

A revised listing of fossil mammals from the Haasgat cave system *ex situ* deposits (HGD), South Africa

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ABSTRACT

Haasgat is a formerly mined cave system in the western part of the Schurveberg Mountain Range. In 1988 fossiliferous *ex situ* calcified sediment blocks were collected from Haasgat and mechanically processed. Limited publication on the resulting Haasgat Dumpsite faunal assemblage (HGD) described a large of extinct terminal Pliocene or early Pleistocene primates, including *Papio angusticeps* and a novel species of extinct *Cercopithecoides*, but an essentially modern of ungulates. Starting in 2010, renewed geologic and paleontologic research at Haasgat included a critical reevaluation of the published HGD assemblage and the first analysis of nearly 1,500 specimens that were never cataloged or described in the literature. This paper presents a significantly revised Haasgat faunal list, specimen counts, and a basic description of the taxonomically identifiable assemblage with an emphasis on the non-primate mammalian specimens. In contrast to the original faunal descriptions, the occurrence of several modern and fossil artiodactyls in the cannot be supported. The only carnivores originally described from HGD (a *Chasmaporthetes nitidula* maxilla and *Canis mesomelas* mandible), along with two primate crania and a handful of other specimens have been lost from the collections; however, analysis of the undocumented specimens yielded previously unidentified primate remains and a cf. *Dinofelis* sp. fourth metatarsal. In contrast to the original interpretations of Haasgat based on HGD, the revised and expanded assemblage does not necessitate the local occurrence of closed forest or swamp environs, or imply a depositional age between 1.5 and 0.5 million years.

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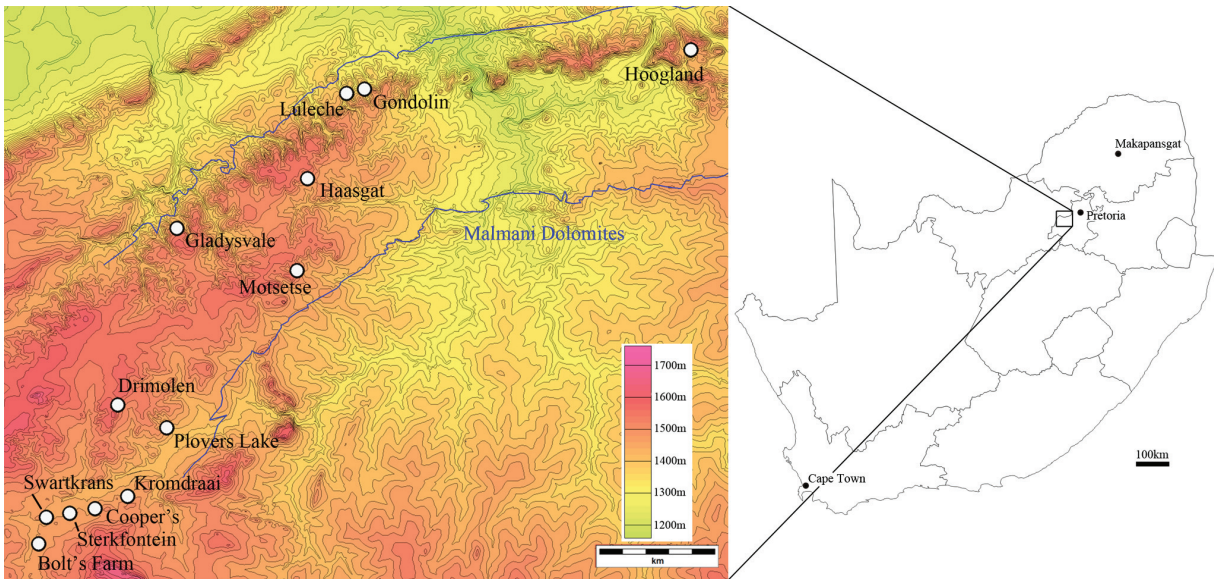


FIGURE 1. Topographic map of the Haasgat fossil site relative to other nearby South African Pliocene and Pleistocene fossil localities. Contour lines equal 20 m.

INTRODUCTION

The Haasgat cave system (25°51'31"S, 27°50'9"E) formed in the Precambrian dolomitic limestone of the Malmani Subgroup (Eccles Formation) on the western slope of a narrow north-south valley in the western Schurveberg Mountain Range (Keyser and Martini, 1991; Figure 1). Lime mining of the Haasgat system during the early twentieth century obliterated the original cave entrance and most of the system. As a result the modern cave is a large east-west horizontal tunnel partially filled with miner's rubble, some remnant columns and undisturbed bands of calcified sediments along the walls and ceiling, and a massive *ex situ* dumpsite that extends from the modern entrance to the valley floor below (Keyser and Martini, 1991).

The occurrence of presumably Pliocene (5.333-2.588 m.y.a.; Gradstein et al., 2012) and/or Pleistocene (2.588-0.0117 m.y.a.; *ibid.*) mammal fossils in the Haasgat calcified sediments led to the collection of an unknown number of *ex situ* blocks for mechanical preparation at the Council for Geosciences in Pretoria in 1988 (Keyser, 1991). The resulting faunal (referred to here as the Haasgat Dumpsite assemblage [HGD]) was partially listed and described in a sequence of publications, with the more detailed analyses focused largely on the primate craniodental specimens (Keyser, 1991; McKee and Keyser, 1994; Plug and Keyser, 1994; von Mayer, 1999; McKee et al., 2011). The first

publications on Haasgat fossils (Keyser, 1991; Keyser and Martini, 1991) noted the occurrence of three different extinct primate species: *Parapapio broomi*, '*Simopithecus* sp.', and *Cercopithecoides williamsi*. Subsequent analysis (McKee and Keyser, 1994) of the papionins attributed the entire of 83 craniodental specimens to *Papio angusticeps*, which has been previously identified at Kromdraai A and B and the Cooper's deposits (Freedman, 1957; Heaton, 2006; Note *P. angusticeps* was included within *Papio izodi* by Jablonski and Frost, 2010). The HGD colobin originally attributed to *C. williamsi* has recently been reallocated to a small bodied novel species, *Cercopithecoides haasgati* (McKee et al., 2011), distinct from *C. williamsi* as reported from other South African localities with colobins (Makapansgat, Bolt's Farm, Swartkrans, Sterkfontein, Cooper's, and Kromdraai B; Eisenhart, 1974; McKee et al., 2011). At present the HGDs are among the largest and most demographically diverse accumulations of these two primate taxa from a single locality in South Africa (Heaton, 2006; Jablonski and Frost, 2010).

A published description of the other HGD mammals only addressed the taxonomically identifiable Artiodactyla, Perissodactyla, and Hyracoidea specimens from the (Plug and Keyser, 1994). The two carnivores (*Chasmaporthetes nitidula* and *Canis mesomelas*) initially noted by Keyser (1991) were never formally described and have subsequently gone missing from the collections. The mammalian taxa listed by Plug and Keyser (1994)

are broadly similar to other terminal Pliocene and Pleistocene South African faunal assemblages, but contrasts from the well-described deposits from Sterkfontein, Swartkrans, and Kromdraai in being numerically dominated by rocky landscape browsing antelope (*Oreotragus major* and *Oreotragus oreotragus*) and hyrax (*Procavia transvaalensis* and *Procavia antiqua*). Only relatively few specimens of other species were identified from the processed , although the list includes a range of equids (*Equus capensis* and *Equus burchelli*), giraffe (*Giraffa camelopardalis*), a suid (cf. *Metridiochoerus* sp.), two genera of tragelaphin (*Tragelaphus* and *Taurotragus*), two genera of reduncin (*Kobus* and *Redunca*), and four genera of alcelaphins (*Alcelaphus*, *Connochaetes*, *Damaliscus*, and *Megalotragus*).

Active research on the Haasgat karstic system and non-primate fossils ended after these initial publications and no further *ex situ* sampling or fossil processing occurred after the early 1990s. Starting in 2010 our research team reopened the Haasgat cave system as part of an ongoing interdisciplinary project addressing the geology and paleontology of South African fossil localities in the northern portion of the Cradle of Humankind UNESCO World Heritage Site. In order to establish an interpretive framework for specimens excavated from Haasgat the original HGD assemblage curated at the Council for Geosciences was evaluated. This survey of the collection revealed that only 946 of the 2,413 HGD specimens had been individually labeled, only 740 had entries in the single Council for Geosciences HGD catalog, several specimens could not be located, and many of the original taxonomic and element identifications required revisions that would affect the composition of the faunal list.

Because of the need for a more accurate baseline accounting of the fauna at Haasgat our original project goals were expanded to include a complete cataloging and reanalysis of the entire HGD . This publication provides an updated faunal listing and basic description of the fossil specimens in the HGD assemblage based on this reassessment, with an emphasis on describing the identifiable non-primate mammalian specimens recovered from the dumpsite. Given their paleoprimatological significance, comprehensive paleobiological description and comparative analysis of the HGD colobin and papionin craniodental specimens and indeterminate cercopithecoid postcrania will be published separately.

MATERIALS AND METHODS

Before describing the methods employed in this analysis of the Haasgat HGD specimens it is important to note several known issues with the assemblage. First, as with other South African *ex situ* dumpsite-derived s, the HGD faunal assemblage must be assumed to be an artificially spatially- and/or temporally-aggregated accumulation of specimens from across the cave system deposits. Unfortunately, the degree of aggregation bias in the cannot be gauged as neither the original publications nor the handwritten HGD catalog records information on the collection protocols, geological characteristics of the processed blocks, or the within-block association of individual specimens. Second, the HGD assemblage fossils were mechanically processed using air scribes and hand tools (Plug and Keyser, 1994). Many specimens were apparently only processed until identification could be attempted, meaning that in some cases adhering matrix (or heavy application of liquid consolidant to stabilize specimens during preparation) obscured key anatomical features or prevented metric analysis. This processing method introduced scribe marks and recent breakage to 1,080 (44.8%) of the specimens that limited specific identification and/or comparative analysis.

Third, an initial survey of the assemblage in 2010 revealed inconsistencies between: 1) the numbers of specimens listed in the Council for Geosciences HGD catalog; 2) the originally published specimen counts and descriptions; 3) both of these accountings of the assemblage and the number and identification of specimens in the collections (Plug and Keyser, 1994). As previously noted, the HGD catalog only includes entries for 740 of the 1,475 specimens listed by Keyser (1991), Keyser and Martini (1991), McKee and Keyser (1994), Plug and Keyser (1994), and McKee et al. (2011). As one example, none of the *Papio* and *Cercopithecoides* specimens assigned HGD numbers and described by McKee and Keyser (1994) and McKee et al. (2011) were entered in the sole HGD catalog maintained by the Council for Geosciences. Even with only a partial catalog, 21 taxonomically identified specimens with catalog entries could not be found in the collections (Appendix A). A further three specimens without catalog entries but known to exist could also not be located, including a reported *Chasmaporthetes nitidula* maxilla (Keyser, 1991, figure 7; Keyser and Martini, 1991, plate 4) and two *Cercopithecoides haasgati* crania (HGD 1166 and 1167; McKee et

al., 2011, figure 2); although fortunately casts of the latter two specimens exist.

Lacking a complete catalog of specimens it is impossible to gauge the extent specimen loss has shaped the current composition of the collections. To illustrate the most extreme example encountered during reanalysis, Plug and Keyser (1994) reported large s of two hyrax species, *Procavia transvaalensis* (number of individual specimens [NISP]: 214; minimum number of individuals [MNI]: 15) and *Procavia capensis* (NISP: 107; MNI: 10). In contrast, the HGD catalog only records 28 *P. transvaalensis* and 18 *P. capensis* specimens; all but two of these *Procavia* specimens were found in the collections. Even though analysis of the unlabeled part of the HGD identified additional hyrax specimens the final tally of HGD *Procavia* specimens (NISP: 67; Table 1) does not approach the originally published sizes for the genus. Unless the counts reported by Plug and Keyser (1994) represent a typographic error, the disparity between the published faunal list, catalog, and curated collections could suggest a minimum loss of 254 identifiable *Procavia* specimens from the HGD.

All processed fossil specimens from the HGD assemblage that were ultimately located or known to exist via published photographs (n=2,414; total includes casts of the missing HGD 1166 and 1167 specimens and the uncatalogued *Chasmaporthetes nitidula* maxilla) were sorted and coded in an electronic database for taxonomic, demographic, and taphonomic variables following the methods described in Adams (2006) and Adams (2010). All previously unlabeled specimens were assigned an HGD catalog number, marked, and incorporated into the database. Taxonomic identifications of the craniodental and postcranial specimens were made in reference to modern skeletal collections at the Ditsong National Museum of Natural History, previously described fossil specimens at the Ditsong Museum (Swartkrans, Kromdraai, Cooper's, Sterkfontein Type Site, Gondolin, and Hoogland) and the Bernard Price Institute (Makapansgat), and published diagnostic criteria (summarized in Adams, 2006). Bovid specimens that could only be confidently attributed to Family were sorted into Size Classes after Brain (1976). All measurements of specimens reported here were taken using Mitutoyo 150 mm calipers with a direct digital input, including relevant dental metrics (mesiodistal [MD] and buccolingual [BL]; taken at the level of occlusion unless otherwise noted). All statistical comparisons reported here were run using PASW Statistics 18 (SPSS, Inc., 2011).

Although I have provided authors and dates for all taxonomic names directly referenced in the results, the HGD assemblage preserves a diverse range of mammals that are also commonly represented in African Pliocene, Pleistocene, and Holocene fossil and archaeological assemblages. These two factors, along with unresolved debates on specimen attribution across localities, make comprehensive synonym citation and summaries of the geographic and temporal range of genera and species beyond the scope of this publication. Additional synonym information and data on the occurrence and ranges of mammals discussed here can be found in Wilson and Reader (2005) and Werdelin and Sanders (2010).

RESULTS

An updated catalog of the 2,414 specimens in the Haasgat HGD assemblage is provided in Appendix B. This catalogue lists both the 1,446 taxonomically identifiable mammal fossils summarized in Table 1 and the 968 taxonomically indeterminate specimens (49 craniodental, 692 postcranial, and 227 unclassifiable). The specimen entries in Appendix B have been organized to correspond to the sequence of taxonomic groups in Table 1 and as discussed in the following section.

Systematic Palaeontology

Order PRIMATES Linnaeus, 1758
 Family CERCOPITHECIDAE Gray, 1821
 Subfamily COLOBINAE Jerdon, 1867
 Tribe COLOBINI Blyth, 1875
 Genus CERCOPITHECOIDES Mollet, 1947
 Type species *Cercopithecoides williamsi* Mollet, 1947

The entire HGD colobin of 25 specimens was originally attributed to *Cercopithecoides williamsi* (Keyser, 1991; McKee and Keyser, 1994), but was subsequently proposed to represent a novel smaller bodied species, *Cercopithecoides haasgati* (McKee et al., 2011), distinct from *C. williamsi* as reported the other South African localities (Makapansgat, Bolt's Farm, Swartkrans, Sterkfontein, Cooper's, and Kromdraai B; Eisenhart, 1974; von Mayer, 1999; Jablonski and Frost, 2010) (Figure 2.1). Reanalysis of the HGD colobins found five of the originally identified specimens inconsistent with attribution to the subfamily; however, eight additional colobin craniodental specimens were identified from the previously undocumented collections (Figure 2; Kegley et al., 2011). In contrast to McKee et al. (2011), Kegley (personal commun., 2012) has identified no fewer than three different

TABLE 1. Revised Hoogland HGD mammal assemblage.

Taxon	NISP	MNI	Taxon	NISP	MNI
Class Mammalia					
Order Primates			Tribe Antilopini/Neotragini	11	-
Family Cercopithecoidea			Tribe Cephalophini/Neotragini	1	-
Subfamily Colobinae			Tribe Hippotragini/Reduncini	1	-
Tribe Colobini			Tribe Hippotragini/Tragelaphini	1	-
<i>Cercopithecoidea haasgati</i>	22	12			
<i>Cercopithecoidea williamsi</i>	3	3	Bovidae indet.		
<i>Cercopithecoidea</i> cf. <i>williamsi</i>	1	-	Class I	314	-
<i>Cercopithecoidea</i> sp.	2	1	Class II	199	-
cf. <i>Cercopithecoidea</i>	1	1	Class III	122	-
Subfamily Cercopithecinae			Class IV	9	-
Tribe Papionini			Indet. Class	18	-
<i>Papio angusticeps</i>	88	37	Family Suidae		
<i>Papio</i> sp.	21	-	Tribe Phacochoerini		
Cercopithecoidea indet.	117	-	Phacochoerini indet.	2	2
Primates indet.	1	-	?Suidae indet.	1	-
			Order Carnivora		
Order Artiodactyla			Family Felidae		
Family Bovidae			cf. <i>Dinofelis</i> sp.	1	1
Tribe Alcelaphini			Family Hyaenidae		
<i>Connochaetes gnou</i>	7	5	Hyaenidae indet.	1	1
<i>Connochaetes</i> sp.	5	3	Carnivora indet.	1	-
<i>Damaliscus dorcas</i>	1	1			
<i>Damaliscus</i> sp.	2	2	Order Perissodactyla		
<i>Megalotragus</i> sp.	1	1	Family Equidae		
Alcelaphini indet.	116	10	<i>Equus capensis</i>	19	1
Tribe Antilopini			<i>Equus</i> cf. <i>quagga</i>	3	1
<i>Antidorcas bondi</i>	1	1	<i>Equus</i> sp.	51	-
<i>Antidorcas australis/marsupialis</i>	4	2	Equidae indet.	2	-
<i>Antidorcas</i> sp.	5	-	Order Hyracoidea		
Tribe Hippotragini			Family Procaviidae		
<i>Hippotragus</i> sp.	5	3	<i>Procavia antiqua</i>	17	8
Tribe Neotragini			<i>Procavia transvaalensis</i>	44	13
<i>Oreotragus</i> sp.	158	24	<i>Procavia</i> sp.	6	-
Tribe Reduncini			Order Lagomorpha		
Reduncini indet.	9	5	Family Leporidae		
Tribe Tragelaphini			<i>Pronolagus rupestris</i>	2	1
<i>Taurotragus</i> sp.	5	4	Leporidae indet.	1	-
<i>Tragelaphus</i> sp.	5	2			
Tragelaphini indet.	1	-	Order Rodentia		
			Family Hystricidae		
			<i>Hystrix africaeaeaustralis</i>	38	9
			Total	1446	154

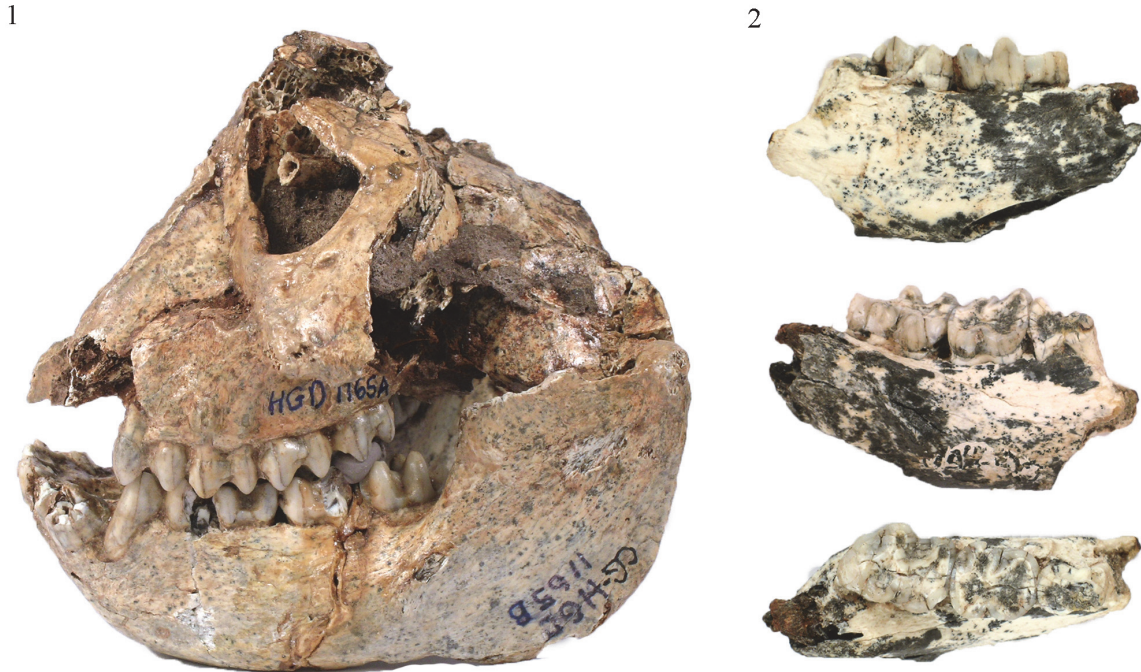


FIGURE 2. HGD Colobini: (1) HGD 1165A and B, *Cercopithecoides haasgati* partial cranium and mandible, lateral view; (2) HGD 2452, cf. *Cercopithecoides* right mandible, lateral (above), oblique (middle), and occlusal (below) views. Scale bar equals 1 cm.

colobin species present in the HGD assemblage, including *C. haasgati* (McKee et al., 2011), *C. williamsi*, and a third unassigned colobin represented by the HGD 2452 partial mandible. Metrically and morphologically, HGD 2452 approximates the large Kromdraai B specimens [KB 680/683, KB 5349 and KB 3114] and the Makapansgat Member 3 M 3018 M₃ noted by Eisenhart (1974) and Leakey (1982) as resembling *Paracolobus* or *Rhinocolobus* (Figure 2.2; Kegley et al., 2011). Interestingly, two of the three *C. williamsi* mandibles (HGD 1175 and HGD 1180) share features with comparable specimens from Sterkfontein Member 4 (Sts 394B and Sp 21), yet differ from those recovered from Makapansgat Member 3 (M 622) and Bolt's Farm Pit 23 (BF 42B) (Kegley, personal commun., 2012).

Subfamily CERCOPITHECINAE Gray, 1821

Tribe PAPIONINI Burnett, 1828

Genus PAPIO Stadius Müller, 1773

Type species *Papio papio* Desmarest, 1820

As previously noted, initial publications on the HGD fossils suggested the occurrence of two papionin species, *Parapapio broomi* Jones, 1937 and "*Simopithecus* sp." (syn. *Theropithecus* Geoffroy Saint-Hilaire, 1843) (Keyser, 1991; Keyser and Martini, 1991). A more detailed analysis of the 83

papionin craniodental specimens (MNI: 29; 15 male, 10 female, four indeterminate sex) classified the entire to the extinct species *Papio angusticeps* Freedman, 1957 and highlighted the similarities to specimens from Kromdraai A, B and Cooper's (McKee and Keyser, 1994). This study of the previously undocumented collections has expanded the diagnostically *P. angusticeps* to include 88 total specimens, derived from a minimum of 37 individuals (10 male, 12 female, 15 indeterminate sex) (Figure 3). A further 21 isolated *Papio* craniodental remains identified during this reanalysis are too incomplete to confidently attribute to *P. angusticeps*, but may represent additional specimens of the species.

Cercopithecidae gen. et sp. indet.

In addition to the identifiable papionin and colobin craniodental specimens, there is a large collection of indeterminate cercopithecoid craniodental (n=31) and postcranial (n=86) specimens and a single partial upper molar (HGD 2453) identifiable only as primate (but may represent *Cercopithecoides*).

Order ARTIODACTYLA Owen, 1848

Family BOVIDAE Gray, 1821

Tribe ALCELAPHINI de Rochebrune, 1883

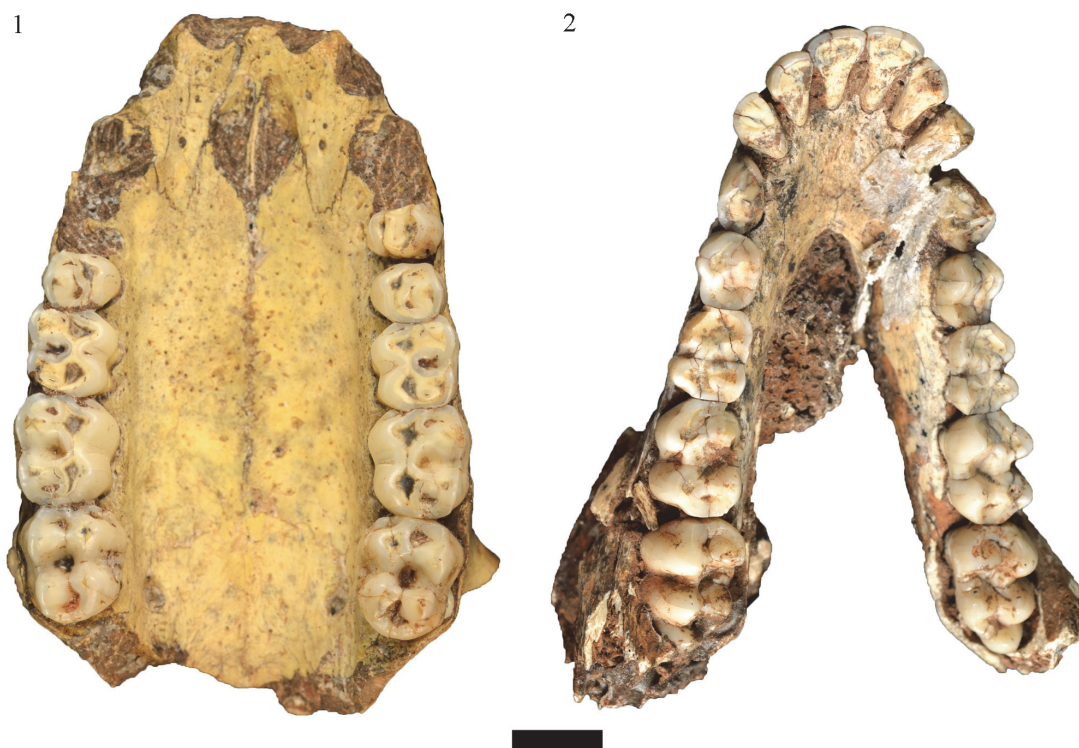


FIGURE 3. HGD *Papio angusticeps*: (1) HGD 606 male maxilla, occlusal view (2) HGD 1246 female mandible, occlusal view. Scale bar equals 1 cm.

The alcelaphins were the second largest taxonomic category reported in the original description of the HGD assemblage, with 230 specimens representing minimally 39 individuals (Plug and Keyser, 1994). In contrast, the original HGD catalog only records 134 specimens assigned to genera within the Tribe. This resurvey of the HGD collections only supports an alcelaphin size ($n=132$) close to that originally cataloged and not as published. Despite the superficial numerical similarity, most specimens have been classified as ‘indeterminate’ rather than to a more specific taxonomic level. This shift reflects a more conservative treatment of the isolated and damaged teeth necessitated by the lack of associated horn cores and overlapping dental morphologies of extant and extinct alcelaphin lineages. This approach prohibited attribution of any of the alcelaphin specimens to two species (*Alcelaphus buselaphus* Pallas, 1766 and *Connochaetes taurinus* Burchell, 1824) originally listed in the assemblage by Plug and Keyser (1994).

Genus CONNOCHAETES Lichtenstein, 1814
Type species *Connochaetes gnou* Zimmerman,
1780

Connochaetes gnou (Zimmerman, 1780)

Three partial mandibles (HGD 42, 43, 85) and four isolated mandibular fourth premolars (HGD 292, 312, 378, 1259) exhibited morphological features of the corpus, premolar cusp fusion, and overall size consistent with attribution to black wildebeest (Figure 4.1). The occlusal wear of the fourth premolars indicates minimally five different fully adult individuals in the , with HGD 312 and 378 likely antimeres.

Connochaetes sp.

A small collection of isolated alcelaphin teeth (HGD 55, 95, 1254), a mandible (HGD 52), and maxilla (HGD 66) are consistent with *Connochaetes* in both size and morphology but were insufficiently preserved to confidently attribute to the specific level given the phylogenetic diversity of Pleistocene *Connochaetes* species. The morphology of the HGD 52 left mandible, originally cataloged as *Connochaetes taurinus* is consistent with a *C. taurinus*-sized alcelaphin; however, the heavily worn and damaged m1 appears extremely small relative to similarly occluded *C. taurinus* individuals and the specimen does overlap with larger extant *C. gnou* specimens. Similarly, the HGD 66 maxilla preserves large dentition with complex central cavities consistent with extant *C. taurinus* and fossil



FIGURE 4. Haasgat Alcelaphini: (1) HGD 43, *Connochaetes gnou* right mandible, occlusal view; (2) HGD 44, *Damaliscus dorcas* maxilla, occlusal view; (3) HGD 311, *Megalotragus* sp. left m3, occlusal view. Scale bar equals 1 cm.

Connochaetes sp. aligned with the species described from Swartkrans (Vrba, 1976). These five specimens are derived from a minimum of three adult individuals.

Genus DAMALISCUS Sclater and Thomas, 1894
 Type species *Damaliscus dorcas* Pallas, 1766
Damaliscus dorcas (Pallas, 1766)

Only one of the 19 originally cataloged *Damaliscus dorcas* specimens was attributable to the species. The HGD 44 is a nearly complete maxilla preserving parts of both fully erupted tooth-rows, with molar crowns displaying the 'squared' protocone and metaconule exhibited by modern *D. dorcas* specimens (Figure 4.2).

Damaliscus sp.

Two craniodental specimens from different individuals exhibit features diagnostic to the genus *Damaliscus* but could not be more specifically attributed. HGD 97 is a partial mandible from an immature individual preserving the lingual aspect of the corpus, p3, deciduous p4 (with the perma-

nent p4 erupting), m1, and the mesial part of the m2. The first molar exhibits the mesiodistal 'pinching' of the protoconid and hypoconid typical of the genus, with the p3 (MD: 10.39 mm, BL: 5.37 mm) and m1 (MD: 19.67mm, BL: 10.17mm) larger than present in Swartkrans fossil specimens attributed to *D. dorcas* (no p3s attributed; m1 MD: mean=16.6 mm, n=6, BL: mean=8.2 mm, n=6) and as potentially representative of the extinct species *Damaliscus niro* (SKB 5979 p3, MD: 8.8 mm, BL: 6.5 mm; m1 MD: mean=14.1 mm, n=7; BL: mean=8.4 mm, n=7)(Vrba, 1978). Given the noted diversity of species within *Damaliscus* (see Gentry, 2010) the specimen can only be generically identified at present.

The HGD 1263 specimen preserves the occipital, both temporals inclusive of the petrous portions, both parietals, and parts of both frontals from a likely fully mature individual. In lateral view, the angle between the occipital and parietals is approximately 135 degrees and the small frontal portions indicate extensive sinus development that likely penetrated into the pedicles of the horncores.

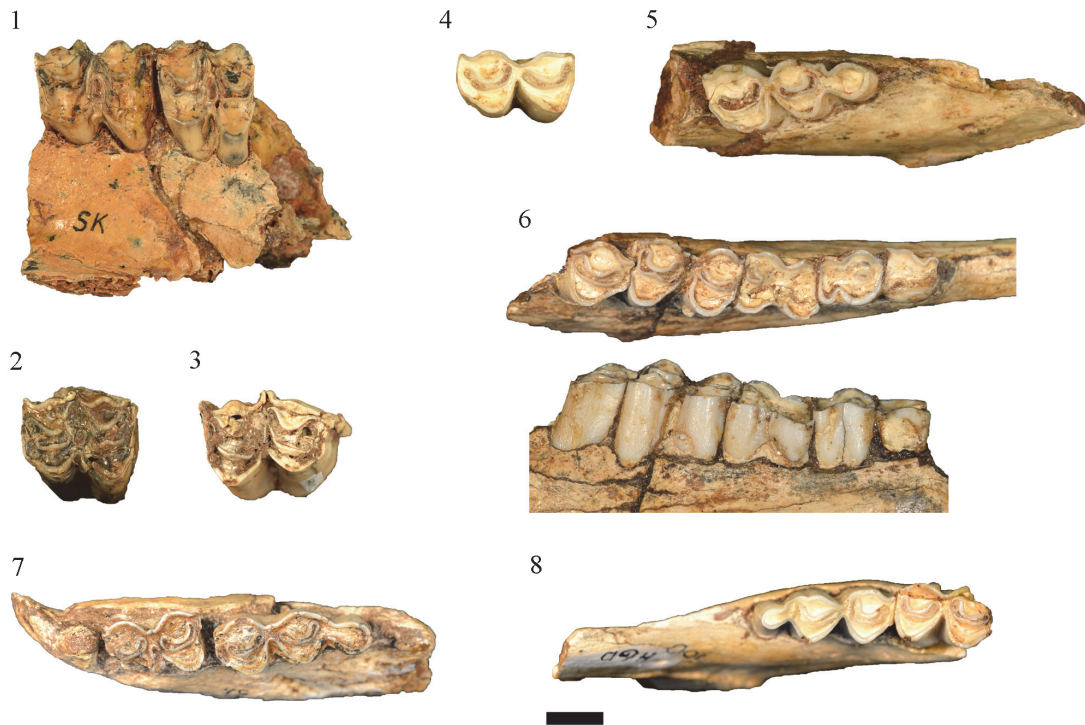


FIGURE 5. Swartkrans Hanging Remnant cf. *Makapania* sp. (SK) and Haasgat indeterminate alcelaphins: (1) SK 3005 right maxilla with M2 and M3, occlusal view; (2) HGD 73 right M1 or M2, occlusal view; (3) HGD 2193 left M3, occlusal view; (4) SK 2693 left m1, occlusal view; (5) SK 2965 left mandible with m3, occlusal view; (6) HGD 90 right mandible with p3-m3, occlusal [above] and buccal [below] views; (7) HGD 51 left mandible with m2 and m3, occlusal view; (8) HGD 100 right mandible with m2 and m3, occlusal view. Scale bar equals 1 cm.

The breadth of the occipital and parietals makes a shared base for the horncores unlikely (excluding attribution to either *Alcelaphus buselaphus* or *Par-mularius* Hopwood, 1934), and the pedicles are too anteriorly positioned for *Connochaetes*. The specimen is comparable to extant *Damaliscus lunatus* Burchell, 1824 crania in all assessable features, although the nuchal ridges on the occipital are more robust.

Genus MEGALOTRAGUS van Hoepen, 1932

Type species *Megalotragus priscus* Broom, 1909a
Megalotragus sp.

One isolated, occluded left mandibular third molar (HGD 311) is consistent with attribution to the extinct genus (Figure 4.3). Slight distortion along the distal and buccal margins of the crown limited direct metric comparison, but the minimum mesiodistal length (39 mm) places it within the range of *Megalotragus* specimens from Swartkrans Member 1, Kromdraai A, and Sterkfontein Member 4 (mean=39.7 mm, range=39.0-42.0 mm, n=7) and outside the observed range of fossil *Connochaetes* from those same localities (mean=33.9 mm, range=31.0-36.5 mm, n=24) (Vrba, 1976).

Alcelaphini gen. et sp. indet.

Most of the recovered alcelaphins in the HGD preserved insufficient morphological features to clearly attribute below the Tribal-level, but are derived from at least eight adult and two immature individuals. Of particular note within this grouping of specimens is a collection of 15 maxillary teeth (HGD 40, 53, 54, 59, 56, 61, 73, 92, 118, 145, 306, 2184, 2193, 2194, 2195) and 14 partial mandibles and mandibular teeth (HGD 4, 49, 51, 63, 90, 93, 100, 108, 113, 129, 385, 381, 425, 1253) (Figure 5). The maxillary molars in this subset exhibit protostyles, a modest basal pillar on one specimen (HGD 61), strong mesostyles with flat buccal walls of metacones, and M3s with exaggerated meta-styles (Figure 5.2-5.3). The mandibular remains have an extremely mesiodistally compressed pre-molar row, fused p3 cusp elements, and molars exhibiting gracile goatfolds and U- to V-shaped 'pointed' protoconids and hypoconids (and a mam-millary-like basal pillar on the HGD 90 m2)(Figure 5.6-5.8). Collectively these hypsodont specimens exhibit features shared with primitive alcelaphins (e.g., *Damalacra* Gentry, 1980; Gentry, 2000; Brink



FIGURE 6. HGD 326, *Antidorcas bondi* left maxilla, occlusal and lingual views. Scale bar equals 1 cm.

and Stynder, 2009) as well as specimens identified by Vrba (1976) from Swartkrans Member 1 Hanging Remnant as possibly representing *Ovibovini* (cf. *Makapania* sp. Wells and Cooke, 1956; SK 2693, SK 2965, SK 3005, SK 3065; Figure 5.1, 5.4-5.5). Although treated here as indeterminate alcelaphins, further analysis of this subset of specimens may lead to their attribution as *Ovibovini*.

Tribe ANTILOPINI Gray, 1821

Genus ANTIDORCAS Sundevall, 1847

Type species *Antidorcas marsupialis* Zimmerman, 1780

Antidorcas bondi (Cooke and Wells, 1951)

Although five *Antidorcas bondi* specimens were listed by Plug and Keyser (1994) only a single specimen (HGD 326) was cataloged, and no additional antilopin specimens identified during this survey could be attributed to the taxon. HGD 326 is a small portion of the left maxillary alveolus and the near complete crowns of the P4-M3 in full occlusion (Figure 6). The crowns are extremely hypsodont and are directly comparable to *A. bondi* specimens recovered from the Kromdraai A deposits (e.g., KA 1157; Vrba, 1976).

Antidorcas australis/marsupialis (Hendey and Hendey, 1968)/(Zimmerman, 1780)

A total of 28 *Antidorcas marsupialis* specimens were noted by Plug and Keyser (1994); however, only 10 specimens were cataloged (HGD 30, 88, 104, 120, 139, 144, 318, 330, 357, and 1079). The HGD 120 left fourth premolar could not be located, while the HGD 144 is a partial proximal phalanx that lacks diagnostic features allowing for attribution beyond Size Class. The HGD 318 left M3 was located but found to have a duplicate specimen number with an indeterminate cercopithecoid left proximal femur (and was renumbered HGD 825). Of the remaining originally cataloged specimens, most (HGD 88, 330, 357, and 1079) exhibit crown morphologies inconsistent with *Antidorcas* but aligned with the neotragin *Oreotragus* (see below), while the HGD 30 right maxillary molar is too incomplete to confidently allocate and is considered an indeterminate Antilopini/Neotragini.

Only four specimens derived from minimally two adult individuals could be confidently attributed to the *Antidorcas australis/Antidorcas marsupialis* lineage (probable synonyms; see Gentry, 2010), including three of the originally cataloged specimens (HGD 104 left mandible with m2 and m3; HGD 139 partial maxilla; HGD 825 left M3 [formerly HGD 318]). The HGD 422 left lower molar, originally considered *Antidorcas* sp., exhibits a well-defined central cavity and robust crown analogous to *A. australis/A. marsupialis* from Swartkrans (e.g., SK 3057, SK 4006, SK 4081) and contrasts with both *Antidorcas bondi* and *Antidorcas recki* Schwarz, 1932 comparatives.

Antidorcas sp.

While four specimens were attributed to *Antidorcas* sp. by Plug and Keyser (1994), a total of five specimens (HGD 328, 335, 367, 418, 422) were cataloged. After review none of the originally cataloged specimens could be retained as *Antidorcas*. The HGD 328 (radial carpal) and HGD 335 (lumbar vertebra) do not preserve diagnostic features that exclude other bovid genera. The HGD 367 maxillary tooth (possibly an M1) only preserves the mesial aspect of the crown and is considered here an indeterminate Antilopini/Neotragini. Both the HGD 418 (P4) and HGD 422 (m2 or m3) were identifiable as *Oreotragus* sp. and *Antidorcas marsupialis*, respectively.

Five specimens are cataloged here as representing indeterminate *Antidorcas* in the HGD assemblage. The HGD 36 left partial m3 is occluded but hypsodont, potentially derived from either *Antidorcas recki* or *Antidorcas bondi*. The HGD 313 and 794 partial upper molars resemble



FIGURE 7. Haasgat Hippotragini: (1) HGD 89, *Hippotragus* sp. right M3, occlusal view; (2) HGD 106, *Hippotragus* sp. left deciduous p3, occlusal view. Scale bar equals 1 cm.

specimens attributed to both *A. recki* and *A. marsupialis* but are too brachydont to be derived from *A. bondi*. From the previously undocumented assemblage, the HGD 1283 right M3 is heavily occluded and may be *A. recki*, while the HGD 1285 ectoloph fragment is extremely hypsodont and consistent with the morphology of the HGD 326 *A. bondi* maxillary dentition.

Tribe HIPOTRAGINI Retzius and Lovén, 1845
Genus HIPOTRAGUS Sundevall, 1846
Type species *Hippotragus equinus* Geoffroy Saint-Hilaire, 1803
Hippotragus sp.

Only one of the four originally listed and cataloged *Hippotragus* specimens (HGD 89, right occluded M3) exhibits the boödont occlusal features consistent with *Hippotragus* sp. (Figure 7.1). Of the other originally cataloged *Hippotragus* specimens, the HGD 140 left lower molar only preserves an undiagnostic part of the mesial crown and goatfold and is reclassified here as an indeterminate Hippotragini/Reduncini, while the HGD 268 specimen is a Class III bovid distal tibia that is insufficiently diagnostic to specifically attribute. The only other cataloged *Hippotragus* specimen is the HGD 40 isolated right M2 listed as *Hippotragus niger* Harris, 1838, although this species is not included in Plug and Keyser (1994). However, the molar lacks an entostyle and exhibits cusp morphology only consistent with attribution to the Alcelaphini.

In addition to the HGD 89 molar, four additional isolated *Hippotragus* teeth were identified during reanalysis. The HGD 9 right M3 is a largely complete tooth that indicates the occurrence of a

second fully adult individual in the assemblage. The HGD 106 left deciduous third premolar was originally cataloged as *Connochaetes taurinus*, however the size and shape of the crown elements (particularly the hypoconulid and paraconulid) are only consistent with attribution to *Hippotragus* (Figure 7.2). Of the two left p2 specimens, HGD 1261 appears to be somewhat buccolingually expanded relative to extant *Hippotragus equinus* specimens, but does appear to overlap with some of the largest male extant comparative specimens.

Tribe NEOTRAGINI Sclater and Thomas, 1894
Genus OREOTRAGUS Smith, 1834
Type species *Oreotragus oreotragus* Zimmerman, 1783
Oreotragus sp.

The largest single categorization of specimens (NISP: 450, MNI: 30) in the original Haasgat faunal description was to *Oreotragus*, with specimens (directly or via 'cf.') assigned to either extant *Oreotragus oreotragus* or the extinct *Oreotragus major* Wells, 1951 (Plug and Keyser, 1994; Figures 8 and 9). Although 21 specimens were listed as *O. oreotragus/O. cf. oreotragus*, only 232 specimens (63 craniodental, 169 postcranial) – all assigned to *O. major/O. cf. major* – were cataloged. This reanalysis has been able to document a total of 158 specimens (90 craniodental, 68 postcrania) attributable to *Oreotragus*, representing the remains of at least 19 adult and five immature individuals. The increases to the craniodental largely resulted from identifying additional specimens from the previously undocumented assemblage, while the reduction in assigned postcrania arose from a more conservative approach to classifying partial elements.

Despite the large size the specific allocation of the HGD *Oreotragus* specimens is complicated. The phylogenetic status of *Oreotragus* relative to the other Neotragini (a probable polyphyletic group) and other extant bovids is unresolved, but the genus may represent a primitive bovid lineage that has persisted since the Miocene (Gentry, 1992; Hernández Fernández and Vrba, 2005). Unfortunately, early evidence of the genus is lacking, there is no reported occurrence of the species in eastern African fossil assemblages, and currently the oldest *Oreotragus* fossil specimens in the record are those from Makapansgat Member 3 (3.03-2.58 m.y.a.; Herries, 2003; Warr, 2009). These specimens were allocated to *Oreotragus major*, a species originally erected for a specimen recovered from a cave on the Swartkrans Farm (not the hominin-bearing site Swartkrans), an

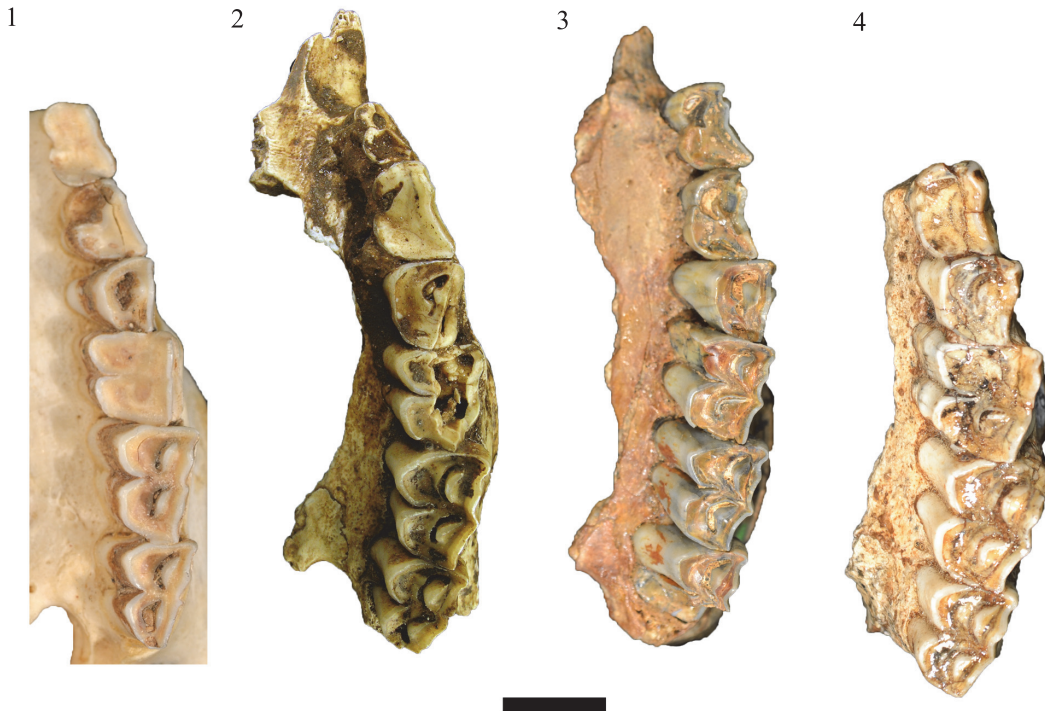


FIGURE 8. Occlusal views of Haasgat and comparative *Oreotragus* left maxillae: (1) TM 14845 modern *Oreotragus oreotragus*; (2) G 2700, Gondolin GD 2 right maxilla (reversed); (3) M 949, Makapansgat Member 3; (4) HGD 1301. Scale bar equals 1 cm.

undated locality near the Makapansgat Limeworks (Wells, 1951). In contrast to extant *Oreotragus oreotragus*, *O. major* exhibits absolutely larger dentition and a relatively greater M2 mesiodistal length (Wells, 1951; Wells and Cooke, 1956). The validity of *O. major* was questioned by Watson and Plug (1995) who evaluated *Oreotragus* specimens from the South African localities, including those from the Haasgat HGD assemblage. Their analysis found no metric or morphological separation between *O. major* and extant *O. oreotragus* craniodental and postcranial remains, concluding that only one species with variable body size (*O. oreotragus*) existed through the Plio-Pleistocene. Following this interpretation, the presence of *O. oreotragus* in the Makapansgat Member 3 deposits would make it the earliest occurrence of a modern African bovid species in the fossil record (Gentry, 2010).

A comprehensive analysis of the Haasgat HGD *Oreotragus* relative to the larger South African *Oreotragus* record is beyond the scope of this publication, but has been undertaken and will be published separately. Two key results from that analysis do, however, directly impact the allocation of the Haasgat HGD *Oreotragus* specimens. First,

statistical tests (independent t-test, $\alpha=0.05$) failed to identify any statistically significant sex differences in extant *Oreotragus oreotragus* craniodental variables, confirming that the observed body monomorphism of the modern species (Smithers and Chimimba, 2005) extends to cranial metrics (Table 2). While some of the assessed maxillary and mandibular dimensions of specimens from Haasgat do overlap with the upper boundaries of extant *Oreotragus* (Table 2), the HGD specimens are significantly different in every measure from extant *Oreotragus* except in two morphological indices (PMRL: mandibular pre-molar row length/mandibular molar row length; MDMR: depth of the mandible at m2-m3/mandibular molar row length; Sponheimer et al., 1999). There are also statistical differences identified in most maxillary and mandibular measures between the two other large fossil s (Makapansgat Member 3 and Gondolin GD 2) and modern *O. oreotragus*. Second, while the three substantial fossil *Oreotragus* s (Haasgat HGD, Makapansgat Member 3, Gondolin GD 2) do overlap with each other in some craniodental measurements, there are statistically significant differences in the dentition and maxillary and mandibular indices between each group. The



FIGURE 9. Occlusal views of Haasgat and comparative *Oreotragus* left mandibles: (1) HGD 298 right mandible (reversed); (2) M 997, Makapansgat Member 3; (3) G 4940, Gondolin GD 2; (4) TM 11720 modern *Oreotragus oreotragus*. Scale bar equals 1 cm.

Haasgat HGD specimens are the absolute largest craniodental remains of the genus identified to date, overlapping somewhat with those from Makapansgat Member 3 (Table 2). The Makapansgat Member 3 specimens are in turn generally larger than those recovered from Gondolin GD 2, but exhibit fewer metric differences with the GD 2 than the Makapansgat does with Haasgat HGD *Oreotragus*.

These results contrast with those reported by Watson and Plug (1995) and raises questions about both the temporal and regional evolution of the genus during the Plio-Pleistocene and the appropriate taxonomic attribution of the *Oreotragus* remains from these sites. Until the results of a more comprehensive evaluation of the Haasgat

HGD and South African *Oreotragus* record have been published, the most appropriate classification of the Haasgat HGD *Oreotragus* materials is to the generic level.

Tribe REDUNCINI Lydekker and Blaine, 1914
Reduncini gen. et sp. indet.

A total of 25 reduncin specimens representing minimally 9 individuals were originally allocated by Plug and Keyser (1994) to one of four species (*Kobus ellipsiprymnus* Ogilby, 1833, *Kobus leche/Kobus cf. leche* Gray, 1850, *Redunca arundinum* Boddaert, 1785, and *Redunca fulvorufula* Afzelius, 1815). Only 13 reduncin specimens were cataloged, and of those, only 12 were found during the reassessment of the assemblage. Three of these

4 **TABLE 2.** Craniodental measurements of extant and fossil *Oreotragus*.

Measurement	Extant <i>Oreotragus oreotragus</i>					Haasgat HGD <i>Oreotragus</i> sp.					Gondolin GD 2 <i>Oreotragus</i> sp.					Makapansgat Member 3 <i>Oreotragus</i> sp.					
	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n	
<i>Maxillary</i>																					
P2 length	7.98	0.53	6.98	8.78	15	10.95	0.57	9.98	11.92	8	8.68	0.66	7.32	9.68	20	9.58	0.75	8.75	10.19	3	
P2 width	5.94	0.70	4.49	7.64	15	7.30	0.72	6.38	8.13	7	6.04	0.78	4.64	7.05	18	7.30	0.33	6.93	7.54	3	
P3 length	7.68	0.53	6.91	8.58	16	9.79	0.40	9.11	10.30	7	9.28	0.66	8.18	10.39	11	9.03	0.76	8.16	9.56	3	
P3 width	6.18	0.45	5.24	6.88	16	7.93	0.78	7.08	9.42	7	6.37	0.78	5.15	7.53	11	7.14	0.27	6.83	7.35	3	
P4 length	6.92	0.60	6.21	8.05	16	8.68	0.62	7.82	9.75	9	9.02	1.12	7.90	11.25	10	8.17	0.54	7.70	8.94	4	
P4 width	6.57	0.58	5.33	7.31	16	8.29	0.71	7.15	9.57	11	6.97	0.74	5.77	8.15	10	7.24	0.76	6.40	7.93	4	
M1 length	8.80	1.11	7.26	11.21	19	11.30	0.42	10.70	11.68	4	10.55	0.84	9.40	13.12	16	9.97	0.41	9.61	10.41	3	
M1 width	7.45	0.65	6.48	8.73	19	9.41	0.81	8.38	10.41	6	7.52	1.33	5.80	10.23	17	7.59	0.47	7.05	7.91	3	
M2 length	10.03	0.81	8.43	11.62	19	13.61	1.39	11.72	14.94	4	11.26	0.79	9.79	12.70	15	11.28	0.42	10.66	11.54	4	
M2 width	7.63	0.68	6.62	8.79	19	9.77	0.60	9.14	10.82	7	7.04	0.79	5.56	8.35	15	8.01	0.56	7.48	8.65	4	
M3 length	9.49	0.27	9.11	10.04	17	12.27	0.61	11.49	13.13	6	10.02	0.47	9.48	10.86	10	10.41		10.41	10.41	1	
M3 width	6.56	0.55	5.87	7.44	17	9.22	1.05	7.93	11.03	7	6.60	0.76	5.61	7.86	11	6.78		6.78	6.78	1	
Premolar Row Length	23.18	1.45	21.35	27.12	18	28.85	1.58	27.70	30.65	3	26.92		26.92	26.92	1	26.60	0.84	25.69	27.36	3	
Molar Row Length	27.27	1.26	24.79	29.45	17	34.01	1.37	32.02	35.71	5	32.21	0.83	31.25	33.25	4	30.76	2.33	29.11	32.41	2	
<i>Mandibular</i>																					
p2 length	4.75	0.61	4.02	5.80	12	6.18	0.54	5.79	6.56	2	5.53	0.68	4.60	7.22	22	5.71	0.33	5.14	5.92	5	
p2 width	2.76	0.29	2.42	3.19	12	3.79	0.39	3.36	4.10	3	3.11	0.23	2.66	3.63	22	3.21	0.15	3.09	3.47	5	
p3 length	8.16	0.86	6.68	9.52	12	10.19	0.92	9.10	11.54	8	9.15	1.08	7.09	10.91	20	9.32	0.54	8.16	9.99	10	
p3 width	3.84	0.32	3.36	4.30	12	5.11	0.48	4.18	5.97	9	3.99	0.48	3.08	4.84	20	4.47	0.39	3.83	4.99	10	
p4 length	9.14	0.82	7.82	10.42	12	11.48	1.24	10.58	13.93	6	11.23	1.41	9.44	13.25	14	10.59	0.62	9.45	11.59	12	
p4 width	4.57	0.47	3.79	5.17	12	5.97	0.36	5.40	6.43	7	4.27	0.84	3.17	5.86	14	5.22	0.33	4.52	5.76	12	
m1 length	8.62	0.89	7.45	11.03	16	10.99	0.57	10.30	11.92	9	10.02	0.88	8.66	11.41	14	10.18	0.80	8.69	11.93	27	
m1 width	5.25	0.34	4.61	6.04	16	6.34	0.35	5.72	6.73	9	5.08	0.54	4.41	6.06	14	5.75	0.32	5.11	6.48	28	
m2 length	9.73	0.91	8.47	12.13	16	12.45	0.70	11.14	13.65	18	10.53	0.79	8.62	11.86	17	11.18	0.91	9.59	12.73	32	
m2 width	5.31	0.35	4.64	5.74	16	6.43	0.49	5.62	7.48	16	5.50	0.52	4.27	6.31	17	6.02	1.14	5.23	12.57	38	
m3 length	12.65	0.71	11.34	13.61	14	15.55	0.81	14.50	16.60	13	13.68	0.80	12.35	15.18	20	13.59	1.74	5.46	14.87	26	
m3 width	4.94	0.39	4.21	5.52	14	6.00	0.31	5.40	6.42	14	5.22	0.40	4.66	5.91	20	5.42	0.32	4.77	5.85	25	
Premolar Row Length (PRL)	21.87	1.77	19.08	25.06	15	25.57	0.25	25.39	25.75	2	24.21	0.87	23.20	25.20	4	24.32	0.80	23.39	24.83	3	
Molar Row Length (MRL)	30.28	1.21	28.08	32.18	14	37.94	1.03	36.27	39.15	6	34.79	0.94	33.89	35.86	5	34.70	1.03	32.72	36.71	13	
Corpus Depth (Diastema) (DD)	16.98	1.35	14.48	18.94	13	23.29	1.13	21.65	24.90	8	20.79	1.18	19.28	22.42	8	21.28	1.62	17.38	23.85	19	

TABLE 2 (continued).

Measurement	Extant <i>Oreotragus oreotragus</i>					Haasgat HGD <i>Oreotragus</i> sp.					Gondolin GD 2 <i>Oreotragus</i> sp.					Makapansgat Member 3 <i>Oreotragus</i> sp.				
	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n
Corpus Depth (m2/m3) (MD)	8.74	0.83	7.54	10.63	15	12.76	1.24	12.76	12.76	1	9.73	0.47	8.96	10.43	8	10.69	1.01	10.00	11.85	3
Corpus Width (m2/m3) (CW)	8.00	0.56	6.95	8.73	9	10.69	1.24	9.22	12.93	10	9.59	0.34	9.14	10.04	7	10.99	0.58	10.58	11.40	2
PRL/MD	0.71	0.04	0.62	0.76	13	0.67		0.67	0.67	1	0.69	0.02	0.68	0.70	2	0.76		0.76	0.76	1
MD/MRL	0.56	0.05	0.47	0.63	13	0.62	0.02	0.60	0.63	3	0.58	0.05	0.54	0.63	3	0.65	0.02	0.64	0.67	2
DD/MRL	0.29	0.03	0.24	0.33	13	0.35		0.35	0.35	1	0.28		0.28	0.28	1	0.32	0.03	0.31	0.34	2
MD/CW	2.07	0.16	1.81	2.31	9	2.31	0.21	2.12	2.61	7	2.15	0.15	1.96	2.35	7	2.00	0.02	1.99	2.02	2

originally attributed specimens (HGD 253, 323, 324) are partial bovid Class II-III postcranial elements that preserved insufficiently diagnostic morphological features to warrant even Tribal-level attribution. There was likely an error in cataloging the HGD 317 specimen, as it is listed as a *Redunca arundinum* right m2 but is a cercopithecoid left proximal femur.

The remaining eight reduncin craniodental specimens were originally cataloged as *Kobus leche* (HGD 39 and HGD 41), *Redunca arundinum* (HGD 38 and HGD 84), *Redunca fulvorufula* (HGD 333), and *Redunca* sp. (HGD 37, 321, 351); however, the specimens are damaged, incomplete, or only preserve indeterminate metric and morphological features (Figure 10). As such, identification of these specimens below the Tribal-level cannot be supported. The HGD 39 right m3 is most similar to *Redunca darti* Wells and Cooke, 1956 from Makapansgat Member 3 and modern *Kobus* in overall size (MD: 25.73 mm, BL: 10.51 mm), although the hypoconulid projects more lingually than typical in *R. darti* and the specimen falls outside the assessed ranges of *R. darti* and extant *K. leche* (Table 3). Similarly, the preserved left M1 (MD: 12.23 mm, BL: 15.1 mm), M2 (MD: 16.21 mm, BL: 14.2 mm) and M3 (MD: 18.6 mm, BL: 12.53 mm) on the relatively complete HGD 41 palate are large compared to extant specimens of *Redunca* and overlap with *K. leche*, but also metrically overlaps with *Redunca arundinum* from Elandsfontein, the largest *Redunca* sp. from Gondolin GD 2, and *Redunca darti* from Makapansgat Member 3.

The most complete of the mandibles, HGD 38, preserves a nearly intact (if crushed) left tooththrow and corpus. Metrically, the measurable p2 (MD: 5.98 mm, BL: 4.52 mm), p4 (MD: 11.4 mm, BL: 7.68 mm), m1 (MD: 13.33 mm, BL: 8.81 mm), m2 (MD: 16.05 mm, BL: 8.7 mm), and m3 (MD: 20.47 mm, BL: 8.27 mm) fall within the overlapping ranges of Elandsfontein *Redunca arundinum*, Makapansgat Member 3 *Redunca darti*, Gondolin GD 2 *Redunca* sp., and extant *Kobus leche* (Table 3). Morphologically, the dentition and assessable corpus features are most similar to *R. darti* specimens (e.g., M879, M893, M6470, M6609), particularly in the wide separation of the p4 paraconid and metaconid (in contrast to extant *Redunca* and *Redunca* sp. from Gondolin GD 2; Adams and Conroy, 2005; Adams, 2006). Both the HGD 84 mandible, preserving the posterior portions of the corpus and the m3 (MD: 24.2 mm, BL: 9.58 mm), and the HGD 37 mandible, preserving the posterior corpus with a complete m2 (MD: 19.67 mm, BL: 9.85 mm) and partial m3, are larger than the HGD 38 individual and have teeth

1



2



3



FIGURE 10. Haasgat indeterminate Reduncini: (1) HGD 38 left mandible with p2-m3, occlusal view; (2) HGD 37 left mandible with m2 and m3, occlusal view; (3) HGD 41 maxilla, detail of left P3-M3, occlusal view. Scale bar equals 1 cm.

that lie just outside the range of the Makapansgat *R. darti*, Elandsfontein *R. arundinum* and extant *K. leche* s.

The remaining reduncin specimens (HGD 321, 333, 351, 1252; the latter not previously cataloged) are isolated teeth that largely appear to be derived from individuals with a body size between modern *Redunca arundinum* and *Kobus leche*. The exception is the HGD 333 right m3, which was damaged during preparation but is from a smaller reduncin (a small *R. arundinum*, *Redunca fulvorufula*, or possibly *Redunca* sp. from Gondolin GD 2) than represented by the HGD 37, 38, and 84 individuals.

Tribe TRAGELAPHINI Blyth, 1863

Genus TAUROTRAGUS Wagner, 1855

Type species *Taurotragus oryx* Pallas, 1766

Taurotragus sp.

Only nine of the 13 originally listed *Taurotragus oryx* specimens were cataloged. Although the generic identification of four of these specimens (HGD 126, 132, 797, 799) was confirmed, the isolated and fragmentary nature of the prohibited specific allocation (Figure 11.1). In addition to the previously catalogued, a deciduous fourth premolar (HGD 315, originally attributed to *Tragelaphus*

strepsiceros Pallas, 1766) has been reclassified here to *Taurotragus* sp., indicating the presence of at least two immature individuals in addition to two adults in the assemblage. The other originally cataloged *T. oryx* specimens (HGD 250, 257, 320, 1058) are partial Class III-IV bovid postcranial elements that cannot be confidently attributed to the species. A previously attributed single left P3 (HGD 119) only preserves part of the buccal crown and is heavily worn and is treated here as an indeterminate Tragelaphini/Hippotragini.

Genus TRAGELAPHUS de Blainville, 1816

Type species *Tragelaphus scriptus* Pallas, 1766

Tragelaphus sp.

Six of the 11 specimens listed as *Tragelaphus strepsiceros* by Plug and Keyser (1994) were cataloged, and five of these specimens were located; however, only one specimen (HGD 96, left probable M1) is consistent with the dentition of the extant species and lacking additional associated cranial remains is retained at the generic level (Figure 11.2). Other than the HGD 315 specimen discussed above, the HGD 98 left maxilla and HGD 113 right mandible preserve dental features only found within the Alcelaphini. The HGD 123 right mandible preserves most of the deciduous premo-

TABLE 3. Craniodental measurements (mm) of extant and fossil Reduncini.

Measurement	<i>Redunca arundinum</i>					<i>Redunca fulvorufula</i>				
	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n
<i>Maxillary</i>										
M1 length	12.79	1.17	9.91	14.76	41	10.05	1.2	7.84	13.21	65
M1 width	11.16	1.14	8.84	13.90	41	9.92	0.85	8.09	12.45	65
M2 length	14.27	0.69	12.95	15.76	46	12.34	0.8	10.32	13.91	66
M2 width	11.07	1.27	9.2	13.7	47	10.1	1.11	7.5	12.4	66
M3 length	14.98	0.97	13.01	17.46	46	13.54	1.04	11.66	16.49	63
M3 width	9.94	1.47	7.63	13.80	46	9.48	1.15	6.39	11.32	61
<i>Mandibular</i>										
p2 length	5.96	0.54	4.91	6.87	26	4.08	0.53	3.13	5.02	54
p2 width	4.34	0.54	3.59	5.49	26	3.13	0.38	2.20	4.27	54
p4 length	9.96	1.05	8.77	13.96	29	8.09	0.61	6.55	9.56	68
p4 width	6.94	0.7	5.53	8.10	29	5.44	0.52	4.33	6.81	68
m1 length	11.84	1.24	9.32	13.78	34	9.93	1.19	7.47	12.14	78
m1 width	7.9	0.65	6.97	9.38	34	6.97	0.51	6.33	8.19	78
m2 length	14.14	0.84	12.40	15.68	35	12.22	0.74	10.95	13.51	74
m2 width	7.99	0.81	6.27	9.70	35	7.21	0.7	5.94	8.66	74
m3 length	18.62	2.26	7.65	21.97	33	16.52	0.96	14.71	19.09	70
m3 width	7.45	0.95	5.74	9.51	33	6.55	0.75	5.33	8.12	71

TABLE 3. (continued)..

Measurement	Makapansgat Member 3 <i>Redunca darti</i>					Gondolin GD 2 <i>Redunca</i> sp.				
	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n
<i>Maxillary</i>										
M1 length	13.99	1	10.92	15.35	30	12.87	1.32	10.19	16.93	44
M1 width	14.12	1.38	11.37	17.08	29	11.77	1.52	8.52	14.64	41
M2 length	16.06	0.97	14.55	18.58	86	14.95	1.05	12.07	16.32	46
M2 width	14.25	1.41	11.0	16.8	85	11.37	1.61	8.7	14.9	45
M3 length	16.94	0.94	15.11	18.98	35	16.08	1.06	13.72	18.20	55
M3 width	14.65	1.34	10.56	16.74	33	10.87	1.64	7.79	16.36	55
<i>Mandibular</i>										
p2 length	6.52	0.34	6.21	7.01	6	5.74	0.6	4.64	7.06	26
p2 width	4.67	0.57	3.90	5.50	6	4.35	0.37	3.53	4.99	26
p4 length	10.43	1.16	6.85	14.15	31	9.85	0.67	8.69	10.99	31
p4 width	7.3	0.6	6.12	8.24	30	6.46	0.64	5.02	7.66	32
m1 length	14.34	1.4	10.36	18.10	111	12.74	1.64	8.19	15.32	38
m1 width	8.93	0.86	6.45	10.76	109	7.84	0.97	5.75	9.41	36
m2 length	16.04	0.85	14.01	18.33	101	15.22	0.82	13.35	17.01	38
m2 width	9.99	0.69	8.41	11.15	92	7.83	0.86	5.85	9.49	37
m3 length	20.99	1.16	18.19	23.38	117	19.63	1.16	16.47	22.21	32
m3 width	8.77	0.9	7.06	10.36	119	7.7	0.9	6.64	11.01	37

lar dentition (Figure 11.3). While the teeth are too damaged to measure the specimen most closely

resembles extant *Tragelaphus angasii* Gray in Angas, 1848 (as does the HGD 329 left P2).

Tragelaphini gen. et sp. indet.

TABLE 3. (continued).

Measurement	Elandsfontein <i>Redunca arundinum</i>					<i>Kobus leche</i>				
	Mean	s	Min.	Max.	n	Mean	s	Min.	Max.	n
<i>Maxillary</i>										
M1 length	14.21	0.48	13.64	14.88	5	15.13	1	13.42	17.18	18
M1 width	12.22	0.62	11.34	13.14	6	13.13	1.07	11.76	15.34	18
M2 length	16.94	0.15	16.76	17.03	3	16.30	0.74	14.98	17.72	18
M2 width	11.74	0.7	10.9	12.2	3	12.98	1.08	11.5	15.3	18
M3 length	11.3	1.23	15.87	19.67	7	17.01	0.79	15.73	18.35	18
M3 width	11.84	0.9	10.80	13.22	7	12.30	1.2	10.90	15.10	18
<i>Mandibular</i>										
p2 length	5.96				1	6.09	0.32	5.72	6.81	13
p2 width	4.32				1	4.92	0.22	4.60	5.30	13
p4 length	10.9	0.59	9.86	11.57	9	10.55	0.78	8.89	11.69	17
p4 width	7.21	0.33	6.82	7.73	9	8.12	0.59	7.30	9.24	17
m1 length	14.51	1.65	11.67	17.12	19	13.97	0.82	12.23	14.87	19
m1 width	8.55	0.83	7.21	9.97	19	9.25	0.65	8.36	10.59	19
m2 length	16.82	1	15.34	18.75	18	15.77	0.45	15.04	16.42	19
m2 width	8.93	0.97	6.85	10.26	18	9.15	0.54	8.48	10.66	19
m3 length	22.62	0.86	21.17	24.03	15	21.65	0.98	19.59	23.65	19
m3 width	8.81	0.89	7.02	10.02	17	8.98	0.59	8.09	10.21	19

An additional large tragelaphin specimen, the HGD 110 partial maxillary deciduous third premolar, may represent either *Taurotragus oryx* or *Tragelaphus strepsiceros* and is therefore maintained as an indeterminate Tragelaphini.

Family SUIDAE Gray, 1821
 Subfamily SUINAE Gray, 1821
 Tribe PHACOCHOERINI Gray, 1868
 Phacochoerini gen. et sp. indet.

In the original description, Plug and Keyser (1994) attributed a partial suid third molar (HGD 1323; Figure 12) to the extinct genus *Metridiochoerus* Hopwood, 1926. The specimen was mechanically sectioned at some point prior to 2010, which eliminated ~2 mm of crown and caused significant fragmentation of the specimen. I was able to rebuild the majority of these fragments into two halves that preserve a contact point along the lingual aspect of the tooth. The degree of enamel crenulation, apical curvature, and pillar morphology (both at the occlusal plane and in the exposed section) is consistent with that of progressive phacochoerin morphology; specifically to advanced *Metridiochoerus andrewsi* Hopwood, 1926 mandibular third molar specimens recovered from Bolt's Farm, Gondolin GD 2, Swartkrans Members 1 and 2, and Kromdraai A (Harris and White, 1979; Cooke, 1993; Adams, 2005). Although HGD 1323

exhibits thicker enamel than typical for extant *Phacochoerus aethiopicus* Pallas, 1766 individuals, some *Phacochoerus* third molar specimens recovered from Swartkrans (e.g., SK 382, SK 4005) also have thicker enamel and exhibit a broadly similar third molar talon/id morphology. Given the preservation and indeterminate morphology it is not possible to generically attribute the specimen.

In addition to the previously described specimen, the HGD assemblage includes an unworn, partial indeterminate suid tooth crown (HGD 1324) that most closely resembles the mandibular deciduous fourth premolar of the SK 381 *Metridiochoerus andrewsi* specimen from the Swartkrans Member 1 deposits.

?Suidae gen. et sp. indet.

An immature proximal metaphysis/diaphysis (HGD 2309) may be a suid calcaneus given its shared morphology with the *M. andrewsi* calcaneus (G 126) from Gondolin GD 2 (Adams, 2006).

Order CARNIVORA Bowdich, 1821

As previously noted neither of the originally described and/or cataloged carnivore specimens (*Chasmaporthetes nitidula* Ewer, 1954 [not cataloged]; *Canis mesomelas* Schreber, 1776 [HGD 101]) recovered from the Haasgat *ex situ* blocks



FIGURE 11. Haasgat Tragelaphini: (1) HGD 126, *Taurotragus* sp. right maxilla with partial M1 and M2, occlusal view; (2) HGD 96, *Tragelaphus* sp. left probable M1, occlusal view; (3) HGD 123, *Tragelaphus* sp. right mandible, occlusal (above) and lateral (below) views. Scale bar equals 1 cm.

could be located in 2010. Lacking documentation for the purported *C. mesomelas* mandible the occurrence of species at Haasgat cannot be confirmed.

Family HYAENIDAE Gray, 1821
Hyaenidae gen. et sp. indet.

Although the originally reported *Chasmaporthetes nitidula* left maxilla is currently missing, and the specific allocation cannot be confirmed, photographs of the specimen (Keyser, 1991, figure 7; Keyser and Martini, 1991, plate 4) minimally establish the occurrence of a hyaenid at the site.

Family FELIDAE Fischer von Waldheim, 1817
Genus DINOVELIS Zdansky, 1924

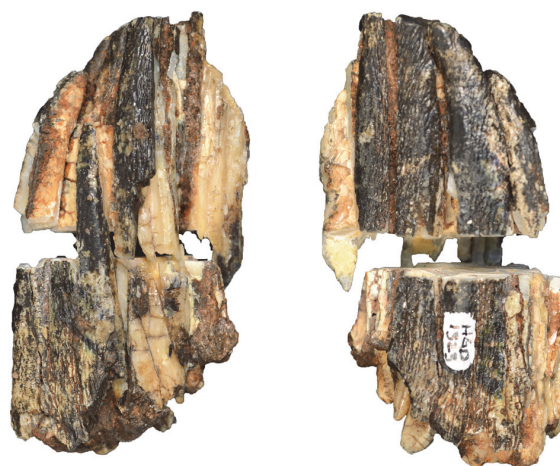


FIGURE 12. Side views of the HGD 1323 reconstructed indeterminate suid third molar. Scale bar equals 1 cm.

Type species *Dinofelis abeli* Zdansky, 1924
cf. *Dinofelis* sp.

Analysis of the previously undocumented assemblage identified two carnivore postcranial elements, including a right fourth metatarsal preserving the proximal articular surface and approximately 75% of the diaphysis (HGD 950; Figure 13). Only minimal dimensions of the proximal articular surface could be measured (anteroposterior [AP]: 18.98mm, mediolateral [ML]: 14.92mm) because of abrasions to the margins of the specimen, and it is important to note that the woven appearance of the articular surface suggests that the specimen may be from an immature individual. In its preserved state HGD 950 is larger than comparative specimens of modern and fossil *Panthera pardus* Linnaeus, 1758 and *Megantereon whitei* Broom, 1937 fourth metatarsal specimens from Kromdraai B (KB 5334a and 5339c [AP: 16.70 mm, ML: 10.82 mm]) and differs in proximal articular surface morphology. It is similarly sized to *Dinofelis* sp. metapodials from Swartkrans and Kromdraai and fourth metatarsals from Drimolen (*Dinofelis* aff. *piveteaui* Ewer, 1955; DN 14; AP: 18.6 mm, ML: 10.8 mm) and Malapa (*Dinofelis barlowi* Broom, 1937; UW 88-594; ML: 13.3 mm; Kuhn et al., 2012). HGD 950 does differ from the Drimolen *D.* aff. *piveteaui* specimen in exhibiting a mediolaterally-broader proximal articular surface with a straighter anterior margin, a more gracile facet for the third metatarsal, and discrete anterior and posterior facets for the fifth metatarsal (O'Regan and Menter, 2009, figure 5D-F). Those differences aside, a distinct feature of the HGD specimen is the presence of a



FIGURE 13. Haasgat cf. *Dinofelis* sp. (HGD 950) (above) right fourth metatarsal, Kromdraai B *Megantereon cultridens* (KB 5339c) (below) left fourth metatarsal (mirrored), and AZ 420 *Panthera pardus* right fourth metatarsal, proximal articular surface and medial views. Scale bar equals 1 cm.

wide groove on the ventral diaphysis that extends from the proximal end to the break edge. This morphology has been previously noted by Werdelin and Lewis (2001) on an eastern African *Dinofelis piveteaui* fourth metatarsal (KNM-ER 722U). This generic identification is considered provisional, however, given the remote possibility that HGD 950 represents an immature individual of *Panthera leo* Linnaeus, 1758.

Carnivora gen. et sp. indet.

The only other definitive carnivore specimen is a partial articular surface from a distal metapodial (HGD 2333). Although it could be derived from the same individual represented by the HGD 950 cf. *Dinofelis* sp. specimen, it is insufficiently diagnostic to confidently attribute to the genus to the exclusion of other large-bodied felids and hyaenids.

Order PERISSODACTYLA Owen, 1848

Family EQUIDAE Gray, 1821

Genus EQUUS Linnaeus, 1758

Type species *Equus caballus* Linnaeus, 1758

Equus capensis (Broom, 1909b)

This species is represented in the HGD by nine craniodental and 10 postcranial specimens derived from minimally a single adult individual. The most complete *Equus capensis* specimen is the HGD 1105 left mandible, which preserves the occluded crowns of three of the premolars and molars (p3-m1 or p4-m2; Figure 14.1). The teeth exhibit the diagnostic features of *E. capensis* mandibular dentition including the absence of a proto-stylid, the large hypolophids, and parastylids that do not reach the lingual margin of the crown near the metaconid (Cooke, 1950; Churcher and Richardson, 1978); and the overall size of the teeth (p3/p4 MD: 29.61 mm, BL: 17.45 mm; p4/m1 MD:

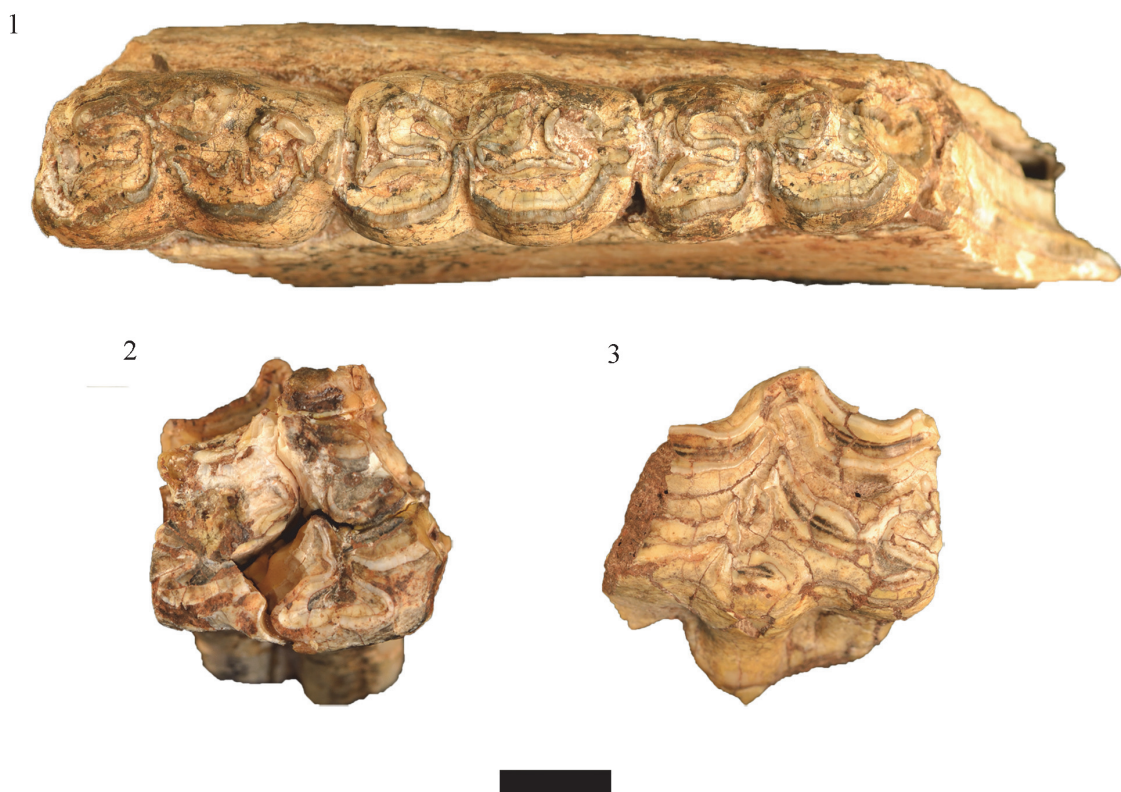


FIGURE 14. HGD *Equus* specimens: (1) HGD 1105, *Equus capensis* partial left mandible, occlusal view; (2) HGD 1090 *Equus* cf. *quagga* right maxillary premolar or molar, occlusal view; (3) HGD 1109 *Equus* cf. *quagga* left maxillary second premolar, occlusal view. Scale bar equals 1 cm.

28.99 mm, BL: 17.51 mm; m1/m2 BL: 16.71 mm) are comparable to that of *E. capensis* mandibular specimens from Swartkrans, Sterkfontein, and Kromdraai (Churcher, 1970).

Equus cf. *quagga* (Boddaert, 1785) (*sensu* Klingel, in press cited by Bernor et al., 2010)

Only three maxillary specimens (HGD 1109, left P2; HGD 1091 and 1260, indeterminate premolar/molars) from minimally a single adult *Equus quagga* individual were identified from the HGD (Figure 14.2-14.3). Although only a single measurement could be confidently taken (HGD 1260 MD: 26.85mm), the specimens are similarly proportioned and morphologically indistinguishable from the extant plains zebra.

Equus sp.

In addition to the specifically identifiable equid remains a total of 51 specimens, including 13 partial teeth and 38 postcranial elements, could only be confidently attributed to the genus *Equus*.

Equidae gen. et sp. indet.

Two partial teeth (HGD 1265, 1269) were too damaged to be attributed to the genus, and although likely derived from either *Equus capensis* and/or *Equus quagga* individuals, they lack diagnostic features that exclude the possible contribution of a hipparionin to the HGD .

Order HYRACOIDEA Huxley, 1869

Family PROCAVIIDAE Thomas, 1892

Genus PROCAVIA Storr, 1780

Type species *Procavia capensis* Storr, 1780

Procavia antiqua (Broom, 1934)

As noted above there are irreconcilable differences in the counts of hyrax specimens in the Council for Geosciences HGD catalog, the originally published HGD (Plug and Keyser, 1994), and as located during our recent survey (Table 1). The resurvey of the collections found 17 craniodental specimens originally attributed to *Procavia capensis* in the collections. Despite an attempt to subsume *Procavia antiqua* into *P. capensis* based on metric grounds (McMahon and Thackeray, 1994), later analysis identified a suite of characteristics that separate fossil *P. antiqua* from extant *P. capensis* (Schwartz, 1997). The small HGD *Procavia*



FIGURE 15. HGD *Procavia* specimens: (1) HGD 1116 *Procavia antiqua* partial cranium, inferior view; (2) HGD 1134 *Procavia antiqua* right mandible, lateral view; (3) HGD 1118, *Procavia transvaalensis* partial cranium, inferior views. Scale bar equals 1 cm.

specimens exhibit the elongated ectolophs, bunodont protocones, strong M2 mesostyles, and well-developed M3 hypocones consistent with attribution to *P. antiqua* (Broom, 1934; Schwartz, 1997). Within the of minimally eight individuals are three adults with fully erupted dentitions and an additional five immature individuals, ranging from the approximately one year old HGD 1134 right mandible (with second molars just in occlusion) to the approximately one month old HGD 1151 right mandible (preserving deciduous molars and an erupting permanent m1) (Fairall, 1980; Figure 15.1-15.2).

Procavia transvaalensis (Shaw, 1937)

A minimum of 13 individuals are represented in the of 44 specimens attributable to the extinct large bodied hyrax *Procavia transvaalensis*, including 11 adults with fully erupted dentitions and two immature individuals (HGD 1144: m2 partially erupted; HGD 1145: m3 partially erupted) (Figure 15.3). If the modern *Procavia capensis* dental eruption schedule (Fairall, 1980) is applied to these immature specimens they would represent ~10 month old and ~15 month old individuals at the time of deposition, respectively.



FIGURE 16. HGD *Hystrix africae australis* specimens: (1) HGD 1342 left mandible, medial and superior views; (2) HGD 1352 partial cranium, inferior view. Scale bar equals 1 cm.

Procavia sp.

Six of the identifiable hyrax specimens, including three partial mandibles (HGD 675, 1159, 1357), an isolated lower molar (HGD 676), a maxilla (HGD 1201), and maxillary central incisor (HGD 1270) could not be confidently attributed to either *Procavia capensis* or *Procavia transvaalensis* because of damage or distortion and are retained at the generic level.

Order LAGOMORPHA Brandt, 1855
 Family LEPORIDAE Fischer von Waldheim, 1817
 Genus PRONOLAGUS Lyon, 1904
 Type species *Pronolagus crassicaudatus* Geoffroy, 1832

Pronolagus rupestris (Smith, 1834)

Despite the name 'Haasgat' meaning 'hare hole' in Afrikaans, only three total leporid specimens were identified in the HGD deposits. Two of these specimens (HGD 827, right mandible; HGD 1113, near complete humerus) are attributable to the extant red rock hare *Pronolagus rupestris*.

Leporidae gen. et sp. indet.

A second mandible (HGD 1264, probable right) is a leporid and may also represent another

P. rupestris individual but will require further removal of adhering matrix to diagnose.

Order RODENTIA Bowdich, 1821
 Family HYSTRICIDAE Fischer de Waldheim, 1817
 Genus HYSTRIX Linnaeus, 1758
 Type species *Hystrix cristata* Linnaeus, 1758
Hystrix africae australis (Peters, 1852)

Although *Hystrix africae australis* remains from the processed blocks were noted by Keyser (1991) and Keyser and Martini (1991), no counts or descriptions of the HGD porcupine specimens were published, and no entries were made in the HGD catalog. Other than a partial right femur (HGD 936), the identifiable *H. africae australis* specimens located in this analysis are craniodental and include six partial crania, 12 mandibular specimens, and 19 isolated teeth from a minimum of nine individuals (Figure 16). One of the partial crania (HGD 1354) and six of the mandibles (HGD 1341, 1342, 1343, 1348, 1349, 1350) are derived from minimally five adult individuals (≥ 24 months of age) with fully erupted and variably-occluded fourth premolars (Stage VI or higher; van Aarde, 1985). At least three subadult individuals (between six and 11 months of age; Stage III-IV) with deciduous



FIGURE 17. The 'articular surface' of the HGD 585 specimen (left) and proximal articular surface of a *Giraffa camelopardalis* intermediate phalanx (right). Scale bar equals 1 cm.

fourth premolars and variably-erupted molars are represented by three partial crania (HGD 1351, 1352, 1353) and three mandibles (HGD 1345, 1346, 1347). A somewhat younger individual (between five and six months of age; Stage III) is represented by the HGD 1344 partial mandible that preserves a deciduous fourth premolar and lightly occluded first molar.

Species Removed from the Haasgat HGD Faunal List

Part of a single intermediate phalanx (HGD 585) was cataloged as *Giraffa camelopardalis* Linnaeus, 1758 and described by Plug and Keyser (1994) as similar to that of the modern giraffe. Although the specimen was damaged during preparation and distorted when stabilized using consolidant, HGD 585 does not conform to intermediate phalanges of extant *G. camelopardalis* in either morphology or size (Figure 17). The gross resemblance of the HGD 585 specimen outline to that of a modern giraffe intermediate phalanx is due to preparation damage to the margins rather than shared morphology. The specimen, which is flattened cortical bone only a few millimeters thick, lacks a clearly defined articular surface on the 'proximal surface,' and the 'distal' aspect of the element does not have trabecular bone or a broken metaphyseal surface that would be expected of an intermediate phalanx.

In the original faunal description Plug and Keyser (1994) list six individual specimens from minimally one individual as representing *Sylvicapra grimmia* Linnaeus, 1758 in the HGD collections. The recovery of *S. grimmia* in the potentially early

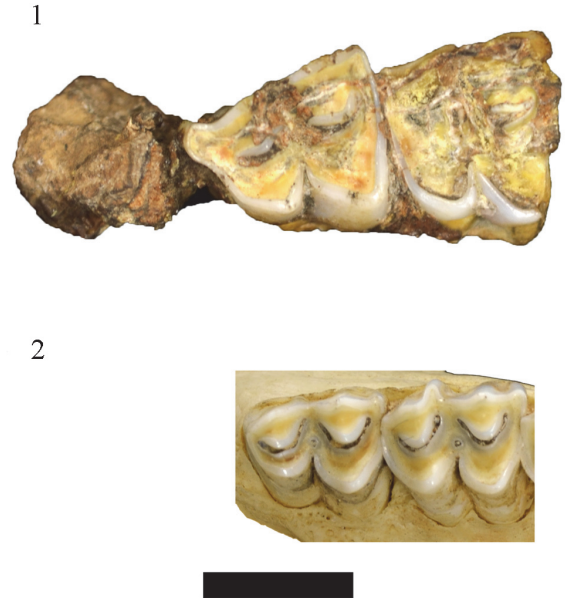


FIGURE 18. Occlusal views of the (1) HGD 31 right maxilla and (2) AZ 10120 *Sylvicapra grimmia* right M2 and M3. Scale bar equals 1 cm.

Pleistocene Haasgat deposits was a significant finding and would represent the oldest documented occurrence of the species in the African fossil record (Gentry, 2010). Evaluation of the original catalog indicates only two of the six specimens were recorded as *S. grimmia*. The HGD 327 specimen, cataloged as a left maxilla preserving a complete molar row, could not be located. A specimen labeled HGD 327 was found but it is a cercopithecoid distal femur. The HGD 31 right maxilla, preserving a partial M2 and complete M3, was found during our survey (Figure 18). The preserved molars are visibly larger than those of extant *Sylvicapra* and lack the prominent rib and metacone development on the ectoloph that are diagnostic to cephalophins generally (Gentry, 2011). The specimen is, however, consistent in both molar morphology and dimensions (M3 MD: 13.13, BL: 11.03) with *Oreotragus* maxillae preserved in the HGD assemblage (see above; Figures 8 and 9). As no additional cephalophin specimens were identified during our 2010 survey, attribution of the HGD 31 specimen to *Oreotragus* sp. eliminates the only evidence of the *S. grimmia* from the HGD.

There is a limited record for the oribi (*Ourebia ourebi* Zimmerman, 1783) at African fossil localities. Only five specimens from Swartkrans Member 2 (Vrba, 1976) and a single possible specimen from Kanjera, Kenya (Gentry, 2010) have been

DISCUSSION



FIGURE 19. Occlusal views of the (1) HGD 27 left maxilla and (2) FMNH 127972 *Ourebia ourebi* left M1-M3. Scale bar equals one cm.

reported, making the described HGD collection of 17 specimens the largest single in the African fossil record. Only five of the originally listed *O. ourebi* specimens were cataloged (HGD 24, 25, 27, 35, 36) and although all were located, none were found to exhibit morphologies consistent with attributing them to *O. ourebi* (Figure 19). The HGD 36 left partial m3 has a flat lingual enamel surface, small parastylid, and simple central cavities that align the specimen with *Antidorcas* (and most closely resembles *Antidorcas recki*). The dentition on the maxillae (HGD 24, 27, 35) lack the projecting ribs and styles and exhibit more angled surfaces to the protocones and metaconules than in extant *O. ourebi* (Figure 19). The assigned mandible (HGD 25) similarly lacks the projecting metaconid, entoconid, stylids, and persistent central cavities exhibited in oribi mandibles. In these respects, the HGD specimens are morphologically identical to other *Oreotragus* sp. specimens in the assemblage (see above; Figures 8 and 9). With no additional neotragin specimens from the previously undocumented collections attributable to *Ourebia*, this reanalysis has found no support for the presence of the species within the HGD assemblage.

Finally, of the two specimens reported by Plug and Keyser (1994) as *Raphicerus* sp. Smith, 1827, only a single proximal metacarpal specimen (HGD 591) was cataloged. The specimen is a very small Class I metacarpal consistent with extant *Raphicerus* specimens in size, but the noted overlap in size and general morphology with some larger cephalophin metacarpals prohibited confident allocation of the specimen below the Family level.

Several factors contribute to the described differences between the previously published Haasgat fossil faunas and the revised HGD assemblage. Although interobserver differences in classification methodology undoubtedly underlie some of the variance in the faunal lists, the addition of nearly twice the number of HGD specimens in the analysis and loss of specimens likely play a more significant role. Unfortunately, other than the handful of documented specimens that are no longer in the collection, the incomplete original catalog makes it impossible to gauge the degree to which loss has shaped the current HGD assemblage. Direct categorical comparison of the previously published counts with the existing collections, however, implies the loss of hundreds of identifiable Bovidae and Hyracoidea. As a result, even though the taxonomic composition of the originally described HGD assemblage and the revised listing presented here are not radically different, the size for generating these two faunal listings may have been.

The changes to the HGD faunal list do impact several previously proposed paleobiological, paleoecological, and chronological interpretations of the site. The reassignment of the single cataloged and locatable specimen of *Sylvicapra grimmia* eliminates the earliest proposed occurrence of the species in the fossil record prior to the Late Pleistocene (Gentry, 2010). The reclassification of *Ourebia ourebi* and *Giraffa camelopardalis* specimens also removes two species that are rarely encountered in South African Pliocene or Pleistocene cave assemblages (Gentry, 2010; Harris et al., 2010). Simultaneously, the revisions to the classification of Primates, the identification of cf. *Dinofelis*, and inclusion of the Lagomorpha and Rodentia from the previously undescribed HGD collections has expanded the range of mammals documented from the site.

Initially the fauna identified from the HGD assemblage was used to reconstruct a heterogeneous paleoecosystem around Haasgat: proximate montane forests on rocky slopes (*Cercopithecoides*, *Oreotragus*, *Procavia*), nearby open woodlands and/or grasslands (*Alcelaphini*, *Giraffa*, *Tragelaphus*), and seasonally to permanently inundated floodplains or swampland (*Kobus*) (McKee and Keyser, 1994; Plug and Keyser, 1994; McKee et al., 2011). While the diverse range of browse- and graze-adapted species in the revised HGD assemblage still indicate a mixed Haasgat paleo-environment, the modified faunal list no longer sup-

ports some of the specifically proposed paleohabitat types. The dietary and specialized locomotor adaptations of extant *Oreotragus* and *Procavia* do indicate that the topography of the Haasgat region broadly resembled the modern landscape of rocky hillsides with bush and open tree cover (Kingdon, 1982; Olds and Shoshani, 1982; Smithers and Chimimba, 2005). While reduncins generally prefer grazing in edaphic grassland or river margin habitats there is substantial variation in the diet and habitat utilization across extant *Kobus* and *Redunca* species (Jungius, 1971; Irby, 1976; Kingdon, 1982; Smithers and Chimimba, 2005), and the Tribal-level attribution of the HGD specimens advocated here would not specifically support the presence of local swamp environs.

Establishing the presence and extent of closed forest habitats at Haasgat on the occurrence of colobins is complicated. The reconstructed body size and postcranial adaptations of *Cercopithecoides williamsi* indicate a greater degree of terrestriality and less reliance on closed forest habitats than extant colobins (Benefit and McCrossin, 1990). Recent studies have also detected significant C4 components in the diet of some *C. williamsi* individuals and greater within-species paleodietary diversity than occurs in other contemporaneous primate genera (Codron et al., 2005; El-Zataari et al., 2005; Fourie et al., 2008). Although these terrestrial/open habitat indicators for *C. williamsi* may ultimately not bear on biobehavioral interpretations of the syntopic *Cercopithecoides haasgati*, it does suggest it is premature to assume taxonomic uniformity in habitat requirements between fossil and extant colobins without further analysis.

Finally, the revisions to the HGD assemblage impact site biochronology. Initially, Keyser and Martini (1991) suggested that the elevation of the system relative to the modern valley floor and erosional deroofing might broadly indicate fossil deposition during the terminal Pliocene. Subsequently, McKee and Keyser (1994) suggested that the shared occurrence of *Papio angusticeps* at Haasgat, Kromdraai A and B (1.8-1.7 m.y.a.; Herries et al., 2009) and Cooper's deposits (1.526-1.4 m.y.a.; de Ruiter et al., 2009) implied the deposits were likely contemporaneous. In slight contrast, with a non-primate faunal list dominated by extant species Plug and Keyser (1994) concluded that the d HGD deposits were likely younger than 1 m.y.a., but adjusted their potential depositional age esti-

mate (1.5-0.5 m.y.a.) to accommodate the presence of *P. angusticeps*.

The recovery of *Equus* indicates that at least some of the deposits represented in the *ex situ* HGD assemblage are no older than 2.33 m.y.a., given the first occurrence of the genus in Africa in the Omo Shungura lower Member G deposits (Geraads et al., 2004). Although neither of the two recovered suid teeth were specifically attributable, the morphology of the HGD 1324 specimen is analogous to phacochoerin specimens from the 2.3-1.7 m.y.a. deposits at Bolt's Farm, Gondolin GD 2, Swartkrans Members 1 and 2, and Kromdraai A (Harris and White, 1979; Cooke, 1993; Adams, 2005; Herries et al., 2006; Herries et al., 2009; Pickering et al., 2011). At maximum, the morphology of this partial tooth is very advanced compared to *Metridiochoerus* from Makapansgat Member 3 (3.03-2.58 m.y.a.; Harris and White, 1979; Herries, 2003; Cooke, 2005), but primitive relative to extant *Phacochoerus* and advanced *Metridiochoerus* species (*Metridiochoerus modestus* van Hoepen and van Hoepen, 1932 and *Metridiochoerus compactus* van Hoepen and van Hoepen, 1932) recovered from the <1.89 m.y.a. eastern African deposits (Harris and White, 1979; White, 1995) and Cornelia (1.07-0.99 m.y.a.; Harris and White, 1979; Brink et al., 2012).

Establishing site biochronology from the HGD primates is complicated by the uniqueness of the recovered species relative to those identified at other South African assemblages. At present, *Papio angusticeps* is only recognized from Haasgat and Kromdraai as most of the specimens historically attributed to *P. angusticeps* have since been subsumed into *Papio izodi* Gear, 1926 (Szalay and Delson, 1979; McKee and Keyser, 1994; Heaton, 2006; Jablonski and Frost, 2010). Although this shared occurrence may suggest similar ages for the deposits, there is as yet no defined first or last appearance date for the species. There is no chronological data on the novel colobin *Cercopithecoides haasgati* as it has yet to be identified from any other fossil deposit. Specimens of *Cercopithecoides williamsi* have been identified in eastern African deposits as early as 3.5 m.y.a. (Jablonski and Frost, 2010) and South African deposits ranging in age from Makapansgat Member 3 (3.03-2.58 m.y.a.; Herries et al., 2009) and Bolt's Farm Pit 23 (likely contemporaneous with Makapansgat Member 3; Cooke, 1993) to Swartkrans Member 2 (1.7-1.1 m.y.a.; Herries et al., 2009). As noted above, two of the *C. williamsi* mandibles more closely resemble those from Ster-

kfontein Member 4 (2.6-2.0 m.y.a.; Pickering and Kramers 2010; Herries and Shaw, 2011) than those recovered from Makapansgat Member 3 and Bolt's Farm Pit 23.

Although most of the bovid specimens could not be confidently assigned to species because of insufficient preservation or associated diagnostic elements (e.g., horn cores), the groups represented in the HGD assemblage are broadly shared with other nearby South African terminal Pliocene and Pleistocene assemblages (Vrba, 1976; Brain, 1981; Adams, 2010; Gentry, 2010). The identification of *Damaliscus dorcas* (with a current first appearance at Florisbad; 0.295-0.225 m.y.a.; Brink, 1987; Herries, 2011) and *Connochaetes gnou* (with a current first appearance at Cornelia; 1.07-0.99 m.y.a.; Brink et al., 2012) in the HGD sample would imply a mid- to late-Pleistocene age for at least some of the d fauna. In contrast, assessed differences between the most common bovid in the HGD assemblage, *Oreotragus* sp., indicate that they are not derived from extant *Oreotragus oreotragus* or the same populations as represented at Makapansgat Member 3 or Gondolin GD 2 (~1.8 m.y.a.; Herries et al., 2006). Even though the differences between the HGD and Makapansgat Member 3 *Oreotragus* specimens could be attributed to both temporal and/or geographic separation of the populations, Gondolin is located only 4 km away from Haasgat; potentially within the 15-49 hectare home range area encompassed by even a single mated pair of *Oreotragus* (Norton, 1981). Without evidence for geographic isolation of the HGD and Gondolin GD 2 *Oreotragus* breeding populations, the significant differences between s suggest that contemporaneous deposition at ~1.8 m.y.a. is highly unlikely. While this could be taken to only imply that the HGD specimens either pre- or post-date the Gondolin GD 2 deposits, formation of the *Oreotragus*-bearing components of the HGD assemblage prior to 1.8 m.y.a. is more parsimonious given the shared features of the Haasgat and Makapansgat *Oreotragus* s to the exclusion of extant *Oreotragus oreotragus*.

When integrated with the other biochronological indicators, this interpretation of the HGD *Oreotragus* collection suggests a depositional period of between 2.3 m.y.a. and 1.9 m.y.a. for at least some of the d fauna; although the recovery of extant species indicates that fauna from younger deposits is also present in the assemblage. However, as a limited *ex situ*, accurate assessment of species representation at the site, the paleoecology of the

region, and the chronology of the Haasgat cave system can only be resolved once results from future *in situ* excavations, paleomagnetic sampling and uranium-lead analysis of the Haasgat deposits have been integrated.

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REFERENCES

- Adams, J. 2005. A methodology for the intraspecific assessment of heterogeneously worn hypsodont teeth using computerized tomography. *Journal of Taphonomy*, 3:161-172.
- Adams, J. 2006. *Taphonomy and paleoecology of the Gondolin Plio-Pleistocene cave site, South Africa*. Unpublished Ph.D. Thesis, Washington University in St. Louis, St. Louis, Missouri, USA.
- Adams, J. 2010. Taphonomy of the Gondolin GD 2 *in situ* deposits and its bearing on interpretations of South African Plio-Pleistocene karstic fossil assemblages. *Journal of Taphonomy*, 8:81-116.
- Adams, J. and Conroy, G.C. 2005. Plio-Pleistocene faunal remains from the Gondolin GD 2 *in situ* assemblage, North West Province, South Africa, p. 243-261. In Lieberman, D., Smith, R.J., and Kelley, J. (eds.), *Interpreting the past: essays on human, primate and mammal evolution in honor of David Pilbeam*. Brill Academic Publishers, Boston.
- Afzelius, A. 1815. De Antelopsis in Genere et Speciatim Guineenfibus. *Nova Acta Regiae Societatis Scientiarum Upsaliensis*, 7:195-270.
- Angas, G. 1848. Description of *Tragelaphus Angasii* Gray, with some account of its habits. *Proceedings of the Zoological Society of London*, 1848:89-90.

- Benefit, B. and McCrossin, M. 1990. Diet, species diversity, and distribution of African fossil baboons. *Kroeber Anthropological Society Papers*, 71:79-93.
- Bernor, R., Armour-Chelu, M., Gilbert, H., Kaiser, T., and Schulz, E. 2010. Equidae, p. 685-722. In Werdelin, L. and Sanders, W. (eds.), *Cenozoic mammals of Africa*. University of California Press, Berkeley.
- Blyth, E. 1863. *Catalogue of the Mammalia in the museum of the Asiatic Society of Bengal*. The Asiatic Society, Calcutta.
- Blyth, E. 1875. Catalogue of mammals and birds of Burma. *Journal of the Asiatic Society of Bengal*, Part II.
- Boddaert, P. 1785. *Elenchus animalium, volumen 1: Sistens quadrupedia huc usque nota, eorumque varietates*. C.R. Hake, Rotterdam.
- Bowditch, T. 1821. *An analysis of the natural classifications of Mammalia for the use of students and travellers*. Smith, Paris.
- Brain, C. 1976. Some principles of in the interpretation of bone accumulations associated with man, p. 97-116. In Isaac, G. and McCown, E. (eds.), *Human origins: Louis Leakey and the east African evidence*. W.A. Benjamin, Inc., Menlo Park.
- Brain, C. 1981. *The hunters or the hunted? An introduction to African cave taphonomy*. University of Chicago Press, Chicago.
- Brandt, J. 1855. Beiträge zur nahern Kenntniss der Säugethiere Russland's. *Kaiserlichen Akademie der Wissenschaften, Saint Petersburg, Mémoires Mathématiques, Physiques et Naturelles*, 7:1-365.
- Brink, J. 1987. The archaeozoology of Florisbad, Orange Free State. *Memoirs van die Nasionale Museum Bloemfontein*, 23:1-151.
- Brink, J., Herries, A., Moggi-Cecchi, J., Gowlett, J., Bousman, C., Hancox, J., Grün, R., Eisenmann, V., Adams, J., and Roussouw, L. 2012. First hominin remains from a ~1.0 million year old bone bed at Cornelia-Uitzoek, Free State Province, South Africa. *Journal of Human Evolution* 63:527-535.
- Brink, J. and Stynder, D. 2009. Morphological and trophic distinction in the dentitions of two early alcelaphine bovids from Langebaanweg (genus *Damalacra*). *Palaeontologia africana*, 44:139-193.
- Broom, R. 1909a. On a large extinct species of *Bubalis*. *Annals of the South African Museum*, 7:279-280.
- Broom, R. 1909b. On evidence of a large horse recently extinct in South Africa. *Annals of the South African Museum*, 7:281-282.
- Broom, R. 1934. On the fossil remains associated with *Australopithecus africanus*. *South African Journal of Science*, 31:471-480.
- Broom, R. 1937. Notices of a few more new fossil mammals from the caves of the Transvaal. *Annals and Magazine of Natural History*, 10:509-514.
- Burchell, W. 1824. *Travels in the interior of Southern Africa*. Longman, Hurst, Rees, Orme, Brown and Green, London.
- Burnett, G. 1828. Illustrations of the manupeda, or apes and their allies; being the arrangement of the quadrumana or anthropomorphous beasts indicated in outline. *Quarterly Journal of Science, Literature, and Art*, 25:300-307.
- Churcher, C. 1970. The fossil Equidae from the Krugersdorp caves. *Annals of the Transvaal Museum*, 26:145-179.
- Churcher, C. and Richardson, M. 1978. Equidae, p. 379-422. In Maglio, V. and Cooke, H. (eds.), *Evolution of African Mammals*. Harvard University Press, Cambridge.
- Codron, D., Luyt, J., Lee-Thorp, J., Sponheimer, M., de Ruiter, D.J., and Codron, J. 2005. Utilization of savanna-based resources by Plio-Pleistocene baboons. *South African Journal of Science*, 101:245-248.
- Cooke, H. 1950. A critical revision of the Quarternary Perissodactyla of Southern Africa. *Annals of the South African Museum*, 31:393-476.
- Cooke, H. 1993. Undescribed suid remains from Bolt's Farm and other Transvaal cave deposits. *Palaeontologia Africana*, 30:7-23.
- Cooke, H. 2005. Makapansgat suids and *Metridiochoerus*. *Palaeontologia Africana*, 41:131-140.
- Cooke, H. and Wells, L. 1951. Fossil remains from Chelmer, near Bulawayo, Southern Rhodesia. *South African Journal of Science*, 47:205-209.
- de Blainville, H. 1816. Su plusieurs espèces d'animaux mammifères, de l'ordre des Ruminants. *Bulletin des sciences par la Société philomathique de Paris*, 1816:73-82.
- de Rochebrune, A. 1883. *Faune de la Sénégambie*. O. Doin, Paris.
- de Ruiter, D., Pickering, R., Steininger, C., Kramers, J., Hancox, P., Churchill, S., Berger, L., and Backwell, L. 2009. New *Australopithecus robustus* fossils and associated U-Pb dates from Cooper's Cave (Gauteng, South Africa). *Journal of Human Evolution* 56: 497-513.
- Desmarest, A. 1820. *Mammalogie ou description des especes des Mammifères*. Veuve Agasse, Paris.
- Eisenhart, W. 1974. *The fossil cercopithecoids of Makapansgat and Sterkfontein*, Unpublished BA Thesis, Harvard College, Cambridge, Massachusetts, USA.
- El-Zaatari, S., Grine, F., Teaford, M., and Smith, H. 2005. Molar microwear and dietary reconstructions of fossil Cercopithecoidea from the Plio-Pleistocene deposits of South Africa. *Journal of Human Evolution*, 49:180-205.
- Ewer, R. 1954. The fossil carnivores of the Transvaal caves: the Lycyaenas of Sterkfontein and Swartkrans, together with some general considerations of the Transvaal fossil hyaenids. *Proceedings of the Zoological Society London*, 124:839-57.
- Ewer, R. 1955. The fossil carnivores of the Transvaal caves: Machairodontinae. *Proceedings of the Zoological Society London*, 125:587-615.

- Fairall, N. 1980. Growth and age determination in the hyrax *Procavia capensis*. *South African Journal of Zoology*, 15:16-21.
- Fischer von Waldheim, J. 1817. Adversaria Zoologica, fasciculus primus. *Memoires de la Societe des Naturalistes de Moscou*, 5:357-446.
- Fourie, N., Lee-Thorp, J., and Ackerman, R. 2008. Biogeochemical and craniometric investigation of dietary ecology, niche separation, and taxonomy of Plio-Pleistocene cercopithecoidea from the Makapansgat Limeworks. *American Journal of Physical Anthropology*, 135:121-135.
- Freedman, L. 1957. The fossil Cercopithecoidea of South Africa. *Annals of the Transvaal Museum*, 23:121-262.
- Gear, J. 1926. A preliminary account of the baboon remains from Taungs. *South African Journal of Science*, 23:731-747.
- Gentry, A. 1980. Fossil Bovidae (Mammalia) from Langebaanweg South Africa. *Annals of the South African Museum*, 79:213-337.
- Gentry, A. 1992. The subfamilies and tribes of the family Bovidae. *Mammal Review*, 22:1-32.
- Gentry, A. 2000. Caprinae and Hippotragini (Bovidae, Mammalia) in the upper Miocene, p. 65-83. In Vrba, E. and Schaller, G. (eds.), *Antelopes, deer and relatives: fossil record, behavioral ecology, systematics and conservation*. Yale University Press, New Haven.
- Gentry, A. 2010. Bovidae, p. 741-796. In Werdelin, L. and Sanders, W. (eds.), *Cenozoic Mammals of Africa*. University of California Press, Berkeley.
- Gentry, A. 2011. Bovidae, p. 363-465. In Harrison, T. (ed.), *Paleontology and Geology of Laetoli: Human Evolution in Context*. Vertebrate paleobiology and paleoanthropology series. Springer, New York.
- Geoffroy Saint-Hilaire, É. 1803. *Catalogue des mammifères du Muséum National d'Histoire Naturelle*. Muséum National d'Histoire Naturelle, Paris.
- Geoffroy Saint-Hilaire, É. 1843. Description des mammifères: nouveaux ou imparfaitement connus de la collection du Muséum d'histoire naturelle et remarques sur la classification et les caractères des mammifères. *Archives du Muséum d'histoire naturelle, Paris*, 2:486-592.
- Geoffroy, I. 1832. A queue épaisse. *L. crassicaudatus*. *Magasin de Zoologie*, 2:cl. 1, pl. 9.
- Geraads, D., Raynal, J., and Eisenmann, V. 2004. The earliest human occupation of North Africa: a reply to Sahnouni et al. (2002). *Journal of Human Evolution*, 46:751-761.
- Gradstein, F., Ogg, J., Schmitz, M., and Ogg, G. 2012. *The Geologic Time Scale 2012*. Elsevier, Oxford.
- Gray, J. 1821. On the natural arrangement of vertebrate animals. *London Medical Repository*, 15:296-310.
- Gray, J. 1850. *Catalogue of the specimens of Mammalia in the collection of the British Museum. Part III. Ungulata Furcipedata*. British Museum, London.
- Gray, J. 1868. Synopsis of the species of pigs (Suidae) in the British Museum. *Proceedings of the Zoological Society of London*, 1868:17-49.
- Harris, W. 1838. On a new species of antelope. *Proceedings of the Zoological Society of London*, 1838:1-3.
- Harris, J. and White, T. 1979. Evolution of the Plio-Pleistocene African Suidae. *Transactions of the American Philosophical Society*, 69:5-128.
- Harris, J., Solounias, N., and Geraads, D. 2010. Giraffoidea, p. 797-811. In Werdelin, L. and Sanders, W. (eds.), *Cenozoic mammals of Africa*. University of California Press, Berkeley.
- Heaton, J. 2006. *Taxonomy of the Sterkfontein fossil Cercopithecoidea: the Papionini of Members 2 and 4 (Gauteng, South Africa)*, Unpublished Ph.D. Thesis, Indiana University, Bloomington, Indiana, USA.
- Hendey, Q. and Hendey, H. 1968. New Quaternary fossil sites near Swartklip, Cape Province. *Annals of the South African Museum*, 52:43-73.
- Hernandez Fernandez, M. and Vrba, E. 2005. A complete estimate of the phylogenetic relationship in Ruminantia: a dated species-level supertree of the extant ruminants. *Biological Reviews*, 80:269-302.
- Herries, A. 2003. *Magnetostratigraphic seriation of South African hominin palaeocaves*. Unpublished Ph.D. Thesis, University of Liverpool, Liverpool, UK.
- Herries, A. 2011. A chronological perspective on the Acheulian and its transition to the Middle Stone Age in Southern Africa: the question of Fauresmith. *International Journal of Evolutionary Biology*, 9641401:25pp.
- Herries, A. and Shaw, J. 2011. Palaeomagnetic analysis of the Sterkfontein palaeocave deposits; age implications for the hominin fossils and stone tool industries. *Journal of Human Evolution*, 60:523-539.
- Herries, A., Curnoe, D., and Adams, J. 2009. A multi-disciplinary seriation of early *Homo* and *Paranthropus* bearing palaeocaves in southern Africa. *Quaternary International*, 202:14-28.
- Herries, A., Reed, K.E., Kuykendall, K., and Latham, A. 2006. Speleology and magnetobiostratigraphic chronology of the Buffalo Cave fossil site, Makapansgat, South Africa. *Quaternary Research*, 66:233-245.
- Hopwood, A. 1926. Some Mammalia from the Pliocene of Homa Mountain, Victoria Nyanza. *Annals and Magazine of Natural History*, 9:266-272.
- Hopwood, A. 1934. New fossil mammals from Olduvai, Tanganyika Territory. *Annals and Magazine of Natural History*, 10:546-550.
- Huxley, T. 1869. *An Introduction to the Classification of Animals*. John Churchill and Sons, London.
- Irby, L. 1976. *The ecology of mountain reedbuck in southern and eastern Africa*, Unpublished Ph.D. Thesis, Texas A&M University, Dallas, USA.
- Jablonski, N. and Frost, S. 2010. Cercopithecoidea, p. 393-428. In Werdelin, L. and Sanders, W. (eds.), *Cenozoic mammals of Africa*. University of California Press, Berkeley.

- Jerdon, T. 1867. *The mammals of India: a natural history of all the animals known to inhabit continental India*. Thomas College Press, Roorkee.
- Jones, T. 1937. A new fossil primate from Sterkfontein, Krugersdorp, Transvaal. *South African Journal of Science*, 33:709-728.
- Jungius, H. 1971. *The biology and behaviour of the reed-buck (Redunca arundinum Boddaert 1785) in the Kruger National Park. Mammalia Depicta*. Verlag Paul Parey, Hamburg.
- Kegley, A., Hemingway, J., and Adams, J. 2011. Odontometric analysis of the reanalyzed and expanded *Cercopithecoides* from the Haasgat fossil assemblage, Cradle of Humankind, South Africa. *American Journal of Physical Anthropology*, S144: 183.
- Keyser, A.W. 1991. The palaeontology of Haasgat: a preliminary account. *Palaeontologia africana*, 28:29-33.
- Keyser, A.W. and Martini, J. 1991. Haasgat: a new Plio-Pleistocene fossil occurrence, p. 119-129. In Heine, K. (ed.), *Palaeoecology of Africa*. A.A. Balkema, Rotterdam.
- Kingdon, J. 1982. *Bovids. East African mammals: an atlas of evolution in Africa*, Part IIIC. University of Chicago, Chicago.
- Kuhn, B., Werdelin, L., Hartstone-Rose, A., Lacruz, R., and Berger, L.R. 2012. Carnivoran remains from the Malapa hominin site, South Africa. *PLOS One*, 6:e26940.
- Leakey, M. 1982. Extinct large colobins from the Plio-Pleistocene of Africa. *American Journal of Physical Anthropology*, 58:153-172.
- Lichtenstein, M. 1814. Die Gattung Antilope. *Magazin der Gesellschaft naturforschender Freunde zu Berlin*, 6:147-160, 163-182.
- Linnaeus, C. 1758. *Systema naturae*. Laurentii Salvii, Stockholm.
- Lydekker, R. and Blaine, G. 1914. Catalogue of the ungulate mammals in the British Museum (Natural History). *Trustees of the British Museum, London, United Kingdom* 2:1-295, 3:1-283.
- Lyon, M. 1904. Classification of the hares and their allies. *Smithsonian Miscellaneous Collections*, 44:322-443.
- McKee, J. and Keyser, A.W. 1994. Craniodental remains of *Papio angusticeps* from the Haasgat cave site, South Africa. *International Journal of Primatology*, 15:823-841.
- McKee, J., von Mayer, A., and Kuykendall, K. 2011. New species of *Cercopithecoides* from Haasgat, North West Province, South Africa. *Journal of Human Evolution*, 60:83-93.
- McMahon, C. and Thackeray, J.F. 1994. Plio-Pleistocene Hyracoidea from Swartkrans cave, South Africa. *South African Journal of Zoology*, 29:40-45.
- Mollett, O. 1947. Fossil mammals from the Makapan Valley, Potgietersrust. 1. Primates. *South African Journal of Science*, 43:295-303.
- Norton, P. 1981. Activity patterns of klipspringers in two areas of the Cape Province. *South African Journal of Wildlife Research*, 11:126-134.
- Ogilby, W. 1833. Characters of a new species of *Antelope (Antilope ellipsiprymna)*, from the collection of Mr. Steedman. *Proceedings of the Zoological Society of London*, 1833:47-48.
- Olds, N. and Shoshani, J. 1982. *Procavia capensis*. *Mammalian Species*, 171:1-7.
- O'Regan, H. and Menter, C.G. 2009. Carnivora from the Plio-Pleistocene hominin site of Drimolen, Gauteng, South Africa. *Geobios*, 42:329-350.
- Owen, R. 1848. Description of teeth and portions of jaws of two extinct Anthracotherioid quadrupeds (*Hyopotamus vectianus* and *Hyop. bovinus*) discovered by the Marchioness of Hastings in the Eocene deposits on the NW coast of the Isle of Wight: with an attempt to develop Cuvier's idea of the Classification of Pachyderms by the number of their toes. *Quarterly Journal of the Geological Society of London*, 4:103-141.
- Pallas, P. 1766. *Miscellanea Zoologica*. P. van Cleef, Hagae.
- Peters, W. 1852. *Naturwissenschaftliche Reise nach Mosambique*, Georg Reimer, Berlin.
- Pickering, R. and Kramers, J. 2010. Re-appraisal of the stratigraphy and determination of new U-Pb dates for the Sterkfontein hominin site, South Africa. *Journal of Human Evolution*, 59:70-86.
- Pickering, R., Kramers, J., Hancox, P., de Ruiter, D., Woodhead, J. 2011. Contemporary flowstone development links early hominin bearing cave deposits in South Africa. *Earth and Planetary Science Letters*, 306:23-32.
- Plug, I. and Keyser, A.W. 1994. Haasgat Cave, a Pleistocene site in the central Transvaal: geomorphological, faunal and taphonomic considerations. *Annals of the Transvaal Museum*, 36:139-145.
- Retzius, A. and Loven, S. 1845. Bericht von Retzius und Loven über Sundevall's Abhandlung, betitelt: Methodische Uebersicht der wiederkäuenden Thiere. *Archiv Skandinavischer Beiträge zur Naturgeschichte, Greifswald*, 1:440-446.
- Schreber, J. 1776. *Die Säugthiere in Abbildungen nach der Natur mit Beschreibungen, Teil 2*. Wolfgang Walther, Erlangen.
- Schwarz, E. 1932. Neue diluviale Antilopen aus Ostafrika. *Zentralblatt für Mineralogie, Geologie und Paläontologie B*, 1932:1-4.
- Schwartz, G. 1997. Re-evaluation of the Plio-Pleistocene hyraxes (Mammalia: Procaviidae) from South Africa. *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, 206:365-383.
- Sclater, P. and Thomas, O. 1894. *The Book of Antelopes*. R.H. Porter, London.
- Shaw, J. 1937. Evidence concerning a large fossil hyrax. *Journal of Dental Research*, 16:37-40.

- Smith, C. 1827. Ruminantia, p. 342. In Griffith, E., Smith, C., and Pidgeon, E. (eds.), *The animal kingdom arranged in conformity, with its organization by the Baron Cuvier, with additional descriptions of all the species hitherto named, and of many not before noticed*. G.B. Whittaker, London.
- Smith, A. 1834. An epitome of African zoology; or, a concise description of the objects of the animal kingdom inhabiting Africa, its islands and seas. *South African Quarterly Journal*, 2.
- Smithers, R. and Chimimba, C. 2005. *The Mammals of the Southern African Subregion*. Cambridge University Press, Cambridge.
- Sponheimer, M., Reed, K.E., and Lee-Thorp, J. 1999. Combining isotopic and ecomorphological data to refine bovid paleodietary reconstruction: a case study from the Makapansgat Limeworks hominin locality. *Journal of Human Evolution*, 36:705-718.
- Statius Muller, P. 1773. *Des Ritters C. von Linné: vollständiges Natursystem nach der zwölften Lateinischen Ausgabe und nach Anleitung des Holländischen Houttuynischen Werks, mit einer ausführlichen Erklärung Ausgefertiget von P.L.S. Müller*. G.N. Raspe, Nurnberg.
- Storr, G. 1780. *Prodromus methodi mammalium*. Litteris Reissianis, Tubingen.
- Sundevall, C. 1846. Methodisk öfversigt af Idislande djuren, Linnés Pecora. *Kongliga Vetenskaps Akademiens Handlinger för år, 1844*:121-210.
- Sundevall, C. 1847. Methodisk öfversigt af Idislande djuren, Linnés Pecora. *Kongliga Vetenskaps Akademiens Handlinger för år, 1847*:1-330.
- Szalay, F.S. and Delson, E. 1979. *Evolutionary History of the Primates*. Academic, New York.
- Thomas, O. 1892. On the species of the Hyracoidea. *Proceedings of the Zoological Society of London*, 1892:50-76.
- Van Aarde, R. 1985. Age determination of Cape porcupines, *Hystrix africaeaustralis*. *South African Journal of Zoology*, 20:232-236.
- van Hoepen, E. 1932. Voorlopige beskrywing van Vrystaatse soogdiere. *Paleontologiese Navorsing van die Nasionale Museum Bloemfontein*, 2:63-65.
- van Hoepen, E. and van Hoepen, H. 1932. Vrystaate wilde varke. *Paleontologiese Navorsing van die Nasionale Museum Bloemfontein*, 2:39-62.
- von Mayer, A. 1999. *A reassessment of Cercopithecoides in southern Africa*, Unpublished MSc Thesis, University of the Witwatersrand, Johannesburg, South Africa.
- Vrba, E. 1976. *The fossil Bovidae of Sterkfontein, Swartkrans and Kromdraai*. Transvaal Museum Memoir, 21. Transvaal Museum, Pretoria.
- Wagner, J. 1855. Eine Zusammenstellung der neuesten Entdeckungen auf dem Gebiete der Säugethierkunde., p. 394-461, *Die Säugthiere in Abbildungen nach der Natur mit Beschreibungen. Supplement 5*.
- Warr, G. 2009. *Chronology of the western Limeworks australopithecine site, Makapansgat, South Africa: magnetostratigraphy, biochronology and implications for hominin evolution*, Unpublished Ph.D. Thesis, University of Liverpool, Liverpool, UK.
- Watson, V. and Plug, I. 1995. *Oreotragus major* Wells and *Oreotragus oreotragus* (Zimmerman) (Mammalia: Bovidae): two species? *Annals of the Transvaal Museum*, 36:183-191.
- Wells, L. 1951. A large fossil klipspringer from Potgietersrus. *South African Journal of Science*, 47:167-168.
- Wells, L. and Cooke, H. 1956. Fossil Bovidae from the Limeworks Quarry, Makapansgat, Potgietersrus. *Palaeontologia Africana*, 4:1-55.
- Werdelin, L. and Lewis, M. 2001. A revision of the genus *Dinofelis* (Mammalia, Felidae). *Zoological Journal of the Linnean Society*, 132:147-258.
- Werdelin, L. and Sanders, W.J. 2010. *Cenozoic Mammals of Africa*. University of California Press, Berkeley.
- White, T. 1995. African omnivores: global climatic change and Plio-Pleistocene hominids and suids, p. 369-384. In Vrba, E., Denton, G., Partridge, T., and Burckle, L. (eds.), *Paleoclimate and evolution, with emphasis on human origins*. Yale University Press, New Haven.
- Wilson, D.E. and Reeder, D.M. 2005. *Mammal species of the world. A taxonomic and geographic reference*. Third Edition. Johns Hopkins University Press, Baltimore.
- Zdansky, O. 1924. Jungtertiäre Carnivoren Chinas. *Palaeontologia Sinica serie C*, 2:1-149.
- Zimmerman, J. 1780. *Geographische geschichte des Menschen und der vierfüssigen Thiere*, Volume 2. Weygandschen Buchhandlung, Leipzig.
- Zimmerman, J. 1783. *Geographische geschichte des Menschen und der vierfüssigen Thiere*, Volume 3. Weygandschen Buchhandlung, Leipzig.

APPENDIX A

Specimens missing from the Haasgat HGD collections

HGD	Part	Element	Side	Order	Family	Tribe	Genus	Species	Bovid Class
32	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	<i>major</i>	I
46	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	<i>Alcelaphus</i>	<i>buselaphus</i>	III
48	Cranial	Mandibular deciduous third premolar	L	Artiodactyla	Bovidae	Tragelaphini	<i>Tragelaphus</i>	<i>strepsiceros</i>	III
64	Cranial	Maxillary first molar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
79	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	<i>major</i>	I
101	Cranial	Mandible		Carnivora	Canidae		<i>Canis</i>	<i>mesomelas</i>	
120	Cranial	Mandibular fourth premolar	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	<i>marsupialis</i>	II
125	Cranial	Mandibular second molar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Damaliscus</i>	<i>dorcas</i>	II
127	Cranial	Maxilla	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
128	Cranial	Maxillary deciduous fourth premolar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Megalotragus</i>	<i>priscus</i>	III
160	Proximal Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	<i>major</i>	I
194	Femur	Distal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	<i>major</i>	I
205	Metatarsal		R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	<i>major</i>	I
215	Astragalus		L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	<i>major</i>	I
263	Proximal Phalanx	Complete		Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
295	Cranial	Maxillary second molar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	II
381	Cranial	Mandibular second molar		Artiodactyla	Bovidae	Alcelaphini	<i>Alcelaphus?</i>		III
1038	Intermediate Phalanx	Fragment		Artiodactyla	Bovidae	Reduncini	<i>Kobus</i>	<i>leche?</i>	III
1052	Pelvis			Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	<i>major</i>	I
1120	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1124	Cranial	Mandible	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	

APPENDIX B

Revised Haasgat HGD catalog

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
600	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
601	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
602	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
603	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
604	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
605	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
606	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
607	Cranial	Maxillary canine	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
608	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
609	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
610	Cranial	Maxillary third molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
611	Cranial	Complete		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
612	Cranial	Mandibular second molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
613	Cranial	Partial vault		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
614	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
615	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
616	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
617	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
618	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
619	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
622	Cranial	Mandibular first molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
623	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
624	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
626	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
627	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
628	Cranial	Maxillary second/ third molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
629	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
630	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
631	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
632	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
633	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
634	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
635	Cranial	Mandibular first molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
636	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
637	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
639	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
641	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
642	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
643	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
644	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
645	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
647	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
648	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
649	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
650	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
651	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
652	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
653	Cranial	Mandibular molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
654	Cranial	Mandibular third molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
655	Cranial	Mandibular second molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
656	Cranial	Mandibular canine	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
657	Cranial	Maxillary first molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
659	Cranial	Maxillary third molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
660	Cranial	Mandibular second molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
664	Cranial	Mandibular first molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
665	Cranial	Mandibular molar		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
670	Cranial	Maxillary molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
671	Cranial	Mandibular first molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
679	Cranial	Molar		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
680	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
681	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
683	Cranial	Mandibular second molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
684	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
685	Cranial	Mandibular second molar	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
687	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
688	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
689	Cranial	Maxillary third molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
692	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
696	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
697	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
698	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
699	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
703	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
705	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
706	Cranial	Maxillary molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
707	Cranial	Maxillary molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
781	Cranial	Maxillary deciduous canine	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1117	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1171	Cranial	Maxilla		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1183	Cranial	Complete	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1194	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1214	Cranial	Mandibular first molar	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1242	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1243	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1244	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1246	Cranial	Mandible		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1248	Cranial	Partial		Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
1249	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Papio</i>	<i>angusticeps</i>	
620	Cranial	Partial vault		Primates	Cercopithecidae		<i>Papio</i>	sp.	
625	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	sp.	
694	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
695	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
835	Cranial	Frontal		Primates	Cercopithecidae		<i>Papio</i>	sp.	
836	Cranial	Parietal	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
837	Cranial	Occipital		Primates	Cercopithecidae		<i>Papio</i>	sp.	
846	Cranial	Frontal	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
910	Cranial	Occipital	R	Primates	Cercopithecidae		<i>Papio</i>	sp.	
1192	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
1204	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
1216	Cranial	Occipital		Primates	Cercopithecidae		<i>Papio</i>	sp.	
1218	Cranial	Endocast		Primates	Cercopithecidae		<i>Papio</i>	sp.	
1222	Cranial	Parietal	R	Primates	Cercopithecidae		<i>Papio</i>	sp.	
1223	Cranial	Parietal	R	Primates	Cercopithecidae		<i>Papio</i>	sp.	
1225	Cranial	Parietal		Primates	Cercopithecidae		<i>Papio</i>	sp.	
1227	Cranial	Occipital		Primates	Cercopithecidae		<i>Papio</i>	sp.	
1228	Cranial	Occipital		Primates	Cercopithecidae		<i>Papio</i>	sp.	
1245	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Papio</i>	sp.	
1247	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
2426	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Papio</i>	sp.	
704	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1157	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1165	Cranial	Complete		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1165	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1166	Cranial	Complete (Cast Only)		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1167	Cranial	Complete (Cast Only)		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1168	Cranial	Maxilla		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1169	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1170	Cranial	Maxilla		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1172	Cranial	Maxilla	L	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1173	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1174	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1177	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1179	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1179	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1181	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1182	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1186	Cranial	Occipital		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1191	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1193	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
1211	Cranial	Maxillary molar		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	
2451	Cranial	Maxilla	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>haasgati</i>	

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
673	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>williamsi</i>	
1175	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>williamsi</i>	
1180	Cranial	Mandible	L	Primates	Cercopithecidae		<i>Cercopithecoides</i>	<i>williamsi</i>	
640	Cranial	Mandible	R	Primates	Cercopithecidae		<i>Cercopithecoides</i>	cf. <i>williamsi</i>	
1184	Cranial	Mandible		Primates	Cercopithecidae		<i>Cercopithecoides</i>	sp.	
1197	Cranial	Canine		Primates	Cercopithecidae		<i>Cercopithecoides</i>	sp.	
2452	Cranial	Mandible	R	Primates	Cercopithecidae		cf. <i>Cercopithecoides</i>	sp.	
980	Articulated elements	Articulated elements	R	Primates	Cercopithecidae		Indet.	Indet.	
987	Articulated elements	Articulated elements	R	Primates	Cercopithecidae		Indet.	Indet.	
979	Astragalus	Complete	R	Primates	Cercopithecidae		Indet.	Indet.	
981	Calcaneus	Complete	R	Primates	Cercopithecidae		Indet.	Indet.	
982	Calcaneus	Complete	R	Primates	Cercopithecidae		Indet.	Indet.	
983	Calcaneus	Complete	L	Primates	Cercopithecidae		Indet.	Indet.	
984	Calcaneus	Complete	L	Primates	Cercopithecidae		Indet.	Indet.	
985	Calcaneus	Complete	L	Primates	Cercopithecidae		Indet.	Indet.	
621	Cranial	Mandible	R	Primates	Cercopithecidae		Indet.	Indet.	
646	Cranial	Maxillary premolar		Primates	Cercopithecidae		Indet.	Indet.	
661	Cranial	Canine		Primates	Cercopithecidae		Indet.	Indet.	
663	Cranial	Molar		Primates	Cercopithecidae		Indet.	Indet.	
666	Cranial	Molar		Primates	Cercopithecidae		Indet.	Indet.	
667	Cranial	Molar		Primates	Cercopithecidae		Indet.	Indet.	
668	Cranial	Maxillary deciduous molar		Primates	Cercopithecidae		Indet.	Indet.	
669	Cranial	Molar		Primates	Cercopithecidae		Indet.	Indet.	
672	Cranial	Incisor		Primates	Cercopithecidae		Indet.	Indet.	
674	Cranial	Maxillary premolar	L	Primates	Cercopithecidae		Indet.	Indet.	
675	Cranial	Molar		Primates	Cercopithecidae		Indet.	Indet.	
678	Cranial	Mandible	R	Primates	Cercopithecidae		Indet.	Indet.	
682	Cranial	Mandibular incisor	L	Primates	Cercopithecidae		Indet.	Indet.	
690	Cranial	Mandibular first incisor	R	Primates	Cercopithecidae		Indet.	Indet.	
691	Cranial	Molar		Primates	Cercopithecidae		Indet.	Indet.	
1176	Cranial	Maxilla		Primates	Cercopithecidae		Indet.	Indet.	
1185	Cranial	Frontal		Primates	Cercopithecidae		Indet.	Indet.	
1187	Cranial	Maxilla	L	Primates	Cercopithecidae		Indet.	Indet.	
1188	Cranial	Mandible	L	Primates	Cercopithecidae		Indet.	Indet.	
1189	Cranial	Molar		Primates	Cercopithecidae		Indet.	Indet.	
1195	Cranial	Mandible	L	Primates	Cercopithecidae		Indet.	Indet.	
1196	Cranial	Mandible	L	Primates	Cercopithecidae		Indet.	Indet.	
1198	Cranial	Mandible	L	Primates	Cercopithecidae		Indet.	Indet.	
1200	Cranial	Maxilla	R	Primates	Cercopithecidae		Indet.	Indet.	
1203	Cranial	Maxilla		Primates	Cercopithecidae		Indet.	Indet.	
1205	Cranial	Maxilla	L	Primates	Cercopithecidae		Indet.	Indet.	
1209	Cranial	Canine		Primates	Cercopithecidae		Indet.	Indet.	
1215	Cranial	Parietal		Primates	Cercopithecidae		Indet.	Indet.	
1217	Cranial	Parietal		Primates	Cercopithecidae		Indet.	Indet.	
1220	Cranial	Maxilla	R	Primates	Cercopithecidae		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1221	Cranial	Endocast		Primates	Cercopithecidae		Indet.	Indet.	
1221	Cranial	Partial		Primates	Cercopithecidae		Indet.	Indet.	
189	Femur	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
314	Femur	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
317	Femur	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
318	Femur	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
327	Femur	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
547	Femur	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
932	Femur	Diaphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
996	Femur	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
1233	Femur	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
1234	Femur	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
1235	Femur	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
1236	Femur	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
1237	Femur	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
1238	Femur	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
1239	Femur	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
1240	Femur	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
1241	Femur	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
2432	Femur	Diaphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
700	Humerus	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
701	Humerus	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
702	Humerus	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
941	Humerus	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
986	Humerus	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
988	Humerus	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
989	Humerus	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
991	Humerus	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
992	Humerus	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
993	Humerus	Diaphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
994	Humerus	Proximal metaphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
995	Humerus	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
971	Metacarpal	Fourth	L	Primates	Cercopithecidae		Indet.	Indet.	
976	Metacarpal	First	R	Primates	Cercopithecidae		Indet.	Indet.	
348	Metapodial	Distal epiphysis		Primates	Cercopithecidae		Indet.	Indet.	
970	Metapodial	Distal epiphysis		Primates	Cercopithecidae		Indet.	Indet.	
973	Metapodial	Distal epiphysis		Primates	Cercopithecidae		Indet.	Indet.	
972	Metatarsal	Third	L	Primates	Cercopithecidae		Indet.	Indet.	
974	Metatarsal	Fifth	R	Primates	Cercopithecidae		Indet.	Indet.	
975	Metatarsal	Third	R	Primates	Cercopithecidae		Indet.	Indet.	
977	Metatarsal	Second	L	Primates	Cercopithecidae		Indet.	Indet.	
966	Pelvis	Acetabulum	L	Primates	Cercopithecidae		Indet.	Indet.	
967	Pelvis	Acetabulum	R	Primates	Cercopithecidae		Indet.	Indet.	
968	Pelvis	Ischium	R	Primates	Cercopithecidae		Indet.	Indet.	
933	Radius	Diaphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
937	Radius	Distal metaphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
940	Radius	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
955	Radius	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	

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961	Radius	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
962	Radius	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
963	Radius	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
2378	Radius	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
505	Scapula	Complete	L	Primates	Cercopithecidae		Indet.	Indet.	
2364	Scapula	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
246	Tibia	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
331	Tibia	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
332	Tibia	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
931	Tibia	Diaphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
997	Tibia	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
998	Tibia	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
999	Tibia	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
1005	Tibia	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
2370	Tibia	Proximal metaphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
2371	Tibia	Proximal metaphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
2385	Tibia	Distal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
952	Ulna	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
953	Ulna	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
954	Ulna	Proximal epiphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
956	Ulna	Proximal metaphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
957	Ulna	Proximal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
958	Ulna	Proximal metaphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
959	Ulna	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
960	Ulna	Distal epiphysis	R	Primates	Cercopithecidae		Indet.	Indet.	
2386	Ulna	Diaphysis	L	Primates	Cercopithecidae		Indet.	Indet.	
2448	Ulna	Diaphysis		Primates	Cercopithecidae		Indet.	Indet.	
336	Vertebra	Lumbar		Primates	Cercopithecidae		Indet.	Indet.	
917	Vertebra	Thoracic		Primates	Cercopithecidae		Indet.	Indet.	
918	Vertebra	Thoracic		Primates	Cercopithecidae		Indet.	Indet.	
2366	Vertebra	Cervical		Primates	Cercopithecidae		Indet.	Indet.	
2453	Cranial	Maxillary molar		Primates	Indet.		Indet.	Indet.	
42	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
43	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
85	Cranial	Mandible	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
292	Cranial	Mandibular fourth premolar	R	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
312	Cranial	Mandibular fourth premolar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
378	Cranial	Mandibular fourth premolar	R	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
1259	Cranial	Mandibular fourth premolar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	<i>gnou</i>	III
52	Cranial	Mandible	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	sp.	III
55	Cranial	Mandibular third molar	R	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	sp.	III
66	Cranial	Maxilla		Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	sp.	III
95	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	sp.	III

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1254	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Connochaetes</i>	sp.	III
44	Cranial	Maxilla		Artiodactyla	Bovidae	Alcelaphini	<i>Damaliscus</i>	<i>dorcas</i>	II
97	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	<i>Damaliscus</i>	sp.	II/III
1263	Cranial	Occipital		Artiodactyla	Bovidae	Alcelaphini	<i>Damaliscus</i>	sp.	II/III
311	Cranial	Mandibular third molar	L	Artiodactyla	Bovidae	Alcelaphini	<i>Megalotragus</i>	sp.	IV
1250	Cranial	Maxilla	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	II
4	Cranial	Mandible	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
40	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
45	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
47	Cranial	Maxilla	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
49	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
50	Cranial	Maxilla	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
51	Cranial	Mandible	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
53	Cranial	Maxillary third molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
54	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
56	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
57	Cranial	Mandibular third molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
58	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
59	Cranial	Maxillary third molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
60	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
61	Cranial	Maxilla	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
62	Cranial	Mandibular third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
63	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
67	Cranial	Maxilla		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
73	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
86	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
90	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
91	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
92	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
93	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
98	Cranial	Maxilla	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
100	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
102	Cranial	Maxilla	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
105	Cranial	Maxilla	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
108	Cranial	Mandibular third molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
111	Cranial	Maxilla	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
112	Cranial	Indet. maxillary tooth		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
113	Cranial	Mandible	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
114	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
115	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
116	Cranial	Horncore		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
118	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
122	Cranial	Maxillary deciduous third premolar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
129	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
130	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
131	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
133	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
135	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
136	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
137	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
138	Cranial	Mandibular deciduous fourth premolar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
141	Cranial	Mandibular third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
145	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
291	Cranial	Mandibular deciduous fourth premolar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
293	Cranial	Maxilla	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
294	Cranial	Maxilla	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
296	Cranial	Maxillary third premolar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
306	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
307	Cranial	Maxillary first molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
308	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
309	Cranial	Maxillary first molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
310	Cranial	Maxillary deciduous third premolar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
340	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
345	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
346	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
347	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
349	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
353	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
354	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
365	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
370	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
379	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
380	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
382	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
383	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
384	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
385	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
386	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
387	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
388	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
389	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
391	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
392	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
394	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
396	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
397	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
399	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
401	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
413	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
419	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
420	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
421	Cranial	Maxilla		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
425	Cranial	Mandible	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
795	Cranial	Maxillary second premolar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1080	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1081	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1084	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1251	Cranial	Maxilla	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1253	Cranial	Mandibular third premolar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1255	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1256	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1257	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
1258	Cranial	Mandibular molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2184	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2185	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2186	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2187	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2188	Cranial	Maxillary molar		Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2189	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2190	Cranial	Maxillary third molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2191	Cranial	Maxillary decidous third premolar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2192	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2193	Cranial	Maxillary third molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2194	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2195	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2196	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2197	Cranial	Maxilla	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2198	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2199	Cranial	Maxillary fourth premolar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
2200	Cranial	Maxillary third premolar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	III
798	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Alcelaphini	Indet.	Indet.	
326	Cranial	Maxilla	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	<i>bondi</i>	II
104	Cranial	Mandible	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	<i>australis/marsupialis</i>	II
139	Cranial	Maxilla		Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	<i>australis/marsupialis</i>	II
422	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	<i>australis/marsupialis</i>	II

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
825	Cranial	Maxillary third molar	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	<i>australis/marsupialis</i>	II
36	Cranial	Mandibular third molar	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	sp.	II
313	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	sp.	II
794	Cranial	Maxillary second molar	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	sp.	II
1283	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	sp.	II
1285	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Antilopini	<i>Antidorcas</i>	sp.	II
9	Cranial	Maxillary third molar	L	Artiodactyla	Bovidae	Hippotragini	<i>Hippotragus</i>	sp.	III
89	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Hippotragini	<i>Hippotragus</i>	sp.	III
106	Cranial	Mandibular deciduous third premolar	L	Artiodactyla	Bovidae	Hippotragini	<i>Hippotragus</i>	sp.	III
375	Cranial	Mandibular second premolar	L	Artiodactyla	Bovidae	Hippotragini	<i>Hippotragus</i>	sp.	III
1261	Cranial	Mandibular second premolar	L	Artiodactyla	Bovidae	Hippotragini	<i>Hippotragus</i>	sp.	III
842	Cranial	Frontal		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	1
1	Cranial	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
2	Cranial	Complete	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
3	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
4	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
5	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
6	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
7	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
8	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
10	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
11	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
12	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
14	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
16	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
17	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
18	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
19	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
20	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
21	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
22	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
23	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
24	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
25	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
26	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
27	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
28	Cranial	Maxillary first molar	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
29	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
31	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
33	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
34	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
35	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I

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65	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
68	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
69	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
70	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
71	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
72	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
74	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
75	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
76	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
77	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
78	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
87	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
88	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
99	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
109	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
117	Cranial	Complete	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
121	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
142	Cranial	Maxilla		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
143	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
297	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
298	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
299	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
300	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
301	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
302	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
303	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
304	Cranial	Mandibular third molar	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
305	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
316	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
319	Cranial	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
330	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
342	Cranial	Maxillary second premolar	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
343	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
357	Cranial	Mandibular second molar	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
368	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
405	Cranial	Maxillary first molar	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
410	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
418	Cranial	Maxillary fourth premolar	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
638	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
658	Cranial	Maxillary first molar	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
693	Cranial	Maxillary first molar	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
847	Cranial	Temporal	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1079	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1093	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1178	Cranial	Parietal		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1190	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I

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1280	Cranial	Mandibular fourth premolar	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1281	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1284	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1290	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1293	Cranial	Mandible	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1294	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1295	Cranial	Mandible	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1296	Cranial	Maxilla	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1297	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1298	Cranial	Maxillary third molar	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1299	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1300	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1301	Cranial	Maxilla	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
175	Distal Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
176	Distal Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
177	Distal Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1413	Distal Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
2243	Distal Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
2244	Distal Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
2284	Distal Phalanx	Distal epiphysis		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
180	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
181	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
185	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
186	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
188	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
191	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
197	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
201	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
202	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
209	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
218	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
227	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
234	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
252	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
284	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
539	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
540	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
543	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
549	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1049	Humerus	Proximal metaphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1082	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1476	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I

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271	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
272	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
273	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
274	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
275	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
277	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
278	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
279	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1412	Intermediate Phalanx	Complete		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
155	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
167	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
169	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
171	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
173	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
179	Metacarpal	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
223	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
567	Metacarpal	Distal metaphysis		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
598	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1000	Metacarpal	Distal metaphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1048	Metacarpal	Complete	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1055	Metacarpal	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1065	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1066	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1463	Metacarpal	Complete	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
168	Metatarsal	Complete	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
170	Metatarsal	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
192	Metatarsal	Complete	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
204	Metatarsal	Complete	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
206	Metatarsal	Complete	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
596	Metatarsal	Complete	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
599	Metatarsal	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1001	Metatarsal	Complete	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1002	Metatarsal	Proximal epiphysis	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1003	Metatarsal	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1435	Metatarsal	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1436	Metatarsal	Proximal epiphysis	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
220	Tarsal	Central	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
221	Tarsal	Central	R	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
1041	Tarsal	Central	L	Artiodactyla	Bovidae	Neotragini	<i>Oreotragus</i>	sp.	I
333	Cranial	Mandibular third molar	R	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	II
1252	Cranial	Maxillary third molar	R	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	II
37	Cranial	Mandible	L	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	III

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
38	Cranial	Mandible	L	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	III
41	Cranial	Maxilla		Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	III
84	Cranial	Mandible	L	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	III
321	Cranial	Mandibular molar	R	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	III
351	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	III
39	Cranial	Mandibular third molar	R	Artiodactyla	Bovidae	Reduncini	Indet.	Indet.	
126	Cranial	Maxilla	R	Artiodactyla	Bovidae	Tragelaphini	<i>Taurotragus</i>	sp.	IV
132	Cranial	Mandibular deciduous fourth premolar	R	Artiodactyla	Bovidae	Tragelaphini	<i>Taurotragus</i>	sp.	IV
315	Cranial	Mandibular deciduous fourth premolar	R	Artiodactyla	Bovidae	Tragelaphini	<i>Taurotragus</i>	sp.	IV
797	Cranial	Maxilla	R	Artiodactyla	Bovidae	Tragelaphini	<i>Taurotragus</i>	sp.	IV
799	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Tragelaphini	<i>Taurotragus</i>	sp.	IV
96	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Tragelaphini	<i>Tragelaphus</i>	sp.	III
123	Cranial	Mandible	R	Artiodactyla	Bovidae	Tragelaphini	<i>Tragelaphus</i>	sp.	III
329	Cranial	Maxillary second premolar	L	Artiodactyla	Bovidae	Tragelaphini	<i>Tragelaphus</i>	sp.	III
360	Cranial	Indet. mandibular tooth		Artiodactyla	Bovidae	Tragelaphini	<i>Tragelaphus</i>	sp.	III
366	Cranial	Mandibular molar		Artiodactyla	Bovidae	Tragelaphini	<i>Tragelaphus</i>	sp.	III
110	Cranial	Maxillary deciduous third premolar	R	Artiodactyla	Bovidae	Tragelaphini	Indet.	Indet.	
30	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	I
367	Cranial	Indet. maxillary tooth		Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
377	Cranial	Mandible	R	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
407	Cranial	Maxilla	R	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
791	Cranial	Mandibular premolar		Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
1282	Cranial	Maxillary molar	L	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
1286	Cranial	Maxillary molar	R	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
1287	Cranial	Maxillary fourth premolar	R	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
1288	Cranial	Maxillary molar		Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
1289	Cranial	Mandible	L	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
1292	Cranial	Mandible	R	Artiodactyla	Bovidae	Antilopini/ Netotragini	Indet.	Indet.	
140	Cranial	Mandibular molar	L	Artiodactyla	Bovidae	Hippotragini/ Reduncini	Indet.	Indet.	III
119	Cranial	Maxillary third premolar	L	Artiodactyla	Bovidae	Hippotragini/ Tregelaphini	Indet.	Indet.	
1291	Cranial	Mandible	L	Artiodactyla	Bovidae	Cephalophini/ Neotragini	Indet.	Indet.	I
184	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	I
478	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	I

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
504	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	I
572	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	I
721	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	I
733	Articulated elements	Articulated elements	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1054	Articulated elements	Articulated elements	R	Artiodactyla	Bovidae		Indet.	Indet.	I
210	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
211	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
212	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
213	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
216	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
219	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
283	Astragalus	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	I
734	Astragalus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
735	Astragalus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
736	Astragalus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
737	Astragalus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
770	Astragalus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
771	Astragalus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1029	Astragalus	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1030	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1031	Astragalus	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1033	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1034	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1045	Astragalus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1067	Astragalus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1074	Astragalus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
228	Calcaneus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
229	Calcaneus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
230	Calcaneus	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	I
233	Calcaneus	Proximal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
286	Calcaneus	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	I
738	Calcaneus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
773	Calcaneus	Distal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
774	Calcaneus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
775	Calcaneus	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1016	Calcaneus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1017	Calcaneus	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1018	Calcaneus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1019	Calcaneus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1020	Calcaneus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1022	Calcaneus	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
244	Carpal	Radial	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2424	Carpal	Intermediate	R	Artiodactyla	Bovidae		Indet.	Indet.	I

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
406	Cranial	Maxillary molar	R	Artiodactyla	Bovidae		Indet.	Indet.	I
424	Cranial	Occipital		Artiodactyla	Bovidae		Indet.	Indet.	I
767	Cranial	Mandible	R	Artiodactyla	Bovidae		Indet.	Indet.	I
768	Cranial	Mandible	L	Artiodactyla	Bovidae		Indet.	Indet.	I
810	Cranial	Indet. maxillary tooth		Artiodactyla	Bovidae		Indet.	Indet.	I
816	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
817	Cranial	Indet. maxillary tooth		Artiodactyla	Bovidae		Indet.	Indet.	I
850	Cranial	Occipital		Artiodactyla	Bovidae		Indet.	Indet.	I
864	Cranial	Mandible	L	Artiodactyla	Bovidae		Indet.	Indet.	I
867	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
868	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
869	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
870	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
871	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
872	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
873	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
874	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
875	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
876	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
877	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
878	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
879	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
880	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
1226	Cranial	Parietal		Artiodactyla	Bovidae		Indet.	Indet.	I
2341	Cranial	Mandible	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2427	Cranial	Mandible	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1044	Distal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
178	Femur	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
182	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
183	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
187	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
190	Femur	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
193	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
195	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
196	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
198	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
207	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
235	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
239	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
240	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
241	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
282	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
533	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
534	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
535	Femur	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
536	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
537	Femur	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
538	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
541	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
544	Femur	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
943	Femur	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
946	Femur	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
947	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1063	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1077	Femur	Distal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1404	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1405	Femur	Distal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1406	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1456	Femur	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1457	Femur	Proximal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1467	Femur	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1468	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1469	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1495	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1496	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1497	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1498	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1499	Femur	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2229	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
2374	Femur	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1062	Fibula	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2414	Fibula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
951	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1419	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1420	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1458	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1459	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1477	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1478	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2202	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2203	Humerus	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2334	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2387	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
2402	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
2437	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2245	Intermediate Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
2246	Intermediate Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
2247	Intermediate Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
2307	Intermediate Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
591	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
926	Metacarpal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1401	Metacarpal	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1431	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1432	Metacarpal	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1433	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1460	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1462	Metacarpal	Distal metaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1474	Metacarpal	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
174	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
566	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1400	Metapodial	Distal metaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1434	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1471	Metapodial	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
166	Metatarsal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
172	Metatarsal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
720	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1430	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1437	Metatarsal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1464	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
2357	Pelvis	Ischium	L	Artiodactyla	Bovidae		Indet.	Indet.	I
146	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
147	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
148	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
149	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
150	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
151	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
152	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
154	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
157	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
158	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
159	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
161	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
162	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
164	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
214	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
270	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
276	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
280	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
565	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1043	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1407	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1408	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1409	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
1410	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	I
2239	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
2240	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
2241	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
2242	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
203	Radius	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	I
208	Radius	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
217	Radius	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
225	Radius	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
231	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
232	Radius	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	I
289	Radius	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
570	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
576	Radius	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
578	Radius	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
595	Radius	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
726	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1061	Radius	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1064	Radius	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1421	Radius	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1423	Radius	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1424	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1425	Radius	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1426	Radius	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1427	Radius	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1428	Radius	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1429	Radius	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1452	Radius	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1454	Radius	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1455	Radius	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1473	Radius	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1488	Radius	Distal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1489	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
236	Scapula	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
238	Scapula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
245	Scapula	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	I
290	Scapula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
508	Scapula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1385	Scapula	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1386	Scapula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
199	Tarsal	Second & Third	R	Artiodactyla	Bovidae		Indet.	Indet.	I
200	Tarsal	Second & Third	R	Artiodactyla	Bovidae		Indet.	Indet.	I
2415	Tarsal	Central	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2416	Tarsal	Central	R	Artiodactyla	Bovidae		Indet.	Indet.	I
237	Tibia	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
242	Tibia	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
247	Tibia	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
285	Tibia	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
548	Tibia	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
550	Tibia	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
551	Tibia	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
574	Tibia	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
583	Tibia	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1010	Tibia	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1011	Tibia	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1013	Tibia	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1441	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1442	Tibia	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1443	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1446	Tibia	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1448	Tibia	Distal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1449	Tibia	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	I
1451	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1484	Tibia	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1485	Tibia	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2235	Tibia	Distal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2237	Tibia	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2373	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
573	Ulna	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
575	Ulna	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
592	Ulna	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
593	Ulna	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	I
1046	Ulna	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1402	Ulna	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
1403	Ulna	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2283	Ulna	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
2396	Ulna	Proximal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	I
287	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	I
288	Vertebra	Axis		Artiodactyla	Bovidae		Indet.	Indet.	I
436	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
440	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	I
442	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
443	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
445	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	I
447	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
448	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
449	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
450	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
451	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
454	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
457	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
458	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
460	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	I
461	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
462	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
465	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
466	Vertebra	Axis		Artiodactyla	Bovidae		Indet.	Indet.	I
469	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
470	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
473	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
474	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
476	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
477	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
479	Vertebra	Seventh Cervical		Artiodactyla	Bovidae		Indet.	Indet.	I
483	Vertebra	Fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
485	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	I
487	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
488	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
490	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
491	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
494	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
496	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
497	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
498	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
503	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	I
920	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
921	Vertebra	First Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
1369	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	I
1372	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
1373	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
1374	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
1375	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
1377	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
1381	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
1491	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	I
1492	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
1493	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
2310	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	I
2311	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
2313	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I
2316	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	I

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2319	Vertebra	Fragment		Artiodactyla	Bovidae		Indet.	Indet.	I
2321	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
2322	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
2325	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	I
2326	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	I
430	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	II
506	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	II
964	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	II
1383	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	II
1026	Astragalus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1028	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1032	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1036	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1039	Astragalus	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1021	Calcaneus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
328	Carpal	Radial	R	Artiodactyla	Bovidae		Indet.	Indet.	II
80	Cranial	Mandibular first incisor	L	Artiodactyla	Bovidae		Indet.	Indet.	II
81	Cranial	Mandibular first incisor	R	Artiodactyla	Bovidae		Indet.	Indet.	II
325	Cranial	Horncore		Artiodactyla	Bovidae		Indet.	Indet.	II
337	Cranial	Parietal	R	Artiodactyla	Bovidae		Indet.	Indet.	II
358	Cranial	Parietal		Artiodactyla	Bovidae		Indet.	Indet.	II
373	Cranial	Maxilla		Artiodactyla	Bovidae		Indet.	Indet.	II
374	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
376	Cranial	Maxillary molar		Artiodactyla	Bovidae		Indet.	Indet.	II
393	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
402	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
403	Cranial	Mandibular first incisor	R	Artiodactyla	Bovidae		Indet.	Indet.	II
404	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
412	Cranial	Occipital	R	Artiodactyla	Bovidae		Indet.	Indet.	II
414	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
415	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
417	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
785	Cranial	Mandibular second incisor	L	Artiodactyla	Bovidae		Indet.	Indet.	II
786	Cranial	Mandibular incisor	L	Artiodactyla	Bovidae		Indet.	Indet.	II
787	Cranial	Mandibular incisor	L	Artiodactyla	Bovidae		Indet.	Indet.	II
788	Cranial	Mandibular incisor	L	Artiodactyla	Bovidae		Indet.	Indet.	II
789	Cranial	Mandibular incisor	R	Artiodactyla	Bovidae		Indet.	Indet.	II
790	Cranial	Mandibular incisor	L	Artiodactyla	Bovidae		Indet.	Indet.	II
792	Cranial	Indet. maxillary tooth		Artiodactyla	Bovidae		Indet.	Indet.	II
803	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
809	Cranial	Maxillary molar		Artiodactyla	Bovidae		Indet.	Indet.	II
811	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
812	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
813	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
814	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
815	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
823	Cranial	Mandible	R	Artiodactyla	Bovidae		Indet.	Indet.	II
828	Cranial	Occipital	L	Artiodactyla	Bovidae		Indet.	Indet.	II
844	Cranial	Frontal		Artiodactyla	Bovidae		Indet.	Indet.	II
851	Cranial	Parietal	L	Artiodactyla	Bovidae		Indet.	Indet.	II
852	Cranial	Horncore		Artiodactyla	Bovidae		Indet.	Indet.	II
857	Cranial	Mandible	L	Artiodactyla	Bovidae		Indet.	Indet.	II
863	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
865	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
866	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
881	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
882	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
883	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
884	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
885	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
886	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
887	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
888	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
889	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
890	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
891	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
892	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
893	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
894	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
895	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
896	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
897	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
898	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
899	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
900	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
901	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
906	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
907	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
908	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
909	Cranial	Mandible	R	Artiodactyla	Bovidae		Indet.	Indet.	II
911	Cranial	Mandible	L	Artiodactyla	Bovidae		Indet.	Indet.	II
912	Cranial	Mandible	L	Artiodactyla	Bovidae		Indet.	Indet.	II
914	Cranial	Mandible	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1071	Cranial	Occipital	L	Artiodactyla	Bovidae		Indet.	Indet.	II
2450	Cranial	Horncore		Artiodactyla	Bovidae		Indet.	Indet.	II
1023	Distal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
356	Femur	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
542	Femur	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
935	Femur	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
942	Femur	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
944	Femur	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
945	Femur	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1068	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2403	Femur	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
253	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
363	Humerus	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
915	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
916	Humerus	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
948	Humerus	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
949	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
1040	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1417	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2204	Humerus	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
262	Intermediate Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	II
323	Intermediate Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	II
719	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
722	Metacarpal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
569	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
711	Metapodial	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
712	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
716	Metapodial	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
717	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
568	Metatarsal	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
571	Metatarsal	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
594	Metatarsal	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
243	Pelvis	Ischium		Artiodactyla	Bovidae		Indet.	Indet.	II
248	Pelvis	Acetabulum	R	Artiodactyla	Bovidae		Indet.	Indet.	II
532	Pelvis	Ischium	L	Artiodactyla	Bovidae		Indet.	Indet.	II
554	Pelvis	Acetabulum	L	Artiodactyla	Bovidae		Indet.	Indet.	II
555	Pelvis	Acetabulum	R	Artiodactyla	Bovidae		Indet.	Indet.	II
556	Pelvis	Acetabulum	L	Artiodactyla	Bovidae		Indet.	Indet.	II
558	Pelvis	Acetabulum	R	Artiodactyla	Bovidae		Indet.	Indet.	II
559	Pelvis	Acetabulum	L	Artiodactyla	Bovidae		Indet.	Indet.	II
560	Pelvis	Acetabulum	R	Artiodactyla	Bovidae		Indet.	Indet.	II
561	Pelvis	Ischium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
762	Pelvis	Pubis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
763	Pelvis	Fragment		Artiodactyla	Bovidae		Indet.	Indet.	II
764	Pelvis	Ilium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
765	Pelvis	Acetabulum	R	Artiodactyla	Bovidae		Indet.	Indet.	II
766	Pelvis	Ilium	L	Artiodactyla	Bovidae		Indet.	Indet.	II
965	Pelvis	Ilium	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1012	Pelvis	Pubis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
1014	Pelvis	Ilium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
1053	Pelvis	Complete		Artiodactyla	Bovidae		Indet.	Indet.	II
1392	Pelvis	Acetabulum		Artiodactyla	Bovidae		Indet.	Indet.	II
1394	Pelvis	Acetabulum	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1395	Pelvis	Acetabulum	R	Artiodactyla	Bovidae		Indet.	Indet.	II

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1396	Pelvis	Acetabulum	R	Artiodactyla	Bovidae		Indet.	Indet.	II
1397	Pelvis	Ischium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
1398	Pelvis	Ischium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
1399	Pelvis	Pubis		Artiodactyla	Bovidae		Indet.	Indet.	II
1466	Pelvis	Ilium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2285	Pelvis	Ilium	L	Artiodactyla	Bovidae		Indet.	Indet.	II
2286	Pelvis	Ilium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2287	Pelvis	Ilium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2288	Pelvis	Ilium	L	Artiodactyla	Bovidae		Indet.	Indet.	II
2289	Pelvis	Ilium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2290	Pelvis	Ilium	L	Artiodactyla	Bovidae		Indet.	Indet.	II
2291	Pelvis	Ilium	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2362	Pelvis	Ischium	L	Artiodactyla	Bovidae		Indet.	Indet.	II
144	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
153	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	II
281	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	II
324	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
1072	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
727	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
728	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1422	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
511	Scapula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
729	Scapula	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
730	Scapula	Blade		Artiodactyla	Bovidae		Indet.	Indet.	II
743	Scapula	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
777	Scapula	Blade	L	Artiodactyla	Bovidae		Indet.	Indet.	II
1475	Scapula	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
2421	Tarsal	Central	R	Artiodactyla	Bovidae		Indet.	Indet.	II
359	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
581	Tibia	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
938	Tibia	Proximal	L	Artiodactyla	Bovidae		Indet.	Indet.	II
2230	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2232	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2236	Tibia	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	II
2308	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2430	Tibia	Distal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	II
2282	Ulna	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
2347	Ulna	Proximal metaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	II
249	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	II
335	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
432	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
433	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
434	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	II
437	Vertebra	First Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
439	Vertebra	Sacrum		Artiodactyla	Bovidae		Indet.	Indet.	II

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
446	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
452	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
453	Vertebra	First Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
456	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
471	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
475	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	II
480	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
484	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
492	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
499	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
922	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
923	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
1073	Vertebra	Sacrum		Artiodactyla	Bovidae		Indet.	Indet.	II
1365	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	II
1366	Vertebra	Seventh Cervical		Artiodactyla	Bovidae		Indet.	Indet.	II
1367	Vertebra	Axis		Artiodactyla	Bovidae		Indet.	Indet.	II
1368	Vertebra	Axis		Artiodactyla	Bovidae		Indet.	Indet.	II
1376	Vertebra	First Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	II
1378	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
1379	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
1380	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
1382	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	II
256	Articulated elements	Articulated elements	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1363	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	III
2407	Articulated elements	Articulated elements		Artiodactyla	Bovidae		Indet.	Indet.	III
320	Astragalus	Complete	R	Artiodactyla	Bovidae		Indet.	Indet.	III
731	Astragalus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
732	Astragalus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
259	Calcaneus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
772	Calcaneus	Distal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
778	Calcaneus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
2418	Carpal	Intermediate	R	Artiodactyla	Bovidae		Indet.	Indet.	III
2419	Carpal	Intermediate	L	Artiodactyla	Bovidae		Indet.	Indet.	III
2423	Carpal	Fourth	R	Artiodactyla	Bovidae		Indet.	Indet.	III
390	Cranial	Mandibular first incisor	L	Artiodactyla	Bovidae		Indet.	Indet.	III
398	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	III
783	Cranial	Mandibular incisor	R	Artiodactyla	Bovidae		Indet.	Indet.	III
793	Cranial	Indet. maxillary tooth		Artiodactyla	Bovidae		Indet.	Indet.	III
796	Cranial	Mandible		Artiodactyla	Bovidae		Indet.	Indet.	III
808	Cranial	Temporal		Artiodactyla	Bovidae		Indet.	Indet.	III
821	Cranial	Maxillary molar		Artiodactyla	Bovidae		Indet.	Indet.	III
822	Cranial	Maxillary molar		Artiodactyla	Bovidae		Indet.	Indet.	III
913	Cranial	Mandible	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1213	Cranial	Occipital		Artiodactyla	Bovidae		Indet.	Indet.	III
1262	Cranial	Occipital		Artiodactyla	Bovidae		Indet.	Indet.	III

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2292	Cranial	Mandible	R	Artiodactyla	Bovidae		Indet.	Indet.	III
582	Distal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	III
1481	Distal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	III
1470	Femur	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
2228	Femur	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
2335	Femur	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
13	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
334	Humerus	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
530	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
531	Humerus	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
545	Humerus	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
552	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
1007	Humerus	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
1057	Humerus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1416	Humerus	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
2205	Humerus	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
2206	Humerus	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
260	Intermediate Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	III
264	Intermediate Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	III
1411	Intermediate Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
258	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
597	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
715	Metacarpal	Distal metaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
723	Metacarpal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1438	Metacarpal	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
265	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
562	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
718	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1008	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1035	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1047	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1075	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1461	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1479	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1480	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
2293	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
255	Metatarsal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
267	Metatarsal	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
322	Metatarsal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
587	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
713	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
714	Metatarsal	Distal metaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1070	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1439	Metatarsal	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1465	Metatarsal	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III

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HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2380	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1069	Patella	Complete	L	Artiodactyla	Bovidae		Indet.	Indet.	III
1393	Pelvis	Acetabulum	L	Artiodactyla	Bovidae		Indet.	Indet.	III
2248	Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
261	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
579	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	III
1051	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1414	Proximal Phalanx	Complete		Artiodactyla	Bovidae		Indet.	Indet.	III
1440	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
1482	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
2249	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
2250	Proximal Phalanx	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
94	Radius	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
584	Radius	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
724	Radius	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
725	Radius	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
1059	Radius	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1453	Radius	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1490	Radius	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
2429	Radius	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
251	Scapula	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
509	Scapula	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
512	Scapula	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
779	Scapula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1387	Scapula	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1042	Sesamoid	Proximal		Artiodactyla	Bovidae		Indet.	Indet.	III
1024	Tarsal	Central	L	Artiodactyla	Bovidae		Indet.	Indet.	III
1025	Tarsal	Central	R	Artiodactyla	Bovidae		Indet.	Indet.	III
2420	Tarsal	Central		Artiodactyla	Bovidae		Indet.	Indet.	III
268	Tibia	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
563	Tibia	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1447	Tibia	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1450	Tibia	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
1483	Tibia	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1486	Tibia	Distal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
1487	Tibia	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
2231	Tibia	Diaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	III
2233	Tibia	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
2234	Tibia	Diaphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	III
2332	Ulna	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	III
254	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	III
364	Vertebra	Axis		Artiodactyla	Bovidae		Indet.	Indet.	III
428	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	III
429	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	III

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
435	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	III
438	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	III
467	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	III
468	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	III
500	Vertebra	Atlas		Artiodactyla	Bovidae		Indet.	Indet.	III
507	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	III
1364	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	III
1371	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	III
2324	Vertebra	Lumbar		Artiodactyla	Bovidae		Indet.	Indet.	III
2331	Vertebra	Cervical		Artiodactyla	Bovidae		Indet.	Indet.	III
580	Astragalus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	IV
1027	Astragalus	Proximal epiphysis	R	Artiodactyla	Bovidae		Indet.	Indet.	IV
250	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	IV
1058	Metapodial	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	IV
257	Metatarsal	Diaphysis		Artiodactyla	Bovidae		Indet.	Indet.	IV
590	Proximal Phalanx	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	IV
780	Scapula	Distal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	IV
776	Tibia	Distal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	IV
1050	Ulna	Proximal metaphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	IV
686	Cranial	Maxilla	R	Artiodactyla	Bovidae		Indet.	Indet.	
902	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	
903	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	
904	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	
905	Cranial	Enamel fragment		Artiodactyla	Bovidae		Indet.	Indet.	
939	Femur	Proximal epiphysis		Artiodactyla	Bovidae		Indet.	Indet.	
990	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	
1418	Humerus	Proximal epiphysis	L	Artiodactyla	Bovidae		Indet.	Indet.	
557	Pelvis	Acetabulum	L	Artiodactyla	Bovidae		Indet.	Indet.	
1391	Scapula	Blade		Artiodactyla	Bovidae		Indet.	Indet.	
2356	Scapula	Blade		Artiodactyla	Bovidae		Indet.	Indet.	
553	Sternebra	Fragment		Artiodactyla	Bovidae		Indet.	Indet.	
739	Sternebra	Complete		Artiodactyla	Bovidae		Indet.	Indet.	
1415	Sternebra	Fragment		Artiodactyla	Bovidae		Indet.	Indet.	
1472	Sternebra	Complete		Artiodactyla	Bovidae		Indet.	Indet.	
1494	Sternebra	Complete		Artiodactyla	Bovidae		Indet.	Indet.	
15	Vertebra	Axis		Artiodactyla	Bovidae		Indet.	Indet.	
1370	Vertebra	Thoracic		Artiodactyla	Bovidae		Indet.	Indet.	
1323	Cranial	Indet. third molar		Artiodactyla	Suidae	Phacochoerini	Indet.	Indet.	
1324	Cranial	Enamel fragment		Artiodactyla	Suidae	Phacochoerini	Indet.	Indet.	
2309	Metaphysis	Fragment		Artiodactyla	?Suidae		Indet.	Indet.	
950	Metatarsal	Fourth	R	Carnivora	Felidae		cf. <i>Dinofelis</i>	sp.	
	Cranial	Maxilla	L	Carnivora	Hyaenidae		Hyaenidae	Indet.	
2333	Metapodial	Distal epiphysis		Carnivora	Indet.		Indet.	Indet.	
1078	Astragalus	Complete	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1309	Calcaneus	Complete	L	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
978	Carpal	Second	L	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1090	Cranial	Indet. maxillary tooth	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	

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1092	Cranial	Indet. mandibular tooth	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1096	Cranial	Indet. maxillary tooth	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1105	Cranial	Mandible	L	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1107	Cranial	Indet. mandibular tooth	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1110	Cranial	Indet. maxillary tooth	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1266	Cranial	Indet. mandibular tooth	L	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1302	Cranial	Maxillary third molar	L	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1303	Cranial	Maxillary third molar	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1099	Intermediate Phalanx	Complete		Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1310	Intermediate Phalanx	Complete		Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
589	Metacarpal	Diaphysis		Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1305	Metacarpal	Proximal epiphysis	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1314	Radius	Distal epiphysis	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
769	Sesamoid	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1101	Tarsal	Central	R	Perissodactyla	Equidae		<i>Equus</i>	<i>capensis</i>	
1091	Cranial	Indet. maxillary tooth	R	Perissodactyla	Equidae		<i>Equus</i>	<i>cf. quagga</i>	
1109	Cranial	Maxillary second premolar	L	Perissodactyla	Equidae		<i>Equus</i>	<i>cf. quagga</i>	
1260	Cranial	Maxillary premolar/molar	R	Perissodactyla	Equidae		<i>Equus</i>	<i>cf. quagga</i>	
586	Astragalus	Complete	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1104	Astragalus	Complete	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1103	Calcaneus	Distal metaphysis	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1102	Carpal	Intermediate	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
344	Cranial	Indet. maxillary tooth		Perissodactyla	Equidae		<i>Equus</i>	sp.	
350	Cranial	Enamel fragment		Perissodactyla	Equidae		<i>Equus</i>	sp.	
355	Cranial	Indet. maxillary tooth		Perissodactyla	Equidae		<i>Equus</i>	sp.	
362	Cranial	Indet. mandibular tooth		Perissodactyla	Equidae		<i>Equus</i>	sp.	
395	Cranial	Enamel fragment		Perissodactyla	Equidae		<i>Equus</i>	sp.	
423	Cranial	Indet. mandibular tooth		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1094	Cranial	Indet. mandibular tooth	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1095	Cranial	Indet. maxillary tooth	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1106	Cranial	Indet. mandibular tooth	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1108	Cranial	Indet. maxillary tooth	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1267	Cranial	Indet. mandibular tooth	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1268	Cranial	Indet. mandibular tooth	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1304	Cranial	Indet. maxillary tooth	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
740	Distal Phalanx	Complete		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1088	Distal Phalanx	Proximal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1089	Distal Phalanx	Complete		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1100	Distal Phalanx	Complete		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1087	Intermediate Phalanx	Proximal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
710	Metacarpal	Distal metaphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1006	Metacarpal	Distal metaphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1111	Metacarpal	Proximal epiphysis	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1307	Metacarpal	Proximal epiphysis	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1319	Metacarpal	Complete		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1320	Metacarpal	Proximal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
2226	Metacarpal	Proximal metaphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
564	Metapodial	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
709	Metapodial	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1097	Metapodial	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1098	Metapodial	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1321	Metapodial	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1322	Metapodial	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
2434	Metapodial	Diaphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1009	Metatarsal	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1085	Metatarsal	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1306	Metatarsal	Proximal epiphysis	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1318	Metatarsal	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1312	Pelvis	Acetabulum	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1086	Proximal Phalanx	Proximal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1315	Radius	Proximal epiphysis	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1316	Radius	Distal epiphysis	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1317	Radius	Distal epiphysis	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
741	Sesamoid	Distal epiphysis		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1112	Tarsal	Fourth	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1308	Tarsal	Third	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1015	Tibia	Distal epiphysis	L	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1313	Tibia	Distal epiphysis	R	Perissodactyla	Equidae		<i>Equus</i>	sp.	
1311	Vertebra	Atlas		Perissodactyla	Equidae		<i>Equus</i>	sp.	
1265	Cranial	Enamel fragment		Perissodactyla	Equidae		Indet.	Indet.	
1269	Cranial	Indet. maxillary tooth		Perissodactyla	Equidae		Indet.	Indet.	
1116	Cranial	Rostrum		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1119	Cranial	Mandible		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1125	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1130	Cranial	Mandible		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1131	Cranial	Rostrum		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1134	Cranial	Mandible		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	

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1138	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1143	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1150	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1151	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1152	Cranial	Mandible	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1155	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1156	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1161	Cranial	Maxillary fourth premolar	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1163	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1271	Cranial	Maxillary molar	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
1358	Cranial	Maxillary central incisor	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>antiqua</i>	
657	Cranial	Mandibular third molar	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
662	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1114	Cranial	Rostrum		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1115	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1118	Cranial	Complete		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1121	Cranial	Maxilla		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1122	Cranial	Mandible	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1123	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1126	Cranial	Mandible		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1127	Cranial	Rostrum		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1128	Cranial	Mandible		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1129	Cranial	Maxilla		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1132	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1133	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1135	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1136	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1137	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1139	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1140	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1141	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1142	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1144	Cranial	Mandible	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1145	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1147	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1148	Cranial	Rostrum		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1149	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1153	Cranial	Maxillary molar	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1154	Cranial	Maxillary molar	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1158	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1160	Cranial	Mandibular first molar	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1162	Cranial	Mandible	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1164	Cranial	Maxilla	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1206	Cranial	Mandible	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1212	Cranial	Mandibular molar	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1219	Cranial	Base		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1272	Cranial	Maxillary molar		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1273	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1356	Cranial	Rostrum		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1359	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1360	Cranial	Maxilla		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1361	Cranial	Mandible		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1362	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
1004	Femur	Distal epiphysis	R	Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
2365	Vertebra	Atlas		Hyracoidea	Procaviidae		<i>Procavia</i>	<i>transvaalensis</i>	
675	Cranial	Mandible	R	Hyracoidea	Procaviidae		<i>Procavia</i>	sp.	
676	Cranial	Mandibular molar	R	Hyracoidea	Procaviidae		<i>Procavia</i>	sp.	
1159	Cranial	Mandible	L	Hyracoidea	Procaviidae		<i>Procavia</i>	sp.	
1201	Cranial	Maxilla	L	Hyracoidea	Procaviidae		<i>Procavia</i>	sp.	
1270	Cranial	Maxillary central incisor		Hyracoidea	Procaviidae		<i>Procavia</i>	sp.	
1357	Cranial	Mandible		Hyracoidea	Procaviidae		<i>Procavia</i>	sp.	
827	Cranial	Mandible	R	Lagomorpha	Leporidae		<i>Pronolagus</i>	<i>rupestris</i>	
1113	Humerus	Complete		Lagomorpha	Leporidae		<i>Pronolagus</i>	<i>rupestris</i>	
1264	Cranial	Mandible		Lagomorpha	Leporidae		Indet.	Indet.	
1274	Cranial	Indet. premolar/ molar		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1275	Cranial	Indet. premolar/ molar		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1276	Cranial	Maxillary molar	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1277	Cranial	Central incisor		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1278	Cranial	Mandibular first incisor	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1279	Cranial	Rostrum		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1325	Cranial	Indet. premolar/ molar		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1326	Cranial	Molar		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1327	Cranial	Mandibular molar	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1328	Cranial	Indet. maxillary tooth	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1329	Cranial	Maxillary fourth premolar	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1330	Cranial	Maxillary first molar	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1331	Cranial	Maxillary central incisor	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1332	Cranial	Maxillary central incisor	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1333	Cranial	Maxillary central incisor	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1334	Cranial	Incisor		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1335	Cranial	Incisor		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1336	Cranial	Incisor		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1337	Cranial	Incisor		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1338	Cranial	Mandibular first incisor		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1339	Cranial	Mandible	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1340	Cranial	Mandible	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1341	Cranial	Mandible	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	
1342	Cranial	Mandible	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africae australis</i>	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1343	Cranial	Mandible	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1344	Cranial	Mandible	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1345	Cranial	Mandible	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1346	Cranial	Mandible	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1347	Cranial	Mandible	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1348	Cranial	Mandible	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1349	Cranial	Mandible	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1350	Cranial	Mandible	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1351	Cranial	Maxilla	L	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1352	Cranial	Maxilla		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1353	Cranial	Maxilla		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1354	Cranial	Complete		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
1355	Cranial	Frontal		Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
936	Femur	Diaphysis	R	Rodentia	Hystricidae		<i>Hystrix</i>	<i>africaeaustralis</i>	
2422	Carpal/ Tarsal	Fragment		Indet.	Indet.		Indet.	Indet.	
371	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
408	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
409	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
416	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
782	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
784	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
800	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
801	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
802	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
804	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
805	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
806	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
807	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
818	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
819	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
820	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
824	Cranial	Temporal		Indet.	Indet.		Indet.	Indet.	
826	Cranial	Maxilla		Indet.	Indet.		Indet.	Indet.	
829	Cranial	Frontal		Indet.	Indet.		Indet.	Indet.	
830	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
831	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
832	Cranial	Maxilla		Indet.	Indet.		Indet.	Indet.	
833	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
834	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
838	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
839	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
840	Cranial	Temporal	R	Indet.	Indet.		Indet.	Indet.	
841	Cranial	Temporal		Indet.	Indet.		Indet.	Indet.	
843	Cranial	Temporal	L	Indet.	Indet.		Indet.	Indet.	
845	Cranial	Temporal	R	Indet.	Indet.		Indet.	Indet.	
848	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
849	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
853	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
854	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
855	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
856	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
858	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
859	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
860	Cranial	Mandible		Indet.	Indet.		Indet.	Indet.	
861	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
862	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
1146	Cranial	Mandible		Indet.	Indet.		Indet.	Indet.	
1229	Cranial	Occipital		Indet.	Indet.		Indet.	Indet.	
1230	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
1231	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
1232	Cranial	Fragment		Indet.	Indet.		Indet.	Indet.	
1510	Cranial	Maxilla		Indet.	Indet.		Indet.	Indet.	
2382	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
2425	Cranial	Enamel fragment		Indet.	Indet.		Indet.	Indet.	
352	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
361	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
400	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
529	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
588	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
924	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
930	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
934	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1444	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1445	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1503	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1507	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1508	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1509	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1513	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1514	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1515	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1516	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1517	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1519	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1520	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1521	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1522	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1523	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1525	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1527	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1528	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1529	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1530	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1531	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1533	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1534	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1537	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1538	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1540	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1542	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1544	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1545	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1546	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1548	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1549	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1550	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1553	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1554	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1561	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1564	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1565	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1569	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1570	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1571	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1572	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1573	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1574	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1575	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1577	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1578	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1580	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1583	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1585	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1586	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1587	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1588	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1589	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1593	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1595	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1597	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1599	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1600	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1602	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1604	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1607	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1608	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1609	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1610	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1611	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1614	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1615	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1625	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1630	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1631	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1632	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1634	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1636	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1637	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1638	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1639	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1641	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1642	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1645	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1650	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1655	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1656	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1657	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1658	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1659	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1661	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1662	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1663	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1664	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1665	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1666	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1668	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1669	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1672	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1673	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1674	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1676	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1678	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1679	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1681	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1682	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1684	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1685	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1686	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1687	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1688	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1690	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1691	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1692	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1694	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1696	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1697	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1698	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1702	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1704	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1705	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1710	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1711	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1713	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1714	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1715	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1716	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1719	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1720	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1721	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1722	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1723	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1725	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1726	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1730	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1734	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1737	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1738	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1739	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1740	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1741	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1742	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1743	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1744	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1745	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1746	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1748	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1749	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1750	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1752	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1754	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1756	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1758	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1759	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1760	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1761	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1762	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1763	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1764	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1765	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1766	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1767	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1768	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1770	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1771	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1772	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1775	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1776	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1777	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1778	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1779	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1781	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1782	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1783	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1784	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1786	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1787	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1788	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1789	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1791	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1792	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1794	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1796	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1797	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1802	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1805	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1806	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1807	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1808	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1809	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1810	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1811	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1812	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1813	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1815	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1818	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1823	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1826	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1827	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1829	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1836	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1838	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1839	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1840	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1841	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1842	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1843	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1844	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1845	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1848	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1849	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1853	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1855	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1856	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1860	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1864	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1865	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1866	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1869	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1870	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1872	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1874	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1875	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1876	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1877	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1879	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1881	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1882	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1883	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1884	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1885	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1886	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1887	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1888	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1891	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1892	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1895	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1896	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1897	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1898	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1899	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1901	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1903	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1904	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1905	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1906	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1907	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1908	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1910	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1911	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1912	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1913	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1915	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1916	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1917	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1918	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1919	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1920	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1921	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1922	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1924	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1925	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1926	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1927	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1928	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1931	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1933	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1934	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1935	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1936	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1937	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1938	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1939	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1940	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1942	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1943	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1945	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1946	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1950	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1952	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1954	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1957	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1959	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1960	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1961	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1962	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1963	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1964	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1965	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1967	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1968	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1969	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1971	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1974	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1975	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1980	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1982	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1984	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1985	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1986	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1987	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1988	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1989	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1990	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1992	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1993	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1994	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1995	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1996	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1997	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1998	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1999	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2002	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2003	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2004	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2005	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2006	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2007	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2008	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2010	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2011	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2012	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2013	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2014	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2015	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2016	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2017	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2019	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2020	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2022	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2024	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2027	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2031	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2032	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2033	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2034	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2040	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2041	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2043	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2047	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2048	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2049	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2050	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2054	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2061	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2062	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2063	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2064	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2065	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2068	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2069	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2070	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2071	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2072	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2073	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2074	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2078	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2079	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2080	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2081	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2082	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2083	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2084	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2085	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2091	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2092	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2093	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2094	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2098	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2099	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2103	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2104	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2105	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2106	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2107	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2109	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2110	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2118	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2126	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2127	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2130	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2133	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2135	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2137	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2139	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2140	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2143	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2151	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2155	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2157	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2158	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2160	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2161	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2162	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2165	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2169	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2170	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2171	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2172	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2174	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2177	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2178	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2180	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2182	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2209	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2212	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2213	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2214	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2221	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2223	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2224	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2267	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2276	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2302	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2303	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2336	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2337	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2338	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2343	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2346	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2360	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2372	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2379	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2383	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2391	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2400	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2401	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2404	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2431	Diaphysis	Distal metaphysis		Indet.	Indet.		Indet.	Indet.	
2445	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2449	Diaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
514	Femur	Diaphysis		Indet.	Indet.		Indet.	Indet.	
1037	Femur	Distal epiphysis		Indet.	Indet.		Indet.	Indet.	
2375	Femur	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2376	Femur	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2377	Femur	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2439	Femur	Proximal metaphysis	L	Indet.	Indet.		Indet.	Indet.	
927	Humerus	Distal metaphysis	L	Indet.	Indet.		Indet.	Indet.	
928	Humerus	Diaphysis	L	Indet.	Indet.		Indet.	Indet.	
2207	Humerus	Diaphysis	R	Indet.	Indet.		Indet.	Indet.	
411	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
677	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1199	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1202	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1207	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1208	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1224	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1500	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1501	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1502	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1504	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1506	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1511	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1512	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1518	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1526	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1535	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1536	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1539	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1541	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1543	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1552	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1555	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1556	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1557	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1558	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1559	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1560	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1566	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1576	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1579	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1581	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1582	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1590	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1591	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1592	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1594	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1596	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1603	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1605	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1606	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1612	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1613	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1617	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1618	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1619	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1620	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1621	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1622	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1626	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1633	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1646	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1647	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1648	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1649	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1651	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1652	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1653	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1677	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1689	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1695	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1699	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1700	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1701	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1703	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1706	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1707	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1708	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1712	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1717	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1724	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1731	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1732	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1736	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1747	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1751	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1755	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1757	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1769	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1773	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1774	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1780	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1785	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1790	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1799	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1800	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1801	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1803	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1804	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1816	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1825	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1828	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1830	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1831	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1833	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1834	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1835	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1846	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1850	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1852	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1858	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1859	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1861	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1862	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1863	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1867	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1868	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1873	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1889	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1890	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1893	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1894	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1900	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1902	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1914	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1923	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1930	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1932	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1944	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1947	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1951	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1953	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1970	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1972	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1978	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1979	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
1981	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2001	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2009	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2023	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2029	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2030	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2035	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2036	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2037	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2038	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2045	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2051	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2052	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2053	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2055	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2056	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2057	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2059	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2066	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2067	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2087	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2095	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2100	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2102	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2108	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2111	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2112	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2116	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2117	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2119	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2121	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2122	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2123	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2124	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2128	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2129	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2132	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2134	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2136	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2141	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2142	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2146	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2147	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2148	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2150	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2153	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2156	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2159	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2163	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2164	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2166	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2167	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2168	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2175	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2176	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2179	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2181	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2215	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2218	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2261	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2262	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2268	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2270	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2271	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2274	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2275	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2277	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2295	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2296	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2297	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2298	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2300	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2304	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2328	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2329	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2330	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2340	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2348	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2349	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2350	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2351	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2352	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2353	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2354	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2358	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2359	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2361	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2363	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2381	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2389	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2392	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2393	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2394	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2395	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2408	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2410	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2411	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2412	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2440	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2443	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
2447	Indet.	Fragment		Indet.	Indet.		Indet.	Indet.	
369	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
495	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
577	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
585	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
969	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1083	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1210	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1524	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1547	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1562	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1563	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1567	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1584	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1601	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1616	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1623	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1628	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1629	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1635	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1654	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1667	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1680	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1693	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1718	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1729	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1735	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1798	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1814	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1817	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1819	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1821	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1824	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1832	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1837	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1851	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1909	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1941	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1948	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1955	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
1983	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2042	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2075	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2076	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2077	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2096	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2097	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2114	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2125	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2131	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2138	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2144	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2145	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2149	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2173	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2183	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2211	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2217	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2225	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2263	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2264	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2265	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2266	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2272	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2273	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2278	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2280	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2281	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2299	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2301	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2305	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2306	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2327	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2339	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2342	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2344	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2390	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2398	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2399	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2413	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2417	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2428	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2436	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2438	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2441	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2442	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
2444	Indet. Articular Surface	Fragment		Indet.	Indet.		Indet.	Indet.	
427	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1505	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1551	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1568	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1598	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1624	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1627	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1640	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1643	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1644	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1660	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1670	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1671	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1675	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1683	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1709	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1727	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1728	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1733	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1753	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1793	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1795	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1820	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1822	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1847	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1854	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1857	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1871	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1878	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1880	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1929	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1949	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1956	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1958	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1966	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
1973	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1976	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1977	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
1991	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2000	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2018	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2021	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2025	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2026	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2028	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2039	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2044	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2046	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2058	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2060	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2086	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2088	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2089	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2090	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2101	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2113	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2115	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2120	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2152	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2154	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2208	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2210	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2216	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2222	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2269	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2279	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2294	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2384	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2388	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2397	Metaphysis	Distal epiphysis		Indet.	Indet.		Indet.	Indet.	
2405	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2433	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2446	Metaphysis	Fragment		Indet.	Indet.		Indet.	Indet.	
2369	Metapodial	Distal epiphysis		Indet.	Indet.		Indet.	Indet.	
2368	Pelvis	Acetabulum		Indet.	Indet.		Indet.	Indet.	
513	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
515	Rib	Proximal metaphysis		Indet.	Indet.		Indet.	Indet.	
516	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
517	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
518	Rib	Proximal epiphysis		Indet.	Indet.		Indet.	Indet.	
519	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
520	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
521	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
522	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
523	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
524	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
525	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
526	Rib	Proximal epiphysis		Indet.	Indet.		Indet.	Indet.	
527	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
528	Rib	Proximal epiphysis		Indet.	Indet.		Indet.	Indet.	
708	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
742	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
744	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
745	Rib	Distal epiphysis		Indet.	Indet.		Indet.	Indet.	
746	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
747	Rib	Proximal epiphysis		Indet.	Indet.		Indet.	Indet.	
748	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
749	Rib	Distal epiphysis		Indet.	Indet.		Indet.	Indet.	
750	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
751	Rib	Distal epiphysis		Indet.	Indet.		Indet.	Indet.	
752	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
753	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
754	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
755	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
756	Rib	Proximal epiphysis		Indet.	Indet.		Indet.	Indet.	
757	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
758	Rib	Distal epiphysis		Indet.	Indet.		Indet.	Indet.	
759	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
760	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
761	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
1532	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2201	Rib	Proximal metaphysis		Indet.	Indet.		Indet.	Indet.	
2219	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2220	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2251	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2252	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2253	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2254	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2255	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2256	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2257	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2258	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2259	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2260	Rib	Diaphysis		Indet.	Indet.		Indet.	Indet.	
2355	Rib	Proximal metaphysis		Indet.	Indet.		Indet.	Indet.	
510	Scapula	Distal epiphysis	L	Indet.	Indet.		Indet.	Indet.	
1388	Scapula	Blade		Indet.	Indet.		Indet.	Indet.	
1389	Scapula	Blade		Indet.	Indet.		Indet.	Indet.	
1390	Scapula	Blade		Indet.	Indet.		Indet.	Indet.	
2238	Scapula	Blade	L	Indet.	Indet.		Indet.	Indet.	

ADAMS: HAASGAT HGD ASSEMBLAGE

HGD	Element	Portion	Side	Order	Family	Tribe	Genus	Species	Bovid Class
2345	Scapula	Blade		Indet.	Indet.		Indet.	Indet.	
929	Tibia	Proximal metaphysis	L	Indet.	Indet.		Indet.	Indet.	
338	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
339	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
341	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
431	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
441	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
459	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
463	Vertebra	Sacrum		Indet.	Indet.		Indet.	Indet.	
472	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
482	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
486	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
489	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
493	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
502	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
919	Vertebra	Indet.		Indet.	Indet.		Indet.	Indet.	
925	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
1384	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2227	Vertebra	Sacrum		Indet.	Indet.		Indet.	Indet.	
2312	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2314	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2315	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2317	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2318	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2320	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2323	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2367	Vertebra	Fragment		Indet.	Indet.		Indet.	Indet.	
2406	Vertebra	Caudal		Indet.	Indet.		Indet.	Indet.	
2409	Vertebra	Lumbar		Indet.	Indet.		Indet.	Indet.	
2435	Vertebra	Sacrum		Indet.	Indet.		Indet.	Indet.	