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# On the lower jaw of a small rhinoceros from the Indricotherium beds of Turgai region.

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О нижней челюсти маленького носорога из индрикотериевых  
слоев Тургайской области.

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Besides *Indricotherium* and *Epiaceratherium* <sup>1)</sup> the Oligocene deposits of Turgai region yielded the remains of one representant more of the family of Rhinocerotidae. But whilst of both former

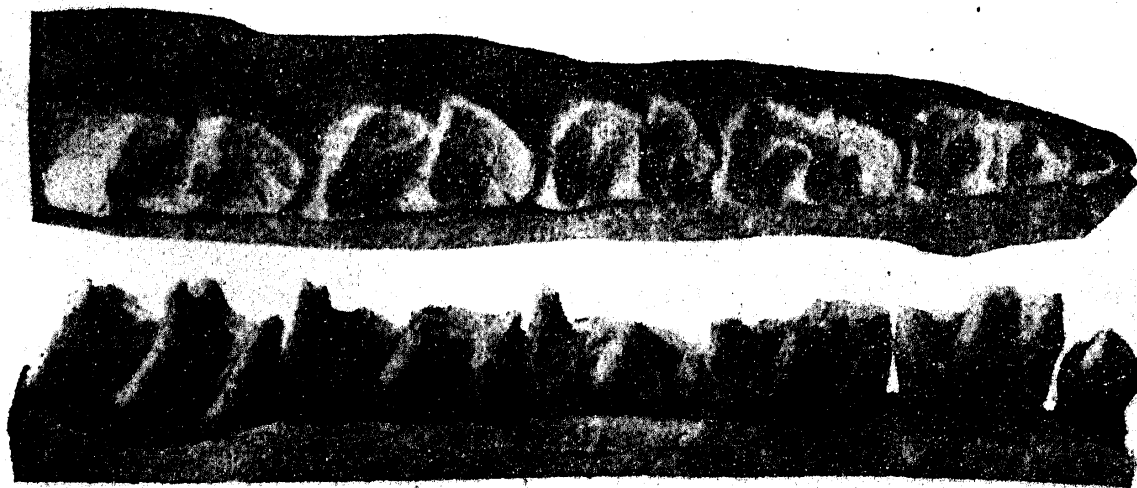


Fig. 1,

the almost complete skeletons have been collected, now we have at disposal only a small fragment of the left branch of the lower jaw. Its teeth, however, (fig. 1) are of excellent preservation and

<sup>1)</sup> Monographs of the Russian Paleontol. Soci., I. 1918. Petersb.

carry all typical features of the family of rhinoceroses.  $P_1$  is present, but of a very small size, the rest of premolars show a high grade of molarization. The last premolar does not differ from the molars, the enamel of all being of a delicate reticulate structure.  $M_3$  is still not appeared, i. e. the jaw we describe belongs to a very young individual. The most characteristic feature of the dentition is its small size suggesting that there we have to do with no typical rhinoceros, but with one of the oldest side branches of Rhinoceroidea.

Measurements of teeth.

	$P_1$	$P_2$	$P_3$	$P_4$	$M_1$	$M_2$	
Length . . . . .	7.5	15	16	16	20	20	mm.
Breadth . . . . .	5	10	11	11	12	10.5	»
Height . . . . .	7	9	10	10	11	13	»

The nearer examination of several teeth gives us the material as follows.

The first premolar  $P_1$  has a small cutting crown with a sharp apex; the crown is elongated, of an oval transverse section. is formed of a large middle cone (apex) and of two vestigial ones before and behind. On the outside these cones are confused in a smooth external wall, on the inside they are modelled, the middle one being extended inward-backward in shape of a small lobe. The socle is girdled with a cingulum more marked from inside in form of a row of irregular tubercles. The root is double, at least its part above the bone is apparently bipartite by longitudinal furrows on the outside as well as on the inside.

The second premolar  $P_2$  is slightly narrowed to the front and has, therefore, a rounded-triangular cross-section. Its crown consists of two lobes. The anterior lobe is twicely curved, the hind curvature comprising a somewhat less than a right angle, the front one—a somewhat more than it; thus, the part of the lobe forming the external wall of the tooth is not parallel to the axis, but meets it at an angle. The posterior lobe shows a rectangular curvature alone. On the external wall the lobes are apparently divided by a furrow. Thus, the lobes being completely modelled after the molar type but differ from later in having their inner ends somewhat thicker (as to retain, therefore, the pattern of the primitive tubercles).

The cingulum is slightly developed, on the outside it forms a roller swelling at the furrow between the lobes and making level with the front of the tooth, on the inside it is presented by a row of irregular tubercles.

The third premolar  $P_3$  is quite alike to  $P_2$ , but all the curvatures of the lobes being stronger marked. In the anterior lobe, therefore, the part forming the external wall makes a larger angle with the axis of crown, and the posterior lobe curves at an angle lesser than  $45^\circ$ . The cingulum is developed as in  $P_2$ .

The fourth premolar  $P_4$ , contrarily to  $P_2$  and  $P_3$ , loses the swellings in the inner ends of the lobes and structurally quite like the molars.

The molars  $M_1$  and  $M_2$ . The crown, as in premolars, consists of two lobes, the anterior one growing in size as far back, while the posterior correspondingly diminishes. The anterior lobe is twicely curved, and its part forming the external wall makes with the axis of crown the angles: in  $P_4 > 45^\circ$ , in  $M_1$  a lesser one, and in  $M_2$  still lesser, thus varying in reverse order as from  $P_2$  to  $P_3$ . The posterior lobe in  $P_4$  curves at an acute angle and, in running backwards, gets more and more straight. The external wall forms a deeper furrow than that of the premolars and divides the lobes more markedly. The wearing of both lobes in premolars ( $P_4$  here included) makes only plane, while in  $M_1$  and  $M_2$  the top surface of the posterior lobe, at the same state of wearing, lies lower down than that of the anterior one. The wearing of hind teeth may be still characterized by the fact that the inner ends of posterior lobe in  $P_4$  and  $M_1$  are pulled very high upwards.

The cingulum is slightly developed forming a small roller on the outer side, from the beginning of the furrow, and encircling the fore end of the tooth.

Yet it is necessary to be noted that in molars the enamel, inside of the valley, forms a sort of an afflux which enters from inside in the valley and, on the end of the lobe, remounts till the cusps descending in depth of the valley to its bottom. A small slope separates this afflux from the remaining surface of the tooth as if the given part of crown be covered with a bed of enamel one more.