaeontological experience, and the Committee includes vertebrate palaeontologist Mike Raath. Both the Council and its committees serve 5-year terms, the current term dating from July 1989.

It is by no means an unreasonable suggestion and it would indeed be possible to send applications to a nominee of the PSSA for comment. This was in fact done before a palaeontologist was invited to serve as a member of the Committee. If the PSSA members would like such a system to be re-introduced, they could propose that their Council write to the NMC and request it.

From Academic Standard-92

The first record of the existence in Africa of the *Bqthriolepis* genus of fish - a primitive armour-plated species dating back at least 360m years - has been made in Grahamstown.

A Fish Called Bqthriolepis:

Armour-plated Species is Only 360m years Old

Fossils of the fish were found by members of Rhodes University Geology Department in a black shale that had been intersected by the construction of the Grahamstown bypass.

"The discovery of the fish, which lived in the late Devonian period, has filled a gap in the known distribution of this genus. It was previously known from many parts of the world, including Australia and Antarctica, which formed the eastern part of the supercontinent that broke up during the Cretaceous peri-

od between 65 and 135m years ago," according to Associate Professor N Hiller in the Rhodes Department of Geology.

The discovery of the unusual fish sheds new light also on what comprised South America and Africa and the original western Gondwana.

"Although the preservation of the fish is not very good due to deformation and structural changes in rocks, Australian experts have confirmed the identification of the fish," said Professor Hiller.

"The black shale, a mudstone type of rock in which fossils were found, suggests that the fossils were deposited in a coastal lagoon and the colour of the sediment suggests that the lagoon was fairly stagnant. It appears, from the surrounding sandstone, that the fossils were deposited in a barrier island complex," said Professor Hiller.

Along with the fossils of the *Bqthriolepis*, fossils of two other fish - a lung fish and possibly a very primitive shark - were found, as well as indications that there may be a fourth type of fish.

The fish fossils were found among fossils of plants some of which have previously not been recorded in South Africa.

"If our identification is correct, one of the plants is the first record of the *Archaeopteris* genus in South Africa. The other fossils could be completely new to science as we have not seen anything like them in published literature and we are looking for guidance overseas," said Professor Hiller.

CLASSIFIEDS**WANTED: EDITOR FOR PALNEWS**

Job description - Get contributions in the form of "news" from unwilling members (the willing ones are not a problem!). **Qualifications** - none except loads of determination and heaps of persuasive ability.

Benefits - Job satisfaction.

One nomination has been received already: Dr. Billy De Klerk, Albany Museum, Grahamstown. Any other applications or nominations? Contact: The Secretary, Dr. Francis Thackeray, Transvaal Museum, P O Box 413, Pretoria, 0001.

MEETING

7th Biennial General Meeting of the PSSA, Johannesburg.

Members are invited to submit items for inclusion in the agenda of the BGM. Write to: The Secretary, Dr. Francis Thackeray, Transvaal Museum, P O Box 413, Pretoria, 0001.

FORTHCOMING CONFERENCES

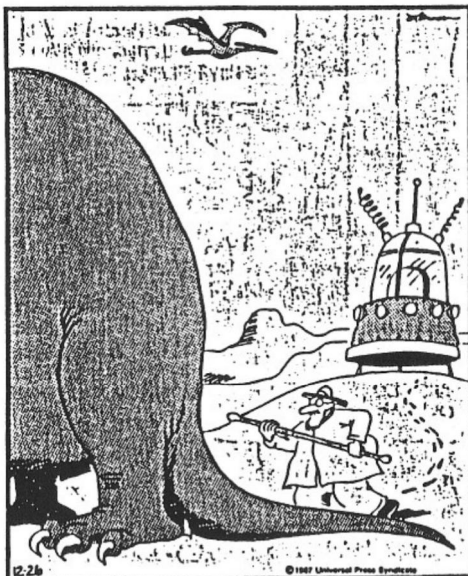
Society of Avian Palaeontology and Evolution Conference
21-27 June 1992, Frankfurt, Germany.

North American Palaeontology Convention
1-3 July 1992, Chicago, USA.

8th International Palynology Congress
6-12 September, Aix-en-Provence, France.

52nd SVP Meeting in Toronto
28- 31 October 1992, Toronto, Canada.

40th Symposium of Vertebrate Palaeontology and Comparative Anatomy.
15-19 September 1992, Bristol, U.K.



An instant later, both Professor Waxman and his time machine are obliterated leaving the cold-blooded/warm-blooded dinosaur debate still unresolved

