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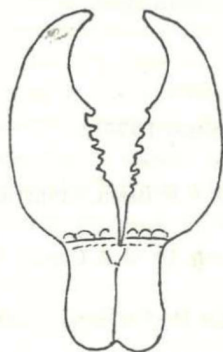
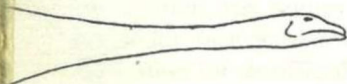
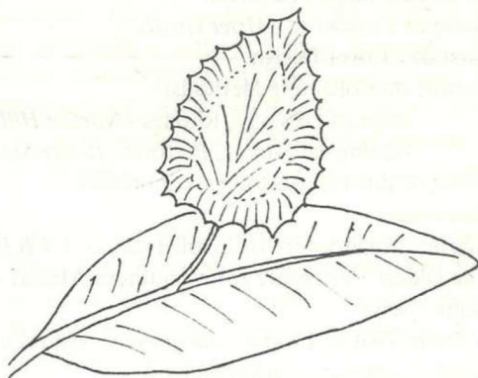
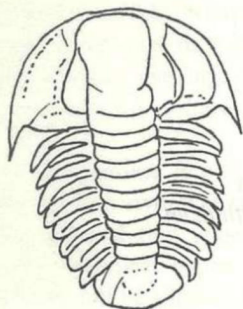
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**PALAEONTOLOGICAL SOCIETY OF SOUTHERN AFRICA**  
Uitgegee deur die  
**PALEONTOLOGIESE VERENIGING VAN SUIDER-AFRIKA**

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# **PAL NEWS\*NUUS**

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NOVEMBER 1978



This Newsletter is published bi-annually by the Palaeontological Society of Southern Africa for the members of the Society.

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## FIRST PSSA SYMPOSIUM

Our first Symposium will now be held in the first week of July next year. This is due mainly to the fact that many universities have their first term running till the end of June, so that university members (including those from the BPI) might find it impossible to attend a meeting in June. And we would like to have a full house!

The Symposium will be held in the National Museum Auditorium, which is placed at our disposal free of charge. Slide projectors and 16 mm film projectors are available and an overhead projector can be supplied if we are notified in time. The Auditorium has central heating (important for the Bloem winter), a blackboard (for those who scorn modern teaching aids) and soft cushioned seats (which are most important for those strenuous days after the nights before).

The tentative programme is as follows:

The first three days (Tuesday 3rd - Thursday 5th) will be devoted to the reading of papers, with ample time for discussions. These meetings will be informal and the papers will NOT be published by the Society, although short summaries may be submitted to PAL NEWS. The Director of the National Museum has promised that the Museum will give us a party one evening, while we'll have the Symposium Dinner on the Thursday evening. On Friday the sixth we will go by bus and/or private vehicles to Thaba'Nchu to have a look at the Beaufort and Stormberg exposures in that area.

This programme is only tentative and you are most welcome to make suggestions. You are also invited to submit the titles of papers to be read at this meeting, but please bear in mind that review papers are better suited for a meeting such as this. Avoid highly technical papers and the description of new taxa. A maximum of twenty minutes will be allowed for the reading of any one paper.

The Symposium fees have not yet been determined but we'll try to keep them as low as possible. I have been toying with the idea to get a cover printed for the first day of the occasion. Mrs Audrey van Eeden of the National Museum has made a preliminary design for such a cover which is reproduced (B&W) on p. 12. Unfortunately the application for an official date-stamp has been unsuccessful, which entails that it will be an unofficial first-day cover, but this does not mean that it cannot be sold. Part of the proceeds of the sale will be permanently invested to cover the administrative costs and the printing of PAL NEWS, but the rest can be used to finance the Symposium.

More information on the Symposium and the first-day cover will be given in the next issue. Please let us have your comments and ideas!

*Jacques van Heerden*



## EARLY FOSSIL COLLECTORS

Organic Remains in the Karroo, in a letter to Dr. Smith, Corresponding Secretary to the South African Institution. *By Mr. C.H. Grisbrook.*

Dear Sir,— As a Corresponding Member of your interesting Society, I beg leave to direct your attention to the following remarks relative to those Organic Remains which were discovered in that part of the Great Karroo denominated the "Kowf," and situated within the district of Beaufort.

In the year 1827, while on a tour of the colony, I remained some time at the village of Beaufort, and occasionally passed a few days at the country residence of the Ex-Landdrost Mr. Baird, of whose hospitality and kindness I cannot speak too highly. It was during one of these visits that Mr. B. presented me with a small collection of minerals, among which I perceived a fragment or broken portion of a Fossil-Tooth of unusual dimensions; perceiving that my curiosity was excited by the peculiar appearance of this substance, he enabled me to collect the following brief relation of the manner in which it came into his possession.

About a year prior to my visit to that part of the colony, a son of the Field-cornet De Klerck, while riding from Beaufort to the Gamka, where his father and family had temporarily located themselves for the advantage of better pasturage for their flocks, accidentally stumbled upon a petrified skeleton, which he mistook for the remains of a large fish, the peculiar position and appearance of the vertebrae, or spine, protruding a little above the surface of the ground, favoring the supposition: without taking particular notice of the object, he alighted and took up the before-mentioned broken tooth, which had previously been detached from its socket, and was lying exposed upon the surface, and then rode away. Sometime afterwards he presented the relic to Mr. B., who, depositing it among his minerals, it remained there until the period of my arrival, when the interest I evinced on inspecting it brought the circumstance again to his recollection, and consequently led to an arrangement between us to visit the place where it had been found.

The following morning we set out, and as the Field-Cornet had again taken up his periodical sojourn near the banks of the Gamka, we agreed to call upon him for the purpose of obtaining the necessary information relative to the locality of the spot where we were to search for the Petrification.

Arriving therefore, at the tents of this pastoral family, we were received with much kindness; and no sooner had the obliging farmer understood the purport of our visit than he instantly offered his services, together with those of his son, and we all set out in company. About an hour and a half's ride across a gentle undulating part of this arid country brought us to the vicinity of the fossil, where we alighted, and after a short



search succeeded in discovering the object of our pursuit: and what was still more gratifying, Mr. B. while strolling about, found another Petrification, presenting a similarity of position and exterior to the former, and situated at about 200 yards distance. The vertebrae of the two skeletons were lying parallel to the earth's surface, and elevated a little above its level; they were also somewhat whitened, or acted upon, by exposure to the atmosphere. The spinal columns being the only positions visible, we were obliged to remove a part of the surrounding earth and pebbles to procure other specimens, and by these means detached some portions of the costae or ribs, together with two or three shapeless masses which puzzled us to ascertain or form any probable conjecture as to what part of the skeleton they belonged. I supposed them to have originally formed portions of the tibiae and hoof of the animal. Some parts of the vertebrae had been removed from their true situation, (probably by cattle or the wild animals of the country passing over them,) and from their prodigious dimensions we were led to suppose them to be the remains of Hippopotami, or probably the Mammoth species. Some of the specimens brought away had masses of the stone or a greyish slate-colored material attached to them, and I think it not improbable but that the remaining portions were incased or imbedded in a similar stratum.<sup>1</sup>

These Organic Remains are situated about four hours' ride N. E. from the village of Beaufort, and about an hour's ride from the Gamka or Lion River. - The Nieuwveldt range of mountains,<sup>2</sup> forming a kind of amphitheatre, are distant about half-a-day's journey, while from the vicinity of the Petrification may be formed a complete bird's-eye view of the circular line of territory called the Kowf,<sup>3</sup> flanked to the southward by the Zwarte Bergen, to the northward and eastward by the Nieuwveldt range, in front by the Sneeuw Bergen, and in the rear by the long and narrow range of Karroo country leading to the Hex River.

In conclusion allow me to observe, that this being the first and only instance of Animal Remains in a fossil state having been found within the limits of the colony, perhaps the notice of the circumstance, (together with any remarks you may be pleased to subjoin,) in the *Quarterly Journal* of the Institution, might in some measure excite your Country Correspondents to a more zealous investigation of the Antediluvian Relicts of this portion of Southern Africa.

I have to honor to be,  
Yours &c.

Veranda Lodge, Green Point,  
24th Sept. 1830.

Reprinted from: *S. Afr. Quart. Journal* 5 (1): 25-27. Sent in by Dr. James Kitching, July 1978:

1. Quere.— As the soil of this part of the Karroo is strictly of a ferruginous nature, may it not possess superior qualifications for the formation of Fossil or Petrified Substances.
2. What were formerly denominated Barrow's Boundary of the Colony.
3. Kowf = Gough or Koup - James Kitching.

... and some rin up hills and down dale,  
knapping the chucky stanes to pieces wi' hammers,  
like sae mony roadmakers run daft -  
they say it is to see how the world was made!

Sir Walter Scott



DR SIDNEY HENRY HAUGHTON

Sidney Henry Haughton was born in London on 7 May 1888 and matriculated at Essex County Technical Institute, Walthamotow. He was awarded a science scholarship at Trinity Hall, Cambridge, where he took his B.A., graduating in 1909 with Geology as major subject. In 1910 he became teacher at Clayesmore School in Berkshire.

At the end of 1911 he was appointed Assistant in Geology and Palaeontology at the South African Museum and became Assistant Director in 1914. Here he did a great deal of research on fossil fishes and tetrapods from all over Africa - the results were published in the *Annals of the South African Museum*. In December 1914 he married Edith Hoal, daughter of a former Postmaster-General of the Union. They met through a mutual love for music and Sidney calls his marriage "the most important event" in his life. In 1920 he joined the Geological Survey in Cape Town and also served as Honorary Keeper of Geology and Palaeontology at the S.A.M. until 1933. In 1921 he completed his doctoral thesis on the geology and fossils of the Stormberg Series, published in 1924 by the Museum.



He played a significant part in the 15th International Geological Congress in South Africa in 1929. He planned excursions, compiled guide books and contributed a number of papers to the Congress.

He was Director of the Geological Survey, with its head office in Pretoria, from 1934 till 1948, when he retired, but only to start in other spheres. In 1949 he became a member of the Board of the Bernard Price Institute for Palaeontological Research at Wits University, later (1966) its Honorary Scientific Director and Professor of Palaeontology. He was the first editor of *Palaeontologia Africana*, which he made into a significant palaeontological periodical.

Dr Haughton was one of the first Councillors of the CSIR, from 1945 till 1950, and was chairman of the South African National Committee for the Upper Mantle Project from 1963 till 1968, then became the CSIR's adviser on international relations in geology, serving in this capacity till 1971.

On his retirement from the Geological Survey he was appointed chief geologist in charge of an investigation of South Africa's uranium resources. He had also become chairman of the Fuel Research Board in 1945.

In 1954 he was invited by the Council for Technical Cooperation in Africa to become their geological correspondent, which entailed a great deal of travel in Africa. He served in this capacity till South Africa left the CCTA in 1962.

He was chairman of the organizing committee for the Second Gondwana Symposium held in Cape Town in 1970 and read a paper on the Gondwana System in South Africa at this Symposium, and gave a public lecture entitled "Gondwana and the Geologist".

Dr Haughton was elected a Fellow of the Royal Society of South Africa in 1918 and was President from March 1955 till March 1957; he also served as Council Member for many years. Since 1921 he is an Honorary Member of the Geological Society of South Africa and was President in 1925 and 1967. He also received the Draper Memorial Medal from the Society in 1941. In the sixties he was President of the South African Geographical Society. In 1960 he was appointed an Honorary Fellow of the Royal Society of London and the same honour was bestowed on him by the Geological Society of America and the Geological Society of Belgium.

Dr Haughton has some 150 scientific publications to his credit, all listed in "The works of Sidney Henry Haughton", compiled by Susan Alexander of the Department of Bibliography, Librarianship and Typography, University of the Witwatersrand. This list includes many papers on fossils, both vertebrates and invertebrates, as well as a large number on geology.

## DR EDNA PAULINE PLUMSTEAD

Edna Pauline Plumstead (Née Janisch) was born in Cape Town in 1903. After matriculating from the Girls' High School in Johannesburg, where she received most of her school education, she entered the University of the Witwatersrand in 1921 and obtained the B.Sc. degree with a first class in Geology at the end of 1923. The following year she graduated in the first class for the B.Sc. Honours degree at the same university. In 1925 Miss Janisch was appointed junior lecturer in Geology but she also studied for the M.Sc. degree which was awarded to her with distinction in 1926. Her thesis entitled "The Occurrence of Phosphates in Pegmatite Bodies in the Zoutpansberg District of the Northern Transvaal" formed the basis of her first published paper which appeared in the *Transactions of the Geological Society of South Africa* for 1926. This paper earned for her the first award of the Corstorphine Bronze Medal and Students' First Prize ever to be made since the institution of the Competition by the Society in 1919.

Miss Janisch was also awarded the H.B. Webb Research Scholarship which enabled her to undertake a study of the petrology and palaeobotany of South African coals at Cambridge University. This was the beginning of a life-time of study and research which has made her pre-eminent in the field of Gondwana palaeobotany. Unfortunately, her studies at Cambridge University were prematurely terminated by her return to the University of the Witwatersrand as lecturer in the Geology Department where she worked in this capacity from 1928 until her marriage to Edric Plumstead in December, 1934.

During this period before her marriage Miss Janisch served on the Councils of both the Geological Society of South Africa and the South African Geographical Society. In 1934 she was elected Vice-President of both these societies as well as being their representative on the Council of the Associated Scientific and Technical Societies of South Africa.

For more than a decade after her marriage, Mrs. Plumstead found her time fully occupied with the management of a home and the raising of a family of three sons and two daughters. In 1946, however, she returned to the University of the Witwatersrand to assist the teaching staff of the Geology Department in coping with the influx of ex-servicemen after World War II. What she then believed would be only a temporary post-war service proved to be practically a permanent appointment. In addition to being a senior part-time lecturer in Geology, she also lectured on Palaeobotany in the Botany Department.

Mrs. Plumstead's first paper on South African fossil plants was published in 1952. This paper will always be regarded as a major contribution in that it presented evidence which confirmed the classification of plants bearing *Glossopteris* leaves as



pteridosperms. This evidence comprised five new species of *Glossopteris*, each having a characteristic fructification attached to the leaf. In due course, numerous fructifications of this nature belonging to at least seven genera and many more species were described by Edna Plumstead in a series of papers on the basis of which she was awarded the D.Sc. degree in 1959.

In a paper published in 1956 in the *Trans. geol. Soc. S. Afr.* she described fossil fructifications attached to *Gangamopteris* leaves, thereby establishing the first reliable link between the leaf genera *Glossopteris* and *Gangamopteris*. This enabled Dr. Plumstead to institute the new class *Glossopteridae*. In 1959 she was awarded the Chrestien Mica Gondwanaland Medal for this paper by the Mining, Geological, and Metallurgical Institute of India which bestows this honour on a person deemed to have made the most conspicuous contribution to any aspect of the geology of Gondwanaland. In the same year she also received the Jubilee Medal of the Geological Society of South Africa for two papers published in the *Transactions* in 1958.

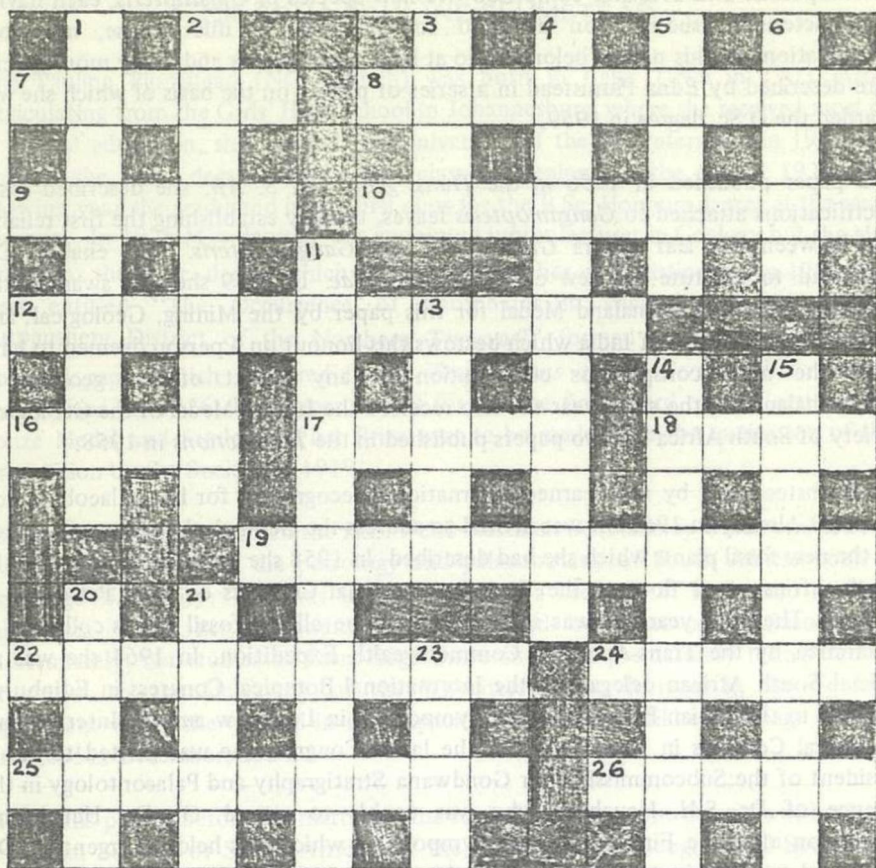
Dr. Plumstead had by now earned international recognition for her palaeobotanical research. Already in 1953 she was invited to address the Geological Society of London on the new fossil plants which she had described. In 1958 she presented a paper on the South African coal flora at the First International Congress on Coal Petrology in Holland. The next year she was invited to describe all the fossil plants collected in Antarctica by the Trans-Antarctic Commonwealth Expedition. In 1964 she was an official South African delegate to the International Botanical Congress in Edinburgh and also to the Indian Palaeobotanical Symposium in Lucknow and the International Geological Congress in New Delhi. At the latter Congress she was invited to act as President of the Subcommission for Gondwana Stratigraphy and Palaeontology in the absence of Dr. S.H. Haughton who was unable to attend. On Dr. Haughton's resignation after the First Gondwana Symposium, which was held in Argentina, Dr. Plumstead was nominated President. In this capacity she has played a major part in the organization of the Second Gondwana Symposium which was held in Cape Town in 1970.

In 1966 Dr. Plumstead was elected a Fellow of the Royal Society of South Africa

In 1969 she delivered the Eleventh Alex. L. du Toit Memorial Lecture on the invitation of the Geological Society of South Africa, the South African Geographical Society, the South African Association for the Advancement of Science, and the Royal Society of South Africa.

In 1970 she received the Draper Memorial Medal, the highest award of the Geological Society of South Africa, and became the first member to be awarded all three of the Society's medals.

She has some fifty scientific publications to her credit.



## GEO-POT CROSSWORD

by Miser Groth

Solving Time:

10 minutes: good

20 minutes: very good

Never : excellent

### CRYPTIC CLUES

Across:

7. Oy! First ray is deviated. Some say plate tectonics is this! (5,5: second word 13 down).



8. Policeman returns gold to 51 and French come back for some dung. (9)
9. Golfer, perhaps, we hear in an arid lake. (5)
10. Rain clads formed by oceanic volcanism. (6,3)
12. Glacial action may freeze an undergarment with a polar charge. (3,8)
16. German chalk. (4)
17. Where rich geologists may be found boiled? (2,3)
18. As queen before had many periods. (4)
19. Rue type turns and clears arthropods. (11)
22. Large reptiles produced by loud noise; duck glides, we hear. (9)
24. A door for a gem? (5)
25. Dune shapes, wave tops around centurian's head. (9)
26. *Littorina neritoides*: content, senseless. (5)

Down:

1. Cut all gay antics in the Lower Cretaceous! (5,4)
2. King gets hit in eye by geosynclinal sandstone. (9)
3. Hardness scale provided on Her Majesty's Service, briefly disturbed. (4)
4. Consume two ducks left in tiger outfit, definitely not inferior! (5,6)
5. One of Zingg's shapes can be cutting. (5)
6. Miss or Madam standing round weathered granite brings rain. (5)
11. *Lingula* is not Argon, Titanium, Copper, Lathanum and Tellurium, dopehead! (11)
13. See 7 Across. (5)
14. Sedimentary particles form an oil-platform in its youth. (9)
15. Pole and pole, sound for a rock! (9)
20. In total it resembles a metric measure. (5)
21. Tiny bed takes a pole and beaches. (5)
23. Astute miner loses time but makes up on speed. (4)

EASY CLUES

Across:

7. Queer. (5)
8. Fossilized faeces. (9)
9. Gary advertising cigarettes? (5)
10. Small land mass surrounded. (6,3)
12. Glacial erosion. (3,8)
16. Afrikaans for Chalk. (4)
17. Fried chips found. (2,3)
18. Four long periods of geological time-scale. (4)
19. Invertebrate terrors of Devonian seas. (11)
22. Big tetrapods, warm-blooded or not. (9)
24. Semi-precious gem. (5)

25. Sickie-moons. (9)
26. Senseless, idiotic. (5)

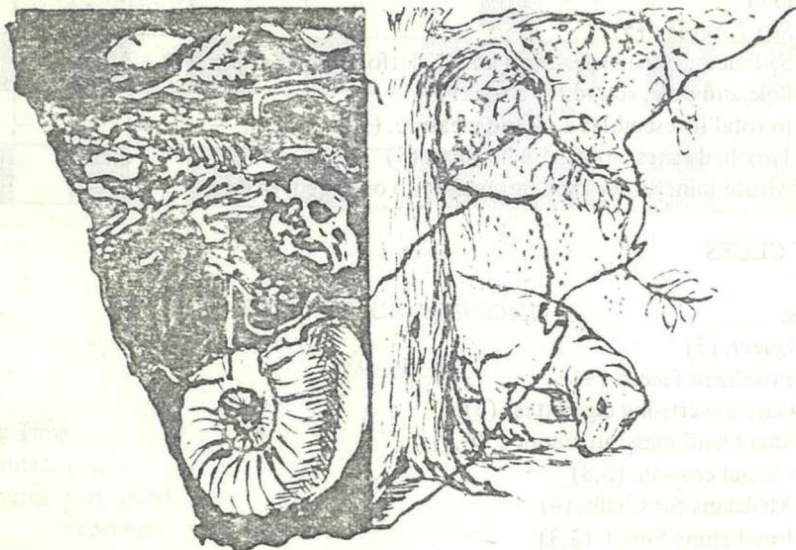
Down:

1. Formation of the Lower Cretaceous. (5,4)
2. Greyish arenaceous rocks. (9)
3. Hardness scale. (4)
4. Old name for the Upper Jurassic in Europe. (5,6)
5. Cutting tool, as for shaving. (5)
6. Something like a cloud-burst. (5)
11. What the legs of fossil arthropods are supposed to have done. (11)
13. A tale. (5)
14. Land-formed sediments, but may also be found in the sea. (9)
15. Geologic structure common at Clarens. (9)
20. Metric measurement of volume. (5)
21. Sea-shore and vicinity. (5)
23. Men ... blondes great. (4)

*For Crossword Solution see p. 20*

PALAEONTOLOGICAL SOCIETY  
OF SOUTHERN AFRICA

PALEONTOLOGIESE VERENIGING  
VAN SUIDER-AFRIKA



FIRST SYMPOSIUM

EERSTE SIMPOSIUM

BLOEMFONTEIN R.S.A.

*One of the designs for a first-day cover submitted by Mrs Audrey van Eeden of the National Museum. The left half is blue and the right half green and brown. Comments are welcome!*



## REPORT ON COLLECTING METHODS

### Dept. of Geology, Rhodes University:

In a systematic study, material is collected by bulk sampling in order to reduce the degree of "collector's bias". This involves taking large pieces of known fossiliferous rock from different localities and subsequently breaking them up in the laboratory. This way all specimens, whether good or bad, are recovered and an accurate count of the relative numbers of the different invertebrate groups present can be made. From those localities where fossils are less common, individual specimens can be taken but again one must be careful to avoid collecting only the larger, better preserved specimens.

In an ecological study, one must take careful note of the sediment enclosing the fossils, the position of the fossils within the sediment and any orientation of the fossils. If appropriate exposures are available then using a grid system one can "map" the position of individual specimens. Photographs are very useful in this respect.

The locality is fixed geographically by marking its position on a map (noting reference) and/or aerial photograph and by noting its bearing and distance from a convenient landmark such as a farm house or bridge over a stream. The stratigraphic position of the locality is also determined as accurately as possible; a well defined lithostratigraphy is necessary for this. A brief description of the site is also very useful. These can then be used to re-locate the site.

#### *e.g. Locality Z*

in dark grey mudstone, x metres below base of massive quartz-arenite bed (Formation name if known) exposed in north side of small quarry (map reference), y metres s.s.w. of farmhouse (name, if known).

This may not be the ideal method but it has proved successful in the past.

The author's particular interest is in Palaeozoic Brachiopods and to a lesser degree trilobites, and the bulk sampling technique lends itself quite well to recovery of these groups.

*Norton Hiller*

### Geological Survey, Pretoria

Much of the palaeontological collecting conducted by the Geological Survey is for the purposes of biostratigraphic research. This necessarily involves the retrieval of thousands of specimens from areas as large as outcrop permits. To the stratigraphist the value of these fossils lies not only in their type but also in their locality. The emphasis is therefore on the gathering and recording of detailed locality data, in the field, at the time of fossil retrieval.

Karoo vertebrates have attracted the attention of palaeontologists for many years but more often than not the locality information published refers to a vague area or much duplicated farm name. Thus countless specimens were rendered useless for future biostratigraphic research. It is the aim of the Geological Survey to provide future research workers with precise locality information of each and every fossil in its collection enabling particular outcrops to be revisited.

To date some 2 500 mammal-like reptile fossils have been retrieved from the Beaufort succession and taken into the Geological Survey collection in Pretoria. From retrieval to final storage of a fossil the following steps are taken:

(i) Fossil is located and excavated. All weathered out bone fragments are collected from the immediate vicinity and every effort is made to collect all such fragments. Sieving of alluvial sand is performed in special circumstances when a vital fragment is missing. Gypsum (Plaster of Paris) and thinned glyptal (industrial adhesive) are used prior to lifting if the fossil is in danger of disintegrating. In-situ orientation measurements of the snout direction of skulls are made in selected areas. Notes are made of the attitude, degree of disarticulation of the fossil, lithology of locality and sedimentological observations.

(ii) A field number is allocated and written in ink (felt tip) on suitable exposed bone surface (or securely attached matrix) and on each separate fragment.

(iii) The field number is then plotted (at the site of excavation) onto a 1:45 000 scale aerial photograph. Positions and description of fossils observed but not allocated are also noted on the aerial photographs. These usually include isolated scapulae or vertebrae within basal clay pebble conglomerates and very badly weathered post crania.

(iv) The fossil is transported to field camp where fragments are glued into place to make the fossil as complete as possible. It is then wrapped and packed for transportation to Pretoria.

(v) In camp, the fossil locality is plotted from the aerial photograph onto a 1: 50 000 scale topocadastral map and a catalogue card is referenced with the field number. The following information is then recorded on this field card.

- a. Field reference no.
- b. Provisional identification - to be altered if necessary after preparation.
- c. Lithostratigraphic mapping unit (when known)
- d. Brief description of fossil - state of completeness, weathering, distortion.  
Lithology of locality - immediate lithology and general sedimentological observations.
- e. Finder's name.



a  
R.M.S. 1205

b  
K<sub>3</sub>16

Cistecephalus

66° ENE ----- j

d----- (Small skull+ articulate lowerjaw - wide intertemporal area. Flattened dorso-ventrally. Dark grey mudstone. Rapidly alternating mudstone and siltstone. Dorsal-up attitude.

e----- FINDER. Mr S. N'Kosi

f----- MAP. 3222AA REIERSVLEI PHOTO Strip 4-298 ----- i

g----- G.R. 32°06'26"S 22°04'38"E

Brandewynsgat 214 (Bergvallei)

h

RULES OF THIS  
PALAEOLOGY  
LABORATORY

1. Any talk on religion, politics and horse racing is absobloominglutely forbidden. Any talk on evolution and sex (especially ♀) is welcome, but please bear in mind that this might frustrate the Messrs Pope, Bishop and D.O. Minee, if any of them should ever be present.
2. But if you have a racy story, saucy limerick or an Opus on Venus you want to relate, tell it loud enough so that all those present can hear it.
3. Contrary to what your first impression might be we *work* here - but only two to a tool.
4. Don't squat on the table or work bench. Whatever is there eventually gets



- prepared, and it might not be the kind of reparation you think we do here.
5. Ladies, please keep your (.) (.) off the work bench. It leaves a bad impression on visitors and rubber molds. And ladies in tight skirts and low-cut gowns should bear in mind that although we work with fossils, we are not fossilized.
  6. No pinching, patting, petting or spanking of any part of the tender gender (or any other gender, for that matter, you *tata de luxe*) will be tolerated, unless it happens with their express permission.
  7. If you have to mount a skeleton, get a private place.
  8. All visitors and occasional droppers-in, drop-outs and fall-outs, please note that you can help yourself to whatever you see lying around, but Allah help you if you are caught helping yourself in this lab.
  9. The acetone is in the bottle marked "water" and the alcohol in the can labelled "hydrochloric acid". There's Coke in the fridge and beer in the bottle store around the corner. Water? So what do you want water for?
  10. Except maybe rule 9, none of the above shall apply to the Palaeontologist in Charge.

By order

.....(Put cross here)  
THE PALAEOLOGIST IN CHARGE

- f. 1:50 000 map reference number and title.
- g. 12 figure grid reference of fossil locality.
- h. Farm name - original farm name as on topocadastral map along with farm number plus new name if any, in brackets.
- i. Aerial photograph frame number and strip number.
- j. Snout orientation of fossil (when recorded).

(vi) The fossil is transported by road to Pretoria and unpacked.

(vii) Preparation priority is noted on field cards using a "4 star" system.

(vii) Post-preparation identification to species level is made when possible and discrepancy with the provisional identification altered accordingly.

(ix) Prepared fossils are taken into the Survey Collection and allocated a collection number properly applied to the fossil with a white background. Both field and collection numbers are cross referenced in the GSD collection catalogue. All maps, photographs and field cards are filed and readily available.

Biostratigraphic fossil collecting methods differ from other areas of palaeontological research in that every identifiable fossil encountered in the field is retrieved. Most of the specimens of Karoo vertebrates collected are incomplete, distorted and weathered and would never reach the museum case but nevertheless provide valuable data in the construction of reptile assemblages and relative population densities. The two methods of collecting involved in the Karoo project are here termed systematic and reconnaissance.

### Systematic collection

Systematic collection is conducted in limited areas selected to provide adequate exposure of successive strata. Every outcrop is covered systematically and every fossil retrieved. In such areas it is, of course, necessary to have some method of determining the stratigraphic position of localities. In the Southern Karoo structural deformation renders large areas unsuitable for systematic collecting. Other areas, for example the Nuweveld Escarpment, are undisturbed except by dolerite intrusion causing minor displacements which can be compensated for by direct measurement. These areas are conducive to systematic collection. The results of such intensive collecting truly reflect not only the preserved faunal assemblages but also fluctuations in relative densities of individual populations with passage through the succession.

### Reconnaissance collection

Once distinct faunal assemblages have been identified reconnaissance collecting of more widely dispersed areas is conducted to ascertain lateral continuity of the faunal



assemblages and thus allocate zonal status to those which qualify. Such collecting was effected in the structurally complicated areas of the southern Karoo. The major difference between the two methods is that during reconnaissance collecting the fossil recovery is curtailed as soon as an outcrop area can be assigned with certainty to a particular assemblage zone.

Seven broad reptile assemblage zones have been established and mapped within the Beaufort Group strata. Future research may lead to the identification of more limited concurrent range zones, acme zones and barren intrazonal zones. Thus in future, the need for accurate detailed locality information will become even more crucial.

Roger Smith



'Oh, I'm the missing link for the centaurs!'

## REMINDERS

\* **Membership fees:** Only about a quarter of our members have paid their dues to date. If you have not paid yet, please send your cheque or postal order as soon as possible to The Treasurer, PSSA, c/o National Museum, P.O. Box 266, 9300 Bloemfontein.

\* **Next Newsletter:** The next Newsletter should appear in March, with *inter alia* more information on our first Symposium. Please submit all news items and articles before the end of February 1979.

\* **Change of Address:** Please notify us in advance if you are about to move; this is the only way circulars will reach you in time.

Thanks!

## IMPORTANT DISCOVERY OF FOSSIL TRACKS IN THE UPPER BEAUFORT (CYNOGATHUS ZONE)

At the beginning of this year, Mr L.J.J. Botha of Middelburg discovered a series of fossil tracks in sandstone belonging to the Upper Beaufort. The tracks, some fourteen in all, are located east of Hofmeyr and are of considerable importance because they are the only tracks known from the *Cynogathus* Zone.

The tracks are situated in a stream bed and it is probable that the action of the water on the relatively soft sandstone will result in their obliteration in a relatively short period of time. For this reason the National Monuments Council has decided that the tracks should be removed to the National Museum, Bloemfontein, for preservation. However, in order to enable interested scientists to study the tracks in the situ the Council has decided that removal can only take place after the beginning of 1980.

In order to protect the tracks from possible vandalism the precise locality will not be released but any scientist wishing to examine the tracks in situ may obtain full details upon application to the National Monuments Council.

A.J.B. HUMPHREYS  
Senior Professional Officer  
National Monuments Council  
P O Box 4637  
8000 CAPE TOWN

### SOLUTION TO GEO-POT CROSSWORD

#### Across:

- 7. Fairy
- 8. Coprolite
- 9. Playa
- 10. Island Arc
- 12. Ice Abrasion
- 16. Kalk
- 17. In Oil
- 18. Eras
- 19. Eurypterids
- 22. Dinosaurs
- 24. Agate
- 25. Crescents
- 26. Inane

#### Down:

- 1. Gault Clay
- 2. Greywacke
- 3. Mohs
- 4. Great Oolite
- 5. Blade
- 6. Storm
- 11. Articulated
- 13. Story
- 14. Terrigens
- 15. Sandstone
- 20. Litre
- 21. Coast
- 23. Rate



## THE OLDEST VERTEBRATE FROM SOUTHERN AFRICA?

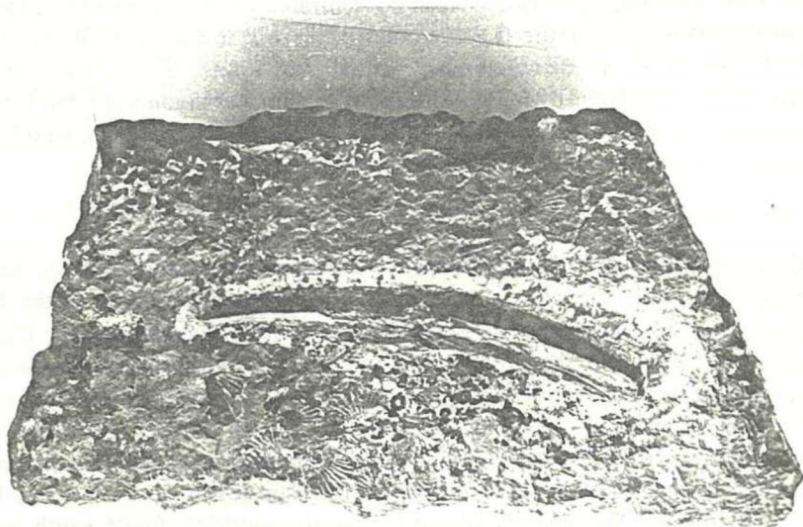
by

Roy Oosthuizen  
(Prince Albert)

In my collection there is what I believe to be the oldest vertebrate remains from Southern Africa. (Any contradictions will be welcome!) The specimen is a complete acanthodian spine (*Gyracanthus* sp.), is 15cm long, slightly flattened dorso-ventrally and with the characteristic "chevron pattern" clearly visible, - which is unfortunately not seen on the accompanying photograph.

I found the spine in the lowermost (first) Bokkeveld Sandstone at Gamkapoort in 1965 during the construction of the Gamka Poort Dam. Du Toit (1956, p. 252) mentions a fish spine from the Bokkeveld beds, but I have been unable to trace the specimen or to find any information regarding its stratigraphic position. Placoderm (?) remains have of course been found recently much higher up in the Bokkeveld succession near Barrydale (J.N. Theron, personal communication).

Any information relating to Du Toit's fish spine will be appreciated. Perhaps it was sent overseas for identification (as *Macraeracanthus* sp.) and never returned.



## TRANSVAAL MUSEUM

ELIZABETH VRBA sent in a report for the previous issue of PAL NEWS, but it was received just too late to be published. The report reads as follows:

In March 1977 Mr David Panagos joined the staff of the Transvaal Museum Palaeontology Department. During the past year a lot of headway has been made in the Kromdraai australopithecine site (KB) excavation. Through clearing operations we have established that two quite separate bodies of breccia exist at KB: an eastern one (KBE) where Robert Broom and Bob Brain found the apeman fossils, and a western one (KBW). To date we have recognized at least four successive breccias (members 1-4) in the KBE pit. Recently a juvenile apeman mandible emerged from Member 3, pinpointing at last the source of the KB hominid sample. Of the three successive breccias in the KBW pit the most recent one is closely packed with fossils. Cores drilled through the KB breccias have told us a lot about cave shape and stratigraphy. Professors Andrew Brock, Phil McFadden and Dai Jones have sampled the KB breccias extensively with a view to palaeo-magnetic analyses. Dr Tim Partridge is about to start on a detailed stratigraphical and sedimentological analysis of KB. The coming year should start providing information on the chronology, accumulation and depositional histories, faunal associations and ecology of the KB breccias.

## GEOLOGICAL SURVEY, PRETORIA

For the past few months work has been concentrated on the final compilation of a palaeontological edition of the G.S.O. Annals. This will include contributions from André Keyser (on a Bauriamorph), André & Roger Smith (on Beaufort Biostratigraphy), Eva Endrody (on *Glossopteris* venation and taxonomy), Ian Brink (on the catalogue of Karoo Vertebrates) and Roger Smith (on the sedimentology & taphonomy of Lower Beaufort flood plain deposits).

In May André Keyser & Roger Smith spent a strenuous but rewarding three weeks in S.W.A./Namibia with the aim of studying and collecting fossils from the Karoo successions. A good collection of *Mesosaurus* & *Notocaris* was made from the Whitehill Formation outcropping in the Grünau area. An excursion to Etjo mountain resulted in the recovery of two handsome *Diademodon*/*Titanogomphodon* skulls which are now being lovingly prepared by Mrs. Lien Roux & Mrs. Pamela Prouse. In the Doros area some amphibian vertebrae were found in strata containing what superficially appears to be a derived deposit of *Mesosaurus* post crania. Plant fossils were also found in the Doros area (mainly *Sphenophyllum*) and near the petrified forest south east of Franzfontein (*Glossopteris*).



Mrs. Sopik has had her work cut out with the sampling, preparation and slide mounting involved in Colin MacRac's palynological analysis of cores from the Kruger Park. Colin recently completed his dissertation on the palynology of palaeozoic strata in Botswana.

## BERNARD PRICE INSTITUTE

JAMES KITCHING reports as follows:

1. My paper on the stratigraphical distribution and occurrence of the South African fossil Amphibia is at present in galley proof stage for *Palaeontologia Africana* volume 21.
2. Professor E.H. Colbert and I have completed our manuscript on the Triassic scaloposaurid reptiles from Antarctica, which will be published in the *American Museum Novitates* in the not too distant future.
3. For some time now I have been looking at fossil Arthropoda (a centipede, blow fly pupae, beetle cocoon and dung beetle ball casts) from the Limeworks australopithecine deposit at Makapansgat, Potgietersburg, and have reached the writing-up stage.
4. During March/April 1978, three most interesting weeks were spent with Professor Mario Barberena at the Institute of Geosciences, Federal University of Rio Grande do Sul, Porto Alegre, Brazil. Not only were a fair number of anomodonts, cynodonts and amphibians from the Santa Maria and Rio do Rasto Formations examined, but I was also very kindly taken on a conducted tour, with frequent stops, to examine the sediments assigned to the Brazilian Gondwanaland.
5. At present both Dr. S.H. Haughton and I are in the midst of revising the bibliographical list of fossil Reptilia from the Karroo beds of Africa, and are having a tough time keeping ahead of our typist, Mrs. D. King.

JAMES KITCHING, JIM HOPSON and his student, ART(HUR) BUSBEY, spent some six weeks in the Elliot Formation (or what used to be called the Red Beds) in the Golden Gate, Clarens and Fouriesburg districts. This was James' first real expedition to the Elliot apart from a short visit some years ago when he collected a number of dinosaur eggs, but nevertheless the party came away with more than a hundred fossils. These included a dozen *Tritylodon* specimens, mostly skulls. Jacques van Heerden joined the party for the last ten days at Fouriesburg and fully endorses the following limerick by Art:

James Kitching, well, he's quite a guy,  
And he's got such a wonderful eye.  
If a fossil's around  
Sticking out of the ground  
Within ten miles, that beastie he'll spy.

James' field cooking is also worth mentioning - you actually *gain* weight in spite of all that walking and climbing up and down mountain sides! Congratulations are also in order to James and his daughter, the latter presenting her husband with a little girl and making James the only active fossil collecting grandfather we know of!

Jim Hopson and Art Busbey have also joined the PSSA and Art is also the author of the following limerick on Jim the Son of Hop:

Jim Hopson has found a small beast  
But it's geared more toward famine than feast  
For the creature's been dead  
(Without tail or a head)  
Since the end of the Trias, at least.

ARTHUR CRUICKSHANK left the BPI at the end of July and now resides in Scotland. His address there is as follows:

c/o Haddon  
Honeyburn  
HAWICK  
Roxburghshire SCOTLAND

Arthur also attended the 26th Symposium of Vertebrate Palaeontology and Comparative Anatomy held in Reading in September; his report on the meeting will be published in the South African Journal of Science.

MIKE RAATH is the new Director of the BPI since the first of July and also became Professor of Palaeontology at Wits on the same day. Congratulations, Mike, and STERKTE! We hope that you and your family will be very happy in the new environment. We believe that Salisbury's loss is our gain!

Mike's thesis on the Triassic coelurosaur, *Syntarsus*, should also be published in the near future.

JUDY MAGUIRE recently published a paper, "Southern African fossil porcupines", in the *S. Afr. J. Sci.* 74: 144, and another, entitled "Palaeontology projects for gifted schoolchildren" in the *Report on the first national workshop on the education of the gifted child*, at Wits University.

Judy also has a number of papers in progress, viz. (1) The fossil Hystricidae of the Transvaal ape-man bearing localities; (2) The fossil Hystricidae from Langebaanweg; (3) A fossil porcupine from the Chemeron formation; (4) An updated faunal list for Makapansgat Limeworks (for SASQUA), and nearing completion, (5) Porcupines, bone accumulations and bone tools.



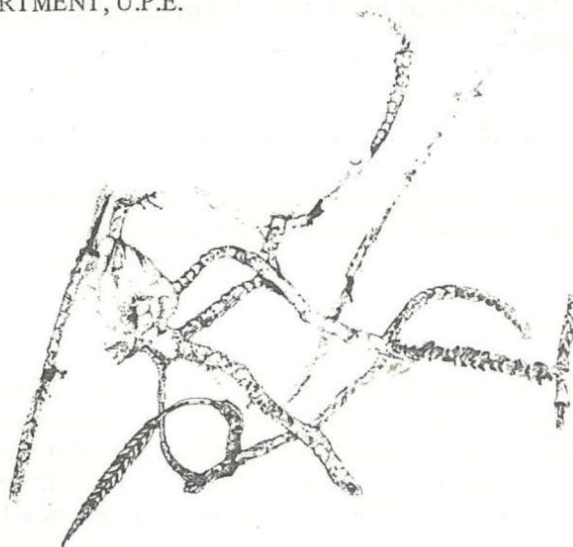
BRIAN MAGUIRE submitted a thesis entitled "The food plants of the !Kung Bushmen of northeastern South West Africa" to the Science Faculty of Wits University in March this year. His research projects include the following: (1) A comprehensive checklist of plants occurring in the Makapansgat Valley and its immediate environs; (2) A detailed key and descriptions of food plants of Makapansgat Valley with a view to assessing the potential vegetable dietary of the Limeworks ape-man, *Australopithecus africanus*; and (3) Early lithic artefacts from the Makapansgat Limeworks (for SASQUA).

#### SOUTH AFRICAN MUSEUM

MIKE CLUVER is also at present doing fieldwork, while HERBIE KLINGER has just returned from a visit to Zululand, where he had a good look at the stratigraphy.

BRETT HENDEY, who joined the Society in London (of all places!), will be returning shortly from an extended visit to Europe, where he has studied Tertiary mammals in a number of museums. Brett (like others who have recently visited Europe) found it rather expensive, however, and will have to return sooner than he planned.

#### GEOLOGY DEPARTMENT, U.P.E.



RUSSELL SHONE has been in the news. Apparently somebody found fossilized UFO tracks near Port Elizabeth and Russell has been out there to inspect and report. It would be interesting to hear what his conclusions are - it might be the explanation for a number of other phenomena observed in South Africa, inter alia the Taungs baby and the Kromdraai fauna!

## GEOLOGY DEPARTMENT, RHODES

NORTON HILLER, having now completed a year as a lecturer, has finally found some time to devote to palaeontology. He has just completed the description of a new species of the terebratulacean brachiopod *Megerlina*, specimens of which were recovered from limestones of late Pleistocene age at Lake St. Lucia by Dave Hobday (until recently at University of Natal, Pietermaritzburg). The description should be ready for publication in the near future.

Initial collecting has been done for a project which will entail a revision of the brachiopod fauna of the Bokkeveld Group and, on the recommendation of Prof. Arthur Boucot who recently visited this country, a detailed look at the biostratigraphy and palaeoecology of the fauna. It is hoped that further collecting will be done this coming summer.

Allied to this project will be a study of the much rarer invertebrate faunas of the Witteberg Group. Any information regarding localities or the whereabouts of known specimens from this group will be much appreciated.

Norton would like a copy of:

Clark, J.M. 1913, FOSSEIS DEVONIANOS do PARANÁ, *Monogr., Serv. Geol. e Min., do Brasil*, 1, 353 p. and copies of any other references on South American Devonian invertebrate faunas.

## GEOLOGY DEPARTMENT, U.O.F.S.

WAYNE COLLISTON has completed his field-work for his M.Sc. and now has to do the paper-work - he hopes to graduate early next year.

## FOREIGN MEMBERS

Arthur Cruickshank became the first foreign member of the PSSA when he moved to Scotland in August. Soon afterwards Peter Galton (University of Bridgeport), Connecticut) also joined, while Jim Hopson and Art Busbey (University of Chicago) became members in November. Two American and one British library have subscribed to PAL NEWS, so we have some reason to say that our Newsletter is becoming international!

In order to overcome the language problems, we suggest that reports be written in either Afrikaans or English, but we would prefer any articles (that is, anything outside the News Section) to be in English. We would like to thank our Afrikaans-speaking members in advance for their kind co-operation in this respect.



## A SHORT VISIT TO EUROPE

Through the liberal grants of the National Museum and the C S I R I had the opportunity to spend seven weeks in Europe during August and September, visiting various museums and institutes and attending two international symposia. I want to thank the above-mentioned bodies for the grants, but I am also infinitely grateful to all those who made my stay so pleasant.

The first port of call was Vienna, but this proved to be a bit of a disappointment, as the South African dinosaur material sent there by Gogga Brown could not be found. Next came Tübingen, where Huene worked, but most of the material he described is to be found in Ludwigsburg. Prof. Frank Westphal very kindly made arrangements with Dr Rupert Wild and Rupert and his wife, Barbara, absolutely overwhelmed me with kindness. Rupert would like to visit South Africa in the near future and would also like to exchange publications with all those working on fossil reptiles. His full address is as follows:

Dr Rupert Wild  
714 LUDWIGSBURG  
Staatl. Museum f. Naturkunde  
Arsenalplatz 3  
WEST GERMANY

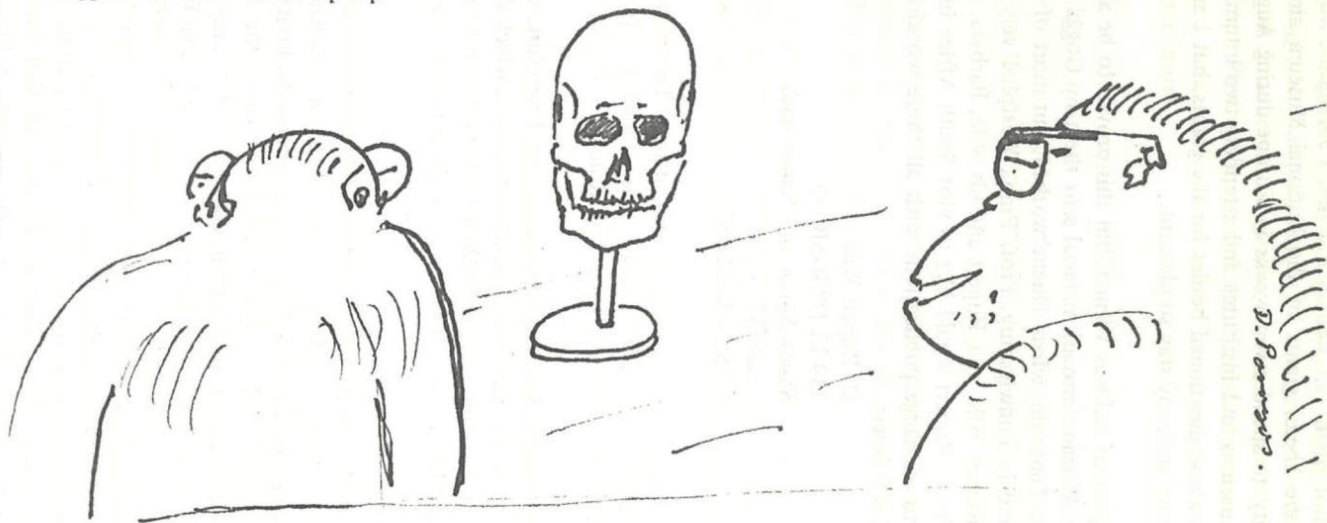
Here in Ludwigsburg I had a brief look at some Triassic saurischians and Rupert and I could establish that *Plateosaurus* was definitely quadrupedal, not bipedal as reconstructed by Huene and figured by Romer.

Next stop was the Senckenberg Museum in Frankfurt, where I was impressed with their display techniques and especially the way in which different wall and floor levels are utilized. However, the age of *Dimetrodon* is incorrect (I think they have it as Early Triassic) and *Plateosaurus* is shown to be the carnosaur ancestor!

On to London, where I studied Triassic and Jurassic saurischians in company with Peter Galton (Bridgeport University, Connecticut). We had the opportunity to sort out some problems before we left for Paris to attend the First International Symposium on Mesozoic Continental Ecosystems from the 4th till the 11th of September. With my absolute minimum of French ("sil woe plê" and "mercy") I managed to get through the Metro to the Institut de Paléontologie where I, most fortunately, met Jim Hopson, who hired a taxi to take us to the Unesco Club where we stayed. I don't expect anybody will believe me when I state that I did not visit the Moulin Rouge and did not see the Folies Bergere, but that's true! I had my job cut out to stay with somebody during the evening who was capable of ordering dinner in French - Alan Charig and Barry Cox kindly obliged most of the time. Another drawback of this symposium was the fact that about half the papers were delivered in French and no English summaries supplied.

'I suggest we call it *Homo sap sap*'

'Would you say this was ante-diluvian?'



(Cartoon by David Panagos)



Nevertheless, the symposium managed to some extent to realize its basic aim, viz. to get the authorities from different disciplines together to discuss Mesozoic ecology. At the end of the symposium we had a two-day visit to Normandy and nobody is likely to forget the French wines, champagne and the calvados - although some may have difficulties in remembering large parts of the bus trip back to Paris on Sunday night!

The 26th Symposium on Vertebrate Palaeontology and Comparative Anatomy was held in Reading and started on the evening of the thirteenth with a lecture, illustrated with slides, by Bev Halstead on a trip to Nigeria in December/January. Here I also met Arthur and Enid Cruickshank again and those wanting to know more about the Symposium had better look out for his report in the *South African Journal of Science*. This symposium was concluded with a weekend visit to the Isle of Wight, with visits to various Mesozoic and Tertiary sites.

On the Sunday night we returned to Reading and the next morning Arthur, Enid and I left for Scotland in an Avis car. This trip included a brief stop in the Lake District and a guided tour through Edinburgh (Arthur being my most able and enthusiastic guide). On the Wednesday we went through to Newcastle-upon-Tyne, where Alick Walker showed me his *Ornithosuchus* material. Alick's wife also prepared an excellent dinner so everybody was "vreetsaam". After dinner I bade farewell to Arthur and Enid, who send their regards to everybody in South Africa. And if you want to do them a favour, take a bottle of S.A. sherry with you next time you go over!

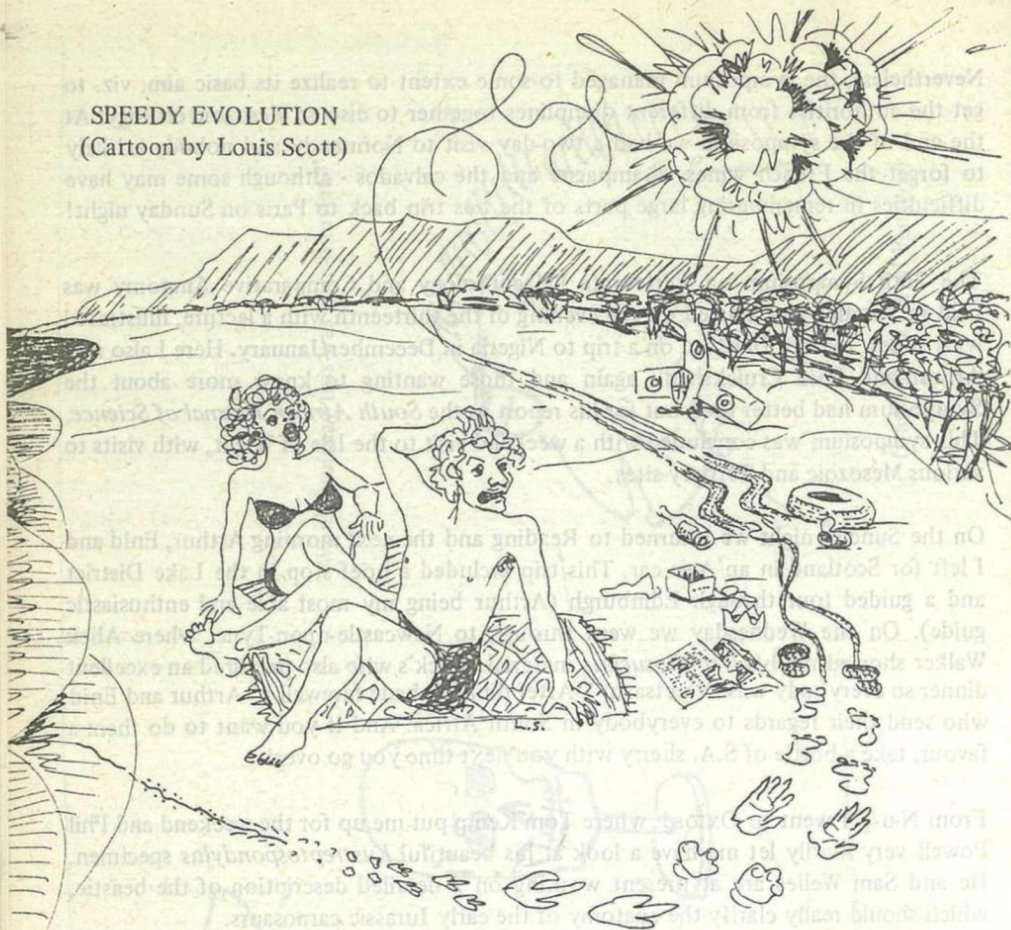
From N-u-T I went to Oxford, where Tom Kemp put me up for the weekend and Phil Powell very kindly let me have a look at his beautiful *Eustreptospondylus* specimen. He and Sam Welles are at present working on a detailed description of the beastie, which should really clarify the anatomy of the early Jurassic carnosaurs.

And so back to London and the BM, where Alan Charig and his wife very kindly harboured me for the last few days. Alan also showed me his *Mandasuchus* and *Teleocrater* material, which he still hopes to get published one day. I also met John Attridge and he, Alan and I had a very interesting discussion over lunch.

And what was the most wonderful sight of all? The Golden City, as the plane came in to land at Jan Smuts!

Jacques van Heerden  
(National Museum)

# **SPEEDY EVOLUTION** (Cartoon by Louis Scott)



## **TRANSLATIONS AVAILABLE**

The following two translations from the original Spanish are available free of charge to all PSSA members. The price of each for non-members is given in brackets. The translations do not include figures.

BONAPARTE, J.F. 1971. Los tetrapodos del sector de la formacion Los Colorados, La Rioja, Argentina (Triásico Superior). *Op. lill.* 22: Translation ONLY of pp. 129-164. (R1.60).

BENEDETTO, J.L. 1973. The Herrerasauridae, a new family of Triassic Saurischia. *Ameghiniana* 10: 89-102. (R0-80).

If any members have translations they would be willing to distribute in a similar way, we would be most grateful to receive them.



