

SIWALIK FOSSIL *MASTOMYS*.*

G. EDWARD LEWIS.

ABSTRACT. *Mastomys colberti*, a new species of Siwalik murid, is described. This is the first fossil record of this genus, whose present range is confined to Africa.

INTRODUCTION.

OUR knowledge of the Siwalik Muridae is very limited. Falconer (1868, p. 23) lists *Mus* (probably using the generic term in a broad sense) as a member of the fossil fauna of India, giving no description or figure, and without indicating whether it occurs in the Siwalik series or in the Pleistocene deposits of the Dakkhan. He may have referred to a specimen later described by Lydekker as "a fragment of breccia from the Narbadas containing the incisors of a murine rodent, of which the generic determination seems impossible" (1884, p. 105). The only other recorded specimen of a Siwalik murid was described by Lydekker as *Nesokia* cf. *hardwickei*, and consists of a fragmentary left mandibular ramus (1884, p. 126).

Lydekker also has described the remains of *Mus mettada*, *Mus platythrix*, *Mus* (?) *sp. var.*, *Nesokia bandicoota*, and *Nesokia kok* from the Pleistocene cave deposits of Karnul, in Madras Presidency (1886 b, pp. 35-36).

There are no further records of Indian fossil Muridae, and, since only two specimens have been reported from the Siwalik series heretofore, it is believed that the subject of the present paper is of especial importance.

SYSTEMATIC DESCRIPTION.

MASTOMYS COLBERTI, *n. sp.*¹ Plate 1, Fig. 1.

Holotype—Yale Peabody Museum No. 13798. The fragmentary anterior portion of a skull bearing the right and left upper incisor roots, the left first and second upper molars, and the roots of the left third upper molar.

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¹ Named in honour of Dr. Edwin H. Colbert, whose studies have contributed so much to our knowledge of the Siwalik fauna.

Type Locality—One half mile south of Taraun village, north-western Bilaspur Kehloor State, Punjab, India. Yale North India Expedition Palaeontological Locality No. 41; Survey of India Map No. 53 A/NE, grid B-6.

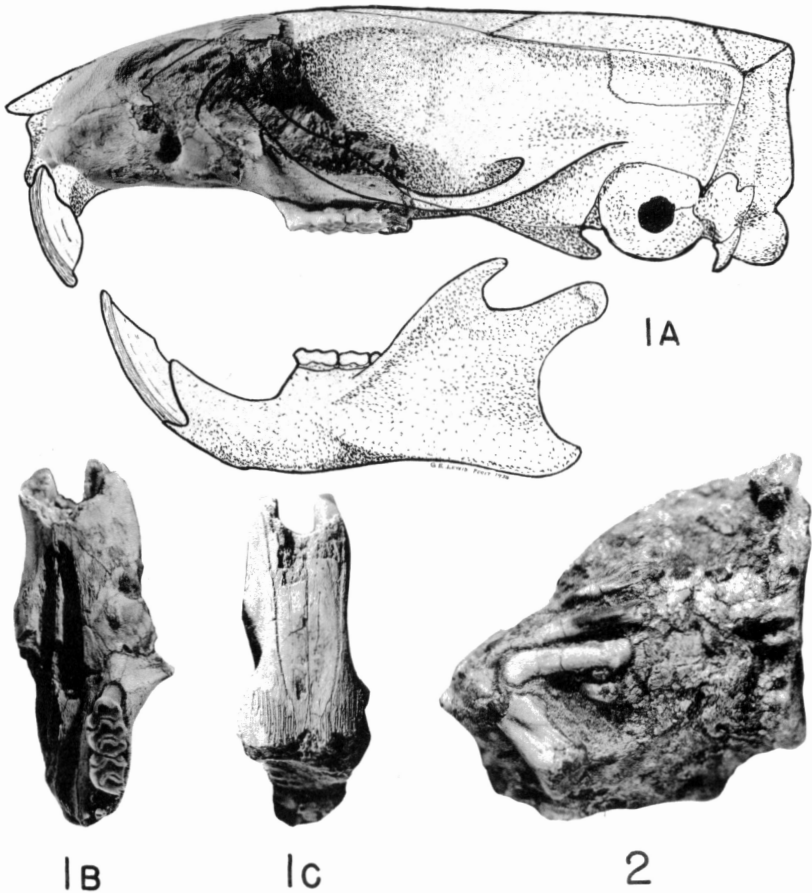
Type Horizon and Age—Siwalik series, Nagri formation, early Pliocene.

Diagnosis—An average sized species of *Mastomys*, with relatively short palatine foramina, occurring in the lower Pliocene deposits of India.

MEASUREMENTS IN MILLIMETERS.

Species		<i>Mastomys colberti</i> Y. P. M. No. 13798.	<i>Mastomys peregrinus</i> after de Winton (1897, p. 959).	<i>Mastomys peregrinus</i> after Cabrera (1932, p. 271).	<i>Mastomys coucha</i> after Hatt (1935, p. 4).	<i>Mastomys coucha</i> after Hollister (1919, pp. 90-93).
I ¹	AP	1.7				
	Tr	0.8				
M ¹	AP	2.3				
	Tr	1.5			1.6	
M ²	AP	1.5+				
	Tr	1.4				
M ³	AP	1.2 est.				
M ¹ —M ²		3.8				
M ¹ —M ³		5.0 est.	4.5	5.0	4.7	4.6-5.8
Palatine Foramen		6.0	6.5	6.6 fig.	6.2	
Diastema		8.0	7.3			

Discussion—*Mastomys* was defined by Oldfield Thomas as a new subgenus of *Epimys* (1915, p. 477), listing the following criteria: *Mastomys*, with more than 14 mammae in a continuous series; distinguished from *Epimys sensu stricto*, *Aethomys*, *Praomys*, and *Myomys*, all with less than 14 mammae sepa-



EXPLANATION OF PLATE

Fig. 1. *Mastomys colberti* Lewis, n. sp. Incomplete skull, X $3\frac{1}{2}$, the holotype, Yale Peabody Museum No. 13798.

A. Left lateral view of restored skull and mandible.

B. Palatal view.

C. Top view.

Fig. 2. Supposed fossil bird pellet in which holotype of *Mastomys colberti* was found, X $3\frac{1}{2}$.

rated into pectoral and inguinal sets. As in so many zoological papers, the original definition was based only on these entirely superficial characters, with no diagnostic osteological features listed.

Mastomys eventually came to be used in a generic sense, and a diagnosis useful to palaeontologists was offered at long last by Dr. Ángel Cabrera. His excellent comprehensive work on the mammals of Morocco (1932) listed the diagnostic criteria for distinguishing between the several genera of Moroccan Muridae as follows (*op. cit.*, p. 250):

Clave de los géneros de Muridae.

- a. Partes superiores de color uniforme, sin rayas; dedos primero y quinto posteriores más cortos que los tres intermedios, pero pasando de la base de éstos.
- b. M^1 y M^2 con tres cúspides en la serie interna.....*Sylvaemus*.
- b'. M^1 y M^2 con sólo dos cúspides en la serie interna.
- c. Tamaño pequeño; longitud del pie posterior nunca más de 20 milímetros; M^1 un poquito más largo que los otros dos juntos....*Mus*.
- c'. Tamaño más grande; longitud del pie posterior de 22 a 45 mm.; M^1 nunca más largo que los otros dos juntos.
- d. M^1 con cinco raíces, y con la cúspide interna de las dos primeras láminas apenas desviada hacia atrás*Rattus*.
- d'. M^1 con tres raíces y con la cúspide interna de las dos primeras láminas fuertemente desviada hacia atrás.....*Mastomys*.
- a'. Partes superiores con rayas longitudinales oscuras y claras; dedos primero y quinto posteriores muy cortos, no alcanzando a la base de los tres intermedios*Lemniscomys*.

The holotype of *Mastomys colberti* displays upper cheek teeth which are typically murid (*vide* Pl. 1, Figs. 1A, 1B). M^1 has three roots, and the lingual cusp of the first two laminae is offset strongly in a posterior direction (*vide* Pl. 1, Fig. 1B). While M^3 has been lost, its posterior root has been preserved, giving ample proof that M^1 could not surpass the combined M^2 and M^3 in length (*vide* Pl. 1, Fig. 1B and table of measurements; *cf.* Cabrera's "Clave"). This evidence, in conjunction with the size of the specimen, indicates that *Mastomys* is the only genus to which this fossil Siwalik murid can be assigned. The writer believes that the only serious possible objection to this decision lies in the fact that Recent *Mastomys* is an "eminently Ethiopian genus," as Cabrera puts it (1932, p. 269). This possible objection would be a highly specious one, however. An analysis of any Siwalik faunal list demonstrates that a large percentage of the genera now restricted to the

Ethiopian realm had a geographical distribution extending to India in Pliocene time.

It is interesting to note that the holotype of *Mastomys colberti* was found in a small, limy concretion, a portion of which is figured herewith (Pl. 1, Fig. 2). It had been reduced to its present fragmentary condition prior to fossilization, and was associated in the matrix with numerous other small bone fragments. The writer suggests that there is a strong possibility that this concretion represents a coprolite or predaceous bird pellet, more probably the latter, since the bones show no sign of digestive corrosion. The general size and shape of the concretion are reminiscent of a bird pellet, and Dr. Alexander Wetmore, who has examined the specimen, agrees with the writer as to the observed resemblance and its possible interpretation.²

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² Personal communication.