



Annals and Magazine of Natural History: Series 1

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/tnah07>

XLVII.—List of Fossil Mammifera from the Basin of the Rio dm Velhas, with an extract of some of their distinguishing Characters

Dr. Lund

Published online: 04 Dec 2009.

To cite this article: Dr. Lund (1839) XLVII.—List of Fossil Mammifera from the Basin of the Rio dm Velhas, with an extract of some of their distinguishing Characters, *Annals and Magazine of Natural History: Series 1*, 3:19, 422-427, DOI: [10.1080/03745483909443256](https://doi.org/10.1080/03745483909443256)

To link to this article: <http://dx.doi.org/10.1080/03745483909443256>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

XLVII.—*List of Fossil Mammifera from the Basin of the Rio das Velhas, with an extract of some of their distinguishing Characters.* By Dr. LUND*.

EDENTATA.

M. Lund describes a *Myrmecophaga* of the size of an ox (*Myrm. gigantea*.)†.

EFFODIENTIA.

Two species of *Dasypus*; one allied to *D. octocinctus*, but with the mouth shorter; and the other twice as large as the living species, with the plates of the shield deeply punctuated (*D. punctatus*).

Xenurus, Wagl. A species allied to *X. nudicaudis*, a living species established by M. Lund.

Eurodon, Lund. An extinct genus of Armadillo, characterized by the teeth being transversally compressed. M. Lund is only acquainted with a single species, of the size of a small pig.

A *Heterodon*, Lund., another lost genus of the same family, distinguished from all the living Armadillos by the proportion of its teeth: the species which served as the type was of the size of a rabbit.

A *Chlamydotherium*, Lund., a new genus of the same family. Nearly all the parts of the skeleton have been investigated by the author, and it proves to be very interesting from its establishing connexions between the various groups of existing Armadillos, and also by the affinities it presents to the *Bradypoda*.

The *Chlamydotherium* represents on a grand scale the genus *Euphractus*, Wagl. M. Lund is acquainted with two species, one dedicated to M. von Humboldt of the size of a Tapir; the other, named *giganteum*, equaled in size the largest Rhinoceros.

An *Hoplophorus*, a genus very extraordinary from the heavy proportions of its species and their gigantic size, as well as from the remarkable combination of different types of organization: their characters however bring them more and more near to the *Bradypoda*. These curious animals were provided with a shield, which covered all the upper parts of the body, and which consisted of small hexagonal plates, except towards the middle of the body, where these plates take a square form and are arranged in fixed transversal bands. The bones of the trunk as well as the large bones of the extremities are

* From an extract given by Victor Audouin, to whom the letter was addressed, in the Comptes Rendus, No. 15, Avril 1839. The first or introductory part of this paper appeared at p. 235 of the present volume.

† Among the fossils brought to England from South America by Mr. Darwin there is a fragment of the cranium of an animal as large as an ox, and which Mr. Owen has described under name of *Glossotherium*, considering it to have had the same habits and food as the Anteaters, to which it was very closely allied, but not generically identical.—ED.

moreover very similar to those of the Armadillos, but especially to those of the *Cachicames*, but the bones composing the feet are shortened to such a degree, and present so considerable a flattening of the articular surfaces, that nothing similar is found to occur in any animal skeleton; and it is difficult to conceive how such feet could serve to burrow in the earth: moreover the form of the teeth indicates that these curious animals fed solely on vegetable substances, and we must suppose that they grazed in the same manner as the large *Pachydermata*. Be this as it may, the *Hoplophorus*, two species of which are distinguished, offer this peculiarity, that their zygomatic arch is furnished with a descending branch—a character hitherto regarded as belonging exclusively to the *Bradypoda*. Both species were of the size of an ox. Fragments of these skeletons have already been described by Prof. Weiss of Berlin*. M. Lund has also discovered some fragments belonging to a genus allied to the preceding one, and to which he assigns the name *Pachytherium*. Its proportions are still heavier and its size larger. He calls this species *Pachytherium magnum*.

BRADYPODA.

M. Lund thus comes to the family of the *Bradypoda*, which in these countries performed a very important part during the antediluvian epoch from the number and variety of its forms and the large size attained by the species.

The first genus examined is the *Megalonyx*, which is related to the Armadillos by the osseous plates which covered a portion of the body; but these plates, besides being of an immense size, and far from forming a continuous shield as in them, are separated by great intervals from each other.

The *Megalonyx* offers the greatest relations to the *Megatherium* principally in the structure and composition of the feet; but the hinder ones present the same torsion as the feet of *Bradypus tridactylus*, although arising from a different cause. In the *Aï* this torsion is produced by the peculiar mode of articulation of the leg with the astragalus; in *Megalonyx*, according to M. Lund, this articulation is formed in the usual way, and it is the carpien [tarsal] surface† of the

* Mr. Owen has described in detail the structure of the dental organs and the bones of the extremities of a species of this genus, to which he assigned the name of *Glyptodon*, in reference to the sculptured form of the teeth. As this description was read before the Geological Society in March, 1839 (see 'Proceedings of the Geological Society', No. 62.), the name of *Glyptodon* must take precedence of that proposed by Dr. Lund for the same extinct genus in his memoir, of which the present extract was not published until the following month.—Ed.

† We presume that the term "*la face carpienne*" is an oversight in the original Memoir.—Ed.

latter bone which by its anomalous conformation produces the contortion of the plane of all the rest of the foot.

The molars, to the number of 5 above and 4 below, are not furnished with roots as in the animals of the order of Edentata; thus differing from those of the *Megatherium*, which are described as having two roots.

The species of *Megalonyx* were provided with an excessively strong tail, and probably prehensile, which together with the contortion of the plane of the hinder feet and the enormous length of the claws, must lead to the belief, observes M. Lund, that these animals, notwithstanding the great weight of their body, were destined to climb, like their representatives in the present creation.

This genus appears to have been very rich in species; M. Lund already distinguishes five; one of them, *M. Cuvierii*, was of the size of a large ox, and this was not the largest species.

A new genus would arrange itself by the side of *Megalonyx*, under the name of *Sphenodon*, which was of the size of a hog.

A new genus, designated by M. Lund by the name of *Cyclodon*, and containing one species, would come still closer to the *Bradypoda*.

Returning to the animals above enumerated, and which are comprised in Cuvier's order Edentata, M. Lund observes: 1. That the family of the *Myrmecophaga*, that of the *Dasyroda*, and that of the *Bradypoda*, which, at the present period, are peculiar to America, also existed there at the preceding epoch. 2. That at that period these families were peculiar to this portion of the globe exclusively, as they are at present, and the cause of this opinion is that no species of these three families has been hitherto discovered in the diluvian deposits of other portions of the earth. 3. That this large order of Edentata was at that time more numerous both in genera and species than at the present day. 4. That most of these mammiferous genera which formerly inhabited the country have disappeared. 5. That all then existing species have been destroyed, only two species presenting some affinity, but not a perfect identity with living species. 6. And lastly, that the animals of this order at this period attained dimensions far more considerable than at present occurring.

The family of the *Bradypoda* have disappeared entirely from the basin of the Rio das Velhas, which would be accounted for by the absence of primæval forests, all the country being occupied by that form of vegetation termed by the Brazilians *Campes*. It is probable that at the period during which these large animals lived it was quite different, and that the country was then covered with immense forests; still, however, everything leads us to suppose that they led the same kind of life as their representatives of the present period,

i. e. that notwithstanding their colossal dimensions they sought their food in trees.

PACHYDERMATA.

This family was more numerous at those times than at present. M. Lund mentions a species of Tapir, four species of Pecari, and moreover a Mastodon, equalling in size that of an Elephant.

RUMINANTIA.

The family of Ruminants, which is represented in this country by the sole genus *Cervus*, possessed at this ancient period, besides the genus *Cervus*, of which two fossil species are met with, an antelope and two generic types which have no representatives; they are distinguished by the names of *Auchenia** and *Leptotherium*. M. Lund is acquainted with two species of each of these genera.

FERÆ.

The Carnivora were not less numerous or varied in those times than the Ruminants. There were three species of *Felis*, two species of *Canis*, a bear, and what is most remarkable, a species belonging to the genus *Cynailurus* of Wagler, or *Guepardus* of M. Dumortier, which is peculiar to the old world, and which at that period occurred in the new world. M. Lund also notices a jackal, which will constitute a new genus under the name of *Speothos*, one species of Coati, another of the genus *Eirara*, and lastly, what will appear most surprising, a hyæna, which to his great astonishment he found with remains of Pacas, of Agoutis, of Pecari, of *Megalonyx*, and other American forms. The species which he calls *H. Neogæa* equals in size the largest living species of hyæna.

MARSUPIALIA.

The diluvian deposits of the caverns of Brazil are filled with fragments of Marsupials of the genus *Didelphys*, amongst which seven species may be distinguished, five of which bear more or less analogy to recent species of this country, while the two others exhibit not a trace of resemblance. A new genus will arrange itself by the side of *Didelphys* which appears to have been of the size of a Jaguar, and seems to represent the great species *Dasyurus* of New Holland. M. Lund assigns the name of *Thylacotherium*† to it.

GLIRES.

This family was not less remarkable than the former by the va-

* The term *Auchenia*, having already been applied by Illiger to the existing Llamas, and Vicuñas, cannot be retained for the extinct genus discovered by Dr. Lund.—EDIT.

† This term has been applied to one of the extinct Marsupial genera of the Stonesfield oolite. See the present volume of 'Annals', p. 61.—EDIT.

riety of forms and by the large size of the species. M. Lund notices and describes, in this family alone, twenty-one species, several of which constitute new genera; he states that he possesses a vast number of fossil remains, which he has not had time hitherto to study in detail.

All the families hitherto passed in review have shown a superiority in number of species, and especially of genera, in favour of the antediluvian period. This is not the case for the two remaining families, the *Cheiroptera* and the *Simia*.

CHEIROPTERA.

With regard to the *Cheiroptera*, says M. Lund, it is but recently that I succeeded in discovering some few remains among the millions of bones of small animals contained in the deposits of some caverns. The heaps of recent bones which are frequently found in the caverns, arising as I have above observed from remains of animals dragged into them by the *Strix perlata*, contain bones of *Cheiroptera* in greater number, and it might lead one to conclude that this family was in fact less numerous in the ancient periods than it is at present. However, as several circumstances lead me to believe that it was by a diurnal bird of prey that the heap of the small fossil bones was formed, this explains, as I shall subsequently show, why the bones of animals of the family in question are more rare amongst them than in the heaps of recent bones.

SIMIA.

The existence of *Simia* at periods previous to the present order of things was a fact yet new to science, when I discovered in the month of July 1836, the first fossil remains of an animal of this family. Since then I have learnt that their presence has been confirmed in Europe and in Asia. I possess fossil bones of two species of this family, one of which, that will not come under any of the existing genera, attained the height of four feet (*Protopithecus brasiliensis*): the other approaches considerably to the genus *Callithrix*, exceeding it by a height of twice that of the species living at the present day (*Callithrix primavus*).

I shall conclude by observing that hitherto I have found no trace of the existence of man at this period.

This rapid glance will suffice to show that the torrid zone of our globe, far from having been uninhabited during the period preceding the now existing state of things, possessed, on the contrary, an animal creation more numerous, more varied, and more gigantic, than that which it sustains at present.

We also see that South America possessed at that period the same

animal forms which now characterize it: the Myrmecophaga, the Armadillos, the Pecari, the Coati, the Opossums, the *Loncheres*, the Coendous, the Agontis, the Pacas, the Capibaras and others. But, notwithstanding this analogy in the general type, it appears that the species of the two periods are different; at least M. Lund knows at present but of one single exception to this rule (*Loncheres elegans*).

If we combine, says M. Lund in concluding, this fact with the geological facts above alluded to; if we remember that all the country in question, elevated 2000 feet above the level of the sea, is covered with a continuous and great stratum of loose soils which extend equally and without any interruption over plains, valleys, and hills, and which is not missing even on the table lands and gentle slopes of the highest mountains (5000 to 6000 feet); if we consider that this stratum contains subjacent beds of gravel and stones which fill all the fissures and caverns of the limestone rocks, and, that lastly, it contains numerous remains of animals differing from those which at the present day inhabit this country; if, I say, we combine these facts, we can hardly refuse seeing proofs the most irrefragable of a great irruption of waters, which, covering all this portion of the globe, put an end to the beings then inhabiting it.

XLVIII.—*Enumeration of Plants collected by Mr. Schomburgk, British Guiana.* By GEORGE BENTHAM, Esq., F.L.S.

[Continued from vol. ii. p. 451.*]

LEGUMINOSÆ.

Tribe LOTEÆ, DC.

IF we commence the long series of *Leguminosæ* with the *Papilionaceæ*, the tribe of *Podalyriæ* might be placed first, removing the true *Sophoreæ* to the end, as forming the intermediate link between *Papilionaceæ* and *Cæsalpinieæ*. The vast tribe of *Loteæ* might come next, divided into sub-tribes nearly in the order proposed by DeCandolle, but with a few modifications of detail.

Sub-tribe GENISTEÆ, DC.

Monadelphous stamens, and simple or palmate leaves, are the chief characteristics of this group, and admit of few if any exceptions. The anthers are also frequently dissimilar, five being oblong and attached near the base, and five alternate ones shorter and attached towards the centre. There do not appear ever to be either stipellæ to the leaves, a vaginal disk round the ovarium, nor trans-

* The plant erroneously described in the last paper as a new *Baccharis*, under the name of *Baccharis crioptera*, is the *Pterocaulon spicatum*. DC. Prod. v. p. 451.