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ANIMAL REMAINS FROM HARAPPA

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The above measurements compare very well with those of the Ass published by Tscherski<sup>1</sup> except those of the 3rd molar which differ widely with the condition of wearing of the crown.

The indices of the projection of the anterior lobe of the protocone as suggested by Tscherski (*loc cit.*, p. 300) in the case of the various upper teeth are as follows:—Pm. 4: 155—166; M 1: 133—141; M 2: 130—144; M 3: 122—125.

The metacarpals are 212-225 mm. in length with maximum diameters of 41-47 mm. and 45 mm. at their anterior and posterior ends (Plate VII, figs. 8, 9).

The two phalanges available apparently belong to two individuals of very different sizes, one is almost double of the other in maximum width. I reproduce natural size photographs of both the specimens (Plate VII, figs. 10, 11).

#### Family: RHINOCEROTIDÆ.

#### Rhinoceros unicornis Linnæus.

(Plate VII, figs. 5, 6.)

Mound F; Trench VI; Square P 10/8; depth 8'7"-11'10". Fragments of right scapula.

Blanford writing in 1891 (*op. cit.*, p. 473) gave the distribution of *R. unicornis* in India as follows: "At the present day the great Indian rhinoceros is almost restricted to the Assam plain, and it is very rare, if it exists, west of the Teesta river. Twenty to thirty years ago it was still common in the Sikhim Terai, and not many years previously it was found along the base of the Himalayas in Nepal and as far west as Rohilkund. Up to about 1850, or rather later, some rhinoceroses inhabited the grass-jungles on the Ganges at the north end of the Rajmehal hills, and were, I think, probably *R. uniformis*. Formerly this animal was extensively distributed in the Indian Peninsula. It was common in the Punjab as far west as Peshawar in the time of the Emperor Baber (1505-1530). Semifossilized remains of it have been found in the Banda district, North-West Provinces, and near Madras; and its co-existence with several mammals now extinct, the Indian hippopotamus for one, is shown by its occurrence in the Pleistocene beds of the Nerbudda Valley". In reference to Babur's record of this species Beveridge in *Babur-nama*<sup>2</sup> describes the shooting of 3 rhinos in a bit of jungle near Bigram and also at Piag near Chunar. Abul Fazal<sup>3</sup> in *Ain-i-Akbari* described the rhinoceros and recorded its occurrence at Sambal (Sambhal), while Jarrett in a foot-note added, "In 1519 he (Babur) mentions having started many of these animals to the west of the Indus where none now exist". Ali<sup>4</sup> in his paper on "Moghul Emperors of India as Naturalists" gives further references to the records of the rhinoceros in the writings or memoirs of the Moghul Emperors.

<sup>1</sup> Tscherski, J.—*Mém. Acad. Imp. Sci. St. Petersburg* (Ser. 7) XL, pp. 360-363 (1893).

<sup>2</sup> Beveridge, A. S.—*The Babur-nama in English*, II, pp. 451, 657 (London, 1912-21).

<sup>3</sup> Jarrett, H. S.—*The Ain-i-Akbari* (translated into English), II, p. 281 (Calcutta, 1891).

<sup>4</sup> Ali, Salim A.—*Journ. Bombay Nat. Hist. Soc.*, XXXI, pp. 851-861 (1927).

The find of an almost complete right shoulder girdle of rhinoceros at Harappa considered with the records detailed above indicates that the distribution of this species in the earlier times was much more extensive in the Punjab and that probably there were marshy forest areas in the neighbourhood of Harappa where the rhinoceros was found.

A photograph of the right scapula (fig. 5) which I have reconstructed by joining together three fragments, is reproduced on Plate VII, and for comparison with it one of a specimen (fig. 6) in the Indian Museum. As will be seen from these photographs there are no real differences between the two scapulæ. The pre-scapular fossa, as seen from above, forms a broad channel delimited by the spine on the one side and a ridge which runs upwards and backwards from the coracoid knob; this fossa is narrower than the postscapular fossa, along the outer margin of which the blade of the scapula curves upwards to the suprascapular border. The glenoid cavity is large, convex and evenly rounded. The coracoid is a broad, rounded, knob-like structure, situated slightly above and anterior to the glenoid cavity; it is continued backwards as a broad, somewhat thickened plate-like structure till the origin of the prescapular fossa. The spine arises as a low ridge about four inches from the glenoid cavity and then runs as a broad ridge; in its posterior half the upper part of the spine is reflected over the post-scapular fossa as a triangular plate, the tip of which is thickened into a knob-like structure. The scapula closely agrees with the figure of that of *R. unicornis* figured by tne Blainville (*Ostéographie*, III, *Rhinoceros*, Plate vi).

*Measurements (in millimetres).*

	Harappa specimen.	Indian Museum specimen.
Length . . . . .	ca. 470	460
Maximum width along the suprascapular border . . . . .	ca. 250	240
Width along the coracoid . . . . .	185	160
Length of spine . . . . .	310	310
Height of spine . . . . .	130	130

ARTIODACTYLA.

PECORA.

Family: BOVIDÆ.

Sub-family: BOVINÆ.

Blanford (*Fauna*, p. 483) remarked "By many modern writers the animals here referred to the genus *Bos* have been distributed amongst several genera. The distinctions between the latter, however, are scarcely of generic rank".

EXPLANATION OF PLATE VII.

*Camelus dromedarius* Linn.

- Fig. 1. Left scapula, No. 954, fragmentary.  
Fig. 2. Left scapula of a recent specimen in the Indian Museum.  
Fig. 3. Left radio-ulnar shaft from Mound AB, excavated from a depth of 5' 9".  
Fig. 4. Left radio-ulna of a recent specimen in the Indian Museum.

*Rhinoceros unicornis* Linn.

- Fig. 5. Fragmentary right scapula from Mound F, excavated from a depth of 8' 7"—11' 10".  
Fig. 6. Right scapula of a specimen in the Indian Museum.

*Equus asinus* Linn.

- Fig. 7. Maxillary portion of palate with 4th premolar and 1-3 molars; No. 954.  
Figs. 8, 9. Two 3rd right metacarpals.  
Figs. 10, 11. Two specimens of 2nd phalanx of right hind-leg and right fore-leg of different sizes (D. R. S. coll.). No. D. S. 40 and 29.

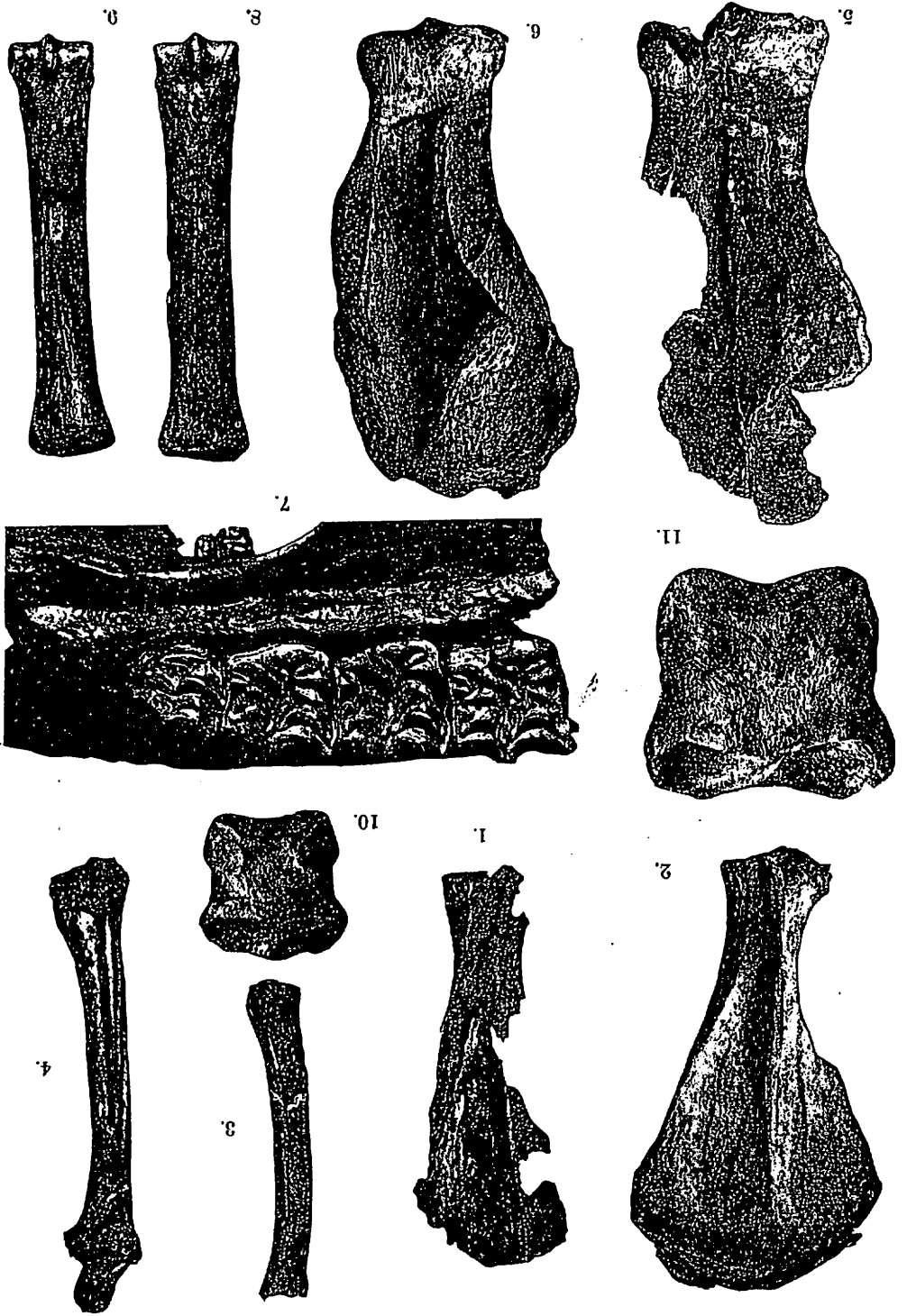


PLATE VII.

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