

# *The Fossil Alcelaphines of South Africa — Genera Peloroceras, Lunatoceras and Alcelaphus.*

by

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*With 13 Textfigures and 1 Plate.*

Broom <sup>1)</sup> described from the banks of the Modder River, between Kimberley and Bloemfontein, a fossil *Bubalis* — *B. Priscus*. (Unfortunately it is not stated where the type is housed).

The specimen consists of the postorbital portion of the skull with the proximal part of the left horncore. The greatest width of the horncore at its base is 110 mm., and the greatest thickness 63 mm. These measurements suggest that the horncore is fairly flat at its base and somewhat resembles that of *Peloroceras helmei* Lyle.

According to Broom's reconstructed drawing the horncores on leaving the skull make an angle with each other of approximately 100 degrees. This falls so well within the range of *Peloroceras helmei* that it seems almost advisable to refer Broom's *B. priscus* to the genus *Peloroceras*. I would further suggest that Broom's reconstruction of the horncores is incorrect. They may just as well resemble those of *P. helmei*. If I am correct to refer Broom's specimen to the genus *Peloroceras* it seems advisable to drop the name *priscus* in favour of *helmei*, because Broom's specimen is far too imperfect to serve as the type species of the genus.

When she described the beautiful horncores of *Bubalis helmei* from Florisbad Lyle <sup>2)</sup> suggested that "the flat pedicel and the enormous horncores, doubly curved as in *Bubalis*, but with a much more lateral direction might make it desirable to create a new genus", but she left it to Van Hoepen <sup>3)</sup> to create this new genus.

Lyle's new species *helmei* was based on the horncores only. She only mentions "a third upper molar like that of the hartebeest but very much larger, possibly *Bubalis helmei*". She gives no measurements and neither does she figure the specimen.

In erecting the new genus *Peloroceras*, Van Hoepen <sup>3)</sup> made use of the figure given by Lyle. His own specimen which he describes and figures consists of the postorbital portion of the skull with the proximal part of the right horncore. The diagnostic characters given by Van Hoepen are, however, more accurate and much more complete than the original description given by Lyle.

Cooke <sup>4)</sup> mentions from the Wonderwerk Cave near Kuruman ten teeth "whose size equals or exceeds that even of the Kudu or Eland". He figures and describes a lower M2 and a lower M3. These are definitely Alcelaphine and Cooke may have been correct in referring them to *Peloroceras helmei*. However, in the light of new facts these teeth may not have belonged to *P. helmei* at all. (The teeth of the Mahemspan genus, described in this paper, are in every respect similar to those of *P. helmei*.) The presence of Alcelaphine teeth in the Wonderwerk Cave proves that the genus to which they belonged became extinct fairly recently, because the deposits are probably not very old.

In 1942 Wells and Cooke <sup>5)</sup> figure an upper left second molar from Vlakkraal which they refer to *Peloroceras helmei*, because it is comparable with the third upper molar mentioned by Lyle.<sup>2)</sup>



PLATE 1.—*Peloroceras helmei* Lyle. A reconstructed drawing by Dr. A. J. D. Meiring.

In the Power collection of Mammalian remains from the Vaal River deposits, Cooke and Wells <sup>6)</sup> found two complete and three fragmentary lower molars "alcelaphine in form but greatly exceeding in size those of either hartebeest or wildebeest" and these they tentatively refer to *Peloroceras helmei*. (These teeth are not figured and neither are any actual measurements given).

In the same collection there was also "an erupting right upper molar which on sectioning proved to be Alcelaphine in character, but appreciably larger than that of any living wildebeest or hartebeest, its length being 32 mm. It is, however, smaller than third molars from Florisbad which range from 36 mm. to 39 mm." (One wonders from which collection this range of variation was obtained). It is suggested by Cooke and Wells that the erupting molar of the Power collection "may possibly belong to some other extinct Alcelaphine species, such as '*Bubalis*' *priscus* Broom".

In 1947 Van Hoepen <sup>7)</sup> describes two more species of *Peloroceras* — *P. mirum* from Mahemspan and *P. elegans* (in the latter case he does not mention the type locality. The specimen comes from the banks of the Sand River, near Doringberg in the O.F.S.) Diagnosis of these two species are based on the horncores.

Van Hoepen states that the horncores of *P. helmei*, on leaving the skull, make an angle with each other of 90 degrees to 100 degrees. In *P. mirum* this angle is about 60 degrees, while in *P. elegans* it is approximately 70 degrees. (In the present paper Van Hoepen's two species are referred to a new genus and they are grouped together under a single species).

With *P. mirum* Van Hoepen associates a number of upper and lower jaws with complete sets of teeth "which are very much like those of *Connochaetes* and *Gorgon*, *Bubalis* and *Damaliscus*, only very much bigger". No teeth were found with *P. elegans*.

The present paper is based on material, housed in the National Museum, obtained from Florisbad, Prinsloo's Site (Vlakkraal), Mahemspan, Prieska and a number of other sites.

## FAMILY BOVIDAE

### Genus *Peloroceras* v. Hp. 1932

Horncores widely separated on top of skull making a mutual angle of 92 — 115 degrees. Pedicel distinct and high. Frontoparietal suture  $\Lambda$ -shaped with apex about halfway between occipital and top of skull. Posterior portion of skull high. Main curvature of horncore slightly upward and backward but very strongly outward. Molars, both upper and lower, Alcelaphine in shape, but very much bigger.

#### *Peloroceras helmei* Lyle sp.

The type specimen, No. C. 1456, is housed in the National Museum. Textfigure 1 shows a photograph of the postorbital portion of the skull and the horncores. The mutual angle between the horncores is 92 degrees. (This angle is determined by drawing lines from the centre spot on top of the skull tangentially to the two horncores — vide textfigure 3). The horncores are widely separated on top of the skull.

On leaving the skull the horns bend upward, slightly backward but strongly outward. The highest point is reached at about a third of the length. The horns then gradually curve downward and forward. The gradual forward but strongly outward curve continues to about one third from the distal end whence the horns gradually bend upward again to the tip.

Measurements of type specimen: —

Total length of horncore = 890 mm.

Width of horncore at base = 113 mm.

Thickness of horncore at base = 68.5 mm.

Width of pedicel at base of horncores = 130 mm.

A series of slightly worn upper molars (M1 — M3, textfigure 2), Alcelaphine in shape but very much bigger, recovered during the 1952 excavations at Florisbad, is now definitely referred to *Peloroceras helmei* (Nat. Mus. Cat. No. C. 2884). Antero-posterior length at grinding surface:—

M1 = 26 mm., M2 = 35 mm., M3 = 33 mm.



TEXTFIGURE 1.—Horncores of *Peloroceras helmei*. Above: the type from Florisbad. Below: another large specimen from Florisbad. Much reduced.

The National Museum further possesses the following specimens belonging to *P. helmei*:—

*A.—From Florisbad:*

- No. C. 2899 — Postorbital portion of skull with two almost complete horncores (textfigure 1). The curvature of the horncores is typical of the type. The horncores are widely separated on top of the skull with a mutual angle of 110 degrees. Back portion of skull slightly damaged, but it appears that the fronto-parietal suture is similar to that of the specimen from Mockesdam (textfigure 3). The pedicel is high.

Other measurements:—

Length of horncore = 830 mm.

Width of horncore at base = 122.5 mm.

Thickness of horncore at base = 78 mm.

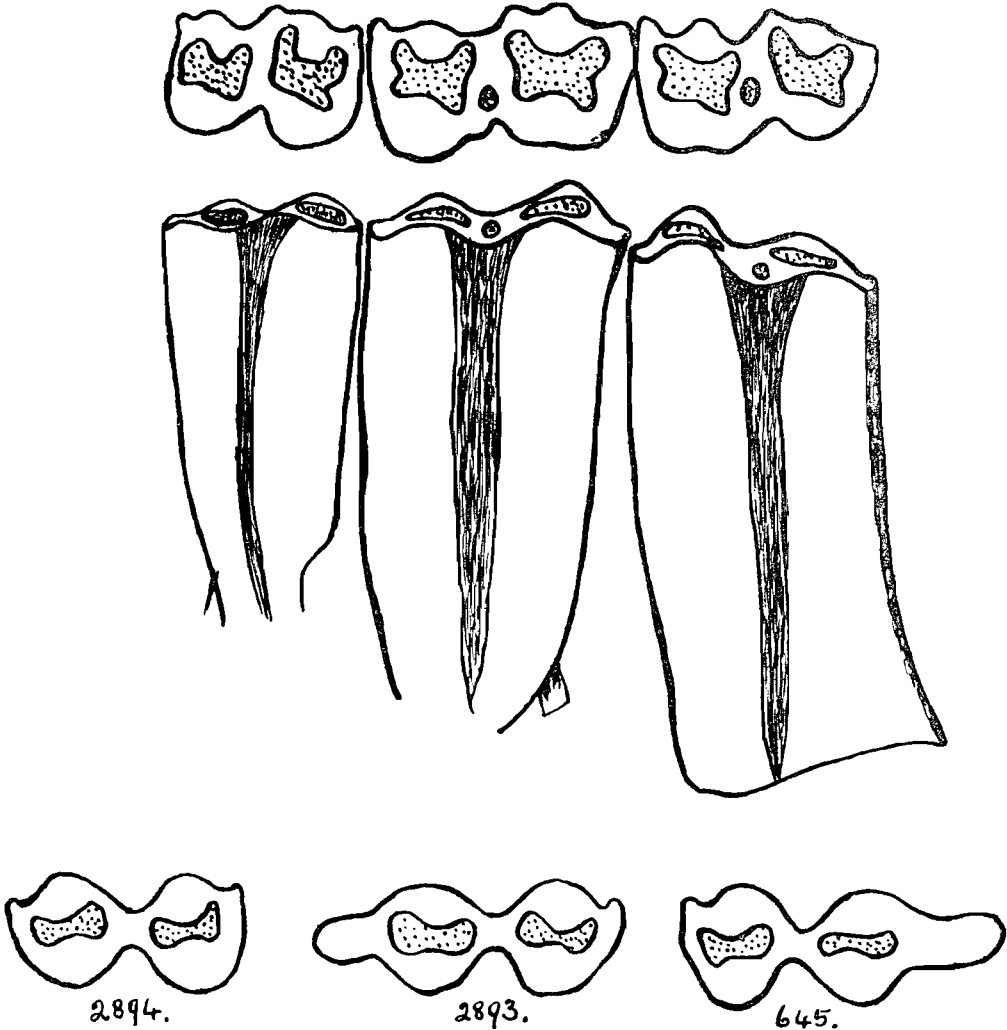
Width of pedicel at base of horncore = 153 mm.

This specimen is the biggest in the National Museum collection.

- No. C. 1539 — One fairly complete left horncore with typical curvature. Length 720 mm., width at base 89 mm., thickness at base 54 mm. The thinness of this specimen suggests that it may be the horn of a cow.  
— One proximal half of left horncore. Length 290 mm., width at base 111 mm., thickness at base 62 mm.

No. C. 1456 — Distal half of right horncore 390 mm. long.

No. C. 1467 — Distal half of right horncore 600 mm. long. This specimen was found with the Florisbad Skull.



TEXTFIGURE 2.—*Peloroceras helmei*. Above, lateral view and grinding surface of left upper M1 — M3 (from Florisbad). Below, grinding surface of lower molars: 2894 = right M2 (Prinsloo Site), 2893 = right M3 (Prinsloo Site), 645 = left M3 (Kranskraal). All natural size.

No. C. 2885 — Left upper M3, just erupting. Antero-posterior length 29 mm.

No. C. 2886 — Right upper M3, just erupting. Antero-posterior length 31.5 mm.

No. C. 2887 — Right lower M3, just erupting. Antero-posterior length 43 mm.

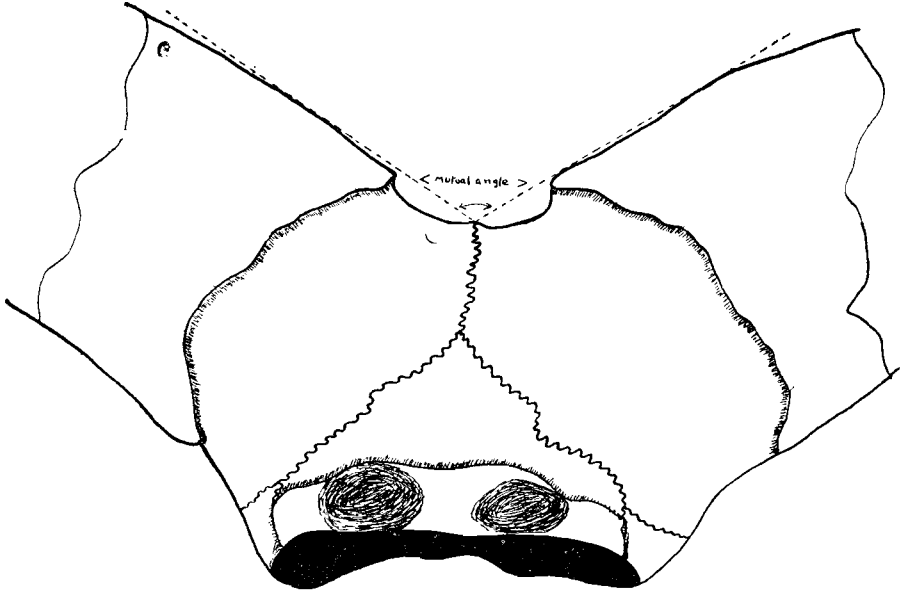
No. C. 2888 — Left lower M2, half worn. Antero-posterior length 35 mm.

No. C. 2900 — Posterior portion of lower jaw which compares very well with specimens from Mahemspan.

*B.—From Prinsloo Site (Vlakkraal):*

No. C. 2889 — Five right upper M3 with measurements 31, 33, 35, 35, 35 mm. respectively (showing varying degrees of attrition).

- No. C. 2890 — Three left upper M3 with measurements 33, 36, 36 mm. respectively (with varying degrees of attrition).  
 No. C. 2891 — Three left upper M2 with measurements 32, 34, 36 mm. respectively (with varying degrees of attrition).  
 No. C. 2892 — Three right upper M2 with measurements 30, 31, 36 mm. respectively (the two smallest specimens very much worn).  
 No. C. 2893 — Right lower M3, half worn. Length 41 mm. (Textfigure 2).  
 No. C. 2894 — Right lower M2, slightly worn. Length 32 mm. (Textfigure 2).



TEXTFIGURE 3.—*Peloroceras helmei* (from Mockesdam). Posterior view of skull and proximal portions of horncores showing the fronto-parietal suture. Half natural size.

C.—From Kranskraal near Mazelspoort:

- No. C. 649 — Proximal portion of right horncore 310 mm. long on a portion of the frontal bone (figured and described by Van Hoepen in 1932). Pedicel high. Width of horncore at base 117 mm., thickness 72 mm.  
 — Middle portion of left horncore.  
 No. C. 676 — Proximal portion of left horncore 300 mm. long. Width at base 85 mm., thickness 63 mm.  
 No. C. 1090 — Middle portion of right horncore 350 mm. long.  
 No. C. 654 — Right upper M2, just erupting. Length 35 mm.  
 No. C. 645 — Left lower M3, slightly worn. Length 42.5 mm. (Textfigure 2).

D.—From banks of Modder River below Mockesdam:

- No. C. 1607 — Postorbital portion of skull with proximal portion of left horncore and a fairly complete right horncore with a length of plus minus 820 mm. Curvature of horncore typical of the species. Pedicel high. Horns widely separated on top of the skull with mutual angle of 115 degrees (textfigure 3). Width of horncore at base 103 mm., thickness 66 mm. Fronto-parietal suture  $\Lambda$ -shaped with apex half-way between top of skull and supra-occipital.

*E.—From Prieska:*

No. C. 2844 — Proximal portion of right horncore 179 mm. long. Width at base 111 mm., thickness 71 mm.

No. C. 2845 — Left upper M2, slightly worn. Length 38 mm.

— Right lower M 3, slightly worn. Length 49 mm.

These two enormous teeth probably belong to the same individual. They are typically Alcelaphine in shape and the presence of the horncore warrants their being referred to *Peloroceras helmei*. The specimens were recovered from a road gravel quarry, a site which has never been scientifically investigated. From the same site we possess the proximal end of a horncore of an Eland bigger than anything yet discovered, also a complete set of upper molars of a giant horse comparable with *Equus helmei* of *Florisbad*.

From the following sites no horncores have been recovered but the teeth are so similar in shape and size to those of *Peloroceras helmei*, that they are tentatively referred to this species

*F.—From Vaal River gravels at Pniel:*

No. C. 2728 — Right lower M3, slightly worn. Length 38 mm. Collected and presented by Mr. J. H. Power in 1944.

*G.—From Meerholtzkop near Kroonstad:*

No. C. 933 — Right lower M3, half worn. Length 39.5 mm. Collected and presented by Mr. G. F. de Necker in 1934.

*H.—From the banks of Modder River at Abrahamskraal:*

No. C. 2895 — Two right upper M3, slightly worn. Length 31 and 33 mm. respectively.

No. C. 2896 — Right upper M2, half worn. Length 30 mm.

No. C. 2897 — Two left upper M2, half worn. Length 31 and 32.5 mm. respectively.

No. C. 2898 — Left lower M3, slightly worn. Length 37 mm.

The range of variation in antero-posterior length of the teeth is as follows (the degree of attrition must be considered, because all measurements were taken at the grinding surface):—

*Upper teeth:*

M1 = 26 mm. (specimen from Florisbad).

M2 = 30 — 38 mm. (Smallest specimen from Abrahamskraal and the biggest specimen from Prieska).

M3 = 29 — 36 mm. (Smallest specimen from Florisbad, the biggest from Prinsloo Site).

*Lower teeth:*

M2 = 32 — 35 mm.

M3 = 37 — 49 mm. (Smallest specimen from Abrahamskraal, the biggest is from Prieska).\*

\* FOOTNOTE—The fact that the smallest teeth in every case come from Abrahamskraal, may be an indication that these teeth belong to a different species. But as no horncores were found in association with the Abrahamskraal specimens a separate species has not been erected.

## LUNATOCERAS n. g.

Horncores close together on top of skull making a mutual angle of 70 to 90 degrees. Pedicel low but distinct. Frontoparietal suture  $\Lambda$ -shaped with apex near the top of skull. Posterior portion of skull low. Main curvature of horncore strongly upward and slightly backward at proximal half. At about half its length the horncore bends slightly downward and recurves very strongly inward. Seen from above the curvature forms almost a semi-circle. Lower jaw extremely long and slender. Palate very broad. Molars, both upper and lower, Alcelaphine in shape but very much bigger.



TEXTFIGURE 4.—*Lunatoceras mirum*. Above: left horncore. Below: (type specimen) frontlet with proximal portions of horncores. Much reduced.

*Lunatoceras mirum* v. Hp. sp.

Van Hoepen <sup>7)</sup> separated the Mahemspan specimens from *Peloroceras helmei* Lyle on differences in the horncores only. I fully agree with him that the big difference in the curvature of the horncores warrants such a step. But a close study of the extensive collection from Mahemspan reveals so many different characters, generic in nature, that I have decided to place both Van Hoepen's *P. mirum* and *P. elegans* in the new genus — *Lunatoceras*.

Van Hoepen took as his type specimen a skull top with the proximal portions of the horncores. (Nat. Mus. No. C. 2013). I propose to introduce the following to assist in the description of the species:—

1. The most complete horncore (No. C. 2292). Also figured by Van Hoepen.
2. The most complete left lower jaw (No. C. 2472).
3. Left half of an upper jaw (No. C. 2466) which fits exactly on No. 2472.

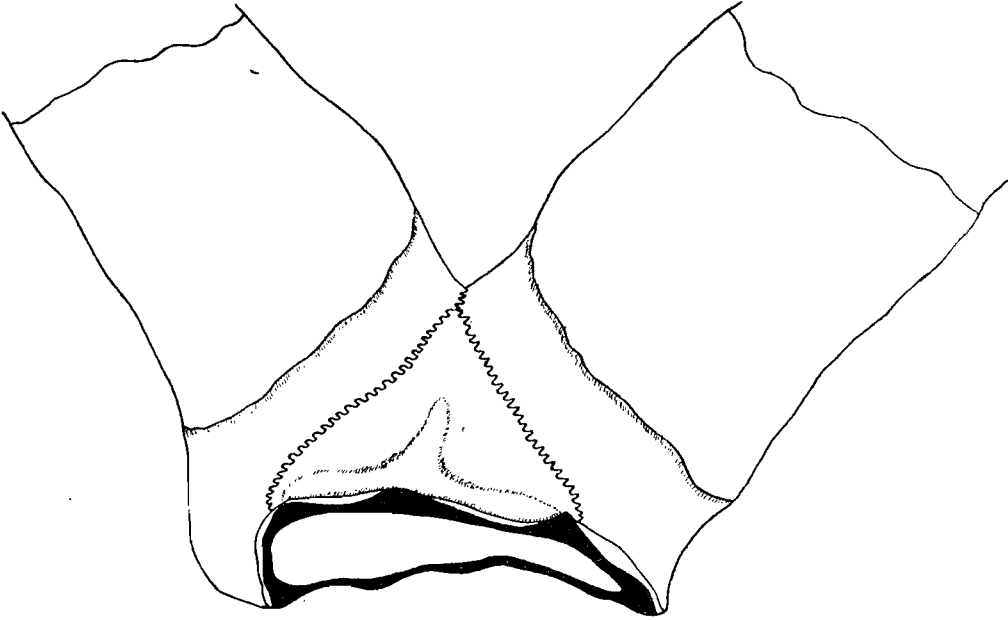
Below follows a description of the material recovered at Mahemspan. The site lies on the banks of the huge Mahemspan about 15 miles N.-East of Hoopstad. The fossils occur in a limy soil underlying about 4 — 5 feet of Kalahari sand.

*A.—Skull tops.*

No. C. 2013—Type specimen (textfigure 4). Textfigure 5 shows an occipital view



of the skull. The frontoparietal suture is  $\Lambda$ -shaped with the apex between the bases of the horncores and almost on top of the skull. Mutual angle between horncores 70 degrees. Pedicel low but distinct. Width of pedicel below horncores 155 mm. Width of horncore at base 96 mm., thickness 58 + mm. (horncore slightly flattened, thickness may therefore be a little greater).



**TEXTFIGURE 5.**—*Lunatoceras mirum* (type). Occipital view of skull showing position of fronto-parietal suture. Half natural size.

No. C. 2246 — Postorbital portion of skull with proximal portions of horncores. Shape identical to type, but with the following measurements:—

Mutual angle between horncores 75 degrees.  
Thickness of horncores at base 59 mm.  
Width of horncore at base 93 mm.

No. C. 2537 — Postorbital portion of skull with proximal ends of horncores. Like type but damaged. Pedicel fairly low but distinct.

**B.—Horncores.**

No. C. 2292 — (Figured by Van Hoepen in 1947).

For curvature of horncore see textfigure 4. Total length along curve 720 mm. plus about 135 mm. for missing distal portion. Width 79 mm., thickness 63 mm. (at point of implantation the horncores are naturally much flatter).

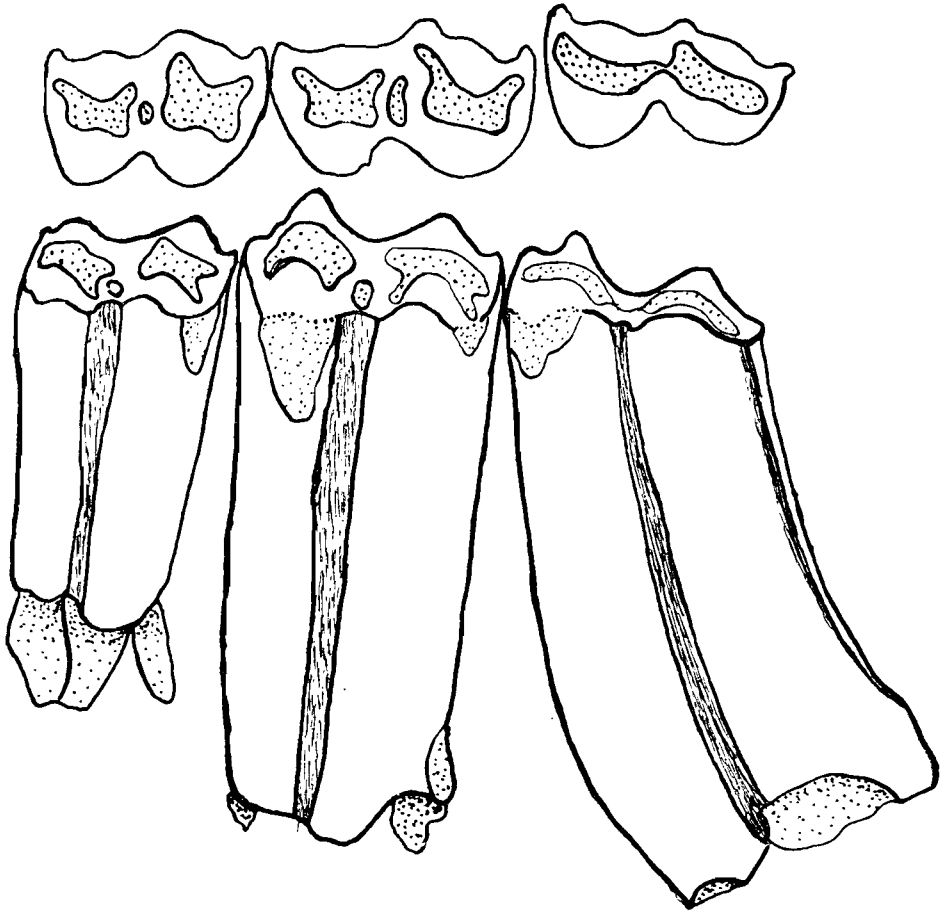
No. C. 1856 — Distal end of right horncore. Curvature like that of C. 2292.

Thirteen fragments of horncores all with curvatures typical of the species. Catalogue Nos. C. 2487, C. 1829, C. 1847, C. 1867, C. 1905, C. 2462, C. 1363, C. 1962, C. 2021, C. 1975, C. 2418, C. 2377, C. 2883.

*C.—Upper jaws.*

No. C. 2466 — Left maxillary with M1 — M3 in situ (textfigure 6). Measurements of teeth (antero-posterior length):—  
M1 = 29 mm., M2 = 35 mm., M3 = 35 mm.

No. C. 2461 — Right maxillary with M1 — M3 in situ. Probably counter half of C. 2466. Measurements of teeth:—  
M1 = 29 mm., M2 = 36 mm., M3 = 34.5 mm.



TEXTFIGURE 6.—*Lunatoceras mirum*. Lateral view and grinding surface of left upper M1 — M3. Natural size.

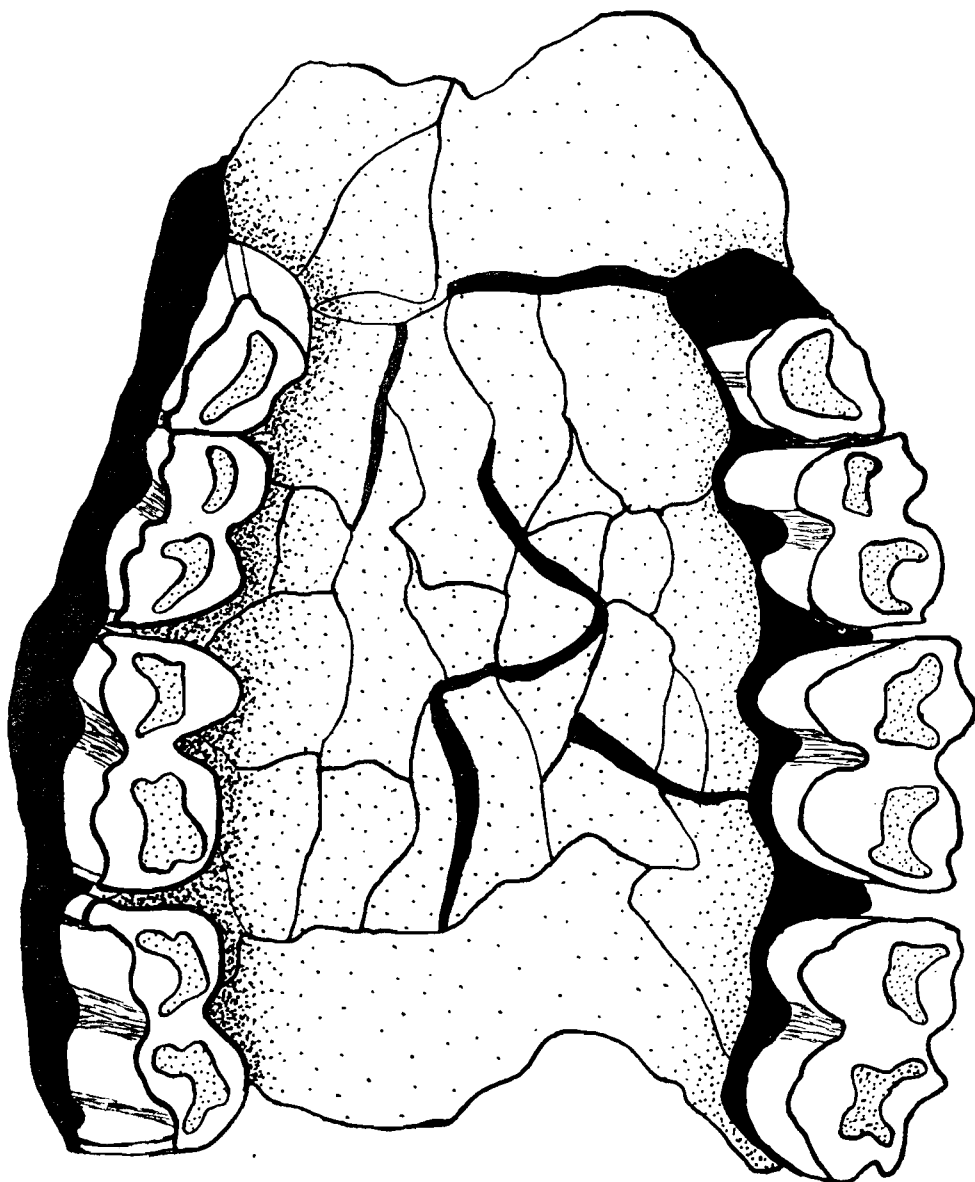
No. C. 1804 — Maxillary portion of skull with upper molars Pm4 — M3 in situ (textfigure 7). The palate is very wide — width between second molars is 72 mm. compared with 52 mm. of a large living *Alcelaphus* and with 82 mm. of a large Eland.

Measurements of teeth:—

Left side: Pm4 = 19 mm., M1 = 25 mm., M2 = 35.5 mm.,  
M3 = 34 mm.

Right side: Pm4 = 19 mm., M1 = 26 mm., M2 = 35 mm.,  
M3 = 34 mm.

No. C. 2399 — Maxillary portion of skull (crushed) with some of the molars in situ. Measurements of teeth:—



TEXTFIGURE 7.—*Lunatoceras mirum*. Maxillary portion of skull with upper molars Pm4 — M3 in situ. Natural size.

Left side: M2 = 31.5 mm., M3 = 34.5 mm.

Right side: M1 = 22 mm., M2 = 31 mm., M3 = 35 mm.

N. C. 2247 — Maxillary portion of skull (crushed) with molars in situ.

Measurements of teeth:—

Left side: Pm3 = 14 mm., Pm4 = 18 mm., M1 = 27.5 mm.  
M2 = 34 mm.

Right side: Pm3 = 14 mm., Pm4 = 18 mm., M1 = 27.5 mm.  
M2 = 34.5 mm.

*D.—Loose Upper Molars.*

(All the measurements given are of the antero-posterior length).

## Left upper M3:

—C. 1953 (much worn)	= 36 mm.
—C. 2538 (half worn)	= 37 mm.
—C. 1820 (half worn)	= 34.5 mm.
—C. 1591 (much worn)	= 38 mm.
—C. 1986 (broken)	= 39 mm. (plus minus).

## Right upper M3:

—C. 2416 (half worn)	= 38.5 mm.
—C. 2454 (half worn).	= 36 mm.
—C. 2190 (broken)	= 36 mm. (plus minus)
—C. 1941 (slightly worn)	= 36 mm.

## Left upper M2:

—C. 2279 (slightly worn)	= 35 mm.
—C. 2543 (slightly worn)	= 36 mm.
—C. 2542 (slightly worn)	= 34 mm.
—C. 2343 (half worn)	= 38 mm.
—C. 1953 (very much worn)	= 35 mm.

## Right upper M2:

—C. 1986 (half worn)	= 38 mm.
—C. 2454 (half worn)	= 34 mm.
—C. 2416 (much worn)	= 35 mm.
—C. 1953 (much worn)	= 33.5 mm.

## Right upper M1:

—C. 1942 (half worn)	= 31 mm.
—C. 2454 (half worn)	= 25 mm.

The range of variation in length of the upper teeth is as follows: M3 from 34 to 39 mm., M2 from 31 to 38 mm., M1 from 22 to 31 mm. These measurements depend to a large extent on the degree of attrition of the teeth.

*E.—Lower jaws (with teeth in situ).*

No. C. 2472 — An almost complete left mandible (textfigure 8). A jaw of such length and slenderness has never been described for any antelope.

Its measurements are: Total length 585 + mm., breadth at A = 99 mm., at B = 79 mm., at C = 32.5 mm. Antero-posterior lengths of teeth: M1 = 21 mm., M2 = 32 mm., M3 = 43.5 mm.

For comparative purposes I have figured the left mandible of a large bull of *Alcelaphus caama*, see textfigure 8.

No. C. 2325 — Another almost complete left mandible with teeth in situ. M1 = 21.5 mm., M2 = 30.5 mm., M3 = 42 mm.

No. C. 1411 — Fragment of left mandible with M1 — M3. M1 = 21.5 mm., M2 = 31 mm., M3 = 43.5 mm.

No. C. 1387 — Fragment of left mandible with M1 — M2. M1 = 21 mm., M2 = 30.5 mm.

No. C. 1584 — Fragment of left mandible with M1 — M3. M1 = 22 mm., M2 = 32 mm., M3 = 49 mm.

No. C. 2425 — Fragment of left mandible with M1 — M3. M1 = 21 mm., M2 = 31 mm., M3 = 43 mm.

- No. C. 2451 — Fragment of left mandible with M1 — M3. M3 just erupting. M1 = 25 mm., M2 = 32 mm., M3 = 38.5 mm.
- No. C. 1427 — Fragment of left mandible with broken M3. M3 = plus minus 47 mm.
- No. C. 1588 & C.2447. Fragments of left mandibles without teeth.
- No. C. 1793 — Fragment of right mandible with M1 — M3. M1 = 21 mm., M2 = 30 mm., M3 = 48 mm.
- No. C. 1864 — Fragment of right mandible with M1 — M3. M1 = 25 mm., M2 = 33.5 mm., M3 = 45 mm.
- No. C. 1944 — Fragment of right mandible with M1 — M3. M3 just erupting. M1 = 30 mm., M2 = 36 mm., M3 = 39 mm.
- No. C. 2535 — Fragment of right mandible with M2 — M3. M2 = 32.5 mm., M3 = 45 mm.



TEXTFIGURE 9.—*Lunatoceras mirum* (*elegans*, Van Hoepen). Postorbital portion of skull with two horncores. Much reduced.

F.—Loose lower Molars.

- No. C. 2540 — Right M2 = 32 mm.
- No. C. 1961 — Right M3 = 44 mm.
- No. C. 2133 — Right M3 just erupting = 36 mm.

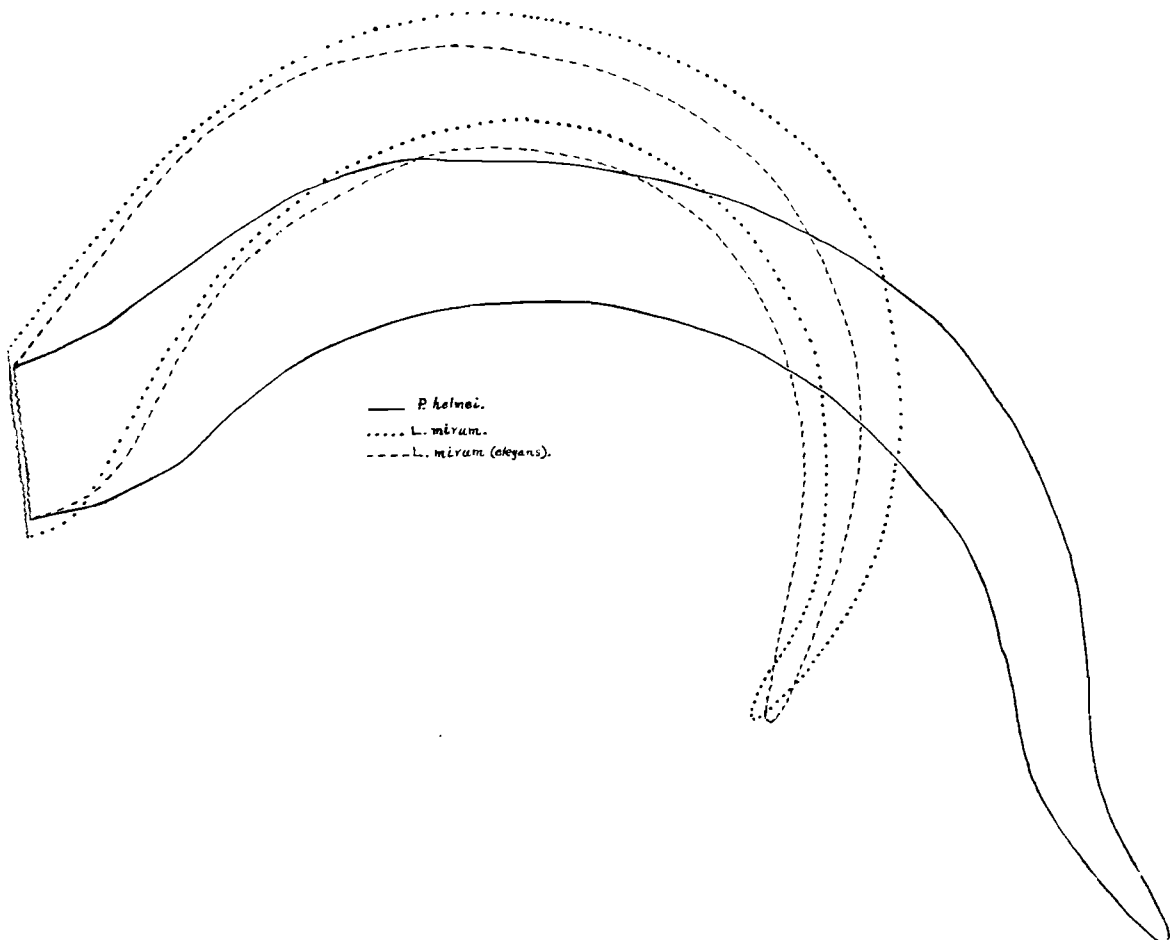
The range of variation in length of the lower molars is as follows: M3 from 36 to 49 mm., M2 from 30.5 to 36 mm., M1 from 21 to 30 mm. These measurements depend to a large extent on the degree of attrition of the teeth.

*Lunatoceras mirum* from Sand River

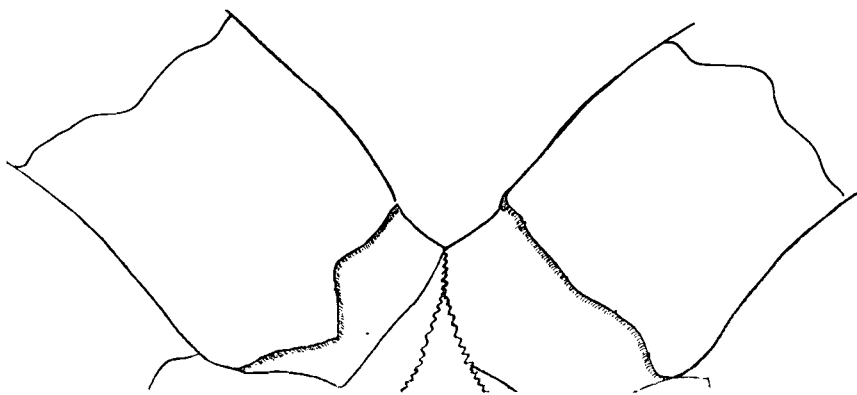
*Peloroceras elegans* Van Hoepen

- No. C. 1711 — Postorbital portion of skull with two horncores (textfigure 9).

Van Hoepen <sup>7)</sup> describes this specimen as a separate species (vide his textfigure on page 105 of his publication). The curvature of the horncores, however, is identical to that of *Lunatoceras mirum* from Mahemspan (textfigure 10). The mutual angle between the horncores is 83 degrees compared with 70 — 75 degrees of the Mahemspan material, but one has to allow for a certain amount of individual variation. The horncores are narrower at the base and thinner. The pedicel is also a little narrower, but this same type of variation occurs within the species *Peloroceras helmei* as well. The specimen from Sand River is probably a cow hence the smaller measurements.



TEXTFIGURE 10.— Superimpositions of the horncores of *Peloroceras helmei* and *Lunatoceras mirum*. Approximately  $\frac{1}{3}$  natural size.



TEXTFIGURE 11.— *Lunatoceras mirum* (from Sand River). Occipital view of skull showing fronto-parietal suture. Half natural size.

The fronto-parietal suture is identical to the Mahemspan specimens (text-figure 11). I therefore suggest that Van Hoepen's *P. elegans* is synonymous to *Lunatoceras mirum*.

Measurements:—

Total length of horncore along curve = 660 mm.

Width at base of horncore = 74 mm.

Thickness at base of horncore = 45 mm.

Width of pedicel below horncores = 126 mm.

No teeth were discovered in association with this specimen.



TEXTFIGURE 12.—*Lunatoceras mirum* (from Steynspruit). Occipital view showing fronto-parietal suture. Half natural size.

#### *Lunatoceras mirum* from Steynspruit

No. C. 1091 — Postorbital portion with proximal portions of horncore (text-figure 12).

Frontoparietal suture typical of the species. The mutual angle between the horncores is 90 degrees, which is the biggest of the *mirum* material in the collection of the National Museum.

Measurements:—

Width at base of horncore = 95 mm.

Thickness not measured because frontal portions of horns damaged.

Width of pedicel below horncores = 152 mm.

#### *Alcelaphus caama*

Four completely fossilized horncores, identical in curvature to *Alcelaphus caama*, have been recovered from the Mahemspan site. (Textfigure 13). These specimens occurred in the same layer as the extinct *Lunatoceras mirum*, so that the latter cannot be considered as the ancestral form of *Alcelaphus*.

No. C. 2520 — Left almost complete horncore, slightly damaged at proximal end.

Total length along curve (measured along anterior face of horncore) = 395 mm. A large living form measures 385 mm. The curvature of the horncore is identical to that of the living species.

- No. C. 2521 — Right horncore of a smaller specimen on a piece of the frontal.  
 Distal end missing. Curvature typical of living species.  
 No. C. 2497 — Middle portion of right horncore.  
 No. C. 2555 — Middle portion of left horncore.



TEXTFIGURE 13.—*Alcelaphus caama*. Left: horncores of living form. Right: fossil horncore from Mahemspan. Reduced.

#### LITERATURE

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