

# On the remains of a Lophiodontoid ungulate from the Oligocene deposits of Turgai.

By A. Borissiak.

Объ остаткахъ лофидонтоидной формы изъ олигоценовыхъ отложений Тургайской области.

А. Борисьякъ.

Amongst the remains of oligocene mammals discovered in the recent years in Asia the fauna of the Indricotherium-beds of the Turgai region stands somewhat apart: although connected with the Indian fauna by its giant *Rhinocerotidae*<sup>1</sup>, this fauna, poor in general, contains the representatives of groups absent in the former. The most interesting of these is presented by a fragment of the upper jaw of a small Perissodactyl with four teeth preserved bearing the characters of the fam. *Lophiodontidae*, judging by the concave metacone of the exterior ridge and the relation of the transverse ridges to the exterior cusps<sup>2</sup>.

? *Colodon orientalis* n. sp.

The teeth mentioned (fig. 1a, b) present P<sup>4</sup>—M<sup>3</sup> of the right side, quite untouched by wear; the structure of all of them follows the same plan (P<sup>4</sup> has reached nearly complete molarization) being

<sup>1</sup> A. Borissiak, Bull. Ac. Petr., 1915, p. 781; 1916, p. 343; 1917, p. 287; CR, v. 162, № 14, 3 avr. 1916.

<sup>2</sup> Forster Cooper, Ann. Mag. N. H., (8), VIII, p. 710; XII, p. 376 a. 504.

<sup>3</sup> Ch. Depéret, Chasmothorium, Bull. Soc. Geol. France, IV, 1904, p. 572.

characterized by a short (brachyodont) crown, the exterior ridge of which is distinctly separated into two cusps: the anterior one (paracone) is large, convex exteriorly, with anterior and posterior keels which form a slightly reentering angle, more or less bent forwards with its apex—in the anterior teeth more than in the posterior; the posterior cusp (metacone) is of smaller size, concave exteriorly and removed from the margin nearer to the middle part of the crown, these characters becoming stronger expressed from  $P^4$  to  $M^3$ . The transverse ridges are fully formed and terminate at the interior ends by coniform cusps from which small flat keels are



Fig. 1.

given off posteriorly and exteriorly; these interior cusps (protocone, hypocone) are somewhat taller than the exterior ones in  $M$ , and lower—in  $P^4$  (deuterocone, tetartocone); the exterior ends of the transverse ridges are slightly bent backwards and unite—the anterior with the anterior keel of the paracone, and the posterior—with the apex of the metacone. The cingulum is well developed; at the antero-external angle it rises in the shape of a flat tubercle (parastyle?) and also forms a high ridge on the postero-external angle (metastyle?) on account of which the outer wall of the tooth is longer than the inner, and the paracone with the parastyle inclining against it dominates on the crown—on the exterior wall of the tooth—, whereas the metacone hardly at all elevates above the posterior ridge named (fig. 1a).

## Measurements:

	Length.	Breadth.	Height.
P <sup>4</sup> . . . . .	13	16.3	8.5—6.5 mm.
M <sup>1</sup> . . . . .	15	16.7	9 —6 „
M <sup>2</sup> . . . . .	18	19.5	8.5—9 „
M <sup>3</sup> . . . . .	17	19.5	8 —9.2 „

## Peculiarities in the structure of the separate teeth:

P<sup>4</sup> is of moderate length, elongated in breadth; its transverse ridges are closer approximated with each other than in M; the angle formed by the keels of the antero-external cusp (protocone) is sharply turned forwards; a crista is present; the postero-external cusp is relatively larger than in the remaining teeth, and rather flat than concave. The transverse ridges and their inner cusps are blunter than in M and decline considerably toward the outer ends (there is a depression between the interior and exterior cusps), whereas in M the transverse ridges do not exhibit such a declivity (more worked out); the outer and inner sides of the tooth are of equal length.

The form of M<sup>1</sup> is more elongated, the exterior cusps not so pointed; the angle formed by the keels of the antero-external cusp (paracone) is turned forward in a smaller degree, the postero-external cusp is relatively smaller, distinctly concave, further removed from the outer margin of the tooth. The parastyle is larger and closer adjacent to the paracone; the posterior ridge of the cingulum (metastyle) is dentate and forms a second posterior (exterior) valley, which is larger than the ordinary posterior one. The outer side of the tooth is longer than the inner.

M<sup>2</sup>—is the largest tooth, and the longest, all its elements being relatively larger; it retains the same characters as in M<sup>1</sup>, but the angle formed by the keels of the antero-external cusp is directed outwards; the postero-external cusp is relatively still smaller, still further removed toward the middle of the crown, and more concave. The cingulum and its elements are still more developed. The outer side is relatively still longer than the inner and slightly slopes backwards, the anterior side of the tooth being longer than the posterior.

The form of M<sup>3</sup> is still more oblique; its postero-external cusp is of still smaller dimensions presenting but a small spur on the