

## PALAEONTOLOGY AND THE NATIONAL MONUMENTS COUNCIL

by

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### ABSTRACT

The National Monuments Council is the only statutory body that actively protects the palaeontological resources in South Africa. It does this in three ways: by issuing permits for excavation, collection and export of palaeontological material; by declaring sites of particular scientific importance national monuments; and by compiling a register of conservation-worthy property that can include palaeontological sites. It is important that palaeontologists in South Africa are aware of the terms of the National Monuments Act and that they assist the National Monuments Council in drawing up policy and guidelines. Close co-operation between the PSSA and the NMC can be of mutual benefit with regard to formulating principles and criteria for evaluating permit applications, identifying sites that may be affected by development, and predicting the implications that promoting palaeontology may have for site protection and management.

KEY WORD: Fossil conservation.

### BACKGROUND TO THE LEGISLATION

Fossil sites were first protected in South Africa in terms of Act No. 6 of 1923 which made provision 'for the preservation of natural and historical monuments of the Union and of objects of aesthetic, historical or scientific value or interest', but specific mention of fossils and fossil sites was included only in the Natural and Historical Monuments, Relics and Antiques Act, Act No. 4 of 1934. This Act allowed for the declaration of fossil sites as national monuments (Makapansgat and Sterkfontein were declared in the late 1930s) and made it necessary for a permit to be obtained to excavate fossils from a national monument, but it did not prevent anyone from collecting fossils that were not part of a national monument, nor did it control the export of fossils.

The issue of whether anyone should be allowed to collect, sell and export fossils found in the veld was a hot one that was vigorously debated. Some of the correspondence on file at the National Monuments Council shows that the fires were being fuelled as early as 1917. Maria Wilman, Director of the McGregor Museum in Kimberley, was up in arms against Robert Broom because he had sold his collection of South African vertebrate fossils to the American Museum of Natural History in New York. The South African Association for the Advancement of Science (S2A3) lodged a strong objection to this practice and wrote to the Minister of Education asking for legislation to be enacted to control the export of fossils. Dr Broom vigorously defended his actions and the Minister replied on 21 February 1917 that 'for good reasons it is not advisable to take legislative action . . . for the

protection of South African fossils'. In somewhat dramatic fashion, Broom claimed in a letter dated 12 September 1917, to the President of S2A3 who had raised the matter in his Presidential Address:

The collection which I sold to New York, South Africa could have had for a ten pound note but deliberately rejected my offer. I had resolved that having rejected my offer it was not going to be repeated and that wherever my collection went it was not going to remain in South Africa . . .

The Museum directors who are behind this agitation may succeed in persuading Government to take some action but I much doubt it, and will certainly do my best to prevent anything foolish being done. It would be quite as reasonable to ask Government to prohibit the exportation of diamonds because Museum curators thought all the finest ones should go to South African Museums, and wanted them cheap.

The opinion amongst the museum directors was that fossils should not be regarded as a source of revenue to anyone. They continued to discuss the matter and in July 1935 the Association passed a resolution that they viewed "with alarm the indiscriminate exportation of South African fossils". They proposed that:

- (a) The export of fossils by private persons should be prohibited . . .
- (b) Only Museums, Universities and Government Departments should be allowed to export duplicate specimens in exchange with overseas institutions . . .
- (c) While excavating and collecting by recognised scientists from overseas would be welcomed, the Union Government should nevertheless reserve to itself the ownership in any types that may be thus collected . . .

The Historical Monuments Commission duly sent a memorandum to the Minister and discussed control over the collection and export of 'relics' which included fossils. One of the suggestions was that in order to control which fossils could be exported, an exhibition be held of the finds to enable an expert to examine them and advise the Commission which should or should not be permitted to be exported permanently.

Broom, who appears in correspondence with Van Riet Lowe to have agreed with the sentiments behind the legislation, nevertheless wrote to a number of newspapers deprecating the idea of South Africa "adopting a 'dog-in-the-manger policy' in regard to fossils, of which, he said, there were vast quantities available in the Karoo and elsewhere" (The Star 20/2/36). Claiming that a policy of exhibiting finds prior to export would be 'fatal', he cites the instance of Professor Camp who had collected over 100 *Dicynodon* skulls in three days. "It would", said Broom, "take many months to examine them all prior to export". He wrote (in litt. to Van Riet Lowe 22/2/36) that:

even supposing all could be examined, what would happen if the Commission's recommendations were agreed to would be that all the good specimens Camp had collected would be retained in some South African museum and he would be allowed to keep the rubbish. No foreign Scientist would tolerate such treatment. He would say I did not come to South Africa to collect for the South African Museums. He would regard the South African authorities as unfriendly and would probably smuggle out all he considered would be retained if examined.

Despite Broom's protestations, an Amendment to the Act was finally published in September 1938 which prohibited both the removal and export of "any vertebrate fossil" without the written consent of the Historical Monuments Commission. It did not, however, make mention of either invertebrate fossils or fossil plants. This was soon to change.

The citizens of Senekal felt so pleased with the fact that owners of surrounding farms had numerous fossilized trees, that they arranged for these to be brought to the town and trunks of 12 to 83 ft long were placed around the church. Dr A. C. Hoffman delivered a lecture to the congregation and the report in Die Vaderland (5/11/42) said he:

het van die welige plantegroei en die dierlewe van tienduizend jaar gelede vertel wat waarlik wonder-werke van God was . . . Hy meen Senekal se kerkplein is die beste in die Unie - smaakvol bewerk, artistiek en wetenskaplik.

(told of the luxuriant vegetation and animal life of ten thousand years ago that were truly miracles of God . . . He believed that Senekal's church square was the best in the Union - tastefully constructed, artistic and scientific)

This was followed by a request from the Town Clerk of Senekal to declare the wall of fossils a national monument (in litt. 17/11/42), but the Chairman of the Commission thought this could lead to other churches

doing the same and suggested instead that the Act be amended to include the protection of plant and invertebrate fossils. This was supported by the S A Museums Association, S2A3 and by various members of the Historical Monuments Commission, but S. H. Haughton felt that it would be better not to include invertebrate fossils. He reasoned that there were so many such fossils that such a law would be unnecessary. As a result, the by-law published in 1943 was directed specifically at fossil wood. Anyone wishing to remove it was required to apply for a permit stating the locality of the fossil, the dimensions of its visible parts and the purpose of removal.

Broom continued to put his case forward. In an article in the *Outspan* in 1943 he wrote:

Unfortunately, in quite recent times, the Monuments Commission has come to the conclusion that amateur fossil hunting should be stopped, or at least restricted to those who have the Commission's approval. This, I think, is to be regretted . . . To save a valuable fossil from being destroyed by a flock of sheep seems to me an act that ought rather to be encouraged than condemned.

He would no doubt have waxed even more eloquent had he been alive 26 years later when the National Monuments Act (Act No. 28 of 1969) was promulgated. It made it necessary for a permit to be obtained to excavate, remove from its original site or to export "any fossil". Anyone convicted of an offence in terms of the Act is liable for a fine of up to R10 000, or two years' imprisonment, or both.

The broad definition of 'any fossil' is not, of course, strictly applied. If it were, coal exporters, for example, would require permits from the NMC. Instead, it gives the Council the opportunity to control the removal and export of all fossils at its discretion and when it is needed.

### THE STRUCTURE OF THE NATIONAL MONUMENTS COUNCIL

As constituted by the National Monuments Act of 1969, the National Monuments Council is a statutory body that falls under the ambit of the Department of National Education. The Minister appoints the councillors and a Chairman every five years, most recently in 1989. The current Chairman, Mr Justice M. R. de Kock, is at present in his fourth term. The Council members are not paid for their services and meet twice a year. They include Mr H.A. Sloet as Vice-Chairman, Mr H.P. Abdoll, Mrs F. Bird, Dr W.A. Cruywagen, Professor H.J. Deacon, Maj. D.D. Hall, Mr J.C. Loock, Mrs W. Malherbe, Prof. S.J. Maphalala, Mr S.S. Singh, Professor D. Theron and Mr D. Yuill.

The Council in turn appoints various committees and sub-committees to which experts in various fields can be co-opted. One of these is the Science Committee which deals with the issuing of permits for palaeontology, archaeology, shipwrecks and the export of meteorites, as well as with matters relating to policy and

planning for these subjects. The members of this committee also serve for five years and currently include Mr J.C. Looock (Chairman), Mrs I. Coetzee, Professor H.J. Deacon, Dr U. Küsel, Professor J.D. Lewis-Williams, Dr M. A. Raath and Dr B. Werz.

The staff of the NMC consists of a Director, currently Mr George Hofmeyr, and two Assistant Directors (Mr D. Martin and Ms H. du Preez) at the head office in Cape Town. Mr Martin deals with administration of staff and of properties owned by the NMC and Ms du Preez is in charge of regional operations. There are six regions with offices in Cape Town, Grahamstown, Kimberley, Bloemfontein, Pretoria and Pietermaritzburg, each with a Regional Manager (usually a cultural historian) and secretarial assistance. Pretoria has a second professional officer and an architect, and Cape Town has three professional officers. British and Boer war graves are part of the NMC portfolio of responsibilities and there is one professional officer in charge of each of these divisions, both based in Pretoria.

To advise the regional staff and to formulate policy and publicity, the Professional and Technical Division at head office employs a conservation planner, an architect and an archaeologist. The archaeologist is responsible for issuing all permits for archaeology, palaeontology, meteorites, shipwrecks and antiques, while permits for the alteration or demolition of buildings are issued by the regional offices. Also at head office are staff members who deal with filing, personnel, proclamations, library, computer and secretarial services, and there are several caretakers employed at properties owned by the Council. The staff complement is about 50.

The total budget for the NMC in 1991/92 was about R4 million, of which R3 million was set aside for salaries. There is therefore very little available for active conservation and much of the funding for this aspect comes from the private sector.

Most of the conservation work done by the NMC is the province of the regional managers. They and their regional committees are concerned with the identification, declaration and maintenance of national monuments and with planning and restoration advice on conservation-worthy property. Where palaeontological and archaeological sites are concerned, the professional officer at head office may be consulted but the initiative and funding is usually done at regional level.

## THE NATIONAL MONUMENTS ACT IN PRACTICE

It is one thing to have blanket legislation to protect all fossils; it is quite another to make it work. During the past century there have been many instances of indiscriminate collecting by both professionals and others, where skulls were removed from the rest of the skeleton or where sites have been blasted apart by dynamite or bulldozed to expose the best specimens.

Over the past 22 years since collecting without a permit was made an offence, however, there have been no arrests or convictions for removing fossils without a permit, yet one has only to mention this fact at a dinner party to hear of half a dozen or more flagrant violations of the Act. The NMC therefore relies heavily on the community of professional palaeontologists to support the principles of the legislation.

The principles can be summarised as follows:

1. every fossil is unique and irreplaceable;
2. it is therefore desirable to conserve fossils in their original context wherever possible;
3. whether this is done by declaring the site a national monument or not, adequate protective measures must be set up to protect the deposits from vandalism and uncontrolled collecting;
4. if fossils are to be collected and removed for study, permit applications must be screened by a panel of experts;
5. the best possible recovery and recording methods must be used;
6. the fossils should be placed in safekeeping, preferably in a museum or university, where they will be accessioned and curated in perpetuity;
7. fossils should not acquire monetary value and should therefore not be bought and sold;
8. the export of fossils, whether temporary or permanent, should be allowed only if they cannot be identified or adequately studied in South Africa;
9. the results of the analysis of fossils should be published and available for public scrutiny; and
10. a record of the location of fossil sites must be kept either regionally at institutions where palaeontologists are employed, or in a national archive.

The way in which the Council applies these principles is through the permit system, through the declaration of national monuments and in planning through the listing of conservation-worthy property in a national register.

### Permits

Collecting and excavation permits are normally issued for a period of three years. Although there has been a major swing amongst archaeologists towards permits for specific sites, palaeontologists have preferred the general permit system. In such cases, a general permit is issued to the head of a university department, usually Geology and more occasionally Zoology, or to the director of a museum, or to the chief palaeontologist at the museum, and this allows professional members of staff, and sometimes visitors as well, to collect fossils on condition that all material is housed at the institution which employs the permit

holder. Site-specific permits are required, however, for places that are declared national monuments such as Makapansgat, Sterkfontein and Swartkrans. There are at present 22 valid general permits for excavating and collecting palaeontological material, three site-specific permits and about 30 current temporary export permits.

In practice, this system makes it possible for local and visiting palaeontologists to collect whatever and whenever they like and they therefore enjoy the freedom it gives them. It is possible, however, that the system could be abused. For example, palaeontologists from two or more institutions may collect from the same site, or even from the same fossil, and claim prior rights, and visitors may be tempted to take material without due consultation. In both instances it is up to the palaeontological community to exercise academic integrity and ensure that this does not happen. The NMC encourages disciplines to set their own criteria for acceptable behaviour.

In addition to the general institutional permits, there are two individuals who have had permits in the past to collect fossils and to keep them, provided that they are available for study. The fossils are accessioned at a recognized institution and will be given to the institution on the death of the permit holder. Another two people currently have permits to allow them to collect on behalf of a museum. None of them is a professional palaeontologist, but all have close ties with museums.

When an application to collect, excavate or export a fossil is received, it is acknowledged and a permit number is assigned. General permits are given consecutive numbers, but site-specific permit numbers are linked to the magisterial district in which the site is situated and it is therefore essential that the district name be given as requested on the application form. Copies of the application are mailed with a covering letter to members of the Science Committee and if no objections are received within two weeks, the permit is issued. When a permit is required urgently, it is possible to canvass opinion from committee members by fax or telephone and to issue a permit within a few hours if necessary. In the case of permits for archaeology, a copy of the application is also sent to a representative appointed by the Southern African Association of Archaeologists; similarly, applications for the export of meteorites or portions of them are sent to the Geological Survey, and applications for shipwreck permits are sometimes sent to the Chairman of the S A Historical Wreck Society for comment. Since this paper was presented palaeontological applications are sent to a representative appointed by the Palaeontological Society of South Africa.

The conditions attached to excavation and collecting permits for palaeontology are based on regulations for archaeological excavations published in the Government Gazette in 1970, or may be imposed according to individual circumstances, as no specific regulations

have been published for palaeontology. The NMC requires only that the site be marked on a 1:50 000 map, that all material be deposited in a recognised scientific institution, that excavations be filled in to the satisfaction of the landowner, and that annual reports and copies of publications be sent to the NMC for record purposes.

Progress reports are required annually, but they vary considerably in quality. Ideally, the NMC would like to have a record of the location of sites, as well as an indication of what was found there and its importance. What often happens, though, is that the permit holder merely reports that "12 fossils were added to the collection during the year". Such information is of little use.

A question that is sometimes asked of the NMC is "Who owns fossils?" The answer is not clearly stated in the National Monuments Act, but according to Roman Dutch Law, fossils on private property would belong to the property owner. However, when a palaeontologist is given a permit by the NMC to collect material, the permit states that such material "becomes the property of and must be lodged with" the institution for which the permit holder works. Technically, then, if a palaeontologist collects a fossil from a private farm without a permit from the NMC, the farmer can legally claim the fossil as his property. However, as the farmer himself may not collect the fossils without a permit, he is effectively prevented from giving them away or selling or trading in them. To clarify the ownership issue more specifically, the NMC has requested the Department of National Education legal advisers to look into the matter.

Another question that often arises is "If I see a fossil in danger of being destroyed or lost but I do not have a permit to collect at that site, what should I do?" While the NMC would not condone frequent use of this practice, it would be best in such a case to collect the material and to apply for a retrospective permit as soon as possible, simply to place on record the fact that something was collected from that site.

With regard to temporary or permanent export of specimens for study and comparative purposes, no formal regulations have been drawn up and, as far as I could ascertain, only one application for export of fossils has ever been refused. The Science Committee is currently working on a set of criteria for evaluating applications for permanent and temporary export of archaeological and palaeontological material and would welcome suggestions from the PSSA. Such criteria may become increasingly necessary as South Africa re-enters the international arena and entrepreneurs investigate the possibilities of exporting fossils for sale. We have already had two enquiries on behalf of clients in Japan where there is an active market for specimens for private and public fossil collectors.

As a result of a recent mishap, the NMC now requires that all material exported for study purposes

must be marked with the lending institution's accession number. In addition, all packets in which the material is sent must have the lending institution's name and address and the name of the site from which the fossil came. It is the responsibility of the permit holder (usually the professional officer in charge of the collections at the lending institution) to see that material sent on temporary loan is returned and to notify the NMC that it has come back, but it is the responsibility of the borrower to pay for the return of the fossils.

#### Declaration of National Monuments

Apart from hominid sites, there are only four palaeontological sites that have been declared national monuments. There are two with dinosaur footprints (Pont Drift and Maclear), another with vertebrate tracks near Fraserburg that is in the process of being declared, and one with invertebrate fossils (Needs Camp). A fifth site near Grahamstown was recently deproclaimed.

It would seem that a case could be made for the declaration of at least one or more representative fossil sites of Karoo age that include material other than footprints, but this should only be done with due consideration for the long-term protection and conservation of the sites. All too often the publicity generated by declaration may lead to destruction of the site because the local community is unable or unwilling to sustain conservation measures.

#### The national register

Although the National Monuments Act makes provision for a list of conservation-worthy property, no palaeontological sites have been proposed for such listing as yet. The compilation of such a list would be time consuming, but it may be helpful for palaeontologists to draw up provisional lists of important sites at a regional level so that planners can be made aware of their presence at an early stage in the development process.

## CONCLUSIONS

Palaeontologists can co-operate with the NMC for more effective implementation of the Act and for long-term conservation of palaeontological resources in the following ways:

1. Appointment of a PSSA representative to screen permit applications.
2. Identification of criteria for evaluating applications for temporary and permanent export of fossils.
3. Formulation of conditions for palaeontological collecting and excavation to ensure uniform standards.
4. More active conservation of sites through the declaration of a representative selection as national monuments, compilation of a list for inclusion in a national register, and through environmental impact assessment and planning.
5. Compilation of a list of palaeontologists willing to do contract work. The Department of Environment Affairs will be publishing a multi-disciplinary directory for environmental impact assessment contracts and the list of palaeontologists, together with a PSSA code of ethics and guidelines for conservation of palaeontological resources, could be included.
6. PSSA could draft the text for a bilingual brochure on the importance of palaeontological sites and their conservation for printing and distribution by the NMC.
7. PSSA members are encouraged to report infringements of the National Monuments Act to the Council and to act within the law themselves.

We look forward to many years of mutual co-operation and suggest that the PSSA Council appoint a representative to liaise with the NMC on these matters and on any others that may arise in future.

## BOLT'S FARM

### "*Notochoerus meadowsi*" material

In 1948 Broom gave a very brief description of a partial cranium from Bolt's Farm (TM BF 1; Figure 1) which he referred to *Notochoerus meadowsi* and he included drawings of the upper second molars but did not illustrate the specimen itself. This scanty account was amplified by Ewer (1956) who provided measurements of the teeth and figured one of the associated canines; she followed Cooke (1949) in his (incorrect) designation as *Tapinochoerus meadowsi*, now generally regarded as a synonym of *Metridiochoerus andrewsi*. Later Broom recovered two incomplete lower third molars from Bolt's Farm (TM BF 2) but the matrix

established that *Notochoerus meadowsi* was a synonym of *Notochoerus capensis*, a view that Ewer (1956) rejected. Shaw originally had at his disposal two lower third molars ("A" and "B") and one upper third molar ("C") but in his 1939 paper added an additional damaged upper third molar ("D") that might be the mate of "C". His specimens are now in the Bernard Price Institute for Palaeontological Research and are numbered as follows: A - BPI M 8913; C - M 8912; D - M 8914; specimen B has apparently been lost. The matrix is not like that of the Sterkfontein Type Site and, as the term "Sterkfontein" was at that time used very loosely, it is probable that they came also from Bolt's Farm or possibly even from Swartkrans. The specimens are illustrated in Figure 2. Revised measurements are set out in Table 1.