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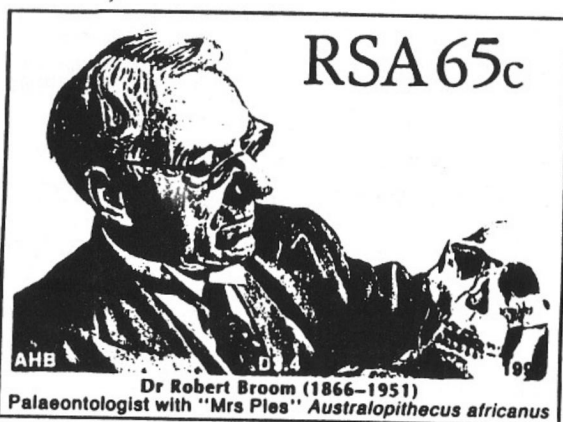


PAL NEWS NUUS

Biannual Newsletter of the Palaeontological Society of Southern Africa
Halfjaarlikse Nuusbrief van die Paleontologiese Vereniging van Suidelike Afrika

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Editorial

Thank you to all contributors who have made this issue of PALNEWS possible. It was rather short notice but nevertheless I have managed to put together something for you.

Organisation of the PSSA Conference is well underway and I trust that most members are going to attend. It should be a great success.

Best wishes to all for a Happy Christmas and a wonderful New Year.

May 1992 bring you much Palaeontological pleasure.



Anusuya Chinsamy
Editor

News from Bob Brain, Transvaal Museum

Coming back to Life!

A while back I realised that I was becoming something of an authority on the depressing taphonomic themes of death, disintegration and fossilisation and that this was hardly an encouraging note on which to end a scientific career! For ten years or so I have indulged in the rather eccentric hobby of carrying a microscope around the country, setting it up near a spring or puddle and photographing the microscopic lower invertebrates found in the water. This inevitably led to a contemplation of the origins of multicellularity and it dawned on me that a study of ways in which the simplest metazoans put themselves together is a perfect antidote to the morbid taphonomic issues that had preoccupied me for so long. So quite rapidly a recreational hobby became a serious scientific occupation and, on retiring from the Transvaal Museum directorship, I have now become Curator of Lower Invertebrates with time and facilities to look closely at the simplest metazoans. My main preoccupation is with living rotifers, as they are appealing animals, little-known in southern Africa, with a fixed and manageable number of cell nuclei and no mitotic division in the mature animals. They are therefore intriguing simple metazoan models.

It is all very well to speculate about the origins of multi-cellularity on the basis of extant animals, but a detailed fossil record is highly desirable if the actual course of evolution is to be charted. So, spurred on by the encouraging comments of Bill Schopf, I have started to look seriously for microscopic lower invertebrate fossils, particularly rotifers, in suitable southern African rocks. It seems likely that black and glassy stromatolitic cherts are the most hopeful sediments, such as occur in the PreCambrian dolomites, though rather younger sediments, - Cambrian or later - would really be ideal.

I have recently had the pleasure of spending a few days in the eastern Free State in the company of Johann Welman, Bruce Rubidge, James Kitching, Roger Smith and Gideon Groenewald, who were looking at fossil localities there. I was particularly interested in the sediments of a playa lake, pointed out by James in the upper Elliot Formation near Ladybrand. Some of the silicious nodules there look suspiciously like algal pads, and when we have

sectioned them, we will know for sure. One thing is certain - this search for soft-bodied microinvertebrate fossils will take a lot of section-grinding. Fortunately my wife Laura seems to have a particular aptitude for such work and she will be in charge of that side of things.

Finally, an appeal! If anyone knows of cherty stromatolites, or other algal structures, in any rocks younger than the Transvaal dolomite, won't you please let me know at the Transvaal Museum? You might get a fossil rotifer named after you.

News from Bruce Rubidge, BPI (Palaeontology)

In the previous issue of Pal News I reported a field trip undertaken to the lowermost Beaufort around Laingsburg together with James Kitching, John Nyaphuli, Mike Raath, Roger Smith, Annelise Crean and Paul October which, despite the numerous keen eyes, delivered disappointingly few fossils. We have prepared some of these and I am pleased to report that *Eodicynodon* is alive and well around Laingsburg. So far this is the most westerly occurrence of this primitive dicynodont and spreads the lateral boundaries of this biozone. The search will continue!

In November I had the good fortune to get into the field again when Johann Welman and Johan Looek organised a most instructive 10 day field excursion to the Middle and upper Beaufort, as well as the Molteno Elliot and Clarens Formations in the Eastern Free State and Border areas. Apart from the two Johans, the was also attended by James Kitching, Roger Smith, Gideon, Sue and Patricia Groenewald, and at a later stage by Bob Brain. Apart from increasing my repertoire of humorous tales, having been in the company of Johan Looek who has a mind for trivia, we saw and learnt a great deal, and visited many of James Kitching's old haunts. Thank you to the Bloemfontein Johans for a most rewarding experience.

The first biostratigraphic proposal of SACS, that of the Beaufort Group which I am editing, is finally reaching completion with the assistance of the contributing authors James Kitching, Roger Smith, Andre Keyser and Gideon Groenewald and will be submitted for publication early in the new year.

Jim Hopson and I are in the final stages of preparing a description of the skull and postcranial material of *Patranomodon* from the *Eodicynodon-Tapinocaninus* Assemblage Zone, which we consider to be the most primitive anomodont known.

Over the past few months the staff of the B.P.I. have benefitted from the visits of several overseas palaeontologists. In October Patrick Spencer and David Gower (University of Bristol) spent 3 weeks at the Institute looking respectively at procolophonid and erythrosuchid material before moving south to Bloemfontein and Cape Town. A month later Michael de Braga, later joined by his supervisor Robert Reisz (University of Toronto), also came to study procolophonid and other anapsid material in their quest to determine the interrelationships of the parareptiles.

FESTSCHRIFT FOR ALUN HUGHES

Volume 28 of *Palaeontologia africana* produced under the editorship of Jeff Mc Kee has just appeared. This volume is dedicated to Alun Hughes to honour his great contributions to palaeoanthropology over 42 years, and contains contributions from many leading palaeoanthropologists. Copies can be ordered directly from the B.P.I. (Palaeontology).

BIOSTRATIGRAPHIC PROPOSALS FOR SACS.

The South African Commission for Stratigraphy aims to publish biostratigraphic proposals for all sedimentary deposits in South Africa, and these will be updated as work progresses. Various palaeontologists and geologists involved in biostratigraphic research in this country have been approached by SACS to submit proposals.

This is an important task, as there is much work that has already been done in this regard but has never been written up as a biostratigraphic proposal. Should you be in a position to submit a proposal for any sedimentary succession, contact Colin Mac Rae (secretary of the Biostratigraphic Task Group of SACS), Geological Survey, Private Bag X112, Pretoria, 0001.

The first biostratigraphic proposal, that of the Beaufort Group, is nearing completion and should be published early in 1992.

News from Francis Thackeray, Transvaal Museum

Growth Lines in *Diictodon*

At the Sixth Biennial Meeting of the PSSA, held at Golden Gate in September last year, I presented a paper dealing with remarkable growth lines found in sectioned teeth of *Diictodon* and modern crocodiles. Measurements of such increments (resembling tree rings) were presented at the PSSA conference. These have since been published in a recent issue of *Koedoe* (Thackeray, 1991).

During question time at the PSSA conference, I was asked how fast these growth lines might have grown. In reply I said I had no idea, but suggested that they could perhaps be daily increments (daily growth lines had previously been found in mammals and corals). I mentioned that experiments could be done with crocodiles, using tetracycline to label lines at known intervals, to determine the time interval associated with each growth increment. The suggestion of **daily** growth increments in crocs and *Diictodon* was greeted with disbelief. Murmurs of "**preposterous**", "**absurd**", "**agneewat**" pervade the conference room.

To my amazement, at the conference dinner I was presented the Order of the Boot, evidently for presenting a paper that was **too difficult to believe!** Ironically, I was on the committee that decided who should have the dubious honour of receiving that distinction, and when we had met, the decision had been made to present it to Andre Keyser. But my fellow committee members, Bruce Rubidge et al, had quietly reached a decision on their own. They awarded the Order of the Boot to me for what I had suggested only in question time, concerning the **possibility of daily growth increments** in reptiles, extinct or extant.

Now hear this! In the September issue of the *Journal of Vertebrate Palaeontology*, Gregory Erickson announces the results of his studies on such growth increments:

"Through tetracycline labelling of both wild and captive alligators in Louisiana, it was determined that incremental lines (sensu von Ebner) in alligator dentine are **daily depositional features**. These incremental lines were also found in extinct crocodilians, as well as in dinosaurs. By using incremental line counts of thin-sectioned teeth, the number of days to produce a single tooth can be determined. The rate of replacement can be ascertained by similar examination of the intact tooth rows Information and techniques developed in this study have implications for all polyphyodont animals (reptiles included)".

This work by Gregory Erickson (1991) happens to coincide closely with a collaborative research project that involves the Department of General Anatomy at the University of the Witwatersrand (Professor Beverley Kramer, Dr T J M Daly and Dr G Tomadakis); Anusuya Chinsamy and Chris Gow of the BPI (Palaeontology); Francois Durand (Geological Survey); Professor Gerrie Smith (Pretoria University), in addition to myself at the Transvaal Museum. We are planning a series of experiments with crocodiles at different temperatures and different diets. Tetracycline will be used for labelling purposes.

We may now expect to find that the growth increments in modern crocodiles are daily. But of greater interest still is the potential of applying this kind of analysis to Karoo fossils

I look forward to the next PSSA conference, when the Order of the Boot will be booted back to Bruce Rubidge et al. I already sense the sweet taste of revenge.

References:

- Erickson, G. 1991. Rates of tooth replacement in dinosaurs and biodiversity implications using incremental lines in dentine. Abstracts of paper presented at SVP conference, October 24-26 1991. **Journal of Vertebrate Palaeontology** 11,3. Abstracts, p.27.
- Thackeray, J.F. 1991. Growth increments in teeth of Diictodon (Therapsida). **Koedoe** 34: 7-11.

Recipients of the Order of the Boot

Just for the record, we need to identify previous recipients of the Order of the Boot, since its inception. All those who have been give this dubious Honour are asked to write to Anusuya Chinsamy, BPI (Palaeontology) University of the Witwatersrand, P/Bag 3, P O Wits ... 2050.

News from Anusuya Chinsamy, BPI Palaeontology.

The second half of 1991 has been rather hectic for me. Just before leaving to Europe I had a lectures, and preparation for my overseas trip to handle. And then in August, it was off to Europe for the "Mesozoic Terrestrial Ecosystems and Biota" conference in Norway, and the "39th Symposium on Vertebrate Palaeontology and Comparative Anatomy" in Oxford, England. At these meetings I presented three papers from my recently completed PhD studies and am glad to say that I got a good response to them. The papers at both meetings were of a very high standard. Particularly interesting were papers on isotope biogeochemistry of dinosaur bone indicating diets and scanning electron microscope analysis of dinosaur teeth and eggs.

For me, the highlight of the post conference excursion of the "Mesozoic Terrestrial Ecosystems and Biota" meeting, was the visit to the Cretaceous-Tertiary boundary at Stevns Klint, on the east coast of Zealand, about 40Km from Copenhagen. The so-called fish clay which abruptly follows the grey chalk layer, has a high concentration of iridium and investigations of the boundary profile has led to a diversity of explanations for this. Other localities visited were mainly plant and marine invertebrate localities in Southern Sweden and Northern Denmark.

Whilst in Europe I spent two weeks in Prof. Armand de Ricqlès' Laboratory of Comparative Anatomy at Paris VII University. Here, many hours were spent talking "bone histology" to researchers in the department and I was able to learn some the techniques that are being employed there. In France I visited the Dordogne Valley which is renowned for the Cro-magnon cave localities. I visited several of the caves in the area. It was a dream come true to visit the original Lascaux, which I had always wanted to do ever since I heard about it. Every cave I visited I was so impressed by the artistic

ability and skill of the artist and sculptures, but Lascaux was by far the most impressive. I was absolutely awe struck by the beauty and magnificence of the paintings in this cave. This should certainly be a must on anybody's itinerary in France!

In England, I had the opportunity of meeting Robin Reid, a leading bone histologist, previously of Queens University Belfast (now retired). Here too, I broadened my knowledge of bone histology. Needless to say, the trip was well worth it in more than one way!

News from Chris Gow

I have recently prepared a superb skull and partial postcranial skeleton of a protosuchian crocodilian. I am now convinced that all published protosuchians are referable to *Protosuchus c.f. richardsoni* Brown. The barrier to this understanding has always been *Orthosuchus*, but it is now obvious that Nash's reconstructions are impossibly wrong. I want to confirm this with the specimen as early as possible in the New Year.

It is interesting that Alick Walker has retracted his retraction and once more sees crocs as the sisters of birds. Apparently *Archaeopteryx* may be a theropod derivative but fine feathers do not necessarily make birds.

My paper on cynodont/mammalian prootic canals has just come out in *S. A.J. Zool.* 26 (3): 140-144.

News from M. Eric Anderson, J L B Smith Institute of Ichthyology, Grahamstown.

In the July 1991 PALNEWS I was introduced by Norton Hiller of Rhodes as helping in the identification of fossil fish specimens from a site outside Grahamstown. Since then I have joined the PSSA and feel I should broaden my introduction to the Society.

In 1989 I joined the staff of the Smith Institute, immigrating from my native California to undertake a program in systematics and biology of deep-sea

fishes. Even as a kid back in the western States I was interested in palaeontology, particularly of the Mesozoic and Palaeozoic, and studied mainly the latter for classes I gave before coming here. But our oldest fish-bearing rock in the west was Cretaceous. Imagine my surprise to find a fish bearing formation not 300 meters from my home here that's Devonian in age! Soon I began to ask around and decided it was time to rejuvenate fish palaeontology in S A and have opened a file on localities and specimens in order to re-occupy some of the incompletely collected type localities, especially in the Karoo. So far my time budget for the next few years looks a bit tight for field trips, but I've had help these last two years from many people. I would appreciate hearing from any members knowing of fish fossil sites not recorded in Jubb and Gardiner (1975: *Ann. S A Mus.* 67(11)), a catalogue of all known specimens up to then.

Our site outside town is Witteberg shale that is fairly loosely compacted, does not fracture well, and the fossil material is re-mineralised with kaolinite. So it is delicate to handle and fish remains are not well preserved. Still we have excavated the following : 10 a parasphenoid of an unknown lungfish (when all species were marine reef dwellers) and hundreds of presumed lungfish scales; 2) miscellaneous head and trunk shields of the antiarch placoderm *Bothriolepis* (first record for Africa of this species, cosmopolitan genus); and 30 a very tantalising chondrichthyan that is very shark-like on the one hand and sort of chimaera-like on the other. It is nearly complete but there are no teeth which would've helped immensely. Now that the weather is turning for the better I'll be out more often and hope to report some progress at the dig next year.

News from, James Brink and Johann Welman, National Museum, Bloemfontein.

An interesting bone occurrence from Maselspoort, O.F.S. and other news from Bloemfontein.

About six months ago a schoolboy, Franscois Henning, discovered a cluster of mammalian bones in an alluvial bank of the Modder River. On closer inspection this turned out to be the well-preserved remains of a black wildebeest, which at first appeared to belong to one individual. However,

we continued to collect these remains as they eroded out and it soon became evident that more than one black wildebeest are represented. A number of limb-bones were still articulated, suggesting that the bones were deposited with the skin still in place. The lack of carnivore damage further suggests that these remains were suddenly covered by sediment at the time of deposition.

This seemed to have made sense until we discovered a virtually intact human skull among these wildebeest remains. The only damage to the skull is slight distortion by postdepositional sediment compaction. The presence of the lower jaw in its natural position supports the idea that these remains were deposited in a fresh state. The question, however, is the origin of these remains. What is the explanation for a cluster of articulated wildebeest remains in the company of a human skull with the lower jaw still attached?

There are more of these remains *in situ* and they are being collected as the bank erodes further. An areal excavation may be considered, but this depends on how far this occurrence extends into the mud bank, as the bone length is almost two meters below the surface. A further point of interest is the prominent supra-orbital ridges on the human skull, which is normally considered to be an archaic feature. However, the skull seems not to differ much from other bushman skulls in our collections and we must wait for an expert opinion. Of course, the material needs to be dated and hopefully there will be enough organic material left in the bones to allow carbon dating. In the meantime the skull is on display in the National Museum, after which it will be restored and further studied.

Some time ago during a combined fieldwork excursion with Johann Welman, Gideon Groenewald we discovered vertebrate burrows in the northern part of the *Cynognathus-Diademodon* Assemblage zone. In November, more of this extensive and very well preserved burrow system were exposed with the help of John Nyaphuli and Joël Mohoi of the National Museum. Fossils that were found in these burrows are being prepared at present.

In the beginning of November, Johann Welman and Johan Looek were accompanied by James Kitching, Roger Smith, Gideon Groenewald, Bruce Rubidge and Bob Brain on an exploratory trip of the upper part of the Karoo

Sequence. The first two mentioned Bloemfonteinised Graaff-Reinetters are organising a post Geocongress '92 tour of the northwestern Cape and eastern Orange Free State at the beginning of July 1992. This tour promises to be very interesting to sedimentologists and palaeontologists alike. The tour will last five days and will include a closer look at the stratigraphy, sedimentology and palaeontology of the *Lystrosaurus- Procolophon* Assemblage -zone, *Cynognathus- Diademodon* Assemblage-zone, Molteno, Elliot, Clarens and Drakensberg Formations. For more information, contact Johann Welman at the National Museum.



From left to right: Joël, Johann and John at the burrow excavation site.

News from Barry Millstead, Geological Survey (Palaeontology Section)

Life continues to roll on in Pretoria and we are all looking forward to the Christmas break, in short it's been a very long and extremely full year for every one in the section.

As you will all be aware by now, a great deal of our year was taken up with the organisation of Fossils 2000, and the associated formation of the South African Association for Amateur Palaeontologists (S.A.S.A.P.). Both of these events turned out to be resounding successes. The enthusiasm, drive, interest and total commitment to the responsible study of fossils (as exhibited by the amateurs) has had to be seen to be believed. We look forward with great anticipation to the contribution that the members of S.A.S.A.P. will undoubtedly make to the study of palaeontology in South Africa, and to their close association with and acceptance by, the members of PSSA.

We would also like to announce that we have a new member of staff. Dr John Almond has joined us from Cambridge University and will be working with Hannes Theron in Cape Town. John is a fundi on Palaeozoic invertebrates and trace fossils, and will be working on the palaeontology of the Cape Supergroup.

Everyone continues to work hard on their research projects, and these remain unchanged since the last news letter.

News From Heidi Fourie, BPI (Palaeontology)

Having just completed my M.Sc on the detail description of the skull of Emydops I have now delved into PC File and its application for cataloguing fossils. The study of the internal structures of Emydops has come up with some interesting new facts. It was possible to describe the tooth replacement, speculate about the paths of blood vessels and nerves and to describe the sphenethmoid and palatoquadrate complexes as well as the basicrania. The Institute is now using PC File to catalogue its huge fossil collection. PC File is used, because of its powerful search facility. The database will, when finished, consist of the vertebrates, plants, mammals and invertebrates. My job has been to install the program, set it up and write a

print report. The first stage of this mammoth task of entering data is complete and the Karoo vertebrate section is ready for use.

From exam answers...DID YOU KNOW?

A large reptile is able to feed on a rat for two months.

Broom discovered a skull at Swartkrans which he called *Plesiomorphis*.

Bipedal animals are more prone to wind.

Some therapsids have post skeletal modifications.

PALAUER

Isn't it time for a VP on the NMC?ANON

The event which precipitated the following suggestion can and no doubt will be discussed in private. However, in essence I find it unsatisfactory that an archaeologist has the final responsibility for issuing permits for the export of vertebrate fossils, and that such permits are issued without exhaustive consultation with workers in the field concerned (not just administrators). Could the PSSA not insist that a VP be coopted onto the NMC on an entirely voluntarily basis, and that this duty rotate between scientists and institutions biennially? It would be the function of such a person to liaise with all workers in the relevant field (personally) to ensure that no unique and valuable (and definitely no unprepared) material leaves our shores. Such a person could also be required to submit a report at PSSA meetings.

IS THIS AN UNREASONABLE SUGGESTION?

Doodsberig van Dr A S Brink

Dr Adrian Smuts Brink is op 12 September 1991 oorlede.

Hy is op 20 Februarie 1924 in die Paarl gebore. Hy het sy BSc in 1944 en sy MSc in 1946 by die Universiteit van Stellenbosch voltooi en het sy PhD in 1949 by die Universiteit van London voltooi.

In 1949 was hy deur die Univeriteit van die Witwatersrand aangestel om te help met die grondlegging van die nuutgestigte Bernard Price Instituut vir Paleontologie en was die Assistent-direkteur daarvan vanaf 1953 tot 1966. Hy was verantwoordelik vir die uitbreiding van die instituut en ook vir die verkryging van die Douglas Smit Huis, waar die Instituut vir baie jare gehuisves is. In 1952 skep hy *Palaeontologia africana* wat as jaarlikse joernaal van die BPI (Paleontologie) sou dien.

Hy het in die laat vyftiger jare bygedra tot die stigting van ISMA. Hy was benoem as lid van die S A Akademie vir Wetenskap en Kuns in 1962. Dr Brink was in 1963 die eerste Suid-Afrikaner wat die Linnaeus Medalje van die Koninklike Sweedse Akademie van Wetenskappe verwerf het.

Vanaf 1969 tot 1973 was Dr Brink die Direkteur van die **Museum of Man and Science**. Dr Brink was 'n lid van die Carnegie Corporation of New York en het dikwels uitnodigings van oorsese instansies ontvang. Hy het paleontologiese instansies, museums en universiteite in die VSA, Kanada, die Sowjet-Unie en Europa op uitnodiging besoek en by sommige lesings gegee.

Vanaf 1977 tot 1989 was Dr Brink in die diens van die Geologiese Opname waar hy die **Illustrated Catalogue of the Synapsida** geskep het.

Dr Brink was 'n man van vele talente. Bo en behalwe dat hy 'n besonderere palaeontologiese bydra gelewer het ten opsigte van die beskrywing van die soogdieragtige reptiele, was hy die redakteur van twee van Credo Vuzamazulu Mutwa se boeke **Indaba my Children** en **Africa is my Witness**. Hy was ook 'n kunstenaar en 'n taalkundige by uitnemendheid.

Dr Brink se heengaan is 'n tragiese verlies vir die akademiese wêreld en vir die paleontologiese gemeenskap in besonder.

Other Obituaries

Professor Beveley Halstead, of the the University of Reading, lately of Bath, was killed in a tragic motor accident earlier this year.

Professor Walter Kune, Berlin, passed away on March 16, 1991.

PSSA CONFERENCE : 7 to 13 September 1992

BPI (Palaeontology)
University of the Witwatersrand
Private Bag 3
WITS
2050

Call for Papers - deadline - **30 January 1992**

Abstract of Paper\Poster - deadline - **30 April 1992**

Excursions:

1. Sterkfontein and Kromdraai
2. Makapansgat

PALAEONTOLOGY AND PHILATELY

Dinosaur stamps

In July 1841 Professor Richard Owen, coined the term dinosaur ("terrible-reptiles") for a lecture he presented to the British Association for the Advancement of Science. This year to celebrate the 150th Anniversary of the name dinosaur, the British Royal Mail, published a series of stamps of dinosaurs.



di'nosaur s.

ROYAL MAIL FIRST DAY COVER

Richard Owen



Note: A recently published book on "Dinosaur Stamps of the World" by Stewart Baldwin and Bev Halstead, is available if anyone is interested.

Robert Broom stamps

As part of a series of stamps honouring some of South Africa leading scientists, a 65 cent stamp depicting Prof. Robert Broom with the skull of *Australopithecus africanus* (Mrs Ples) was issued on 9 October 1991. A function was held at the Transvaal Museum to mark the first day issue of the stamp.

Special first day covers produced by the Transvaal Museum are available from Francis Thackeray at a cost of R10,00. Proceeds will go towards Palaeontological research.



Prof. Steve Fourie Retires.....Gideon van der Linde, National museum, Bloemfontein.

Prof. Steve Fourie is retiring at the end of 1991 after 28 years at the Zoology Department of the University of the Orange Free State in Bloemfontein. He began working as a palaeontologist at the National Museum in October 1957 where the post had been vacant since Dr. A W (Fuzz) Crompton left to take up the post of Director at the SA Museum in Cape Town. The salary attached to the post was 660 Pounds (R1320) per annum! He was one of the only three scientific staff members including the director Dr. A C Hoffman. At the time he was working on a doctorate project on the South African cynodonts. This project started at the University of Stellenbosch with a detailed study of the hedgehog (*Erinaceus europeus*) head, especially the skull and jaw muscles and their nerve and blood supply, which was to serve as orientation for the study of the cynodont skull. A set of slides with a

complete serially sectioned head of a late embryo provided by Dr. Angus d'A Bellairs was the basis of this study which resulted *inter alia* in the construction of a wax model of the skull. This was followed by a study of a number of *Cynognathus* skulls at the SA Museum in the fossil shed where Dr. Boonstra also worked and had his office.

In spite of many stories about Boonstra being a very difficult person, Steve found this doyen South African Palaeontologist a most kind and helpful man with many a joke and anecdote, and received from him a large collection of reprints of his many papers on the lower Beaufort forms on which he specialised. Steve accompanied him on field trips as another enjoyable part of his training.

On coming to the National Museum, Steve initially continued investigating *Cynognathus* skulls at his institution and at the Albany Museum in Grahamstown, but also started on what was to become the main part of his doctorate thesis i.e. a study of *Thrinaxodon* skull using the grinding technique to make sections for the detailed graphic and wax reconstructions, and a study of tooth replacement in *Diademodon* based on a large number of jaws and jaw fragments in the National Museum.

In between there were field trips with Dr. Crompton, of the SA Museum and, Dr. Griff Ewer of Rhodes. Those who had the privilege of knowing her will know what a wonderful character she was, and what a sharp brain she had. One of these field trips resulted in the discovery of a "nest" of nodules with skulls of *Trirachodon* of all sizes at Winnaarsbaken and on the same or another trip the first specimen of the small anomodont that Nic Hotton later described as *Kombuisia* was found in the *Cynognathus* zone at Waterval near Burgersdorp.

At the end of 1960, Steve went to the New University College of Zululand as Senior Lecturer, where he initiated the Dept. of Zoology. During 1962 he came back to the National Museum. Here, he remained until 1964 when he became Senior Lecturer in the Dept. of Zoology at the University of the OFS. Due to the smallness of the department at the time it gradually became evident that all forces would have to be consolidated in a unified research effort that could generate external funds and the likelihood of jobs for senior students. Palaeontology, therefore, had to take a back seat to freshwater

studies on fish and invertebrates (because the Orange River Project had materialised) and later mosquitoes.

However, on returning from Zululand he took the opportunity to investigate two blocks of Clarens Sandstone with the mould of a skeleton. These had been collected some twenty years earlier by Dr. van Hoepen, a former director of the museum who is especially well known for his work on the Zululand ammonites, but they never received further attention from him or anybody-else. Dr. Ned Colbert on a visit to South Africa saw the specimens and suggested that latex casts be taken to determine the nature of the fossil of which the skull was largely hidden in one of the blocks. Even the first unsatisfactory latex cast revealed that it was the complete articulated skeleton of a very big tritylodontid. At that time the complete tritylodontid inventory in the whole world was fragmentary and limited, unlike today, when we now have a large assortment of beautiful new material from this country, the Kayenta beds in the USA and from China.

Finally in March 1964 Steve received a D.Sc. from Stellenbosch University for a thesis titled "Cynodonts of the Lystrosaurus, Cynognathus and Molteno zones" under Dr. Elsabe Malan and Dr. A W Crompton, then Director of the South African Museum in Cape Town who left soon afterwards to become Head of the Peabody Museum at Yale and later of the Museum of Comparative Zoology at Harvard where he succeeded Prof. A S Romer. The late Dr. A S Brink and Prof. F R Parrington were the external examiners.

Although in the seventies and early eighties palaeontology could not receive prime attention in research at the Zoology Dept. of the UOFS, senior students who expressed an interest in doing postgraduate work on the vertebrate fossils were accommodated. These included Isabel Eloff, who did an M.Sc. study on *Nanictosaurus*, for which she received honours and then continued with a doctorates study on the skeleton of a melanosaurid dinosaur. Maurits van Rooyen, a biology teacher, was another student. He did a part-time MSc. study on the skeleton of the Gorgonopsian *turvus*. Johann Welman, who succeeded Dr. Bruce Rubidge at the National Museum, is still busy with a doctorate on the evolution of the crocodilian skull.

On retiring Steve now hopes to soon complete the several manuscripts among them some on the tritylodontid and the gorgonopsian, lying on his desk, in various stages of completion.

CLASSIFIEDS

Hatches

Congratulations to Marion and James Bamford, who have a lovely daughter named Claire, sister for Olivia.

Matches

Congratulations to James and Marianne Brink who tied the knot in March this year.

Congratulations also to Jeff and Jean McKee who married earlier this year.

Conferences

7th Biennial Conference. Sept. 7-13. BPI Palaeontology.

Enquiries: Organising Committee, PSSA Conference '92
 BPI Palaeontology
 University of the Witwatersrand
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Thieves steal one-ton 600-m year rock

ADELAIDE. — Thieves have stolen a one-tonne 600-million-year-old rock imprint of Australia's prehistoric past which was hidden deep in isolated mountain ranges north of here, South Australian state museum officials said yesterday.

The huge slab of quartzite rock, which contained the clear impression of a rare fossil, has disappeared from its remote home in the Flinders Ranges National Park, Mr Neville Pledge,

the museum's fossils curator, told reporters.

The specimen, a seapen (*Charniodiscus arboreus*) between 590 and 630 million years old, is a relative of modern corals and jellyfish.

"It was a very calculated theft and would have taken several people highly skilled in their art to remove the specimen from the very rugged terrain," Mr Pledge said.

"They apparently removed it without shattering the specimen and car-

ried it about four km down a narrow track to the road," he said.

It had probably been sold overseas, possibly to a collector or museum through a small, lucrative international black market, Mr Pledge said.

The worldwide fossil black market seems to be expanding, with some museums offering very high prices for rare specimens, he said. Rare fossils could fetch up to 300 000 Australian dollars (R667 000). — Sapa/Reuter.