

ISSN 0379-9336

PAL NEWS NUUS

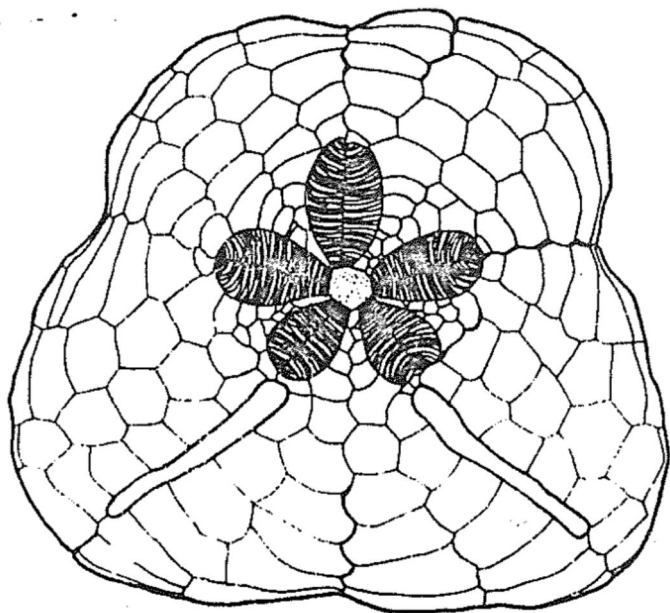
Biannual Newsletter of the Palaeontological Society of Southern Africa

Halfjaarlikse Nuusbriëf van die Paleontologiese Vereniging van Suider Afrika



Vol./Band 4 (2)

Jul 1985



New Echinodiscus species?

(see p. 2)

CONTENTS – INHOUD

1. Editorial
2. A new echinoderm from the Tertiary Alexandria Formation
by W.J. Smuts
3. News from members
4. General Interest
5. Letter to the Editor
6. Obituary : Dr. T.H. Barry

Pal News is printed by the University of the Witwatersrand and published by the Palaeontological Society of Southern Africa for its members. The views expressed are not necessarily those of the Society or its Officers.

Editor:

*M.A.Raath
BPI (Palaeontology)
University of the Witwatersrand
1 Jan Smuts Avenue
Johannesburg
2001
RSA*



Taung 60,
Taung 65,
Taung 70,
Taung 75,
Taung 80...

EDITORIAL

Taung Diamond Jubilee Symposium — "The Old Man's Boy Grows Old"

Forgive the plagiarism from Robert Ruark, but the title seemed to fit the spirit of the occasion. I refer to the great palaeontological happening of 1985 — the colossal jamboree in January/February to mark the Diamond Jubilee of the original publication on *Australopithecus africanus* in February 1925. By a masterpiece of timing its end also happily coincided with the 92nd birthday of the Man of the Moment himself, the ageless Emeritus Professor Raymond A. Dart, author of that epochal paper back in February 1925. So, on the final day of the Symposium, after a very full two-week programme of sessions in Johannesburg and at the University of Bophuthatswana's Taung campus, and after field excursions to the *Australopithecus* type site at Taung and a visit to Makapansgat, the celebrations to mark the Taung Baby's 60th birthday culminated in a huge party to celebrate the birthday of its "father", Raymond Dart. It was a black-tie affair that glittered in every sense, and everyone who was anyone was not only *there*, but also seemed in top form. Needless to say, a *jolly* good time was had . .

The architect and organiser of the symposium and all that went with it, Professor Phillip Tobias, is known for his finely-tuned sense of what is historic, he has an imagination that can foretell the impact of an event, and an extraordinary capacity for making things happen. The event was thoughtful and tasteful in concept, efficient in its organisation, and triumphant in its execution. The two host universities (Witwatersrand and Bophuthatswana) both soaked up gallons (*hektolitres*?) of vicarious glory, and the two host countries didn't do too badly out of the favourable national and international publicity either.

It was indeed a Red Letter occasion, giving that corner of palaeontology in this country a boost such as seldom if ever before. Where are the men (or women!) with the same chutzpah and standing to do the same or similar for the rather neglected non-anthropological areas of our science?

Congratulations, Phillip — and congratulations, Raymond!

Mike Raath
EDITOR

A NEW ECHINODERM FROM THE TERTIARY ALEXANDRIA FORMATION

W.J. Smuts
Department of Geology
University of Port Elizabeth
P.O. Box 1600
PORT ELIZABETH
6000

A new echinoderm (fig. 1) was recently discovered in Tertiary sediments at Colchester, 40 km north-east of Port Elizabeth (fig. 2). To date only one entire specimen has been discovered. This fossil appears to be a palaeospecies of the modern *Echinodiscus bisperforatis* (Pansy shell) found mostly nearshore on the south-eastern Cape coast.

Work is currently being done on the fossil and will soon be published.

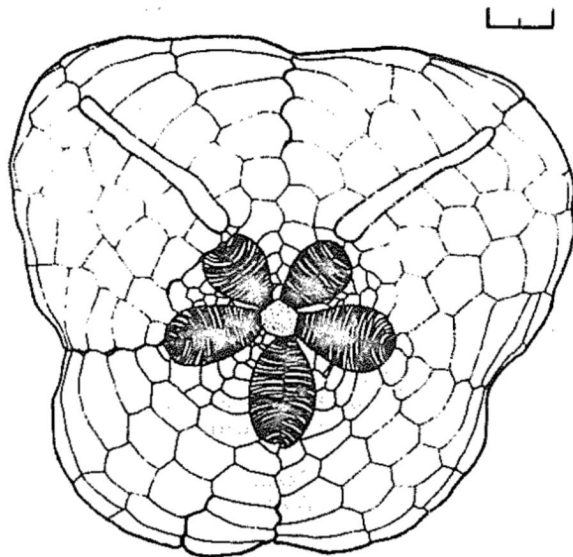


Fig. 1 - Line-diagram of the aboral side of the new Echinoderm found at Colchester.

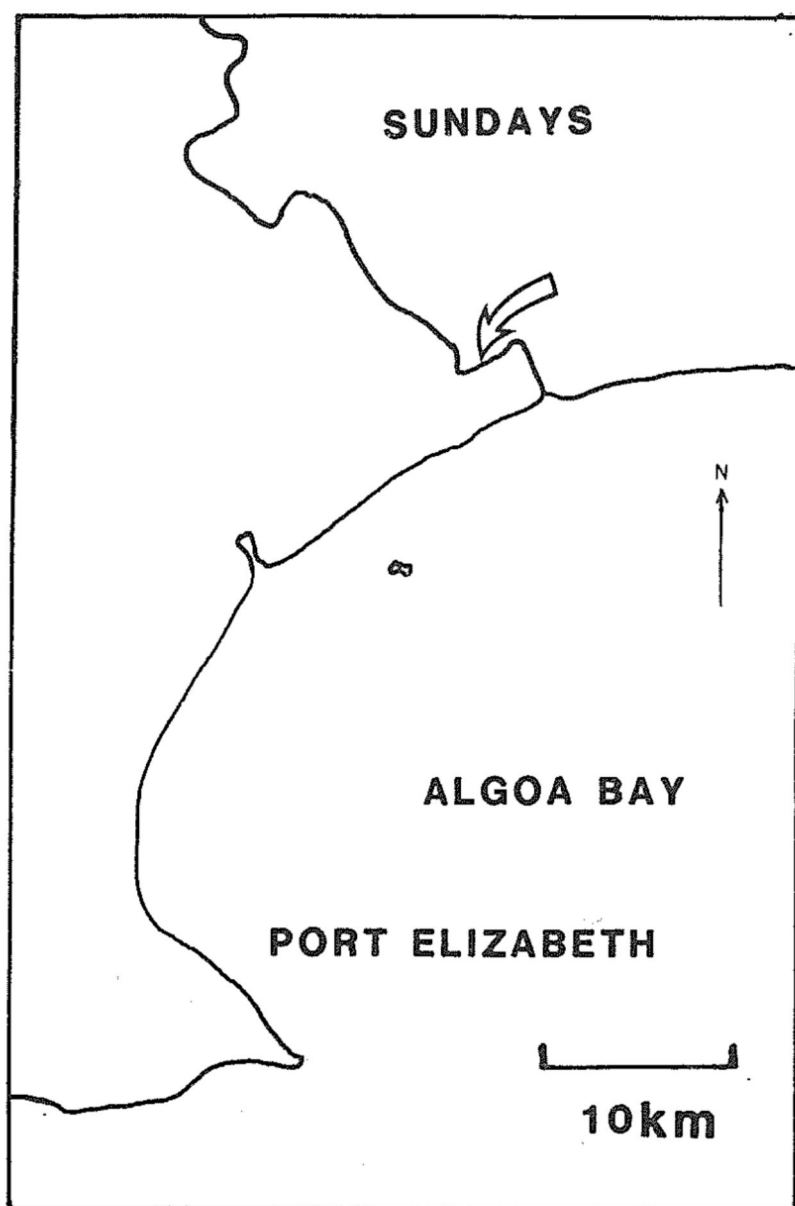


Fig. 2 – Location of discovery site. Site indicated by arrow.

NEWS FROM MEMBERS

Some members have responded to the call for news items for this issue. Those that were received are:

Bernard Price Institute for Palaeontological Research, Wits.

One of the major highlights in a pretty busy period was the visit of 186 *Taung Diamond Jubilee Symposium* delegates to the Institute in January 1985. In preparation for the visit, all was frenetic and feverish activity to get our small museum displays updated and ready. It was a pleasure to greet so many old friends and to meet so many new ones on that occasion. No sooner had our visitors departed and life was settling back to some degree of normality than we heard the not-unexpected but still troubling news that the Institute has to vacate the building it occupies by the end of the year! (This is all part of the deal that the University had to make with the City of Johannesburg to get the Old Milner Park Showgrounds for expansion of the overcrowded university). So, now we are busy packing up everything, including our large fossil collections, in preparation for the move. There is something symbolic in our move — we are going back to the main campus, back to the very spot where the Institute was born 40 years ago! The ex-Army huts which were its first home don't exist any more (thank Goodness!), and instead there is a large building which used to house the university's Maintenance Dept. It isn't ideal, but then beggars can't expect to be choosers! There are several aspects of the move that we welcome very heartily — first the fact that our isolation from our sister departments on the main campus will at last come to an end, and second the fact that the Department of Archaeology will share the building with us. (It will be nice to have someone *else* to talk to at tea time!). In spite of the huge hassles that lie ahead we are looking forward to going home, *at last!*

Mike Raath attended the International *Archaeopteryx* Conference in Eichstätt, W. Germany, in September 1984, where he read a paper on *Syntarsus* and bird ancestry. Burger Oelofsen was also there, and so were many other friends from many parts of the world - including that adoptive Kaapenaar, Jim Hopson.

On the way to Eichstätt, Mike stopped off in London to see the newly prepared braincase of the holotype of *Archaeopteryx* at the BM(NH). What an incredible bit of preparation by Peter Whybrow!

After Eichstätt, a brief visit with Rupert Wild in Ludwigsburg, near Stuttgart, to examine *Plateosaurus*, and then home to look forward to a sabbatical year in 1985. Mike is at present hiding away from anything and

everyone, trying to catch up on years of neglected research projects, and getting himself retreaded research-wise. On hearing the news of the impending move and the need to get everything packed, his only comment was: "Thank Heavens for my sabbatical, and for James Kitching!!".

7 While Mike is on sabbatical, poor old Prof James Kitching has been saddled with the chores of Acting Director. James was appointed Reader in Karoo Biostratigraphy at Wits in 1983.

Chris Gow's work on a lovely new skull of the early mammal *Megazostrodon* found by James Kitching is well advanced. This animal has a more primitive braincase than *Morganucodon*. Chris believes it is misleading to compare morganucodontid mammals with more advanced mammals and that this has led to numerous errors of interpretation with *Morganucodon*. While morganucodontids have undoubted Mammalian apomorphies (particularly aspects of dentition) they are essentially cynodont in so many respects, including the side wall of the braincase. This is why Chris has devoted the last six months to a study of the braincase of cynodonts. Inevitably most of the braincases studied were of herbivores, but Chris' prediction of a fundamental dichotomy in braincase structure between "herbivores" and "carnivorous" cynodonts seems to be borne out by work in progress by Jim Hopson on *Probainognathus*. It was a rare treat to be able to discuss these matters with Jim on his recent visit. The insights gained from this little discussion should provide the confidence necessary to tickle a few more microns of matrix from the trigeminal region of the new mammal.

Publications: (Chris Gow):

1. Apomorphies of the Mammalia. In Press.
2. The side wall of the braincase in cynodont therapsids, and a note on the homology of the mammalian promontorium. Submitted.

The BPI is proving to be an active centre for palaeobotanical research once more since the appointment of Dr. Dick Rayner to the staff in 1983. Although his particular research concerns the enigmatic *Glossopteris* flora, his interests are wide-ranging, as is evidenced by the variety of sites from which he has obtained fossil material in the last two years. His field trips have taken him and his students from Belfast, Lawley, Hammanskraal and Vereeniging in the Transvaal, to Little Switzerland and Bergville in Natal, into the Cape to Kirkwood and Grahamstown, and then into Botswana. This latter site involves a joint project with the National Museums of Botswana, directed by Mr. Alec Campbell, and includes a study of fossil insects found at Orapa. Ian Mackay has recently commenced a study of

the beetles found at this site for his M Sc. The study is a palaeoenvironmental analysis, also incorporating sedimentological data from Orapa. Palynological and radiometric dating indicate that the plants and insects were probably deposited in the mid-Cretaceous. If this is correct, the site assumes greater importance because terrestrial sediments of this age are rare in South Africa. The results of Ian's preliminary investigation were recently presented in Pretoria at a symposium of the Entomological Society of South Africa.

Marion Coventry, another of Dick's students, is working towards her M Sc on the palaeoflora of the Kirkwood and Sundays River formations. Large collections have been made from three localities, one on the Sundays River, one on the Wit River, and one on the Bezuidenhouts River. Cycadophytes and ferns comprise the majority of the plants, and from one locality preserved cuticle has been collected. Macerations have yielded a limited variety of pollen and spores. Since the poster presentation at the 1984 PSSA Conference, additional material has been collected. This consists of a wider variety of ferns, coniferous woods and seeds. Marion intends completing her project by the end of the year.

Ann Cadman, who is jointly supervised by Dick and Dr. Judy Maguire, is currently completing her M Sc on the palynology of the breccias at Makapansgat. The object of her study has been to ascertain whether pollen assemblages could be useful in stratigraphic correlation at this site, and as palaeoenvironmental indicators for the australopithecine environment. The results of this study have shown that the high alkalinity of the breccias is not conducive to pollen preservation, and further, that the pollen which is found in the extremely porous sediments is highly suspect in that it is most likely contaminant material.

Tom Pocock, a part-time Ph D student, is well advanced with his studies of the microfauna (rodents) from the cave deposits in the Makapansgat Valley.

Francois Durand is progressing well with his M Sc studies on the braincase and associated structures in two theropod families — the Whit-tiidae and Moschorhinidae. To date he has prepared out two braincases in each of the families. His study aims to contribute to an understanding of the evolution of the brain in advanced mammal-like reptiles.

Heidi and John Anderson (Botanical Research Institute, Pretoria).

Our second Palaeoflora volume *Prodromus of South African Megaforas Devonian to Lower Cretaceous* is at the printers and should be available shortly.

For people still interested in ordering the first volume we have negotiated a special price for copies ordered via us (consult enclosed brochure).

We are taking some long leave (16 June – 30 August 1985) and spending all our savings on a trip to Europe. Between visiting family and friends we hope to complete a review of the Megaplants of the Permian and Triassic with our co-contributors.

Visitors – Dr. Edgar Riek (Canberra, Australia) specialist on fossil insects; he will be visiting Dr. E. Van Dijk in August (Pietermaritzburg) and us in September (Pretoria). He will make a study of all the new insect finds from the Permian and Triassic for publication.

Anton Scholtz (University Stellenbosch)

Anton Scholtz is continuing his palynological studies of crater-lake deposits from the Namaqualand/Bushmanland area. The Arnot study has been published* and together with the other sites Hoendernesvlei, Kap-Kap, Vaalputs and Mostertsvlei, these deposits cover the 70–50 Myr time period. This work is now nearing completion and will now be complemented by studies of deposits on the east coast in the same period.

*Scholtz, A. 1985. The palynology of the upper lacustrine sediments of the Arnot Pipe, Banke, Namaqualand. *Annals of the South African Museum* 95(1):1–109.

Arthur Cruickshank (Scotland, UK)

It will have been noticed that the joint Cruickshank and Keyser note on *Geikia* appeared in the *Trans. geol. Soc. S. Afr.*, 87, (1) for 1984. Reprints should be available from one or other of us when distributed by the Geol. Soc.

Another joint paper is in process of being done over by *Nature* on some reinterpretation of archosaur ankle structure/relationships; Mike Benton and myself are authors. We found that people in general were reading too much into the croc-reversed state of archosaurs, and felt that the picture had to be altered when compared with the original Cruickshank (simplistic) model. Basically we see three radiations of the ankle in early archosaurs – a primitive mesotarsal 'assemblage', which includes things such as *Proterosuchus* and *Euparkeria*/*Erythrosuchus*/*Chanaresuchus*. We

do not see that the *Euparkeria* ankle can really lead to any other type, and hence the croc-reversed ankle has an origin steeped in even greater mystery than before. (But see Brinkman's paper in *Breviora* and a forthcoming paper by Mike Parrish). The second radiation is the croc-normal situation, and runs from the Middle Triassic through to the present day in one group or another. Finally there are the advanced mesotarsals, which is almost the same as the dinosaurs and which seem almost all to be croc-normal derived. That leaves only the Ornithosuchids as croc-reversed forms, and perhaps a solution to their origins will be made soon.

In addition to these, I have almost completed a paper on the tooth marks made in a dicynodont femur by an archosaur, which I intend to call *Mandaodonites coxii*, and will contribute a chapter to the book being written on the recent symposium held at the Third European Congress of Geosciences; The symposium was on Vertebrates in Biostrat., and my paper was on the "evolutionary significance of Kannemeyeriids in Gondwana Biostratigraphy" or some such title when it comes out in the wash! The paper was based on the advanced *Kannemeyeria*-like skull from the Manda Formation which I have been mulling over for some time. I now believe that the Manda Formation, and the younger Triassic beds in Zambia, are somewhat later than Anisian: there is a pro-saurischian in the Manda, as well as the famous (?) *Mandasuchus*/*Teleocrater*/*Parringtonia*/*Stagonosuchus* collection (not forgetting all the other *nomina nuda*).

What is probably the most important piece of news is that a graduate student in the Zoo. Museum in Cambridge, Susan Gay, is revising the Permian dicynodont fauna of the Ruhuhu Valley (the Kawinga Formation). So far the material in the Museum has turned up perhaps three distinct species of *Dicynodon*, several specimens of a small species of *Pelanomodon* (one with a lower jaw — unique as far as I know) and an enormous but shattered *Rhachiocephalus*. If *Pal Soc* members have spare reprints of Karoo vert. papers, she would be very pleased to have them on the idea of future exchange.

Let it not be said that the overseas members do not write, even if the reminders have to suffer the fate of the postal services in our respective countries. I hope that this is in time.

Norton Hiller (Rhodes University, Grahamstown)

1984 was spent on sabbatical leave back in my old stamping grounds in Belfast, Northern Ireland. While there I took the opportunity to "get back into brachiopods" which I had neglected for some years. However, I have now decided to tackle Recent as well as fossil material and a very fruitful line of research it is turning out to be.

Brachiopods collected during the *Meiring Naude* cruises 1975–1979

have now been described and a manuscript will be submitted for publication shortly. A total of 17 species were recorded for the first time from South African waters.

Work has continued, albeit slowly, on the Bokkeveld brachiopod fauna and I spent several weeks at the British Museum (Natural History) and the Sedgwick Museum, Cambridge studying their collections of South African and Falkland Islands material. I was particularly concerned with the "*chonetes*" *falklandica* problem and I am now convinced that two genera have been included under that name and both occur in the Bokkeveld Group.

A new venture for me was the use of the scanning electron microscope to study the structure of brachiopod shells and I undertook a small project to look at the development of growth lines on the shells and how this affected the standard secretory regime. Material for this project was provided by colleagues in New Zealand, Australia and Japan.

Bruce Rubidge (National Museum, Bloemfontein).

Current Happenings:

Three field trips to the Ecce-Beaufort contact zone between Rietbron and Prince Albert have been undertaken by me so far this year. Although not all equally successful, the first trip yielded two complete dinocephalian skulls and skeletons lying side by side as well as several more skulls and isolated postcranial bones of *Eodicynodon* (unfortunately no complete skeletons yet!).

I am also looking at the geology of this area and am drawing up detailed stratigraphic sections through the rocks of the Upper Ecce and Lower Beaufort in order to try and ascertain the palaeo-environment of the Beaufort-Ecce contact zone in the area between Rietbron and Prince Albert.

Back in Bloemfontein we are trying to prepare our collections of *Eodicynodon* material as quickly as possible.

James Brink and I have worked through sediment samples from 31 auger boreholes drilled at Florisbad and have prepared a preliminary report on the general stratigraphy of Florisbad.

Recent Papers:

Rubidge, B.S. 1984. The cranial morphology and palaeoenvironment of *Eodicynodon* Barry (Therapsida: Dicynodontia). *Navors. nas. Mus. Bloemfontein* 4 : 325-402.

Rubidge, B.S. 1985. The first record of a complete snout of the primitive dicynodont *Eodicynodon oosthuizeni* Barry 1974, (Therapsida : Dicynodontia). *Navors. nas. Mus. Bloemfontein*. (in press).

Burger Oelofsen (Univ. Stellenbosch)

Gedurende September 1984 het ek die IIIde Simposium oor Terrestriese Ekosisteme in die Mesosoïcum, bygewoon. Die Simposium is georganiseer deur die staf van die Instituut en Museum vir Geologie en Paleontologie van die Universiteit van Tübingen. Tübingen is natuurlik ook die plek waar von Huene gewerk het en die Simposium het dan ook die werk van von Huene gedenk. 'n Groot aantal afgevaardigdes het die verrigtinge bygewoon en 'n wye verskeidenheid referate gelewer. Baie van die afgevaardigdes het vanaf Tübingen na die *Archaeopteryx* Simposium wat in Eichstätt gehou is, afgereis.

Tydens die Tübingen Simposium is 'n dagekkskursie georganiseer en die hoogtepunt van die dag was die besoek aan die Klipgroef en Museum van Holzmaden met die beroemde fossieldraende swartskales. Die Museum is werklik indrukwekkend en die aanskoulikheid en grootte van die eksemplare werklik oorweldigend. Die beroemde crinoïedes wat aan drywende stompe vasgeheg was het stamme met 'n lengte van maklik 30 meter of meer gehad.

Al die afgevaardigdes was egter nie so beïndruk met die egte Swabiese geregte wat deur die eienaars van die Holzmaden-groef voorgesit is vir middagete nie. Langs my by die tafel het Howgate, uit die hart van Engeland, plaasgeneem. Die "Blutwurst" het arme Howgate beslis ondergekry, veral toe die opgepofte wors met 'n regte pofaddersis 'n stroom rooi lawa uitspuit na perforasie. Deur die wors met sy slaaiblaar te bedek kon hy darem, met vaal kiewe, halfpad deur die "sauerkraut" en "Hackfleisch" vorder. Dit was egter 'n heerlike ondervinding, nieteenstaande die eende-weer in die groef.

Na Eichstätt waar die Suid Afrikaanse getalle met 100% versterk is deur Mike Raath, vertrek ek saam met Max en Bessie Hecht per motor, na Brussels waarvandaan ek per veerboot en trein verder is na Edinburgh.

In Edinburgh het Charles Waterson gesit en wag vir die 30 kg stuk eurypteried uit die Witteberg wat ek die hele pad saamgepiekel het. Roy Oosthuizen het my die dood voor die oë gesweer sou dit iets oorkom en ek het spesiaal 'n bruin skooltassie gekoop, die fossiel in skuimplastiek verpak en dit heelpad saamgedra as handbagasie. (Die amptenare wat die X-straal masjiene op die lughawens beman het wou telkens 'n verduideliking hê van wat ek smokkel). Na 'n week se kyk, redeneer en teken was die finale interpretasie van die looprote van die dier klaar en die manuskrip gereed vir die Simposium in Edinburgh waar Charles die referaat sou lees. Vir my was dit tyd om terug te keer, skouer aan die lepel te sit en kennis te begin uitskep aan onwillige eerstejaar mediese studente.

Einde Julie vertrek ek hopelik na Tokyo (as ek by my bankbestuurder kan verbykom) vir 'n referaat oor die Haaiskedel waaroor Roy al kan

slange vang oor dit nog nie gepubliseer is nie. Guido Dinkerkus het om een of ander rede gedink dat ek met so 'n referaat 'n bydrae kan lewer by die Simposium oor visse en die Indo-Pasifiese gebied. Daarna vlieg ek hopelik na Ohio vir die 6de Gondwana Simposium. Vir 'n verandering kan iemand anders die gereelde bombardement *Mesosaurus* stories aanhoor.

Art Busbey (Austin, Texas)

The PSSA notices always reach me late because of the trans-oceanic mail times, but I felt like writing anyway in hopes the information will get in some time!

I am currently trying to finish the manuscript on the protosuchian otic notch that I started 4 years ago now; I also hope to get my Ph D thesis out in the next 3 or 4 months; and will try to finish a project on the paleobiogeography of crocodilians in the next 6 months (at least by the end of the year, I hope!). I am working on a statistical software system for paleontologists that works on the new Apple Macintosh Computer. Besides a full stat package of interest to paleontologists the program allows a pair of digital calipers to be connected to the computer and for data to be collected directly from specimens. That and other computer-related projects are taking up my time. I am also starting a project on *Ichthyornis* in Texas and hope to get out into the Texas Dockum by the end of the year.

As of September 1 I will have the following address:

Dr. Arthur B. Busbey
Department of Geology
Texas Christian University
Fort Worth, Texas 76129

As you know, the paper with Chris Gow appeared in *Pal. afr.* recently. I have had two papers recently accepted by the *Journal of Vertebrate Paleontology*; one on new material of *Sebecus huilensis* from the Miocene of Colombia and another on Uintan-age *Pristichampsus* from the Eocene of West Texas.

Dinosaur dig yields new reptile

STEPHENVILLE (Texas) — A dinosaur graveyard containing the 100-million-year-old remains of a previously unknown reptile has been discovered in a dry lakebed in central Texas, scientists said yesterday.

Complete skeletons of four small dinosaurs — each less than 3 m long — and several partial remains have been excavated so far, and dozens of skeletons are believed buried in the thick red earth, they said.

"In terms of quality and abundance of fossils, this ranks among the most productive sites in the world," paleontologist Mr Louis Jacobs said.

Mr Jacobs and paleontologist Mr Phillip Murry said the skeletons represented at least one new type of dinosaur.

Mr Jacobs and Mr Murry said one of the skeletons appeared to be related to camptosaurids — plant-eating reptiles that lived more than 100 million years ago and walked on their hind legs.

It was an important find not only because of the large number (of skeletons), but also because four of them were perfectly articulated.

The initial find was made last month by a geology student walking around the area looking for fossils. — Sapa-Reuter.

(The Star, 9 July 1985)

Ancient fossils found

Science Reporter

South Africa not only has the world's oldest rocks, discovered by identical twin geologists Richard and Morris Viljoen near Badplaas, but also the oldest fossils, formed some 3,5 billion years ago.

The fossils have been described in *Nature* by American geologists Maud Walsh and Donald Lowe of Louisiana State University as threadlike filaments "that are difficult to explain as anything other than the fossil remains of filamentous organisms" formed in shallow water.

It means if the Earth was formed 4,5 billion years ago, as

most scientists believe, it took the first forms of life 1 billion years to evolve.

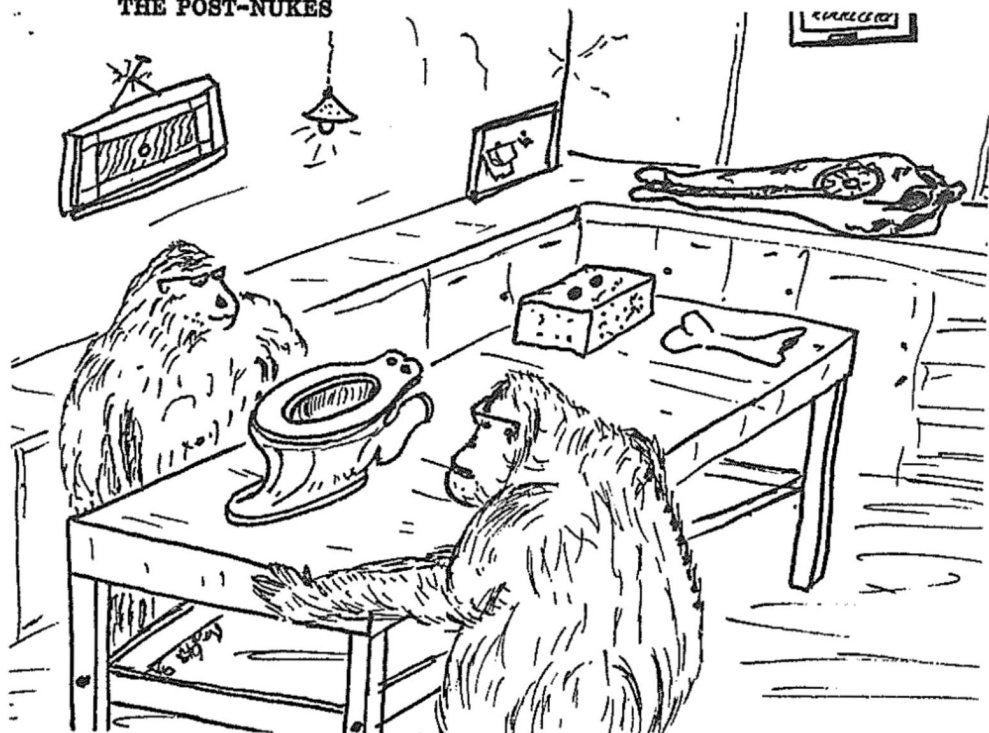
The fossils resemble blue-green algae, micro-organisms which built stromatolites, or cabbage-shaped, branched layered structures, found in Precambrian rocks older than 600 million years.

A similar fossil discovery has been made in Western Australia, which shares much of South Africa's fossil and geological background.

The oldest rock in the world, discovered by the Viljoen brothers and named Komatiite, was formed out of superheated lava and became a scientific sensation when it was described during the '70s.

(The Star, 24 June 1985)

THE POST-NUKES



"Impossible?! Then why would they go to the trouble of developing a ceramic which can withstand such high temperatures?"

TUMBLEWEEDS

THIS MONTH THE COVETED BLACK FEATHER GOES TO THE TRIBE'S PALEONTOLOGIST! THAT BOSS MOSS AND FOSSIL JOSTLER-ROGATORY ROOSTER, I DUB YOU INDIAN OF THE MONTH!



Man, technology could stop next ice age on earth

Science Reporter

The world may be on the doorstep of a new ice age, but one that might be defeated by man and his technology, says South Africa's foremost expert on climatic history.

Dr John Vogel, of the National Physical Research Laboratory of the CSIR, says that by precedent, the present interglacial period of about 10 000 years, between ice ages, should soon be over. The previous one also lasted a hundred centuries.

"HOTHOUSE"

"But even if another ice age is due, it may well go the other way because of the increasing amount of carbon dioxide in the air, which is the result of man burning mostly oil and coal and which creates a global greenhouse effect," Dr Vogel says.

A new ice age could hit South Africa with much greater speed than expected, says the man who recently dated the age of the Taung child fossil.

"When the last ice age started, the forests of

France died within 20 years," he said.

"In such an ice age South Africa would be unable to grow such traditional crops as maize, peaches, grapes and citrus fruit."

To trace former ice ages and drastic changes in climate in southern Africa, Dr Vogel uses stalagmites and oxygen isotope ratios to determine prehistoric temperatures encoded in each layer deposited on stalagmites.

One stalagmite removed for studies from Cango 2 cave, which is not open to the public, proved to be 48 000 years old. It shows that about 25 000 years ago, temperatures in the southern Cape were 5,5 Deg C lower than during the last 5 000 years.

"That was long after the last glaciers left South Africa 200 million years ago, but the temperature-measuring oxygen 16 and 18 isotopes show that with the cooler climate, heathers and fynbos grew in the Transvaal and yellowwoods stood at Nylstroom, which we know from pollen in an old peatbog there."

(The Star, 17 July 1985)

Drywende kontinente! Waar kom
jy aan daardie snert?



Letter to the Editor

Mass extinctions

When we, South African palaeontologists, meet in a conference or at a party, time is always too limited for a good discussion of a controversial topic. Why don't we debate such problems in *PAL News*? For example, I do not understand "mass extinction", and I am looking for answers to the following questions.

What does "mass extinction" mean? A global catastrophe at the same time? What does "the same time" mean in this context? Going back in geological time, the number after " \pm " in charts is steadily growing, as finally we read " ± 29 myr". According to certain authors mass extinctions occurred every 26 myr, according to others every 30 myr. Irrespective of which end you start calculating the given number of years (26 myr, 52, 78 m. . . .; 30, 60, 90), combined with $\pm ?$ myr years, it may be difficult to correlate extinctions. When we correlate according to extinctions, we practice circular reasoning, and it will get us nowhere. "Nemesis" (not the deplorable goddess, but the presumptive star) had to strike rather rapidly. Or not? Again, how shall we interpret "rather rapidly"? Does it mean "at the same time"? If it means a longer (?) period, why are events aggregated into one mass extinction? Could they not be local and rather natural disasters? I cannot recall a study in which a lot (let alone all) of the animals, and plants — big ones, small ones; in water and on land — are reported to have been extinguished on the Earth at the same (geological?) time. Papers are written by specialists, or by experts, and the subjects are limited to certain groups of animals or of plants. Is it not possible that the extinctions experienced are merely part of the normal process of evolution? Here we are back at the problem of the time involved. I fear that if we knew the exact time of extinctions, and connected them, the line in the chart would resemble the temperature graph of a very ill person, and not a straight line of time-equivalence.

Perhaps one day we shall read a paper written by a "Great Expert" on the mass extinction of all plants and animals exactly and precisely at the same time. Nothing is impossible. At the present stage of our knowledge on global stratigraphy, how will the results of such a study be verified, or — just to be up to date — falsified? And then, what about the rest of the mass extinctions? Be careful, because the magnificent global catastrophe tends to dissociate into local disasters, or into normal extinctions of taxa, when you allow a tiny " \pm ". Thus the preceeding and the following mass extinctions had to occur — and must be proved to have occurred — e.g. 26 000 001 years before and after a mass extinction.

Mass extinctions should have to be very obvious. How easy global stratigraphy would be: First Mass Extinction, First Inter-extinction, and so on. I lend this conception of global stratigraphy to a Great Expert. He does not need to acknowledge the source!

⁷Eva Kovács-Endrödy
Pretoria

(Dr. Kovács-Endrödy's letter was received shortly after the last issue of Pal News was circulated. Many readers will have seen the issue of Time magazine of May 6th, 1985, in which the issue of the Cretaceous-Tertiary mass extinction was highlighted.

The star "Nemesis" referred to in Eva's letter is the postulated companion star to our own sun which some believe is responsible for the apparent 26 million-year cyclicity in mass extinction events. Editor).



"Harvey has a theory linking premature ejaculation with the disappearance of the dinosaurs."

OBITUARY: DR TOM BARRY (1924–1984)

All members learned with shock and deep regret of the death in December 1984 of our respected friend, colleague, and Founder Member of this Society – Tom Barry.

The following tribute by our past President, Dr. Mike Cluver, appeared in the *Bulletin of the Southern African Museums Association*, volume 16(5) of 1985, and is reproduced here with acknowledgement to SAMA and the Editor of the *Bulletin*:

Dr Thomas Henry Barry, Director of the South African Museum, passed away on 10th December 1984. Dr Mike Cluver of the Museum delivered the following address at the funeral service on 13 December 1984:

Dit is vir my 'n voorreg en 'n eer om vanoggend hulde te bring aan iemand wat as 'n ware leier deur almal wat hom geken het, beskou is. Thomas Henry Barry staan bekend onder almal hier teenwoordig as 'n leier in sy vakrigting as wetenskaplike, as administrateur en beplanner, maar ook as 'n baie menslike persoon, wat sy medemens lief gehad het. Dit is dus vir my 'n voorreg om oor sekere aspekte van Tom Barry se loopbaan te praat en van die bakens wat hy nagelaat het wat altyd aan sy naam gekoppel sal bly.

Thomas Henry Barry is in 1924 op Mosselbaai gebore en het sy skoolloopbaan op Worcester voltooi. Aan die Universiteit van Stellenbosch behaal hy die grade B.Sc., M.Sc. en D.Sc. in Soölogie en aanvaar sy eerste pos in die Departement Dierkunde aan die Universiteit van Pretoria. Vanaf 1959 tot 1964 dien hy as Direkteur van die Albanie Museum in Grahamstad, en in Oktober 1964 word hy aangestel as Direkteur van die Suid-Afrikaanse Museum in Kaapstad — 'n amp wat hy ononderbroke behou het tot met sy dood. Onlangs het hy ook twee ere-Professorate ontvang: een in Paleontologie aan die Universiteit van Kaapstad en een in Museumkunde aan die Universiteit van Stellenbosch. Hy het gereeld oorsee gereis en aan internasionale konferensies deelgeneem. Gevolglik het hy wêreldbekendheid in die museumwese en paleontologie geniet. Sy status in die museumwese kan gemeet word aan die feit dat hy onlangs in Taiwan as raadgewer vir die Taiwanees regering opgetree het by die beplanning van 'n nuwe Nasionale Natuurhistoriese Museum.

In 1982 moes Tom Barry 'n ernstige operasie ondergaan, maar het goed daarvan herstel. In Augustus 1984 moes hy egter nog 'n operasie ondergaan, waarna dit duidelik geword het dat die kans op herstel gering was. Die kalm

en waardige wyse waarop Tom hierdie feit aanvaar het moet sekerlik as bron van sterkte vir ons almal dien.

Dr Barry was by training a vertebrate palaeontologist, studying fossil reptiles, and he would probably forgive me for calling the foregoing account the boney skeleton around which the flesh of a life full of interest and diversity was built.

As a scientist, he could claim a career of distinction. His initial research in comparative vertebrate anatomy at Stellenbosch led him into the vast fossil treasure house which is the South African Karoo, and here he published works of importance.

On the one hand he provided several valuable, meticulously detailed accounts of the skull anatomy of fossil mammal-like reptiles, based on techniques learned and further developed while studying as a CSIR postdoctoral fellow in Sweden. This work culminated in the early and middle 1970's in the first announcement, and the later detailed descriptions, of the earliest known South African land-living vertebrates — smallish creatures adapted for a plant-eating life which had lived over 250 million years ago, and which were found as fragmentary fossils in rocks near Prince Albert in the Cape.

These discoveries have led to the development of a new area of research in the Karoo, and surely represent Barry's most important contribution as an independent research scientist.

In parallel with original research, Dr Barry also published and lectured extensively on two topics which held a deep fascination for him: the origin of mammals from of primitive reptiles, and the phenomenon of continental drift (plate tectonics), as supported and documented by the fossils found in the Karoo. These themes he developed in numerous popular articles, lectures and public addresses, always managing to import to the general public something of the excitement of discovery which is associated with the study of ancient fossils. This ability to put across one's subject in a way that is both understandable and stimulating to the general public is woefully rare among scientists, and it will be hard indeed for anyone to continue Tom Barry's tradition in this regard.

Tom Barry's active scientific work continued up until 10 years ago, when the pressures of administering the large and fast-growing South African Museum compelled him to shelve his research projects and devote all his time to Museum work. Coupled with this step was the inevitable increase in the load of committee work which he already carried — in fact, he served on 15 different committees, Councils and Commissions during the last 15 years

of his career — nearly all of them concurrently. I wish if I may to refer to some of these bodies, as they illustrate well the diversity of interests this remarkable man was involved in, and for which he gave freely and unstintingly of time, labour and expertise:

Prime Minister's Advisory Committee on Biology

Specialist Panel on Antarctic Research

S.A. National Council for Oceanographic Research

Member of Human Sciences Research Council: Committee for African Studies

Member of Research Screening Committee of CSIR

National Committee of International Union of Biological Sciences

State Commission of Enquiry into Preservation of Cultural Treasures

International Council of Museums Committee for Natural History

National Advisory Committee for Museums

Council of Cape Technicon.

He was: Vice President of South African Association for the Advancement of Science

President of Southern African Museums Association

Chairman of Committee of Heads of Declared Cultural Institutions.

At the time when illness struck him some months ago, he was also involved in planning for museum conservation centres, in South Africa, a Maritime Museum and a Science and Technology Museum.

Tom Barry was what I like to think of as a "people's person", someone who got on well with others, and who could easily motivate and inspire people and then work with them — these were the qualities which made him so sought after as someone who got things done.

He was tenacious when fighting for what he believed was due to his cause, and always very clear about the standpoint he was taking. He met with opposition sometimes, and certainly thrived upon heated debate, but I believe it true to say that he was incapable of making an actual enemy.

He will be particularly missed by two bodies which he served with distinction and stamped with an indelible record of achievements — the Southern African Museums Association, of which he was President 5 times, and the Committee of Heads of Declared Cultural Institutions, of which he was chairman 3 times. There can be no doubt that much of what has been recently achieved in the Museum Service in South Africa is in large measure due to the tireless efforts and inspired leadership of Tom Barry — I believe there is not a Museum Director in the country who would not subscribe to that. If monuments to him are to be sought, it is there that one will be found —

in the very foundations of South Africa's improved and revitalized museum movement.

Dit is vir almal wat by die museumwese betrokke is, veral tragies dat juis op hierdie tydstip een van Tom Barry se grootste drome begin vorm kry agter die historiese S.A. Museum Hoofgebou. Die uitbreiding van die Suid-Afrikaanse Museum, wat in totaal meer as R15m sal bedra en wat tot 'n nuwe dimensie in die Suid-Afrikaanse museumwese gaan lei, kom wel te laat vir hom, maar sal seer sekerlik in die toekoms as die nalatenskap van Tom Barry beskou word. Langer as 10 jaar het hy aan die hoof van die navorsing, die beplanning en die motivering van hierdie kompleks gestaan, en alhoewel dit nie vir hom beskore was om die finale produk te sien nie, is sy idees, sy ideale en ook sy museumfilosofie in elke beton-balk en baksteen van hierdie nuwe Museum ingebou. Dit is dus baie paslik dat die Raad van die Museum in November 1984 besluit het om die pragtige nuwe ouditorium, wat nóg in aanbou is, na Dr Tom Barry, wat soveel aan sy Museum gegee het, te vernoem.

Alhoewel hy 20 jaar lank aan die hoof van 'n sogenaamde "groot" museum gestaan het, het Dr Barry altyd sy belangstelling in die probleme van kleiner inrigtings en plaaslike museums behou. Ek glo vas dat hy dit as een van sy belangrike take beskou het om die wyer ondervinding en vakkundigheid van sy inrigting sover moontlik te deel met kleiner museums wat met basiese museumkundige probleme gekonfronteer is. En dit is hoe ons hom almal geken het: 'n besige man met groot verantwoordelikhede wat nooit sy sin vir humor verloor het nie, wat altyd vriendelik en hoflik gebly het, al gebeur wat ook, en wat altyd tyd kon maak vir sy medemens.

Ek persoonlik het 'n leermeester, kollega en vriend verloor, die Suid-Afrikaanse Museum 'n uitstekende Direkteur sonder gelyke, en die museumwese in Suid-Afrika 'n inspirerende leier: namens ons almal, en daar is baie van ons, wil ek die versekering aan mev. Alice Barry, en aan Dennis, Eric en Linda gee, dat ons diep in u smart deel, en u alle sterkte vir die toekoms wens.

SUBSCRIPTIONS DUE

Members are reminded that their subscriptions fell due on January 1st 1985. Many members have still to pay. Please send your subs to:

Honorary Treasurer
PSSA
c/o BPI (Palaeontology)
University of the Witwatersrand
1 Jan Smuts Avenue
Johannesburg
2001

Cheques should be crossed and made out to PSSA/PVSA

ANNUAL SUBSCRIPTION:

ORDINARY MEMBER — R6.00 p a
STUDENT MEMBER — R3.00 p a

ADDRESS CHANGES

Please help us to maintain reliable membership records by promptly notifying us of any change in your address.

