

**Article XXII. — A NEW GENUS OF GROUND SLOTH  
FROM THE PLEISTOCENE OF NEBRASKA.**

By BARNUM BROWN.

PLATES L AND LI.

***Paramylodon*, gen. nov.**

This genus is founded on a nearly perfect skull and lower jaw in the American Museum collections (No. 2780), with associated skeletal material including five cervical vertebræ, tibia, fibula, calcaneum, astragalus, lunar, middle digit of manus, and ribs, found by the Expedition of 1897 near Hay Spring, Nebraska. Professor Henry F. Osborn has placed this material in the writer's hands for description.

The following characters distinguish it from allied genera:

Skull elongate; muzzle inflated; dentition  $\frac{4}{4}$ ; first upper molar the largest of the series; last lower molar trilobate; first lower molar without opposing tooth.

*Paramylodon* seems to have been less specialized than *Myiodon*, retaining features of the older, more primitive sloths. From the long nasals it seems improbable that it had a proboscis, while the greatly inflated muzzle, and the large movable premaxillæ, indicate a large prehensile lip. The reduction of the twelfth nerve<sup>1</sup> shows a less specialized tongue than in *Myiodon*. The rounded condyles, with the greater part of the articular area on the ventral surface, and the aspect of the foramen magnum, opening obliquely to the long axis of the skull instead of backward, show that the head was carried more at right angles to the vertebral column than in *Myiodon*. The long calcaneum with posterior end resting flat on the ground, and the astragalar facet looking forward, indicate a primitive foot more flexible at the ankle than in the contemporaneous *Myiodon*.

The sum of these characters points to a difference in feeding habits and indicates that *Paramylodon* was a grazer.

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<sup>1</sup> As indicated by the small condylar foramen in the skull.

## SYNOPSIS OF ALLIED GENERA.

	<i>Myiodon</i> . <sup>1</sup>	<i>Grypotherium</i> .	<i>Paramyiodon</i> .
Number of teeth in skull....	5	4	4
Number of teeth in lower jaw	4	4	4
Character of last molar of lower jaw.....	bilobed	bilobed	trilobed.
Character of first molar of lower jaw.....	elliptical, opposes m <sup>2</sup>	cylindrical, opposes m <sup>1</sup>	elliptical, long, not opposing any tooth.
Character of muzzle.....	slightly contracted, rugose.	contracted, with osseous interseptum.	inflated, thin and smooth.

## GENERIC CHRONOLOGY.

1840. *Glossotherium* OWEN, Foss. Mam. Voy. Beagle, p. 57. No species named. Type, the back of a skull from S. America.
1840. *Myiodon* OWEN, *ibid.*, p. 86. Type, *M. harlani*, based on a jaw found in Kentucky, which had been previously referred by Harlan to his *Megalonyx laqueatus*. Referred species, *M. darwini*, based on jaws, etc., from S. America.
1842. *Myiodon robustus* OWEN. Skull and skeleton. *Glossotherium* here made a synonym of *Myiodon*.
1855. *Lestodon* GERVAIS. Type, *L. armatus*, which (*fide* Lydekker) is not generically distinct from *Myiodon*.
1879. *Grypotherium* REINHARDT. Founded on skulls of *Myiodon darwini*.
1880. *Pseudolestodon* GERVAIS and AMEGHINO. Type, *Myiodon gracilis* = *Lestodon myloides*.
1887. LYDEKKER, in his Catalogue of the Fossil Mammalia in the British Museum, correctly states that *M. harlani* is the type of the genus, and divides *Myiodon* into two groups: one represented by *M. darwini*, the other including *M. harlani*, along with *M. robustus*, *M. littsomi*, *M. armatus*, and *M. gracilis*. In the first, "the first tooth in each jaw is extremely minute and wears horizontally." His reason for placing *M. harlani* with the second group is, perhaps, that a jaw shorter in front than the length of the dentition is indicated in that species, as is the case in *M. robustus*, etc., while in *M. darwini* the prementary portion of the jaw is much elongated.
1899. *Neomyiodon* AMEGHINO. Type, *N. listai*.

<sup>1</sup> *M. robustus*.

1900. ROTH and SMITH WOODWARD identify *Neomylodon* with *Grypotherium*, which they hold to be generically distinct from *M. robustus*, etc. (presumably from Lydekker's second group as a whole, and therefore by inference from the typical *Myloodon*).
1900. AMEGHINO objects to the use of *Grypotherium* on the ground that it was founded on the type species of *Myloodon*, which he erroneously supposes to be *M. darwini*.

The type of *M. harlani* should be in the Columbia University Museum, but has been lost or mislaid. A cast of it, in the Museum of Williams College, has been loaned to the writer through the kindness of Professor Cleland. Comparison of this cast with a series of skulls of the subsequently described genera and species shows that *M. harlani* is not congeneric with *G. darwini* and is nearest, on the whole, to *M. robustus*. This classic species, therefore, is properly referred to *Myloodon* and the characters of the genus may be derived from it. *Grypotherium* appears to be a valid genus, but its name may, perhaps, be antedated by *Glossotherium*. *Lestodon* is a valid genus; *Pseudolestodon* is not separable from *Myloodon*.

***Paramylodon nebrascensis*, sp. nov.**

**SKULL.**

*Basal View.*—The upper *dentition* comprises eight teeth set in two diverging rows at such an angle that the space separating the two anterior is twice that separating the two posterior teeth.

The *first molar* is the largest and simplest of the series, having the form of an elongated ellipse, with the longer diameter twice that of the shorter. It is greatly curved antero-posteriorly, the convex surface in front; the sides are straight. The longest diameter of the tooth is parallel to the dental series, and the outer side forms a line with the posterior teeth. The crown is worn deepest in the middle.

The *second molar* is bilobed; the anterior lobe stands at right angles and the posterior lobe oblique to the series. The tooth is triangular, with the angles rounded. The anterior side is gently convex; the inner side is marked by a deep

sulcus, a little in front of the middle; the outer face is marked by a corresponding sulcus opposite but not quite so deep. These sulci, on opposite sides, form the constriction that divides the tooth into two lobes. Its greatest length is oblique to the line of the series.

The *third molar* is bilobed but somewhat modified from the preceding. The anterior side is gently convex with a faint indication of a groove in the middle. The inner side is shortest with a deep sulcus near its middle, while the outer side is longest with a less defined sulcus. The outer anterior angle is convex, as in the preceding tooth, but much broader. The greatest diameter is oblique to the series.

The *fourth molar* is shaped like the figure 8; the anterior lobe is larger and slightly oblique to the dental series. The anterior side is convex; the outer and the inner sides are nearly parallel, and near the middle of each is a sulcus that forms the constriction dividing the tooth into two lobes; the posterior side is convex but not as wide as the anterior side. The greatest diameter is parallel to the series. The plane of the alveolar outlet slopes from without, inwards and downwards; the space separating the alveoli of the first two is about twice that separating the succeeding teeth.

The maxillary part of the *palate* is of a triangular form with the base turned forward; gently convex from the palatines forward to a line connecting the anterior borders of the first molars, from which point it bends downward to the end of the maxillaries. The surface is pitted with several rows of small deep foramina parallel to the alveoli, and the anterior palatine foramina are situated on either side of the median premaxillary notch, passing forward, in two shallow grooves on each side, to small notches on the inner anterior border. The median maxillary suture presents a raised ridge, on either side of which is a shallow groove extending from the antepenultimate molar back to the palatines. The anterior border of the *maxillaries* presents two rounded thickened surfaces, separated by a deep median notch, for the articulation of the *premaxillaries*, which must have been large and movable, indicating a large prehensile lip. Directly in front of the

first molar, marking the boundary of the premaxillary surface, is a small deep notch, back of which there is a small expanded area marking the widest part of the maxillaries.

The *palatine* is concave and smoother than the maxillary surface; the median sutural line is not prominent. Anteriorly the palatines join the maxillaries in an irregular suture, anterior to the alveoli of the last molars; laterally it unites with the maxillaries just internal to the alveoli. The posterior palatine foramina, situated on the outer side near the origin of the descending pterygoid processes, are the only openings in the palatines. Posteriorly they expand to unite with the orbitosphenoids and are separated by a wide entering notch.

The *pterygoids* will be described from the outer aspect. Internally they are convex, with a rugose posterior border forming the lateral boundaries of the large posterior narial opening.

The *sphenoidal bones* are not suturedly defined from one another: that part forming the roof of the nasal depression between the pterygoids is broadly arched from side to side, and wider than in *Myiodon*; the surface is smooth with two longitudinal channels parallel to the base of the pterygoids. Posteriorly the narial opening is bounded by two rough sub-elliptical tuberosities.

The *basioccipital* is a broad concave plate, the posterior edge of which is deeply incised, forming the lower boundary of the foramen magnum; the palate is pierced by a small vascular foramen immediately in front of the condyles. The anterior condylar foramina are large, but not more than half the diameter of those in *M. robustus*. External to the condylar foramen the basioccipital continues in a strong rough tuberosity forming the posterior inner boundary of the articular depression for the stylohyal, and also the posterior boundary of the jugular foramen. The sides of the basisphenoid descend rapidly in front of the jugular foramen, ending in the large tuberosities before mentioned as bounding the posterior narial opening.

The *condyles* are rounder and shorter than in *Myiodon*,

without the encroaching ridge which bounds the articular surface in that genus. The convex surface of each condyle is inclined a little outwards; the inner edges-bounding the foramen magnum converge from the upper to the lower boundary. The condyles stand away from the skull more than in *Myiodon*, and the greater articular area is on the lower surface. The foramen magnum looks downwards as well as backwards.

The *tympanic* is lost, leaving exposed the petrous bone wedged in between the sphenoid, exoccipital, and squamoso-temporal bones. The inner portion is a subcompressed, conical protuberance uniting with the basisphenoid in a straight line, forming the outer and posterior margin of the carotid canal. In *Myiodon* the basisphenoid is distinctly emarginated for its reception. On the outside and posterior to the conical process the petroso-temporal sends down a rugged process forming the anterior boundary of the jugular foramen and the depressions for the stylohyal. In front it bounds the posterior part of the tympanic cavity. The bony canal of the Eustachian tube expands where it communicates with the narial aperture, separating the pterygoids from the sphenoid protuberances.

*Side View*.—As in *Myiodon* the side view of the skull presents the form of an elongated parallelogram. The occipital plane inclines forward as it rises to the upper surface of the skull. The top of the cranium presents a nearly straight line slightly depressed at the posterior end of the nasals. The muzzle ends in a slightly curved line; nasals and maxillaries about the same length above, with protruding palate. Ventrally the basicranial outline is interrupted by the greatly expanded pterygoid.

The *supraoccipital* element forms nearly the whole of the posterior region of the skull, joining the parietals in a transverse lambdoidal suture, which forms the crest but does not encroach upon the coronal surface of the skull. From the condyles the broad *occipital plate* rises upward and forward, first at an angle of about  $75^{\circ}$  to two-thirds its height, and then forward to the lambdoidal suture at an angle of  $60^{\circ}$ . It is divided into two equal areas by a prominent occipital crest.

On each side of this crest there is a shorter parallel ridge extending from above to about the middle of the skull. Immediately above the left condyle there is a small foramen. A deep groove separates the condyle from the occipital plate.

Wedged in between the occipital and temporal regions is the prominent *mastoid*, about half as wide as it is long, bounded above by a continuation of the suture that separates the exoccipital from the supraoccipital. The outer margin is raised into a prominent ridge forming the lower posterior boundary of the temporal fossa. Immediately inside this ridge there is a deep channel running upward, ending in the mastoid foramen. The entire posterior surface of the mastoid, between the raised outer border and the exoccipitals, is a depressed rugose area. The inner part of the lower end of the mastoid is a cup-like depression for the articulation of the stylohyal, which is not nearly so deep or so extensive as in *Myiodon*.

The *temporal fossa* is uniformly smooth with an extensive depression just above the mastoid, and a large protuberance above this area, as in *Myiodon*.

The *zygomatic process* of the temporal is a stout trihedral bone, the upper edge of which is nearly straight; the external surface is nearly flat and gently convex. The under surface is broad and flat for the articulation of the lower jaw, without any distinct glenoid cavity, thus allowing a great forward and backward movement of the jaw. The anterior end of the zygoma terminates in an obtuse point.

The *malar* undoubtedly articulated loosely with the maxillary and the zygoma, but unfortunately is missing on both sides.

The most prominent bone of the skull is the *pterygoid*, which extends downward and outward in a broad plate ending in a very wide convex border, more prominent than in any allied genus. Posteriorly it descends from the sphenoid at an angle of twenty degrees, forming the gently rounded distal end, then sweeps upward, in a quarter arc of a circle. The external surface is rugose with a prominent ridge parallel to the zygoma dividing it into two depressions. In the posterior part of the upper one is the large foramen ovale, which opens

forward and upward in a small canal at the upper border of the pterygoid, partly defined by the overhanging projection of the temporal. The posterior upper border is marked by deep channels and ridges.

The *frontal* is the largest bone of the skull, forming the middle half of the upper surface of the cranium, articulating in front with the nasal, maxillary, and lachrymal, below with the lachrymal, maxillary, and orbitosphenoid, and behind with the parietal and squamosal. Externally it presents a smooth surface of irregular curves expanded in front at the postorbital process, extending downward and inward to unite with the maxillary below the lachrymal, with a deep overhanging fold exterior to the optic foramen, as in *Glyptodon*. Above the optic foramen it descends outward slightly to unite with the orbitosphenoid.

The *orbitosphenoid* is not suturally defined but represents a depressed area, bounded on the outside by an overhanging wall of the frontal containing the optic foramen and foramen rotundum separated by a thin wall of bone.

The *lachrymal* presents an irregular outline, the superior border of which rises anteriorly above the malar in a rugose surface, in the centre of which is the lachrymal foramen. The posterior portion is much thinner and extends back in a truncated point to a line connecting the postorbital process of the frontal and the posterior margin of the last molar. Below the lachrymal foramen there is a deep rounded pit, with a raised cone in the center, for articulation with the malar.

That part of the *maxillary* presented in side view is of a quadrate form, convex on the outer surface, and extends nearly to the anterior end of the nasals, with which it forms a vertical cross-section. Posteriorly it unites with the orbitosphenoid at the beginning of the canal that leads into the optic foramen; above, with the lachrymal, frontal, and nasals. The malar process is a stout projection set obliquely to the maxillary, forming the anterior buttress of the malar and enclosing the infraorbital foramen. Across the middle of the maxillary, beginning above the infraorbital foramen in a



curved line from the lachrymal foramen to the middle of the muzzle, there is a line of foramina of decreasing size.

*Top View.* — The length of the skull from the condyles to the upper anterior border of the maxillary is about the same as in the type of *M. robustus*. In the mastoid region it is slightly narrower, while across the anterior end of the zygoma at its widest point, behind the postorbital process and at the muzzle, it is much narrower. The upper surface is uniformly smooth; gently convex transversely; nearly flat in the parietal region, and slightly depressed from the postorbital process forward, but much less than in *Myiodon*. The face is much narrower than in *M. robustus* and the nasals are more highly arched; in the type, the nasals are crushed down into the narial opening. At the anterior end the nasals are slightly deflected, terminating in an outer rounded edge, the median halves presenting wide notches with two central, extended points and articular upper faces, to which were probably attached an incipient osseous interseptum. No well defined ridge separates the top of the skull from the temporal fossa, this surface merging into the sloping sides of the skull without any marked separation. The posterior boundary is formed by the thickened deltoid ridge, behind which are seen the sloping occipital region and the condyles.

#### LOWER JAW.

*Dentition.* — The *first molar* is smallest in diameter and simplest of the series: it is ellipsoid in cross-section and tapers to a point, the internal and posterior borders of which are worn down, leaving a crescentic anterior border. This tooth projects far above the crowns of the succeeding teeth (canine-like) and has no opposing tooth in the upper jaw.

The *second molar* presents an irregular trapezoidal outline with rounded angles, the posterior one most produced. The external side is convex, while the internal side is strongly concave, the concavity marked by a deep sulcus in the middle. The anterior and the posterior sides are concave, the latter more strongly pronounced. The sulci of the internal and the

posterior sides tend to divide the tooth into two lobes. The posterior lobe is worn obliquely. The greatest length is oblique to the dental series.

The crown of the *third molar* is broken off, but the root gives the shape and dimensions of this tooth accurately. The external side is slightly convex, nearly straight. The internal side is slightly concave with indication of a groove in the middle. The anterior and the posterior sides are concave, with a faint groove in the middle of each. The greatest length is oblique to the dental series.

The *fourth molar* is the largest and most complicated of the series. It is composed of three lobes: a large anterior lobe, oblique to the dental series; a posterior lobe, more than half the size of the anterior lobe, transverse to the series, and a much smaller, less defined middle lobe, connecting the two and parallel to the series. The anterior lobe is convex on the internal and the external sides, concave on the anterior side, with a faint double groove in the middle, and concave on the posterior border, drawn out to form the connecting middle lobe, which unites with it on the internal half of the posterior border. The external and the internal sides of the posterior lobe are convex, and the posterior side is convex, with a slight median groove; the anterior side is convex, uniting with the middle lobe on the outer half. The middle lobe is well defined on the outer face by two deep sulci, and less marked on the internal side by two broad shallower sulci. The anterior and posterior borders are drawn out to form the connecting isthmuses, the latter being twice the width of the former. The posterior and half of the middle lobes of this tooth opposed the last molar of the upper series, and the crown is nearly flat. The anterior lobe opposed the second molar of the upper series, and the crown is worn in a crescentic surface.

*Ramus, etc.* — The *ramus* of the lower jaw is long and robust but contracts rapidly to the symphysial region. It is thick and massive in the dental portion and expanded in a thin vertical plate posteriorly. The external surface is concave — rounded both vertically and horizontally. The internal sur-

face may be divided into three regions: the anterior, which, from the second molar to the symphysis, is convex vertically and concave horizontally; the middle, from the second to the last molars, which is nearly flat; and the posterior, back of the last molar, which is deeply concave. The lower border is rounded and thickened below the dental series, thinning out anteriorly and posteriorly. The upper or alveolar border is wide and rugose, and on the outside of the jaw there is a shallow depression extending the entire length below the alveoli.

The anterior expanded end presents an obliquely sloping *symphysis*, nearly half as wide as deep, extending anteriorly in a deep rounded border. From a front view this anterior border has the outline of a keel-like projection extending forward in the middle of the jaw. Below this keel is a rounded mammilloid process, much less prominent than in *Myiodon*. The portion of the jaw in front of the first molar is longer than in *M. robustus* and the width of the expanded portion is much less. The dental region is not nearly so deep as in *Myiodon*.

The posterior part of the jaw is expanded into a thin deep plate, divided into the *coronoid*, *condyloid*, and *angular processes*. The point of the *angular process* is broken off; the lower margin is convex and the inner side presents a deep concavity bounded below anteriorly by the inferior inflected border of the process and a ridge that extends forward and upward to near the alveolus of the last molar; below, posteriorly, the inner border is roughened by processes; above, it is bounded by the rounded border of the dental canal. The outer surface of the angle is convex and rugose.

The *coronoid* process is broken at the point but seems to have been nearly straight, slightly convex on the anterior border.

The *condyle* is long and narrow, set obliquely to the vertical plane of the coronoid. The greater part of the condyle overhangs the supporting plate of bone, only about one fourth extending on the outer side of the ramus. It rises from a triangular base, the outer angle of which begins below the

notch separating the coronoid from the condyle, and passes backward and upward in a sharp ridge, forming the outer articular border of the condyle. The articular surface is slightly rounded.

The *dental canal* begins in a deep elliptical depression at a point below the origin of the condyle and passes forward to the entry of the large dental foramen. It continues forward in two divisions: the smaller and shorter, opening on the outer side of the jaw, opposite the posterior border of the last molar; the larger, passing forward and dividing into three branch canals that open on the outer side of the jaw where it bends forward to form the symphysis. These foramina are about 10 mm. apart, and the middle one is the largest. The smaller ones are about one fourth the diameter of the larger one. Near the depression that gives rise to the dental canal is a narrow deep channel that passes downward and forward under the upper part of the ridge bounding the concavity of the angle where it divides and comes to the surface in two foramina 20 mm. apart.

#### TIBIA.

The tibia is a short, massive bone with a flattened shaft. The proximal end is greatly expanded laterally and in width is about three fourths of the entire length of the tibia. In general appearance and proportions it agrees with the type of *M. robustus* with the following exceptions. The external condylar facet is distinctly pyriform. In *M. robustus* it is circular. The fibular facet is elliptical and slightly concave; oblique to the condylar surface and sloping from without inward and downward. Anteriorly it nearly meets the superior surface. Posteriorly they are separated by a convex facet for the articulation of a sesamoid. The distal articular surface is divided as in *M. robustus*, but the external semi-elliptical compartment is convex, while in *M. robustus* it is flat. The external malleolus is not as prominent as in *M. robustus*.

#### FIBULA.

The fibula is a subprismatic bone enlarged at both ends. The outer surface of the shaft is convex; the inner surface

flattened, slightly convex and rugose, the posterior border thin and rounded. The upper end of the inner surface is excavated with a rugose border. The proximal end is truncated obliquely, presenting two facets: the outer and smaller for the articulation of a sesamoid; the inner (a very long surface convex in its narrowest dimension) for articulation with the tibia. About one half of the proximal end of the fibula on the outer side presents a rugose border and excavated surface for the attachment of the peroneus longus. The tibial facet is prolonged backward in a hook-like process. The distal end is expanded in an irregular quadrilateral form on the inner surface and a convex, very rugose, pitted obtuse point. The inner surface presents a deeply excavated concavity and two articular facets; the lower part of the concavity is occupied by the flat, oblique, tibial facet, which continues uninterruptedly into the vertical plane of the astragalar facet. The posterior distal third of the malleolus is rugose. In *M. robustus* the tibial and astragalar facets are separated by a transverse concavity.

#### ASTRAGALUS.

The astragalus, aside from being much larger than that of *M. robustus*, agrees with it in form and proportion with the following exceptions: The navicular facet is deeply excavated in the middle, with convex edges continuing uninterruptedly into the cuboidal facet. In *M. robustus* it is flat on its upper half and convex on the lower. The calcaneal facet is elongate and triangular to a greater extent than in *M. robustus*, with scarcely a perceptible constriction in the middle.

#### CALCANEUM.

The base of the calcaneum forms a nearly straight plane, concave on its posterior triangular surface, and of greater length proportionally than in *M. robustus*, with a broadly expanded posterior end. The astragalar facet occupies a more anterior position than in *M. robustus*, while the large tendinous grooves on the outer side of the bone are similar, but the tuberosities marking their boundaries are more prominent. In other respects it agrees with *M. robustus*.

## LUNAR.

The transverse surface of the radial facet is convex in this form and the posterior extension of the same surface is broadly expanded, while in *M. robustus* it is nearly flat transversely and contracted on the posterior surface.

## DIGITS OF MANUS.

The three phalanges of the middle digit are preserved, and differ considerably from those of *M. robustus*. The claw process of the *ungual phalanx* is somewhat deeper than wide, of an ellipsoid outline. The under surface is not separated from the sides by sharp ridges toward the distal end, as in *Myiodon*, and it is only toward the base that these ridges are shown. The *middle phalanx* resembles that of *Myiodon*, though the proximal facet is much deeper. The *proximal phalanx* is very much shorter than in *M. robustus*; the outer surface is twice the width of the inner surface and is expanded on the lower outer side. The proximal articular facet presents a deep concave channel for the articulation of the trochlea of the metacarpal; on the inner side of this channel, continuous with its inner edge, is a narrow, concave articular surface. The outer surface of the trochlear depression presents a sharp ridge. On the ventral surface there is a sesamoid facet on each side of the trochlear depression, the outer being the larger. The distal articular facet is a wide shallow channel, concave from side to side and convex vertically. Below the distal articular surface there is a rugose depression one fourth the height of the articular surface.

## MEASUREMENTS.

*Skull.*

	mm.
Length of m <sup>1</sup> .....	29
Width " ".....	15
Length " m <sup>2</sup> .....	26
Width " ".....	23
Length " m <sup>3</sup> .....	23
Width " ".....	25
Length " m <sup>4</sup> .....	30
Width " ".....	17

	mm.
Length of dental series.....	133
"    " skull from condyles to end of maxillary.....	470
Depth of occiput in vertical line to condyles.....	136
Width across muzzle at widest part.....	128
Width at narrowest part back of postorbital process..	89
Width of condyles.....	128

*Mandible.*

Length of m <sup>1</sup> .....	20
Width " ".....	14
Length " m <sup>2</sup> .....	24
Width " ".....	22
Length " m <sup>3</sup> .....	31
Width " ".....	17
Length " m <sup>4</sup> .....	56.4
Width " ".....	24.4
Length of dental series, alveolar measurement.....	180
Length of jaw from condyle to extreme point.....	371.3
Length of symphysis.....	120
Width of anterior end.....	445

*Tibia.*

Length.....	275
Proximal end across widest part.....	178
Distal " " " ".....	150

*Fibula.*

Length.....	280
Width of proximal end.....	105
Width of distal end.....	70

*Astragalus.*

Greatest breadth.....	150
"    height.....	127

*Calcaneum*

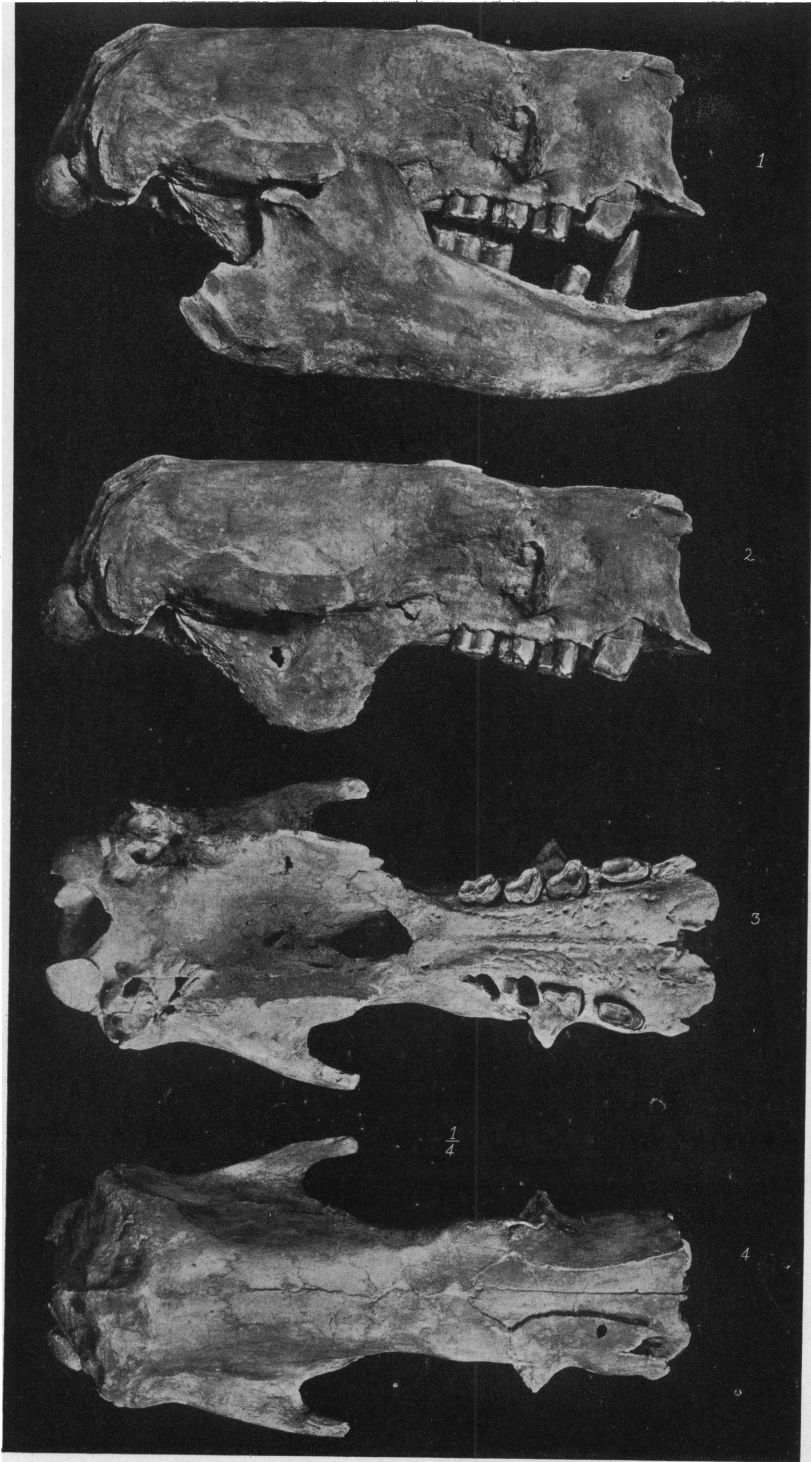
Length.....	240
Width across base.....	130
Height at posterior articulation of astragalus.....	123

*Third Digit of Manus.*

Ungual phalanx, length.....	180
Second " ".....	63
"    width.....	47
Proximal " length.....	33
"    width across middle.....	46



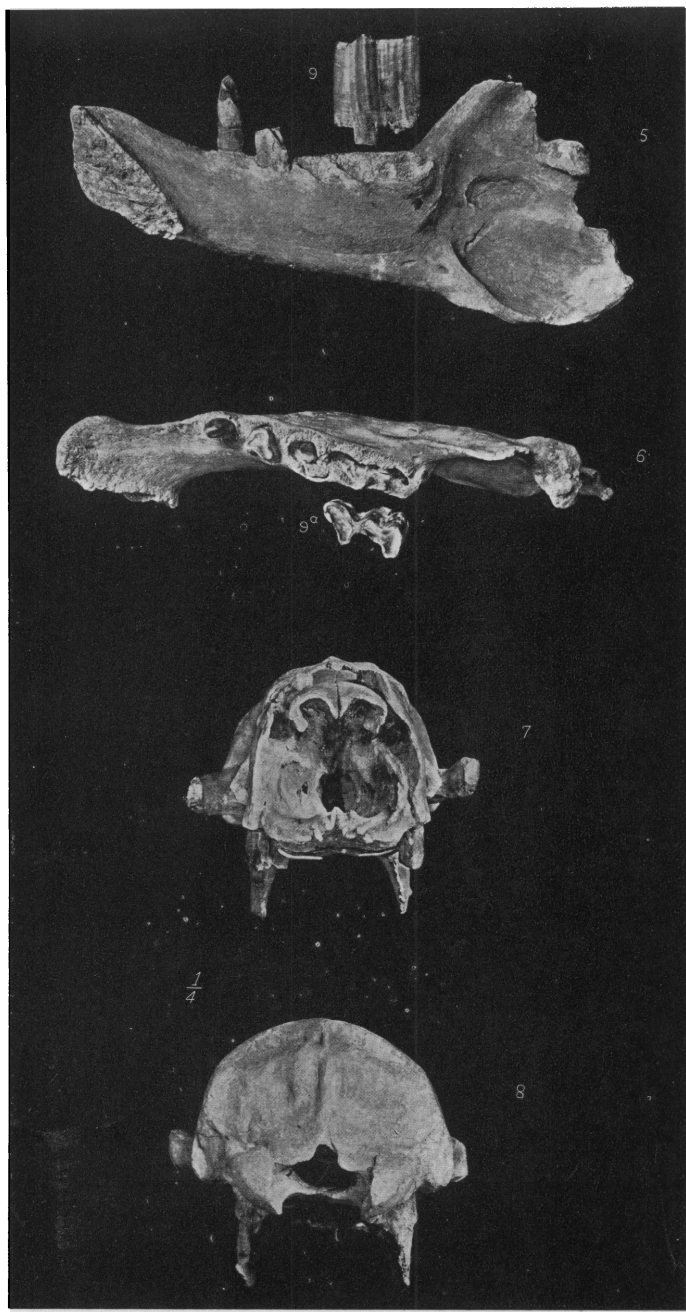




PARAMYLODON NEBRASCENSIS.

Type skull.  $\times \frac{1}{4}$ .





## PARAMYLODON NEBRASCENSIS.

Type skull and mandible. The last lower molar (9, 9a) belongs to another individual.  $\times \frac{1}{4}$ .

