TAYASSUIDAE OF THE IRVINGTONIAN LEISEY SHELL PIT LOCAL FAUNA, HILLSBOROUGH COUNTY, FLORIDA

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ABSTRACT

Both *Mylohyus* and *Platygonus* are present in the Leisey Shell Pit local fauna, although *Platygonus* is much more abundant. The Leisey *Mylohyus* is of relatively large size for the genus, but falls within the range of variation of the Pleistocene species *M. fossilis*. The Leisey *Platygonus* differs from the Rancholabrean *P. compressus* by its larger size, discretely bimodal canine size, and broader, wing-like zygomatic processes. In these, and other characters, it more closely resembles the Irvingtonian species *P. cumberlandensis*, potentially a junior subjective synonym of *P. vetus*. The Leisey specimens are identified as *Platygonus* cf. *P. vetus*. The pattern of canine bimodality in the sample of *Platygonus* from Leisey, interpreted as sexual dimorphism, is consistent with that known from other Irvingtonian and older samples of the genus.

RESUMEN

Aún cuando ambos *Mylohyus* y *Platygonus* se encuentran presentes en la funa del Depósisto de Conchuelas de Leisey, *Platygonus* es mucho más abundante. *Mylohyus* de Leisey es relativamente de gran tamaño para su género, pero cae dentro del rango de variación de las especies Pleistocénicas de *M. fossilis*. *Platygonus* de Leisey difiere del Rancholabreano *P. compressus* por ser de mayor tamaño, por poseer un tamaño de caninos discretamente bimodal, y por tener procesos cigomáticos más anchos y con forma de alas. En estos y otros caracteres *Platygonus* de Leisey se asemeja a la especie Irvingtoniana *P. cumberlandensis*, la cual es potencialmente un sinónimo junior de *P. vetus*; los espécimenes de Leisey se identifican como *Platygonus* cf. *P. vetus*. El patrón de bimodalidad de los caninos en la muestra de *Platygonus* de Leisey, interpretado como dimorfismo sexual, es consistente con el patrón conocido en otras muestras pertenecientes al Irvingtoniano y con muestras más antiguas del mismo género.

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INTRODUCTION

Florida has produced some of the richest samples known of the Pleistocene tayassuids *Platygonus* and *Mylohyus*. Perhaps the most significant of these samples are the Irvingtonian ones, as peccaries of this age are otherwise known from only a few localities. The Irvingtonian Leisey Shell Pit local fauna includes several specimens of both genera. *Platygonus* is represented by multiple individuals at three other Florida Irvingtonian localities: Inglis 1A, Coleman 2A, and Haile 21A. *Mylohyus* is represented by two specimens from Coleman 2A, but otherwise is known only by a single tooth from Pool Branch and a single tooth from Haile 16A. The relative abundance of the two tayassuids at Leisey, where *Platygonus* is the more abundant, is consistent with the pattern reported by Martin (1974). *Platygonus* is the more common peccary in the Irvingtonian, and *Mylohyus* is more common in the Rancholabrean.

Both of the Pleistocene tayassuid genera are known from the late Hemphillian; *Platygonus* is present at several localities of this age in the Great Plains (Wright, in prep.), while *Mylohyus* has its earliest record in the upper part of the Bone Valley Formation in Florida (Wright and Webb 1984). Blancan *Platygonus* is known from several western states, but only from Florida in the East. Florida has the only record of Blancan *Mylohyus*. Outside of Florida, Irvingtonian *Platygonus* is represented by relatively large samples (> 10 individuals) at Cumberland Cave, Maryland (Gazin 1921), and Hay Springs, Nebraska. *Mylohyus* is known from Conard Fissure, Arkansas (Brown 1907), and Port Kennedy, Pennsylvania (Cope 1899). Both genera are more common in the Rancholabrean, but *Mylohyus* is unknown west of Texas and Missouri.

The Florida samples dramatically increase our knowledge of Irvingtonian *Platygonus*--Haile 21A, in particular, as it includes over 20 individuals represented by well-preserved cranial and postcranial material. The Conard Fissure and Port Kennedy *Mylohyus* samples are, as yet, largely undescribed. I will discuss differences among Irvingtonian *Platygonus* and *Mylohyus* species elsewhere. In this paper, I will briefly describe the Leisey specimens and provide only limited comparisons with other samples, abstracted from work in progress.

Description of the geology and other fauna of Leisey 1A are provided by Hulbert and Morgan (1989) and Morgan and Hulbert (1994; this vol.). Mensuration and descriptive terminology follow Woodburne (1969), unless otherwise noted. All measurements are in millimeters. All specimens are in the Florida Museum of Natural History (UF) collection of fossil vertebrates.

ACKNOWLEDGEMENTS

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SYSTEMATIC PALEONTOLOGY

Class MAMMALIA Linnaeus 1768
Order ARTIODACTYLA Owen 1848
Family TAYASSUIDAE Palmer 1897
Mylohyus cf. *M. fossilis* (Leidy 1860)

Referred Specimens.– UF 65254, partial right maxilla with right DP3, 4; UF 67068, partial right maxilla with P4-M2; UF 67184, partial right maxilla with M1-3; UF 67185, partial left maxilla with M1-3; UF 84753, partial right maxilla with P2, 3, M1, 2; UF 63903, left P4; UF 81312, left P3; UF 63902, partial right dentary with p3-m3; UF 63293, 81566 mandibular symphyses; UF 65954, left metacarpal IV.

Description.– Skull: The cranium is represented only by parts of the palate and the mandible. The infraorbital foramen opens above DP3 in the juvenile specimen, and above P3 in the adult. The oral surface of the palate is poorly represented. A smooth dorsal depression lies medial to M3. The anterior palatine foramen opens medial to the posterior moiety of DP2 in the juvenile specimen; it is not preserved in the adult specimens, though UF 84753 shows that it opened anterior to P2.

Upper Dentition (Table 1): DP2 has a single transversely broad anterior root, and two posterior roots which are connected by a thin bridge of dentine. The crown has three labial cusps and two lingual cusps. DP3 has an anterior root which is imperfectly separated into two lobes; two posterior roots are broadly separated. The crown bears three large labial cusps and two large lingual cusps. The lingual cusps lie next to the two posteriormost of the labial cusps; these four cusps may be homologs of the principal molar cusps. On this interpretation, the metacone and hypocone are the largest cusps. A tiny metaconule lies anterior and median to them; a hypoconule is manifest only as a swelling of the posterior cingulum. The paracone and protocone are smaller and tightly appressed to one another. The anteriormost labial cusp lies directly anterior to the paracone and is approximately equal to it in size. A tiny cusp is attached to the anterior surface of

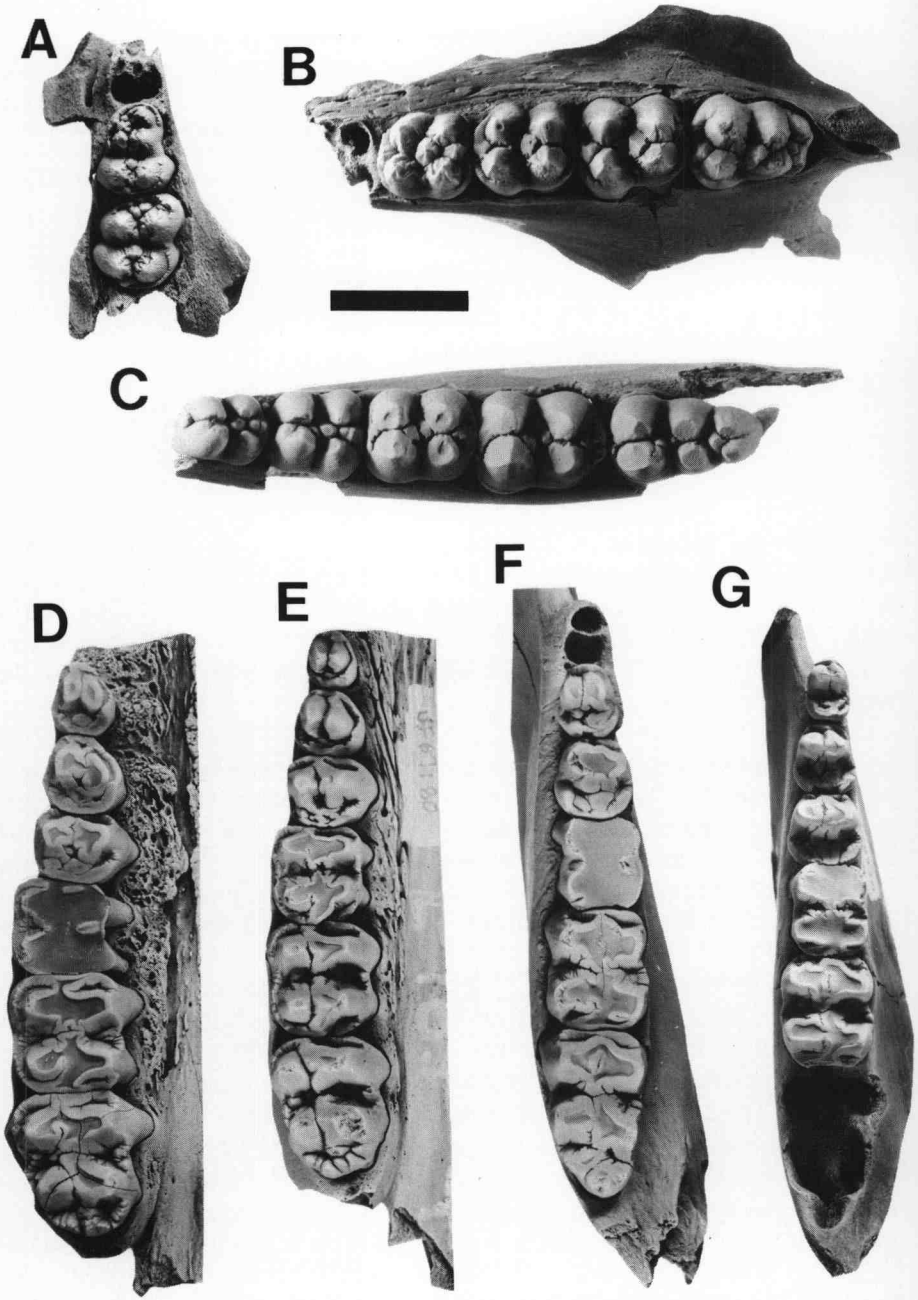

Figure 1. Cheek teeth of *Mylohyus* cf. *M. fossilis* (A-C) and *Platygonus* cf. *P. vetus* (D-G). (A) UF 65254, left DP3, 4; (B) UF 67068, right P3-M3; (C) UF 63902, right p3-m3; (D) UF 67179, left P2-M3; (E) UF 67180, left P2-M3; (F) UF 67176 right p3-m3; (G) UF 65261, right p2-m2. Scale bar 20 mm in length.

Table 1. Measurements (in mm) of *Mylohyus fossilis* upper cheek teeth from Leisey Shell Pit.

		Mean	OR	N
P4	AP	14.2	14.0-14.4	2
	T	13.2	13.1-13.2	2
DP2	AP	11.0	-	1
	T	8.0	-	1
DP3	AP	14.0	-	1
	T	11.1	-	1
DP4	AP	14.1	-	1
	T	12.6	-	1
M1	AP	15.6	15.3-16.3	3
	T	13.8	13.8-13.9	3
M2	AP	16.8	16.2-17.2	4
	T	15.0	14.4-15.4	4
M3	AP	18.9	18.4-19.8	3
	T	13.2	12.0-13.9	3

the protocone. A sharp anterior cingulum encircles the anteriormost cusps. DP4 is molariform and strongly bilobate; it is similar in cusp arrangement to the first two molars. It differs from these in having the labial cusps farther separated than the lingual cusps, thus the tooth has a trapezoidal outline.

P2 is represented only by a worn specimen; it is supported by a single anterior and two posterior roots. P3 and P4 are similar in morphology, but P4 is proportionally longer. Each has four roots and four principal cusps which are subequal in size. A small "paraconule" lies anterior to the anterior pair of principal cusps. The metacone and hypocone are separated by a pair of small cusps, the metaconule and hypoconule. On UF 63903, P4, the metacone has a small cusp arising from its anterior surface; the metaconule locus is occupied by two cusps.

M1 and M2 are similar to one another; each is four-rooted and has four principal cusps as do the "molariform" premolars, but the molars are proportionally longer anteroposteriorly, and the molar hypoconule is relatively smaller; the metacone and hypocone meet (they separate the metaconule and

Table 2. Measurements (in mm) of *Mylohyus* cf. *M. fossilis* lower cheek teeth from Leisey Shell Pit.

		Mean	OR	N
p3	AP	12.1	11.8-12.3	2
	T	10.1	9.8-10.4	2
p4	AP	13.9	-	1
	T	13.5	-	1
dp3	AP	13.5	-	1
	T	8.0	-	1
m1	AP	16.0	-	1
	T	13.9	-	1
m2	AP	18.3	-	1
	T	15.0	-	1
m3	AP	21.4	-	1
	T	13.2	-	1

hypoconule). M3 is similar to the anterior molars, but its posterior moiety is relatively narrower, and the hypoconule is embraced by several cuspules to form a variably broad posterior heel-like structure.

Lower dentition (Table 2): The dp2 and dp4 are not represented; dp3 is trilobate and has six principal cusps: it is similar in morphology to dp4 (dp4 is not represented in the Leisey sample, but other samples show that the third and fourth deciduous premolars of *Mylohyus* are similar to one another). Each of the labial cusps has a sharp cuspule at its labial base.

The p2 is not represented; p3 and p4 are "molariform," that is, each has four principal cusps. The posterior moiety is wider than the anterior. The p3 metaconid has a small anterolabial cuspule attached; the p4 metaconid has anterolabial and posterolabial cuspules. The posterior principal cusps are nearly as high as the anterior cusps. Hypoconid and entoconid are separated by two smaller cusps--entoconulid and hypoconulid.

The m1 and m2 are of typical tayassuid morphology. Each has four principal cusps. The m3 is similar, but the hypoconulid is flanked by two larger cusps, forming a heel-like structure supported by a separate root.

Discussion.– Lundelius (1960) reviewed the Pleistocene species of *Mylohyus* and suggested that the known samples could be placed in two species or "species-groups." On this view, *M. nasutus* is the larger of the two animals and has a mainly western distribution, while *M. fossilis* is smaller and restricted to the eastern part of the range of the genus. Ray (1967) suggested that temporal and sexual variation in a single species may be a better explanation for the differences. Kurtén and Anderson (1980) and Westgate and Messick (1985) also questioned the reality and significance of the differences. The Leisey sample represents a *Mylohyus* of relatively large body size (Tables 1-2); comparison with other Irvingtonian and Rancholabrean samples may eventually provide a clearer picture of temporal and geographic variation in *Mylohyus*. Until such comprehensive analyses are completed, I follow Ray (1967) in placing all Pleistocene samples of *Mylohyus* in a single species. *M. fossilis* (Leidey 1860) is the oldest species name available for this group, having priority over *M. nasutus* (Leidey 1869).

Platygonus cf. *P. vetus* Leidy 1889

Referred Specimens.– UF 81049, partial skull having braincase, zygomata, palate with P3-M3, C1 alveolus; UF 67179, UF 63932, 63933, 63927, 63938, 65907, maxillary fragments having C1; 67180, maxillaries having P2-M3; UF 65256, maxillary having P3-M1; UF 63924, maxillary having P3-M3; UF 81562, maxillary having P4-M3; UF 65255, maxillary having DP3, 4, P4, M1, 2; UF 65903, maxillary having DP4 , M1; UF 67182, maxillary having M1-3; UF 65257, 65258, 67181, 67183, 80139, maxillaries having M2, 3; UF 63939, 80510, 81170,81240, 84754, C1; UF 65912, P4; UF 80758, DP2; UF 84755, DP4; UF 63931, 65926, M1; UF 63925, 63927, 63930, M2; UF 63928, 63929, 84756, M3; UF 65261, dentary with p2-m3; UF 65901, 65260, dentaries having p3-m3; UF 63908, dentary having p3-m2; UF 63907, 80177, 81551, dentaries having p4-m3; UF 80466, dentary having p4-m3 ; UF 63905, dentary having p4-m1; UF 63912, dentary having dp2, 3; UF 63911, dentary having dp3, 4; UF 63910, dentary having dp4, m1; UF 63914, 63915, 63917, 67177, mandibular symphyses having c1 ; UF 63916, 65951, edentuluous mandibular symphyses; UF 63913, 63918, 63919, 63290, 80652, 81237, 81553, 81554, 81555, c1 ; UF 81317, p3 ; UF 65911, 80148, 80759, 80822, dp4; UF 63906, 65910, m2 ; UF 63922, m3 ; UF 63943, 63944, 65263, 65941, 65942, distal humeri; UF 63945, 63947, 65935, radii; UF 63946, 65264-65267, 65936, 65937, 65939, 65940, distal radii; UF 65931, 65932, tibiae; UF 65270, 65271, distal tibiae.

Description.– **Skull**: UF 81049 is catalogued as a single specimen, but the two pieces--braincase and palate--were found separated by a short distance. These pieces probably represent a single individual; no evidence contradicts that interpretation, but no physical contact unites the parts in question. Similar

associations are a common occurrence at Leisey 1A (Pratt and Hulbert this volume).

The parietal surface is nearly flat (Fig. 2A). The postorbital processes of the frontal are robust and hook-like. Sharp temporal lines coalesce to form a narrow sagittal crest. The supraorbital canals are deep; they issue from the supraorbital foramina and diverge as they descend the shallow slope of the frontal and approach the zygomatic root, then are subparallel as they continue toward the nasal incision. The zygomata are developed into laterally flaring, wing-like processes that are distally rounded (Fig. 2A). The dorsal surface of the zygomatic process is coarsely rugose. The anterior edge curves slightly anteriorly as it joins the rostrum. At this juncture, the ventral surface bears an elongate fossa about 5 mm deep, which is bounded anterolaterally by a sharp crest. This fossa likely provided origin for the masseter muscles. Anterior to this masseter fossa, beneath the anteriormost edge of the zygomatic process, is a shallower depression that probably represents the origin for the rostral muscles. The distal edge of the process is irregularly thickened. The posterior edge narrows mediodorsally; a ridge extends from this edge and joins the sharply pointed postorbital process of the jugal.

The temporal fossa is wide; the distance from the lateral-most surface of the braincase to the medial surface of the jugal above the glenoid fossa is ca. 43 mm. The glenoid fossa is strongly condyloid, with robust preglenoid and postglenoid processes. The articular surface of the glenoid lies about 18 mm below the ventral margin of the posttympanic process of the squamosal. Paroccipital processes are robust and directed posteroventrally. Basilar eminences are very robust and rugose; a narrow, smooth channel extends between them. The canine buttresses are massive in some specimens; as discussed below, these are probably sexually dimorphic. The infraorbital foramen opens above M1.

The oral surface of the palate is variably rugose; some specimens have transverse ridges, arranged in an oblique herringbone pattern, anterior to the cheek teeth. The palatine canals are encased in bone for most of their lengths; two to four irregular openings may breach the ventral surface of the canal before it reaches the incisive foramen, but no distinct anterior palatine foramen is present.

Upper dentition (Table 3): DP2 is three-rooted. The protocone and paracone are subequal in size and are the largest cusps. Each has a sharp ridge on the posterior surface which joins a transverse row of three tiny cuspules on the heel. A sharp cingulum encircles the entire tooth. DP3 has a single broad anterior root and two posterior roots. The paracone and protocone are more closely appressed than in DP2. Sharp ridges on the anterior surfaces of these cusps descend to join the anterior cingulum. The metacone-metaconule pair is more anteroposteriorly compressed than are the anterior cusps. The cingulum encircles the entire tooth. DP4 is four-rooted. Both pairs of cusps are anteroposteriorly compressed. Anterior and posterior processes on the median surfaces of the paracone and protocone meet, forming a sharp-edged, transverse V-shaped notch

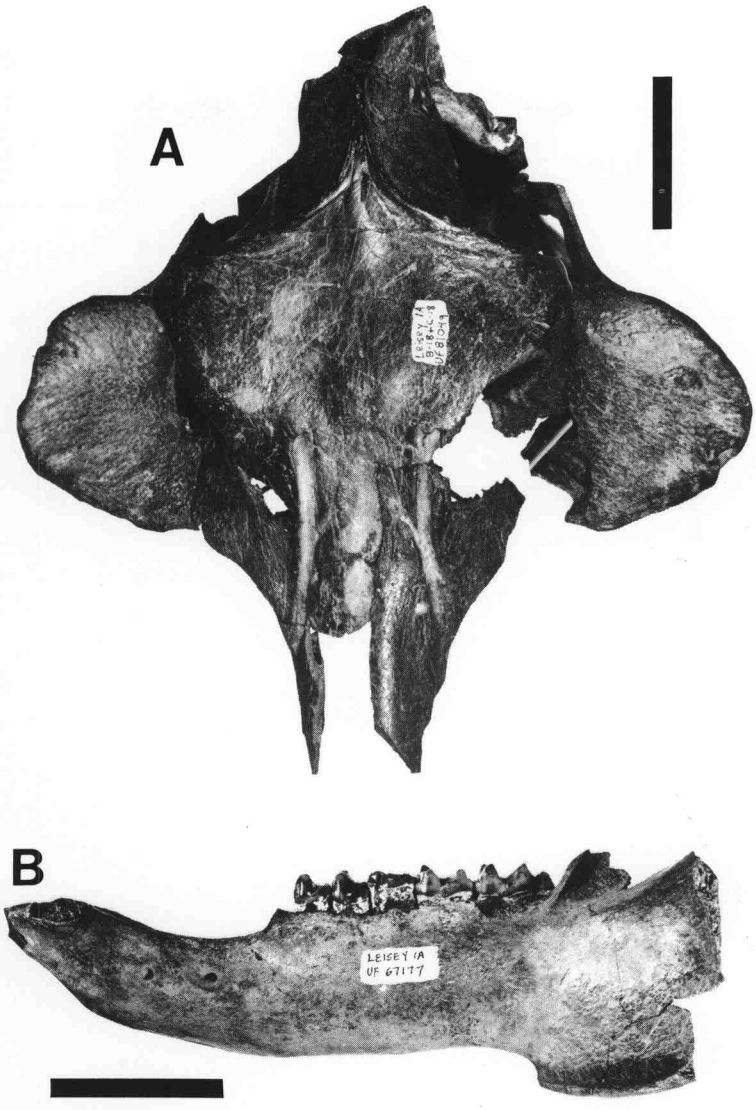

Figure 2. *Platygonus* cf. *P. vetus*. (A) UF 81049, partial cranium, dorsal aspect; (B) UF 67177, partial mandible, lateral aspect. Scale bars 50 mm in length.

between the cusps in anterior view. This notch disappears with wear, but the cusps remain joined as a transverse loph. The posterior pair of cusps is similar, but a posterolateral crest of the hypocone joins the posterior cingulum rather than the metacone. A low, narrow cingulum encircles the tooth.

Table 3. Measurements (in mm) of *Platygonus* cf. *P. vetus* upper cheek teeth from Leisey Shell Pit.

		Mean	S	OR	CV	N
P2	AP	9.6	-	8.3-11.0	-	3
	T	8.8	-	7.4-9.9	-	3
P3	AP	10.8	0.55	10.6-11.7	5.09	6
	T	11.3	0.86	11.1-12.5	7.18	6
P4	AP	11.1	0.54	10.5-11.9	4.89	8
	T	13.4	0.79	12.5-14.5	5.89	8
DP2	AP	9.4	-	8.9-9.8	-	2
	T	7.6	-	7.5-7.7	-	2
DP3	AP	12.0	-	11.4-12.5	-	2
	T	10.4	-	10.0-10.8	-	2
DP4	AP	12.4	-	11.6-13.6	-	3
	T	11.4	-	11.0-11.6	-	3
M1	AP	14.6	0.85	13.6-16.0	5.84	8
	T	13.7	0.78	12.5-14.5	5.69	9
M2	AP	17.5	0.79	16.0-18.8	4.49	15
	T	17.2	0.78	16.1-18.6	4.57	14
M3	AP	20.7	1.09	18.2-22.0	5.25	14
	T	17.8	0.68	16.2-18.6	3.75	13

P2 is three-rooted and has two principal cusps, protocone and paracone; each may be subconical or anteroposteriorly elongate. The protocone in UF 65256 is crescent-shaped and embraces the paracone. A cingulum encircles all but the labial surfaces of the tooth; the posterior cingulum closely embraces the principal cusps; in three of four specimens a small cuspsule lies between the cingulum and principal cusps. P3 is similar to P2, but is more robust. The paracone has a sharp-edged posterior process which joins a small posterior median cuspule at its lateral surface. This posterior median cuspule is relatively large in three specimens, very tiny in two, and absent in one. P4 has three roots, but two are labial and one is lingual root, in contrast to the more anterior premolars. The crown is similar to P3, but the posterior moiety is more complex. The posterior median cuspule is large in most specimens; some also have a posterolabial cusp, or "metacone." Two of six specimens have both posterior cuspules, three have only the median cuspule,

one has only the labial cuspule. In this latter specimen (UF 65255) the locus of the median cuspule is represented instead by a connected pair of sharp ridges which issue from the posterior surfaces of paracone and protocone.

M1 and M2 are four-rooted and similar to DP4 in morphology, with the exception that some of the molars do not have median crests on principal cusps so strong as described for the deciduous premolar. The lingual cusps tend to be more anteroposteriorly compressed; the labial cusps are more nearly conical. M3 is similar, but has a broad, heel-like cingulum which is very robust in some specimens, but very narrow in others.

Mandible: The ventral surface of the mandibular symphysis has a median keel-like structure which is characteristic of Pleistocene *Platygonus*. The mandible is otherwise unremarkable.

Lower Dentition (Table 4): The dp2 is two-rooted. The crown bears two tall anterior cusps and a low posterior heel. The metaconid is offset slightly from the protoconid; it appears to be "budding" from the latter cusp. A small anteroposteriorly flattened cuspule or cingulum lies at the anterior base of the main cusps. The low heel-like "talonid" has a small central cuspule encircled by a posterior cingulum. The dp3 is like dp2, but is larger (Table 4). The anterior cuspule is ridged. The metaconid has a posterior furrow flanked labially by a strong ridge, which connects with a crenulated, transversely-elongate cuspule in the center of the talonid. The posterior cingulum is low and sharp. In UF 63911, protoconid and metaconid have sharp anterior crests which descend to join the anterior cuspule. The dp4 is four-rooted and trilobate, having three pairs of sharp principal cusps. Median crests connect labial and lingual cusps, much as in the molars. Anterior and posterior cingula are very narrow. A faint labial cingulum lies at the bases of the cusps near the mouths of the transverse valleys; in some specimens the cingulum bears tiny cusp-like projections in the mouths of the transverse valleys.

Lower premolar morphology varies as a graded series: more posterior teeth are larger and have more robust features (Fig. 1G). The p2 is two-rooted and has two anterior cusps. The anterior cuspule is small. The talonid bears a central, transversely elongate cuspule encircled by a robust posterior cingulum. The p3 is also two-rooted; the posterior root is bilobate. Most specimens have strong crests on the posterior surfaces of protoconid and metaconid; one specimen lacks them. The anterior cuspule is present in each specimen, but is very narrow in one. The talonid has a central cuspule, which may be small and rounded or transversely broad and crenulated; in some specimens, a broad central cusp is joined to the posterior cingulum that encircles it. The p4 is larger than the p3 (Table 4) but structurally similar and shows similar variation. The talonid has a central cuspule that may appear to bud from the posterior cingulum; this cusp may be broad and crenulated; in two specimens the central basin of the talonid is occupied by two cusps.

Table 4. Measurements (in mm) of *Platygonus* cf. *P. vetus* lower cheek teeth from Leisey Shell Pit.

		Mean	S	OR	CV	N
p2	AP	9.1	-	-	-	1
	T	6.6	-	-	-	1
p3	AP	10.5	0.66	9.9-11.5	6.27	5
	T	8.7	0.64	7.7-9.5	7.39	5
p4	AP	11.2	0.33	10.8-11.7	2.96	6
	T	10.6	0.52	9.5-11.1	4.93	8
dp2	AP	6.9	-	-	-	1
	T	4.3	-	-	-	1
dp3	AP	10.1	-	9.7-10.7	-	3
	T	6.5	-	6.1-7.0	-	3
dp4	AP	17.8	0.37	17.2-18.2	2.05	5
	T	9.7	0.35	9.1-10.1	3.97	5
m1	AP	14.2	1.22	13.2-15.5	8.34	5
	T	11.4	0.64	11.0-12.5	5.58	5
m2	AP	16.7	0.75	16.0-18.3	4.51	11
	T	13.1	0.64	12.1-13.3	4.85	11
m3	AP	22.4	1.12	21.0-23.9	4.99	7
	T	13.7	0.28	13.5-14.3	2.02	8

The m1 and m2 are similar; they differ chiefly in size (Table 4; Fig. 1F-G). Each is four-rooted and has four anteroposteriorly compressed principal cusps. Protoconid and metaconid bear anterior and posterior median crests which meet near the midline of the tooth. The anterior pair of crests forms a V-shaped notch; with wear, anterior and posterior cusp pairs form transversely elongate fossettes which coalesce only in very late wear. Anterior and posterior cingula are strong; labial and lingual cingula form only small shelves at the mouth of the transverse valley. The m3 is similar but has a large heel-like strucure appended posteriorly; this is usually a single cusp (hypoconulid) attached by labial and lingual cingula (Fig. 1F). In some specimens, the cingula are swollen into two cusp-like structures.

Table 5. Measurements (in mm) of *Platygonus* cf. *P. vetus* postcrania from Leisey Shell Pit.

Element	Mean	S	OR	CV	N
Humerus					
Distal width	28.6	1.22	26.8-30.2	4.26	5
Radius					
Articular length	146.3	-	142.7-150.8	–	3
Proximal width	26.5	1.27	25.0-28.7	4.80	12
Distal width	28.3	-	27.0-30.6	-	3
Ulna					
Olecranon length	46.0	-	-	-	1
Tibia					
Proximal width	43.1	-	41.8-44.3	-	2
Distal width	27.4	-	25.1-29.1	-	4

Discussion.– Slaughter (1966) suggested that two Pleistocene species of *Platygonus* may be valid: *P. compressus* from the Rancholabrean and *P. vetus* from the Irvingtonian and Blancan. He regarded the sample from the middle Irvingtonian Cumberland Cave, Maryland, as *P. vetus*. This population is significantly larger than *P. compressus* and has larger zygomatic processes (Gazin 1921; Wright 1993). The late Irvingtonian Coleman 2A *Platygonus* is probably conspecific with the Cumberland Cave sample (Martin [1974] regarded both as *P. cumberlandensis*). The other samples of *Platygonus* from the Florida Irvingtonian, including Leisey and Haile 21A, represent a distinctly smaller animal than the Coleman and Cumberland samples of *P. cumberlandensis*. The morphological differences among these Irvingtonian samples are more subtle and result from differences in relative frequencies of apomorphic and plesiomorphic states of such traits as size of posterior cusps of upper premolars, and degree of elaboration of the anterior part of the maxillopalatine labyrinth. *Platygonus cumberlandensis* (Gidley 1920) may be a junior subjective synonym of *Platygonus vetus* (Leidy 1889), as suggested by Slaughter. The type specimen of *P. vetus*, a partial palate from Pennsylvania, is similar in size and morphology to late Irvingtonian specimens of *P. cumberlandensis* from Maryland and Florida and to Blancan

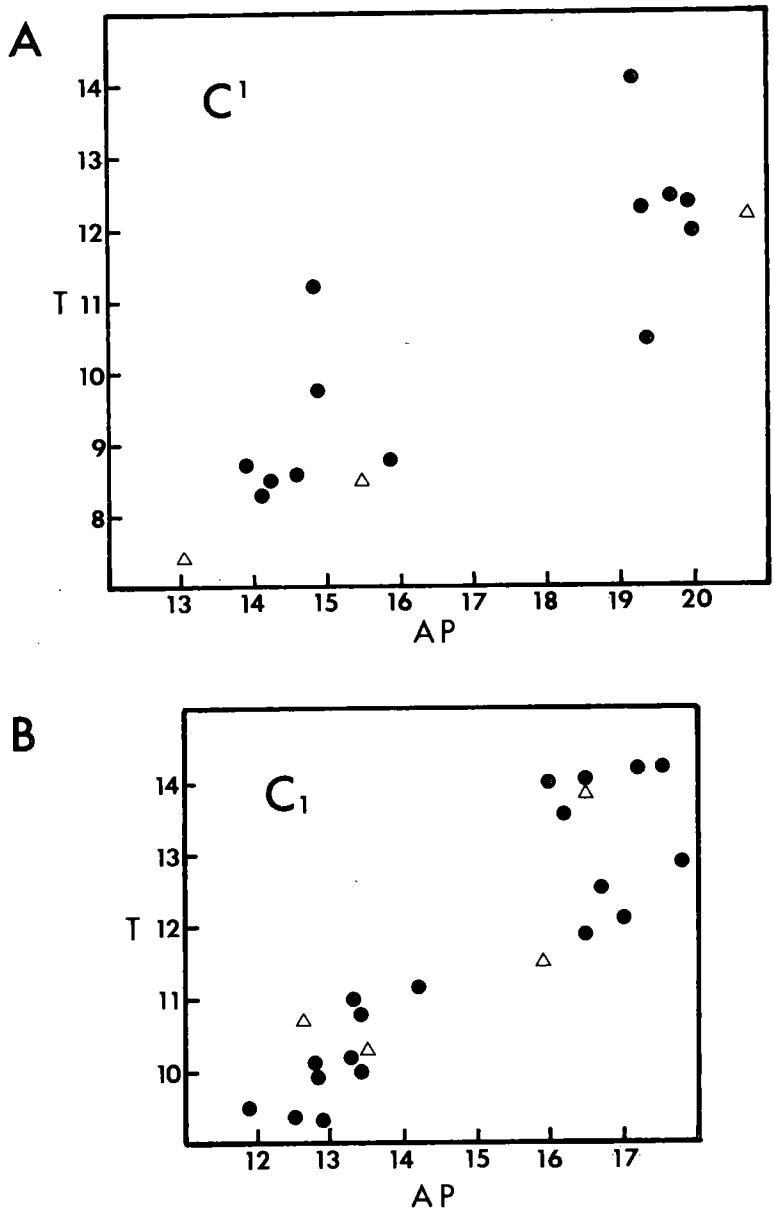

Figure 3. Bimodality in *Platygonus* cf. *P. vetus* canine size, interpreted here as sexual size dimorphism. (A) upper canines; (B) lower canines. Open triangles denote canines in place in known *Platygonus* maxillae and dentaries; solid circles denote isolated canines. It is possible that *Mylohyus* canines are included among the isolated specimens, but the relative rarity of *Mylohyus* at Leisey 1A suggests that the great majority of isolated canines represent *Platygonus*. See text for discussion. AP (anteroposterior) and T (transverse) canine dimensions are in mm.

Table 6. Sexual size dimorphism in *Platygonus* cf. *P. vetus* canines from Leisey Shell Pit. Statistics are reported for total sample, larger mode ("males"), and smaller mode ("females"); see Figure 3. It is possible that *Mylohyus* canines are included here, but if so the number is very small, and is unlikely to affect the interpretation of bimodality; see text for discussion.

	Mean	S	OR	CV	N
A. UPPER CANINES					
Total sample					
AP	16.8	2.74	13.0-20.5	16.28	16
T	10.4	2.02	7.5-14.1	19.43	16
Males (larger mode)					
AP	19.7	0.46	19.2-20.5	2.33	7
T	12.3	1.05	10.5-14.1	8.54	7
Females (smaller mode)					
AP	14.6	0.88	13.0-15.9	5.99	9
T	8.9	1.05	7.5-11.2	11.83	9
B. LOWER CANINES					
Total sample					
AP	14.9	1.96	11.9-17.8	13.12	22
T	11.7	1.68	9.3-14.2	14.40	22
Males (larger mode)					
AP	16.7	0.61	15.9-17.8	3.64	11
T	13.1	1.03	11.5-14.2	7.83	11
Females (smaller mode)					
AP	13.1	0.62	11.9-14.2	4.71	11
T	10.2	0.65	9.3-11.0	6.39	11

specimens of *Platygonus* from Nebraska (Wright 1991). While the *Platygonus* specimens from Leisey 1A represent a smaller animal than the type of *Platygonus vetus*, they are similar to the type in morphology. Pending comprehensive review of Quaternary *Platygonus*, it is most conservative to identify these specimens as *Platygonus* cf. *P. vetus*.

At least some of the variation present in the Leisey sample of *Platygonus* results from sexual dimorphism (Table 6). Canine size is primitively dimorphic for a large monophyletic group of peccaries which includes, among other taxa, *Mylohyus*, *Platygonus*, and the extant peccaries (Wright 1993). In all Miocene tayassuids represented by relatively large samples, canine size is discretely bimodal (Wright 1993). Early *Platygonus* samples show this discrete bimodality, but late Rancholabrean samples have overlap of larger and smaller modes (Wright 1993). The Leisey *Platygonus* canines are discretely bimodal (Table 6; Fig. 3); while it is possible that some of the isolated canines represent *Mylohyus* (if so, the number is likely to be small, as *Mylohyus* is much rarer), the fact that canines representing both large and small modes are in maxillae and dentaries positively identified as *Platygonus* by endocranial and symphyseal morphology supports the interpretation of bimodality. The isolated canines cluster around the known *Platygonus* canines and do not occupy the gap between the larger and smaller modes. Other Irvingtonian *Platygonus* canines are similarly dimorphic (Wright 1993). Dimensions of canine alveoli in known *Platygonus* maxillaries from Leisey corroborate this distribution. Canine buttress width is positively correlated with canine transverse width (R^2=0.70) and probably is also bimodal. Other *Platygonus* samples demonstrate that zygoma size is bimodal and correlated with canine size (Wright 1993), but the Leisey sample is not adequate for evaluation. In larger samples, females (as evidenced by canine size) have more gracile zygomata. If Leisey *Platygonus* conform to this pattern, UF 81049 should represent a male. The canine dimensions of this specimen are consistent with this interpretation (but recall that it is not certain this specimen represents a single individual).

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