THE FOSSIL BOVIDAE OF STERKFONTEIN, SWARTKRANS AND KROMDRAAI

by

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VOLUME II

TABLES, PLATES AND FIGURES

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The first part of this Volume II contains Tables 1–96, the second Plates 1–41, and the third Figures 1–30.

General remarks and definitions

Fossil specimens are referred to by their **catalogue numbers.** Each number is preceded by letters which denote the site, or site unit, from which the specimen is derived. The meaning of these letters is defined in Volume I: 1. Specimens of extant species available at the Transvaal Museum are referred to by catalogue numbers preceded by the letters TM.

All scales in Plates 1–41 equal 5 cm. Throughout the Plates, where the object was merely to show occlusal tooth morphology, surrounding bone and matrix were in some cases cut away, and are not represented.

Wherever **ramus depth** is commented upon the measurement was taken lingually along a line perpendicular to the mandibular tooth row, from a point between the anterior and second lobes of $M_{\overline{3}}$.

The term **"juvenile dentition"**, used in some of Tables 1–86, applies to any tooth or group of teeth which includes one or more deciduous teeth. In Tables 87–94 a more comprehensive division of specimens into age groups is attempted (see below).

The **side of the jaw** to which a dentition belongs is given as R (right) and L (left) in Plates 1–4 and Tables 1–86.

Estimated quantities are followed by the letter e.

The terms **"LENGTH"**, **"BREADTH"** and **"HEIGHT"**, as applied to individual teeth, are given in mm and used as follows:

LENGTH: Molars: Maximum mesio-distal length as measured buccally from parastyle to metastyle on upper molars, and lingually from parastylid to entostylid on lower molars; in both cases at the occlusal surface.

Premolars: Maximum mesio-distal length, irrespective of whether the occlusal surface extends as far as the anterior-most point.

BREADTH: Maximum buccolingual breadth at the occlusal surface. (For teeth which have not yet reached occlusion a remark to this effect is appended in Tables 1–86, and both length and breadth are measured somewhat removed from the tapering unworn crown, at a level where the taper has given way to more or less parallel tooth walls.)

HEIGHT: A tooth was aligned with its crown-to-root axis as nearly as possible parallel to the scale of the caliper (when a tooth showed curvature along this axis, a straight axis with a direction corresponding to most of the tooth was estimated). Then the total distance from the highest point on the occlusal surface or crown to the lowest extending root was estimated correct to 0,5 mm. N.B.: the caliper jaws were **not** placed parallel to the occlusal surface during measurement.

The lengths of both $M^{\underline{1}}$–$M^{\underline{3}}$ and $M_{\overline{1}}$ –$M_{\overline{3}}$ were measured as defined by Gentry (1966: 101) for the length of $M^{\underline{1}}$–$M^{\underline{3}}$. Similarly lengths of both $PM^{\underline{2}}$–$PM^{\underline{4}}$ and $PM_{\overline{2}}$–$PM_{\overline{4}}$ were measured as defined on the same page for the length of $PM^{\underline{2}}$–$PM^{\underline{4}}$.

Explanation for Tables 87–96:

An attempt was made to divide all dental specimens within species cited in Tables 87–94 into three **age groups**:

α, i.e. juveniles = all dentitions up to and including the tooth wear stage where the metastyle of the third molar has erupted but shows no wear yet (up to the end of B in Vrba, 1973:316). Usually, by the time this most posterior metastyle comes into occlusion the last deciduous tooth has been replaced, so that isolated deciduous teeth always belong to α. Possible membership of α of isolated first and second molars had to be estimated from their degree of occlusion. In the springbok, *Antidorcas marsupialis,* for instance, up to the end of α (i.e. ± 0–22 months) most body growth has taken place (Rautenbach, pers. comm.).

β, i.e. prime adults = from α up to the tooth wear stage where a central enamel island is still present on the posterior, but worn away on the anterior, lobe of a second molar (C + D of Vrba, 1973:316);

γ, i.e. old adults = from β until death; occasionally, in the case of isolated teeth, membership of β or γ (as described for α) had to be estimated.

The **minimum number of individuals,** based on the most frequently occurring tooth, was then calculated separately for each age group, i.e. X_α for α, X_β for β and X_γ for γ, per species per site unit. Total minimum numbers per species per site unit were obtained by addition (i.e. $X_\alpha + X_\beta + X_\gamma$). In only one or two cases was the most frequently occurring cranial element not a tooth, but a horn core. In such cases membership of α or β was estimated (β and γ could not be distinguished) and the minimum numbers were obviously based on the horn cores.

It is quite clear that, since the splitting of SK into SKa and SKb had at least to some extent, to be estimated, all minimum numbers of individuals given in Tables 93 and 94 must be regarded as roughly estimated quantities.

Minimum numbers of individuals estimated for STS, SE and D16 in Vrba (1974: Table 1), although based on the same material as that used for Tables 87–89, may differ very slightly from those obtained in Tables 87–89, and again reproduced in Tables 95 and 96. The reason for this lies in the fact that minimum numbers of individuals for Vrba (1974: Table 1) were calculated over all specimens simultaneously, i.e. without a prior split into age groups.

Each fossil species is assigned to one of the bovid weight classes I, II, IIIa, IIIb, IVa or IVb (see explanation for Fig. 28).

TABLE 1: Upper/lower tooth ratios, with respect to length and breadth of second molars, of

Species	Number of individuals measured	$\frac{\text{Length } M_{\overline{2}}}{\text{Length } M^{\overline{2}}} \times \frac{100}{1}$		$\frac{\text{Breadth } M_{\overline{2}}}{\text{Breadth } M^{\overline{2}}} \times \frac{100}{1}$	
		Mean	Range	Mean	Range
C. taurinus	3	96	89–102	70	68–73
C. gnou	1	94		69	
A. buselaphus	5	98	92–104	72	70–73
A. lichtensteini	1	97		71	
D. l. lunatus	6	98	88–106	69	63–76
D.l. jimela	1	99		65	
D. dorcas	5	93	90–96	67	65–71
TOTAL	22	96	88–106	69	63–76

Table 2 : **Ratios (as in Table 1) obtained by mismatching lower tooth means of one extant alcelaphine species with upper tooth means of another.** Numbers of individuals measured are as in Table 1. Only the South African species were included. Species written in numerator and denominator positions are responsible for numerator and denominator respectively of the corresponding ratios; e.g. the first entry reads:

$$\frac{\text{Mean of } M_{\overline{2}} \text{ lengths of 3 } C.\ taurinus \times 100}{\text{(Mean of) } M^{\overline{2}} \text{ length(s) of 1 } C.\ gnou} = 116.$$

All results, that fit within the total ranges obtained for correct upper/lower tooth association in Table 1, were ringed.

Species	$\frac{\text{Length } M_{\overline{2}}}{\text{Length } M^{\overline{2}}} \times \frac{100}{1}$	$\frac{\text{Breadth } M_{\overline{2}}}{\text{Breadth } M^{\overline{2}}} \times \frac{100}{1}$
C. taurinus / *C. gnou*	116	78
C. gnou / *C. taurinus*	77	62
C. taurinus / *A. buselaphus*	121	87
A. buselaphus / *C. taurinus*	78	58
C. taurinus / *D. l. lunatus*	120	95
D. l. lunatus / *C. taurinus*	76	51
C. taurinus / *D. dorcas*	141	94
D. dorcas / *C. taurinus*	63	50
C. gnou / *A. buselaphus*	(98)	77
A. buselaphus / *C. gnou*	(95)	(64)
C. gnou / *D. l. lunatus*	(97)	84
D. l. lunatus / *C. gnou*	95	56
C. gnou / *D. dorcas*	114	83
D. dorcas / *C. gnou*	77	56
A. buselaphus / *D. l. lunatus*	(98)	77
D. l. lunatus / *A. buselaphus*	(99)	(63)
A. buselaphus / *D. dorcas*	115	78
D. dorcas / *A. buselaphus*	80	62
D. l. lunatus / *D. dorcas*	115	(68)
D. dorcas / *D. l. lunatus*	79	(68)

TABLE 3: Ratios $\left\{ \frac{\text{Length } M_{\overline{2}}}{\text{Length } M^{\overline{2}}} \times \frac{100}{1} \; ; \; \frac{\text{Breadth } M_{\overline{2}}}{\text{Breadth } M^{\overline{2}}} \times \frac{100}{1} \right\}$

obtained by combining all possible combinations of lower with upper Swartkrans alcelaphine tooth group means, taken from Table 6.

Groups used are:

Smaller small	=	SS
Larger small	=	LS
Medium	=	M
Smaller large	=	SL
Larger large	=	LL

In the matrix each ratio results from placing the dimension (i.e. length = 1 or breadth = b) mean of the group at the top of that column into the numerator, and the corresponding dimension mean of the group at the left of that row into the denominator, and multiplying by 100. For example, the first reading in the last row reads:

$$\frac{\text{Mean of } M_{\overline{2}} \text{ lengths of SS}}{\text{Mean of } M^{\overline{2}} \text{ Lengths of LL}} \times \frac{100}{1}$$

All results, that fit within the total ranges obtained for correct upper/lower tooth association among extant alcelaphines in Table 1, were ringed.

		NUMERATORS									
		SS		LS		M		SL		LL	
		l	b	l	b	l	b	l	b	l	b
DENOMINATORS	SS	(93)	(75)	(100)	83	120	97	132	105	149	119
	LS	82	(68)	(88)	(73)	(106)	88	116	95	132	107
	M	72	56	77	60	(93)	(72)	(102)	78	115	88
	SL	65	52	70	55	84	(66)	(92)	(72)	(104)	81
	LL	58	44	62	47	75	56	82	61	(93)	(69)

TABLE 4: ALCELAPHINE ADULT LOWER DENTITIONS

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
Smaller Small (Gp Ia; *Damaliscus* cf. *dorcas*):						
11238	R	$M_{\overline{1}}$	18.3	8.3		Good mandibular fragment with
		$M_{\overline{2}}$	22.0	8.1		erupting $M_{\overline{3}}$; ramus depth 48e
		$M_{\overline{3}}$			46e	
10867	L	$PM_{\overline{4}}$	11.3	7.0		Mandibular fragment containing young adult teeth
		$M_{\overline{1}}$	13.3	8.3	35e	
		$M_{\overline{2}}$	17.5	8.4		
		$M_{\overline{3}}$	23.5	7.4	47e	$M_{\overline{3}}$ not fully erupted
9897	R	$M_{\overline{3}}$	25.0	7.9	57.0	
10653	L	$M_{\overline{3}}$	25.8	9.6	40.5	
4056	R	$M_{\overline{1}}$	18.9	6.9	42e	Has just reached occlusion
4574	L	$M_{\overline{2}}$	20.7	7.5	50e	
11939	L	$M_{\overline{1}}$	15.2	8.7		
11777	R	$M_{\overline{2}}$	19e	9e		
5397	R	$M_{\overline{1}}$	15.8e	9.0	34e	
10421	L	$PM_{\overline{4}}$	10.6	7.8		Mandibular fragment with unerupted $PM_{\overline{4}}$
		$M_{\overline{1}}$	18.3	8.0	45.5	
11889	L	$M_{\overline{2}}$	18.5	9.3	38.5e	
Larger small (Gp Ib; *Damaliscus* sp. 2):						
14054	L	$M_{\overline{2}}$		9.8e		Mandibular fragment
		$M_{\overline{3}}$	28.0	9.6		
11827	L	$M_{\overline{1}}$	12.0	8.8		" "
		$M_{\overline{2}}$	19.4	10.1	37e	enamel islands of $M_{\overline{1}}$ completely worn away
		$M_{\overline{3}}$	28.7	10.1		
4016	L	$M_{\overline{1}}$	12.0	7.7		Mandibular fragment with worn $M_{\overline{1}}$
		$M_{\overline{2}}$	17.4e		36.0	
		$M_{\overline{3}}$	26.3	9.0	39.5	
5979	L	$PM_{\overline{2}}$	5.5	3.8		Mandibular fragment with worn $M_{\overline{1}}$; advanced molarization of $PM_{\overline{3}}$ and $PM_{\overline{4}}$ and pronounced $PM_{\overline{2}}$
		$PM_{\overline{3}}$	8.8	6.5		
		$PM_{\overline{4}}$	11.5	8.0	27e	
		$M_{\overline{1}}$	13.0	8.8	30.5	

TABLE 4 : (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
7716	L	$M_{\overline{2}}$		9.2e		Very damaged
		$M_{\overline{3}}$	24.4e	9.5	33e	
5180	L	$M_{\overline{1}}$	13.0	8.5e		Mandibular fragment
		$M_{\overline{2}}$	16.7	10.4		
		$M_{\overline{3}}$		10e		
11390	L	$M_{\overline{1}}$	13.0	8.4e		Mandibular fragment also showing the roots of $PM_{\overline{3}}$ and $PM_{\overline{4}}$
		$M_{\overline{2}}$	17.0	9.4	34.0	
		$M_{\overline{3}}$	25.5	9.2		
2540	L	$M_{\overline{2}}$	19e	9.6		Isolated tooth; damaged
5123	L	$M_{\overline{2}}$		9.6e		Mandibular fragment;
		$M_{\overline{3}}$	26.6	9.3		ramus depth is 47e
2003	R	$M_{\overline{3}}$	25.4	10.0	34e	
3306	R	$M_{\overline{3}}$	26.6	10.0		
11477	R	$PM_{\overline{4}}$	10.6	8.0		
4219	R	$M_{\overline{1}}$	20.4	8.0	50e	
Larger small (Gp Ic; *Damaliscus* sp. 1 or *Parmularius* sp.):						
3127	L	$M_{\overline{1}}$		8.7	31.5e	ramus depth 43.5
		$M_{\overline{2}}$	18e	8.8		
		$M_{\overline{3}}$	23e	7.8		
2064	L	$M_{\overline{3}}$	24.7	8.4		
Small (Gp I; indeterminate):						
5208	L	$M_{\overline{2}}$	18.3	8.5	45e	
8007	L	$M_{\overline{3}}$	24.2	8.3	47e	
2242	L	$M_{\overline{3}}$		8.6	48e	Isolated tooth; damaged
2957	L	$M_{\overline{2}}$	20.0	10.5		Ramus depth 46e
		$M_{\overline{3}}$	28.0	10.2		
7335	R	$M_{\overline{1}}$	15.0	8.7	37e	Reasonably complete mandibular
		$M_{\overline{2}}$	19.0	9.0	48e	fragment; ramus depth 51e
		$M_{\overline{3}}$	27.0	8.5		
2000	R	$PM_{\overline{4}}$	11.7	7.2		Mandibular specimen ; no $PM_{\overline{2}}$
		$M_{\overline{1}}$	12.5e	9.7		during life
		$M_{\overline{2}}$	18e	10.2		

TABLE 4 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
3135	R	$M_{\overline{2}}$		10.2e		Mandibular fragment
		$M_{\overline{3}}$	24.9	9.0		
1999	R	$PM_{\overline{4}}$	12.0	6.5	29e	
		$M_{\overline{1}}$	16.8	8.2e	32e	
11851	R	$PM_{\overline{4}}$	11.4	7.2		Isolated tooth; damaged
Medium with Type 1 $PM_{\overline{4}}$ (Gp IIa; *Rabaticeras porrocornutus*?):						
3213A	R	$PM_{\overline{4}}$	13.8	8e		SK3213 A and D are right and left, well preserved, mandibles of the same individual. Ramus depths are 54.5 and 54 respectively. A includes part of the ascending ramus and D most of the diastema
		$M_{\overline{1}}$	18e			
		$M_{\overline{2}}$	22.0			
		$M_{\overline{3}}$	31.0			
3213D	L	$PM_{\overline{3}}$	11.6	6.3e		
		$PM_{\overline{4}}$	14.3	7.8		
		$M_{\overline{1}}$	20.0	10.2		
		$M_{\overline{2}}$	21.5	11.0		
		$M_{\overline{3}}$	31.4	10.9		
3141	R	$PM_{\overline{3}}$	9.0	5.6		Well-reserved horizontal ramus of mandible; ramus depth 64e
		$PM_{\overline{4}}$	14.2	8.7		
		$M_{\overline{1}}$	17.2	10.0		
		$M_{\overline{2}}$	24e	11.4		
		$M_{\overline{3}}$	29.3	10.5		
3002	R	$PM_{\overline{4}}$	16.0e	8.5e		Ramus depth 55e
		$M_{\overline{1}}$	18.5e			
		$M_{\overline{2}}$	24.0	11.0		
		$M_{\overline{3}}$	29e	9.8		
2985	R	$PM_{\overline{4}}$	16.5e			Ramus depth 59e
		$M_{\overline{1}}$	16.0	10.0		
		$M_{\overline{2}}$	21.0			
		$M_{\overline{3}}$	27.3	9.0		
2996	R	$PM_{\overline{3}}$	9.2	5.5		A squashed, extensively damaged fragment
		$PM_{\overline{4}}$	13.0	10.5e		
3089	R	$PM_{\overline{3}}$	9.7	6.0		Small damaged fragment
		$PM_{\overline{4}}$	13.4	8.0		

TABLE 4 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
3034	R	$PM_{\overline{4}}$	14e			Damaged fragment
		$M_{\overline{1}}$	13.5e			
		$M_{\overline{2}}$	22.5e	11.2e		
		$M_{\overline{3}}$	30.4	10.8		
1623	R	$PM_{\overline{4}}$	16.5	8.5		Damaged and squashed mandibular fragment
		$M_{\overline{1}}$	14.5	10.6		
		$M_{\overline{2}}$	25.0	11.0		
2971	R	$PM_{\overline{4}}$	15.3	8.6		
		$M_{\overline{1}}$	16.0	10.3		
2492	L	$PM_{\overline{3}}$	9.2	6.4e		
		$PM_{\overline{4}}$	13.4	8.5e		
1656(a)	L	$PM_{\overline{3}}$	9.5e			The three specimens SK 1656(a), SK2083 and SK 1961 have very similar $PM_{\overline{4}}$'s which are somewhat different to other Type I $PM_{\overline{4}}$'s
		$PM_{\overline{4}}$	16.5	9e		
2083	R	$PM_{\overline{4}}$	17.3	9.0		
1961	R	$PM_{\overline{4}}$	16.8	9.0		
Medium suspected of belonging to Type I $PM_{\overline{4}}$ (i.e. with Gp. IIa):						
3125	R	$M_{\overline{1}}$	16.7e	11.0		Ramus depth 60e
		$M_{\overline{2}}$	21.7	11.0		
		$M_{\overline{3}}$		10e	46e	
5951	R	$M_{\overline{3}}$	29.4	10.5	44.0	Isolated tooth
2341	R	$M_{\overline{3}}$	26.3	9.2	57.5e	Isolated young tooth; reaches a maximum length of 30, and maximum breadth of 12 just above the root
5977	R	$M_{\overline{3}}$	31.3	10.8	43.0	Isolated tooth
6008	R	$M_{\overline{3}}$	28.5e	10.4	49e	Isolated broken tooth
3004	R	$M_{\overline{3}}$			60e	Lingual surface of mandible and all teeth missing. Diastema (distance between points of emergence of incisiform canine and anterior $PM_{\overline{3}}$) estimated at 85
3067	L	$M_{\overline{3}}$	32.0	11e		Tooth in piece of mandible

TABLE 4 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
14212	L	$M_{\overline{3}}$	29.7	10.2	42e	Tooth in piece of mandible
14211	L	$M_{\overline{1}}$	16.2	10.3		Teeth in piece of mandible
		$M_{\overline{2}}$	22e	10.8	38e	
2974	L	$M_{\overline{2}}$	21.5e			Teeth in piece of mandible
		$M_{\overline{3}}$	31.5e	10.6	42e	
3151	R	$M_{\overline{1}}$		11.5e	44e	Ramus depth 56e
		$M_{\overline{2}}$	22.5	11.5		
		$M_{\overline{3}}$	29.6	9.7	67e	
Medium with Type II $PM_{\overline{4}}$ (Gp. IIb):						
3046	R	$PM_{\overline{4}}$	13.5	7.4	7.4	Part of diastema preserved
		$M_{\overline{1}}$		9.7e		
2529	R	$PM_{\overline{3}}$	10.5	6.0		Teeth in piece of mandible
		$PM_{\overline{4}}$		9.6		
2316	R	$PM_{\overline{4}}$	14.0	8.0		Tooth in piece of mandible
3146	L	$PM_{\overline{4}}$	16.0	7.5		Teeth in piece of mandible
		$M_{\overline{1}}$	16.5e			
		$M_{\overline{2}}$	24e	11e		
2478	L	$PM_{\overline{3}}$	9.5	6.0		Teeth in piece of mandible
		$PM_{\overline{4}}$	14.4	8.1		
		$M_{\overline{1}}$	16.6	10.6		
2983	L	$PM_{\overline{4}}$	16.3	8.0	35.0	
		$M_{\overline{1}}$	19.0	11.7	40.5	
2406	L	$PM_{\overline{4}}$	16.0	8.4	34e	Isolated tooth
2287	L	$PM_{\overline{2}}$	6.3	4.3		This is the only medium-sized specimen in which a $PM_{\overline{2}}$ was found to be present
		$PM_{\overline{3}}$	10.5	7.0		
		$PM_{\overline{4}}$	15.4	9.0		
Medium suspected of belonging to Type II $PM_{\overline{4}}$ (i.e. with Gp. IIb):						
2991	R	$M_{\overline{2}}$	22.3	12.2	50e	Teeth in broken piece of mandible
		$M_{\overline{3}}$	30.0	12.6	57e	
3040	L	$M_{\overline{3}}$	32e	11.2		Ramus depth 57.5

TABLE 4 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1613e	L	$M_{\overline{2}}$	22.2e			Lingual side of teeth missing
2523	L	$M_{\overline{2}}$	23.0	11.0	36e	Isolated tooth
2992	L	$M_{\overline{1}}$	17e			Teeth in broken piece of mandible with part of ascending ramus
		$M_{\overline{2}}$	23.0	11.2		
		$M_{\overline{3}}$	31.0	12.0		
Smaller large (Gp. III; cf. *Connochaetes* sp. aff. *africanus*):						
3105	R	$PM_{\overline{3}}$	13.5	7.5		Young mandible with $M_{\overline{3}}$ in the process of eruption. A socket and part of a root of $PM_{\overline{2}}$ are present, whether $DPM_{\overline{2}}$ or permanent $PM_{\overline{2}}$ is difficult to say (see discussion); Ramus depth 64e
		$PM_{\overline{4}}$	17.9	9.5		
		$M_{\overline{1}}$	22.8	11.4		
		$M_{\overline{2}}$	28.0	11.0		
		$M_{\overline{3}}$	34.5e	10.6	65e	
3010	R	$PM_{\overline{3}}$	10.8	6.2		Young mandible which is lacking $PM_{\overline{2}}$; ramus depth 64e
		$PM_{\overline{4}}$	17.0	9.2		
		$M_{\overline{1}}$	22.7	11.6		
		$M_{\overline{2}}$	27.8	12.5	63e	
		$M_{\overline{3}}$	34.0	9.5	70e	
6073	R	$PM_{\overline{3}}$	12.0	7.0		Ramus depth of this young fragmentary mandible 56–60e
		$PM_{\overline{4}}$	18.5	10.0		
		$M_{\overline{1}}$		12e		
		$M_{\overline{2}}$	26.6e	12.0		
		$M_{\overline{3}}$		11.6	75e	
2697	R	$PM_{\overline{3}}$	10e	7.5		Piece of old mandible which undoubtedly had $PM_{\overline{2}}$
		$PM_{\overline{4}}$	14.0	9.7		
		$M_{\overline{1}}$	16.5e	12.5e		
		$M_{\overline{2}}$	23e	13e		
3045	R	$M_{\overline{2}}$			57e	Ramus depth 61.5
		$M_{\overline{3}}$	33.0	10.9	62e	
2358	R	$M_{\overline{3}}$	34.1	11.6		
3137	R	$M_{\overline{2}}$	25.0	12.0		
		$M_{\overline{3}}$	31.0	11.0	62e	

TABLE 4 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
3068	R	$M_{\overline{3}}$	33.0	12.0		
2986	R	$M_{\overline{3}}$	36.0	12.6		Ramus depth 62e
2069	R	$M_{\overline{2}}$	24e	11.5e		Isolated broken tooth
3052	R	$M_{\overline{1}}$		11e		
		$M_{\overline{2}}$	24.0	12.4		
2054	R	$M_{\overline{3}}$	35.0	12.3		Isolated broken tooth
2352	R	$M_{\overline{2}}$	22.5	12.0		
		$M_{\overline{3}}$	33.5	11.2		
3100	R	$M_{\overline{2}}$	23.4	11.2	53e	Right and left mandibles squashed together
		$M_{\overline{3}}$	33e	11e	61e	
	L	$M_{\overline{1}}$		10.8		
		$M_{\overline{2}}$	23.4	11.0		
		$M_{\overline{3}}$	33.4	10.5	61e	
3134	L	$PM_{\overline{3}}$	10e			Crushed portion of mandible
		$PM_{\overline{4}}$	15.5	10e		
		$M_{\overline{1}}$	17e			
		$M_{\overline{2}}$	24e			
		$M_{\overline{3}}$	32.0	12.2	66e	
3091	L	$PM_{\overline{4}}$	18e			Crushed portion of mandible
		$M_{\overline{1}}$	19e	11.5e		
		$M_{\overline{2}}$	26e	13e		
		$M_{\overline{3}}$	33e	11.5e	65e	
3104	L	$M_{\overline{1}}$	20.5e	11.5		Crushed portion of mandible
		$M_{\overline{2}}$	25.0	11.8		
		$M_{\overline{3}}$	33.0	11.0	62e	
3156	L	$M_{\overline{3}}$	36.0	11.5		Crushed portion of mandible
3061	R	$M_{\overline{2}}$	25.0	13.0		Very old dentition in crushed portion of mandible
		$M_{\overline{3}}$	34e	12.4	45e	
3131	L	$M_{\overline{2}}$	26.0	12.4	47e	Ramus depth 62.5e
		$M_{\overline{3}}$	33.0	10.8	65e	
1630	L	$M_{\overline{3}}$	33.5e	12.0		Ramus depth 62e
2065	L	$PM_{\overline{3}}$	13.0	7.2		$PM_{\overline{2}}$ was present during life

TABLE 4 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2110	L	$M_{\overline{3}}$	32.5			Isolated tooth with length increasing to a maximum 37.3 above root
7216	L	$M_{\overline{2}}$	24.7	11.4	55e	
2354	L	$M_{\overline{3}}$	36.3	12.0	45e	
6004	L	$M_{\overline{2}}$	24.4	11.8	43e	Isolated tooth
2284	L	$M_{\overline{1}}$	22.9	12.4		" "
6059	L	$M_{\overline{3}}$	[illegible]	11.3	60e	Isolated broken tooth
2667	L	$PM_{\overline{4}}$	17.0	9.0	[illegible]	Young isolated tooth
2749	L	$PM_{\overline{3}}$	13.2	7.5e	30e	" " "
Larger large (Gp. IV; cf. *Megalotragus* sp.):						
3132	R	$PM_{\overline{3}}$	12e			$PM_{\overline{2}}$ was definitely absent during life
		$PM_{\overline{4}}$	15.5e	9.5e		
		$M_{\overline{1}}$	20.5e	13.7e		
		$M_{\overline{2}}$	28e	13e		
2118	R	$M_{\overline{3}}$	42e			Only buccal lobes of this tooth remain
2063	R	$M_{\overline{3}}$	39e	14.5e		Isolated broken tooth
1953	R	$M_{\overline{3}}$	39e	13.5e		Isolated broken tooth
14113	R	$M_{\overline{3}}$	39.5e			Isolated very broken tooth
3249	R	$M_{\overline{3}}$		11.2e	65e	Isolated broken tooth; young
1944	L	$M_{\overline{3}}$	40e	14.5		Isolated broken tooth
3099	L	$M_{\overline{3}}$	39.5	12.5	67e	Tooth in broken piece of mandible
2081	L	$M_{\overline{1}}$		13e		
		$M_{\overline{2}}$	28.3e	14.4		

TABLE 5: ALCELAPHINE ADULT UPPER DENTITIONS

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
Smaller small (Gp. Ia; *Damaliscus* cf. *dorcas*):						
2116	L	M^{2}	15.0e	13.7		Teeth and parts of cheek region and palate; very damaged; old
9341	L	M^{1}	16.0	11.3		Isolated tooth
10941	L	M^{2}	19.9	9.4	38e	Isolated tooth
3123	R	PM^{2}	6.0	5.9	21.8e	Well-preserved row of adult teeth with parts of palate and cheek region
		PM^{3}	9.0	8.5		
		PM^{4}	10.3	9.2		
		M^{1}	15.5	11.6		
		M^{2}	18.4	12.2	45e	
		M^{3}	18.8	10.8	50e	
6037	R	M^{2}	19.0	12.3	40e	Isolated tooth
11271	R	M^{2}	20.1	9.7	42e	Newly erupted isolated tooth
12003	R	M^{2}	19.2	10.8	42e	Newly erupted isolated tooth
5996	R	M^{1}	19.5e	10.5e	35e	Newly erupted isolated tooth
14111	R	M^{2}	20e	11.2e	40e	
4015	R	M^{2}	19.9	12.8		
Larger small (Gp. Ib; *Damaliscus* sp.2):						
12193	L	PM^{4}	13.1	11.2	37e	Isolated tooth
1971	L	PM^{3}	12.0	9.0		Isolated tooth
2526	L	PM^{3}	11.5	9.9	25e	Isolated tooth
11404	L	M^{1}	18.8	12.0	40e	Isolated tooth
4075	L	M^{1}	17.9	12.9	32e	Isolated tooth
14205	L	M^{1}	18.7	12.7	34e	Isolated tooth
14122	L	M^{2}	21.3	14.6	40e	Isolated tooth
6032	L	M^{2}	20.7	12.9	54e	Isolated tooth
5023	L	M^{2}	21.6	12.6e	55e	Isolated tooth
6029	L	M^{2}	20.7	13.9		Isolated tooth
4572	L	M^{2}	20.6e	11.4e		Isolated tooth
11117	L	M^{2}	18.5	12.2	40e	Isolated tooth
10906	L	M^{2}	19.6	11.6	55e	Isolated tooth newly erupted
2017	L	M^{2}	21.5	11.0	45e	Isolated tooth newly erupted

TABLE 5 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
2278	L	$M^{\underline{2}}$	24.0	13.3	53e	Isolated tooth newly erupted
2269	L	$M^{\underline{3}}$	23.0	11.6		Isolated tooth
6000	L	$M^{\underline{3}}$	18.8	11.7	45e	Isolated tooth
2048	L	$M^{\underline{3}}$	23.4e	12.4		Isolated tooth
5942	L	$M^{\underline{3}}$	20.3	13.5	40e	Isolated tooth
11391	L	$M^{\underline{3}}$	22.0	13.3	47e	Isolated tooth
4065	L	$M^{\underline{3}}$	19.8	12.6		Isolated tooth
10841	L	$M^{\underline{3}}$	18.0	10.8		Isolated tooth newly erupted
3832	L	$M^{\underline{1}}$	13.5e		24e	Damaged, incomplete palate with broken tooth remains on both sides
		$M^{\underline{2}}$	21e			
2989	L	$PM^{\underline{3}}$	10.0	9.0		Damaged teeth and part of cheek region of subadult with erupting premolars
		$M^{\underline{1}}$	20.0	12e		
		$M^{\underline{2}}$	23.5	13.1	55e	
3129	L	$PM^{\underline{3}}$	11.5	9.3		Almost complete toothrow with parts of cheek and palate regions preserved
		$PM^{\underline{4}}$	12.2	9.2		
		$M^{\underline{1}}$	19e	13.2		
11178	R	$M^{\underline{1}}$	18.0	12.0	40e	Isolated tooth
5999	R	$M^{\underline{2}}$	22.7	13.4	55e	Isolated tooth
6014	R	$M^{\underline{3}}$	21.0	14.0	53.0	Isolated tooth
4044	R	$M^{\underline{3}}$	19e	12.3	60e	Isolated tooth
3053	R	$M^{\underline{3}}$	22.4	12.4	60e	Single damaged tooth in part of cheek region
5172	R	$M^{\underline{3}}$	20.4	13.3	52e	Isolated tooth
2516	R	$M^{\underline{3}}$	22.0	12.0	60e	Isolated tooth, newly erupted
7791	R	$M^{\underline{3}}$	18.1	11.2	55e	Isolated tooth, newly erupted
11244	R	$M^{\underline{1}}$	20.8	11.3		Newly erupted $M^{\underline{1}}$ and $M^{\underline{2}}$ still encased in bone
1520	R	$PM^{\underline{3}}$	11.8	10.3	29e	Teeth held in broken piece of cheek region
		$PM^{\underline{4}}$	12.7	11.0	35e	
		$M^{\underline{1}}$	19.0	14.4e	38e	
		$M^{\underline{2}}$			50e	

TABLE 5 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
5954	R	$PM^{\underline{3}}$	11e	10.4	30.e	Teeth held in broken piece of cheek region
		$PM^{\underline{4}}$	11.2	10.7	40e	
		$M^{\underline{1}}$	18.5	13.2		
		$M^{\underline{2}}$	22e	13.0	50e	
Smaller medium (Gp. IIc; ***Rabaticeras porrocornutus*****?** **):**						
1523	L	$M^{\underline{1}}$	22.2	13.5		Palate showing maxillo-palatine suture and posterior palatine foramen on right side
		$M^{\underline{2}}$	24.7	13.6		
	R	$PM^{\underline{4}}$	15.3	10.2	37e	
		$M^{\underline{1}}$	22.6	13.9		
		$M^{\underline{2}}$	24.4	13.4	57e	
14117	R	$M^{\underline{2}}$			54e	Very damaged specimen showing also the roots of $PM^{\underline{4}}$ and $M^{\underline{1}}$
		$M^{\underline{3}}$	24.8	15.5e	60e	
3126	R	$M^{\underline{1}}$	22.0	15.1	40e	
		$M^{\underline{2}}$	26.0	15.1	55e	
		$M^{\underline{3}}$	23e	13.7	60e	
3118	R	$M^{\underline{1}}$	17.4e	15.1e	27e	
		$M^{\underline{2}}$	23.5	16.0	52e	
		$M^{\underline{3}}$	24e	15e		
3108	R	$PM^{\underline{3}}$	11.0	8.3		Almost complete toothrow with parts of palate and cheek region
		$PM^{\underline{4}}$	13.7	10.7		
		$M^{\underline{1}}$	22.0	14.5e		
		$M^{\underline{2}}$	24.3	14.3	65e	
		$M^{\underline{3}}$	22.5e	12.8e		
2336	R	$M^{\underline{3}}$	23.2e			Part of cheek region with broken $M^{\underline{2}}$ and $M^{\underline{3}}$;
		$M^{\underline{2}}$			26e	
1624	R	$M^{\underline{1}}$		12e	48e	Specimen from young animal
		$M^{\underline{2}}$	24.2	13.3	57e	
3081	R	$M^{\underline{2}}$	22.9	15.7	50e	Isolated tooth
5949	R	$M^{\underline{2}}$	23.7	13.7	55e	"
5900	R	$M^{\underline{3}}$	25.0	15.0	45e	"

TABLE 5 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
2107	R	$PM^{\underline{2}}$	4.3	5.0		Almost complete toothrow set in part of cheek region with an infra-orbital foramen above $PM^{\underline{3}}$
		$PM^{\underline{3}}$	13.0	8.6		
		$PM^{\underline{4}}$	13.5	13.0		
		$M^{\underline{1}}$	20.3	15.2		
		$M^{\underline{2}}$	24.0	15.7		
3087	R	$M^{\underline{1}}$	23.9	14.5e		Specimen from young animal in which $M^{\underline{3}}$ must have been in the process of eruption
		$M^{\underline{2}}$	24.3	13.0	65e	
3050	R	$M^{\underline{2}}$	23.6			Isolated broken tooth
6090	R	$M^{\underline{1}}$	21.8e	14.0		Isolated broken tooth
3251	R	$M^{\underline{1}}$	24.1	14.2		Isolated broken tooth
2032	L	$PM^{\underline{4}}$	13.5	11.8	37e	
		$M^{\underline{1}}$	19.5e	14.6e	36e	
5978	L	$M^{\underline{2}}$	23.3	14.1	50e	Isolated tooth
2950	L	$M^{\underline{1}}$	23.0	13.5e	47.3	Specimen from young animal
		$M^{\underline{2}}$			60e	
2010	L	$M^{\underline{3}}$	22.6	14.6	60e	Tooth has not yet reached occlusal surface
2068	L	$M^{\underline{3}}$	23.5e	13.5e	52e	Isolated broken tooth
2326	R	$PM^{\underline{4}}$	13.0	11.7e		
		$M^{\underline{1}}$	19.7e	15e		
5967	R	$M^{\underline{3}}$	26.6	14.7	45e	Isolated older tooth
2232	L	$M^{\underline{1}}$	24e		50e	Isolated damaged tooth
Indeterminate medium (Gp. IIe):						
2239	R	$M^{\underline{1}}$	17e			Very worn dentition: no enamel island on $M^{\underline{1}}$
		$M^{\underline{2}}$	19.8			
		$M^{\underline{3}}$		16.5e		
1616	R	$M^{\underline{2}}$	24e	16.5	50e	
		$M^{\underline{3}}$	25.4	15.0	60e	
14124	R	$M^{\underline{3}}$	26.2e	15e	33e	Old tooth
2116	R	$M^{\underline{1}}$	18e		30e	Each tooth damaged
		$M^{\underline{2}}$	26.2e		45e	
2364	R	$M^{\underline{3}}$	28.3e			Extensively damaged tooth

TABLE 5 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
2114	R	$M^{\underline{2}}$	26e		63e	$M^{\underline{3}}$ has not yet reached the occlusal surface
		$M^{\underline{3}}$	24e	13.0		
2092	R	$PM^{\underline{4}}$	14.1	13.8		Very damaged specimen
		$M^{\underline{1}}$			40e	
2527	L	$M^{\underline{3}}$	26.2		47e	Isolated damaged tooth
2457	L	$M^{\underline{2}}$	26.4	15.7		Isolated damaged tooth
Larger medium (Gp. II d; Including some Gp. III?):						
2987	R	$PM^{\underline{4}}$	13.2			Complete molar row and damaged $PM^{\underline{4}}$ set in a piece of the cheek region, showing part of the maxillo-jugal suture and the masseter insertion; part of palate present
		$M^{\underline{1}}$	21.0	16.3		
		$M^{\underline{2}}$	26.2	17.5e		
		$M^{\underline{3}}$	25.5	15.9		
3013	R	$M^{\underline{1}}$		16e		Worn dentition in parts of cheek and palate region; $M^{\underline{3}}$ has an exceptionally large metastyle.
		$M^{\underline{2}}$	21.0	18.3		
		$M^{\underline{3}}$	30.5e	16.6		
1991	R	$M^{\underline{3}}$	25.6e	14.2	67e	Tooth has not yet reached the occlusal surface
2049	R	$M^{\underline{3}}$	23.8	16.9		Isolated damaged tooth
2302	R	$M^{\underline{2}}$	26.8	15.9		Isolated damaged tooth
2257	R	$M^{\underline{2}}$	27.5	16.0	62e	Isolated damaged tooth
2510	R	$PM^{\underline{3}}$	10.5e			Part of cheek region with infra-orbital foramen present; $PM^{\underline{2}}$ is apparently absent
		$PM^{\underline{4}}$	12.7	12.1		
2286	R	$PM^{\underline{3}}$	10.5	8.4		$PM^{\underline{2}}$ is apparently absent
		$PM^{\underline{4}}$	13.2		39e	
2318	R	$PM^{\underline{3}}$	10.5	8.8e		$PM^{\underline{2}}$ is definitely absent
		$PM^{\underline{4}}$	13.3e	12.1		
		$M^{\underline{1}}$	18e			
3142	R	$PM^{\underline{4}}$	10.0	12.8		Very worn dentition in extensive part of cheek region. It looks as if $PM^{\underline{2}}$ may have been absent.
		$M^{\underline{1}}$	16.5	16e		
		$M^{\underline{2}}$	23.7e			
		$M^{\underline{3}}$	27.1	17.0	40e	

TABLE 5 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
3207	R	$M^{\underline{1}}$		16.2e		
		$M^{\underline{2}}$	23e	18.3e		
3153	L	$M^{\underline{2}}$	21.5e			Specimen showing fairly extensive parts of forehead, cheek and palatal regions; $M^{\underline{3}}$ with large metastyle
		$M^{\underline{3}}$	29.6e			
3111	L	$PM^{\underline{4}}$	12.5	13.3		Dentition set in warped part of cheek region
		$M^{\underline{1}}$		16e		
		$M^{\underline{2}}$	24.8	18.0		
		$M^{\underline{3}}$	25.8	16.0		
2314	L	$M^{\underline{3}}$	27.1	16.6		Young tooth and small part of palate
3056	L	$M^{\underline{1}}$	18.4	16.1		
2662	L	$M^{\underline{1}}$	16.3	16.9	26.5e	Isolated, old tooth
2426	L	$M^{\underline{3}}$	29.0	18.3		Isolated, damaged tooth
2076	L	$M^{\underline{3}}$	23e			Isolated damaged tooth not yet at occlusal surface
14056	L	$PM^{\underline{4}}$	12.9	13.0		Isolated, damaged tooth
2438	L	$M^{\underline{3}}$	27.0	14.5		Isolated, damaged tooth not yet at occlusal surface
2448	L	$M^{\underline{2}}$	27e	17.2e		Isolated tooth
2296	L	$M^{\underline{2}}$	25.0	16.0		Isolated tooth
5941	L	$M^{\underline{2}}$	27.2	14.9	55e	Isolated tooth which has just reached the occlusal surface
Smaller large (Gp. III; cf. *Connochaetes* sp. aff. *africanus*):						
2591	R	$M^{\underline{1}}$	25.7			Extensively damaged
		$M^{\underline{2}}$	29e			
2061	R	$M^{\underline{3}}$	25	15.1	70e	Isolated tooth; newly erupted
2686	R	$M^{\underline{2}}$	27.4	15.3	58e	Damaged teeth set in crushed bone
		$M^{\underline{3}}$	27e	16e		
3041	R	$M^{\underline{1}}$	24.5	16.8	40e	Isolated, damaged tooth

Table 5 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
14120	R	$M\frac{2}{}$	27.0	17.6	40e	Crushed parts of cheek region present
		$M\frac{3}{}$	28.2	16.3e	55e	
2225	R	$M\frac{2}{}$	28.0	15.6	55e	
3080	R	$M\frac{1}{}$	18.5e			Part of cheek region with elongated masseter origin present
		$M\frac{2}{}$	25.5e			
		$M\frac{3}{}$	29e	16.3		
2982	R	$M\frac{1}{}$	22.4	17.0	42e	Part of cheek region present
		$M\frac{2}{}$	27.0	17e		
		$M\frac{3}{}$	25.0	15.3	60e	
2261	R	$PM\frac{3}{}$	14.5	10.7	35e	
		$PM\frac{4}{}$	15.0	12.2	40e	
2097	R	$M\frac{2}{}$	26.5	18.8	40e	Fairly old dentition with part of cheek region
		$M\frac{3}{}$	29.6		45e	
2483	R	$M\frac{3}{}$	26.5	15.5	65e	Isolated tooth; just reaching occlusion
2422	R	$M\frac{1}{}$ or $M\frac{2}{}$	26.8	16.0		Isolated, broken tooth
2379	R	$PM\frac{3}{}$	14.0	10.0		Isolated, tooth prior to occlusion
1652	R	$M\frac{1}{}$	25.9	18.2	43e	Isolated, broken tooth
3102	R	$M\frac{3}{}$	28.1	17.4	64e	" " "
2224	R	$M\frac{2}{}$	27.2		55e	The erupting teeth from left and right jaws have been crushed towards each other
		$M\frac{3}{}$				
	L	$M\frac{2}{}$	27e			
		$M\frac{3}{}$	24e			
3066	L	$M\frac{2}{}$	26.9	14.6e		Isolated tooth, just reaching occlusion
4244	L	$M\frac{1}{}$	24.5	17.7	36e	Isolated tooth
3097	L	$M\frac{2}{}$	26.7			Extensively damaged tooth fragments
		$M\frac{3}{}$			63e	
3128	L	$M\frac{1}{}$	27e	16e	54.5	$M\frac{3}{}$ prior to occlusion

TABLE 5 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
3128	L	$M^{\underline{2}}$	29.5	16.5		
		$M^{\underline{3}}$	24.5	15.0		
2966	L	$M^{\underline{1}}$	17e			
		$M^{\underline{2}}$	26.6	18.2e		
2482	L	$M^{\underline{2}}$	28.5e	17.5e		Isolated, broken tooth
1634	L	$M^{\underline{2}}$	23e	18.5e		Very old dention
		$M^{\underline{3}}$		19.5	40e	
5946	L	$M^{\underline{3}}$	28.7e	17e	45e	Pieces of palate and cheek present
3008	L	$M^{\underline{3}}$	29.1	17.7		Isolated tooth
3047	L	$M^{\underline{2}}$	27.8	14.4		Isolated tooth just reaching occlusion
2109	L	$M^{\underline{1}}$	28.2	14.5	50e	Isolated tooth just reaching occlusion
2498	L	$PM^{\underline{3}}$	14.2	11.0		Isolated tooth
2025	L	$PM^{\underline{4}}$	16.2	13.0		Isolated tooth
3018	L	$M^{\underline{1}}$	25e	16.4e		Isolated,broken tooth
Larger large (Gp. IV; cf. *Megalotragus* sp.):						
3031	L	$PM^{\underline{4}}$	16.5	15.0		Very brittle and damaged
		$M^{\underline{1}}$	24.4e			
		$M^{\underline{2}}$	30.3	20.0	55e	
		$M^{\underline{3}}$	35e	19.2	65e	

TABLE 6 : TOOTH MEASUREMENT MEANS OF ADULT ACELAPHINES, including Swartkrans fossil species (as obtained from Tables 4 and 5, including estimated readings (e)), and five living species (in each case including roughly equal numbers of males and females). It should be noted that the numbers quoted for fossils include teeth from both right and left jaws, and thus do not necessarily refer to numbers of individuals. Thus any one individual may be represented twice, by readings for the same tooth category taken once on the left and once on the right side of the jaws.

LOWER TEETH:

LIVING SPECIES		PM_3		PM_4		M_1		M_2		M_3	
		l	b	l	b	l	b	l	b	l	b
D. dorcas	Number	4	4	6	6	6	6	6	6	6	6
	Mean	8.0	5.6	11.4	7.1	13.8	8.4	17.1	9.3	23.7	8.6
	Range	6.3–9.3	5.4–5.9	9.5–12.0	6.3–8.0	12.0–16.0	7.8–9.0	16.1–18.0	8.5–10.0	19.8–27.0	7.3–10.0
D. l. lunatus	Number	7	7	7	7	7	7	7	7	7	7
	Mean	10.3	6.9	14.0	8.0	17.6	9.9	20.6	10.1	26.7	9.4
	Range	8.9–12.0	6.4–7.9	12.7–15.5	7.5–8.5	14.0–19.0	9.2–10.5	20.0–21.5	9.4–10.8	25.0–28.5	8.3–11.2
A. buselaphus (caama & jacksoni)	Number	6	6	6	5	6	6	6	6	6	6
	Mean	10.8	6.9	13.6	8.9	17.5	10.4	21.2	10.6	28.0	9.9
	Range	9.1–12.9	6.3–7.5	11.6–14.8	8.3–9.6	15.2–20.6	9.4–11.1	19.3–22.8	10.0–11.7	26.0–31.1	9.5–10.8
C. gnou	Number	5	5	5	5	5	5	5	5	5	5
	Mean	8.9	5.9	13.8	8.0	17.2	10.1	22.6	11.2	29.6	10.5
	Range	6.8–10.4	5.8–6.1	13.0–14.7	7.5–8.4	14.5–20.0	10.0–10.3	21.0–25.5	10.5–12.3	26.5–34.0	10.3–11.0
C. taurinus	Number	6	6	6	6	6	6	6	6	6	6
	Mean	12.1	7.9	17.1	10.1	21.3	11.8	25.9	12.6	33.7	11.7
	Range	11.5–13.3	7.0–8.7	16.0–17.6	7.0–8.7	19.5–23.0	11.5–12.4	25.4–27.0	12.3–13.0	32.0–35.0	10.4–12.6

TABLE 6 : (Continued)

FOSSIL SPECIES		$PM_{\overline{3}}$		$PM_{\overline{4}}$		$M_{\overline{1}}$		$M_{\overline{2}}$		$M_{\overline{3}}$	
		l	b	l	b	l	b	l	b	l	b
Gp Ia, b, c and indet.	Number	1	1	7	7	15	16	14	17	16	18
Small	Mean	8.8	6.5	11.3	7.4	15.2	8.1	18.6	9.3	25.6	9.0
	Range			10.6–12.0	6.5–8.0	12.0–20.4	6.9–9.7	16.7–22.0	7.5–10.4	23e–28.7	6.4–10.1
Gp IIa, b	Number	9	8	21	20	14	10	15	11	16	16
Medium	Mean	9.9	6.1	15.1	8.5	15.5	10.4	22.7	11.2	30.0	10.6
	Range	9.0–11.6e	5.5–7.0	13.0–17.3	7.4–10.5e	13.5e–19.0	9.7e–11.7	21.0–25.0	10.8–12.2	26.3–32e	9.0–12.6
Gp IIa (i)	Number	6	5	14	12	8	5	7	5	6	5
(Type I $PM_{\overline{4}}$)	Mean	9.7	6.0	15.1	8.7	14.3	10.2	22.9	11.1	29.7	10.2
	Range	9.0–11.6e	5.5–6.4e	13.0–17.3	7.8–10.5e	13.5e–18.5e	10.0–10.6	21.0–25.0	11.0–11.4	27.3–31.4	9.0–10.9
Gp IIb(i)	Number	3	3	7	8	3	3	1	1	0	0
(Type II $PM_{\overline{4}}$)	Mean	10.2	6.3	15.1	8.3	17.4	10.7	24e	11e		
	Range	9.5–10.5	6.0–7.0	13.5–16.3	7.4–9.6	16.5e–19.0	9.7e–11.7				
Gp IIa(iii)	Number	0	0	0	0	2	2	3	2	7	8
Probably Gp IIa (i)	Mean					16.5	10.7	21.7	10.9	29.8	10.3
($PM_{\overline{4}}$ missing)	Range					16.2–16.7e	10.3–11.0	21.5e–22e	10.8–11.0	26.3–32.0	9.2–10.8
Gp IIb (ii)	Number	0	0	0	0	1	0	4	3	3	3
Prob. Gp IIb(i)	Mean					17e		22.6	11.5	31.0	11.9
($PM_{\overline{4}}$ missing)	Range							22.2e–23.0	11.0–12.2	30.0–32e	11.2–12.6

TABLE 6 (Continued)

FOSSIL SPECIES (Continued)		$PM_{\overline{3}}$		$PM_{\overline{4}}$		$M_{\overline{1}}$		$M_{\overline{2}}$		$M_{\overline{3}}$	
		l	b	l	b	l	b	l	b	l	b
Gp. IIa (i) & (ii)	Number	6	5	14	12	10	7	10	7	13	13
(Smaller medium?)	Mean	9.7	6.0	15.1	8.7	14.7	10.3	22.5	11.1	29.8	10.3
	Range	9.0–11.6e	5.5–6.4e	13.0–17.3	7.8–10.5e	13.5e–18.5e	10.0–11.0	21.0–24e	10.8–11.4	26.3–32.0	9.0–11e
Gp. IIb(i) & (ii)	Number	3	3	7	8	3	3	5	4	3	3
(Larger medium?)	Mean	10.2	6.3	15.1	8.3	17.4	10.7	22.9	11.4	31.0	11.9
	Range	9.5–10.5	6.0–7.0	13.5–16.3	7.4–9.6	16.5e–19.0	9.5e–11.7	22.2e–24e	11.0–12.2	30.0–32e	11.2–12.6
Gp. III	Number	7	6	7	6	7	9	17	16	20	21
Smaller large	Mean	11.8	7.2	16.8	9.6	20.2	11.6	24.9	12.1	33.7	11.4
	Range	10e–13.5	6.2–7.5	14.0–18.5	9.0–10.0	16.5e–22.9	10.8–12.5e	22.5–28.0	11.0–13.0	31.0–36.3	9.5–12.6
Gp. IV	Number	1	0	1	1	1	2	2	2	6	5
Larger large	Mean	12e		15.5e	9.5e	20.5e	13.4	28.2	13.7	39.8	13.2
	Range						13e–13.7e	28e–28.3e	13e–14.4	39e–42e	11e–14.5

Table 6 (Continued)

UPPER TEETH:

LIVING SPECIES		PM^3		PM^4		M^1		M^2		M^3	
		l	b	l	b	l	b	l	b	l	b
D. dorcas	Number	3	3	4	4	4	4	4	4	4	4
	Mean	10.3	8.9	10.3	10.9	14.6	12.7	18.7	13.8	19.2	12.9
	Range	9.7–11.0	8.2–9.4	9.3–11.7	8.9–12.9	12.2–17.1	11.8–13.4	18.2–19.3	11.8–15.0	16.1–20.9	10.1–14.5
D.l. lunatus	Number	7	7	7	7	7	7	7	7	7	7
	Mean	11.9	10.6	12.5	11.0	18.5	13.8	21.5	14.2	20.5	12.6
	Range	10.9–13.2	9.4–11.9	11.8–13.2	9.0–14.0	15.0–20.0	13.2–14.5	19.5–22.3	13.2–15.6	20.0–22.3	11.5–14.3
A. buselaphus (caama & jacksoni)	Number	6	6	6	6	6	6	6	6	6	6
	Mean	12.5	11.1	12.5	11.7	18.5	13.8	21.5	15.0	21.7	13.8
	Range	11.7–13.4	10.1–12.7	11.5–13.4	10.7–13.6	15.7–21.9	12.5–14.9	19.6–25.0	13.4–17.2	20.0–25.1	12.0–16.4
C. gnou	Number	2	2	2	2	2	2	2	2	2	2
	Mean	10.6	9.6	13.8	11.5	18.7	14.3	22.8	15.9	21.6	13.4
	Range	10.3–10.8	9.0–10.1	13.7–13.9	10.8–12.1	18.0–19.4	13.6–14.9	22.7–22.8	15.2–16.6	21.5–21.7	12.3–14.5
C. taurinus	Number	6	6	6	6	6	6	6	6	6	6
	Mean	13.9	11.8	15.6	13.2	22.2	16.4	27.5	18.0	25.9	16.6
	Range	11.9–15.0	11.1–12.7	14.6–16.4	11.3–14.5	18.6–24.0	15.7–17.6	25.4–29.0	17.0–20.1	25.0–27.1	15.3–18.0
FOSSIL SPECIES											
Gp. Ia & b Small	Number	7	7	6	5	13	12	21	20	14	14
	Mean	11.0	9.5	11.7	10.3	18.1	12.3	20.4	12.3	20.5	12.3
	Range	9.0–12.0	8.5–10.4	10.3–13.1	9.2–11.2	13.5e–20.8	10.5e–14.4e	15e–24.0	9.4–14.6	18.0–23.4	10.8–14.0
Gp. Ia Smaller small	Number	1	1	1	1	3	3	8	8	1	1
	Mean	9.0	8.5	10.3	9.2	17.0	11.1	18.9	11.5	18.8	10.8
	Range					15.5–19.5e	10.5e–11.6	15e–20.1	9.4–13.7		

TABLE 6 (Continued)

FOSSIL SPECIES (Continued)		$PM^{\underline{3}}$		$PM^{\underline{4}}$		$M^{\underline{1}}$		$M^{\underline{2}}$		$M^{\underline{3}}$	
		l	b	l	b	l	b	l	b	l	b
Gp. Ib	Number	6	6	5	4	10	9	13	12	13	13
Larger	Mean	11.3	9.7	11.9	10.5	18.4	12.6	21.4	12.8	20.6	12.4
small	Range	10.0–12.0	9.0–10.4	10.5e–13.1	9.2–11.2	13.5e–20.8	11.3–14.4e	18.5–24.0	11.0–14.6	18.0–23.4e	10.8–14.0
Gp. IIc, d	Number	5	4	13	11	20	19	28	22	25	21
& e	Mean	11.1	8.5	13.8	12.2	20.4	14.9	24.5	15.6	25.6	15.3
Medium	Range	10.5–13.0	8.3–8.8e	10.0–15.3	10.2–13.8	16.3–24e	12e–16.9	19.8–27.5	13.0–18.3	22.5e–30.5e	12.8e–18.3
Gp. IIc	Number	2	2	5	5	13	13	12	11	9	8
Smaller	Mean	12	8.5	13.8	11.5	21.7	14.2	24.1	14.4	23.9	14.4
medium	Range	11.0–13.0	8.3–8.6	13.0–15.3	10.2–13.0	17.4e–24.1	12e–15.2	22.9–26.0	13.0–16.0	22.5e–26.6	12.8e–15.5
Gp. IId	Number	3	2	7	5	5	7	11	9	11	9
Larger	Mean	10.5	8.6	12.5	12.7	18.0	16.2	24.9	16.9	26.7	16.2
medium			8.4–8.8e	10.0–13.3e	12.1–13.3	16.3–21.0	16e–16.9	21.0–27.5	14.9–18.3	23e–30.5e	14.2–18.3
Gp. IIe	Number	0	0	1	1	2	0	5	2	5	4
Indeterminate	Mean			14.1	13.8	17.5		24.5	16.1	26.0	14.9
medium	Range					17e–18e		19.8–26.4	15.7–16.5	24e–28.3e	13.0–16.5e
Gp. III	Number	3	3	2	2	10	7	17	12	12	11
Smaller	Mean	14.2	10.6	15.6	12.6	24.0	16.3	27.0	16.9	27.1	16.5
large	Range	14.0–14.5	10.0–10.7	15.0–16.2	12.2–13.0	17e–28.2	14.5e–17.7	23e–29.5	14.4–18.8	24e–29.6	15.0–17.7
Gp. IV	Number	0	0	1	1	1	0	1	1	1	1
Larger large	Mean			16.5	15	24.4e		30.3	20.0	35e	19.2

TABLE 7: ALCELAPHINE JUVENILE LOWER DENTITIONS

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
Small (only Gps. Ia and b):						
10500	R	$DPM_{\overline{4}}$	19.2	7.2		Mandibular fragment with $M_{\overline{2}}$ prior to eruption.
		$M_{\overline{1}}$	19.2	7.3		
		$M_{\overline{2}}$	21e			
11003	L	$DPM_{\overline{4}}$	19.3	7.0		Good piece of mandible with most of diastema
		$M_{\overline{1}}$	19.0	7.4		
7050	L	$DPM_{\overline{3}}$	10.5	5.5		anterior foramen present;
		$DPM_{\overline{4}}$	20.3	7.0		$M_{\overline{2}}$ prior to eruption
		$M_{\overline{1}}$	18.5	6.6		
Medium:						
3083	R	$DPM_{\overline{4}}$	22.5e	8.4		$M_{\overline{2}}$ erupting
		$M_{\overline{1}}$	21.7	8.2	45e	
6057	R	$DPM_{\overline{3}}$	9.5	6.2		" "
		$DPM_{\overline{4}}$	21.6	7.4		
		$M_{\overline{1}}$	21.2	7.9e		
		$M_{\overline{2}}$		7e		
2964	R	$PM_{\overline{4}}$		6.6		$M_{\overline{3}}$ erupting; $PM_{\overline{4}}$ exposed; ramus 47e
		$M_{\overline{1}}$	18.0	8.7		
		$M_{\overline{2}}$	22.2	8.1		
2993	R	$M_{\overline{1}}$	22e	9.5e		All teeth damaged; set in good piece of mandible
		$M_{\overline{2}}$	26e			
3003	R	$DPM_{\overline{4}}$	23.3	9.0		$M_{\overline{2}}$ erupting in good piece of mandible with piece of ascending ramus
		$M_{\overline{1}}$	23e	8.8		
3143	R	$DPM_{\overline{4}}$	25.2	6.7		Small fragment
		$M_{\overline{1}}$		7e		
11199	R	$DPM_{\overline{4}}$	19.7	8.0	20e	Isolated tooth
12201	L	$DPM_{\overline{4}}$	23.2	8.3	30.0	Isolated tooth
3498	L	$DPM_{\overline{4}}$	24.2	8.2		Isolated tooth
4013	L	$DPM_{\overline{2}}$	5.6	3.8		Small fragment
		$DPM_{\overline{3}}$	10.6	7.0		
		$DPM_{\overline{4}}$	22e	9e		

TABLE 7: (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
4020	L	$DPM_{\overline{4}}$	23.7	7.7		Small fragment
2082	L	$DPM_{\overline{4}}$	24.5e			$M_{\overline{2}}$ erupting
		$M_{\overline{1}}$	21.9	9.0		
		$M_{\overline{2}}$		9e		
14048	L	$DPM_{\overline{4}}$	23.6			$M_{\overline{2}}$ erupting
		$M_{\overline{1}}$	21.7			
2978	L	$PM_{\overline{4}}$	13.5e			$M_{\overline{3}}$ erupting; $PM_{\overline{4}}$ exposed
		$M_{\overline{1}}$	17e			
		$M_{\overline{2}}$		6.5e		
14214	L	$DPM_{\overline{2}}$	5.3	3.6		Fairly complete mandible on which $M_{\overline{3}}$ has not yet erupted; parts of diastema and ascending ramus are preserved
		$DPM_{\overline{3}}$	10.4	6.2e		
		$DPM_{\overline{4}}$	23e	11e		
		$M_{\overline{1}}$	22.7	10e		
		M–2	24.2	8.8		
Large:						
7315	R	$DPM_{\overline{3}}$	14e	7.3		Small fragment
		$DPM_{\overline{4}}$	9e			
2973	R	$PM_{\overline{4}}$				$M_{\overline{3}}$ in process of eruption in good piece of mandible; ramus depth behind $M_{\overline{2}}$ is 58e
		$M_{\overline{1}}$				
		$M_{\overline{2}}$				
5203	L	$DPM_{\overline{3}}$		6.5e		
		$DPM_{\overline{4}}$	30.7	9.0		
5185	L	$DPM_{\overline{4}}$	26.4	8.7	34e	Isolated tooth
1618	L	$DPM_{\overline{4}}$	26.4	9.7		
		$M_{\overline{1}}$	25.0	10.0		
5906	L	$DPM_{\overline{3}}$	11.3	6.1		Most of diastema, and mental foramen are preserved
		$DPM_{\overline{4}}$	28.1	8.2		
		$M_{\overline{1}}$	23.6	9.4	49.0	
3090		$DPM_{\overline{3}}$		10.5e		$M_{\overline{2}}$ prior to eruption

TABLE 8: ALCELAPHINE JUVENILE UPPER DENTITIONS

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
Small (only Gps. Ia and b):						
11504	R	DPM^{2}	8.2	4.8	17e	
		DPM^{3}	15.3	10.0	23e	
		DPM^{4}	16.2	10.8	28e	
10521	R	DPM^{2}	9.0	5.8		Parts of palate and cheek region preserved
		DPM^{3}	13.8	9.5		
		DPM^{4}	15.0	10.3		
		M^{1}	18.4	9.5e	36e	
4036	L	DPM^{3}	14.5e			
		DPM^{4}	16.7e	9.8	29e	
		M^{1}	18.7	9.0	40e	
12485B	L	DPM^{4}	17.3	9.1	28e	
10797	L	DPM^{3}	15e	9.5e		Includes small part of cheek region
		DPM^{4}	15.8	10.5	31.5	
3148	L	DPM^{2}	8.7	6.7	22e	Includes small part of cheek region
		DPM^{3}	15.4	9.7	30e	
12145	L	DPM^{3}	16.8	9.1		Isolated tooth
Medium:						
3115	R	DPM^{3}	14.3	11e		Very worn promolars with part of cheek region
		DPM^{4}	16e	13e		
		M^{1}	23e			
1633	R	DPM^{3}	19.5e			Part of cheek region with infraorbital foramen preserved
		DPM^{4}	20.5e			
10917	R	DPM^{2}	8.6	5.9		Parts of cheek region and palate preserved
		DPM^{3}	15.7	10.2		
		DPM^{4}	17.3	11.0		
12633	L	DPM^{4}	18.7	9.8		Isolated tooth
11124	L	DPM^{2}	9.3	6.6	19e	
		DPM^{3}	18e	11e	27.5e	
12000	L	DPM^{4}	18.2	10.5	33e	
		M^{1}	19.6	10.5		

TABLE 8 (Continued)

SK Number	Side of Jaw Right (R) Left (L)	Tooth	Length	Breadth	Height	Comments
6064	L	$DPM\frac{3}{}$		11.5		Parts of palate and cheek region preserved
		$DPM\frac{4}{}$	17.3	12.4		
		$M\frac{1}{}$	21.1	11.0		
2274	L	$DPM\frac{3}{}$	16.5e	9.8		
		$DPM\frac{4}{}$	19e	11.6	30e	
Large:						
5991	R	$DPM\frac{2}{}$	11.8	7.0		Some of palate and extensive part of cheek preserved showing infra-orbital foramen
		$DPM\frac{3}{}$	21.3	12.7		
		$DPM\frac{4}{}$	23.1	14.2	40e	
2066	R	$DPM\frac{3}{}$	20.4e			$M\frac{1}{}$ is erupting
		$DPM\frac{4}{}$	22e			
3229	L	$DPM\frac{3}{}$		105e		" " "
		$DPM\frac{4}{}$	22.0	12.4		
4089	L	$DPM\frac{3}{}$	18.8	10.3	30.5e	Isolated tooth
14207	L	$DPM\frac{3}{}$	16.7			
		$DPM\frac{4}{}$	18.0	13.5e		Part of palate and cheek region preserved

TABLE 9 : Molarization of $PM_{\overline{3}}$ and $PM_{\overline{4}}$ with respect to paraconid-metaconid fusion in Swartkrans and some extant alcelaphines. A star is appended to fossil species names. Fractions behind species names represent the proportion of examined individuals in extant cases, and of examined specimens in fossil cases, which lacked $PM_{\overline{2}}$

State of Paraconid-Metaconid Fusion	GENERA			
	DAMALISCUS	*RABATICERAS?* ?	*ALCELAPHUS*	*CONNOCHAETES*
In all cases unfused in both $PM_{\overline{3}}$ and $PM_{\overline{4}}$	*D. lunatus* ($^{0}/4$)	Gp. IIb*($^{3}/4$)		
In most cases fused in $PM_{\overline{4}}$; in all cases unfused in $PM_{\overline{3}}$	*D.* cf. *dorcas** ($^{0}/0$) *D. dorcas* ($^{1}/6$)			cf. *C.* sp. aff. *africanus**($^{1}/4$) *C. gnou* ($^{5}/6$)
In all cases fused in $PM_{\overline{4}}$; in a few cases fused in $PM_{\overline{3}}$	*Damaliscus* sp. 2 *($^{0}/1$)	Gp. IIa *($^{9}/9$)	*A. buselaphus* ($^{0}/7$)	*C. taurinus* ($^{7}/7$)

TABLE 10: HIPPOTRAGINE DENTITIONS OF *Hippotragus* cf. *niger*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER ADULT DENTITIONS:						
2072	L	$M_{\overline{2}}$	21e	10.9	57e	
1980	L	$M_{\overline{2}}$	21.2	12.0	40e	
1428	L	$PM_{\overline{4}}$	17.3	12.6		
		$M_{\overline{1}}$	18e	13.4		
		$M_{\overline{2}}$				
6002	L	$M_{\overline{3}}$	32.0	13.6	41e	
LOWER JUVENILE DENTITIONS:						
14214	L	$DPM_{\overline{4}}$	26e	8.5e		Prior to occlusion
1977	R	$DPM_{\overline{4}}$	24.0	8e		" " "
6001	L	$DPM_{\overline{4}}$	26e			$M_{\overline{1}}$ erupting; DPM^{4}_{-} prior to occlusion
		$M_{\overline{1}}$				
2548	R	$DPM_{\overline{4}}$	28e	8e		Prior to occlusion
2285	R	$DPM_{\overline{4}}$	25.5e			Prior to occlusion
3032	L	$DPM_{\overline{4}}$	26.5e	7.5e		Prior to occlusion; $M_{\overline{1}}$ erupting
6005	L	$DPM_{\overline{4}}$		8e		Prior to occlusion
1992	R	$DPM_{\overline{4}}$		8e		Prior to occlusion
2954	L	$DPM_{\overline{3}}$	17.0	8e		
		$DPM_{\overline{4}}$				
14242	R	$DPM_{\overline{3}}$	15.4	7.0		$DPN_{\overline{4}}$ just reaching occlusion
		$DPM_{\overline{4}}$		7.5e		
14243	L	$DPM_{\overline{3}}$		7.5e		$DPM_{\overline{4}}$ prior to occlusion
		$DPM_{\overline{4}}$		8.5e		
6124	R	$DPM_{\overline{3}}$	18e	7.5e		$DPM_{\overline{3}}$ prior to occlusion
11641	L	$DPM_{\overline{3}}$	17.5	7e		" " " "
UPPER ADULT DENTITIONS:						
5993	R	M^{1}_{-}	21.0	13.0	44e	Just reaching occlusion
1947	L	M^{2}_{-}			46e	
8010	L	M^{1}_{-}	22.2	20.8		
2355	L	M^{2}_{-}	25e			
5909	R	M^{2}_{-}	23.2	20e	45e	

TABLE 10 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
UPPER JUVENILE DENTITIONS:						
14046	R	DPM^{2}	15e			All prior to occlusion
		DPM^{3}	21.7			
		DPM^{4}	20e			
2663	L	DPM^{3}	21e			All prior to occlusion
		DPM^{4}	21.5e			
5926	R	DPM^{3}	19.3	11.5e		
		DPM^{4}	22e	13.5e		

TABLE 11: HIPPOTRAGINE DENTITIONS OF cf. *Hippotragus* sp. aff. *gigas*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
UPPER DENTITIONS:						
3139	R	DPM^{4}	24.7	19.5		These two dentitions, SK 3139 and SK 3107, belong to one individual with M^{3} in the process of eruption
		M^{1}	33.6	20.5e	62e	
3107	R	M^{2}	34.5e	21e		
		M^{3}	30.5e		54e	

TABLE 12: REDUNCINE ADULT DENTITIONS OF cf. *Kobus ellipsiprymnus*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
2960	L	PM_{4}	11.6	10.0		Teeth very worn, making this assignation tentative
		M_{1}	13.5e	12e		
		M_{2}	18.2	13.7		
UPPER DENTITIONS:						
11297	L	M^{2}	20.9	15.0		

TABLE 13: REDUNCINE JUVENILE UPPER DENTITIONS OF *Redunca* cf. *arundinum*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
3533	R	$DPM\frac{3}{}$	13e			
		$DPM\frac{4}{}$	13.7	8.6		

TABLE 14: ADULT AND JUVENILE LOWER DENTITIONS OF *Pelea* cf. *capreolus*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2273	R	$PM_{\overline{2}}$	5.5	3.3		
		$PM_{\overline{3}}$	7.2	4.8		
		$PM_{\overline{4}}$	9.6	5.7		
		$PM_{\overline{2-4}}$	21.2			
		$M_{\overline{1}}$	10.1			
		$M_{\overline{2}}$		7.5e	19e	
11221	L	$PM_{\overline{4}}$	9.2	4.8		
		$M_{\overline{1}}$	11.7	6.7	21e	
		$M_{\overline{2}}$	14.1	6.8	25.5e	
		$M_{\overline{3}}$	19.0	6.2	25e	
		$PM_{\overline{2-4}}$	18.5e			
		$M_{\overline{1-3}}$	44.0			
14055	L	$PM_{\overline{3}}$	7.3	4.0		Ramus depth 24e
		$PM_{\overline{4}}$	9.6	4.9		
		$PM_{\overline{2-4}}$	21e			
		$M_{\overline{1}}$	11.1	8e		
		$M_{\overline{2}}$	14.5e	7e		
		$M_{\overline{3}}$			27.5e	
6047	L	$PM_{\overline{4}}$	8.0	4.6		
		$PM_{\overline{2-4}}$	18.5e			
		$M_{\overline{1}}$	9.5e			
		$M_{\overline{2}}$		8e		
2311	R	$M_{\overline{3}}$	19.7	6.1		Ramus depth 24e
10694	R	$M_{\overline{1}}$	11.4	5.9		
		$M_{\overline{2}}$	14.0	5.7		

TABLE 14 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2981	L	$M_{\overline{3}}$	20e	7.3		Ramus depth 24e
1995	R	$M_{\overline{1}}$	11e	6.3		
		$M_{\overline{2}}$		6e		
2246	L	$M_{\overline{3}}$			28e	Ramus depth 23.5e
2378	R	$M_{\overline{3}}$	8.6	6.6		
2455	L	$M_{\overline{2}}$	14.6	5.4		Just reading occlusion
9911	L	$M_{\overline{2}}$	13.5	6.3		Isolated tooth
4029	R	$M_{\overline{3}}$	19.0	6.1	26.5e	Isolated tooth; prior to occlusion
2308	R	$M_{\overline{3}}$	19.5	6.0	24e	Isolated tooth: prior to occlusion
3085	R	$PM_{\overline{3}}$	5.9	3.3		Piece of diastema preserved
		$PM_{\overline{4}}$	8.2	4.5		
12531	L	$M_{\overline{1}}$	14.5	15.7	28e	
14241	R	$PM_{\overline{3}}$				
		$PM_{\overline{4}}$	10.3	6.4		
		$M_{\overline{1}}$	10.1	7.6		
		$M_{\overline{2}}$	14.1	7.4		
		$M_{\overline{3}}$				
3035	R	$DPM_{\overline{2}-\overline{4}}$	23e			Ramus depth 25e
		$DPM_{\overline{4}}$	12e			
		$M_{\overline{1}}$	11.1	6.0		
		$M_{\overline{2}}$	14.3	6.3		
		$M_{\overline{3}}$	19.3	6.0		
		$M_{\overline{1}-\overline{3}}$	43.3			
2468	R	$DPM_{\overline{4}}$			16.5e	$M_{\overline{3}}$ not yet erupted; ramus depth below $M_{\overline{2}}$ 23e; part of ascending ramus present
		$M_{\overline{1}}$	15.0	6.5		
		$M_{\overline{2}}$	16.1			
3042	L	$DPM_{\overline{2}-\overline{4}}$	25e			
		$M_{\overline{1}}$	12.9	6.3		
		$M_{\overline{2}}$			22e	
1429	R	$DPM_{\overline{3}}$	6.1	5.0		
		$DPM_{\overline{4}}$	12e	6.6		
		$PM_{\overline{4}}$	9e			
		$M_{\overline{1}}$	12.8	6.4	26e	

TABLE 15: ADULT AND JUVENILE UPPER DENTITIONS OF *Pelea* cf. *capreolus*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2735(b)	L	$M\frac{1}{-}$	15.0	11.5		Part of a crushed skull; see text for mention of this specimen; F/B angle (as defined in Fig. 17) is 40–45°
		$M\frac{2}{-}$	19e	10e		
		$M\frac{3}{-}$	18e		24e	
	R	$DPM\frac{4}{-}$	11e			
		$M\frac{1}{-}$	14.5e			
		$M\frac{2}{-}$	18.5e			
		$M\frac{3}{-}$	17.9	9e	24e	
		$M\frac{1-3}{-}$	46e			
14049	L	$PM\frac{2-4}{-}$	22e			
		$PM\frac{4}{-}$	8.5	7e		
		$M\frac{1}{-}$	12.3	10.4	21e	
		$M\frac{2}{-}$	16.5	10.8	25e	
		$M\frac{3}{-}$	16.5e	9.5e	26e	
		$M\frac{1-3}{-}$	43e			
6087	L	$M\frac{2}{-}$	16.1	10.0	26e	
		$M\frac{3}{-}$	14.7	7.7	27e	
4040	L	$M\frac{1}{-}$	12.6	9e		
		$M\frac{2}{-}$	14.5	9.3		
		$M\frac{3}{-}$	14.8	8.4	25e	
		$M\frac{1-3}{-}$	39.1			
2682	L	$PM\frac{2}{-}$			10e	Premolars in process of eruption
		$PM\frac{3}{-}$	8e	6e		
		$DPM\frac{4}{-}$	9.6	8.5		
		$M\frac{1}{-}$	13.3	9.4		
		$M\frac{2}{-}$	15.2	9.2		
10741	R	$M\frac{2}{-}$		9.5e	24e	Isolated tooth
2923	L	$DPM\frac{4}{-}$	14.2	7.4		Tooth not yet in occlusion
4087	R	$M\frac{2}{-}$	15e	9.5e		Isolated broken tooth
4030	R	$DPM\frac{4}{-}$	14.0	7.5		
		$M\frac{1}{-}$			18.5e	
14116	L	$M\frac{3}{-}$	13.5e			Part of cheek and basal orbital region, as well as a separate piece of the orbito-sphenoid region

TABLE 16: COMPARISON OF SOME MEASUREMENTS IN mm TAKEN ON MANDIBLES OF SWARTKRANS (SK), KROMDRAAI A (KA) AND EXTANT (TM) *Pelea capreolus*

The mandibles have been sorted into four tooth wear stages, here defined:

A = $M_{\overline{1}}$ has reached occlusion, but not $M_{\overline{2}}$.

B = $M_{\overline{2}}$ has reached occlusion, but not $M_{\overline{3}}$.

C = From the occlusion of $M_{\overline{3}}$ until central enamel islands on both lobes of $M_{\overline{1}}$ are worn away.

D = From C to death.

Measurement categories:

R1 = Depth of horizontal ramus beneath $PM_{\overline{2}}$ or $DPM_{\overline{2}}$ measured mesially along a line perpendicular to the toothrow correct to 0.5 mm.

R2 = Depth of horizontal ramus beneath the meeting of $M_{\overline{1}}$ and $M_{\overline{2}}$, measured as for R1

e = estimated measurement

The largest measurement in each tooth wear stage in each measurement category is starred.

Reference No.	R1	R2	Length of $M_{\overline{1}}$	Length of $M_{\overline{2}}$	Length of PM's	Length of DPM's
A:						
TM 10006			13.3			23.9
TM 7000			14.6			23.7
TM 7001			14e			24e⊕
SK 2468			15.0⊕	16.1		
B:						
TM 13389	15.5	19.0	12.2	14.3		23.7
TM 10003	15.5	20.0	12.0	13.8		20.5e
SK 10694		20e	11.4	14.0		
KA 903				15.9⊕		
KA 1149A				15.8		
KA 1766C	18.0⊕	22.0⊕	13.0⊕			27.4⊕
C:						
TM 10004	13.0	16.0	12.2	14.5	22.5⊕	
TM 694	16.0	17.0	12.8	15.9⊕	20e	
TM 16709	15.0	19.0	10.7	13.6	19e	
TM 10007	15.0	17.0	11.3	13.2	18e	
SK 11221	15.9		11.7	14.1	18.5e	
SK 2273	15.5	20.5	10.1			
SK 3035	18.5⊕	21.5⊕	11.1	14.3		23e
SK 14055	16.0	19.0	11.1	14.5e	21e	
SK 3042			12.9⊕			
D:						
TM 10005	13.0	16.5	9.0	12.3	17.4	
SK 2981		21.0				
SK 6047	18e⊕	22e⊕			18.5e⊕	
SK 3085	17.5	19e				

TABLE 17: SOME SKULL AND MAXILLARY TOOTH MEASUREMENTS IN mm. TAKEN ON SKULLS OF EXTANT *Pelea capreolus*

L = tooth length refers to maximum mesio-distal diameter at the occlusal surface as measured buccaly from parastyle to metastyle
B = tooth breadth is the maximum buccolingual breadth at the occlusal surface
J = juvenile with $M^{\underline{2}}$ or $M^{\underline{3}}$ not yet at the occlusal surface
F/B angle = angle between face and basicranium as defined in Fig. 5
e = estimated measurement

Transvaal Museum Reference Number	Sex	Collection Locality	$M^{\underline{1}}$		$M^{\underline{2}}$		$M^{\underline{3}}$		$M^{\underline{1}}$ – $^{\underline{3}}$ Length	F/B Angle
			L	B	L	B	L	B		
TM 13389	♀(J)	Rustenburg, Transvaal	14.4	9.0	15.0	8.0	14.1	7.7	41.4	55°–60°
TM 694	♀	Rustenburg, Transvaal	13.7	9.6	17.5	10.0	16.0	9.2	42.7	55°–60°
TM 10006	♂(J)	Huntley Glen, Bedford, Cape	14.8	8.7	15.0	8.3				
TM 10004	♂	" " "	14.3	9.2	15.3	9.2	14.5	8.3	38.0	50°–55°
TM 7001	♀(J)	Naauwpoort, Cape	15.4	8.0						45°–50°
TM 7000	♂(J)	" "	15.8	8.7						55°–60°
TM 16709	♂	Unknown	10.6	10.8	14.0	10.0	15.5	8.7	37.0	45°–50°

TABLE 18: ANTILOPINE ADULT LOWER DENTITIONS: cf. *Gazella vanhoepeni*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
10440	R	$PM_{\overline{3}}$	7.2	3.9		Anterior lobe of $M_{\overline{2}}$ worn flat; ramus depth 28e
		$PM_{\overline{4}}$	9e	5.7		
		$PM_{\overline{2-4}}$	17.5e			
		$M_{\overline{1}}$	11.0	7.8		
		$M_{\overline{2}}$	14.8	8.1		
		$M_{\overline{3}}$	22.2	7.7		
		$M_{\overline{1-3}}$	46.5			
2310	R	$M_{\overline{1}}$	14.5e	6.5e		$M_{\overline{3}}$ not yet erupted; ramus
		$M_{\overline{2}}$	15.5e	6.6		depth below $M_{\overline{2}}$ 27e
	L	$M_{\overline{1}}$	15.0	6.2		
		$M_{\overline{2}}$	17.5e	7e		
3116	R	$M_{\overline{2}}$	13.0	8.1		Anterior lobe of $M_{\overline{1}}$ worn flat; ramus depth 22e
		$M_{\overline{3}}$	23.5e	7.6		
2953	R	$M_{\overline{3}}$	22.0	7.4	31.5	
3124	R	$M_{\overline{3}}$		7e	31e	$M_{\overline{3}}$ in process of eruption
2090	R	$M_{\overline{3}}$	22.4	6.1		" " " "
2362	R	$M_{\overline{3}}$	22e	7e	29e	" " " "
3037	R	$M_{\overline{3}}$	21e	7e		Ramus depth 26.5e
2535	R	$M_{\overline{2}}$	16e	6e	28e	
1931	R	$M_{\overline{1}}$	14.6	6.4	26.5	$M_{\overline{1}}$ just reaching occlusion
2905	R	$M_{\overline{2}}$	14.7	7.6		Isolated tooth
2685	L	$M_{\overline{2}}$	18.3	6.5	28.5	" " ; prior to occlusion
3941	L	$M_{\overline{2}}$	15e	17.5e		Isolated tooth

TABLE 19 : ANTILOPINE ADULT UPPER DENTITIONS: cf. *Gazella vanhoepeni*

SK Number	Side of jaw	Tooth	Length	Breadth	Height	Comments
14063	R	$PM\frac{2}{-}$	8.2	5.7		Crushed palate
		$PM\frac{3}{-}$	7.6	6.5e		
		$PM\frac{4}{-}$	8.1	9e		
		$M\frac{1}{-}$	9.6	11.0		
		$M\frac{2}{-}$	13.0	11.9		
		$M\frac{3}{-}$	16.1	11.8		
		$PM\frac{2-4}{-}$	25e			
		$M\frac{1-3}{-}$	40.6			
	L	$PM\frac{2}{-}$			8.5e	
		$PM\frac{3}{-}$	7.5e			
		$PM\frac{4}{-}$	8.5e	9e		
		$M\frac{1}{-}$	9.9	10.3		
		$M\frac{2}{-}$	12.7	11.3		
		$M\frac{3}{-}$	16e			
1224	L	$PM\frac{2}{-}$	7.0			Palate with large portions of maxillae and pre-maxillae preserved
		$PM\frac{3}{-}$	6.3			
		$PM\frac{4}{-}$	6.7			
		$M\frac{1}{-}$	10.4			
		$M\frac{2}{-}$	13.8	11.0		
		$M\frac{3}{-}$			16e	
3012	R	$PM\frac{3}{-}$	7.2	6.7		Damaged palate with parts of cheek region
		$PM\frac{4}{-}$	9e	7.5e		
		$M\frac{1}{-}$	13e			
		$M\frac{2}{-}$	15.5e			
		$M\frac{3}{-}$	18e	11e		
		$PM\frac{2-4}{-}$	24e			
		$M\frac{1-3}{-}$	46e			
	L	$M\frac{1}{-}$	13.5e			
		$M\frac{2}{-}$	15.5e	11.5e		
		$M\frac{3}{-}$	17.2	10.2	29.8	
2990	R	$PM\frac{4}{-}$	8e	8e		Almost complete palate
		$M\frac{1}{-}$	11.5e			
		$M\frac{2}{-}$	15e			
		$M\frac{3}{-}$	16.5e			

TABLE 19 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
	L	PM_{-}^{2-4}	21.5e			
		M_{-}^{1}	11.5e			
		M_{-}^{2}	14.5e			
		M_{-}^{3}	16.0	10.4	21e	
		M_{-}^{1-3}	41e			
3261	R	PM_{-}^{2}	7.2	6.4		Both lobes of M_{-}^{1} worn flat
		PM_{-}^{3}	7.4	7.5		
		M_{-}^{1}	10.7	11.4		
		M_{-}^{2}	16e	11.5e	22e	
2972	L	PM_{-}^{3}	8.6	8.0		
		PM_{-}^{4}	9.4	7.4		
		M_{-}^{1}	14e			
4022	R	M_{-}^{3}	14.5e	9e	32e	Isolated tooth
2495	L	M_{-}^{3}	16.3	8.5	30e	Isolated tooth; prior to occlusion
5427	R	M_{-}^{3}	17.3	11.1	30.5e	" "
14068	L	M_{-}^{1}	11e	10.5		" "
11073	R	M_{-}^{2}	15.0	10.5	30e	" "

TABLE 20: ANTILOPINE JUVENILE LOWER DENTITIONS: cf. *Gazella vanhoepeni*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2079	R	$DPM_{\overline{4}}$	15.8	6e		
3015	R	$DPM_{\overline{3}}$	8.3	5.8		Ramus depth below $M_{\overline{2}}$ 23.5e
		$DPM_{\overline{4}}$	15.7	7.0		
		$M_{\overline{1}}$	14.2	6.5		
		$M_{\overline{2}}$	16.2	6.2	28e	

TABLE 21: NEOTRAGINE ADULT LOWER DENTITIONS OF *Oreotragus* cf. *major*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
14059	L	$PM_{\overline{3}}$	9.3	4.0		
		$PM_{\overline{4}}$	9.7	4.5		
		$PM_{\overline{2-4}}$	22e			
		$PM_{\overline{3+4}}$	18.3			
		$M_{\overline{1}}$	9.3	6.0		

TABLE 22: NEOTRAGINE ADULT LOWER DENTITIONS OF *Oreotragus* cf. *oreotragus*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1631	R	$M_{\overline{2}}$	10e			
4052	R	$PM_{\overline{2}}$	5.3	2.9		
		$PM_{\overline{3}}$	8.0	3.5		
		$PM_{\overline{4}}$	8.7	4.4		
		$PM_{\overline{2-4}}$	21.7			
		$PM_{\overline{3+4}}$	16.5e			
		$M_{\overline{1}}$	9.2	6.0		
		$M_{\overline{2}}$	10e	5.8	19e	
11405	L	$PM_{\overline{4}}$	8.7	4.4		
		$PM_{\overline{2-4}}$	21.6			
		$M_{\overline{1}}$	9.5	5.8		

TABLE 23: SOME TOOTH LENGTH MEASUREMENTS TAKEN ON EXTANT *Oreotragus oreotragus*

Transvaal Museum Ref. No. and Sex	Length of $PM_{\overline{2-4}}$	Length of $M_{\overline{1-3}}$	Length of $PM_{\overline{3+4}}$	Length of $M_{\overline{3}}$	Length of $PM^{\underline{2-4}}$	Length of $M^{\underline{1-3}}$
TM 13956 (♂)	19.8	28.2	16.1	11.2	22.3	25.7
TM 16711 (♀)					22.3	28.4
TM 13550 (♂)					24.0	28.1
TM 3134 (♂)	24.2	31.0	17.3	13.1	23.8	27.1
TM 8355 (♂)	20.7	27.7	16.2	12.2	22.7	25.3
TM 14844 (♂)	22.6	30.4	18.0	12.9	23.6	27.0
TM 14957 (♂)	20.3	30.5	16.3	12.9	21.3	26.5
TM 11720 (♂)	22.6	29.2	17.5	12.6	22.9	25.5e
TM 1627 (♂)					23.0	27.7
TM 1550 (♀)	19.5	29.3	16.0	12.4	22.4	26.3
TM 13283 (♀)	22.4	30.0	16.8	12.8	22.5	27.7
TM 9606 (♀)	20.3	29.4	15.9	11.8	22e	26.7

TABLE 24: ANTILOPINE OR NEOTRAGINE ADULT LOWER DENTITIONS, Gen. et. sp. indet.

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
3025	R	$M_{\overline{3}}$	16.9	6.0		Ramus depth 22e
2665	R	$M_{\overline{2}}$	12.5e			
		$M_{\overline{3}}$	16.7	5.4		
3019	R	$PM_{\overline{2}}$	5.2	2.8		
		$PM_{\overline{3}}$	7.4	3.5e		
		$PM_{\overline{4}}$	7.8	4.1		
		$PM_{\overline{2-4}}$	20.5e			
		$PM_{\overline{3+4}}$	15.3			
		$M_{\overline{1}}$	8e			
		$M_{\overline{2}}$	10.9	6.3		
		$M_{\overline{3}}$	16.3	6.2		Ramus depth 21.5e
		$M_{\overline{1-3}}$	35e			

TABLE 25: NEOTRAGINE DENTITIONS OF *Raphicerus* cf. *campestris*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
2108	R	$PM_{\overline{3}}$	6.9	3.0		Ramus depth 18.5e
		$PM_{\overline{4}}$	6.8	3.6		
		$PM_{\overline{2-4}}$	17e			
		$M_{\overline{1}}$	7.5e			
		$M_{\overline{2}}$	8e			
		$M_{\overline{3}}$	12.5	4.7		
		$M_{\overline{1-3}}$	27.5e			
5930	L	$M_{\overline{2}}$	9.5e			
		$M_{\overline{3}}$	13.7	5.2		
4287	L	$M_{\overline{1}}$	8e	4.3		$M_{\overline{3}}$ has partially erupted
		$M_{\overline{2}}$	8.8	4e		
		$M_{\overline{3}}$				
2719	R	$M_{\overline{1}}$	9.5e			" " " "
		$M_{\overline{2}}$	10e			
		$M_{\overline{3}}$				
2024	L	$M_{\overline{2}}$				
		$M_{\overline{3}}$	13.7	4.8		
14060	R	$DPM_{\overline{4}}$	9.9	4.1		$M_{\overline{3}}$ has partially erupted; this specimen probably belongs to skull SK 1515
		$M_{\overline{1}}$	9.0	4.0		
		$M_{\overline{2}}$	10.3	4.2		
		$M_{\overline{3}}$		4e		
UPPER DENTITIONS:						
1515	R	$DPM^{\overline{2}}$	7.5e	4.8		This is an almost complete skull; $M^{\overline{3}}$'s are partially erupted
		$DPM^{\overline{3}}$	7.7	5.0		
		$DPM^{\overline{4}}$	8e			
		$M^{\overline{1}}$	9.4	6.0		
		$M^{\overline{2}}$	10.1	6.0		
		$M^{\overline{3}}$	9.3			
	L	$DPM^{\overline{3}}$	7.7	4.5		
		$DPM^{\overline{4}}$	8e			
		$M^{\overline{1}}$	9.4	6.0		
		$M^{\overline{2}}$	10.2	6.1		
		$M^{\overline{3}}$	9.3			
12363	L	$M^{\overline{1}}$	8.7	6.4		

TABLE 26: NEOTRAGINE DENTITIONS OF *Ourebia* cf. *ourebi*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
14168	R	$PM_{\overline{2}-\overline{4}}$	17.5e			Ramus depth 25.5e
		$M_{\overline{1}}$	8.5e			
		$M_{\overline{2}}$	11.7	7.0		
		$M_{\overline{3}}$	16.4	6.5		
		$M_{\overline{1}-\overline{3}}$	36.5e			
6995	L	$M_{\overline{2}}$	12.0	5.9		
		$M_{\overline{3}}$	14.8	6.5		
UPPER DENTITIONS:						
5893	L	PM^{2}				
		PM^{3}	7.0	6e		
		PM^{4}	7.0	8.0		
		PM^{2-4}	19e			
		M^{1}	8.6	9.8		
		M^{2}	12.2	10.0		
		M^{3}	13.5e	9.6		
		M^{1-3}	33e			
4060	L	M^{3}	11e	6.5e		Prior to occlusion
5892	L	DPM^{4}	10.7	7.8		
		M^{1}	11e	7.1	24e	

TABLE 27: BOVINE DENTITIONS OF *Syncerus* cf. *acoelotus*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
3130	L	$PM_{\overline{4}}$	21.6	13.2		Very crushed and distorted
		$M_{\overline{1}}$	28e	16e		
		$M_{\overline{2}}$		17e		
2968	R	$PM_{\overline{3}}$	21.3	13.6		
2028	L	$PM_{\overline{4}}$	20.4	12.8		
2517	L	$PM_{\overline{3}}$	22.6	14.0		
1983	R	$PM_{\overline{4}}$	27.0	14.3		
1972	R	$PM_{\overline{4}}$		15e		
		$M_{\overline{1}}$	26.4			
2491	L	$M_{\overline{2}}$	32.5e			
3064	L	$DPM_{\overline{2}}$	15e	8e		$M_{\overline{2}}$ is in the process of eruption
		$DPM_{\overline{3}}$				
		$DPM_{\overline{4}}$		13e		
		$M_{\overline{1}}$	32e	12e		
		$M_{\overline{2}}$				
UPPER DENTITIONS:						
3059	R	$M^{\overline{3}}$	34e			
2077	R	$M^{\overline{2}}$	33.5e	27.5e		
3074	L	$M^{\overline{3}}$	34e	23e		
2480	R	$PM^{\overline{4}}$	22e	20e		
3034	R	$PM^{\overline{4}}$	20.7	19.5e		

TABLE 28 : **Some lower tooth length and breadth means in mm. of extant *Syncerus caffer* and Swartkrans fossil *Syncerus* cf. *acoelotus*.** All teeth are fully in occlusion and have their central enamel islands intact. Numbers of individuals (in the extant case) or specimens (in the fossil case) measured are given in brackets next to the means. e = estimated quantity. SK = Swartkrans measurements from Table 27

Species	Tooth	Length Mean	Breadth Mean	$\frac{\text{Breadth Mean}}{\text{Length Mean}} \times \frac{100}{1}$
Extant	$PM_{\overline{3}}$	18.4(4)	12.6(4)	69%
SK	"	22.0(2)	13.8(2)	63%
Extant	$PM_{\overline{4}}$	21.2(4)	15.3(4)	72%
SK	"	23.0(3)	13.8(4)	60%
Extant	$M_{\overline{1}}$	25.1(4)	16.2(4)	65%
SK	"	28.8e(3)	14.0e(2)	49%
Extant	$M_{\overline{2}}$	29.4(4)	17.2(4)	59%
SK	"	32.5e(1)	17e(1)	52%

TABLE 29: TRAGELAPHINE LOWER DENTITIONS OF *Tragelaphus* cf. *scriptus* (or *pricei*?)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2329	R	$M_{\overline{3}}$	20e			Ramus depth 21e
4261	L	$M_{\overline{2}}$		7e		
		$M_{\overline{3}}$		8e		
14052	L	$PM_{\overline{4}}$	9e	5.0		
		$M_{\overline{1}}$				
3114	L	$M_{\overline{2}}$	13.5e	6e		$M_{\overline{3}}$ about to erupt; parts of
		$M_{\overline{3}}$			18e	of ascending ramus preserved
14205	R	$M_{\overline{1}}$	10e			Ramus depth 21e
		$M_{\overline{2}}$	11.4	7.5		
		$M_{\overline{3}}$	18.4	7.1		
		$M_{\overline{1-3}}$	39.5e			

TABLE 30: TRAGELAPHINE DENTITIONS OF *Tragelaphus* cf. *strepsiceros*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
3110	R	$PM_{\overline{4}}$	18e	11e		Ramus depth 50e
		$M_{\overline{1}}$	19.8	13e		
		$M_{\overline{2}}$	26e	14.5e		
		$M_{\overline{3}}$	39e		42e	
3086	L	$DPM_{\overline{3}}$	19.6	9.7		Deciduous teeth not yet in occlusion; ramus depth under $DPM_{\overline{4}}$ 27e
		$DPM_{\overline{4}}$	36.5	12.1		
6860	L	$DPM_{\overline{2}}$	12e	5.1		Deciduous teeth not yet in occlusion; ramus depth under $DPM_{\overline{4}}$ 29e
		$DPM_{\overline{3}}$	17.8	8.6		
		$DPM_{\overline{4}}$	34.5	10.5		
2500	R	$DPM_{\overline{3}}$	17.7	9.1		$DPM_{\overline{3}}$ not yet in occlusion
10848	L	$DPM_{\overline{4}}$	34.0	10.6		$DPM_{\overline{4}}$ " " " "
1989	R	$DPM_{\overline{4}}$	35e	12e		" " " " "
5888	R	$DPM_{\overline{4}}$	31e	11e		" " " " "
14012	R	$DPM_{\overline{4}}$	34.8	11.3		" " " " "
2230	R	$DPM_{\overline{4}}$	33.5			" " " " "
1941	R	$DPM_{\overline{4}}$	37.6	11.4		" " " " "
UPPER DENTITIONS:						
14112	R	M^{1}_{-}	21e		26e	
		M^{2}_{-}			26e	
2304	R	PM^{4}_{-}	15.6	15.8		
2281	L	M^{2}_{-}	28e	20e		
3023	L	PM^{4}_{-}	15.1	16.8	29e	
2576	R	M^{2}_{-}	28e			
2541	R	M^{1}_{-}	22.5e	21e		
3000	R	M^{2}_{-}	25e			
		M^{3}_{-}	34e	22e		Including cheek region showing part of jugal-maxillary suture
2095	R	M^{3}_{-}	36e	26e		
3098	L	DPM^{3}_{-}		13e		
		DPM^{4}_{-}	27.7	15.5		Teeth not yet in occlusion

TABLE 30 (Continued)

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2271	R	DPM^{3}_{-}		13.5e		
		DPM^{4}_{-}	26.0	16.4		Teeth not yet in occlusion
5923	R	DPM^{3}_{-}	24.6	14.1		Tooth " " " "
2681	L	M^{2}_{-}	26.5	20.0		
		M^{3}_{-}				-

TABLE 31 : TRAGELAPHINE DENTITIONS OF *Tragelaphus* sp. aff. *angasi*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER JUVENILE DENTITIONS:						
2980	R	$DPM_{\overline{3}}$	10.7	5.0		$DPM_{\overline{4}}$ has just started reaching occlusion
		$DPM_{\overline{4}}$	24.5e	6.5e		
		$M_{\overline{1}}$			22.5e	
UPPER JUVENILE DENTITIONS:						
4028	L	DPM^{3}_{-}	19e			

TABLE 32 : TRAGELAPHINE TEETH OF *Taurotragus* cf. *oryx*

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
114171	L	$M_{\overline{3}}$		13e		Metastyle broken off

TABLE 33: ? OVIBOVINE DENTITIONS OF cf *Makapania* sp

SK Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
UPPER DENTITIONS:						
3150	L	PM^{4}	12.8	12e	28.5e	Damaged teeth set in fragment of upper jaw
		M^{1}	18.5e			
		M^{2}	23.4	15.5e	39e	
3005	R	M^{1}	18.5e	18e		Includes bits of palate and cheek region showing masseter origin
		M^{2}	22.2	16.5e		
3065	R	M^{3}			48e	Belongs with SK 3005
2759	R	M^{2}	23.3e	16.2		
2373	L	M^{1}	20e	13.6		Isolated tooth
2849A	L	M^{1} or M^{2}				
LOWER DENTITIONS:						
3113	R	M_{3}	29.5e	10.5e		Ramus depth 47e
2965	L	M_{3}	29.0	12.6		Ramus depth 45e
2693	L	M_{1}	21.3	11.0		Isolated tooth
1627	R	M_{2}	18.5e			Very old dentition
		M_{3}	30.5	13e		

TABLE 34 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1010	R	$M_{\overline{1}}$	11.5	8.3		Ramus depth 43e; bits of diastema and ascending ramus present
		$M_{\overline{2}}$	19.3	9.9		
		$M_{\overline{3}}$	25.4	9.3		
749	R	$M_{\overline{2}}$			35e	Ramus depth 40.5e; damaged bit of ascending ramus present
		$M_{\overline{3}}$	28e	9.5e		
576	L	$PM_{\overline{4}}$	9.6	6.2		Ramus depth 42.5e
		$M_{\overline{1}}$	11.9	8.7		
		$M_{\overline{2}}$	18.7e	10.0		
		$M_{\overline{3}}$	25.5	9.6		
1204	L	$M_{\overline{1}}$	13e			Ramus depth 46e
		$M_{\overline{2}}$	17.8	8.5e		
		$M_{\overline{3}}$	21.7	7.8		
758	R	$PM_{\overline{4}}$	11.1	6.5		Ramus depth 36.5e; bit of diastema present
		$M_{\overline{1}}$	16.1	8.5		
		$M_{\overline{2}}$	20.0	8.6		
		$M_{\overline{3}}$	22.3	7.3		
1004	R	$M_{\overline{1}}$	10.8	8.8	24e	Ramus depth 38e
		$M_{\overline{2}}$	17.1	10.4	32e	
		$M_{\overline{3}}$	27.2	10e	38e	
1687.A	L	$PM_{\overline{4}}$		6.5e		Ramus depth 53e
		$M_{\overline{1}}$	12.7	8.3		
		$M_{\overline{2}}$	18.3	9.2		
		$M_{\overline{3}}$	23.7	8.5		
929	R	$PM_{\overline{4}}$	10.0	6.4		Ramus depth 44e
		$M_{\overline{1}}$	12.3	7.8		
		$M_{\overline{2}}$	18.4	8.5e		
		$M_{\overline{3}}$	24.3	8.5e		
1668	L	$M_{\overline{2}}$	19e	9.3		Ramus depth 47e
		$M_{\overline{3}}$	25.2	9.0		
935	L	$PM_{\overline{4}}$	11.0	6.5		
		$M_{\overline{1}}$	12.3	9.0		
		$M_{\overline{2}}$	19.0	9.7		
		$M_{\overline{3}}$	26.1	9.4	44e	

TABLE 34 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1246	R	$M_{\overline{3}}$	21.5	9.0	40.0	
1747	R	$M_{\overline{1}}$	19e			$M_{\overline{2}}$ not yet erupted
		$M_{\overline{2}}$			26e	
1553	L	$M_{\overline{1}}$	14.6	8.4		
No no.	R	$M_{\overline{3}}$	23.6	8.6	46e	
858	L	$M_{\overline{2}}$	18.7	8.0e	44.5e	
2450	L	$M_{\overline{3}}$	23e	9.0e		
922	R	$M_{\overline{3}}$	22.2	8.8	43.3	
1693	L	$M_{\overline{3}}$	24.0	8.8	44e	Not yet erupted
1653	L	$PM_{\overline{3}}$	5.0	3.9		
		$PM_{\overline{4}}$	10.8			
		$M_{\overline{1}}$		8.0e		
1183	R	$M_{\overline{1}}$		7.5e		
		$M_{\overline{2}}$	18e	9.5e	35e	
1101	L	$PM_{\overline{3}}$	5.2	4.2		
		$PM_{\overline{4}}$	10.0	6.8		
		$M_{\overline{1}}$	10.5e	8.9		
		$M_{\overline{2}}$	17.5	9.2		
		$M_{\overline{3}}$	23.8			
703	R	$M_{\overline{3}}$	25e			
1097b	R	$M_{\overline{3}}$	23.3	8.5	47e	
1701	R	$M_{\overline{3}}$	25.0	8.3	59e	Just reaching occlusion
916	R	$M_{\overline{3}}$	25e	9.0e	41e	
751	L	$M_{\overline{2}}$	19.7	8.5	44e	
		$M_{\overline{3}}$	24e		53e	$M_{\overline{3}}$ just reaching occlusion
583	R	$M_{\overline{3}}$	20.8	7.7	46.5	
1041	R	$M_{\overline{2}}$	18.6	9.1		
1745	R	$M_{\overline{3}}$	22.5	8.7	41e	
1635	L	$M_{\overline{2}}$	20.3	8.0e	46e	
1803	R	$M_{\overline{1}}$	16.8	7.5e		
		$M_{\overline{2}}$	18.8	7.4	48e	$M_{\overline{2}}$ just reaching occlusion
1660	L	$M_{\overline{2}}$	19.9	8.3	47e	
1646	R	$M_{\overline{1}}$	16.7	8.6		

TABLE 34 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
947	L	$M_{\overline{3}}$		9.5e		
1153	L	$M_{\overline{3}}$	25.3	9.5		
1737	R	$M_{\overline{2}}$		7.9	46e	
606	L	$M_{\overline{3}}$	22.1	8.0	45e	
1136	R	$M_{\overline{2}}$		8.5e	40e	
1344	R	$M_{\overline{1}}$	17.5e	8.0e	33.5e	
608	R	$M_{\overline{2}}$	18.8	7.4		Just reaching occlusion
1284	R	$PM_{\overline{3}}$	4.7	4.0		Single tooth with piece of diastema
833	L	$M_{\overline{3}}$	23.7	9.0	38e	
770	L	$PM_{\overline{4}}$	11.3	6.4		$PM_{\overline{4}}$ erupting; no $PM_{\overline{2}}$ present during life
		$M_{\overline{1}}$	7.6			
2611	R	$M_{\overline{2}}$	19.9	9.5e		
		$M_{\overline{3}}$	24.5	8.9		
1174	L	$M_{\overline{2}}$	22e	9e		Reaching full occlusion
1115	R	$M_{\overline{2}}$	19.7	8.2		
1642	L	$M_{\overline{2}}$	19.3	7.5		Not yet in occlusion
1688	R	$M_{\overline{1}}$	18.9	7.6		Reaching full occlusion
611	L	$M_{\overline{1}}$	15.4	8.4		
709	L	$M_{\overline{1}}$	12.3	8.6		KA 709 consists of several loose, associated spcimens lettered A–I
		$M_{\overline{2}}$	19.7	9.6		
		$M_{\overline{3}}$	23.6	8.4	47e	
	R	$PM^{\overline{3}}$	7.0	7.0		
		$PM^{\overline{4}}$	11.0	9.6		
		$M^{\overline{1}}$		9.5e		
	L	$PM^{\overline{4}}$	10.4	9.4		
		$M^{\overline{2}}$	20.1	13.3		
931A	L	$M_{\overline{2}}$	21.1	8.5	49e	Mandibular piece with almost complete ascending ramus, associated with part of the orbital region, KA 931B; $M_{\overline{3}}$ erupting
		$M_{\overline{3}}$		8e		
1484	L	$M_{\overline{2}}$	19.4	8.5	48e	
1827	L	$PM_{\overline{3}}$	5.6	4.4		
		$PM_{\overline{4}}$	8.5e	4.5e		
		$M_{\overline{1}}$	11.1			
		$M_{\overline{2}}$	14.6	8.8		
		$M_{\overline{3}}$	21.6	8.7	41e	

TABLE 34 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1244A	L	$M_{\overline{2}}$	21.8	9.0		Has just reached full occlusion
1102	L	$PM_{\overline{4}}$	13.7	7.5		Ramus depth 49e; $PM_{\overline{4}}$ without paraconid-metaconid fusion
		$M_{\overline{1}}$	17.4	8.3		
		$M_{\overline{2}}$		7.6		
		$M_{\overline{3}}$	23.2	7.1		
646A	R	$PM_{\overline{3}}$	4.5	4.2		No $PM_{\overline{2}}$; $M_{\overline{3}}$ not yet in full occlusion
		$PM_{\overline{4}}$	10.3	6.4		
		$M_{\overline{1}}$	15.4	7.9		
		$M_{\overline{2}}$	19.2	8.1	48e	
		$M_{\overline{3}}$	23.5e	7.5e	48e	
2608A	R	$M_{\overline{1}}$	16e	8.5e		$M_{\overline{3}}$ not yet in full occlusion: ramus depth 45e
		$M_{\overline{2}}$	19.4	8.2		
		$M_{\overline{3}}$		7.5e		
855	L	$M_{\overline{2}}$	21e	7.4		$M_{\overline{2}}$ reaching occlusion; $M_{\overline{3}}$ erupting
		$M_{\overline{3}}$			38e	
1739	L	$PM_{\overline{3}}$	5e			$PM_{\overline{2}}$ was absent during life; $PM_{\overline{3}}$ and $PM_{\overline{4}}$ erupting
		$PM_{\overline{4}}$	5.5e			
		$M_{\overline{1}}$	17e	8.2		
		$M_{\overline{2}}$	20.1	8.0		
2353	R	$PM_{\overline{4}}$	11.6	6.6		$PM_{\overline{2}}$ absent during life
1095	R	$M_{\overline{3}}$	24.4	8e	54e	
951	R	$PM_{\overline{4}}$		5e		$PM_{\overline{4}}$ erupting
		$M_{\overline{1}}$	16.3	7.5e		
		$M_{\overline{2}}$	19.2	6.9	48e	
776	R	$M_{\overline{2}}$	20e			$M_{\overline{3}}$ erupting; $M_{\overline{2}}$ in partial occlusion
		$M_{\overline{3}}$			35e	

TABLE 35: ALCELAPHINE ADULT UPPER DENTITIONS OF *Damaliscus* sp. 1 or *Parmularius* sp. ("larger small" size group of Swartkrans)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
564	L	PM^3	6.6	5.5		
		PM^4	9.7	8.6		
		M^1	17.8	12.0		
		M^2	19.7	11.4		
		M^3	18e	11.3	50e	M^3 reaching occlusion
2511.B	R	PM^3		7.0		
		PM^4	9.6	9.5		First lobe of M^1 worn flat
		M^1	10.7	13.3	22e	
		M^2	17.0	13.3		
		M^3	20.5	12.2		
897	R	M^1	18.2	10.8	39e	
		M^2	19.4	10.4	45e	M^2 not yet fully in occlusion
1711	R	M^2	20.1	12.2	46e	
1195	L	M^2	20.6	12.2	48e	
565	L	M^1	19e	13.2	38e	
1117	R	M^1	17.7	11.4	37e	
960	L	PM^4	11.1	8.5		
		M^1	17.0	12.0		
1140	L	M^3	23.5	13.4		
1752	R	M^1	17.5e	12e	34e	
1750	R	M^3	19e	10.5e	45.5	M^3 not yet fully in occlusion
656	L	M^3	21e	11.5	54e	" " " " " "
1211	L	M^3	21.5e	11.7	54e	" " " " " "
994	L	M^1	18e	10e	40e	
		M^2	19.0	10.5		M^2 not yet fully in occlusion
635	L	PM^4	9.8	9.0		
		M^1	14.3	11.4		
1113	R	M^3	19.5	11.9	38e	
1173	L	M^2	19.5	10.9	51e	M^2 just reaching occlusion
2483	R	M^1	21.1	11.0	40e	M^1 not yet fully in occlusion
822	L	M^2	19.0	12.8	25.5e	
2481	L	M^3	20.0	12.7	57e	
920	R	M^2	20e	12.5e	41e	

TABLE 35 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	
697	L	$PM\frac{3}{-}$	8.2	5.8		$M\frac{3}{-}$ still erupting
		$PM\frac{4}{-}$	10.5e			
		$M\frac{1}{-}$	18.6	12.0		
		$M\frac{2}{-}$	20.3	11.8	53e	
		$M\frac{3}{-}$	18.5	10.7	45e	
	R	$PM\frac{4}{-}$	10e		27e	
		$M\frac{1}{-}$	19e		41e	
		$M\frac{2}{-}$	20e	12.0	50e	
926	R	$M\frac{2}{-}$	21.0	14.5e	44e	
		$M\frac{3}{-}$	21.5	12.6	41e	
1800	R	$M\frac{3}{-}$	17.5e	10.2		
673	R	$M\frac{3}{-}$	18e	11.6		
659	L	$M\frac{2}{-}$	19.5	11.5e		
No no.	L	$M\frac{2}{-}$	19.2	11.1		
1168	R	$M\frac{2}{-}$	18.6		27e	
665	R	$M\frac{1}{-}$	19.5	11e	32.5e	$M\frac{1}{-}$ not yet fully in occlusion
1776	L	$M\frac{2}{-}$	20.4	11.2		$M\frac{2}{-}$ " " " " "
743	L	$M\frac{2}{-}$	19.8	13.4		
1272	L	$M\frac{1}{-}$	19.0	13.5e		
1636	L	$M\frac{2}{-}$	18.7	12.8	34e	
868	L	$M\frac{2}{-}$	20e	13.0e		
832	R	$M\frac{3}{-}$	18e	12.5e		
872	L	$M\frac{2}{-}$	18.5e	13.0	33e	
1108	L	$M\frac{3}{-}$	18.5e	12e		
585	R	$PM\frac{4}{-}$	9.7	8.3		
587(b)	R	$M\frac{2}{-}$	18.8	11.3		
516	L	$M\frac{3}{-}$	18.5e		48e	$M\frac{3}{-}$ just reaching occlusion
841	R	$M\frac{2}{-}$	19.4	12.1	38e	
1186	L	$M\frac{2}{-}$	19.5e	11.5e	47e	
1631	L	$M\frac{2}{-}$	20.0	11.4		$M\frac{2}{-}$ not yet fully in occlusion
1681	L	$M\frac{1}{-}$	18.5	9e	38e	
1306	R	$M\frac{2}{-}$	19.0	10.3	46e	
1460	L	$M\frac{2}{-}$	18.3	12.6		

TABLE 35 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
862	L	$M\underline{1}$	19.0	11.1	41e	
632	L	$M\underline{3}$	17.5e	10e	53e	$M\underline{3}$ not yet in occlusion
1824	R	$M\underline{3}$	18e			
No no.	R	$M\underline{3}$	17.2	11.1		
898	R	$M\underline{2}$	20.0	11.9	42e	
668	R	$M\underline{3}$	17.6	11.4		
918	L	$M\underline{2}$	19e	11.5e	48e	
587	L	$PM\underline{4}$	9.3	9.4		
		$M\underline{1}$	16.5	12.0		
		$M\underline{2}$	19.5	12.3		
		$M\underline{3}$	15.4	12.5e	47e	
646.B	R	$PM\underline{4}$	9.5e			
		$M\underline{1}$	17.3	11.5e	44e	
		$M\underline{2}$	19.3	11.1	47e	
		$M\underline{3}$	17.5	10e	48e	$M\underline{3}$ reaching occlusion
750.A	L	$M\underline{1}$			33e	
		$M\underline{2}$	22.5		50e	
		$M\underline{3}$	21.9	13.6	51e	
No no.	L	$PM\underline{4}$	9.4	9.0		
		$M\underline{1}$	14.4	12.0		
		$M\underline{2}$	19.0	12.6	36e	
		$M\underline{3}$	18.9	12.0	45e	
2512.A	R	$PM\underline{4}$	10.4	7.5e	28e	
		$M\underline{1}$	16.9	12.0	36e	
		$M\underline{2}$	19.3	11.8	47e	
		$M\underline{3}$	18.5e	10.2	53e	$M\underline{3}$ just reaching occlusion
526	R	$M\underline{1}$	16.3	12.9	35e	
		$M\underline{2}$	21e	12.1	50e	
		$M\underline{3}$	18.5e	10e	49e	$M\underline{3}$ just reaching occlusion
1619A	L	$PM\underline{4}$	9.2	8.8		
		$M\underline{1}$	14.3	11.2		
		$M\underline{2}$	18.6	11.5e		
		$M\underline{3}$	18.1	11.6		

TABLE 35 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2612	L	$M\frac{2}{-}$	20.5e	11e		$M\frac{2}{-}$ in partial occlusion
1127	R	$PM\frac{3}{-}$	5.8	5.6		Small $PM\frac{2}{-}$ root hole present
		$M\frac{1}{-}$	12.1	12.4		
		$M\frac{2}{-}$	19e	12.4	38e	
1104	L	$M\frac{2}{-}$	21.7	11e		$M\frac{2}{-}$ in partial occlusion
836	L	$M\frac{3}{-}$	18.0	10.3	50.5e	$M\frac{3}{-}$ just reaching occlusion
762	R	$M\frac{2}{-}$	20.3	11.0	45.5e	$M\frac{2}{-}$ in partial occlusion
970	R	$M\frac{3}{-}$	16.2	10.9	47e	
780	L	$M\frac{3}{-}$	19.7	11.6	58.5e	
898	L	$M\frac{1}{-}$	19.7			
1258A	L	$M\frac{3}{-}$	19.4	12.8		
838	R	$M\frac{2}{-}$	21.6	11.7		
1170A	R	$M\frac{1}{-}$	18.3	11.5	43e	
1016A	R	$M\frac{1}{-}$	18.5e	11e		
1751	R	$M\frac{2}{-}$	20.0	12.1		
1686	R	$M\frac{3}{-}$	21.7	12.5		

TABLE 36: ALCELAPHINE JUVENILE DENTITIONS OF *Damaliscus* sp. 1 or *Parmularius* sp.

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
867	L	$DPM_{\overline{4}}$	17.5	7.3		No $DPM_{\overline{2}}$ was present
		$M_{\overline{1}}$	16.6	7.8		
1691	L	$DPM_{\overline{4}}$	14e			
		$M_{\overline{1}}$	16.1	7.5		
		$M_{\overline{2}}$	18.8	6.9		
913	L	$DPM_{\overline{4}}$	20e			
		$M_{\overline{1}}$	19.0			
		$M_{\overline{2}}$	21.5e			
951	R	$M_{\overline{1}}$	16.4	7.5e		
		$M_{\overline{2}}$	19.8	7.0	44.5e	
1134	R	$DPM_{\overline{4}}$	16.4	7.4		$PM_{\overline{3}}$ erupting
		$M_{\overline{1}}$	16.6	8.2		
		$M_{\overline{2}}$	18.5e			
1296	R	$DPM_{\overline{3}}$		4.0e		
		$DPM_{\overline{4}}$	14.9	7.8		
		$M_{\overline{1}}$	16.2	9e	32e	
		$M_{\overline{2}}$	19.7	7e		
1587	R	$DPM_{\overline{4}}$	22e	7e		
		$M_{\overline{1}}$	18.0			
569a	L	$DPM_{\overline{4}}$	20.1	7.9		
		$M_{\overline{1}}$	18.6	6.7		
731	R	$DPM_{\overline{3}}$	7.9	5.0		The permanent 2nd molars are erupting; $DPM_{\overline{2}}$ is absent; see discussion for this specimen
		$DPM_{\overline{4}}$	21.5e	7.5e		
		$M_{\overline{1}}$	19e			
	L	$DPM_{\overline{3}}$	8.3	5.3		
		$DPM_{\overline{4}}$	20.5e			
728	R	$DPM_{\overline{2}}$	3e			Diastema 70e; all right incisors plus very large (permanent) left $I_{\overline{1}}$ present
		$DPM_{\overline{3}}$	9.8			
		$DPM_{\overline{4}}$	19e	8e		
2613	R	$DPM_{\overline{3}}$	7.2	4.7		
		$DPM_{\overline{4}}$	18.3	7.2		
		$M_{\overline{1}}$		6.5e		

TABLE 36 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1775A	R	$DPM_{\overline{3}}$	10.0	6.2		
		$DPM_{\overline{4}}$	22e			
1516	R	$DPM_{\overline{3}}$	7.8	4.0		$DPM_{\overline{2}}$ absent
		$DPM_{\overline{4}}$		6e		
UPPER DENTITIONS:						
731	R	$DPM^{\overline{3}}$	14.5	7.8		
		$DPM^{\overline{4}}$	16.5			
		$M^{\overline{1}}$	19.3			
"	L	$DPM^{\overline{2}}$	5.5	3.5		
		$DPM^{\overline{3}}$	14.4	8.9		
		$DPM^{\overline{4}}$	17.0	10.0		
877	L	$DPM^{\overline{3}}$	11.0	9.7		
		$DPM^{\overline{4}}$	12.6	11.4		
		$M^{\overline{1}}$	18.1	11.4	36e	
		$M^{\overline{2}}$	18.2		46e	
525.A	L	$DPM^{\overline{2}}$				
		$DPM^{\overline{3}}$	11.4	8e		
		$DPM^{\overline{4}}$	12.4			
		$M^{\overline{1}}$	18.1			
		$M^{\overline{2}}$	19.3	10.5	47e	
692.B	L	$DPM^{\overline{4}}$	16.4	9.5	25e	
991A	L	$DPM^{\overline{3}}$	13e	9e		Associated loose fragments
D		$DPM^{\overline{4}}$	15.7	10e		
D		$M^{\overline{1}}$	18.3	9.5	35e	$M^{\overline{1}}$ in partial occlusion
B		$DPM^{\overline{3}}$	13.5e			
1716	L	$DPM^{\overline{2}}$		4.5e		Squashed snout region with all incisors present at least in a broken state; $I_{\overline{1}}$'s are permanent while the other incisors are still deciduous

TABLE 37 for Fig. 11, showing $\frac{\text{mean breadth}}{\text{mean length}}$ %, i.e. $\frac{\bar{B}}{\bar{L}}$ % of $M_{\bar{2}}$'s and $M_{\bar{3}}$'s in extant *D. dorcas* and in small alcelaphines at Swartkrans (SK), Kromdraai A (KA), Sterkfontein Type locality (STS) and Sterkfontein Dump 16 (D.16). Number of specimens used to obtain means are given in brackets. All teeth used are in full occlusion with all central enamel islands still present

SPECIES	$\bar{L}$ of $M_{\bar{2}}$	$\bar{B}$ of $M_{\bar{2}}$	$\frac{\bar{B} \text{ of } M_{\bar{2}}}{\bar{L} \text{ of } M_{\bar{2}}}$ %	$\bar{L}$ of $M_{\bar{3}}$	$\bar{B}$ of $M_{\bar{3}}$	$\frac{\bar{B} \text{ of } M_{\bar{3}}}{\bar{L} \text{ of } M_{\bar{3}}}$ %
Extant *D. dorcas*	17.1	9.0	52.6(5)	22.5	8.5	37.7(5)
Damaliscus sp. 1 or *Parmularius* sp. at KA	18.6	9.0	48.8(24)	24.0	8.8	35.6(19)
" " " " " " STS	19.1	9.2	48.6(2)	24.2	8.2	34.2(7)
" " " " " " SK	18e	8.8	48.9(1)	24.7	8.4	34.0(1)
Damaliscus sp. 2 at SK	18.5	9.7	52.7(3)	26.4	9.6	36.4(8)
" " D 16	18.7	9.7	52.2(2)	26.0	10.3e	39.6(1)
" " STS				27e	9.3	34.4(1)

TABLE 38 for Fig. 22: Length (L_1) x Breadth (B_1) of $PM_{\overline{4}}$ relative to Length (L_2) x Breadth (B_2) of $M_{\overline{1}} + M_{\overline{2}}$). B_1, L_1 and L_2 as used in other Tables. B_2 is the breadth of $M_{\overline{2}}$.

KA specimens = *Damaliscus* sp. 1 or *Parmularius* sp. from Kromdraai A.

TM " = *Damaliscus dorcas* skulls at the Transvaal Museum.

STS " = *Damaliscus* sp. 1 or *Parmularius* sp. from Sterkfontein Type Locality.

B, C, D

(in Fig. 22) = Tooth wear stages as defined in Vrba (1973: p. 316).

Specimen Numbers			L_1	B_1	$L_1 x B_1$	L_2	B_2	$L_2 x B_2$
KA	1827A	(D)	8.8	4.5e	40.5	25.6	8.9	227.8
KA	1102	(B)	12.5e	7.0	87.5	37.0	7.8	288.6
KA	646A	(C)	10.2	6.1	62.2	34.5	8.4	289.8
KA	935	(C)	10.4	6.4	66.6	31.1	9.7	301.7
KA	758	(B–C)	11e	6.4	70.4	35e	9.3	325.5
KA	576	(C)	9.8	6.2	60.8	30.0	9.9	297.0
KA	929	(C)	9.8	6.4	62.7	30.3	8.6	260.6
KA	1101	(C–D)	9.3	6.7	62.3	27e	10e	270.0
KA	1122B(e)	(C)	9e	6.5e	58.5	29e	9e	261.0
	KA Means =		10.1	6.2	63.5	31.3	9.1	280.2
TM	16443	(C)	11.0	7.2	79.2	29.6	9.0	266.4
TM	12604	(C)	11.5	6.8	78.2	29.3	9.0	263.7
TM	1031	(D–E)	12.1	8.0	96.8	27.2	9.8	266.6
TM	12602	(C)	11.9	7.4	88.1	29.3	9.6	281.3
TM	12601	(C)	12.3	7.9	97.2	33.6	9.0	302.4
	TM Means =		11.8	7.5	87.9	29.8	9.3	276.1
STS	1800b	(c)	10.0	5.8	58.0	32.9	9.0	296.1

TABLE 39 : MEDIUM-SIZED ALCELAPHINE ADULT DENTITIONS (probably "smaller medium" size group of Swartkrans)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
UPPER DENTITIONS:						
794A	R	$PM^{\underline{4}}$	12e	11.5e	32e	Cheek region with what appear to be the anterior part of a pre-orbital fossa and part of the jugo-lachrymal suture
		$M^{\underline{1}}$	20.3	15.1		
		$M^{\underline{2}}$	24.7	16.1		
		$M^{\underline{3}}$	24.1	14.3		
2410	R	$M^{\underline{1}}$		15e		Crushed
		$M^{\underline{2}}$	24e			
		$M^{\underline{3}}$	24e		60e	
	L	$M^{\underline{2}}$	23e	14.5e	52e	
		$M^{\underline{3}}$	25e			
924	L	$M^{\underline{1}}$	20.4	13.0	38e	
		$M^{\underline{2}}$	22.7	13.6		
1235	R	$M^{\underline{1}}$	19.9	15.4		Isolated tooth
1022	L	$PM^{\underline{4}}$	12.3	10.2		" "
771	L	$M^{\underline{2}}$	26.4	15.4	59e	" "
2424	R	$M^{\underline{3}}$	25.7			" " : damaged
1225	R	$M^{\underline{2}}$	25e	16e	60e	" "
1177	R	$M^{\underline{2}}$	24.7			" " "
1291	R	$M^{\underline{3}}$	24.0	15.2	60e	" " "
906	L	$M^{\underline{2}}$	23.3	15.0	55e	" "
992	L	$M^{\underline{2}}$	23.9	14.1		" "
650	R	$PM^{\underline{4}}$		12.5e		" " "
1309	R	$M^{\underline{2}}$	23.8	14.1		" "
2461	L	$M^{\underline{2}}$	26.8	14.9	60e	" "
2466	L	$M^{\underline{2}}$	25.3	15.7	53e	
2609A	R	$M^{\underline{3}}$	19e	11.5e	48e	$M^{\underline{3}}$ is erupting
1781	L	$M^{\underline{1}}$	13.5e			Part of palate and cheek region is preserved
		$M^{\underline{3}}$	24.0	14.4	45e	
1067	L	$M^{\underline{2}}$	26e		64e	$M^{\underline{3}}$ is erupting; $M^{\underline{2}}$ in partial occlusion; part of palate is preserved
		$M^{\underline{3}}$	23.5e	66e		
1151	R	$M^{\underline{2}}$	23.2	13.1	51e	
2460	R	$M^{\underline{2}}$	23e		56e	

TABLE 39 (Continued)

KA Numbers	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1671	L	M^{2}_{-}	23.2	15e	58e	
1520	R	PM^{4}_{-}	12.1	10.7	32e	
LOWER DENTITIONS:						
825	R	$M_{\overline{3}}$	28.6	10.6		
2457	R		32e		55e	
680A	R	$M_{\overline{1}}$	20e			$M_{\overline{3}}$ is erupting
		$M_{\overline{2}}$	23.1	8.5e		
		$M_{\overline{3}}$	25e	8e		
2497	L	$M_{\overline{1}}$		9e		$M_{\overline{2}}$ is erupting
		$M_{\overline{2}}$	25e			
2453	L	$M_{\overline{1}}$		10e		
		$M_{\overline{2}}$	23e	10.5e		
1156A	L	$M_{\overline{3}}$	33.5e	11.2		Ramus depth 52e

TABLE 40: MEDIUM-SIZED ALCELAPHINE JUVENILE DENTITIONS

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
2514	L	$DPM_{\overline{4}}$	19.8	8.7		$DPM_{\overline{2}}$ was very small in life;
		$M_{\overline{1}}$	20e	8.7		$M_{\overline{3}}$ erupting
		$M_{\overline{2}}$		8.1		
		$M_{\overline{3}}$		7.5e		
1156B	R	$DPM_{\overline{4}}$		8e		$M_{\overline{1}}$ in partial occlusion
		$M_{\overline{1}}$	19.0	7.1		
542	R	$DPM_{\overline{4}}$		8e		$PM_{\overline{3}}$ and $PM_{\overline{4}}$ erupting;
		$M_{\overline{1}}$	18.8	9.4		$DPM_{\overline{4}}$ broken
		$M_{\overline{2}}$		9e	52e	
532	R	$DPM_{\overline{4}}$	29.0	8.6		
UPPER DENTITIONS:						
2500	R	DPM^{3}_{-}	19.3			
		DPM^{4}_{-}	20e	11.7		
1273	L	DPM^{4}_{-}	17.8			M^{1}_{-} in partial occlusion
		M^{1}_{-}	21e	11.5e		

TABLE 41: ALCELAPHINE DENTITIONS OF cf. *Connochaetes* sp. aff. *africanus* ("smaller large" size group of Swartkrans)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
1147	L	$PM_{\overline{4}}$	18e	9.5e		Ramus depth 59.5e (47e in front of $PM_{\overline{4}}$)
		$M_{\overline{1}}$	20e			
		$M_{\overline{2}}$	25.5			
		$M_{\overline{3}}$		9.5e	70e	
981	L	$M_{\overline{2}}$			65e	$M_{\overline{3}}$ in process of eruption;
		$M_{\overline{3}}$			57e	ramus depth 60e
740	R	$M_{\overline{2}}$			42e	
		$M_{\overline{3}}$	33.4	12.6	65e	
1069	R	$PM_{\overline{4}}$	19e	8e		$PM_{\overline{4}}$ erupting;
1278	Re					It is not clear whether the tooth remnants are deciduous or $PM_{\overline{3}}$ and $PM_{\overline{4}}$
2482	R	$M_{\overline{2}}$	26.0	10.8		Isolated tooth
2449	L	$M_{\overline{3}}$	36.5e	12.6		Damaged tooth
782B	R	$M_{\overline{1}}$	24.0	11.1	52e	
A		$M_{\overline{3}}$	36e	10.5e	60e	$M_{\overline{3}}$ erupting
883	L	$PM_{\overline{3}}$	13.5e	7e		$PM_{\overline{3}}$ and $PM_{\overline{4}}$ erupting with
		$PM_{\overline{4}}$	19e			part of $DPM_{\overline{4}}$ still in place
		$M_{\overline{1}}$		11e		
827	L	$M_{\overline{1}}$		11.5e		
		$M_{\overline{2}}$			45e	
1066	R	$DPM_{\overline{4}}$	32e	10.5e		Basal pillars present
UPPER DENTITIONS:						
2409	L	$M^{\underline{1}}$	26.0			Isolated damaged tooth
1293	R	$M^{\underline{2}}$	32.1	17e	85e	Isolated tooth
1584A	L	$M^{\underline{2}}$	30.8	17e		Just reached occlusion
865	L	$M^{\underline{1}}$	27.0	18.0		
615	L	$M^{\underline{2}}$			67e	
2513	R	$PM^{\underline{4}}$	14.5e	12.5e		
		$M^{\underline{1}}$	23.5e			
		$M^{\underline{2}}$	28.2	16.0		

TABLE 42 for Fig. 23: A comparison of the respective depths, estimated correct to 0.5 mm, of the horizontal mandibular ramus under premolars and molars in some members of the genus *Connochaetes*. Both depths were measured lingually along a line approximately perpendicular to the toothrow and passing (A) through a point immediately anterior to $PM_{\overline{4}}$, (B) through a point between the first (anterior) and second lobes of $M_{\overline{3}}$. The graph of these readings is Fig. 23; e = estimated correct to 1 mm

Species	Specimen Numbers	A	B
C. taurinus (extant)	TM 3099	48.5	62.5
	TM 3811	44.0	61.5
	TM 13161	42.0	62.0
	TM 16434	39.0	60.5
	TM 3095	43.5	59.0
	TM 3109	42.5	63.0
cf. *C.* sp. aff. *africanus* from Swartkrans	SK 3105	39e	65e
	SK 6073	32e	57.5
	SK 3010	42e	64e
cf. *C.* sp. aff. *africanus* from Kromdraai A	KA 1147	46.5	59.5

TABLE 43: ALCELAPHINE ADULT DENTITIONS OF cf. *Megalotragus* sp. ("larger large" size group of Swartkrans)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1371A	L	$M_{\overline{1}}$		12.5e		Very crushed
		$M_{\overline{2}}$	31e			
1292	L	$M_{\overline{2}}$	33e	14e	65e	

TABLE 44: HIPOTRAGINE LOWER DENTITIONS OF *Hippotragus* cf. *equinus*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2491	L	$M_{\overline{2}}$	27e			In the process of eruption

TABLE 45 : REDUNCINE LOWER DENTITIONS OF *Redunca* sp. or *Kobus* sp.

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1349	R	$PM_{\overline{4}}$	10.9	7.0		
		$PM_{\overline{2-4}}$	25.5e			

TABLE 46: LOWER DENTITIONS OF *Pelea* cf. *capreolus*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1766 C	R	$DPM_{\overline{2}}$	5.8	3.2		
		$DPM_{\overline{3}}$	9.4	4.7		
		$DPM_{\overline{4}}$	14.7	5.6		
		$M_{\overline{1}}$	13.0	5.7		
		$M_{\overline{2}}$		6e		
1149 A	L	$M_{\overline{1}}$		6e		
		$M_{\overline{2}}$	15.8	6.5e		
		$M_{\overline{3}}$		5.5e		
1285	R	$M_{\overline{2}}$	14.5e			
		$M_{\overline{3}}$	21e	6.5e		
903	L	$M_{\overline{1}}$			20e	$M_{\overline{3}}$ erupting
		$M_{\overline{2}}$	15.9	6.2	25e	
		$M_{\overline{3}}$			22e	

TABLE 47: UPPER DENTITIONS OF *Pelea* cf. *capreolus*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1766 B	L	$DPM^{\underline{4}}$	12.2	7.8		$M^{\underline{2}}$ reaching occlusion
		$M^{\underline{1}}$	14.2	8.4	18.5e	
		$M^{\underline{2}}$	15e	7.6	23e	" " "
527	L	$M^{\underline{1}}$	14.6		23.5e	" " "
		$M^{\underline{2}}$	15.5	8.8	26e	
1164	R	$M^{\underline{1}}$	14e	8.5e	23e	$M^{\underline{1}}$ " "
		$M^{\underline{2}}$	16.5e	8e	24.5e	

TABLE 48: ANTILOPINE LOWER DENTITIONS OF *Antidorcas recki*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
ADULT DENTITIONS:						
964A	L	$M_{\overline{1}}$	10e	7.0		Wear stage D; ramus depth 27.5e; ascending ramus complete; hypsodonty index for the $RM_{\overline{2}}$ is 31.22 (see Fig. 4 in Vrba, 1973).
		$M_{\overline{2}}$	13.8	6.7		
		$M_{\overline{3}}$	19.8	6.7		
		$M_{\overline{1-3}}$	43.8			
964B	B	$PM_{\overline{2-4}}$	16.5e			
		$PM_{\overline{4}}$	8.7	4.7		
		$M_{\overline{1}}$	10.5e	6.9		
		$M_{\overline{2}}$	13.8	6.5	28e	
		$M_{\overline{3}}$	19.6	6.3		
		$M_{\overline{1-3}}$	44e			
1002	L	$PM_{\overline{2}}$	4e			Wear stage F
		$PM_{\overline{3}}$	6.3	4.0		
		$PM_{\overline{4}}$	7.0	4.5		
		$PM_{\overline{2-4}}$	15.0			
		$M_{\overline{1}}$	10e			
		$M_{\overline{2}}$	11.5e	6.5e		
		$M_{\overline{3}}$	19.8	6.8	26e	
		$M_{\overline{1-3}}$	41e			
1093	L	$M_{\overline{1}}$				
		$M_{\overline{2}}$	13e			
		$M_{\overline{3}}$	19.2	6e	33.5e	
821	L	$PM_{\overline{2}}$	3.5e			
		$PM_{\overline{3}}$	7.0	3.5		
		$PM_{\overline{4}}$	8e			
		$PM_{\overline{2-4}}$	16.5e			
		$M_{\overline{1}}$	11e			
2474	L	$PM_{\overline{4}}$	8.8	5.3		Wear stage D
		$M_{\overline{1}}$	11.5e	7.4		
		$M_{\overline{2}}$	13.6	7.7		
1205	R	$M_{\overline{2}}$	13.4	6.5e	32e	Wear stage Ce; hypsodonty index for $M_{\overline{2}}$ is 36.7 (see Fig. 4 in Vrba, 1973)
		$M_{\overline{3}}$		6e	35.5	
1352A	L	$M_{\overline{3}}$		6e		

TABLE 48: (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
769	L	$M_{\overline{2}}$		6e	31.5e	Wear stage A–B; $M_{\overline{2}}$ has just reached occlusion
1632	L	$M_{\overline{2}}$	15.5	5.5e	31e	$M_{\overline{2}}$ prior to occlusion
1119	L	$M_{\overline{1}}$	13e	6e		Wear stage C
864	R	$M_{\overline{1}}$	13.6	5.9		Wear stage B–C
1867	L	$M_{\overline{1}}$	14.0	5.6	31e	
1114	L	$M_{\overline{1}}$	14e		30.5e	
520	R	$M_{\overline{1}}$		6e		
603A	L	$PM_{\overline{3}}$	7.0	4e		Several separate teeth and bones belonging to one animal;
		$PM_{\overline{4}}$	8.5e	4.5		
C	R	$M_{\overline{3}}$		5.5e		Anterior lobe has reached occlusion
603E	R	$PM_{\overline{4}}$	8e	4.5e		
F	R	$M_{\overline{3}}$				
1278B	R	$PM_{\overline{4}}$	10.3	5.0		
JUVENILE DENTITIONS:						
1123A	R	$DPM_{\overline{4}}$	14.3	5.6		
		$M_{\overline{1}}$		5.5e		
1517A	R	$DPM_{\overline{4}}$	14.3	5.1		$M_{\overline{2}}$ has just erupted
		$M_{\overline{1}}$	14.0	5e		
		$M_{\overline{2}}$		5e		
506	R	$DPM_{\overline{2}}$	3.5	2.3		$M_{\overline{2}}$ has just erupted; ascending ramus almost complete
		$DPM_{\overline{3}}$	7.8	4.2		
		$DPM_{\overline{4}}$	15.5e			
		$M_{\overline{1}}$	13.9	5.4		
		$M_{\overline{2}}$		4.5e		
842	R	$DPM_{\overline{4}}$		6e		$M_{\overline{2}}$ has just erupted
		$M_{\overline{1}}$	13.5e			
		$M_{\overline{2}}$		5e		

TABLE 49: ANTILOPINE UPPER DENTITIONS OF *Antidorcas recki*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
ADULT DENTITIONS:						
603B	L	$M\frac{1}{-}$	14.5e	9.5e		
		$M\frac{2}{-}$	15.1	9e	33e	
D	L	$PM\frac{4}{-}$	8e			
1453D	L	$M\frac{3}{-}$	15.5e			Very damaged
1779	L	$PM\frac{2}{-}$	4.7	4.7		Almost complete skull
		$PM\frac{3}{-}$	6.4	5.1		
		$PM\frac{4}{-}$	7.7	6.3		
		$PM\frac{2-4}{-}$	19e			
		$M\frac{1}{-}$	10.9	8.9		
		$M\frac{2}{-}$	13.2	9.3		
		$M\frac{3}{-}$	13.8	7.7		
		$M\frac{1-3}{-}$	36.1			
	R	$PM\frac{3}{-}$	5.5e	5.3		
		$PM\frac{4}{-}$	7.6	6.5		
		$M\frac{1}{-}$	10.8	9.3		
		$M\frac{2}{-}$	13.2	9.7		
		$M\frac{3}{-}$	13.5e			
964C	L	$M\frac{1}{-}$	13.8	10.3	28e	
		$M\frac{2}{-}$	15.4	9.2	30e	
901	L	$PM\frac{2}{-}$	5.8	5.0		A bit of the palate is still attached
		$PM\frac{3}{-}$	6.9	5.7		
		$PM\frac{4}{-}$	8.2	7.5		
		$PM\frac{2-4}{-}$	21.0			
		$M\frac{1}{-}$	11.5e	9.9		
		$M\frac{2}{-}$	13.8	11.5e		
		$M\frac{3}{-}$	14.5e	8e		
		$M\frac{1-3}{-}$	39e			
1310	R	$PM\frac{3}{-}$	7.3	6.0		PM's are erupting
		$PM\frac{4}{-}$	8.5e	6.5e		
		$M\frac{1}{-}$	12e			
		$M\frac{2}{-}$	15e	9.5e	34e	

TABLE 49 (Continued)

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2501	L	M_{-}^{1}	9.7	9.6		
		M_{-}^{2}	13.3	9.9		
925	R	M_{-}^{3}	14.4	8.5		
679	L	M_{-}^{2}	15.0	8e		Prior to occlusion
1817	L	M_{-}^{1}	12.6	10.6		
1278A	L	M_{-}^{1}	12.5	11e		
2512B	R	PM_{-}^{4}	7.6	7.0		
1639	L	M_{-}^{3}	14.2	8.4		
2610	R	PM_{-}^{3}	7.0	5.8		
		PM_{-}^{4}	8.0	7.2		
		M_{-}^{1}	11.5	9.8		
		M_{-}^{2}	14.0	10e	25e	
		M_{-}^{3}			28e	
881A	R	M_{-}^{1}	9.6	9.8		
		M_{-}^{2}	12.8	10.1		
		M_{-}^{3}	17e	9.5e		
B	L	M_{-}^{2}	13e			
1111	L	PM_{-}^{2}	6e			
		PM_{-}^{3}	7e	6.4		
		PM_{-}^{4}	8.3	6.9		
		PM_{-}^{2-4}	22.0			
		M_{-}^{1}	14e			
		M_{-}^{2}	16.5e	10e		
JUVENILE DENTITIONS:						
1517B	R	DPM_{-}^{4}	13.2	8.3		M_{-}^{2} is erupting
		M_{-}^{1}	15.5	8.2	30e	
		M_{-}^{2}	16e			
1213A	L	DPM_{-}^{4}	12e	8.4		M_{-}^{2} is erupting
		M_{-}^{1}	15.0	8.4	30e	
		M_{-}^{2}	16.0	8.3	28e	
765	L	DPM_{-}^{4}	12.3	8.5		
		M_{-}^{1}	14.2	8.6	31e	
1046	R	DPM_{-}^{4}	13e			
		M_{-}^{1}	14.6	7.9		

TABLE 50: ANTILOPINE LOWER DENTITIONS OF *Antidorcas bondi*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2464	L	$M_{\overline{1}}$	12e			Ramus depth is 36e
		$M_{\overline{2}}$	15.0	6.4		
		$M_{\overline{3}}$	18.7	6.2		
2508	?					Only the roots of $PM_{\overline{3}}$ and $PM_{\overline{4}}$ are present; apparently $PM_{\overline{2}}$ was absent during life
2172	L	$PM_{\overline{4}}$	8.2	5.0		Very worn; $PM_{\overline{2}}$ absent during life
		$M_{\overline{1}}$	10.5e	6.2		
1676	L	$M_{\overline{3}}$	20e	6.5e		Wear stage F
1162	R	$M_{\overline{1}}$	11e			Probably wear stage F
		$M_{\overline{2}}$	12.0	6.7	21e	
999	L	$M_{\overline{2}}$	13.5	6.5e		
537	L	$M_{\overline{1}}$	14.0	5.4	33e	$M_{\overline{2}}$ prior to eruption
1163	R	$M_{\overline{1}}$	13.3	6.5e		$M_{\overline{2}}$ has just reached occlusion
		$M_{\overline{2}}$	16.5e			
648	R	$DPM_{\overline{4}}$				$M_{\overline{2}}$ prior to eruption
		$M_{\overline{1}}$	14e	5.8		
		$M_{\overline{2}}$				

TABLE 51: ANTILOPINE UPPER DENTITIONS OF *Antidorcas bondi*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2465	R	$M^{\overline{2}}$	16e	9.5		$M^{\overline{3}}$ just reaching occlusion
		$M^{\overline{3}}$			37e	
1157	L	$M^{\overline{2}}$	14.9	9.2	42e	$M^{\overline{3}}$ just reaching occlusion
		$M^{\overline{3}}$	15e	9e		
2472	R	$M^{\overline{3}}$	14.2	9.0		

TABLE 52: NEOTRAGINE LOWER DENTITIONS OF cf. *Raphicerus* sp.

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1152	R	$PM_{\overline{2}}$	4.3	3.0		Ramus depth is 18e
		$PM_{\overline{3}}$	8.5	3.4		
		$PM_{\overline{4}}$	9.4	4.2		
		$PM_{\overline{2-4}}$	20.0			
		$M_{\overline{1}}$	8.3	5.1		
		$M_{\overline{2}}$	10e	5.5e		
		$M_{\overline{3}}$	13.8	5.1		
		$M_{\overline{1-3}}$	31.0			

TABLE 53: BOVINE DENTITIONS OF *Syncerus* cf. *acoelotus*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
UPPER DENTITIONS:						
752	R	$M^{\overline{3}}$	36.0	22.0	70e	Not yet at occlusal surface
1451	L	$M^{\overline{2}}$	35e	26.4	57e	
1630	R	$M^{\overline{2}}$		27e		
LOWER DENTITIONS:						
1268	R	$M_{\overline{2}}$		15e	53e	

TABLE 54: TRAGELAPHINE LOWER DENTITIONS OF *Tragelaphus* cf. *scriptus*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2498	R	$PM_{\overline{2}}$				
		$PM_{\overline{3}}$	8.2	4.8		
		$PM_{\overline{4}}$	11.2	5e		
		$PM_{\overline{2-4}}$				
		$M_{\overline{1}}$			18e	

TABLE 55: TRAGELAPHINE DENTITIONS OF *Tragelaphus* cf. *strepsiceros*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
856	R	$DPM_{\overline{4}}$	38.0	12.3	32e	Ramus depth under $DPM_{\overline{4}}$ is 21e; tooth not yet in occlusion
2541A	R	$DPM_{\overline{4}}$	37e			Tooth not yet in occlusion
C	L	$DPM_{\overline{4}}$	36e			Tooth not yet in occlusion
UPPER DENTITIONS:						
2451B	L	$DPM^{\overline{3}}$				
		$DPM^{\overline{4}}$	30e			
2459	R	$DPM^{\overline{3}}$				
1616	R	$DPM^{\overline{3}}$	22.5e			
1298	L	$M^{\overline{2}}$				
1269	L	$M^{\overline{2}}$	32e			
644A	L	$DPM^{\overline{4}}$	16.8	16e		
		$M^{\overline{1}}$	25.4	17e		
		$M^{\overline{2}}$	29.7			
		$M^{\overline{3}}$	31.2			

TABLE 56: TRAGELAPHINE DENTITIONS OF *Taurotragus* cf. *oryx*

KA Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
UPPER DENTITIONS:						
2469	R	$M^{\overline{2}}$	36.4			
LOWER DENTITIONS:						
1303	L	$M_{\overline{3}}$	49e	20e	42e	

TABLE 57 : ALCELAPHINE DENTITIONS OF *Connochaetes* sp. (on a *C. taurinus* lineage)

KB Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
3008(2)	?	$M_{\overline{2}}$		11e	70e	$M_{\overline{2}}$ has reached occlusion
388(1)	L	$DPM_{\overline{4}}$	31.5	8.5		These two specimens, KB 388 (1) and KB 382 (1), probably belong to the same jaw, while KB 3009 (2) and KB 383 (1) could belong to the opposite jaw of the same juvenile individual in which $DPM_{\overline{4}}$'s have just started coming into occlusion
382(1)	L	$DPM_{\overline{2}}$	8e	3.5		
		$DPM_{\overline{3}}$	14.5	8.0		
3009(2)	R	$DPM_{\overline{3}}$	15.0	8e		
383(1)	R	$DPM_{\overline{4}}$	31.5	8.5		
UPPER DENTITIONS:						
3226 (3)	L	$DPM^{\overline{3}}$				Not yet in occlusion
3178 (3)	R	$DPM^{\overline{4}}$				$DPM^{\overline{4}}$ has just reached full occlusion

Several tooth fragments indicate that a further *Connochaetes* individual, older than those here tabulated, was present as well. As three distinct age classes, each represented by at least one tooth fragment, are present among KB *Connochaetes* material, the minimum number of this species is taken as 3.

TABLE 58: ANTILOPINE ADULT LOWER DENTITIONS OF cf. *Antidorcas recki*

KB Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2999(2)	R	$M_{\overline{1}}$	11.7	7.0	12e	Central enamel islands completely worn away
3224(3)	R	$M_{\overline{3}}$		5.5e		$M_{\overline{3}}$ is erupting; the metastyle is broken off

TABLE 59: ALCELAPHINE ADULT AND JUVENILE DENTITIONS OF *Damaliscus* sp. 1 or *Parmularius* sp. ("Larger small" size group of Swartkrans)

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER ADULT DENTITIONS:						
2593A	L	$M_{\overline{2}}$		8.5e		Three separate but associated tooth fragments
	R	$PM_{\overline{4}}$		8e		
	R	$PM_{\overline{3}}$	5.8	5.3		
1800a	R	$PM_{\overline{3}}$	5.6	4.2		$PM_{\overline{2}}$ absent during life; diastema length 64e; $I_{\overline{2}}$, $I_{\overline{3}}$ and $C_{\overline{1}}$ preserved
		$PM_{\overline{4}}$	11.0	5.7		
		$M_{\overline{1}}$	13.1	8.7		
1800b	L	$PM_{\overline{3}}$	5.0	4.2		$PM_{\overline{2}}$ absent during life
		$PM_{\overline{4}}$	10.4	5.7		
		$M_{\overline{1}}$	13.0	8.8		
		$M_{\overline{2}}$	19.7		42e	
1319a	L	$M_{\overline{1}}$		9e	35e	$M_{\overline{3}}$ starting to reach occlusion
		$M_{\overline{2}}$	20.8	7.7	52e	
		$M_{\overline{3}}$		7e	50e	
2581	R	$M_{\overline{1}}$	11.9	8e		
		$M_{\overline{2}}$	18.8	9.5e		
		$M_{\overline{3}}$	26e	9e		
1563	R	$M_{\overline{3}}$	24e	8.4		
1980	R	$M_{\overline{1}}$	12e			
		$M_{\overline{2}}$			36e	
1100A	L	$M_{\overline{3}}$	25.3	9.0		
1100B	L	$M_{\overline{2}}$	17.5			Broken
1743	L	$M_{\overline{3}}$	21.5	7.3	50e	
1696	L	$M_{\overline{3}}$	23.7	8.0	49e	
2135	L	$M_{\overline{3}}$	25e	9.5e	52e	
2586	L	$M_{\overline{3}}$	23.6	8.1	49e	
2585a	R	$M_{\overline{2}}$			39e	
		$M_{\overline{3}}$	25.5e	8.5e	52e	
LOWER JUVENILE DENTITIONS:						
2027	R	$DPM_{\overline{4}}$			27e	$M_{\overline{2}}$ is erupting
		$M_{\overline{1}}$	18e		42e	
		$M_{\overline{2}}$	20e	7e		

TABLE 59 (Continued)

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2208	L	$DPM_{\overline{4}}$		7e		
		$M_{\overline{1}}$	16.2	7.9		
		$M_{\overline{2}}$	19.0	7.6		
1742	R	$DPM_{\overline{4}}$	20.6	7.1		No $DPM_{\overline{2}}$ during life;
		$M_{\overline{1}}$	19e	7.5e	37e	$M_{\overline{1}}$ starting to reach occlusion
UPPER ADULT DENTITIONS:						
2368A	R	$M^{\underline{1}}$	19.5	11e	38e	$M^{\underline{2}}$ only partially in occlusion; these teeth are associated with a fragmentary frontlet
		$M^{\underline{2}}$		11e		
1687	R	$M^{\underline{3}}$	17.5e	11e		
1999	L	$M^{\underline{3}}$	17.6	11.0	52e	
2562	R	$M^{\underline{3}}$	18.1	11.4	49e	
1910	R	$M^{\underline{2}}$	20.2			Broken
2005	L	$M^{\underline{2}}$	20.3	11e		Only in partial occlusion
2046	R	$M^{\underline{1}}$	20.6	13.0	37e	
1984	R	$M^{\underline{1}}$	19.3	12.0		
2580	R	$M^{\underline{1}}$	18.0	13.9		
UPPER JUVENILE DENTITIONS:						
1592	R	$DPM^{\underline{4}}$			24e	
		$M^{\underline{1}}$	20.5e	12.5e		
		$M^{\underline{2}}$			46e	
2577	R	$DPM^{\underline{4}}$	16e	9e		$M^{\underline{1}}$ only in partial occlusion
		$M^{\underline{1}}$	18.5e		35e	

TABLE 60: ALCELAPHINE ADULT LOWER DENTITIONS OF *Damaliscus* cf. sp. 2 (or possibly of *D. dorcas)*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2582	R	$M_{\overline{2}}$		10e	34e	Ramus depth 46e
		$M_{\overline{3}}$	27e	9.3		

TABLE 61 : MEDIUM-SIZED ALCELAPHINE ADULT AND JUVENILE DENTITIONS (similar to "smaller medium" size group at Swartkrans tentatively assigned to cf. *Rabaticeras porrocornutus*)

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER ADULT DENTITIONS:						
1324	L	$M_{\overline{3}}$	30.0	10.0	60e	
1334	R	$M_{\overline{3}}$	27e	10.0	54e	
1445	R	$PM_{\overline{3}}$	8e	5.0		
		$PM_{\overline{4}}$	14e	7.0		
		$M_{\overline{1}}$	13e			
		$M_{\overline{2}}$	20e	10e		
		$M_{\overline{3}}$	31e			
	L	$M_{\overline{2}}$	20.5e			
		$M_{\overline{3}}$	31e		36e	
LOWER JUVENILE DENTITIONS:						
1427	L	$DPM_{\overline{4}}$	23e	9.5e		
		$M_{\overline{1}}$	22.5e	9e	49e	
714	R	$DPM_{\overline{2}}$	4.0	2.8		
		$DPM_{\overline{4}}$	26e	10e		
		$M_{\overline{1}}$				
1114	R	$DPM_{\overline{4}}$	20.5			$PM_{\overline{4}}$ is erupting below $DPM_{\overline{4}}$
		$PM_{\overline{4}}$	13.5e			
		$M_{\overline{1}}$	9e			
UPPER ADULT DENTITIONS:						
1317	R	$M^{\underline{2}}$	24.5e			Extensively damaged
1333	R	$M^{\underline{3}}$	24.5e	14.5e	54e	
UPPER JUVENILE DENTITIONS:						
1551a	L	$DPM^{\underline{2}}$	7.3	3.5		$M^{\underline{2}}$ is erupting; $M^{\underline{1}}$ is in partial occlusion
		$DPM^{\underline{3}}$	17e	10.2		
		$DPM^{\underline{4}}$	20.5e			
		$M^{\underline{1}}$	22e	12e	48e	
		$M^{\underline{2}}$			27e	

TABLE 62 : ALCELAPHINE ADULT UPPER DENTITIONS (thought to be close to "larger medium" size group at Swartkrans; alternately some or all of these dentitions could belong to the "smaller large" alcelaphine (Table 63), i.e. cf. *Connochaetes* sp. aff. *africanus*)

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2597A	L	PM^{4}_{-}	14.5	12.8		PM^{2}_{-} absent during life
		M^{1}_{-}	22e			
		M^{2}_{-}	26e		52e	
		M^{3}_{-}			58e	
2563	R	M^{2}_{-}	30.2	17.5e		M^{2}_{-} in partial occlusion
1852	L	M^{2}_{-}	28e	15e		
		M^{3}_{-}				
1844	L	PM^{4}_{-}	15.5e			
		M^{1}_{-}	23.5e	16e		
2519	R	PM^{4}_{-}	12.5e			

TABLE 63 : LARGE ALCELAPHINE ADULT LOWER DENTITIONS (thought to be close to "smaller large" size group at Swartkrans, i.e. cf. *Connochaetes* sp. aff. *africanus*)

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2200	R	$M_{\overline{2}}$	23.5e	12.0		
2512D	R	$M_{\overline{1}}$	18.5e			
2512B	L	$M_{\overline{3}}$	35.7	12.0		

TABLE 64: ALCELAPHINE ADULT LOWER DENTITIONS OF cf. *Megalotragus* sp.

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1339	L	$M_{\overline{2}}$		15e		Ramus depth 71e
		$M_{\overline{3}}$	39.1	13.6		

TABLE 65: HIPPOTRAGINE ADULT UPPER DENTITIONS OF *Hippotragus* cf. *equinus*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1630	L	M^{2}	27.5e	19e	55e	
2599	L	M^{2}	27.0	19.0	50e	

TABLE 66: HIPPOTRAGINE ADULT DENTITIONS OF cf. *Hippotragus* sp. aff. *gigas*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
1531	L	M_{2}				
		M_{3}	40.5e	17.5e	50e	
1137	R	PM_{4}	23e	12e		
		M_{1}	23.3	12.5e		
		M_{2}				
1682	R	M_{2}	28.5e			
		M_{3}	39.5e			
1589	L	M_{3}	38e	14.7		
2031	R	PM_{4}	19e	12.5		
		M_{1}	21e	16.5e		
		M_{2}				
		M_{3}	39.3	15.1		
1438	R	PM_{2}	12e	7.5		
		PM_{3}	17e			
		PM_{4}	18e			
		PM_{2-4}	44.8			
		M_{1}	22e			
		M_{2}	30e			
		M_{3}				
2584	L	PM_{3}		8e		
		PM_{4}	19.9	10.0		
2228	R	PM_{4}	19.0	9.0		
2560	R	PM_{4}	19.4	9.0		
792	L	PM_{4}	17.5e	11.0		
2524	L	PM_{4}	18.5e	10.5e		

TABLE 66 (Continued)

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1883	R	$PM_{\overline{3}}$	16.5e			
1539b	R	$PM_{\overline{4}}$	16e			Associated with upper teeth 1539a
		$M_{\overline{1}}$	21e	17.5e		
		$M_{\overline{2}}$	29.0			
		$M_{\overline{3}}$	17.5			
c	L	$M_{\overline{1}}$		19e		
		$M_{\overline{2}}$	29e			
UPPER DENTITIONS:						
1539a	L	$PM^{\overline{4}}$	17.0	19.3		
		$M^{\overline{1}}$	22.5e	26e		
		$M^{\overline{2}}$	30.5e	28e		
		$M^{\overline{3}}$				
	R	$M^{\overline{2}}$	29e			
		$M^{\overline{3}}$				
2336A	L	$PM^{\overline{4}}$	16.7	16.5		Bit of palate preserved
		$M^{\overline{1}}$	25e	24e		
		$M^{\overline{2}}$	32.0	22e		
		$M^{\overline{3}}$	30.8	20.0	46e	
789	L	$M^{\overline{3?}}$			48e	
1632	R	$M^{\overline{2}}$	32e	24e		
2145	L	$M^{\overline{2}}$	33e			Very crushed
2190A	L	$M^{\overline{1}}$		20e		
		$M^{\overline{2}}$	31e		42e	

TABLE 67: HIPPOTRAGINE JUVENILE DENTITIONS OF cf. *Hippotragus* sp. aff. *gigas*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
2055	R	$DPM_{\overline{4}}$	33e	11.5e		
2064	L	$DPM_{\overline{4}}$		14.5		
1342	L	$DPM_{\overline{4}}$	36.3	11.5		
UPPER DENTITIONS:						
1866	R	$DPM^{\overline{4}}$	21.9	20.2		
1847	R	$DPM^{\overline{4}}$				$M^{\overline{1}}$ not yet in occlusion
		$M^{\overline{1}}$	32e		41e	

TABLE 68: REDUNCINE JUVENILE UPPER DENTITIONS OF *Redunca* cf. *arundinum*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2075	R	DPM^{3}_{-}	12.9	9.0		
		DPM^{4}_{-}				

TABLE 69; ANTILOPINE ADULT DENTITIONS OF *Antidorcas* cf. *recki*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS						
1944	L	$M_{\overline{2}}$	13.5e	7e	26e	Wear stage D
		$M_{\overline{3}}$	21e		32e	
2369	R	$M_{\overline{3}}$	23e	8e	36e	
1560	R	$M_{\overline{1}}$	14e	6.5e		$M_{\overline{3}}$ prior to eruption
		$M_{\overline{2}}$	17e	6e		
		$M_{\overline{3}}$				
UPPER DENTITIONS:						
1325A	R	M^{2}_{-}	17e	11e	36e	
1435	R	PM^{3}_{-}	7e			
		PM^{4}_{-}	8e			
		M^{1}_{-}	11.5e			
		M^{2}_{-}	14.4	10e	24e	
		M^{3}_{-}				

TABLE 70: ANTILOPINE ADULT LOWER DENTITIONS OF *Antidorcas* cf. *bondi*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1125	L	$PM_{\overline{4}}$	7e	5e		Looks as though $PM_{\overline{2}}$ was absent during life
		$M_{\overline{1}}$	10e	6.1		
		$M_{\overline{2}}$	12.6	7.0		

TABLE 71: ANTILOPING ADULT LOWER DENTITIONS OF cf. *Gazella vanhoepeni*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2076	L	$M_{\overline{1}}$	12.7	6e		$M_{\overline{3}}$ reaching occlusion
		$M_{\overline{2}}$	15.0	6.5e	28e	
		$M_{\overline{3}}$	19.5e	6.5e		
		$M_{\overline{1-3}}$	47e			
1996	R	$M_{\overline{2}}$	15.1	7e		

TABLE 72 : BOVINE JUVENILE LOWER DENTITIONS OF *Syncerus* cf. *acoelotus*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1936A	L	$DPM_{\overline{4}}$				$DPM_{\overline{4}}$ is on the point of being shed with $PM_{\overline{4}}$ erupting beneath it
		$PM_{\overline{3}}$	23e			
		$PM_{\overline{4}}$	23e	12e		
		$M_{\overline{1}}$	32.1		63e	

TABLE 73: TRAGELAPHINE JUVENILE DENTITIONS OF *Tragelaphus* sp. aff. *angasi*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
2493	R	$DPM_{\overline{4}}$			31e	$M_{\overline{1}}$ prior to eruption
		$M_{\overline{1}}$	21.5e		27e	
1865	L	$DPM_{\overline{4}}$	27.5e	7e		$M_{\overline{1}}$ prior to eruption
		$M_{\overline{1}}$			23e	
UPPER DENTITIONS:						
2092	R	$M^{\underline{1}}$	19.0	8e	24e	$M^{\underline{1}}$ prior to occlusion
		$M^{\underline{2}}$	19.5e	9e	26e	

TABLE 74: ADULT DENTITIONS OF *Makapania* cf. *broomi*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
1564A	L	$PM_{\overline{2-4}}$	36e			
		$PM_{\overline{4}}$	15e	10.5e		
		$M_{\overline{1}}$	19e	13.0		
		$M_{\overline{2}}$	27e	14.5		
		$M_{\overline{3}}$				
2565	L	$M_{\overline{2}}$	25.5e	14e		
		$M_{\overline{3}}$	39.5e	14e		
952	L	$M_{\overline{3}}$	35e			$M_{\overline{3}}$ erupting
1879	L	$M_{\overline{3}}$				$M_{\overline{3}}$ in partial occlusion
2121	L	$M_{\overline{3}}$		12.5e		$M_{\overline{3}}$ erupting
1925	R	$M_{\overline{3}}$	34e	12.5e		$M_{\overline{3}}$ in partial occlusion
1901A	L	$M_{\overline{1}}$	26.5e	18.5e		$M_{\overline{2}}$ erupting
		$M_{\overline{2}}$		13e		
UPPER DENTITIONS:						
1721	R	$PM^{\overline{4}}$		17e		
		$M^{\overline{1}}$	23e	18.5e		
		$M^{\overline{2}}$	31.3	21e	56e	
		$M^{\overline{3}}$	28e	18.0	63e	
		$M^{\overline{1-3}}$	83e			
2059B	R	$M^{\overline{1}}$	23e			
		$M^{\overline{2}}$	27.5			
		$M^{\overline{3}}$	31.3	21.0		
1754A	L	$M^{\overline{1}}$		24e		
1994	L	$M^{\overline{2}}$	31e		54e	$M^{\overline{2}}$ in partial occlusion

TABLE 75: JUVENILE DENTITIONS OF *Makapania* cf. *broomi*

STS Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
2362A	L	$DPM_{\overline{3}}$	17e			
		$DPM_{\overline{4}}$	31e			
		$M_{\overline{1}}$				
1938	L	$DPM_{\overline{3}}$				$M_{\overline{1}}$ not yet in occlusion
		$DPM_{\overline{4}}$	32e			
		$M_{\overline{1}}$	28e	11e		
2588	L	$DPM_{\overline{4}}$		11.5e		
		$M_{\overline{1}}$	26e	10.5e		
2592	R	$DPM_{\overline{4}}$		13e		
2593A	R	$DPM_{\overline{4}}$		14e		$M_{\overline{1}}$ in partial occlusion
		$M_{\overline{1}}$	26.5e			
UPPER DENTITIONS:						
1573	L	$DPM^{\underline{4}}$			33e	
		$M^{\underline{1}}$	28e			
1756	L	$DPM^{\underline{2}}$		8e		
		$DPM^{\underline{3}}$	21.7			
		$DPM^{\underline{4}}$	23.6	13.5e		
1734	L	$DPM^{\underline{4}}$		15.5		$M^{\underline{1}}$ not yet in occlusion
		$M^{\underline{1}}$	27.5e			
1824	L	$DPM^{\underline{4}}$		17e		
817	R	$DPM^{\underline{4}}$	24.5			
1894	L	$DPM^{\underline{3}}$	21.5	13e		

TABLE 76: ALCELAPHINE DENTITIONS OF *Damaliscus* cf. *dorcas* ("Smaller small" size group at Swartkrans)

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
1728.1	L	$M_{\overline{1}}$	16.0	7.8	39e	$M_{\overline{3}}$ erupting and prior to occlusion
		$M_{\overline{2}}$	21e			
		$M_{\overline{3}}$			42e	
UPPER DENTITIONS:						
1318.1	R	$PM^{\overline{2}}$	7e			
		$PM^{\overline{3}}$	10.0	8.2	26e	
		$PM^{\overline{4}}$	9.7	9.8	28e	
		$M^{\overline{1}}$	15.4	11.5e	36e	
		$M^{\overline{2}}$	18.8	12.1	44e	
1770	R	$M^{\overline{3}}$	18e	11.4		
1218.1	R	$M^{\overline{3}}$	21e	14.4		
1185	L	$DPM^{\overline{2}}$	9.2	4.8		
		$DPM^{\overline{3}}$	15.4	9e		
		$DPM^{\overline{4}}$	15.5e	10e		

TABLE 77: ALCELAPHINE DENTITIONS OF *Damaliscus* cf. sp. 2 ("larger small" size group of Swartkrans)

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
ADULT LOWER DENTITIONS:						
1233.1	L	$PM_{\overline{4}}$	12.5e	6.5e		
		$M_{\overline{1}}$	13e	9.0		
		$M_{\overline{2}}$	20.5e			
		$M_{\overline{3}}$	26e	10e		
		$M_{\overline{1-3}}$	59e			
	R	$M_{\overline{2}}$	20.5e	9e	44e	
1754	R	$M_{\overline{3}}$	28.5e			
1614.1	L	$M_{\overline{1}}$				
		$M_{\overline{2}}$	19e			
		$M_{\overline{3}}$	26.7	10.0		
ADULT UPPER DENTITIONS:						
794.1	L	PM^{4}	10.6	11.2	21e	
		M^{1}	15.6	14.6		
		M^{2}	20.9	15.9	36e	
		M^{3}	24.7	13.4	35e	
		M^{1-3}	60e			
588	R	M^{2}	21.5e		42.5e	
		M^{3}	23.0	14e		
1334	L	M^{2}	20.5	14.8	33e	
1381.1	R	M^{1}	17.7	15.1	31e	

TABLE 78: ALCELAPHINE ADULT LOWER DENTITIONS of *Damaliscus* sp.1 or *Parmularius* sp.

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
192	L	$PM_{\overline{3}}$	4.5e	4.8		
		$PM_{\overline{4}}$	8.5e			
		$M_{\overline{1}}$	10.5e	8e		

TABLE 79: MEDIUM-SIZED ALCELAPHINE DENTITIONS

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER ADULT DENTITIONS:						
627.1	R	$M_{\overline{1}}$	19e	11e		
		$M_{\overline{2}}$	23.7	11e		
464	R	$M_{\overline{2}}$	23e			
		$M_{\overline{3}}$				
1424.1	R	$M_{\overline{2}}$		10.5e		
535	R	$M_{\overline{2}}$?	24e	10.5e	58e	
1763.1	R	$M_{\overline{2}}$	23e	11.5e		
		$M_{\overline{3}}$	30e			
1828.1	R	$M_{\overline{1}}$	19.0	9.8	38e	
LOWER JUVENILE DENTITIONS:						
2133.1	L	$DPM_{\overline{4}}$	20.3	9.0		

TABLE 80: ALCELAPHINE ADULT LOWER DENTITIONS OF cf. *Connochaetes* sp. (size of *C. taurinus)*

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
2601.1	R	$M_{\overline{2}}$		12e	50e	

TABLE 81: HIPPOTRAGINE ADULT LOWER DENTITIONS OF cf. *Hippotragus* sp. aff. *gigas*

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1125.1	L	$M_{\overline{3}}$	> 38			Extensively damaged fragment

TABLE 82: ANTILOPINE LOWER DENTITIONS OF *Antidorcas* cf. *recki*

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
ADULT DENTITIONS:						
1855.1	L	$PM_{\overline{4}}$	9.5	4.8		Wear Stage D
		$M_{\overline{1}}$	11.0	7e		
		$M_{\overline{2}}$		7e		
		$M_{\overline{3}}$	18.3	7.0		
535	L	$PM_{\overline{4}}$	9.9	5.4		Wear Stage C–D
		$M_{\overline{1}}$	12.4	6.7		
		$M_{\overline{2}}$	15.7	7.0		
		$M_{\overline{3}}$			33.5e	
125.1	L	$PM_{\overline{2}}$		2.5e		
		$PM_{\overline{3}}$	5.6	3.7		
JUNVENILE DENTITIONS:						
1258.1	L	$DPM_{\overline{4}}$		6e		$M_{\overline{3}}$ about to erupt
		$M_{\overline{1}}$	12.8	6.1		
		$M_{\overline{2}}$	15.4	5.7		
		$M_{\overline{3}}$			22e	
1313.1	R	$DPM_{\overline{3}}$	7e	4.0		
		$DPM_{\overline{4}}$	14.0	6.0		

TABLE 83: ANTILOPINE ADULT DENTITIONS OF *Antidorcas bondi*

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
690	R	$M_{\overline{2}}$	13.0	7.0		
		$M_{\overline{3}}$	20.5	6.9		
UPPER DENTITIONS:						
875	L	$M^{\overline{2}}$				
829	L	$M^{\overline{2}}$	14.5e	10.3	38e	

TABLE 84: NEOTRAGINE ADULT DENTITIONS OF *Oreotragus major*

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
LOWER DENTITIONS:						
M8361A	L	$PM_{\overline{3}}$	9.0	4.3		
		$PM_{\overline{4}}$	9.1	5e		
		$PM_{\overline{3+4}}$	17.7			
		$M_{\overline{1}}$	9.5e			
		$M_{\overline{2}}$	11e			
		$M_{\overline{3}}$	14.1			
		$M_{\overline{1-3}}$	34.5e			
	R	$M_{\overline{2}}$	11.4	6.0		
		$M_{\overline{3}}$				
UPPER DENTITIONS:						
M8361B	L	$PM^{\underline{2}}$	8.5e	6e		
		$PM^{\underline{3}}$	8.5e	6.5e		
		$PM^{\underline{4}}$	7.3	7.0		
		$PM^{\underline{2-4}}$	25e			
		$M^{\underline{1}}$	10.4	7.9		
		$M^{\underline{2}}$	10.5e	8.3		
		$M^{\underline{3}}$	10.8	7.3		
		$M^{\underline{1-3}}$	31.8			
	R	$PM^{\underline{3}}$	7.5e			
		$PM^{\underline{4}}$	7.0			
		$M^{\underline{1}}$				
		$M^{\underline{2}}$	11e			
		$M^{\underline{3}}$	11.0	6.7		
		$M^{\underline{1-3}}$	32.5e			

TABLE 85: TRAGELAPHINE ADULT LOWER DENTITIONS OF *Taurotragus* cf. *oryx*

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
196.1	L	$M_{\overline{1}}$	32e	15.5e		

TABLE 86: ADULT UPPER DENTITIONS OF cf. *Makapania broomi*

SE Number	Side of Jaw	Tooth	Length	Breadth	Height	Comments
1425.1	L	$M^{\overline{3}}$				Extensively broken fragment

TABLE 87: MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT STS

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no. (X_α) in age group α i.e. juveniles	Min. no. (X_β) in age group β i.e. prime adults	Min. no. (X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$\frac{100(X_\alpha+X_\beta+X_\gamma)}{n\ STS}$
Gp Ib: *Damaliscus* cf. sp. 2 (*niro*?)	E	II	0	1	0	1	1	2%
Gp Ic: *Damaliscus* sp. 1 or *Parmularius* sp.	E	II	3	4	0	4	7	17%
Gp II: Medium-sized alcelaphines (including *Rabaticeras porrocornutus*?)	E	IIIe	3	4	0	4	7	17%
Gp III: cf. *Connochaetes* sp. aff. *africanus*	E	IIIb	0	1	0	1	1	2%
Gp IV: cf. *Megalotragus* sp.	E	IVa	0	1	0	1	1	2%
Hippotragus cf. *equinus*	IR	IIIb	0	2	0	2	2	5%
cf. *Hippotragus* sp. aff. *gigas*	E	IVa	2	4	2	6	8	19%
Redunca cf. *arundinum* (or *R. darti*?)	IR	II	1	0	0	0	1	2%
Antidorcas cf. *recki*	E	II	1	1	1	2	3	7%
Antidorcas cf. *bondi*	E	II	0	1	0	1	1	2%
cf. *Gazella vanhoepeni*	E	II	1	0	0	0	1	2%
Syncerus cf. *acoelotus*	E	IVb	1	0	0	0	1	2%
Tragelaphus sp. aff. *angasi*	E	IIIa	1	0	0	0	1	2%
Makapania cf. *broomi*	E	IVa	4	3	1	4	8	19%
TOTALS			17	22	4	26	n STS = 43	100%

TABLE 88: MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT SE

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no. (X_α) in age group α i.e. juveniles	Min. no. (X_β) in age group β i.e. prime adults	Min.no. (X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$100(X_\alpha + X_\beta + X_\gamma)$ n SE
Gp Ia: *Damaliscus* cf. *dorcas*	IR	II	1	2	0	2	3	13%
Gp Ib: *Damaliscus* cf. sp. 2	E	II	0	3	1	4	4	18%
Gp. Ic: *Damaliscus* sp. 1 or *Parmularius* sp.	E	II	0	1	0	1	1	4%
Gp. II: Medium-sized alcelaphines	E?	IIIa	1	4	0	4	5	23%
Gp III: cf. *Connochaetes* sp. (size of *C. taurinus*)	IR	IIIb	0	1	0	1	1	4%
cf. *Hippotragus* sp. aff. *gigas*	E	IVa	0	1	0	1	1	4%
Antidorcas cf. *recki*	E	II	1	2	0	2	3	13%
Antidorcas bondi	E	II	0	2	0	2	2	9%
Oreotragus major	E	I	0	1	0	1	1	4%
Taurotragus cf. *oryx*	IR	IVb	0	1	0	1	1	4%
Makapania cf. *broomi*	E	IVa	0	1	0	1	1	4%
TOTALS			3	19	1	20	nSE=23	100%

TABLE 89: MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT D16

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no.(X_α) in age group α i.e. juveniles	Min.no.(X_β) in age group β i.e. prime adults	Min.no.(X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$100(X_\alpha + X_\beta + X_\gamma)$ / nD16
Gp Ia: *Damaliscus* cf. *dorcas*	IR	II	7	4	0	4	11	26%
Gp Ib: *Damaliscus* sp. 2 (*niro*?)	E	II	2	3	0	3	5	12%
Gp II: Medium-sized alcelaphines	IR	IIIa	0	1	0	1	1	2%
Gp III: *Connochaetes* cf. *taurinus*	IR	IIIb	1	0	0	0	1	2%
Hippotragus cf. *niger*	IR	IIIb	3	1	0	1	4	10%
Pelea cf. *capreolus*	IR	II	2	1	0	1	3	7%
Antidorcas cf. *marsupialis*	IR	II	0	2	0	2	2	5%
Antidorcas bondi	E	II	2	3	2	5	7	17%
Raphicerus cf. *campestris*	IR	I	1	1	0	1	2	5%
Ourebia cf. *ourebi*	IR	I	1	2	0	2	3	7%
Tragelaphus cf. *scriptus*	IR	II	0	2	0	2	2	5%
Taurotragus cf. *oryx*	IR	IVb	0	1	0	1	1	2%
TOTALS			19	21	2	23	nD16 = 42	100%

TABLE 90: MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT KA

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no.(X_α) in age group α i.e. juveniles	Min.no. (X_β) in age group β i.e. prime adults	Min.no.(X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$\frac{100(X_\alpha + X_\beta + X_\gamma)}{nKA}$
Gp Ic: *Damaliscus* sp. 1 or *Parmularius* sp.	E	II	12	20	0	20	32	37%
Gp II: Medium-sized alcelaphines (including *Rabaticeras*?)	E	IIIa	4	8	0	8	12	14%
Gp III: cf. *Connochaetes* sp. aff. *africanus*	E	IIIb	2	2	1	3	5	6%
Gp IV: cf. *Megalotragus* sp.	E	IVa	0	1	1	2	2	2%
Hippotragus cf. *equinus*	IR	IIIb	1	0	0	0	1	1%
cf. *Hippotragus* sp. aff. *gigas*	E	IVa	1	0	0	0	1	1%
Redunca cf. *arundinum* (or *R. darti*?)	IR	IIIa	0	1	0	1	1	1%
Pelea cf. *capreolus*	IR	II	2	1	0	1	3	4%
Antidorcas recki	E	II	5	6	2	8	13	15%
Antidorcas bondi	E	II	3	2	1	3	6	7%
cf. *Raphicerus* sp. (larger than *R. campestris*)	E	I	0	1	0	1	1	1%
Syncerus cf. *acoelotus*	E	IVb	1	1	0	1	2	2%
Tragelaphus cf. *scriptus* (or *T. pricei*?)	IR	II	0	1	0	1	1	1%
Tragelaphus cf. *strepsiceros*	IR	IIIb	3	2	0	2	5	6%
Taurotragus cf. *oryx*	IR	IVb	1	1	0	1	2	2%
TOTALS			35	47	5	52	nKA = 87	100%

TABLE 91: MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT KB

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no.(X_α) in age group α i.e. juveniles	Min.no.(X_β) in age group β i.e. prime adults	Min.no.(X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$100(X_\alpha + X_\beta + X_\gamma)$ nKB
Gp III: *Connochaetes* sp. (on a *C. taurinus* lineage)	IR?	IIIb	2	1?	0?	1	3	**34%**
Antidorcas cf. *recki*	E	II	1	1?	0?	1	2	**22%**
cf. *Antidorcas bondi*	E	II	0	2?	0?	2	2	**22%**
Gazella sp.	E	II	0	1?	0?	1	1	**11%**
Incertae sedis	E	II	0?	1?	0?	1	1	**11%**
TOTALS			3	6	0	6	nKB = 9	**100%**

TABLE 92 :MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT SK

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no.(X_α) in age group α i.e. juveniles	Min.no.(X_β) in age group β i.e. prime adults	Min.no.(X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$100(X_\alpha + X_\beta + X_\gamma)$ / nSK
Gp Ia: *Damaliscus* cf. *dorcas*	IR	II	5	3	1	4	9	4%
Gp Ib: *Damaliscus* sp. 2 (*niro*?)	E	II	4	10	0	10	14	6%
Gp Ic: *Damaliscus* sp. 1 or *Parmularius* sp.	E	II	0	2	0	2	2	1%
Gp II: Medium-sized alcelaphines (incl. *Rabaticeras porrocornutus* and *Beatragus* sp.)	E + E	IIIa	9	17	4	21	30	12%
Gp III: cf. *Connochaetes* sp. aff. *africanus*	E	IIIb	6	10	2	12	18	7%
Gp IV: cf. *Megalotragus* sp.	E	IVa	0	5?	0?	5	5	2%
Hippotragus cf. *niger*	IR	IIIb	6	2	1	3	9	4%
cf. *Hippotragus* sp. aff. *gigas*	E	IVa	1	0	0	0	1	0.5%
cf. *Kobus ellipsiprymus*	IR	IIIb	0	1	1	2	2	1%
Redunca cf. *arundinum* (or *R. darti*?)	IR	II	1	0	0	0	1	0.5%
Pelea cf. *capreolus*	IR	II	4	5	0	5	9	4%
Antidorcas bondi	E	II	17	30	23	53	70	29%
Antidorcas australis	E	II	8	13	2	15	23	9%
cf. *Gazella vanhoepeni*	E	II	3	5	3	8	11	4%
Gen. et sp. indet. (Antilopini or Neotragini)	E	I	0	2	1	3	3	1%
Oreotragus cf. *major*	E	I	0	2	0	1	1	0.5%
Oreotragus cf. *oreotragus*	IR	I	0	2	0	2	2	1%
Raphicerus cf. *campestris*	IR	I	2	2	1	3	5	2%
cf. *Raphicerus* sp. (larger than *R. campestris*)	E	I	0	1?	0?	1	1	0.5%
Ourebia cf. *ourebi*	IR	I	1	2	0	2	3	1%
Syncerus cf. *acoelotus*	E	IVb	1	1?	2?	3	4	2%
Tragelaphus cf. *scriptus* (or *T. pricei*?)	IR	II	1	2	1	3	4	2%
Tragelaphus cf. *strepsiceros*	IR	IIIb	5	3?	0?	3	8	3%
Tragelaphus sp. aff. *angasi*	E	IIIa	1	0	0	0	1	0.5%
Taurotragus cf. *oryx*	IR	IVb	0	1	0	1	1	0.5%
cf. *Makapania* sp.	E	IIIa	0	3	1	4	4	2%
TOTALS			75	124	43	166	nSK= 242	100 %

TABLE 93: MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT SKa

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no.(X_α) in age group α i.e. juveniles	Min.no.(X_β) in age group β i.e. prime adults	Min.no.(X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$100(X_\alpha + X_\beta + X_\gamma)$ / nSKa
Gp Ic : *Damaliscus* sp. 1 or *Parmularius* sp.	E	II	0	2	0	2	2	2%
Gp II: Medium-sized alcelaphines (incl. *Rabaticeras porrocornutus*)	E	IIIa	5	16	3	19	24	23%
Gp III: cf. *Connochaetes* sp. aff. *africanus*	E	IIIb	6	8	2	10	16	15%
Gp IV: cf. *Megalotragus* sp.	E	IVa	0	5	0	5	5	5%
cf. *Hippotragus* sp. aff. *gigas*	E	IVa	1	0	0	0	1	1%
Redunca cf. *arundinum* (or *R. darti*?)	IR	II	I	0	0	0	1	1%
Pelea cf. *capreolus*	IR	II	1	1	0	1	2	2%
Antidorcas cf. *recki*	E	II	3	9	1	10	13	13%
Antidorcas bondi	E	II	2	3	2	5	7	7%
cf. *Gazella vanhoepeni*	E	II	3	5	3	8	11	11%
Gen. et sp. indet. (Antilopini or Neotragini)	E	I	0	2	1	3	3	3%
Oreotragus cf. *major*	E	I	0	1	0	1	1	1%
Syncerus cf. *acoelotus*	E	IVb	1	1	2	3	4	4%
Tragelaphus cf. *scriptus* (or T. *pricei*?)	IR	II	1	1	0	1	2	2%
Tragelaphus cf. *strepsiceros*	IR	IIIb	2	3	0	3	5	5%
Tragelaphus sp. aff. *angasi*	E	IIIa	1	0	0	0	1	1%
cf. *Makapania* sp.	E	IIIa	0	3	1	4	4	4%
TOTALS			27	60	15	75	nSKa = 102	100%

TABLE 94 : MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT SKb

SPECIES	E= extinct IR= indistinguishable from recent	Weight Class	Min.no.(X_α) in age group α i.e. juveniles	Min.no.(X_β) in age group β i.e. prime adults	Min.no.(X_γ) in age group γ i.e. old adults	$X_\beta + X_\gamma$ all adults	$X_\alpha + X_\beta + X_\gamma$	$100(X_\alpha + X_\beta + X_\gamma)$ / nSKb
Gp Ia: *Damaliscus* cf. *dorcas*	IR	II	5	3	1	4	9	7%
Gp Ib: *Damaliscus* sp. 2 (*niro*?)	E	II	4	10	0	10	14	10%
Gp II: Medium-sized alcelaphines (incl. *Beatragus* sp.)	E (+ IR?)	IIIa	4	1	1	2	6	4%
Gp III: cf. *Connochaetes* sp. (*taurinus*?)	IR	IIIb	0	2	0	2	2	1%
Hippotragus cf. *niger*	IR	IIIb	6	2	1	3	9	7%
cf. *Kobus ellipsiprymnus*	IR	IIIb	0	1	1	2	2	1%
Pelea cf. *capreolus*	IR	II	3	4	0	4	7	5%
Antidorcas cf. *australis* (and *A. marsupialis*?)	E (+ IR?)	II	5	4	1	5	10	7%
Antidorcas bondi	E	II	15	27	21	48	63	46%
Oreotragus cf. *major*	E	I	0	1	0	1	1	1%
Oreotragus cf. *oreotragus*	IR	I	0	2	0	2	2	1%
Raphicerus cf. *campestris*	IR	I	2	2	1	3	5	3%
cf. *Raphicerus* sp.	E	I	0	1	0	1	1	1%
Ourebia cf. *ourebi*	IR	I	1	2	0	2	3	2%
Tragelaphus cf. *scriptus*	IR	II	0	1	1	2	2	1%
Tragelaphus cf. *strepsiceros*	IR	IIIb	3	0	0	0	3	2%
Taurotragus cf. *oryx*	IR	IVb	0	1	0	1	1	1%
TOTALS			48	64	28	92	nSK = 140	100%

TABLE 95: MINIMUM NUMBERS OF INDIVIDUALS IN BOVID SPECIES AT EACH OF SITE UNITS STS, KA, SE, KB, D16 AND COUNTING SWARTKRANS AS BEING ONE SITE UNIT, i.e. SK

	STS	KA	SE	SK	KB	D16
Gp Ia: *Damaliscus* cf. *dorcas*			3	9		11
Gp Ib: *D.* sp. 2 (*niro*?)	1		4	14		5
Gp Ic: *D.* sp. 1 or *Parmularius* sp.	7	32	1	2		
Gp II: Medium-sized alcelaphines	7	12	5	30		1
Gp III: cf. *Connochaetes taurinus* lineage	1	5	1	18	3	1
Gp IV: cf. *Megalotragus* sp.	1	2		5		
Hippotragus cf. *niger*				9		4
H. cf. *equinus*	2	1				
cf. *H.* sp. aff. *gigas*	8	1	1	1		
cf. *Kobus ellipsiprymnus*				2		
R. cf. *arundinum*	1	1		1		
Pelea cf. *capreolus*		3		9		3
Antidorcas cf. *marsupialis*						2
A. australis				23		
A. cf. *recki*	3	13	3		2	
A. bondi	1	6	2	70	2	7
cf. *Gazella vanhoepeni*	1			11		
Gazella sp.					1	
Gen. et. sp. indet. (Antilopini or Neotragini)				3		
Oreotragus cf. *oreotragus*				2		
O. cf. *major*			1	2		
Raphicerus cf. *campestris*				5		2
cf. *Raphicerus* sp.		1		1		
Ourebia cf. *ourebi*				3		3
Syncerus cf. *acoelotus*	1	2		4		
Tragelaphus cf. *scriptus*		1		4		2
T. cf. *strepsiceros*		5		8		
T. sp. aff. *angasi*	1			1		
Taurotragus cf. *oryx*		2	1	1		1
cf. *Makapania* sp.				4		
Makapania cf. *broomi*	8		1			
Incertae sedis					1	
TOTALS	43	87	23	242	9	42

TABLE 97 : The number of bovid species occurring at two or more site units

A: Specimens suspected of being miscplaced, i.e. dotted lines in Fig. 25, are included

Total number of species identified		Species in two or more site units		Species restricted to two site units	
STS	14	STS + SKA	11	STS + SKa	2
SKa	17	SKa + KA	12	SKa + KA	3
KA	15	STS + KA	10	STS + KA	1
		STS, SKa and Ka	9		

B: Specimens suspected of being misplaced, i.e. dotted lines in Fig. 25, are excluded

Total number of species identified		Species in two or more site units		Species restricted to two site units	
STS	11	STS + SKa	10	STS + SKa	2
SKa	17	SKa + KA	12	SKa + KA	4
KA	15	STS + KA	8	STS + KA	0
		STS, SKa and KA	8		

TABLE 98 : The actual number of shared species, expressed as a percentage of the possible maximum number of shared species, between any two site units

A: Specimens suspected of being misplaced, i.e. dotted lines in Fig. 25, are included

	STS	SKa	KA	SE	SKb	D16
STS		75%	67%	(67%)	17%	20%
SKa	9/12, (75%)		(77%)	56%	33%	30%
KA	8/12, 67%	10/13, (77%)		56%	46%	40%
SE	6/9, 67%	5/9, 56%	5/9, 56%		56%	44%
SKb	2/12, 17%	5/15, 33%	6/13, 46%	5/9, 56%		(100%)
D16	2/10; 20%	3/10, 30%	4/10, 40%	4/9, 44%	10/10, (100%)	

B: Specimens suspected of being misplaced, i.e. dotted lines in Fig. 25, are excluded

	STS	SKa	KA	SE	SKb	D16
STS		(89%)	67%	29%	0%	0%
SKa	8/9, (89%)		(77%)	57%	33%	30%
KA	6/9, 67%	10/13, 77%		57%	46%	40%
SE	2/7, 29%	4/7, 57%	4/7, 57%		71%	57%
SKb	0/9, 0%	5/15, 33%	6/13, 46%	5/7, (71%)		(100%)
D16	0/9, 0%	3/10, 30%	4/10, 40%	4/7, 57%	10/10, (100%)	

Plate 1: Anterior view of SK 14104, cf. *Rabaticeras porrocornutus*.

Plate 2: Right lateral view of SK 14104, cf. *Rabaticeras porrocornutus*.

Plate 3: Dorsal view of SK 14104, cf. *Rabaticeras porrocornutus*

Plate 4: A: Anterior view of left horn core SK 14206, *Damaliscus* cf. *dorcas*.
B: Anterior view of left horn core SK 14183, *Beatragus* sp.; the arrow indicates the mesial keel.

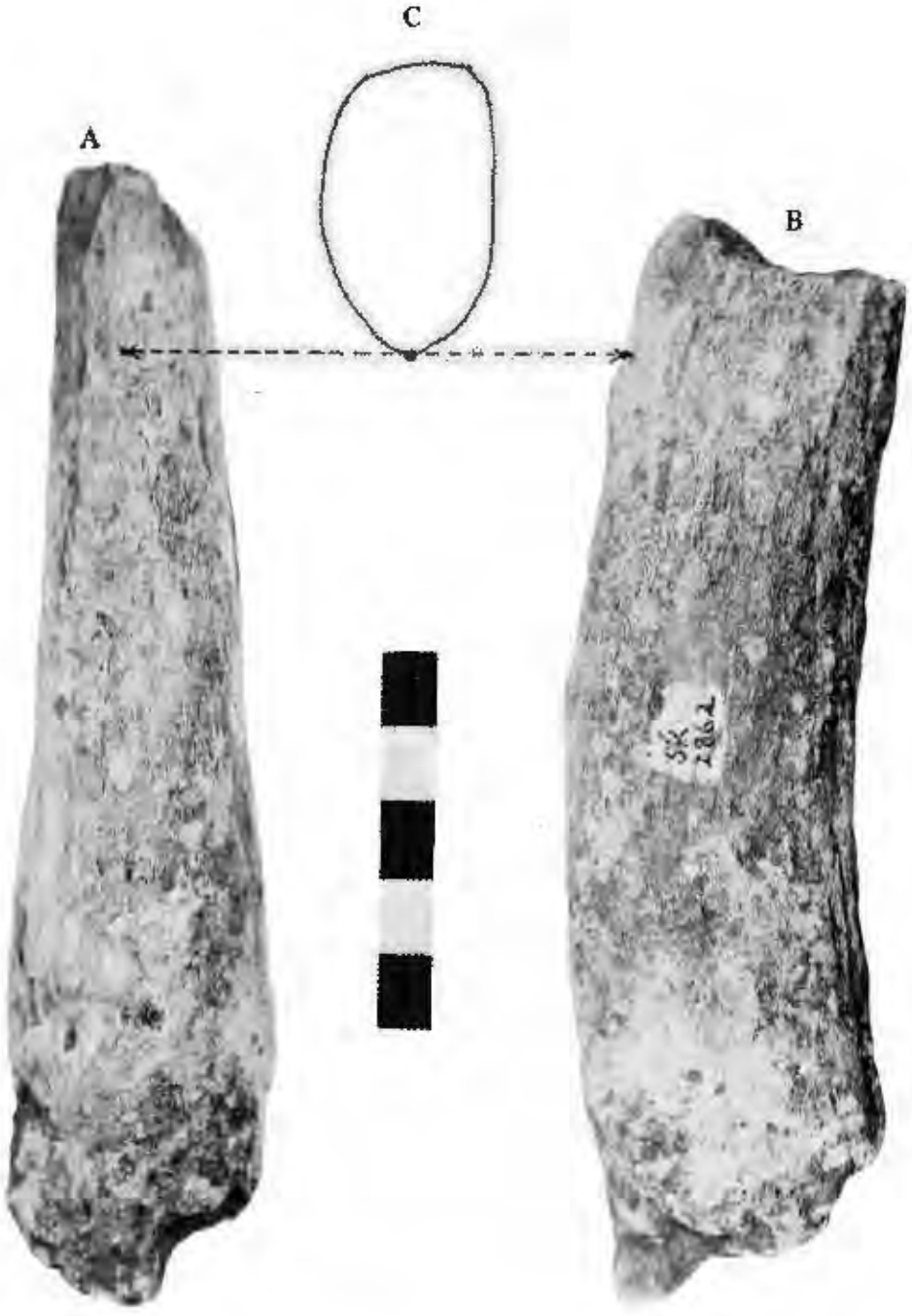
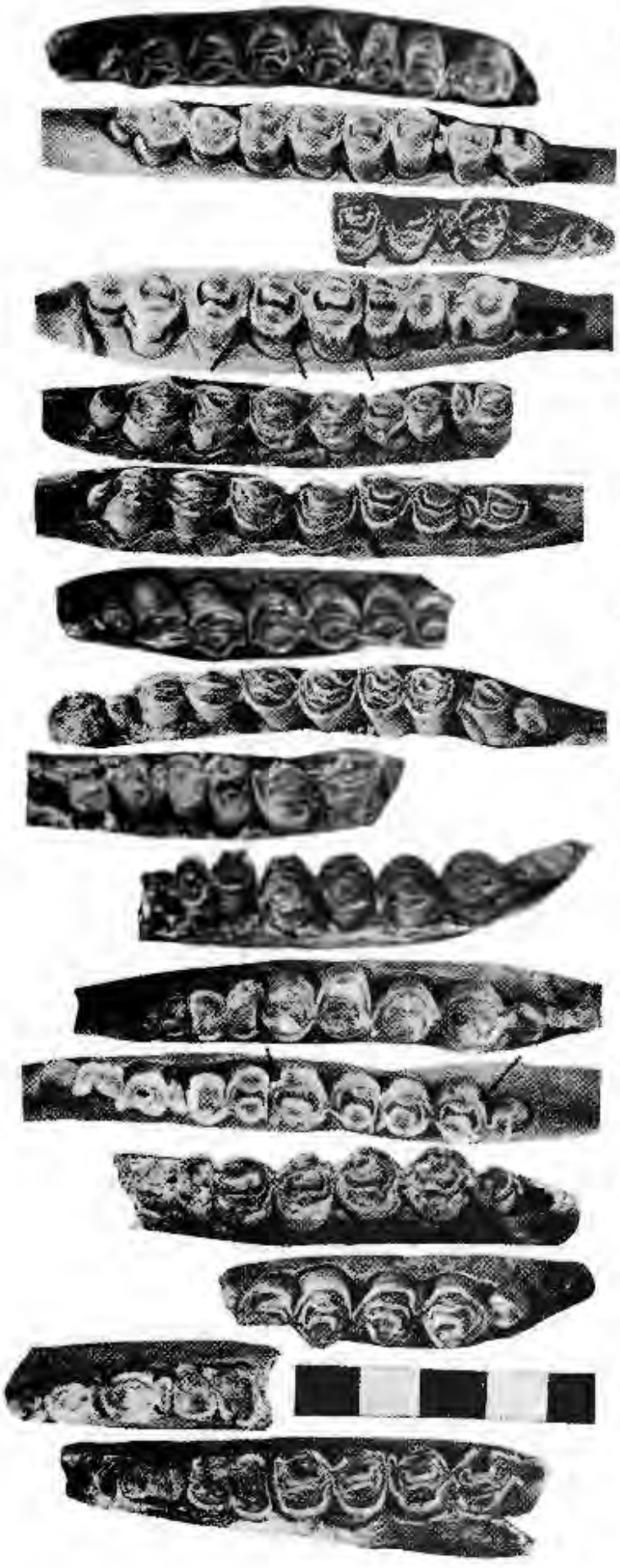


Plate 5: A: Anterior view of horn core SK 2862, cf. *Damaliscus niro*.
B: Lateral view of A.
C: Transverse section through SK 2862 at the level which is indicated.

Plate 6. A: Dorsal view of cranial fragment SK 3812, cf. *Connochaetes* sp. aff. *africanus*.

B: Right lateral view of A; arrow 1 points to the dorsal edge of what was probably a preorbital fossa; arrow 2 points to the coronal suture; anterior is to the right in both A and B.

Plate 7: Occlusal views of lower dentitions of small alcelaphines *Damaliscus dorcas* (both fossil and extant), *Damaliscus* sp. 1 or *Parmularius* sp. (here shortened to *D.*sp.1) and *Damaliscus* sp. 2 (here shortened to *D.*sp.2); arrows point to the indentations on, or "pinching" of, the buccal lobes of molars of extant *D. dorcas*; anterior to the right in A-H, to the left in I-P.



A: SK10867, (L) PM_4 -M_3
D. cf. dorcas

B: TM16425, (R) PM_3 -M_3,
D. dorcas

C: A D16 SPECIMEN, (R) PM_4 -M_1,
D. cf. dorcas

D: TM12602, (R) PM_4 -M_3,
D. cf. dorcas

E: KA929, (R) PM_4 -M_3, *D.*sp.1

F: KA758, (R) PM_4 -M_3, *D.*sp.1

G: SK3127, (L) M_1 -M_3, *D.*sp.1

H: KA646A, (R) PM_3 -M_3, *D.*sp.1

I: STS1800b, (L) PM_3 -M_2, *D.*sp.1

J: STS2581, (R) M_1 -M_3, *D.*sp.1

K: KA1004, (R) M_1 -M_3, *D.*sp.1

L: TM12604, (R) PM_2 -M_3,
D. dorcas

M: SK11827, (L) M_1 -M_3, *D.*sp.2

N: STS2582, (R) M_2 -M_3, *D.*sp.2

O: SK5979, (L) PM_2 -M_1, *D.*sp.2

P: A D16 SPECIMEN, (L)
M_1 -M_3, *D* sp.2

Plate 8: Occlusal views of upper dentitions, and a frontlet, of small alcelaphines.

A: SK 3123, (R) $PM^{\underline{2}}$-$M^{\underline{3}}$, *D.* cf. *dorcas*;

B: SE 1185, (L) $DPM^{\underline{2-4}}$, *D.* cf. *dorcas*;

C: TM 12601, (R) $PM^{\underline{2}}$-$M^{\underline{3}}$ ($PM^{\underline{3}}$ missing), *D.dorcas*;

D: SE 1318.1, (R) $PM^{\underline{2}}$-$M^{\underline{2}}$, *D.* cf. *dorcas*;

E: SK 1520, (R) $PM^{\underline{3}}$-$M^{\underline{1}}$ ($M^{\underline{2}}$ broken), *Damaliscus* sp. 2;

F: SK 3129, (L) $PM^{\underline{2}}$-$M^{\underline{2}}$, *Damaliscus* sp. 2;

G: SK 5954, (R) $PM^{\underline{3}}$-$M^{\underline{2}}$, *Damaliscus* sp. 2;

H: KA 1127, (R) $PM^{\underline{3}}$-$M^{\underline{3}}$ ($M^{\underline{1}}$ missing), *Damaliscus* sp. 1 or *Parmularius* sp.;

I: Anterior view of fragmentary frontlet STS 2368 B, *Damaliscus* sp. 1 or *Parmularius* sp.;

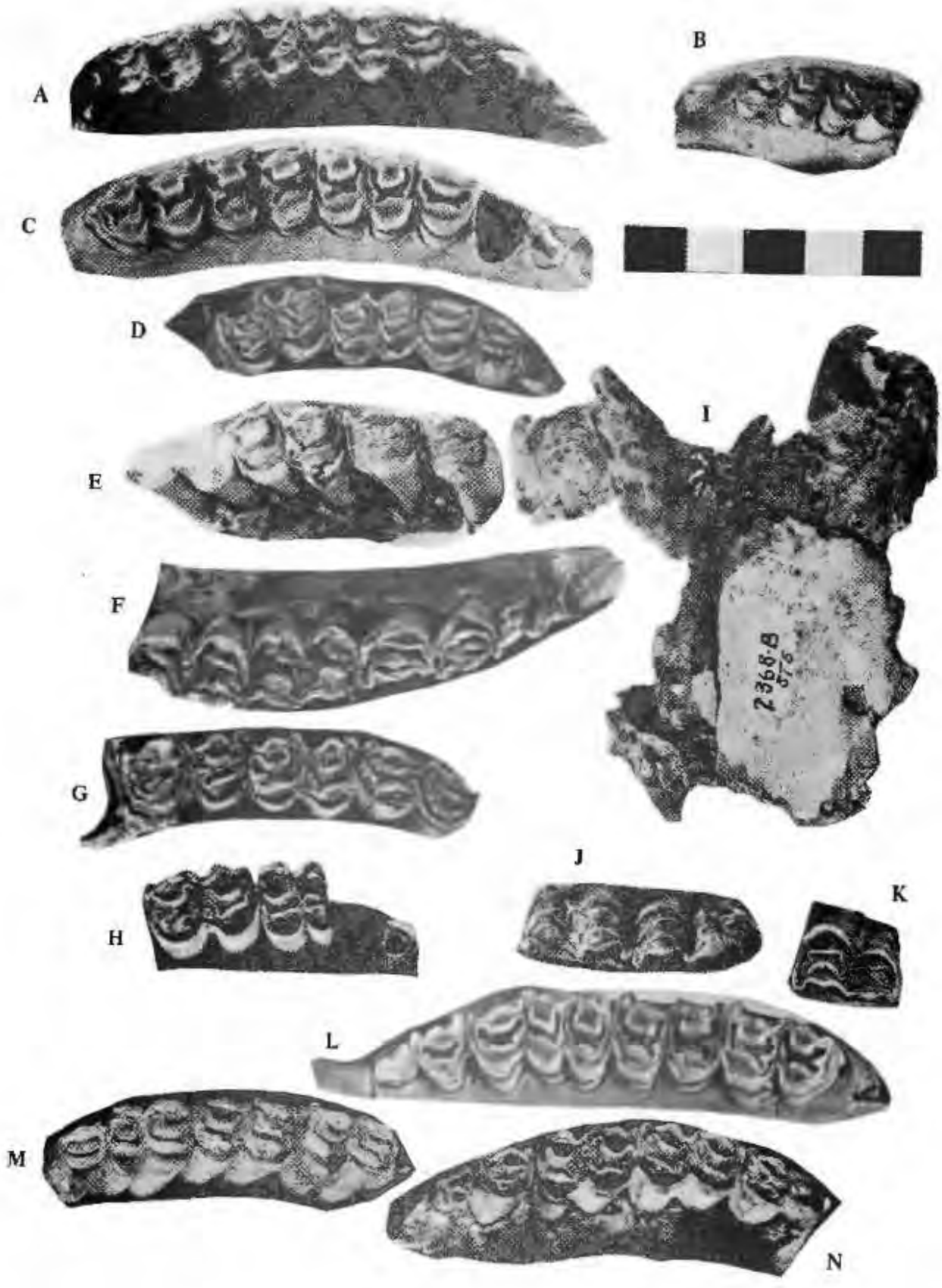
J: STS 2368 A associated with STS 2368 B in I, (R) $M^{\underline{1}}$-$M^{\underline{2}}$;

K: STS 2562, (R) $M^{\underline{3}}$, *Damaliscus* sp. 1 or *Parmularius* sp.;

L: TM 12604, (L) $PM^{\underline{2}}$-$M^{\underline{3}}$, *D.dorcas*;

M: KA 2514, (L) $PM^{\underline{4}}$-$M^{\underline{3}}$, *Damaliscus* sp. 1 or *Parmularius* sp.;

N: KA 564, (L) $PM^{\underline{3}}$-$M^{\underline{3}}$, *Damaliscus* sp. 1 or *Parmularius* sp.


A
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E
F
G
H
I
J
K
L
M
N
2368-B
576

Plate 9: Lateral views of mandibles of small alcelaphines; anterior to the right; the dotted line indicates the level where $PM_{\bar{4}}$ adjoins $M_{\bar{1}}$ in A, C, E and F.

A: T.M. 16443, (R), *D.dorcas*;

B: KA 931 A, (L), *Damaliscus* sp. 1 or *Parmularius* sp.;

C: STS 1800 (a), (R), *Damaliscus* sp. 1 or *Parmularius* sp.;

D: a D16 specimen, (L), *Damaliscus* s-. 2;

E: KA 1010, (R), *Damaliscus* sp. 1 or *Parmularius* sp.;

F: KA 1004, (R), *Damaliscus* sp. 1 or *Parmularius* sp.

Plate 10: Occlusal views of lower dentitions of medium-sized alcelaphines; anterior to the right; Gp IIa may belong to *Rabaticeras porrocornutus*, Gp IIb to *Beatragus* sp.; arrows point to unfused paraconids and metaconids on Gp IIb $PM_{\bar{4}}$'s.

A: SK 3141, (R) $PM_{\bar{3}}$-$M_{\bar{3}}$, Gp IIa;

B: TM 16426, (R) $PM_{\bar{3}}$-$M_{\bar{3}}$, *Connochaetes gnou*;

C: SK 3213 D, (L) $PM_{\bar{3}}$-$M_{\bar{3}}$, Gp IIa;

D: TM 12092, (L) $PM_{\bar{2}}$-$M_{\bar{3}}$, *Alcelaphus buselaphus*;

E: SK 2992, (L) $M_{\bar{1}}$-$M_{\bar{3}}$, Gp IIb?

F: STS 1324, (L) $M_{\bar{3}}$, Gp IIa?

G: SK 3146, (L) $PM_{\bar{4}}$-$M_{\bar{2}}$, Gp IIb;

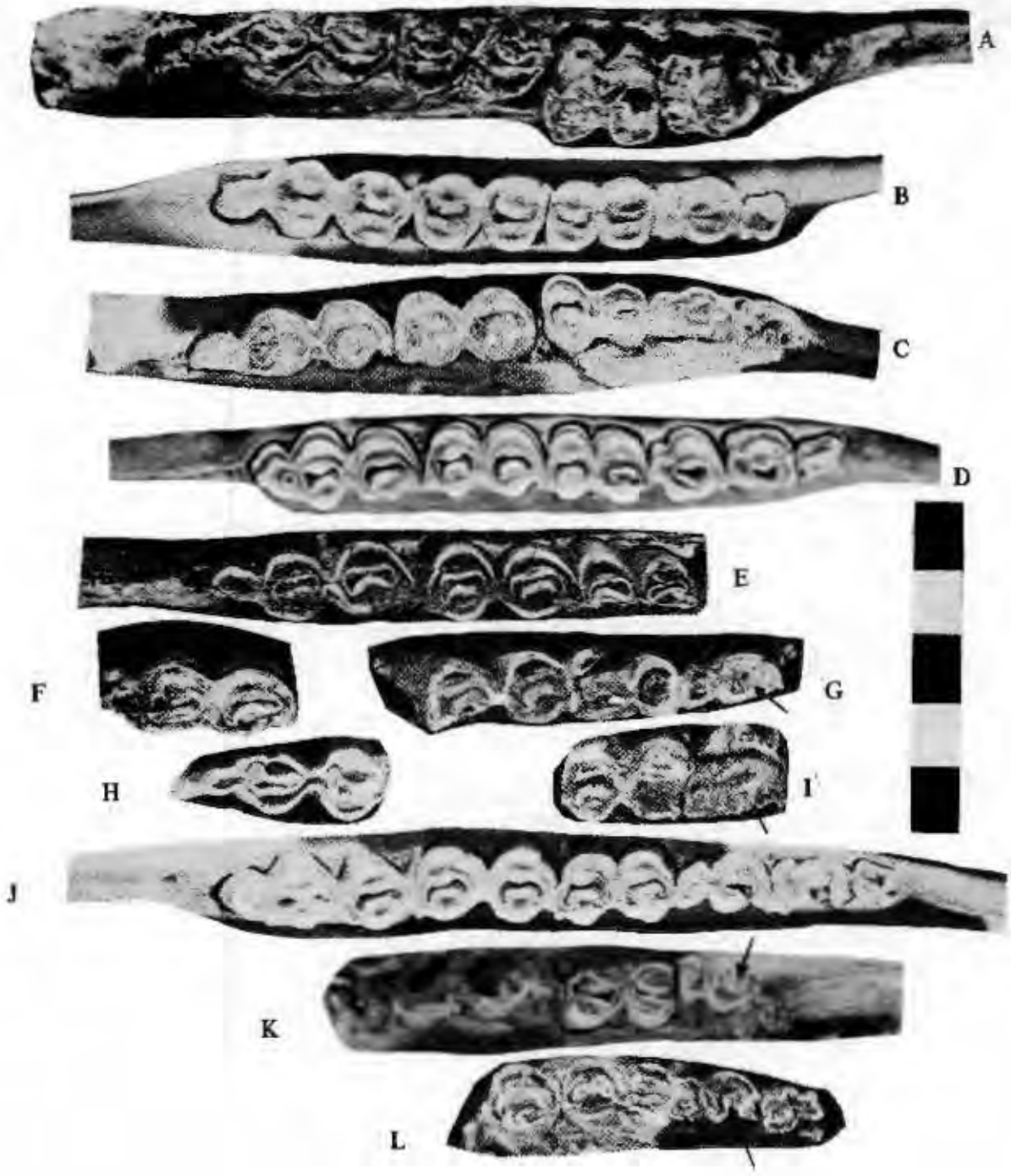
H: KA 825, (R) $M_{\bar{3}}$;

I: SK 2983, (L) $PM_{\bar{4}}$-$M_{\bar{1}}$, Gp IIb;

J: TM 4240, (L) $PM_{\bar{2}}$-$M_{\bar{3}}$, *Damaliscus lunatus lunatus*;

K: SK 3046, (R) $PM_{\bar{4}}$-$M_{\bar{1}}$, Gp IIb;

L: SK 2478, (L) $PM_{\bar{3}}$-$M_{\bar{1}}$ ($M_{\bar{2}}$ broken), Gp IIb.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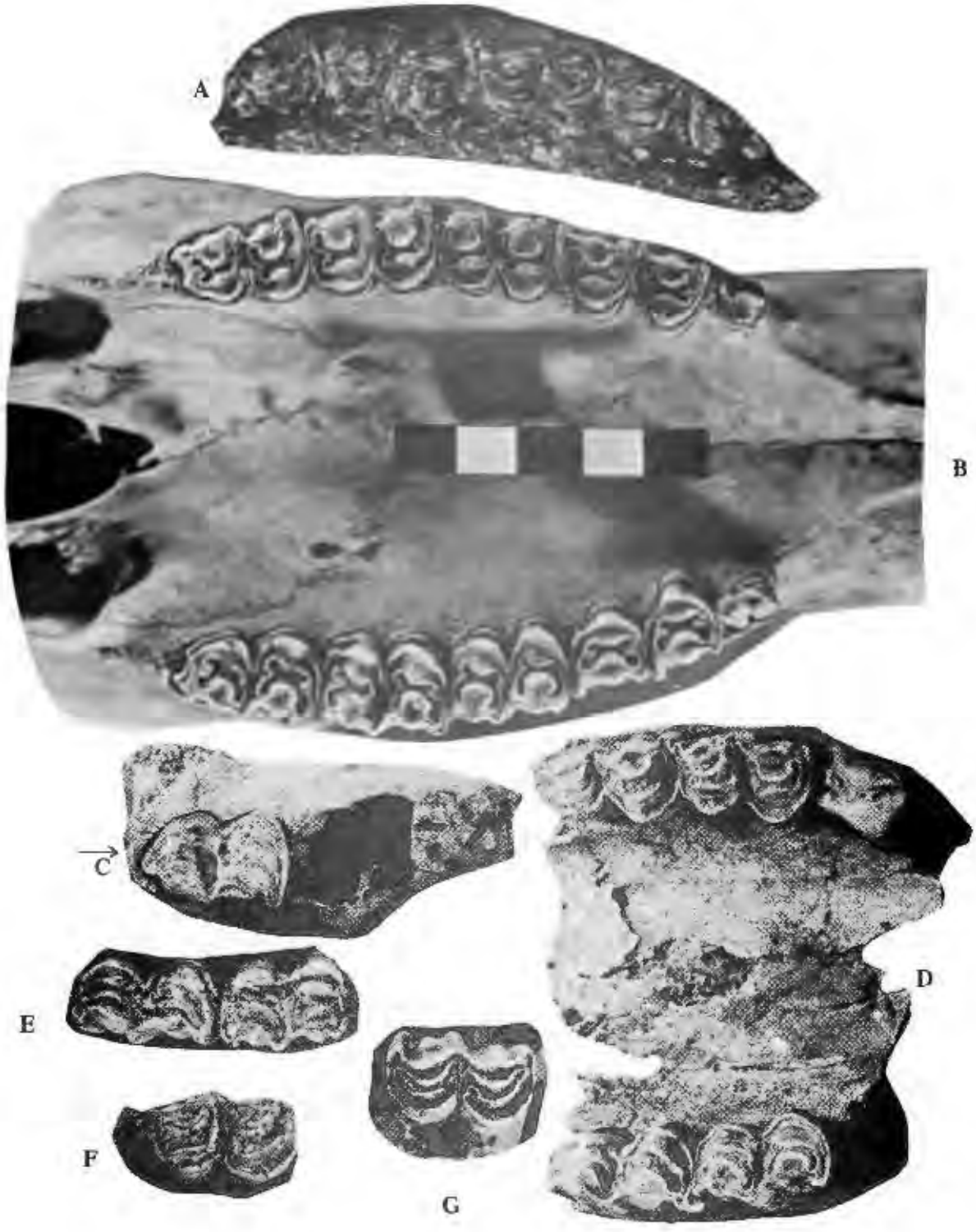


Plate 11: Occlusal views of upper dentitions of medium-sized alcelaphines; anterior to the right; Gp IIc may belong to *Rabaticeras porrocornutus*; arrow points to steeply ascending posterior border of palate in KA 1781.

A: SK 2107, (R) $PM^{\underline{2}}$-$M^{\underline{2}}$ ($M^{\underline{3}}$ broken), Gp IIc;

B: TM 12096, palate of *Alcelaphus buselaphus*;

C: KA 1781, (L) $M^{\underline{1}}$-$M^{\underline{3}}$ ($M^{\underline{2}}$ missing),

D: SK 1523, (R) $PM^{\underline{4}}$-$M^{\underline{2}}$, (L) $M^{\underline{1}}$-$M^{\underline{2}}$, Gp IIc;

E: KA 924, (L) $M^{\underline{1}}$-$M^{\underline{2}}$;

F: STS 1333, (R) $M^{\underline{3}}$ (broken), Gp IIc?

G: KA 1151, (R) $M^{\underline{2}}$.

Plate 12: Occlusal views of upper dentitions of medium-sized (and possibly some "smaller large") alcelaphines, and of a species that could be ovibovine; anterior to the right, except in the case of D; Gp IIc may belong to *Rabaticeras porrocornutus,* Gp IId to *Beatragus* sp., Gp III to cf. *Connochaetes* sp. aff. *africanus*

A: STS 2597 A, (L) $PM^{\underline{4}}$-$M^{\underline{3}}$ ($M^{\underline{1}}$ and $M^{\underline{3}}$ broken, root cavity for $PM^{\underline{3}}$, none for $PM^{\underline{2}}$, Gp IId or Gp III?

B: SK 3111, (L) $PM^{\underline{4}}$-$M^{\underline{3}}$, Gp IId?

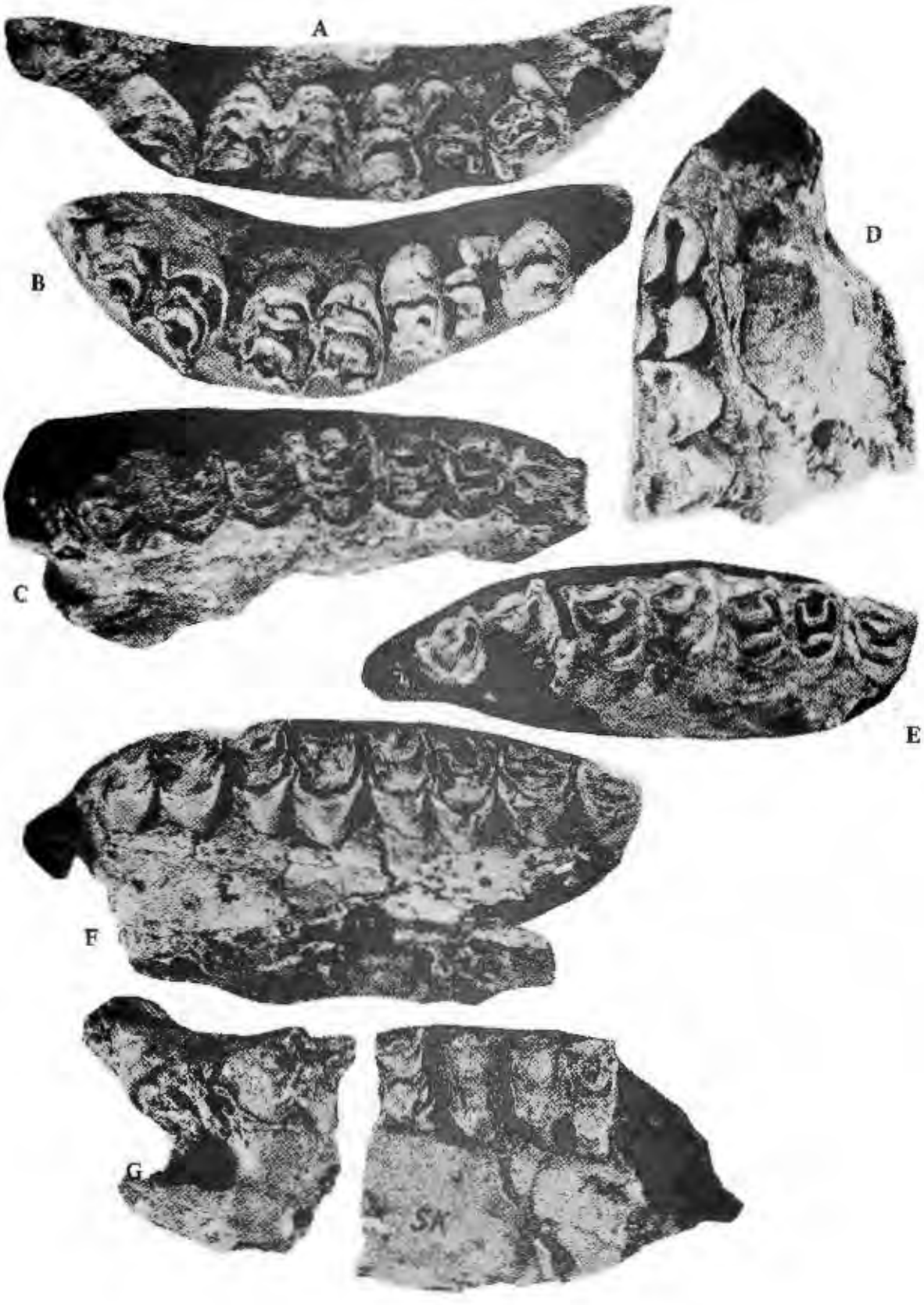
C: SK 2987, (R) $PM^{\underline{4}}$-$M^{\underline{3}}$, Gp IId?

D: KA 1067, (L) $M^{\underline{2}}$-$M^{\underline{3}}$;

E: KA 794 A, (R) $PM^{\underline{4}}$-$M^{\underline{3}}$;

F: SK 3108, (R) $PM^{\underline{3}}$-$M^{\underline{3}}$, Gp IIc (possibly ovibovine?)

G: SK 3065 and SK 3005 which belong together, (R) $M^{\underline{1}}$-$M^{\underline{3}}$ ($M^{\underline{3}}$ broken), ovibovine?


A
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C
D
E
F
G
SK

Plate 13: Lateral views of mandibles of medium-sized alcelaphines, with one "larger small" (Gp Ib) specimen, D, for comparison; anterior to the right; the dotted line indicates the level where $PM_{\overline{4}}$ adjoins $M_{\overline{1}}$.

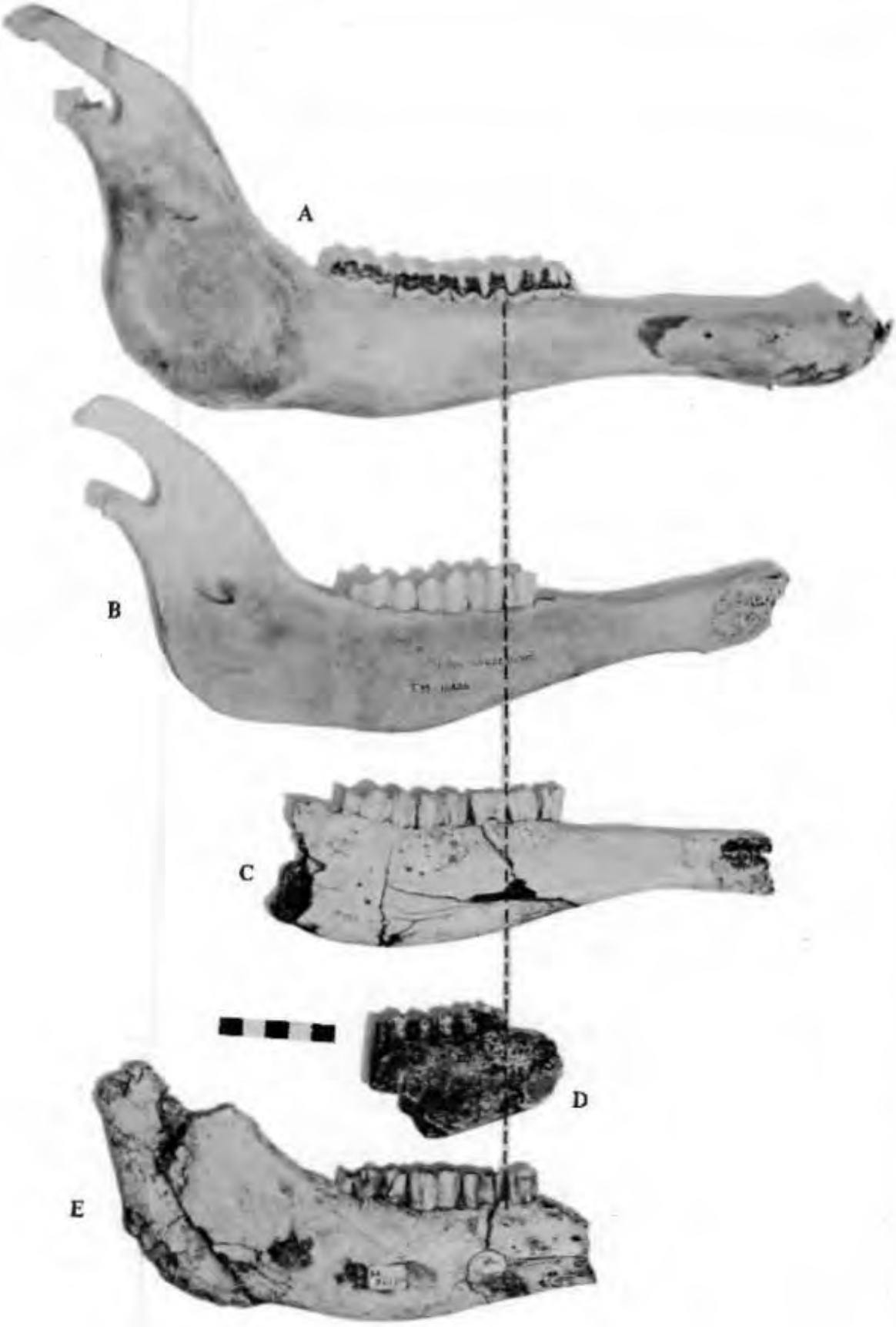
A: TM 12095, (L), *Alcelaphus buselaphus*;

B: TM 16426 (L), *Connochaetes gnou*;

C: SK 3213D, (L), Gp IIa, *Rabaticeras porrocornutus*?

D: a D16 specimen, (L), Gp Ib, *Damaliscus* sp. 2;

E: SK 3213A, (R), Gp IIa, *Rabaticeras porrocornutus*?


A
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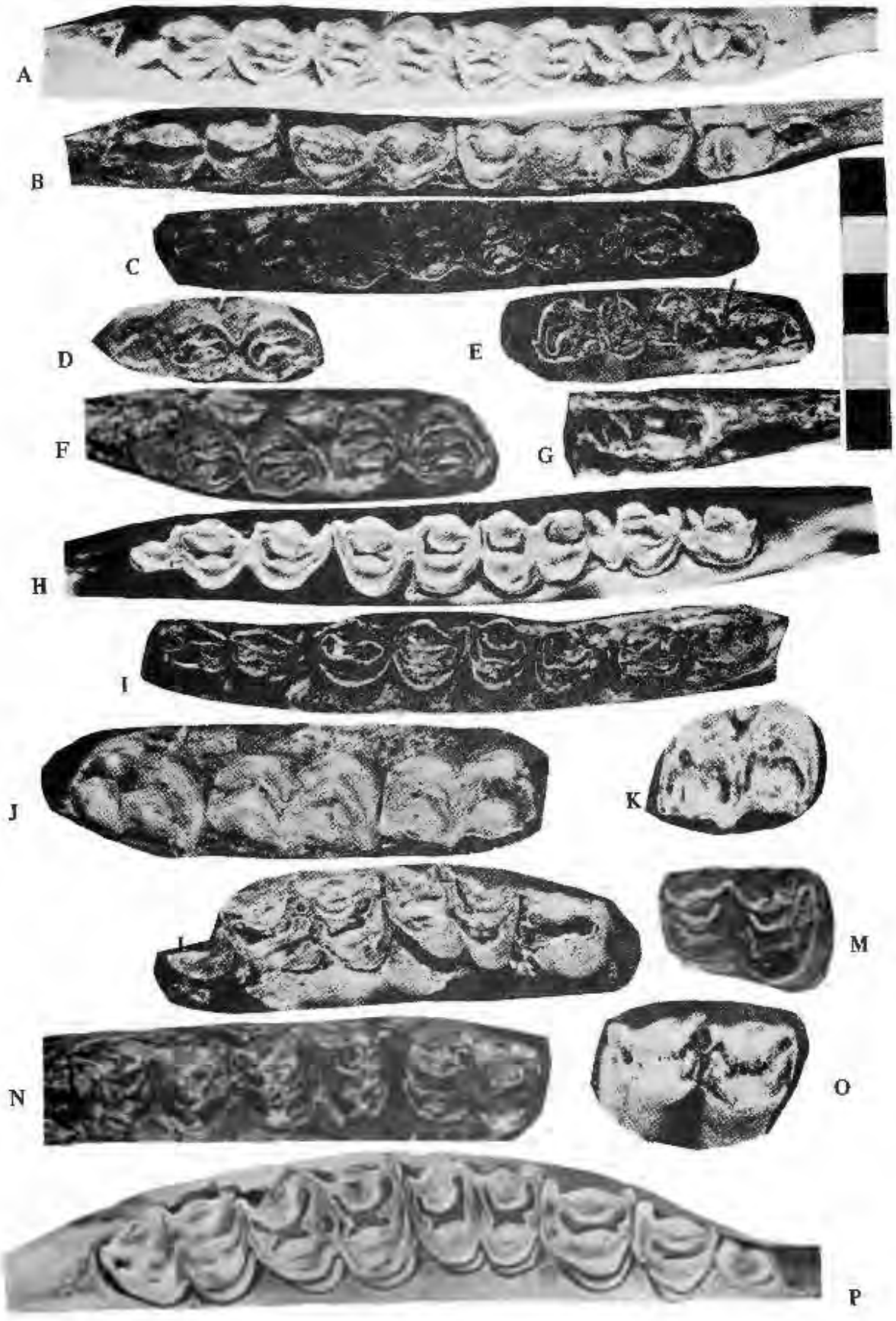
C
D
E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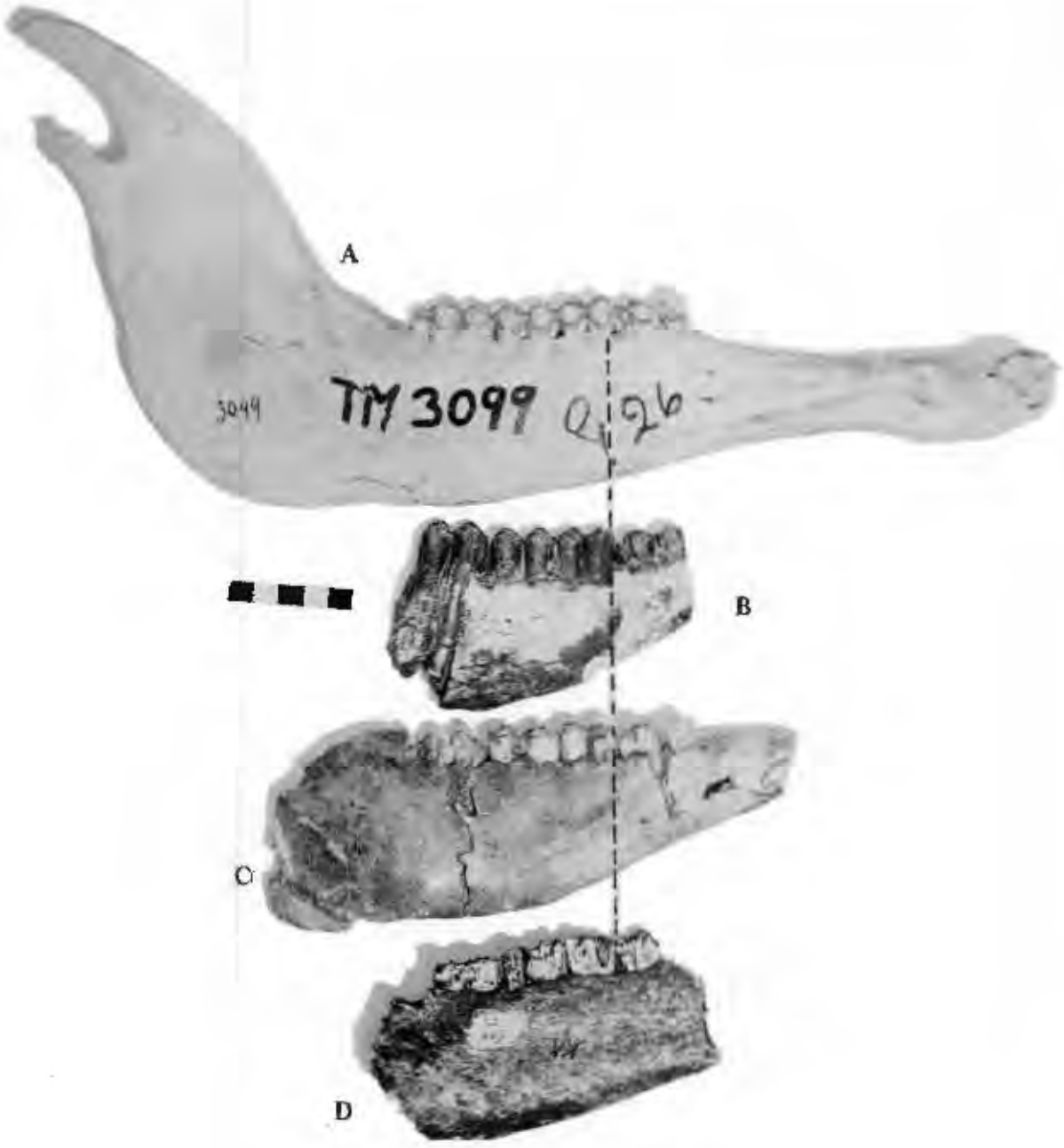


Plate 15: Lateral views of mandibles of "smaller large" alcelaphines; anterior to the right; the dotted line indicates the level where $PM_{\overline{4}}$ adjoins $M_{\overline{1}}$; Gp III has been named cf. *Connochaetes* sp. aff. *africanus*.

A: TM 3099, (R), *Connochaetes taurinus*;

B: SK 6073, (R), Gp III;

C: SK 3105, (R), Gp III;

D: KA 1147, (L), Gp III.

Plate 16: Occlusal views of upper and lower dentitions of "larger large" alcelaphines, i.e. Gp IV which has been named cf. *Megalotragus* sp. (A and C are "smaller large", as used in Plate 15, in size and have been included for comparison); anterior to the left.

A: TM 16434, (L) $PM^{\underline{2}}$-$M^{\underline{3}}$, *Connochaetes taurinus*;

B: SK 3031, (L) $PM^{\underline{4}}$-$M^{\underline{3}}$ ($M_{\overline{1}}$ displaced out of sight), cf. *Megalotragus* sp.;

C: KA 740, (R) $M_{\overline{3}}$ ($M_{\overline{2}}$ broken), Gp III?

D: SK 14218, (L) $M^{\underline{2}}$-$M^{\underline{3}}$, cf. *Megalotragus* sp.;

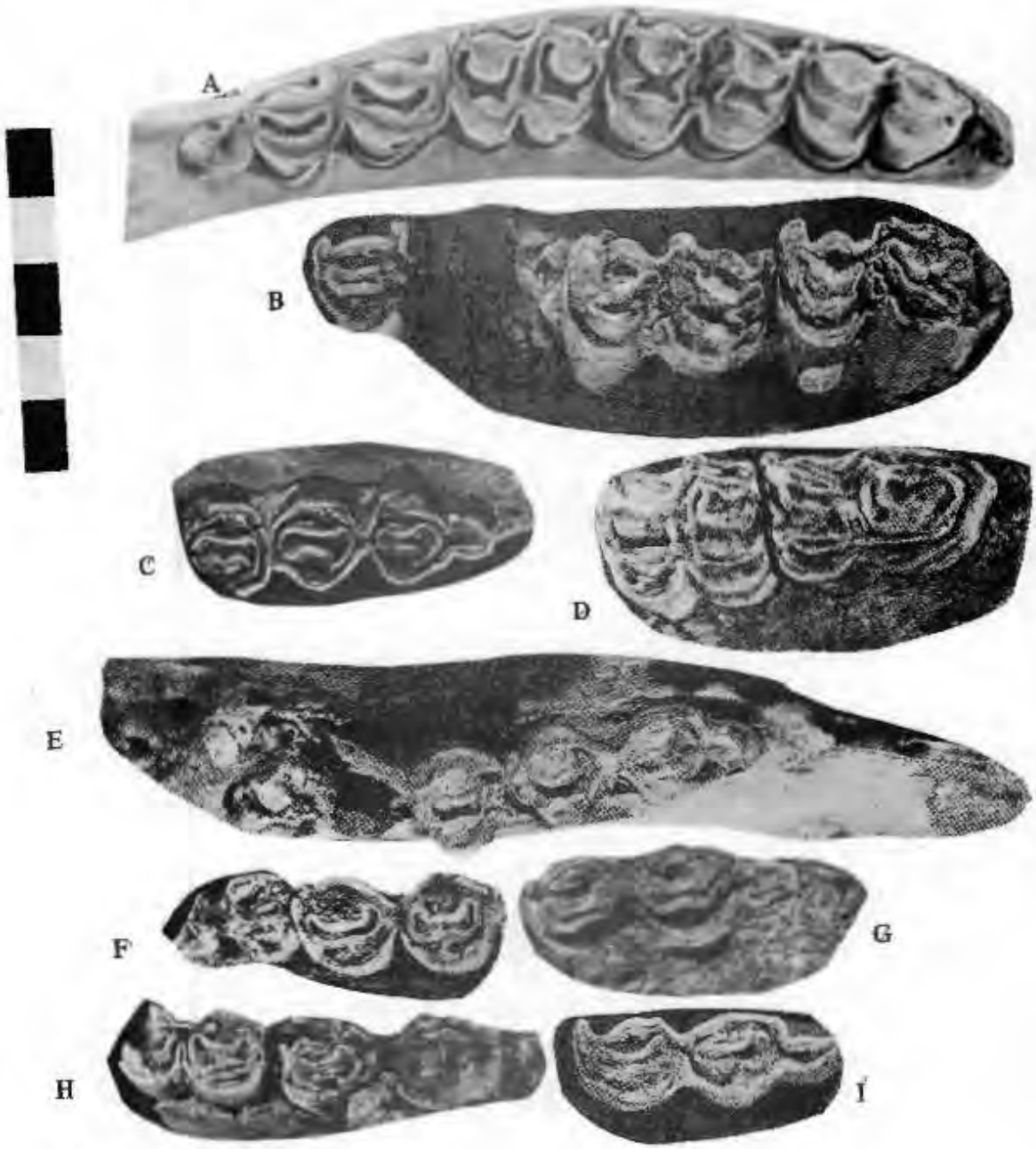
E: STS 1339, (L) $M_{\overline{2}}$-$M_{\overline{3}}$ ($M_{\overline{2}}$ broken), cf. *Megalotragus* sp.;

F: SK 2081, (L) $M_{\overline{1}}$-$M_{\overline{2}}$ ($M_{\overline{1}}$ broken), cf. *Megalotragus* sp.;

G: SK 1944, (L) $M_{\overline{3}}$, cf. *Megalotragus* sp.;

H: KA 1371 A, (L) $M_{\overline{1}}$-$M_{\overline{2}}$ (both broken), cf. *Megalotragus* sp.;

I: SK 3099, (L) $M_{\overline{3}}$, cf. *Megalotragus* sp.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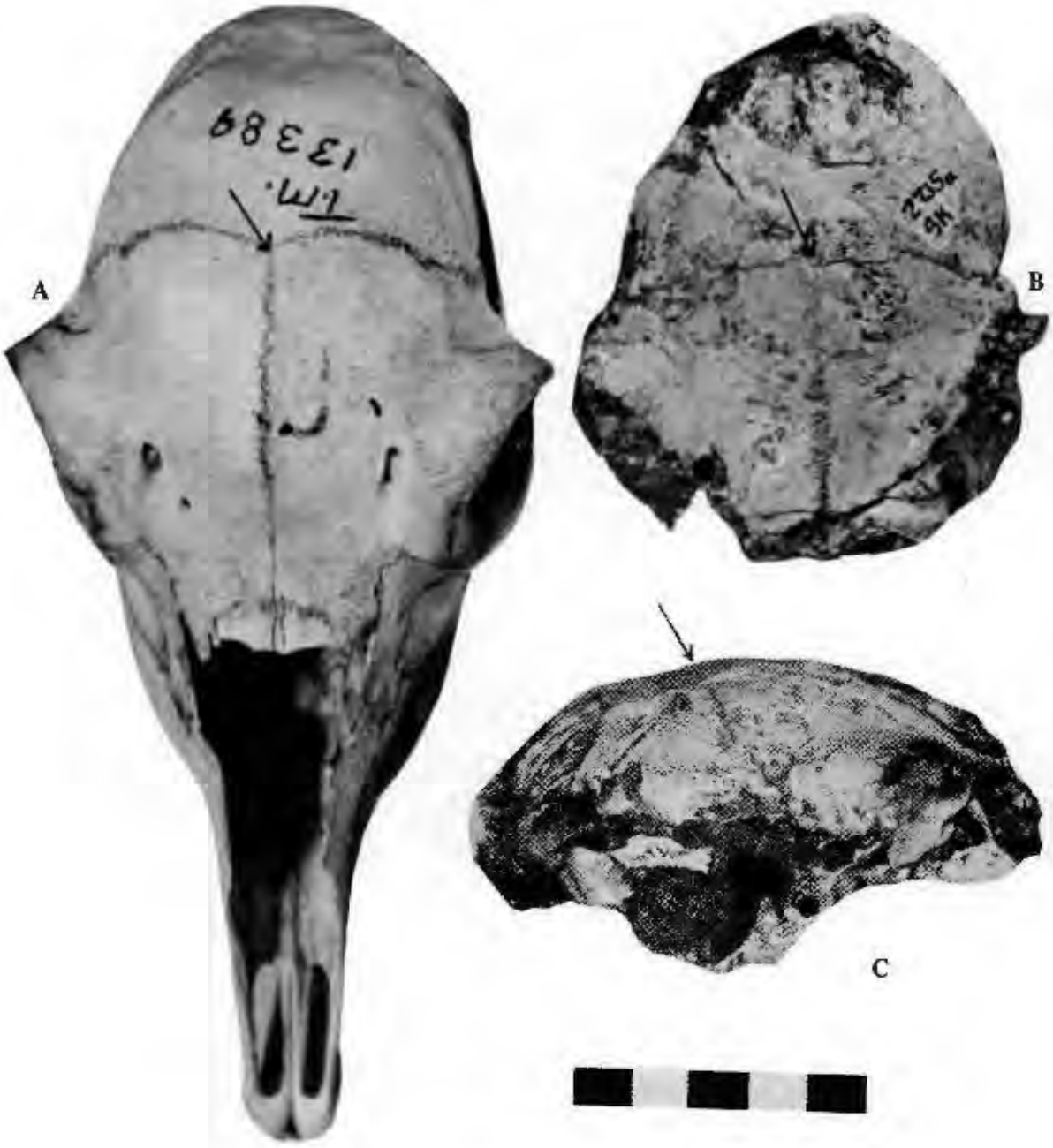

Plate 17: A: Dorsal view of TM 13389 of extant *Pelea capreolus*, of same sex (♀) and age stage (according to wear on associated dentitions) as SK 2735a; arrows in A-C point to junction of metopic and coronal sutures.

B: Dorsal view of SK 2735a of fossil *Pelea* cf. *capreolus*; anterior towards bottom of page;

C: Right lateral view of SK 2735a; anterior to the right.

Plate 18: A: Occlusal view of dentition SK 2735b of fossil *Pelea* cf. *capreolus* showing (R) $DMP^{\frac{4}{4}}$-$M^{\frac{3}{3}}$ ($DPM^{\frac{4}{4}}$ broken and $M^{\frac{3}{3}}$ not yet in occlusion), and (L) $M^{\frac{1}{1}}$-$M^{\frac{2}{2}}$.

B: Palatal view of TM 13389 of extant *Pelea capreolus*, showing (R and L) $DPM^{\frac{2-4}{2-4}}$ and $M^{\frac{1-3}{1-3}}$ ($M^{\frac{3}{3}}$ not yet in occlusion).

Plate 19: Occlusal views of upper and lower dentitions of cf. *Gazella vanhoepeni* (1), fossil *Pelea* cf. *capreolus* (2) and extant *Pelea capreolus* (3).

A: SK 3155 A, palate with (L) $PM^{\underline{2}}$-$M^{\underline{2}}$ ($M^{\underline{3}}$ broken) of (1);

B: SK 14049, (L) $PM^{\underline{4}}$-$M^{\underline{3}}$ ($M^{\underline{3}}$ broken) of (2);

C: SK 2990, palate with (R) $PM^{\underline{4}}$-$M^{\underline{3}}$ and (L) $M^{\underline{1}}$-$M^{\underline{3}}$ ($M^{\underline{1}}$ broken, $PM^{\underline{3}}$ and $PM^{\underline{4}}$ roots, and $PM^{\underline{2}}$ root cavity, present) of (1);

D: SK 14063, almost complete upper dentition of (1);

E: KA 1766 B, (L) $DMP^{\underline{4}}$-$M^{\underline{2}}$ of (2);

F: SK 2310, (R) lateral view showing $M_{\underline{1}}$ and $M_{\underline{2}}$ ($M_{\underline{3}}$ unerupted) of (1);

G: KA 1149 A, (L) lateral view showing $M_{\underline{1}}$ (broken) and $M_{\underline{2}}$ ($M_{\underline{3}}$ unerupted) of (2);

H: STS 2076, (L) $M_{\underline{1}}$-$M_{\underline{3}}$; arrows point to basal pillars (1);

I: TM 16709, (R) $PM_{\underline{3}}$-$M_{\underline{3}}$ ($PM_{\underline{2}}$ root cavity present) of (3);

J: SK 11221, (L) $PM_{\underline{4}}$-$M_{\underline{3}}$ (root cavities for $PM_{\underline{2}}$ and $PM_{\underline{3}}$ present) of (2);

K: SK 3035, (R) $DPM_{\underline{4}}$-$M_{\underline{3}}$ (roots of $DPM_{\underline{2}}$ and $DPM_{\underline{3}}$ present) of (2);

L: SK 2468, (R) $M_{\underline{1}}$-$M_{\underline{2}}$ ($DPM_{\underline{4}}$ root present) of (2);

M: SK 3037, (R) $M_{\underline{3}}$ of (1);

N: SK 2311, (R) $M_{\underline{3}}$ of (2);

O: SK 2953, (R) $M_{\underline{3}}$ of (1).

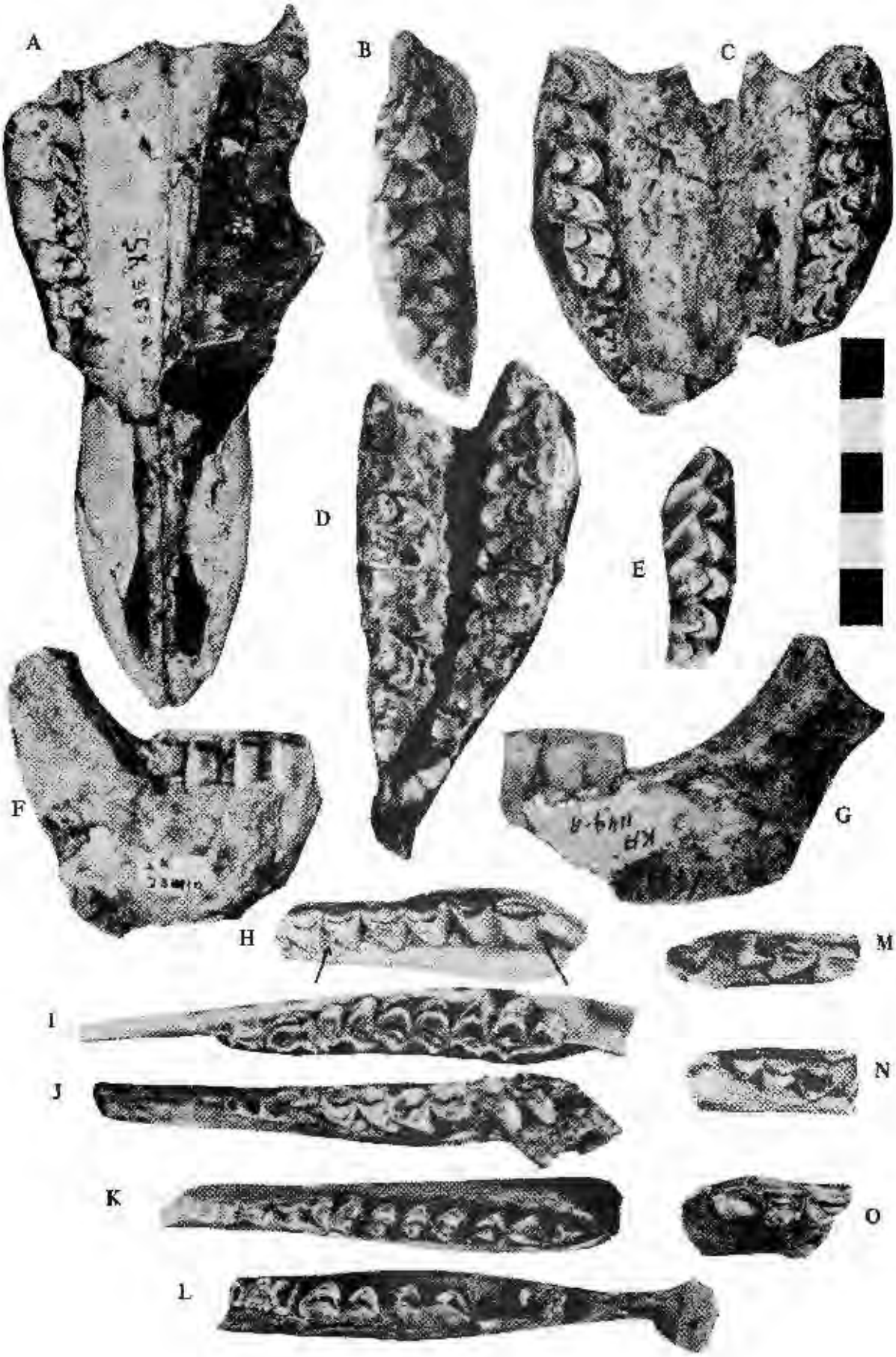
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Plate 20: Lateral view of mandibles, to compare horizontal ramus depths (anterior to the right), in

A: TM number unknown, (R), *Antidorcas marsupialis*;

B: KA 1766 C, (R), *Pelea* cf. *capreolus;*

C: SK 14055, (L), *Pelea* cf. *capreolus*;

D: SK 2468, (R), *Pelea* cf. *capreolus*;

E: TM 16709, (R), *Pelea capreolus;*

F: SK 3015, (R), cf. *Gazella vanhoepeni*;

G: SK 3035, (R), *Pelea* cf. *capreolus;*

H: SK 14205, (R), *Tragelaphus* cf. *scriptus*;

I: TM 16430, (R), *Tragelaphus scriptus.*

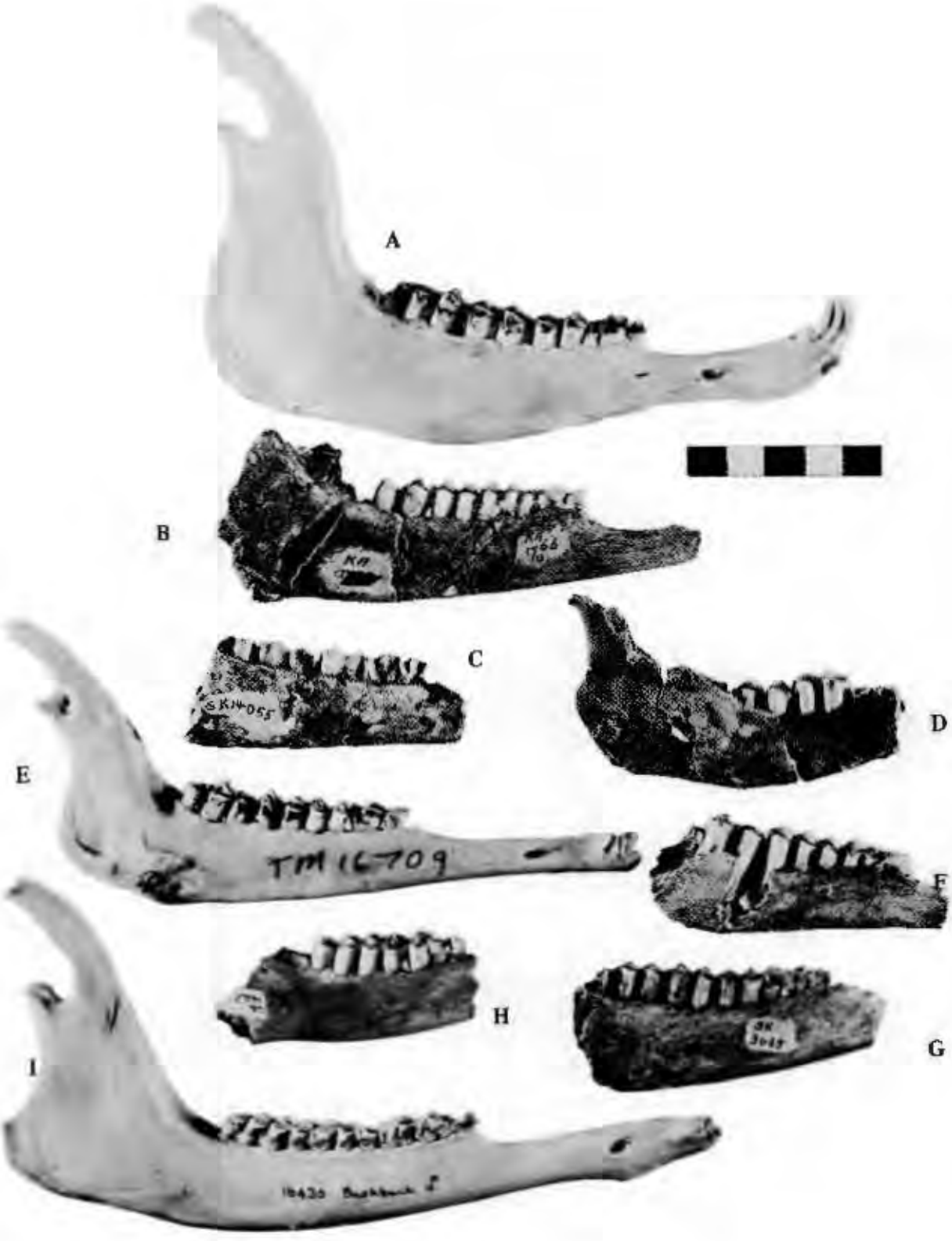
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Plate 21: Some neotragine horn cores, and occlusal views of lower and upper neotragine dentitions, as well as three dentitions that could be neotragine or antilopine (O-Q).

A: TM 12108, (R) $PM_{\overline{2}}$-$M_{\overline{3}}$, *Ourebia ourebi*;

B: SK 14168, (R) $M_{\overline{1}}$-$M_{\overline{3}}$ ($M_{\overline{1}}$ broken, $PM_{\overline{2}}$-$PM_{\overline{4}}$ roots present), *O.* cf. *ourebi*;

C: a D16 specimen, (R) $PM_{\overline{4}}$-$M_{\overline{3}}$ ($PM_{\overline{2}}$ and $PM_{\overline{3}}$ roots present), *O.* cf. *ourebi;*

D: SK 2108, (R) $PM_{\overline{3}}$-$M_{\overline{3}}$ ($M_{\overline{2}}$ broken, root cavity for $PM_{\overline{2}}$ present), *Raphicerus* cf. *campestris*;

E: TM 4391, (R) $PM_{\overline{2}}$-$M_{\overline{3}}$, *R. campestris;*

F: Horn core SK 14170 of cf. *Raphicerus* sp;

G: KA 1152, (R) $PM_{\overline{2}}$-$M_{\overline{3}}$, *Raphicerus* sp.;

H: a D5 specimen, (R) $DPM_{\overline{3}}$-$M_{\overline{3}}$ ($DPM_{\overline{2}}$ root cavity present, $M_{\overline{3}}$ not yet in occlusion), *R.* cf. *campestris;*

I: a D16 specimen, (R) M^{2}-M^{3}, *R.* cf. *campestris;*

J: SK 14059, (L) $PM_{\overline{3}}$-$M_{\overline{1}}$ ($PM_{\overline{2}}$ root cavity present), *Oreotragus* cf. *major;*

K: Horn core SK 14343 of *Oreotragus* cf. *major;*

L: TM 13283, (R) $PM_{\overline{2}}$-$M_{\overline{3}}$, *Oreotragus oreotragus;*

M: M 8361A (from SE), (L) $PM_{\overline{3}}$-$M_{\overline{3}}$ and (R) $M_{\overline{2}}$-$M_{\overline{3}}$ ($RM_{\overline{3}}$ broken), *O. major*

N: M 8361B (from SE), complete upper dentition of *O. major*;

O: SK 2665, (R) $M_{\overline{2}}$-$M_{\overline{3}}$, Gen. et sp. indet. (Antilopini or Neotragini);

P: SK 3025, (R) $M_{\overline{3}}$, Gen. et sp. indet. (Antilopini or Neotragini);

Q: SK 3019, (R) $PM_{\overline{2}}$-$M_{\overline{3}}$ ($M_{\overline{1}}$ broken), Gen. et sp. indet. (Antilopini or Neotragini)

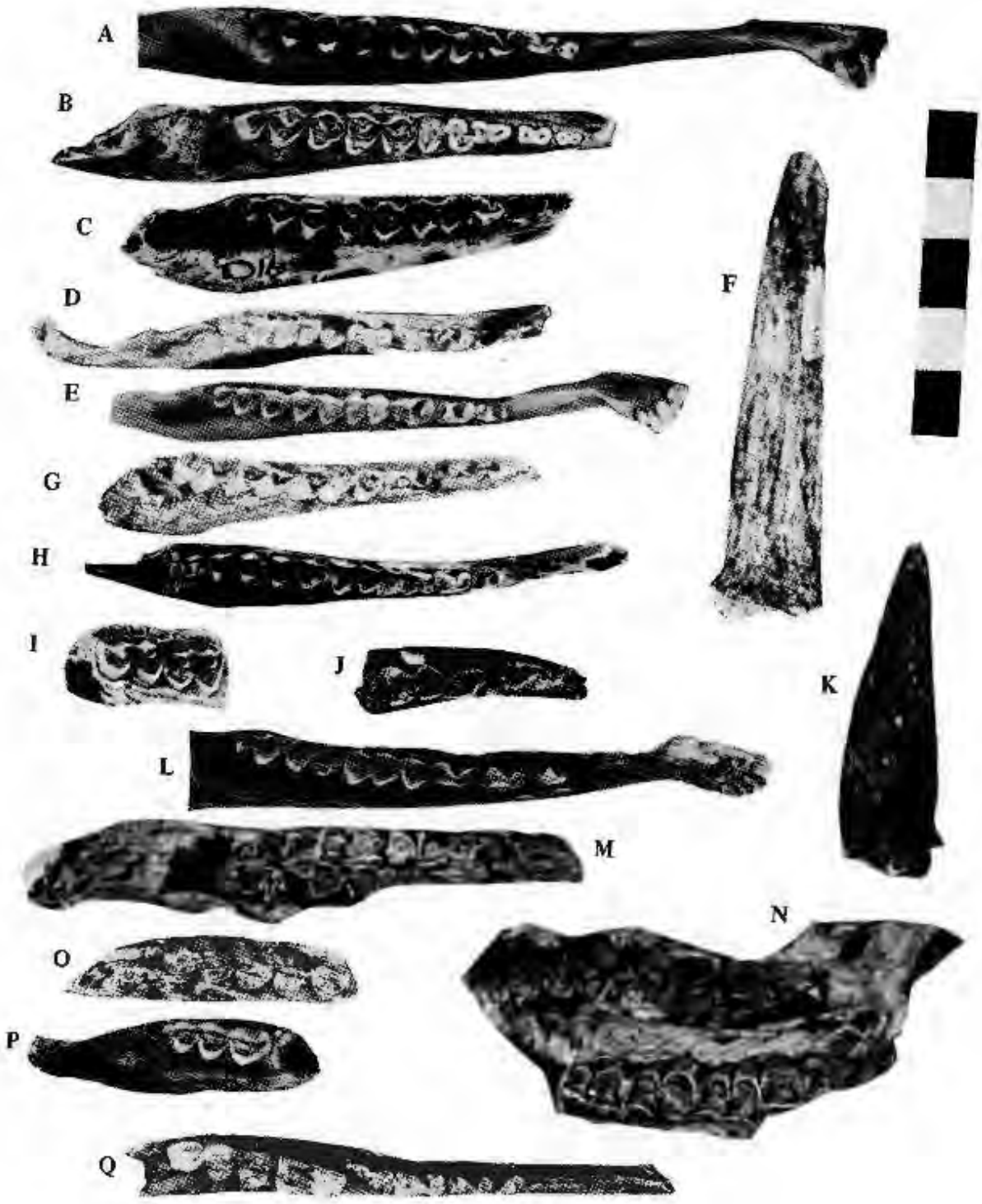
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Plate 22: Lateral views of some neotragine (D could also be antilopine) mandibles anterior to the right.

A: TM 13283, (R), *Oreotragus oreotragus;*

B: TM 12108, (R), *Ourebia ourebi;*

C: a D16 specimen, (R), *O.* cf. *ourebi;*

D: SK 3019, (R), Gen. et sp. indet. (Antilopini or Neotragini);

E: TM 4391, (R), *Raphicerus campestris;*

F: SK 2108, (R), *R. campestris;*

G: KA 1152, (R), *Raphicerus* sp.;

H: TM 3483, (R), $DPM_{\overline{2}}$-$DPM_{\overline{4}}$ and $M_{\overline{1}}$-$M_{\overline{3}}$, *R. campestris;*

I: a D5 specimen, (R) $DPM_{\overline{2}}$-$DPM_{\overline{4}}$ and $M_{\overline{1}}$-$M_{\overline{3}}$, *R.* cf. *campestris.*


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Plate 23: Right lateral views of two skulls of female, juvenile (M^3 erupting) *Raphicerus campestris;* anterior to the right.

A: SK 1515;

B: TM 9602.

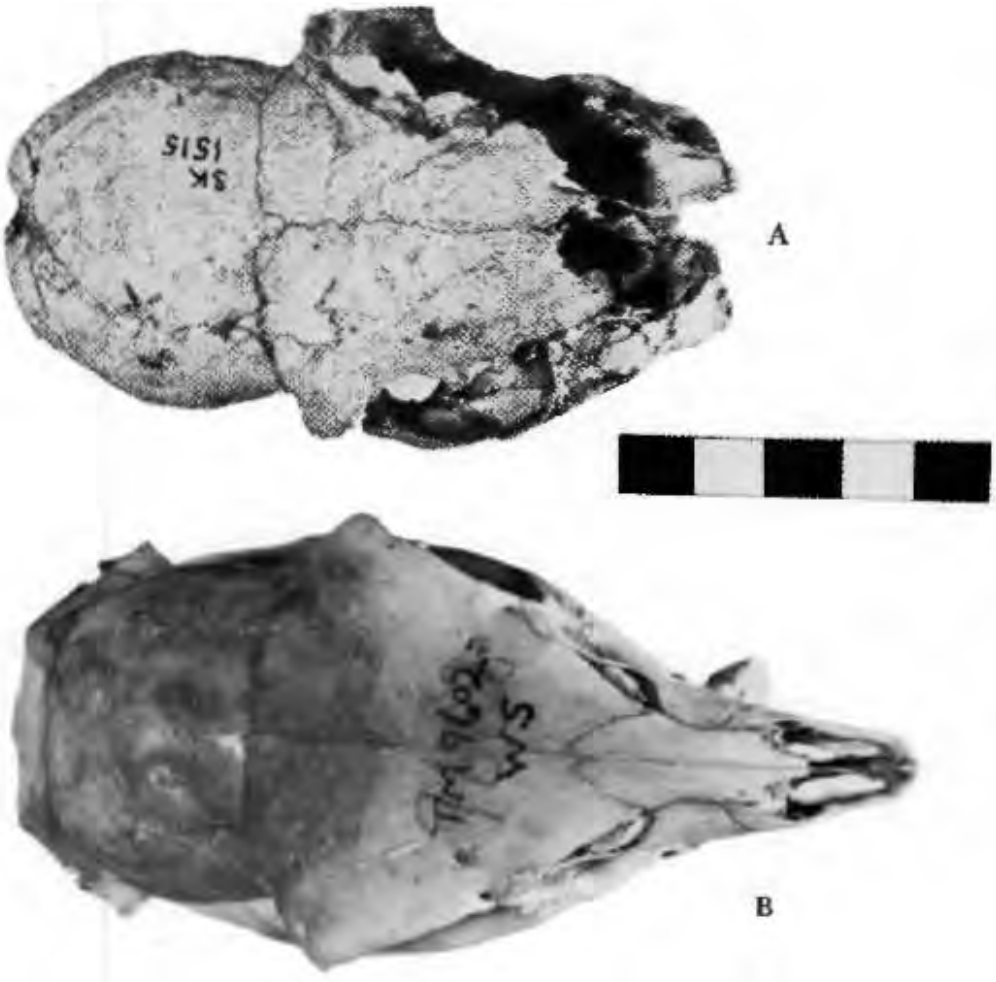

Plate 24: Dorsal views of the two skulls shown in Plate 23.

Plate 25: Palatal views of the two skulls shown in Plate 23.

Plate 26: Occlusal views of lower and upper bovine dentitions; anterior to the left; arrows point to unfused paraconids and metaconids on fossil $PM_{\overline{3}}$'s and $PM_{\overline{4}}$'s.

A: SK 3064, (L) $DPM_{\overline{2}}$-$M_{\overline{2}}$ ($M_{\overline{2}}$ erupting), *Syncerus* cf. *acoelotus;*

B: STS 1936A, (L) $DPM_{\overline{3}}$-$M_{\overline{1}}$, *S.* cf. *acoelotus;*

C: SK 2517, (L) $PM_{\overline{3}}$, *S.* cf. *acoelotus;*

D: SK 1972, (R) $PM_{\overline{4}}$-$M_{\overline{1}}$, *S.* cf. *acoelotus;*

E: KA 1268, (R) $M_{\overline{2}}$, *S.* cf. *acoelotus;*

F: TM C, (L) $PM_{\overline{3}}$-$M_{\overline{3}}$ (root cavities for $PM_{\overline{2}}$ present), *Syncerus caffer;*

G: SK 1983, (R) $PM_{\overline{4}}$, *S.* cf. *acoelotus;*

H: SK 3130, (L) $PM_{\overline{4}}$-$M_{\overline{1}}$ ($M_{\overline{1}}$ broken), *S.* cf. *acoelotus;*

I: SK 3074, (L) $M^{\overline{3}}$, *S.* cf. *acoelotus;*

J: KA 1451, (L) $M^{\overline{2}}$, *S.* cf. *acoelotus;*

K: SK 3034, (R) $PM^{\overline{4}}$, *S.* cf. *acoelotus;*

L: SK 2077, (R) $M^{\overline{2}}$, *S.* cf. *acoelotus;*

M: KA 1630, (R) $M^{\overline{2}}$, *S.* cf. *acoelotus;*

N: SK 3059, (R) $M^{\overline{2}}$, *S.* cf. *acoelotus;*

O: KA 752A, (R) $M^{\overline{3}}$ (not yet in occlusion), *S.* cf. *acoelotus.*

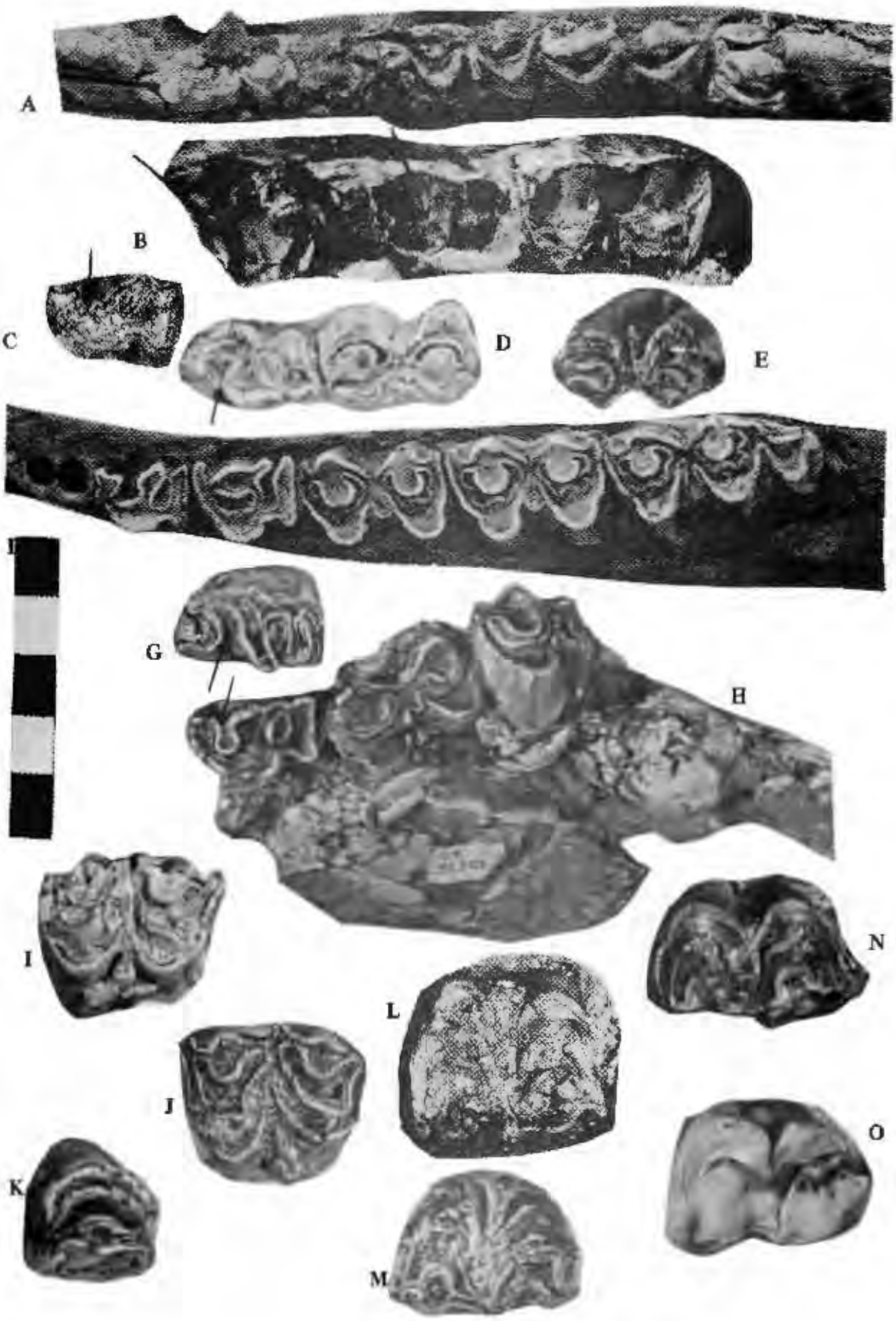
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Plate 27: Approximately anterior view of right horn core piece, SK 3171, of *Tragelaphus* sp.

Plate 28: Approximately mesial view of right horn core piece, SK 3171, of *Tragelaphus* sp.

Plate 29: Occlusal views of lower and upper tragelaphine dentitions; anterior to the right.

A: TM 13094, (R) $PM_{\bar{2}}$-$M_{\bar{3}}$, *Tragelaphus strepsiceros;*

B: SK 3110, (R) $PM_{\bar{4}}$-$M_{\bar{3}}$ ($PM_{\bar{3}}$ and M- broken), *T.* cf. *strepsiceros;*

C: KA 644A, (L) $DPM^{\underline{4}}$-$M^{\underline{3}}$ ($DPM^{\underline{4}}$, $M^{\underline{2}}$ and $M^{\underline{3}}$ broken), *T.* cf. *strepsiceros;*

D: SK 1941, (R) $DPM_{\bar{4}}$, *T.* cf. *strepsiceros;*

E: SK 3086, (L) $DPM_{\bar{3}}$-$DPM_{\bar{4}}$, *T.* cf. *strepsiceros;*

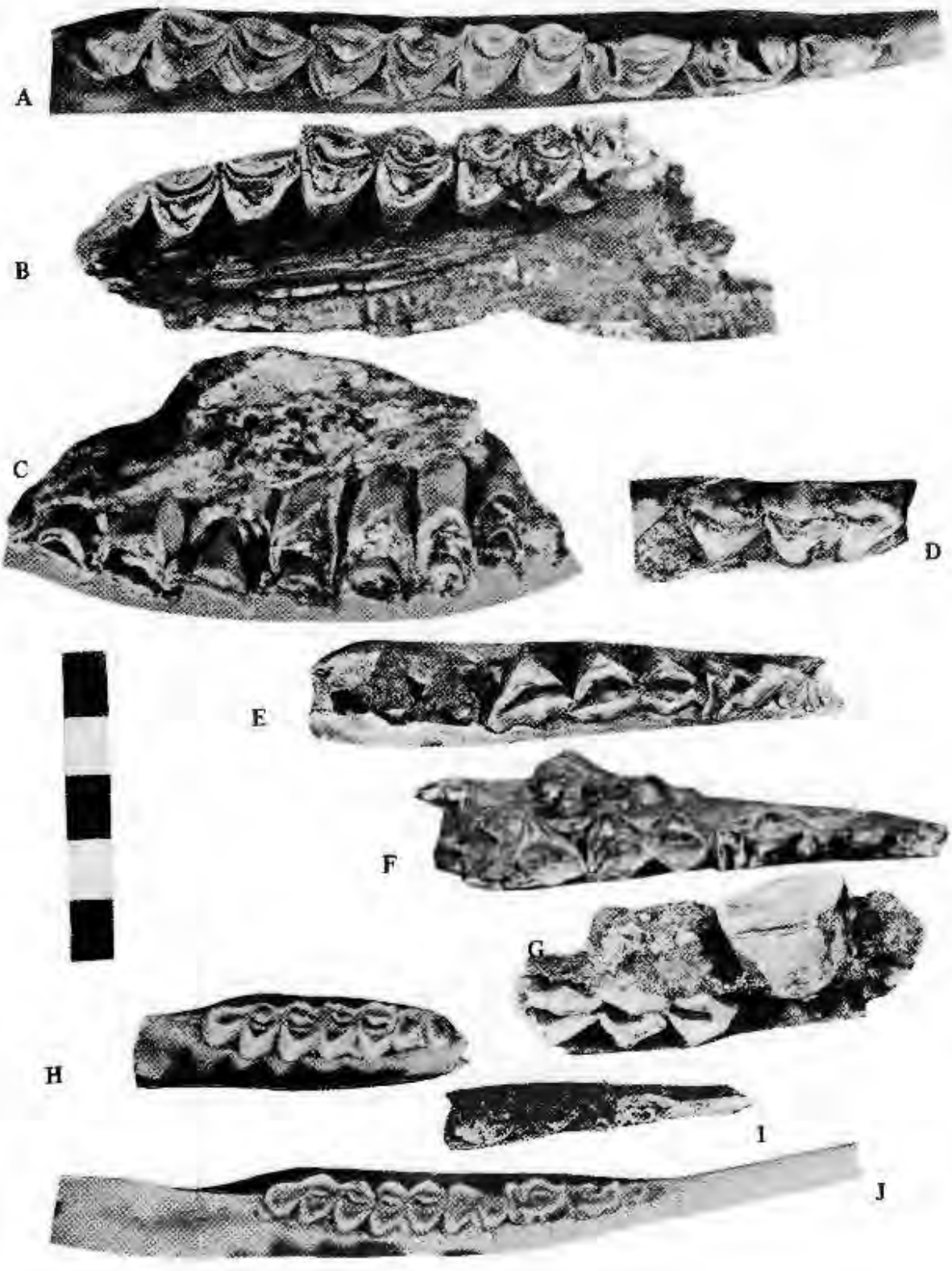
F: SK 6860, (L) $DPM_{\bar{2}}$-$DPM_{\bar{4}}$, *T.* cf. *strepsiceros*;

G: KA 856, (R) $DPM_{\bar{4}}$, *T.* cf. *strepsiceros;*

H: SK 14205, (R) $M_{\bar{1}}$-$M_{\bar{3}}$ ($M_{\bar{1}}$ broken), *Tragelaphus* cf. *scriptus;*

I: KA 2498, (R) $PM_{\bar{3}}$-$M_{\bar{1}}$ ($M_{\bar{1}}$ broken, PM- root present), *T.* cf. *scriptus;*

J: TM 16430, (R) $PM_{\bar{2}}$-$M_{\bar{3}}$, *T. scriptus.*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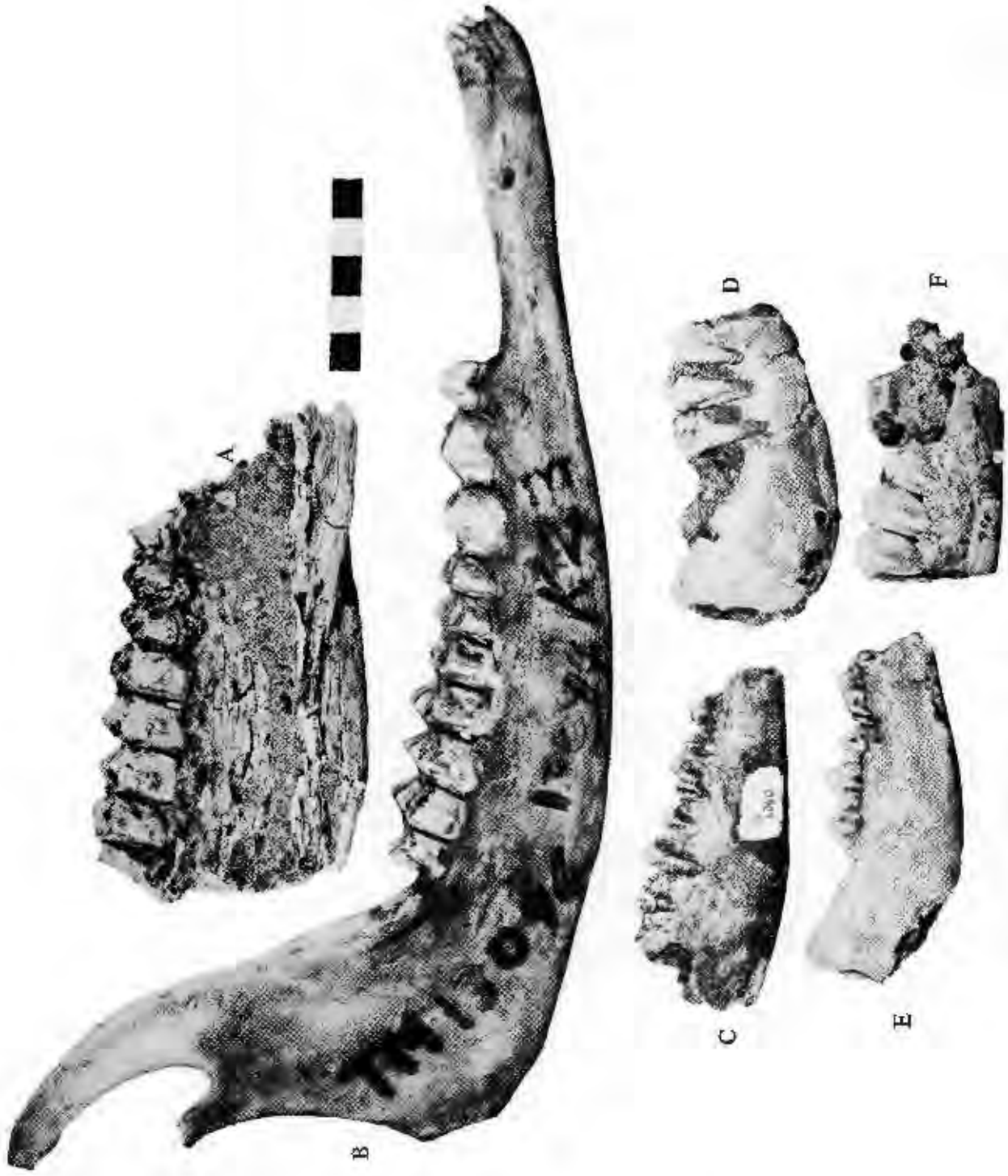

Plate 30: Lateral views of fossil and recent tragelaphine (kudu) dentitions; anterior to the right.

A: SK 3110, (R), *Tragelaphus* cf. *strepsiceros;*

B: TM 13094, (R), *T. strepsiceros;*

C: SK 6860, (L), *T.* cf. *strepsiceros;*

D: SK 1941, (R), *T.* cf. *strepsiceros;*

E: SK 3086, (L), *T* cf. *strepsiceros;*

F: KA 856, (R), *T.* cf. *strepsiceros.*

Plate 31: Right lateral view, showing parts of cranium, right mandible, atlas and axis, of juvenile (M_2 erupting) specimen, KA 731.

Plate 32: Dorsal view of partial cranium, KA 1779, of an adult female *Antidorcas recki*; arrows point to positions where horn cores were situated.

Plate 14: Occlusal views of upper and lower dentitions of "smaller large" alcelaphines; anterior to the right; Gp III has been named cf. *Connochaetes* sp. aff. *africanus.*

A: TM 3811, (R) $PM_{\bar{3}}$-$M_{\bar{3}}$, *Connochaetes taurinus;*

B: SK 3105 (R) $PM_{\bar{3}}$-$M_{\bar{3}}$ (root cavity for $PM_{\bar{2}}$), Gp III;

C: KA 1147, (L) $PM_{\bar{4}}$-$M_{\bar{3}}$ ($M_{\bar{3}}$ broken), Gp III;

D: STS 2512 B, (L) $M_{\bar{3}}$, Gp III;

E: KA 883, (L) $PM_{\bar{3}}$, $PM_{\bar{4}}$ emerging under broken $DPM_{\bar{4}}$ (arrow points to boundary between $PM_{\bar{3}}$ and $PM_{\bar{4}}$), $M_{\bar{1}}$ broken, Gp III;

F: SK 3131, (L) $M_{\bar{2}}$-$M_{\bar{3}}$, Gp III;

G: KA 1609, (R) $PM_{\bar{4}}$ with $PM_{\bar{3}}$ root cavity, Gp III;

H: TM 13161, (R) $PM_{\bar{3}}$-$M_{\bar{3}}$, *Connochaetes taurinus;*

I: SK 6073, (R) $PM_{\bar{3}}$-$M_{\bar{3}}$ ($M_{\bar{3}}$ broken), Gp III;

J: SK 3128, (L) $M^{\bar{1}}$-$M^{\bar{3}}$, Gp III;

K: KA 865, (L) $M^{\bar{1}}$, Gp III;

L: KA 2513, (R) $PM^{\bar{4}}$-$M^{\bar{2}}$, Gp III;

M: SK 3102, (R) $M^{\bar{3}}$, Gp III;

N: SK 2982, (R) $M^{\bar{1}}$-$M^{\bar{3}}$, Gp III;

O: KA 1293, (R) $M^{\bar{2}}$, Gp III;

P: TM 16434, (R) $PM^{\bar{2}}$-$M^{\bar{3}}$, *Connochaetes taurinus*

Plate 33: Palatal view of the specimen shown in Plate 32.

Plate 34: Left lateral view of KA 1779; anterior to the left; left mandible KA 964A, belonging to the same species (*A. recki*) but not to the same individual as KA 1779, is included here to point out the correlation between the steepness of the ascending mandibular ramus and the posterior position of the upper tooth row with respect to the orbit and zygomatic arch.

Plate 35: Occlusal views of lower and upper *Antidorcas recki* and *A.* cf. *recki* dentitions (anterior to the left), a right horn core base of *A. recki* and an antilopine horn core fragment, Gen. et sp. indet.

A: KA 2610, (R) $PM^{\overline{3}}$-$M^{\overline{3}}$ ($M^{\overline{3}}$ broken), *Antidorcas recki;*

B: STS 1435, (R) $PM^{\overline{3}}$-$M^{\overline{3}}$ (all teeth broken), *A.* cf. *recki;*

C: KA 901, (L) $PM^{\overline{2}}$-$M^{\overline{3}}$, *A. recki;*

D: KA 1557, right horn core base, with parts of metopic suture and orbital rim, in anterior view, of *A. recki;*

E: STS 2351(a), a piece of a female antilopine horn core, Gen. et sp. indet;

F: KA 964B, (R) $PM_{\overline{4}}$-$M_{\overline{3}}$ ($PM_{\overline{2}}$ and $PM_{\overline{3}}$ roots present), *A. recki;*

G: STS 1944, (L) $M_{\overline{2}}$-$M_{\overline{3}}$, *A.* cf. *recki;*

H: KA 1002, (L) $PM_{\overline{2}}$-$M_{\overline{3}}$, *A. recki;*

I: SE 1855.1, (L) $PM_{\overline{4}}$-$M_{\overline{3}}$ ($PM_{\overline{3}}$ root present, $PM_{\overline{2}}$ absent during life), *A.* cf. *recki;*

J: KA 500, (R) $DPM_{\overline{2}}$-$M_{\overline{2}}$, *A. recki;*

K: SE 1258.1, (L) $DPM_{\overline{4}}$-$M_{\overline{3}}$ ($DPM_{\overline{4}}$ broken, $M_{\overline{3}}$ erupting), *A.* cf. *recki;*

L: STS 2369, (R) $M_{\overline{3}}$, *A.* cf. *recki;*

M: SE 535, (L) $PM_{\overline{4}}$-$M_{\overline{3}}$ ($M_{\overline{3}}$ broken), *A.* cf. *recki.*

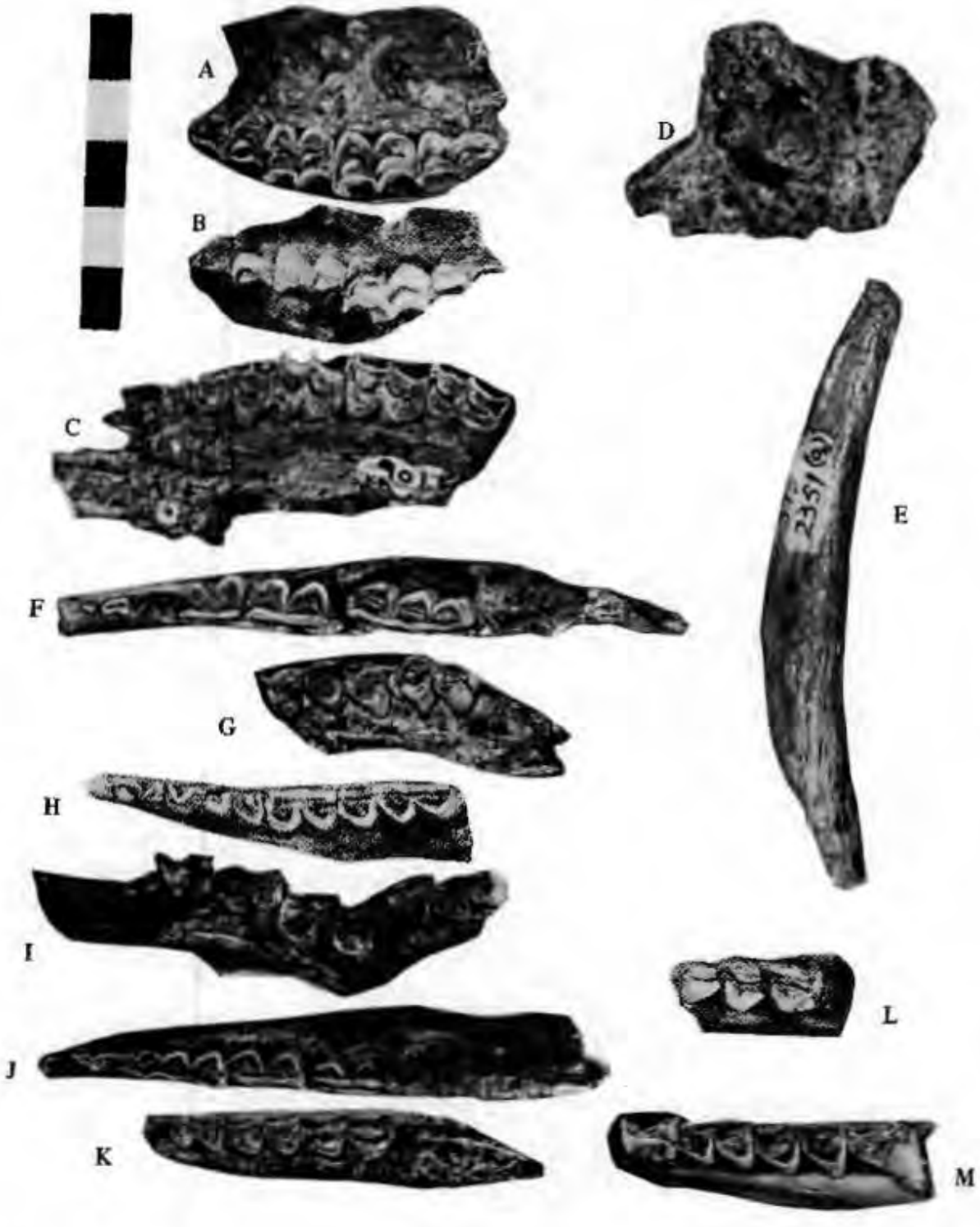
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Plate 36: A: Horn core, KB 3193(3), Incertae sedis, in anterior view;
B: Left horn core, KB 380(1), of *Gazella* sp. in anterior view;
C: KB 380(1) in left lateral view; anterior to the right.

Plate 37: A: Anterior view of left horn core base, KB 3190(3), of *Antidorcas recki;*
B: Left lateral view of KB 3190(3); anterior to the left.

Plate 38: A: Anterior view of fragmentary frontlet, STS 2595A, of cf. *Rabaticeras porrocornutus;*

B: Right lateral view of STS 2595A; anterior to the right.

Plate 39: Occlusal views of lower and upper dentitions of cf. *Hippotragus* sp. aff. *gigas*; anterior to the right.

A: a D13 specimen, (R) $M^{\underline{1}}$-$M^{\underline{2}}$ ($M^{\underline{2}}$ broken);

B: STS 2336A, (L) $PM^{\underline{4}}$-$M^{\underline{3}}$;

C: SE 1125.1, (L) $M_{\overline{3}}$ (broken with probable buccal lobe shape indicated by dotted lines);

D: SK 3139 and SK 3107 belonging to one individual, (R) $DPM^{\underline{4}}$-$M^{\underline{3}}$ ($M^{\underline{3}}$ not yet in occlusion);

E: STS 1589, (L) $M_{\overline{3}}$;

F: a D13 specimen, (L) $M_{\overline{2}}$;

G: STS 2584, (L) $PM_{\overline{3}}$-$PM_{\overline{4}}$;

H: STS 1438, (R) $PM_{\overline{2}}$-$M_{\overline{2}}$ ($M_{\overline{2}}$ broken);

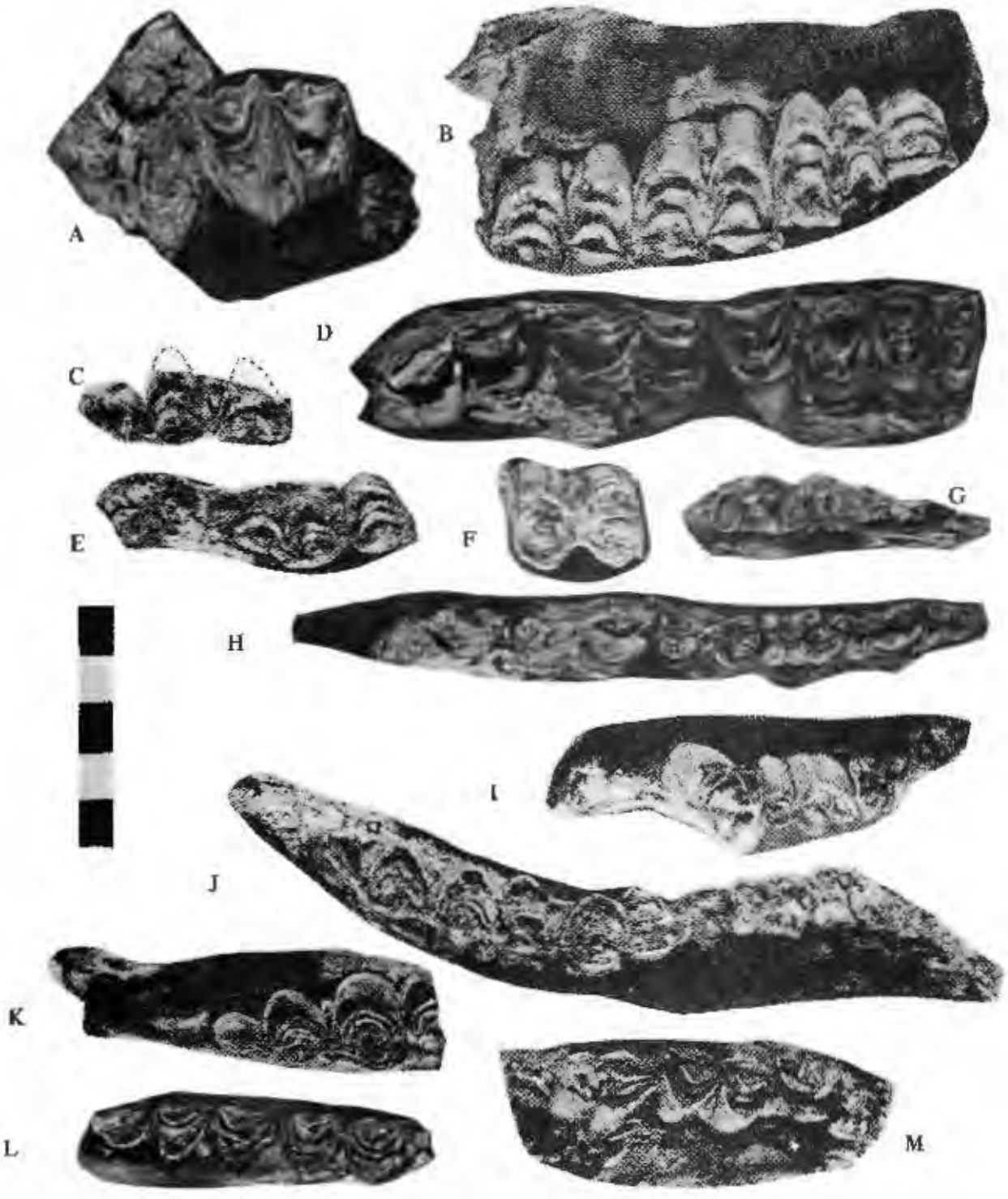
I: a D13 specimen, (L) $PM_{\overline{3}}$-$M_{\overline{1}}$ ($PM_{\overline{3}}$ and $M_{\overline{1}}$ broken);

J: a D13 specimen, (L) $PM_{\overline{3}}$-$M_{\overline{3}}$ ($PM_{\overline{3}}$-$M_{\overline{1}}$ broken);

K: STS 1531, (L) $M_{\overline{3}}$ (with part of broken $M_{\overline{2}}$);

L: STS 1682, (R) $M_{\overline{2}}$-$M_{\overline{3}}$;

M: STS 1137, (R) $PM_{\overline{4}}$-$M_{\overline{2}}$ (all broken).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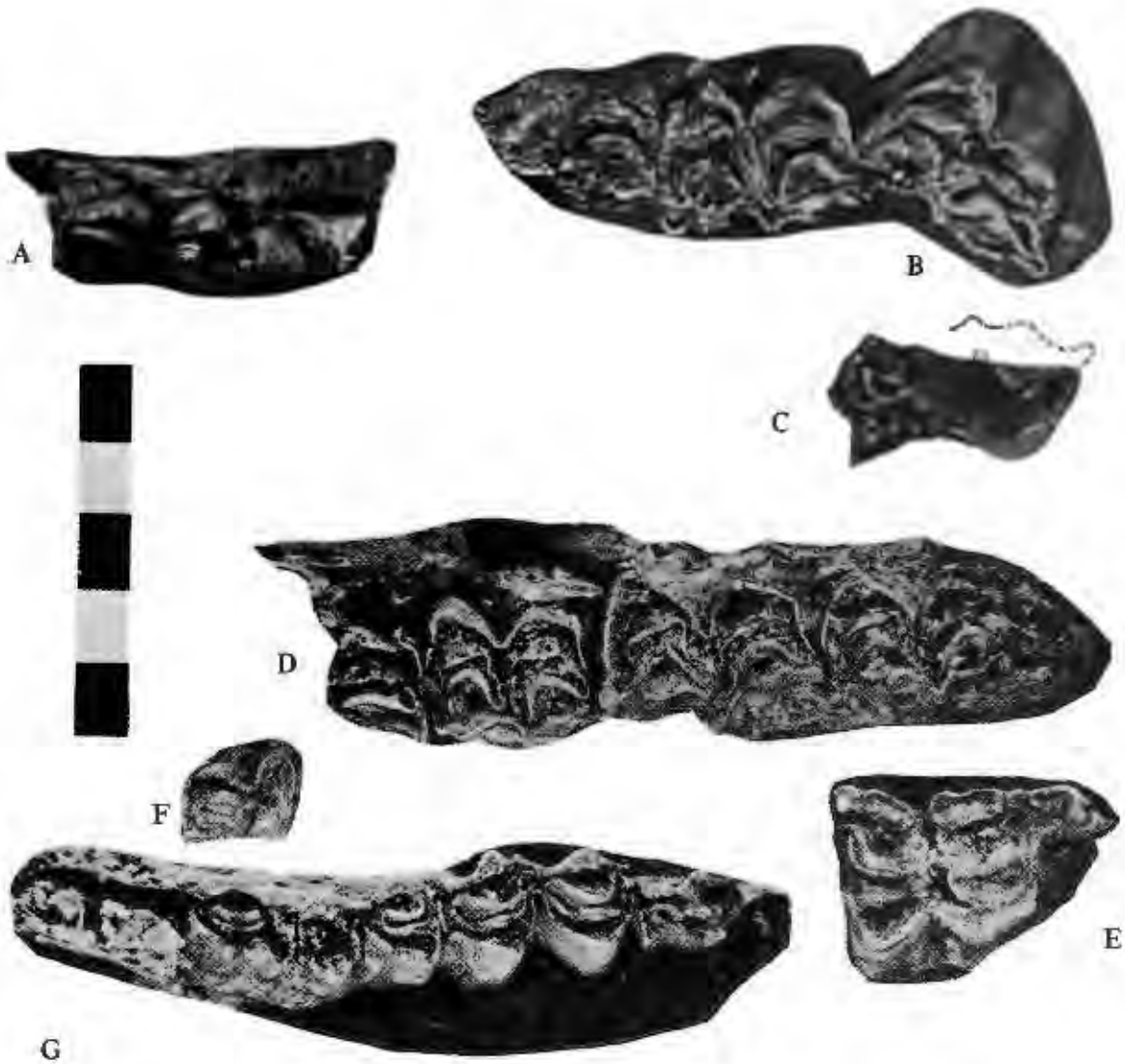

Plate 40: Occlusal views of lower and upper dentitions of *Makapania* cf. *broomi*; anterior to the left.

A: STS 1925, (R) $M_{\overline{3}}$ (not yet fully in occlusion);

B: STS 2059B, (R) $M^{\underline{1}}$-$M^{\underline{3}}$ ($M^{\underline{1}}$ broken);

C: SE 1425.1, (L) $M^{\underline{3}}$ (broken with attempted reconstruction of posterior lobe outline in dotted lines);

D: STS 1721, (R) $PM^{\underline{4}}$-$M^{\underline{3}}$ ($PM^{\underline{4}}$ broken);

E: a D13 specimen, (L) $M^{\underline{3}}$;

F: a D13 specimen, (R) $PM_{\overline{4}}$;

G: STS 1564A, (L) $PM_{\overline{4}}$-$M_{\overline{3}}$ ($M_{\overline{3}}$ broken, $PM_{\overline{2}}$ and $PM_{\overline{3}}$ roots present)

Plate 41: A: Mesial view of right horn core, SK 3071, of *Antidorcas australis*,
B: Lateral view of left horn core, SE 801.1, of *Antidorcas* cf. *recki*, anterior to the left in both A and B.

Fig. 1: **Dendogram of the relations among 26 Swartkrans alcelaphine M_3's with respect to tooth length and breadth.** The dendogram is based on the Weighted Pair Group Method clustering procedure using averages of distance coefficients (Sokal and Sneath, 1963). Gps I – IV, introduced in the Swartkrans alcelaphine section of the text, are the four main size groups into which alcelaphine dentitions can be divided. They are here applied only loosely to the stems of the dendogram: The way these 26 specimens were eventually placed into Gps I – IV, taking also into account morphological characteristics other than size (shown in Fig. 2), coincides very closely, but not entirely with the grouping here seen.

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Gp. II
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Gp. IV
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SK9897
SK2003
SK7335
SK2985
SK3306
SK2341
SK3141
SK5951
SK3002
SK6004
SK3043
SK5977
SK3137
SK3213
SK2991
SK3010
SK2986
SK2054
SK3105
SK2358
SK3061
SK3068
SK2352
SK3100
SK3045
SK2063
SK1953

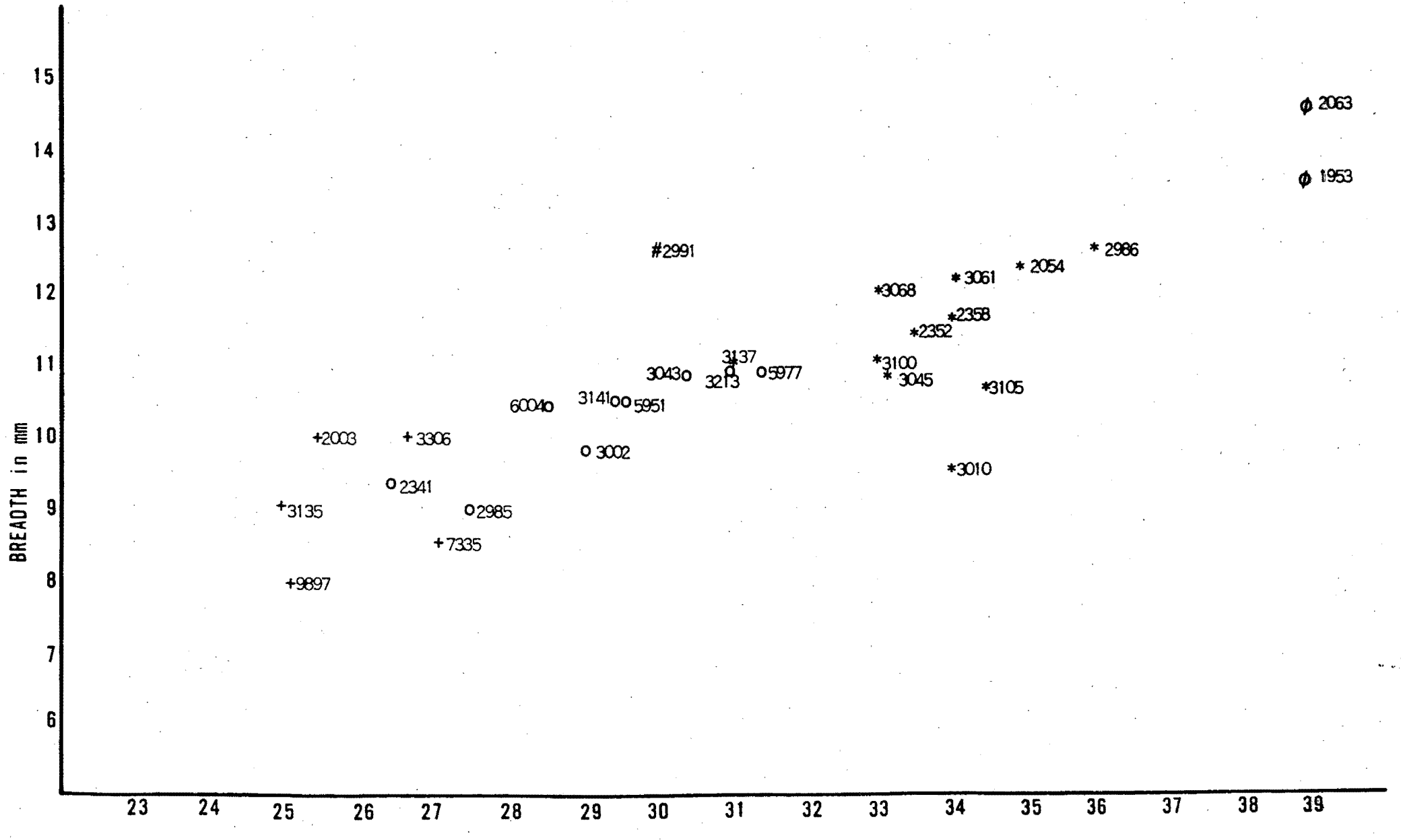

BREADTH in mm
15
14
13
12
11
10
9
8
7
6
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
ϕ 2063
ϕ 1953
#2991
* 2986
* 2054
* 3061
*3068
*2358
*2352
3137
*3100
3043o
3213
o5977
* 3045
*3105
60040
314100
5951
+2003
+ 3306
o 3002
o 2341
*3010
+3135
o2985
+7335
+9897

Fig. 3: Scatter diagram of Swartkrans alcelaphine left $M_{\overline{2}}$'s with respect to length and breadth, symbols as in Fig. 2.

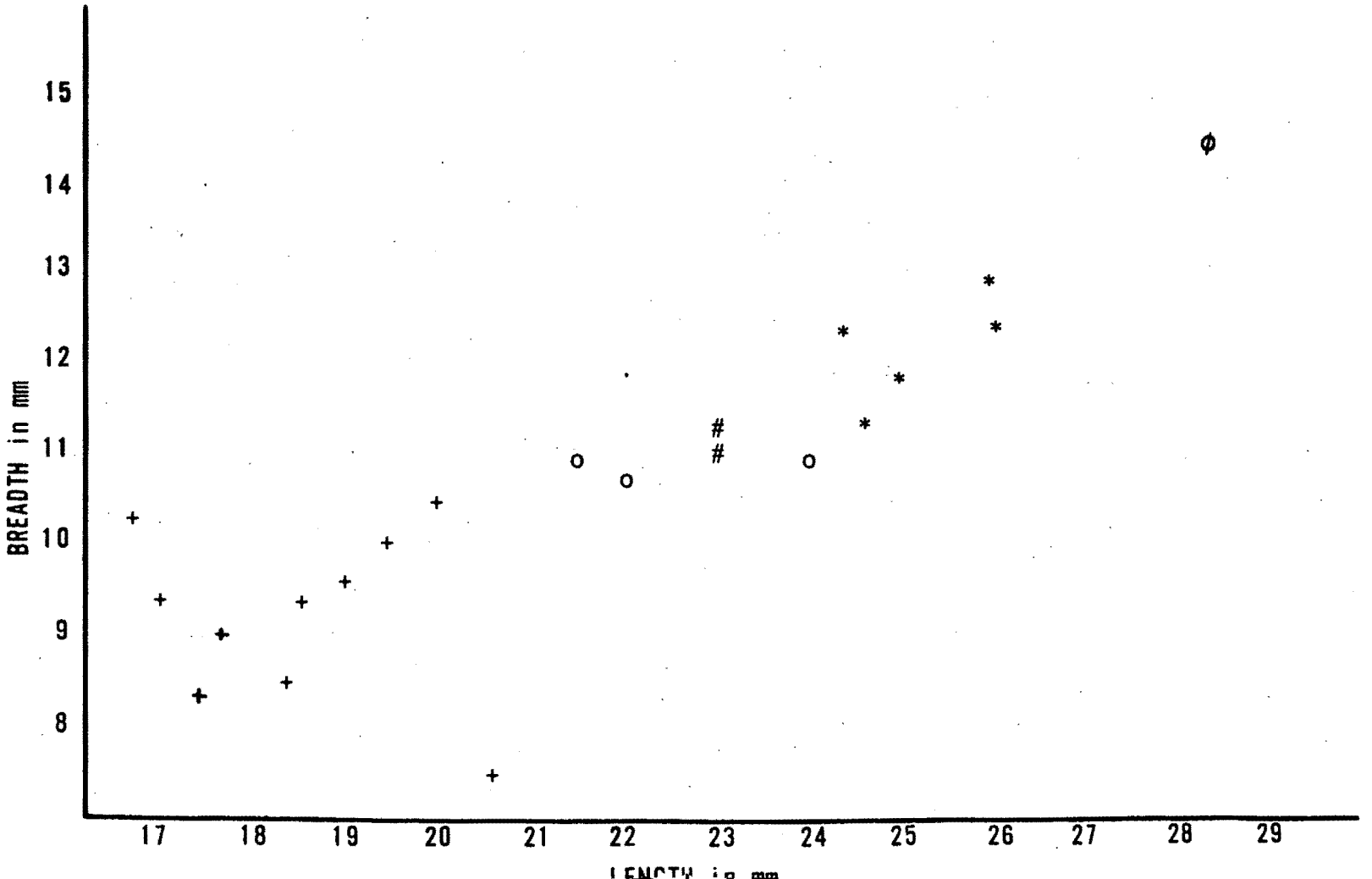

BREADTH in mm
15
14
13
12
11
10
9
8
17
18
19
20
21
22
23
24
25
26
27
28
29
LENGTH in mm

Fig. 4: **Scatter diagram of Swartkrans alcelaphine right M^2's with respect to length and breadth.** Symbols as in Fig. 2.

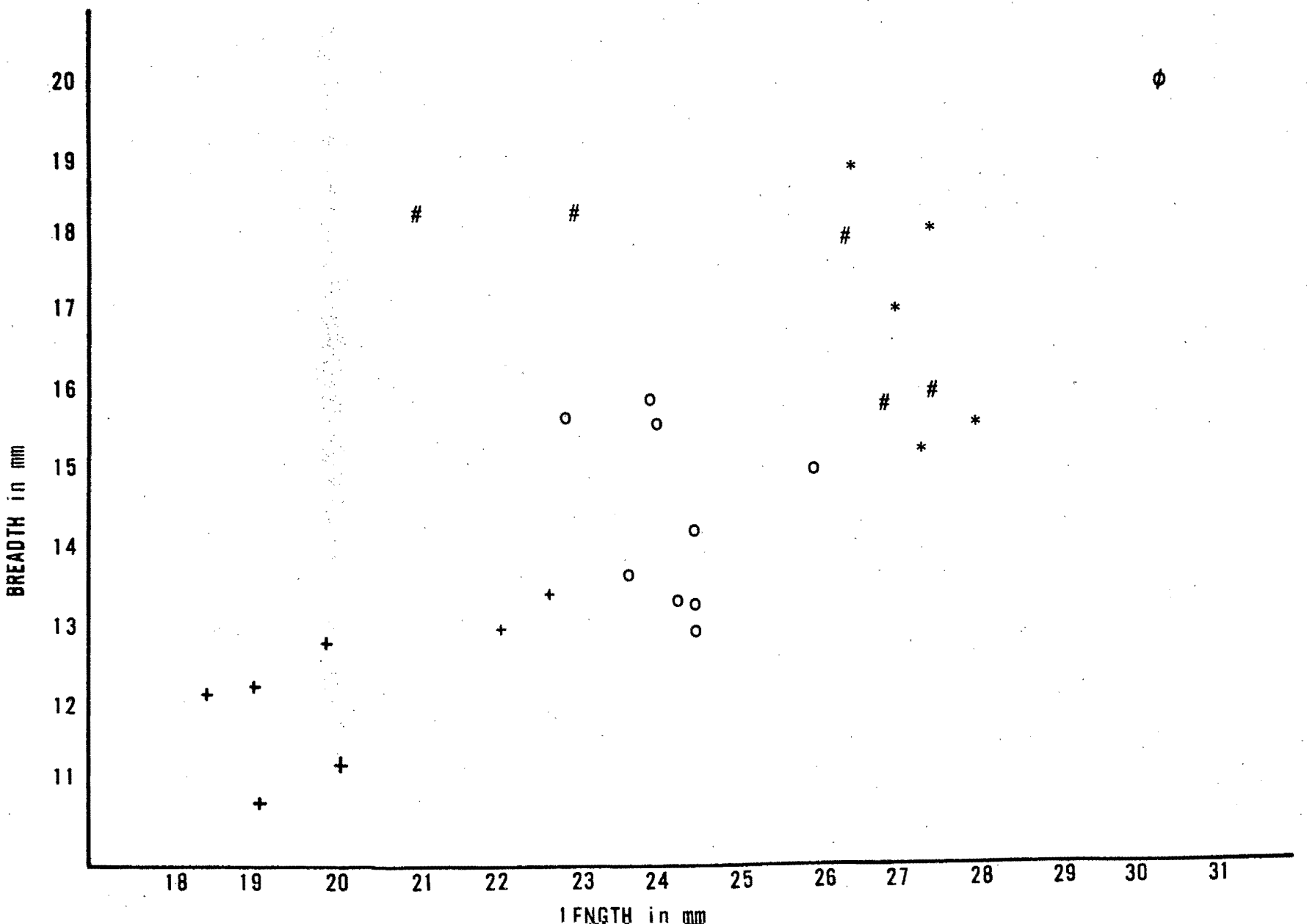

BREADTH in mm
20
19
18
17
16
15
14
13
12
11
18
19
20
21
22
23
24
25
26
27
28
29
30
31
LENGTH in mm

Fig. 5: Scatter diagram of Swartkrans alcelaphine right M^3's with respect to length and breadth. Symbols as in Fig. 2.

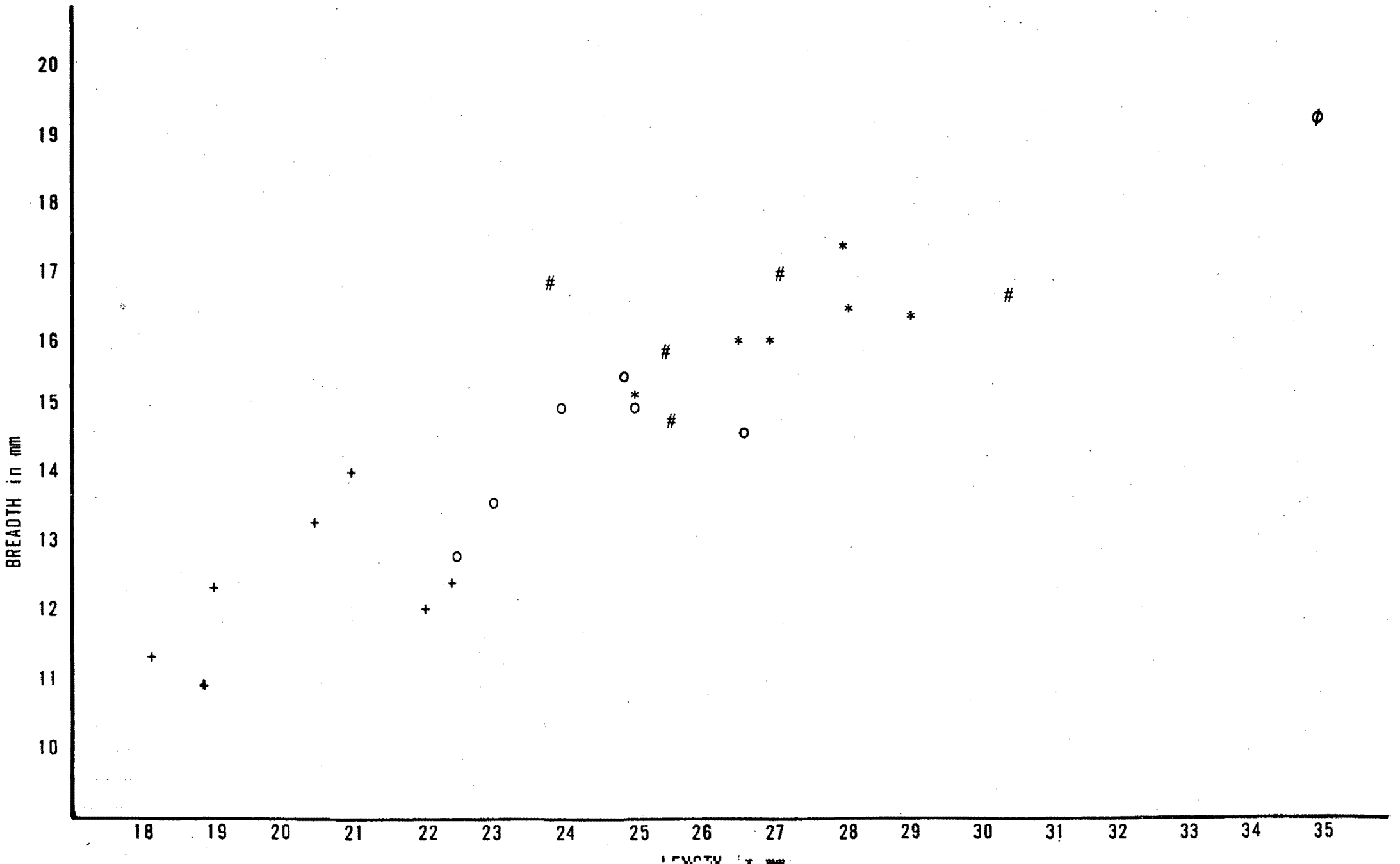

BREADTH in mm
20
19
18
17
16
15
14
13
12
11
10
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35

Fig. 6: **Histogram of the lengths of 30 right and 2 left Swartkrans alcelaphine $M_{\overline{3}}$'s** (the liberty was taken of adding two left $M_{\overline{3}}$'s, SK 10867 of Gp Ia and SK 3127 of Gp Ic, because various features of these specimens rule out the danger that their right counterparts may already be present among the other 30 teeth used in this figure). Roman figures refer to Gp I – IV of Fig. 2. One unit square represents one specimen.

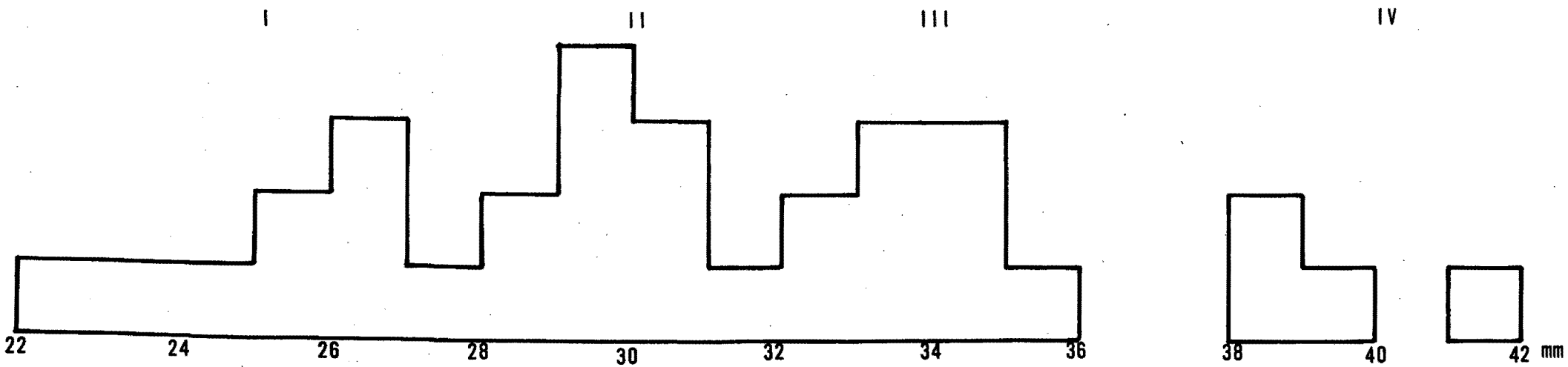

I
II
III
IV
22
24
26
28
30
32
34
36
38
40
42
mm

Fig. 7: Histogram of the lengths of 26 left Swartkrans alcelaphine $M_{\overline{2}}$'s. Roman figures refer to Gps I – IV of Fig. 2. 0.75 Units square represent one specimen.

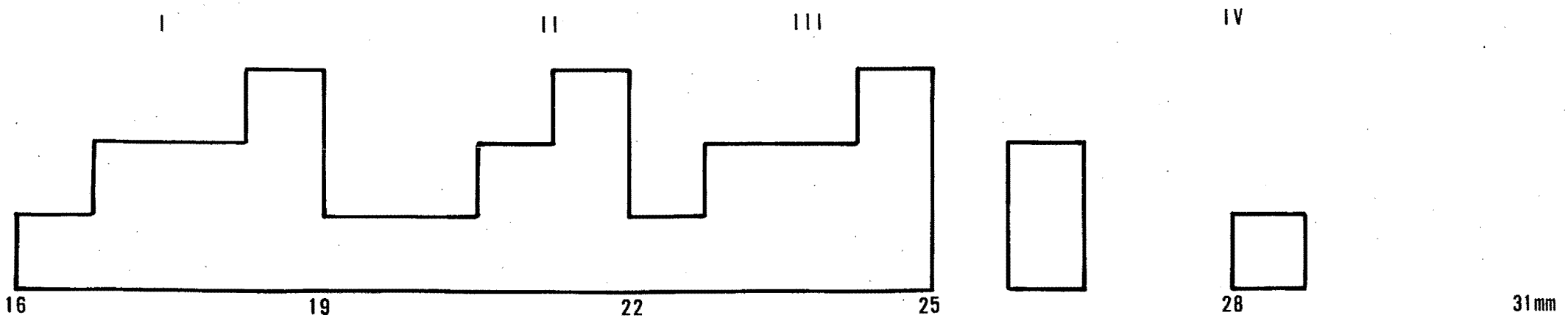

I
II
III
IV
16
19
22
25
28
31mm

Fig. 8: **Histogram of the lengths of 36 right and 1 left, SK 3031** (see explanation in Fig. 6), **Swartkrans alcelaphine** $M\frac{2}{-}$**'s.** Roman figures refer to Gps I – IV of Fig. 2.
0.75 Units square represent one specimen.

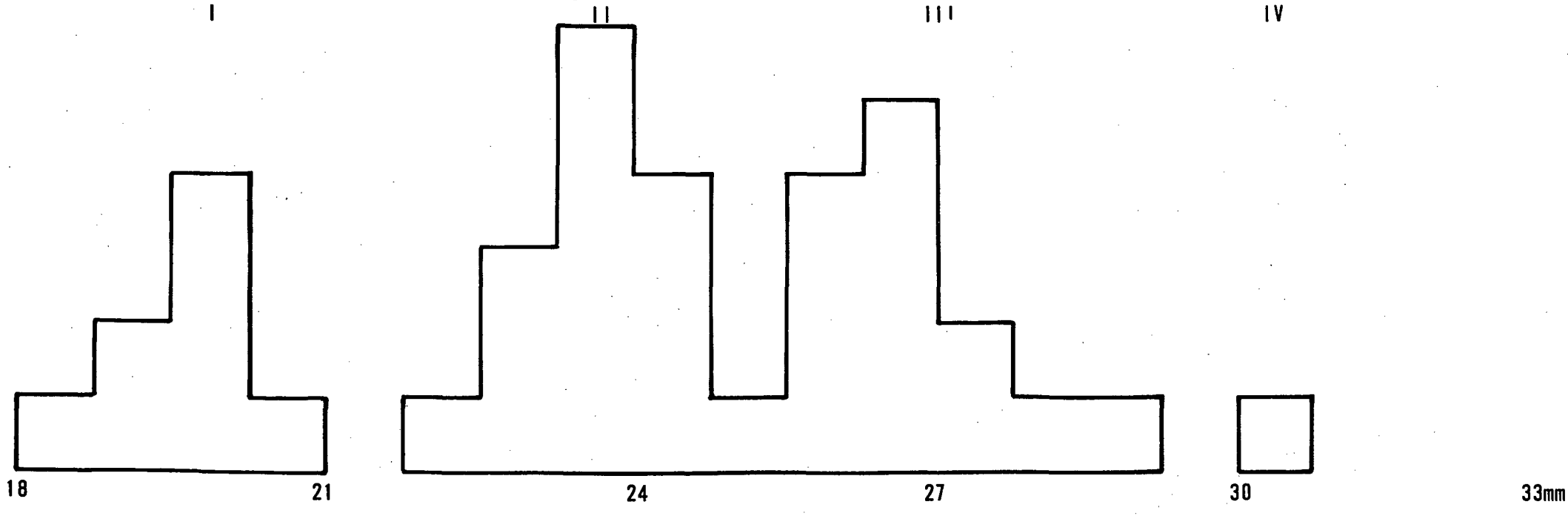

I
II
III
IV
18
21
24
27
30
33mm

Fig. 9: Histogram of the lengths of 30 right and 1 left, SK 3031 (see explanation in Fig. 6), Swartkrans alcelaphine M_{-}^{3}'s. Roman figures refer to Gps I – IV of Fig. 2. One unit square represents one specimen.

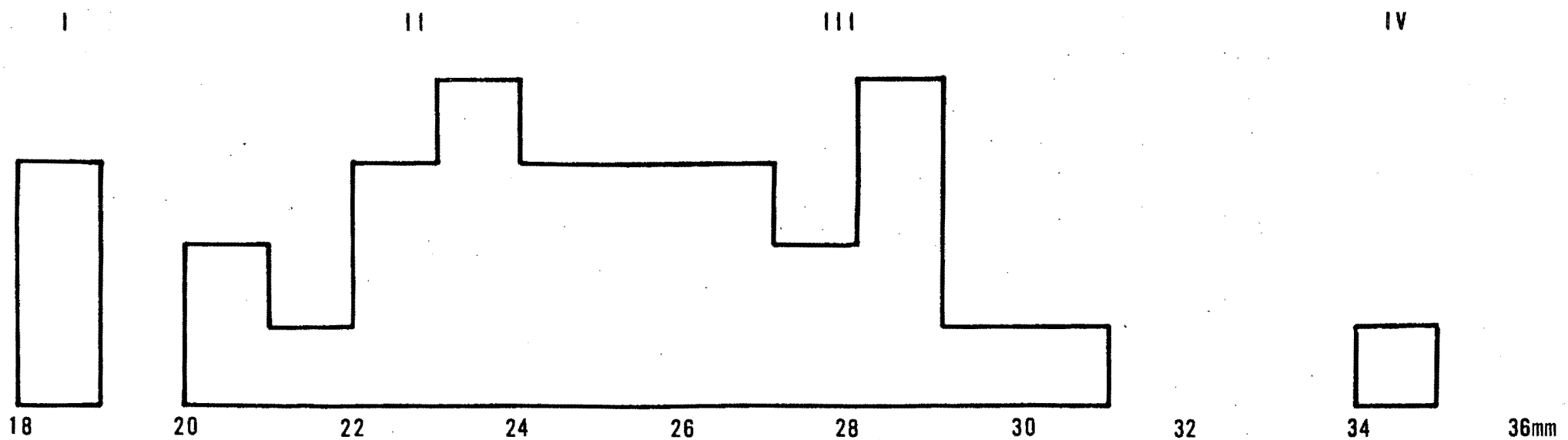

I
II
III
IV
18
20
22
24
26
28
30
32
34
36mm

Fig. 10: **Lower premolar types among Swartkrans, and some extant, alcelaphines.** A–R represent the premolars present during adult life in the left jaws of 18 Swartkrans fossil and extant individuals belonging to the Alcelaphini. Each set of premolars is orientated with $PM_{\overline{4}}$ on the right; i.e. with the mesial or anterior side of the teeth to the left. In some of the fossils, although a tooth may now be absent, its presence during life is indicated by a socket. Such sockets have been shaded black. In two fossil specimens, C and D, the presence or absence during life of $PM_{\overline{2}}$ or $PM_{\overline{3}}$ could not be definitely ascertained due to damage. This is indicated by an X. In all other cases, where neither $PM_{\overline{2}}$ nor its socket are drawn, it implies absence of $PM_{\overline{2}}$ during life. The enamel ridges, characteristic of fully adult tooth wear, are shown by a double line. P and R are teeth which have not yet reached the occlusal surface, and therefore exhibit no wear.

A: Gp. Ib, *Damaliscus* sp. 2 (fossil)

B: Gp I, indeterminate (fossil)

C and D: Gp Ia, *Damaliscus* cf. *dorcas* (fossil)

E and F: *Damaliscus dorcas* (extant)

G: *Alcelaphus buselaphus caama* (extant)

H, I and J: Gp IIa, *Rabaticeras porrocornutus*? (fossil)

K and L: *Connochaetes gnou* (extant)

M and N: Gp IIb (fossil)

O and P: Gp III, cf. *Connochaetes* sp. aff. *africanus* (fossil)

Q and R: *Connochaetes taurinus* (extant)

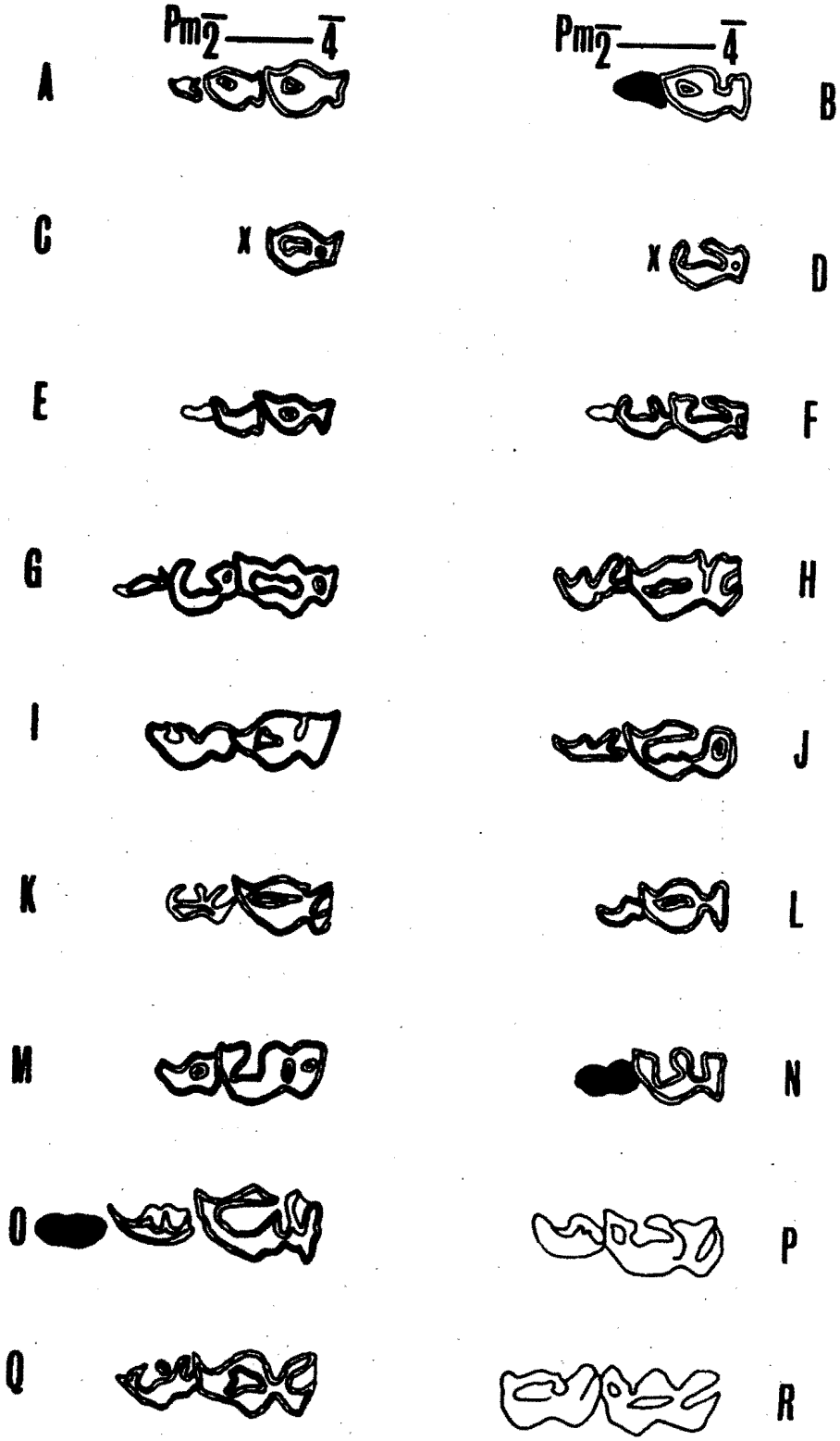

Pm2—4
A
Pm2—4
B
C
x
x
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R

Fig. 11: Scatter diagram showing differences in $\frac{\text{mean breadth}}{\text{mean length}}$ % of $M_{\overline{2}}$'s of extant *Damaliscus dorcas*, fossil *Damaliscus* sp. 1 or *Parmularius* sp. (here abbreviated to *D.* sp. 1) and fossil *Damaliscus* sp. 2 (here abbreviated to *D.* sp. 2).

SK = Swartkrans

KA = Kromdraai A

STS = Sterkfontein Type locality

D16 = Sterkfontein Dump 16

The data are taken from Table 37 where numbers of specimens measured to obtain the means are given.

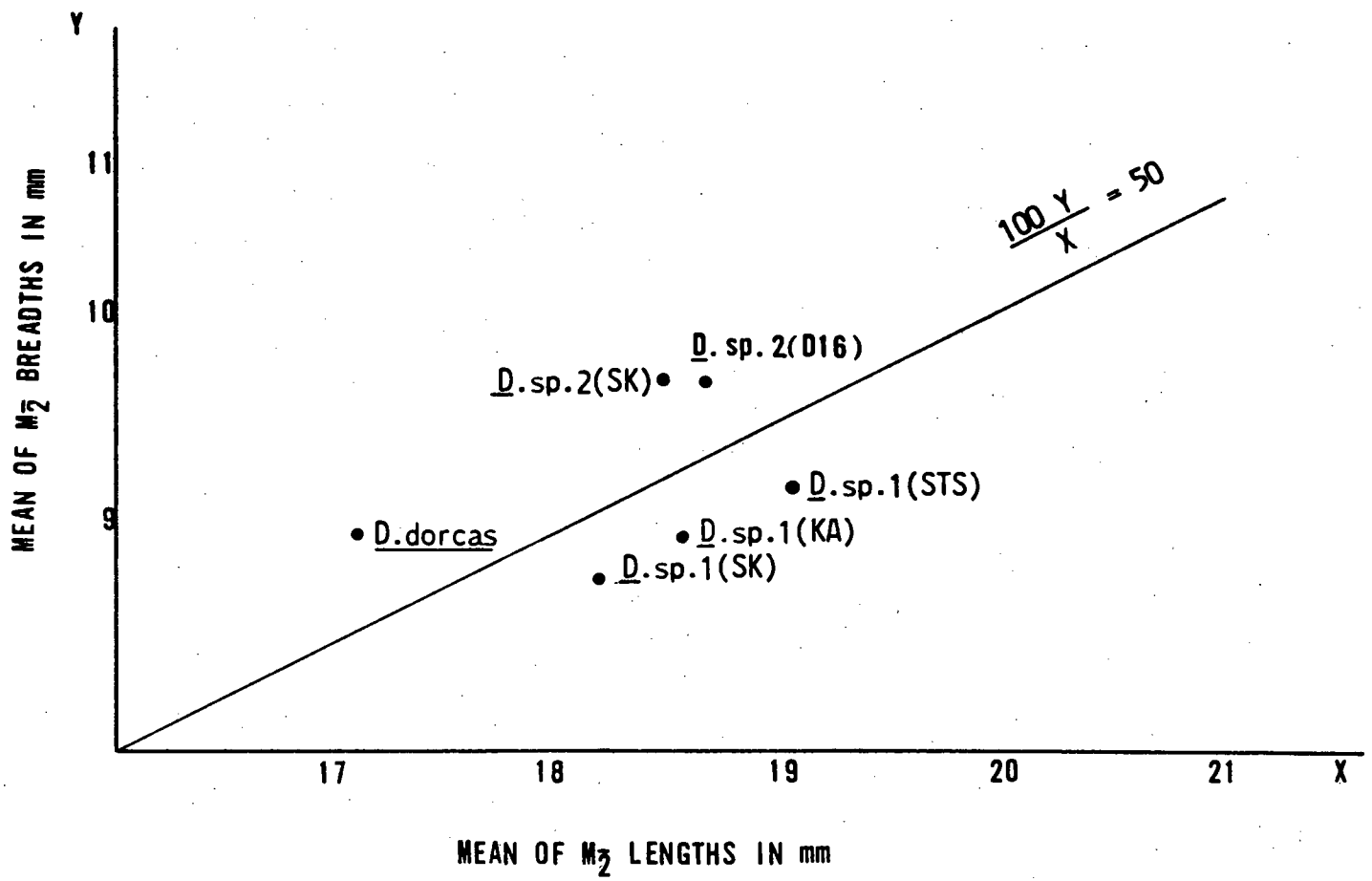

Y
11
10
9
MEAN OF M2 BREADTHS IN mm
100 Y / X = 50
D. sp. 2(D16)
D.sp.2(SK)
D.sp.1(STS)
D.dorcas
D.sp.1(KA)
D.sp.1(SK)
17
18
19
20
21
X
MEAN OF M2 LENGTHS IN mm

Fig. 12: **Occlusal surface dimensions of $M\frac{1}{-}$'s in some specimens of *Pelea capreolus*.** Symbols without reference numbers represent the extant specimens in Table 17; fossil measurements from Tables 15 and 47.

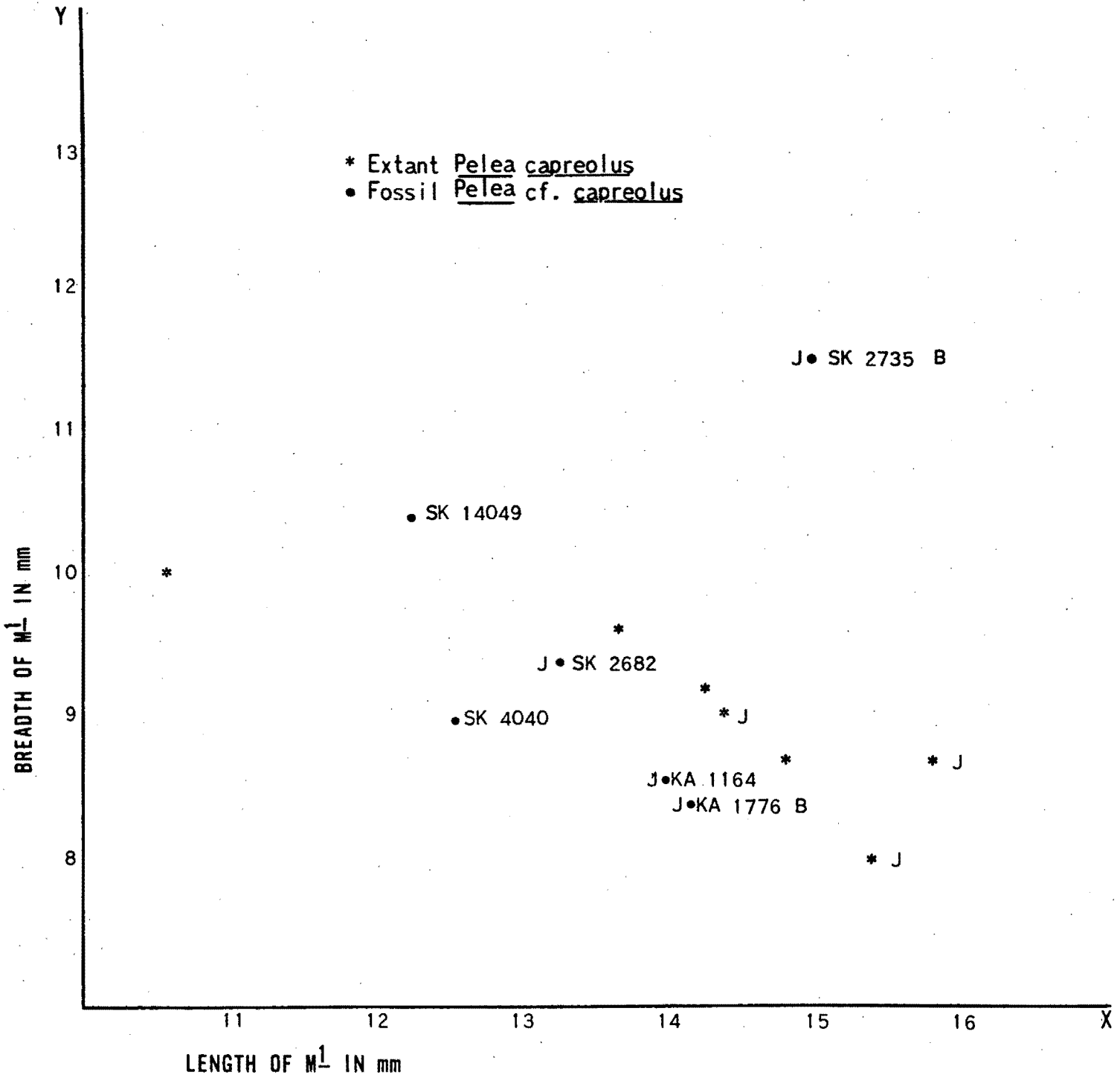
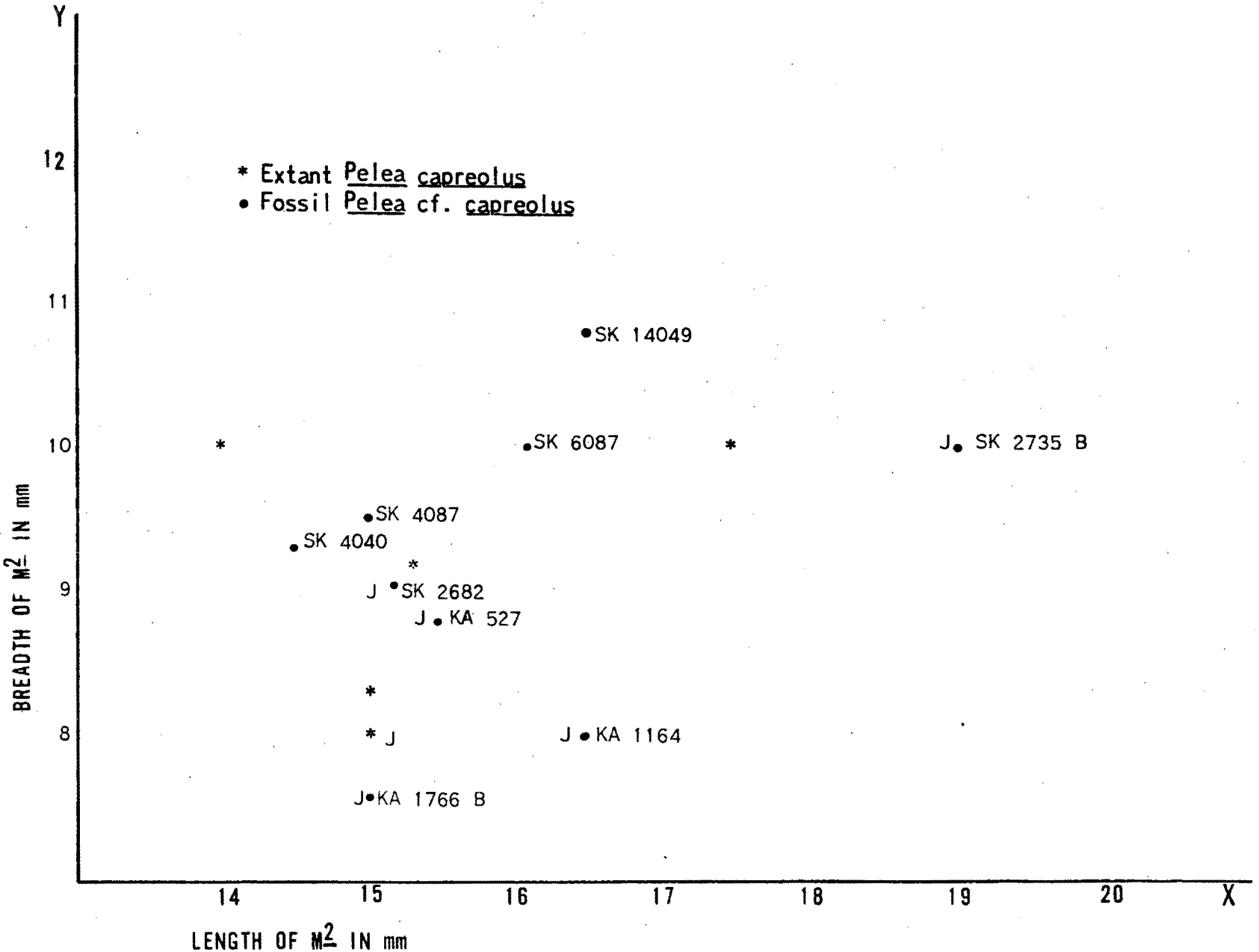

Y
13
12
11
10
9
8
* Extant Pelea capreolus
• Fossil Pelea cf. capreolus
J• SK 2735 B
• SK 14049
*
J • SK 2682
*
• SK 4040
* J
*
* J
J•KA 1164
J•KA 1776 B
* J
BREADTH OF M1 IN mm
11
12
13
14
15
16
X
LENGTH OF M1 IN mm

Fig. 13: **Occlusal surface dimensions of $M^{\underline{2}}$'s in some specimens of *Pelea capreolus*.** Symbols without reference numbers represent the extant specimens in Table 17; J as in Table 17; fossil measurements from Tables 15 and 47.


Y
12
11
10
9
8
* Extant Pelea capreolus
• Fossil Pelea cf. capreolus
•SK 14049
•SK 6087
J• SK 2735 B
•SK 4087
•SK 4040
J •SK 2682
J • KA 527
* J
J • KA 1164
J•KA 1766 B
BREADTH OF M2 IN mm
14
15
16
17
18
19
20
X
LENGTH OF M2 IN mm

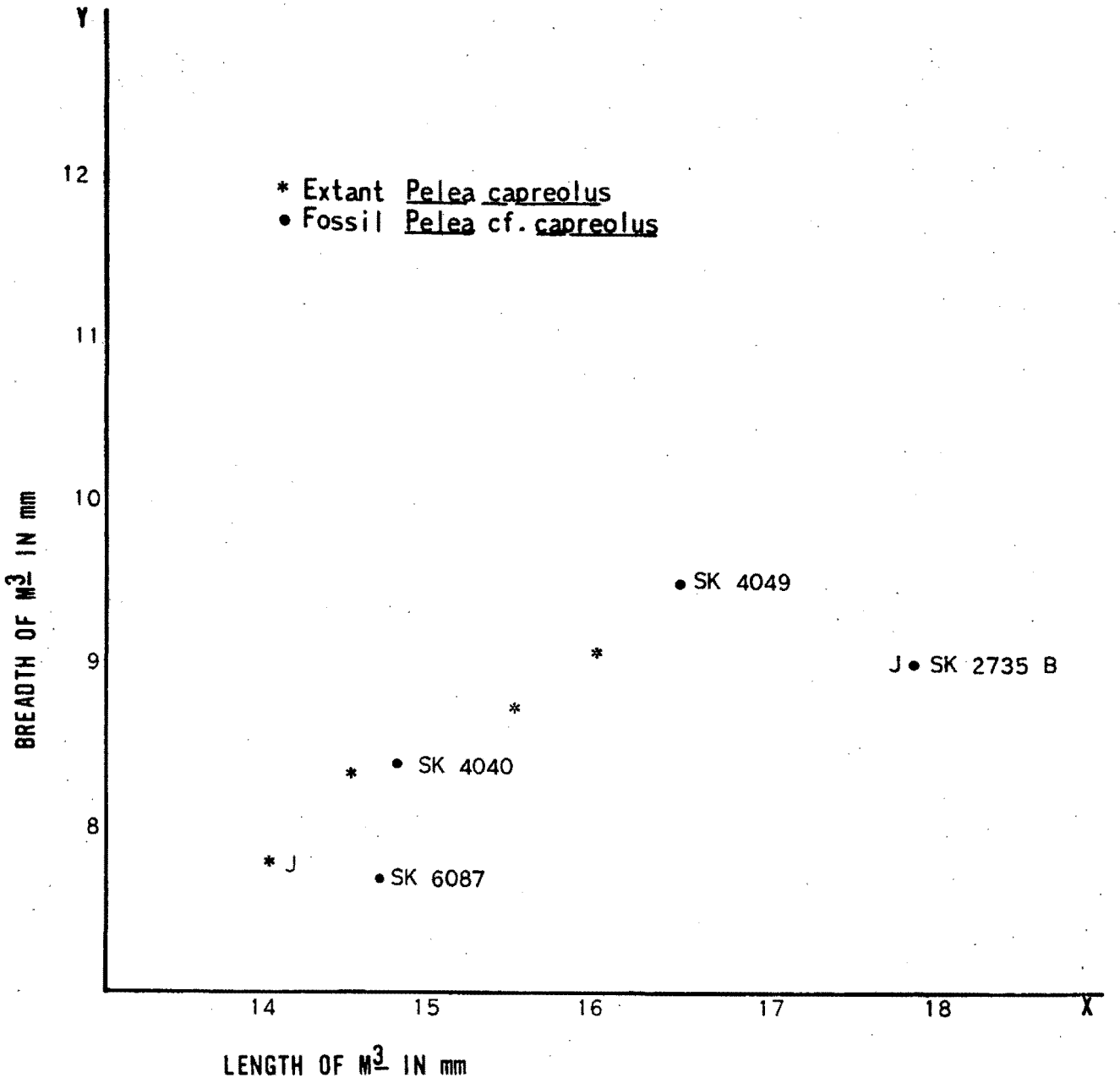
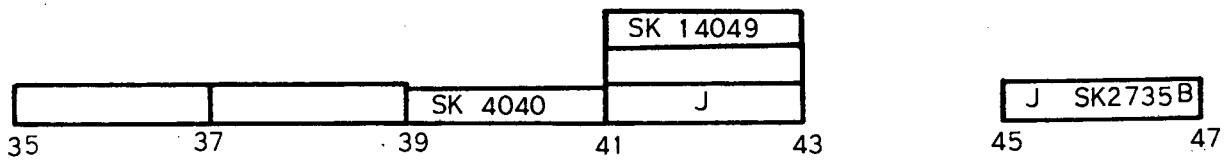

Y
12
11
10
9
8
* Extant Pelea capreolus
• Fossil Pelea cf. capreolus
• SK 4049
J • SK 2735 B
• SK 4040
* J
• SK 6087
BREADTH OF M3 IN mm
14
15
16
17
18
X
LENGTH OF M3 IN mm

Fig. 15: Histogram of $M\underline{1} - M\underline{3}$ lengths in some specimens of *Pelea capreolus*. Readings without reference numbers represent the extant species in Table 17; J as in Table 17; fossil measurements from Table 15.



LENGTH OF $M\frac{1}{-} \rightarrow M\frac{3}{-}$ IN mm

Fig. 16: Scatter diagram of ramus depths in some specimens of *Pelea capreolus*. R1 and R2 as in Table 16, which lists all the measurements used in this figure.

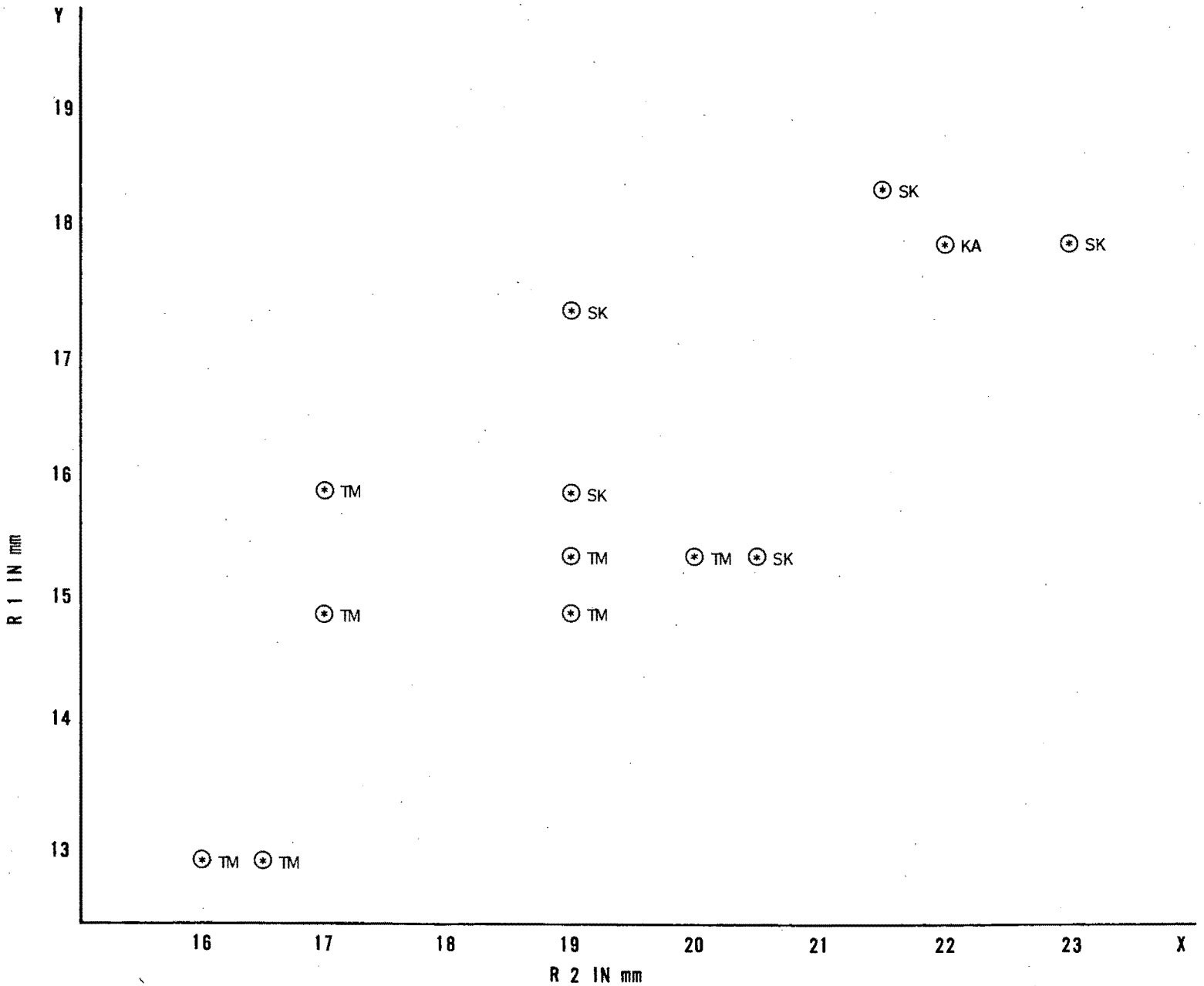

Y
19
18
17
16
15
14
13
R 1 IN mm
SK
KA
SK
SK
TM
SK
TM
TM
SK
TM
TM
TM
TM
16
17
18
19
20
21
22
23
X
R 2 IN mm

Fig. 17: Histogram of the F/B angle, i.e. the angle between a line parallel to the long axes of the basisphenoid and the anterior basioccipital on the one hand, and the straight line running from the depression above the nasion to the bregma on the other. All readings estimated within 5^{o}. All readings, other than that taken on SK 2735, were obtained on extant *Pelea capreolus* specimens, and are taken from Table 17.

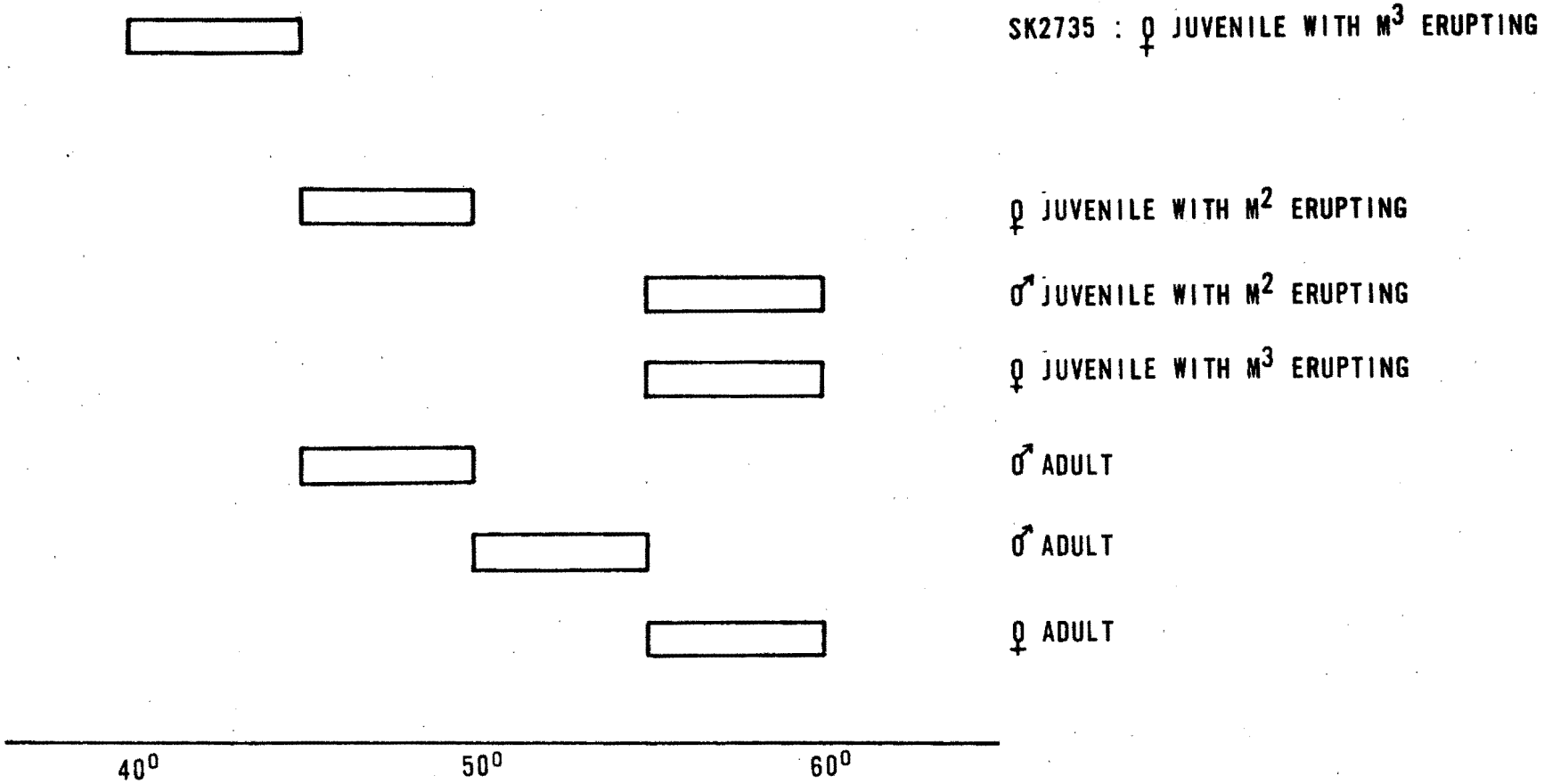

SK2735 : ♀ JUVENILE WITH M3 ERUPTING
♀ JUVENILE WITH M2 ERUPTING
♂ JUVENILE WITH M2 ERUPTING
♀ JUVENILE WITH M3 ERUPTING
♂ ADULT
♂ ADULT
♀ ADULT
40°
50°
60°

Fig. 18: Histograms of $PM_{\overline{3}+\overline{4}}$ lengths in *Oreotragus oreotragus*, *Oreotragus major* and Gen. et sp. indet.

Fig. 19: Histograms of $M_{\overline{3}}$ lengths in *O. oreotragus*, *O. major* and Gen. et sp. indet.

Fig. 20: Scatter diagram of lower premolar and molar lengts in *O. oreotragus*, *O. major* and Gen. et sp. indet.

Fig. 21: Scatter diagram of upper premolar and molar lengths in *O. oreotragus* and *O. major*

Combined legend for Figs. 18, 19, 20 and 21: Readings unaccompanied by reference letters or numbers are those in Table 23 of Transvaal Museum specimens of extant *O. oreotragus*, hailing from a variety of localities in South Africa and South West Africa. M 997, M 998, M 949, M 951, and M 651 are quoted from Wells & Cooke (1956: 35, 36), except in Fig. 18 where $PM_{\overline{3}+\overline{4}}$ lengths were measured by me on M 997 and M 998. The readings labelled T are quoted from Cooke's (unpubl.) table of measurements of *Oreotragus longiceps* from Taung. The $PM_{\overline{3}+\overline{4}}$ measurement for T in Fig. 18 was obtained by addition of $PM_{\overline{3}}$ and $PM_{\overline{4}}$ lengths. M 8361A and B refer to specimens from the West Pit of the Sterkfontein Extension Site. The $M_{\overline{1}-\overline{3}}$ reading of M 8361A was included as a vertical line in Fig. 20, although the $PM_{\overline{2}-\overline{4}}$ measurement could not be taken. SK readings are from Tables 21, 22 and 24. The reading labelled D 13 in Fig. 18 was estimated to be 19 mm on a specimen of cf. *Oreotragus major* from Dump 13 at Sterkfontein. In each of Figs. 18–21 groups of readings thought to belong to one species were ringed, or otherwise grouped, and lettered as follows:

A = *O. oreotragus*

B = *O. major*

C = Gen. et sp. indet.

Fig. 18: Histograms of $PM_{\overline{3+4}}$ lengths in *O. oreotragus*, *O. major* and Gen. et. sp. indet.

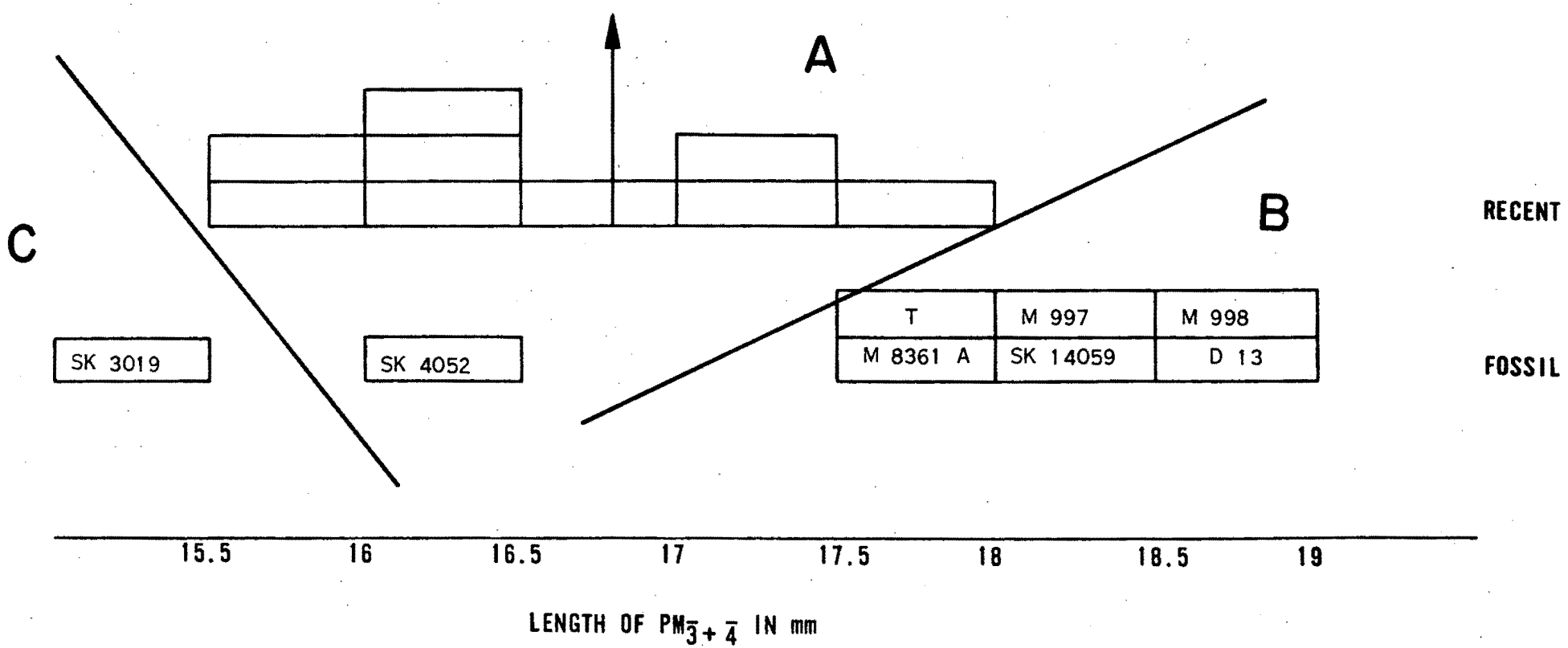

A
B
C
RECENT
FOSSIL
SK 3019
SK 4052
T
M 997
M 998
M 8361 A
SK 14059
D 13
15.5
16
16.5
17
17.5
18
18.5
19
LENGTH OF $PM_{\overline{3}+\overline{4}}$ IN mm

Fig. 19: Histograms of M_3 lengths in *O. oreotragus*, *O. major* and Gen. et. sp. indet.

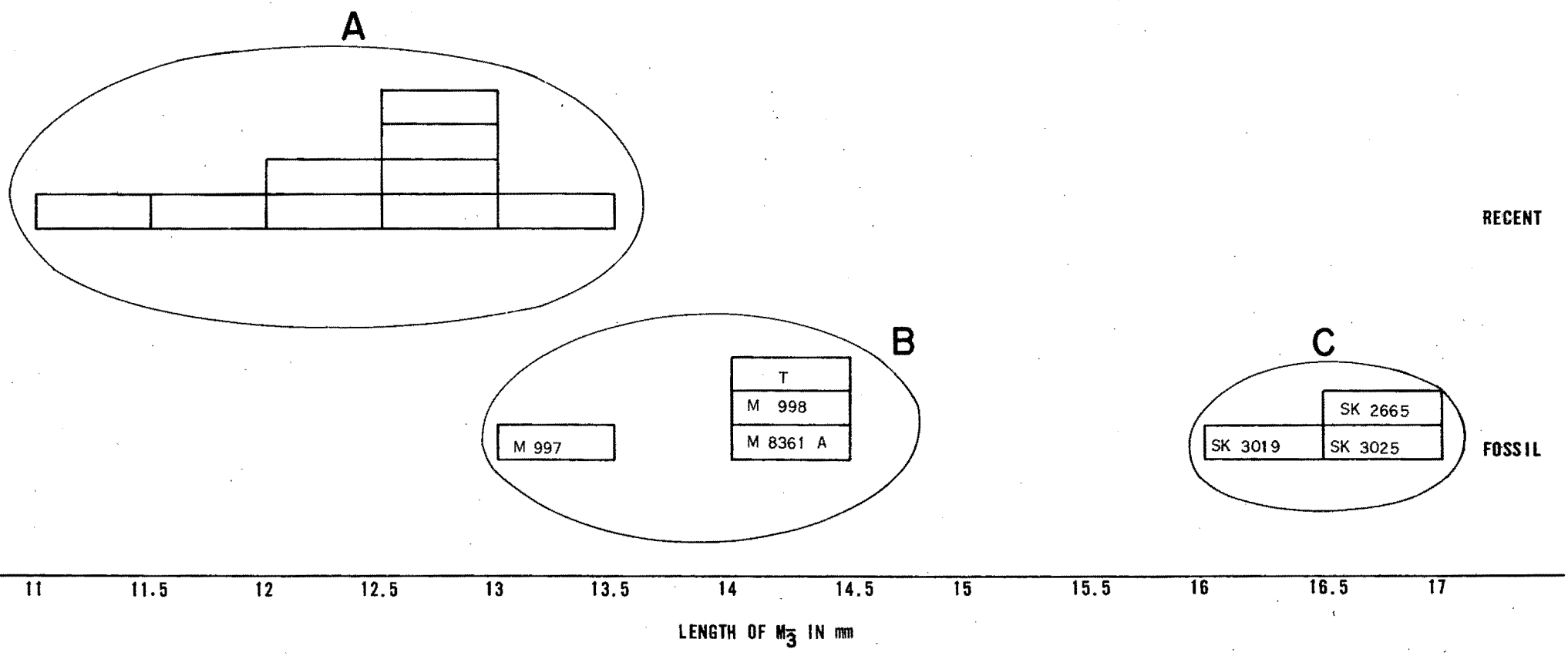

A
B
C
T
M 998
M 8361 A
M 997
SK 2665
SK 3019
SK 3025
RECENT
FOSSIL
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
LENGTH OF M3 IN mm

Fig. 20: Scatter diagram of lower premolar and molar lengths *O. oreotragus, O. major* and Gen. et sp. indet.

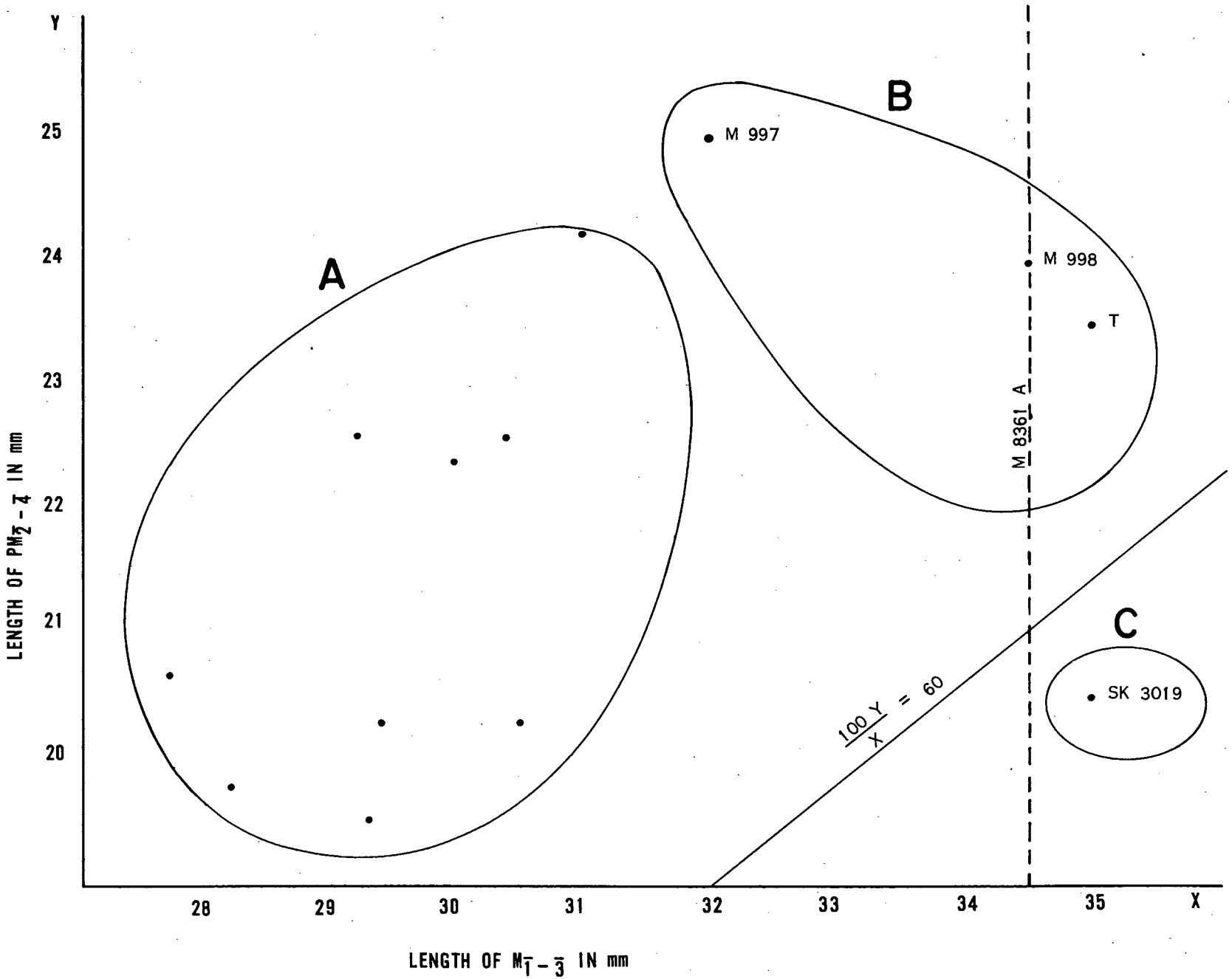

Y
25
24
23
22
21
20
A
B
C
M 997
M 998
T
M 8361 A
SK 3019
100 Y / X = 60
28
29
30
31
32
33
34
35
X
LENGTH OF PM2 - 4 IN mm
LENGTH OF M1 - 3 IN mm

Fig. 21: Scatter diagram of upper premolar and molar lengths in *O. oreotragus* and *O. major*.

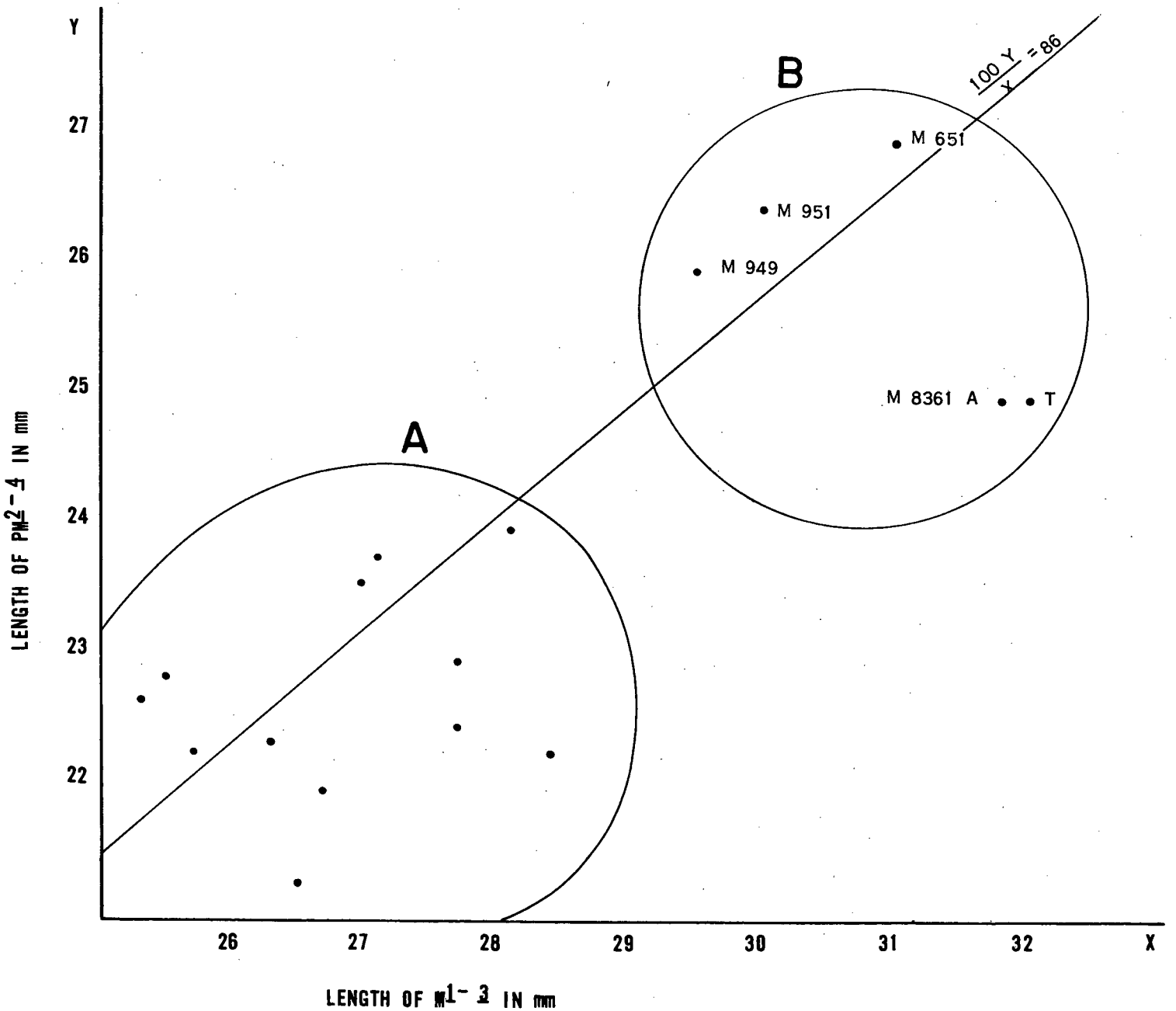

Y
27
26
25
24
23
22
LENGTH OF PM2-4 IN mm
B
A
100 Y / X = 86
M 651
M 951
M 949
M 8361 A
T
26
27
28
29
30
31
32
X
LENGTH OF M1-3 IN mm

Fig. 22: **Approximate occlusal surface areas of $PM_{\overline{4}}$'s relative to lower molars ($M_{\overline{1}} + M_{\overline{2}}$) in some small alcelaphine dentitions.** B, C, D = tooth wear stages as defined in Vrba (1973: 316); readings obtained from Table 38; the mean readings for the 9 Kromdraai A specimens, and the 5 *D. dorcas* specimens, were encased in squares.

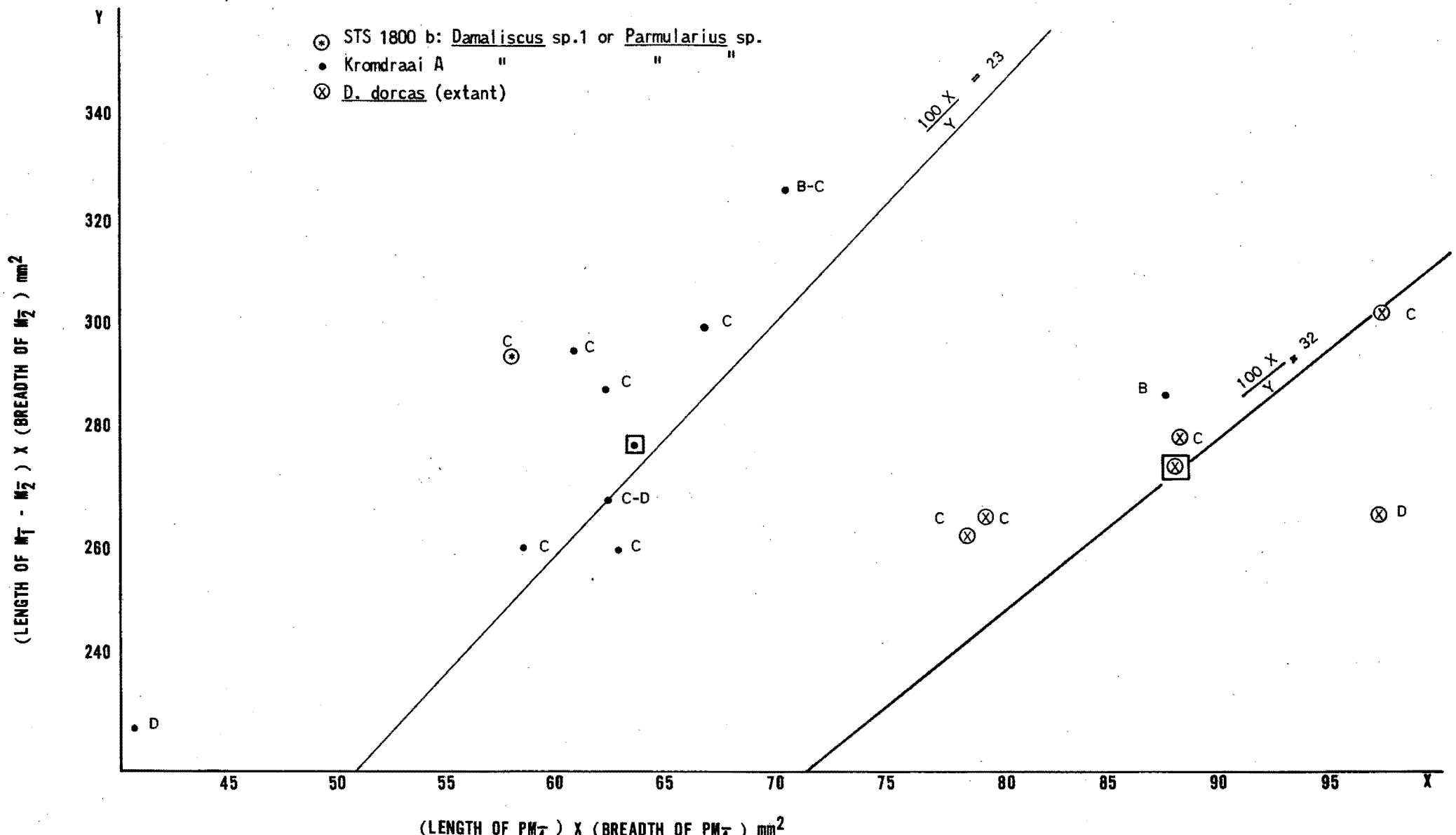

STS 1800 b: Damaliscus sp.1 or Parmularius sp.
Kromdraai A " " "
D. dorcas (extant)
100 X / Y = 23
100 X / Y = 32
Y
X
240
260
280
300
320
340
45
50
55
60
65
70
75
80
85
90
95
(LENGTH OF M1 - M2) X (BREADTH OF M2) mm2
(LENGTH OF PM4) X (BREADTH OF PM4) mm2
B-C
C-D
B
C
D

Fig. 23: **Ramus depths in some 'smaller large" alcelaphine specimens.** Readings obtained from Table 42.

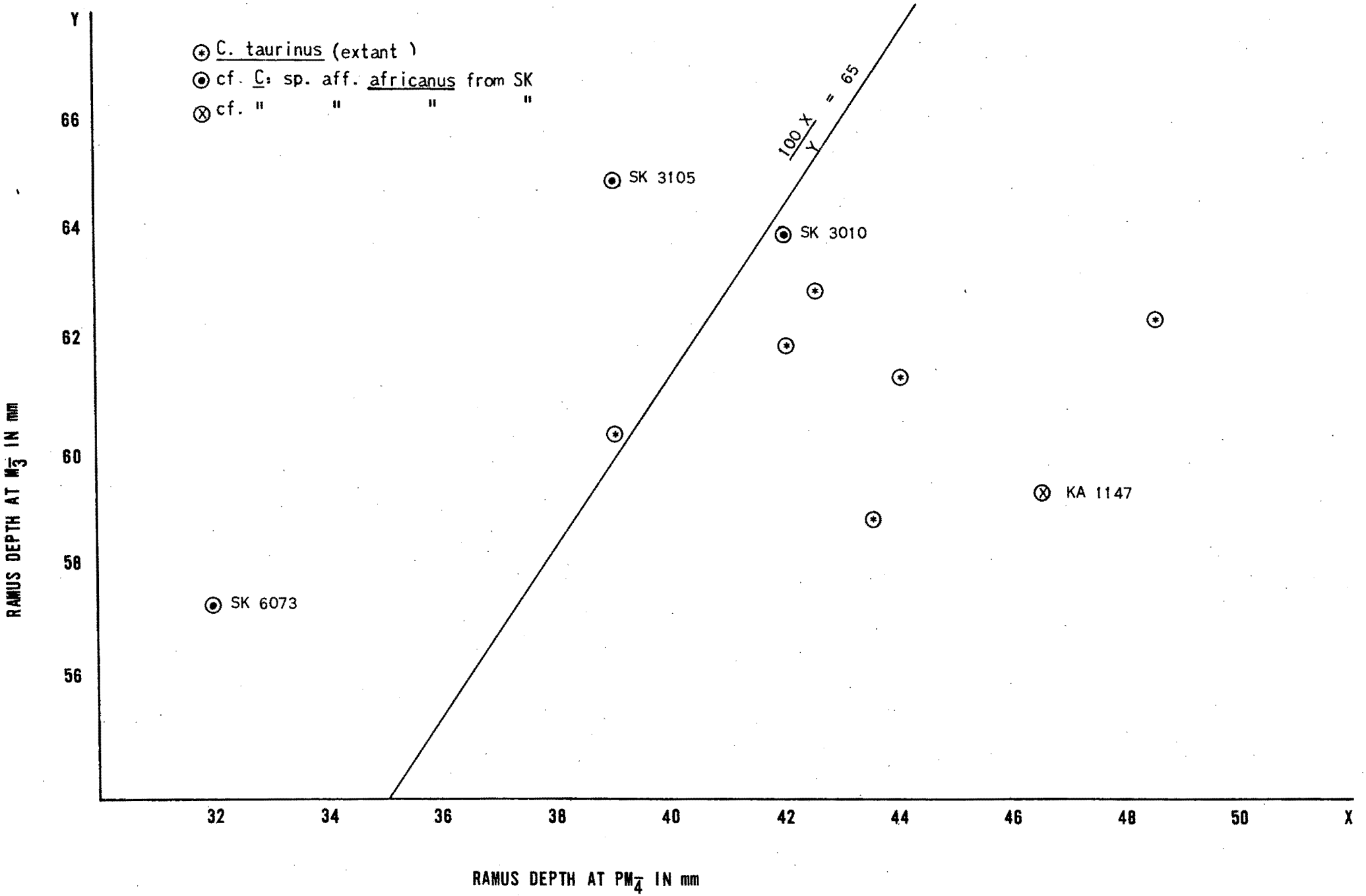

C. taurinus (extant)
cf. C. sp. aff. africanus from SK
cf. " " " "
100 X / Y = 65
SK 3105
SK 3010
KA 1147
SK 6073
Y
66
64
62
60
58
56
32
34
36
38
40
42
44
46
48
50
X
RAMUS DEPTH AT M_3 IN mm
RAMUS DEPTH AT PM_4 IN mm

Fig. 24: **The geographic location of the Krugersdorp australopithecine sites.**

A: Contour map of the Sterkfontein valley, showing the Swartkrans-Sterkfontein-Kromdraai area, after Brain (1958: Fig. 37).

B: Map showing the approximate position of the australopithecine sites in the Sterkfontein valley in the Transvaal.

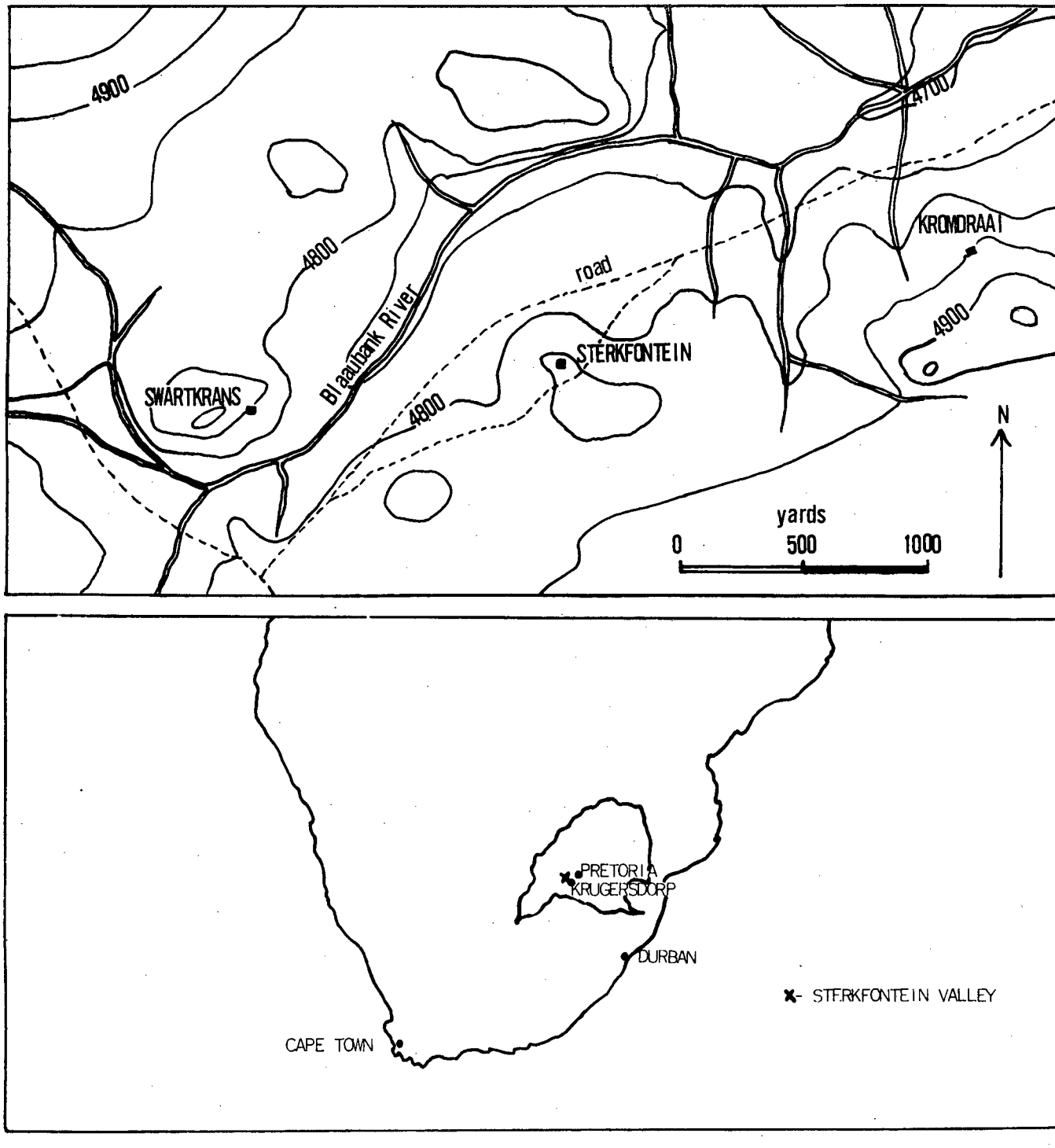

4900
4800
4700
road
Blaaubank River
SWARTKRANS
STERKFONTEIN
KROMDRAAI
4800
4900
N
yards
0
500
1000
PRETORIA
KRUGERSDORP
DURBAN
CAPE TOWN
STERKFONTEIN VALLEY

Fig. 25: **The changing frequencies of bovid species throughout STS, SKa, KA, SE, SKb and D16.** It is here suggested that this sequence of the site units may correspond to their actual chronological sequence (KB has been omitted from this figure, because the small quantity of bovid material recovered from this site unit makes its reliable placement in the time sequence impossible). **The arrangement of the species** numbered from 1 to 27 has no taxonomic significance, but rather very approximately represents a progression from earlier forms to those occurring later in time in the Sterkfontein valley. The two categories 28 and 29 occur throughout the site units, and could not be separated satisfactorily into species. Each **line thickness** per species per site unit represents, according to the provided key, the percentage constituted by the minimum number of individuals of that species of the total minimum number of bovid individuals recovered from the site unit. All such percentages are given in Tables 87–94. A "zig-zag arrow" is intended to suggest tentatively that the line thicknesses preceding it may represent an earlier species (on the same lineage) than those succeeding it. In some cases a specific identity alternative to that given in the left hand column is suggested for part (13, 28) or all (4) of a series of occurrences, by inserting the **alternative species name**, followed by a question mark, above the appropriate line thicknesses. **Dotted lines** indicate isolated specimens which are suspected of belonging to a different site unit to the one in which they appear. The question mark above the occurrence of *A. bondi* at SKa refers to the distinct possibility that this species was entirely absent from SKa, and that all these specimens may belong in SKb.

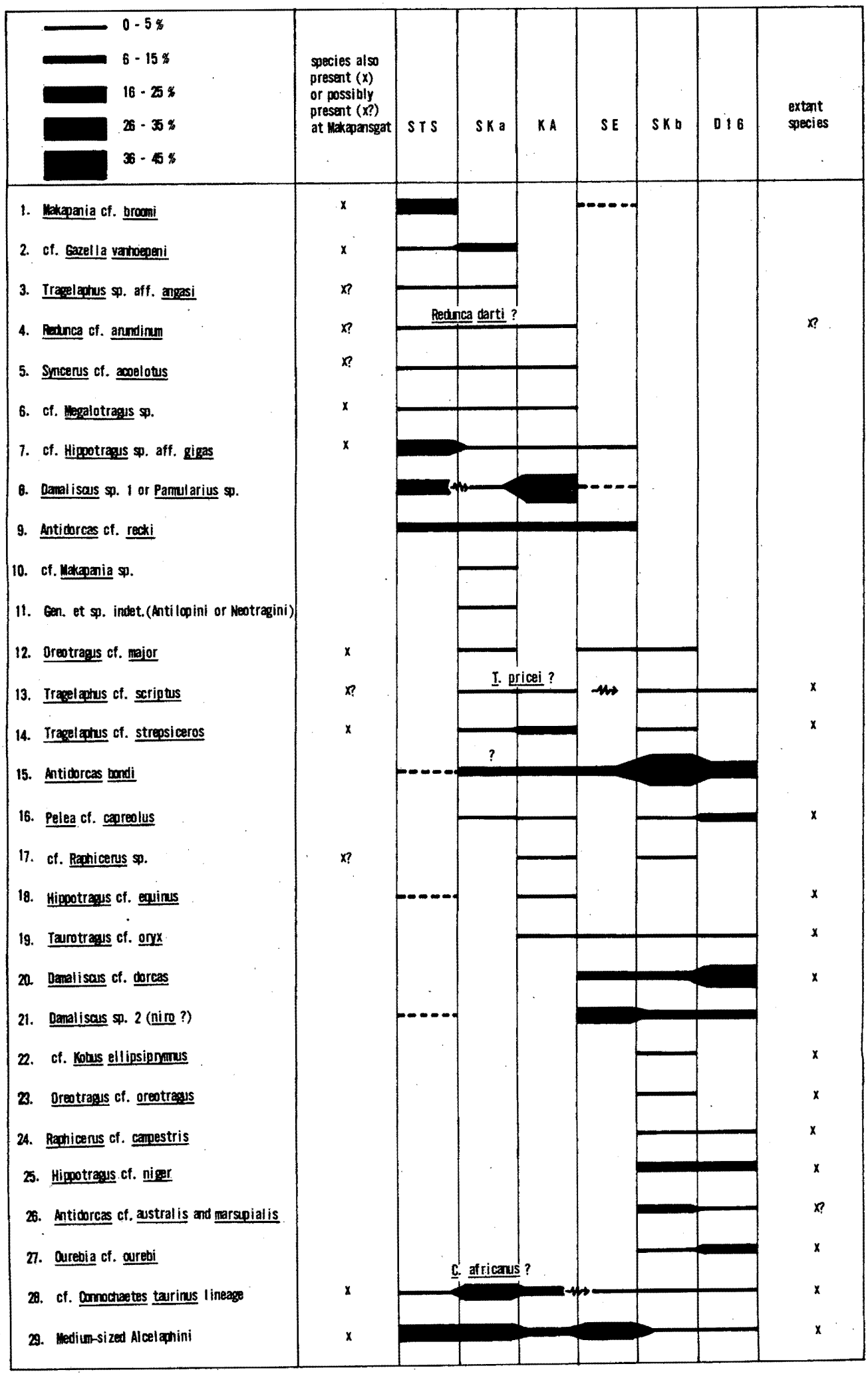
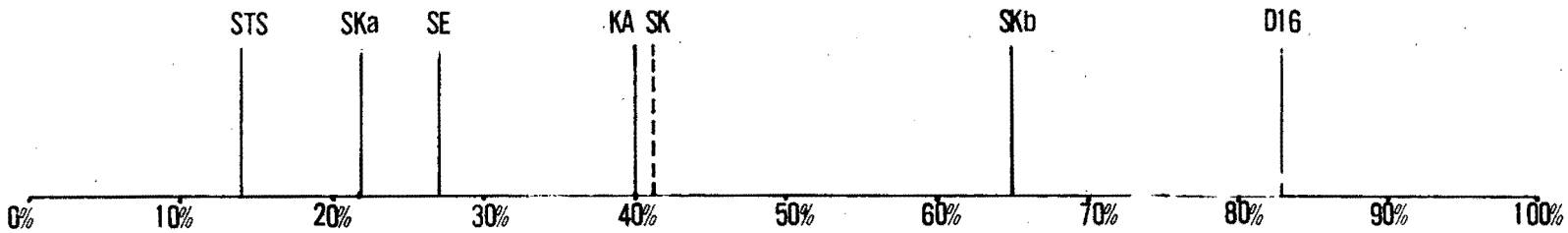

0 - 5 %
6 - 15 %
16 - 25 %
26 - 35 %
36 - 45 %
species also present (x) or possibly present (x?) at Makapansgat
STS
SKa
KA
SE
SKb
D16
extant species
1. Makapania cf. broomi
2. cf. Gazella vanhoepeni
3. Tragelaphus sp. aff. angasi
4. Redunca cf. arundinum
5. Syncerus cf. acoelotus
6. cf. Megalotragus sp.
7. cf. Hippotragus sp. aff. gigas
8. Damaliscus sp. 1 or Pamularius sp.
9. Antidorcas cf. recki
10. cf. Makapania sp.
11. Gen. et sp. indet. (Antilopini or Neotragini)
12. Oreotragus cf. major
13. Tragelaphus cf. scriptus
14. Tragelaphus cf. strepsiceros
15. Antidorcas bondi
16. Pelea cf. capreolus
17. cf. Raphicerus sp.
18. Hippotragus cf. equinus
19. Taurotragus cf. oryx
20. Damaliscus cf. dorcas
21. Damaliscus sp. 2 (niro ?)
22. cf. Kobus ellipsiprymnus
23. Oreotragus cf. oreotragus
24. Raphicerus cf. campestris
25. Hippotragus cf. niger
26. Antidorcas cf. australis and marsupialis
27. Ourebia cf. ourebi
28. cf. Connochaetes taurinus lineage
29. Medium-sized Alcelaphini
Redunca darti ?
T. pricei ?
?
C. africanus ?

Fig. 26: **The comparative antiquity of the bovid faunas from STS, SKa, KA, SE, SKb and D16,** as measured in terms of the proportions of "indistinguishable-from-recent" elements. The KB material is too scant for inclusion.

A: The percentage, per site unit, constituted by the number of species, which cannot be separated from recent forms, of the total number of species (SK, as it would have appeared before the split into SKa and SKb, is included);

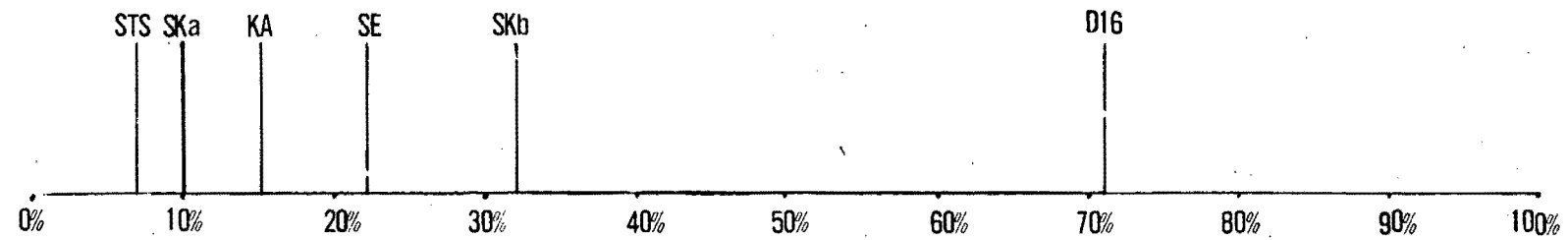
B: The percentage, per site unit, constituted by the added minimum numbers of individuals in "indistinguishable-from-recent" species of the total minimum number of individuals.

Species included here in the "indistinguishable-from-recent" component are only those which in Tables 87–94 are unambiguously labelled IR, i.e. without alternatives or questionmarks.



A

% OF 'INDISTINGUISHABLE-FROM-RECENT' SPECIES PER SITE UNIT



B

% OF 'INDISTINGUISHABLE-FROM-RECENT' INDIVIDUALS PER SITE UNIT

Fig. 27: The grouping of site units in terms of their bovid content

A: Table 95 was used as the basis for the calculation of the following matrix A of F.C.D. coefficients (Vrba, 1974):

	STS	KA	SK	D16	KB	SE
STS	0.0	1.03	1.45	1.86	1.77	1.13
KA	1.03	0.0	1.22	1.68	1.45	1.08
SK	1.45	1.22	0.0	1.17	1.41	1.26
D16	1.86	1.68	1.17	0.0	1.67	1.23
KB	1.77	1.45	1.41	1.67	0.0	1.48
SE	1.13	1.08	1.26	1.23	1.48	0.0

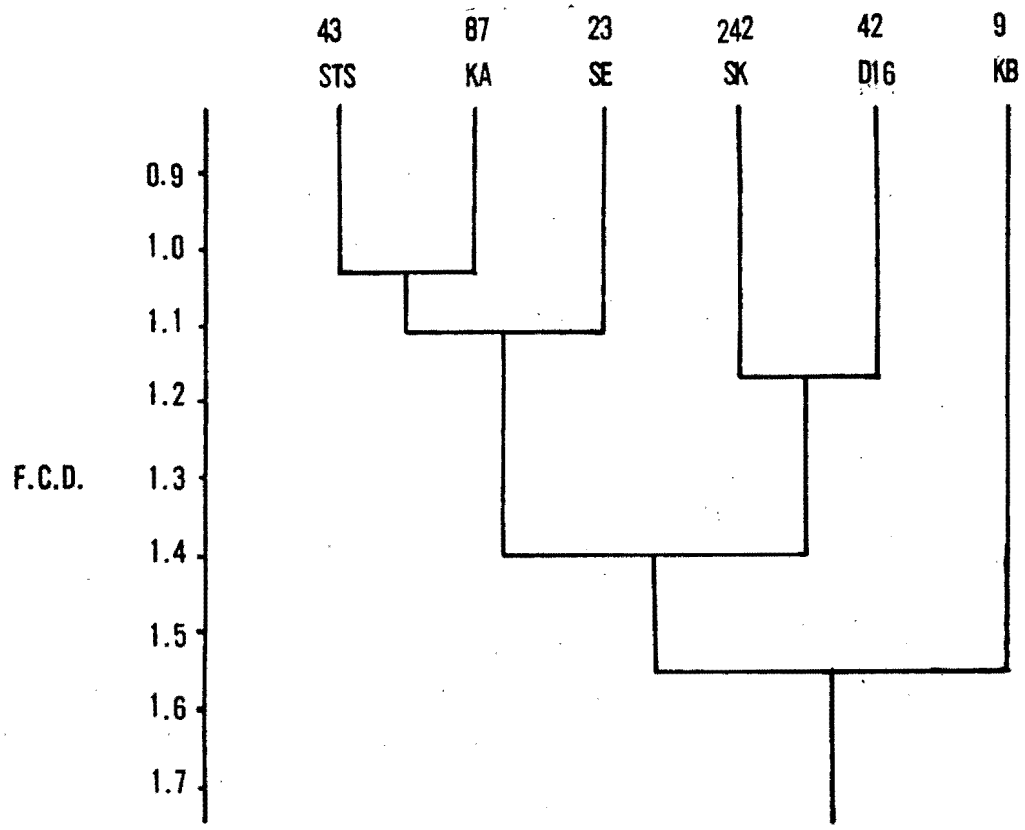
Clustering of site units on the basis of these F.C.D. coefficients by the Weighted Pair Group Clustering Procedure (Sokal and Sneath, 1963) resulted in dendrogram A. In both dendrograms A and B the number above each site unit indicates the total minimum number of individuals in that site unit.

B: Table 96 (identical to Table 95, except for the splitting of SK into SKa and SKb) was used as the basis for the calculation of the following matrix B of F.C.D. coefficients:

	STS	SE	KA	SKa	SKb	D16	KB
STS	0.0	1.13	1.01	1.21	1.79	1.81	1.77
SE	1.13	0.0	1.08	1.02	1.36	1.18	1.48
KA	1.01	1.08	0.0	0.90	1.58	1.63	1.45
SKa	1.21	1.02	0.90	0.0	1.60	1.65	1.31
SKb	1.79	1.36	1.58	1.60	0.0	0.79	1.53
D16	1.81	1.18	1.63	1.65	0.79	0.0	1.62
KB	1.77	1.48	1.45	1.31	1.53	1.62	0.0

The same clustering procedure, as that which produced dendogram A, was performed on matrix B, resulting in dendrogram B.

DENDROGRAM A : SK included as a unit



DENDROGRAM B : SK split into SKa and SKb

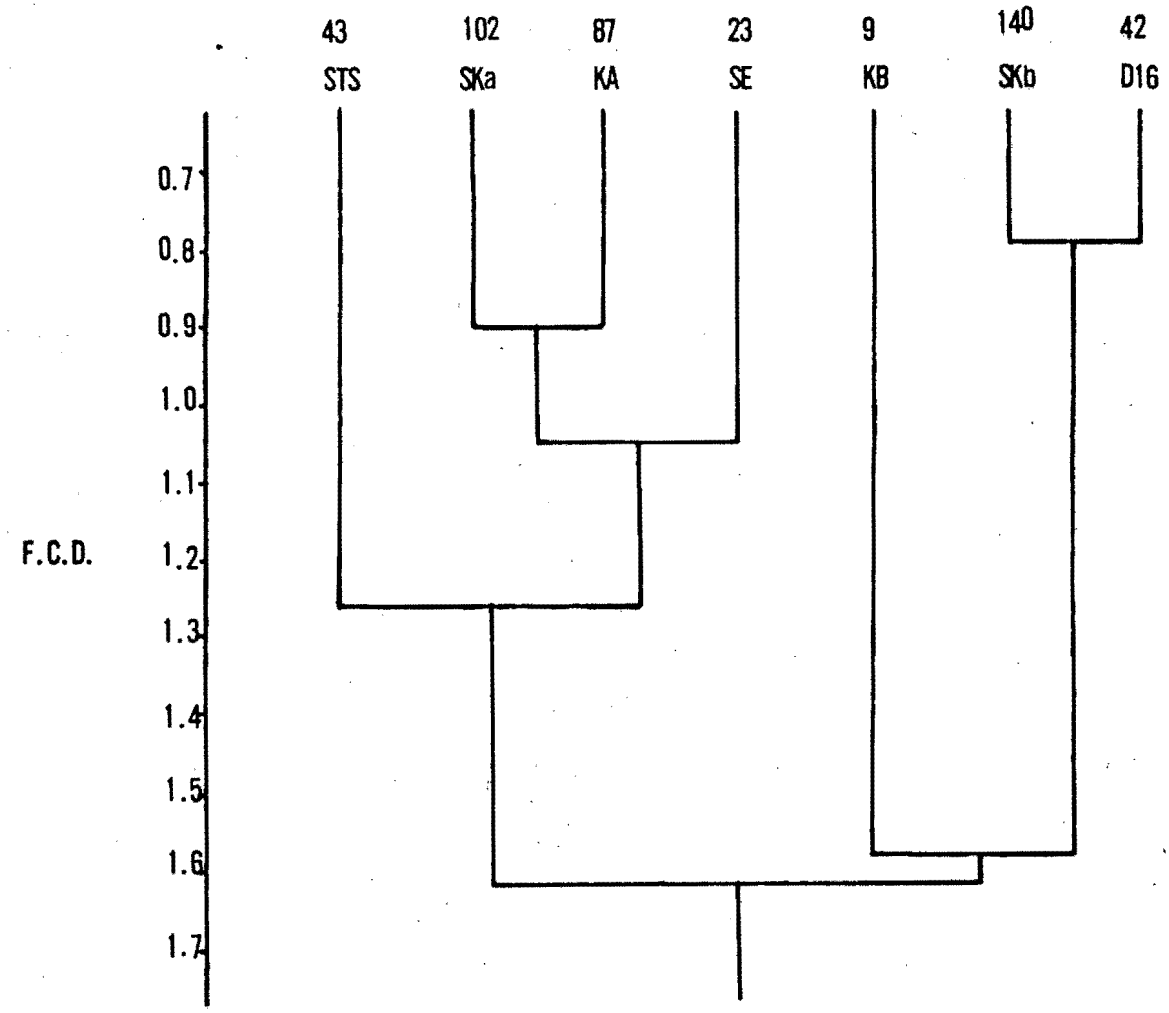


Fig. 28: **Changes in average body weight and in juvenile proportions from site unit to site unit.** As in Fig. 25 it is here suggested that the sequence of sites from STS to D16 may correspond to their actual chronological sequence, and therefore the horizontal axis roughly represents time. As the SK assemblage is considered to represent at least two different time periods it cannot be included on this time axis and has been included, for interest sake, separately on the right. KB is represented by dotted lines to signify the large measure of uncertainty attached to data derived from its scant bovid content.

The data for both graphs A and B are derived from Tables 87–94.

The weights in graph C were arrived at as follows: Brain (1974a: Table 2) divided modern bovid species into four weight classes. I further subdivided his Class III into IIIa and IIIb, removing waterbuck, gemsbok, kudu, sable, blue wildebeest and roan to IIIb. Brain's Class IV contains only the buffalo and eland. To accommodate fossil species cf. *Megalotragus* sp., cf. *Hippotragus* sp. aff. *gigas* and *Makapania* cf. *broomi*, which are (judging by their tooth sizes) clearly too large for Class IIIb but smaller than eland and buffalo, a Class IVa was created. Means, based on the weights in Brain's Table 2, were estimated for each of Classes I, II, IIIa, IIIb, IVa and IVb. Each fossil species was assigned to one of these six weight categories (Tables 87–94). In each site unit the total weight within each of these six weight categories was estimated (by multiplying the said means by the minimum numbers of individuals within the appropriate weight category). Addition of these six weight category totals provides a grand weight total for each site unit. Division of this grand weight total, of a particular site unit, by its total minimum number of individuals, leads to an estimated average weight per bovid individual per site unit, as used in Fig. 28: C.

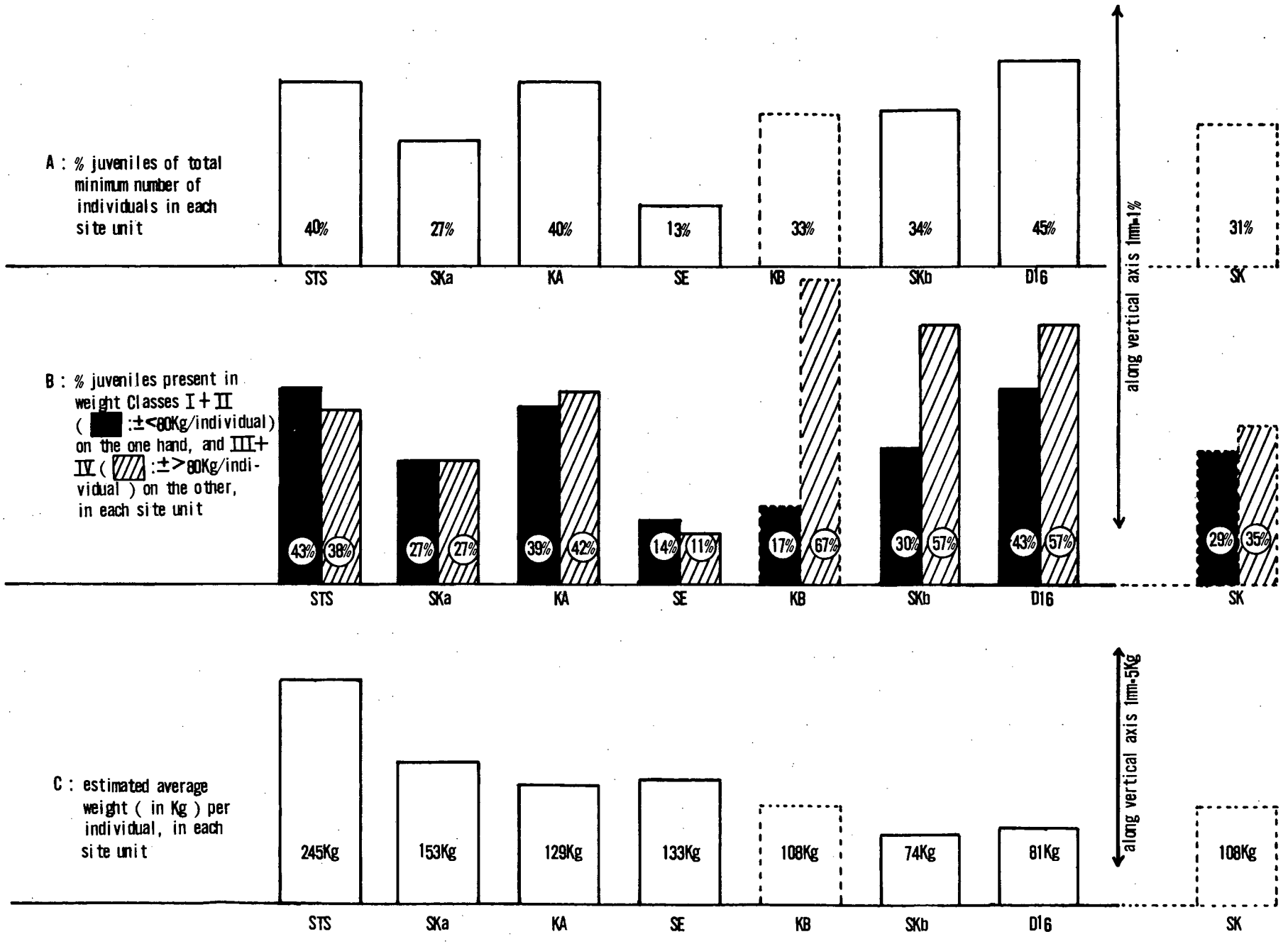

A : % juveniles of total minimum number of individuals in each site unit
40%
27%
40%
13%
33%
34%
45%
31%
STS
SKa
KA
SE
KB
SKb
D16
SK
along vertical axis 1mm=1%
B : % juveniles present in weight Classes I + II (: ± < 80Kg/individual) on the one hand, and III + IV (: ± > 80Kg/individual) on the other, in each site unit
43%
38%
27%
27%
39%
42%
14%
11%
17%
67%
30%
57%
43%
57%
29%
35%
STS
SKa
KA
SE
KB
SKb
D16
SK
C : estimated average weight (in Kg) per individual, in each site unit
245Kg
153Kg
129Kg
133Kg
108Kg
74Kg
81Kg
108Kg
along vertical axis 1mm=5Kg
STS
SKa
KA
SE
KB
SKb
D16
SK

Fig. 29: An attempt to express changes in degree of bush cover from site unit to site unit, in terms of the percentages of alcelaphines plus antilopines.

As in Fig. 25 it is here suggested that the sequence of site units from STS to D16 may correspond to their actual chronological sequence, and therefore the horizontal axis roughly represents time. The fact that site units occupy equal lengths of the horizontal axis, and that horizontal spaces between them are equal, does not signify anything in terms of time other than that neither the lengths of time occupied by the site units, nor the lengths of time elapsed between them, are known.

The point for each site unit represents the percentage constituted by the added minimum numbers of individuals in the tribes Alcelaphini and Antilopini of the total minimum number of individuals at that site unit. The data are derived from Tables 87–94. The point for SKa is the value which results when using Table 93 as it stands, but counting Gen. et sp. indet. as a neotragine species. The upper limit of the SKa value, indicated by a dotted arrow, results when Gen. et sp. indet. is regarded as belonging to the Antilopini. The lower limit of the SKa value, as also the upper limit of the SKb value, result when all 7 *A. bondi* individuals as well as most (8) *A.* cf. *recki* individuals are removed from SKa (while regarding Gen. et sp. indet. as neotragine) and placed into SKb. The rough estimate for KB represents the fact that of the minimum number of 9 individuals either 8 or 9 belong to the alcelaphines and antilopines.

As alcelaphines and antilopines generally constitute the bulk of any open plains fauna, the percentages here reproduced may be telling us something about changes in the degree of bush cover during the period covered by these site units. The small trees represent a crude attempt to express this visually to the reader. The number of trees allotted to each site unit, in each case distributed evenly over the same horizontal distance, is inversely proportional to the percentage of alcelaphines and antilopines (51–55% = 8 trees; 56–60% = 7 trees; 61–65% = 6 trees; 66–70% = 5 trees; 71–75% = 4 trees; 76–80% = 3 trees; 81–85% = 2 trees; 86–90% = 1 tree; 91–100% = 0 trees).

For interest sake some very brief information representing current opinion as gleaned from the literature and from various personal communications, about the hominids and cultural evidence found at these site units is included. The two smaller figures represent the gracile and robust australopithecines, and the largest, upright figure *Homo* sp. The dotted figures for SE are meant to signify the uncertainty as to which hominid(s) is/are present at this site unit, as well as the existing opinion that *Homo* may be there (Tobias, 1965). The dotted figures of *Homo* sp. in KB and D16 signify the fact that, although remains of *Homo* sp. have not (yet?) been found at these site units, his presence there is inferred from cultural evidence, and from the positions of the respective site units in the chronological sequence (an inference made with more confidence in the case of D16, with considerably less confidence in the case of KB). The suggestion that the most advanced cultural elements at SKa and SE are Oldowan follows Leakey (1970). Some Middle Stone Age tools have been found at Sterkfontein (Tobias, pers. comm.) but the alignment of these with D16 is pure inference, and based on the apparent age of the D16 bovid fauna (see Vrba, 1974). The Acheulean element among Swartkrans tools probably derives from SKb breccia (Brain, pers. comm.). The single flake tool from KB was mentioned in Brain (1958).

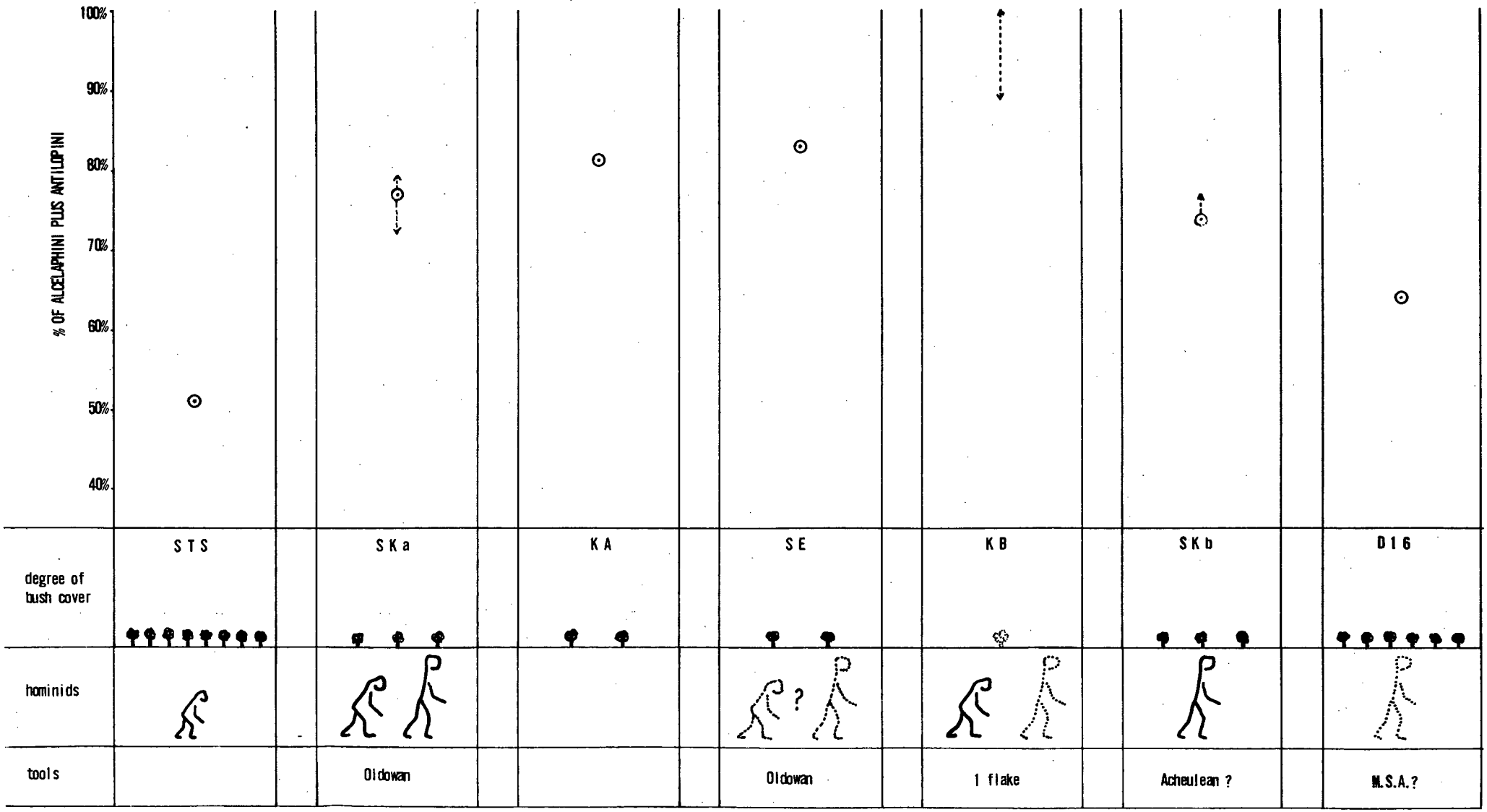

% OF ALCELAPHINI PLUS ANTILOPINI
100%
90%
80%
70%
60%
50%
40%
STS
SKa
KA
SE
KB
SKb
D16
degree of bush cover
hominids
tools
Oldowan
Oldowan
1 flake
Acheulean ?
M.S.A.?

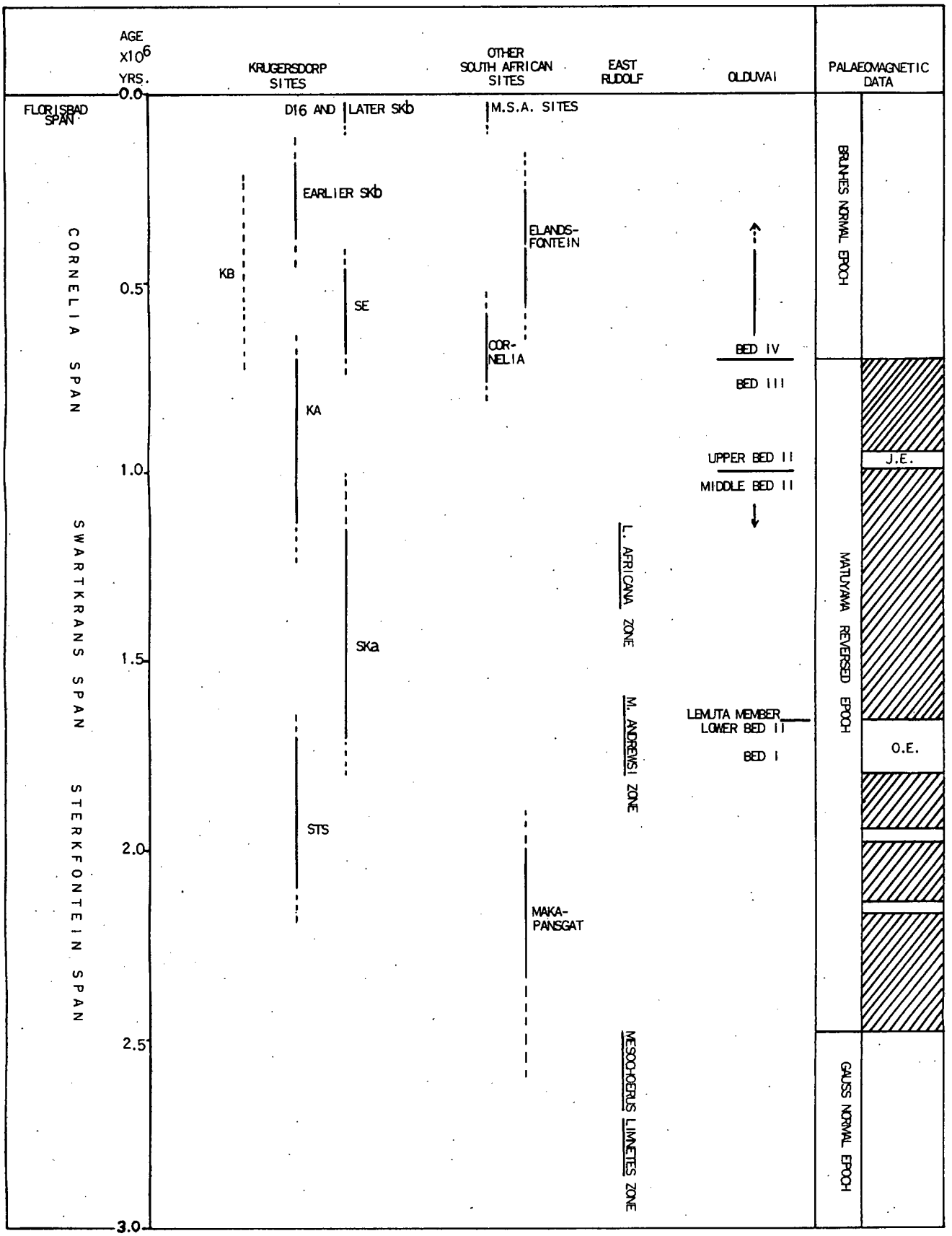
Fig. 30: **Tentative chronology of D16, SKb, KB, SE, KA, SKa and STS as suggested by the bovid data.**

The palaeomagnetic data is approximated from Chart I in Isaac, Pilbeam and Walker (1972:467). The placement of the Olduvai Beds and the Lemuta Member is after various data given or quoted in Cox (1969), Leakey (1971), Curtis and Hay (1972), Isaac, Pilbeam and Walker (1972). The approximate placement of the East Rudolf *Loxodonta africana* and *Metridiochoerus andrewsi* zones is according to the suggestion made on faunal grounds by Maglio (1972), with which the palaeomagnetic data of Brock and Isaac (1974) essentially agree. The placement of the *Mesochoerus limnetes* zone follows the latter authors, who estimate an age of 2.7 m.y. for the centre of this zone, somewhat earlier than the "best fit" age of 2.3 m.y. proposed by Maglio (1972).

M.S.A. – Middle Stone Age

O.E. – Olduvai Event

J.E. – Jaramillo Event.


AGE
x10^6
YRS.
KRUGERSDORP SITES
OTHER SOUTH AFRICAN SITES
EAST RUDOLF
OLDUVAI
PALAEOMAGNETIC DATA
FLORISBAD SPAN
CORNELIA SPAN
SWARTKRANS SPAN
STERKFONTEIN SPAN
0.0
0.5
1.0
1.5
2.0
2.5
3.0
D16 AND LATER SKb
M.S.A. SITES
EARLIER SKb
KB
SE
KA
SKa
STS
ELANDS-FONTEIN
COR-NELIA
MAKA-PANSGAT
BED IV
BED III
UPPER BED II
MIDDLE BED II
LEMUTA MEMBER
LOWER BED II
BED I
L. AFRICANA ZONE
M. ANDREWSI ZONE
MESOCHOERUS LIMNETES ZONE
BRUNHES NORMAL EPOCH
MATUYAMA REVERSED EPOCH
GAUSS NORMAL EPOCH
J.E.
O.E.

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