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TRILOPHODON (*SERRIDENTINUS?*) *INOPINATUS* N. SP. FROM THE JILANČIK BEDS OF THE TURGAI REGION

By A. BORISIAK (A. Borissiak) and E. BELIAEVA

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The remains of Mastodons from the Jilančik beds¹ of the Turgai region belong at least to three forms: one being closely related to *Trilophodon angustidens* Cuv., the other, very large, and allied to the same type, and the third, differing not only in the structure of the teeth, but in the peculiar outline of the mandible. A brief description of the later form will be now given.

This form is represented by a fairly considerable number of remains, — such as: two mandibles with fractured anterior ends, two fragments of the upper jaw, and a number of separate molars, both upper and lower, as also several upper and one pair of lower incisors, and a number of bones of the extremities and of vertebrae besides.

Upper jaw. The two fragments mentioned² ($\frac{1401}{614}$, $\frac{1401}{1152}$) belong to one skull (pl. I, fig. 1); each contains two teeth: M^2 abraded and M^3 scarcely at all worn. The larger fragment (of the left side) has preserved the anterior part of the zygomatic arch; it is possible therefore to trace the position of the anterior margin of the orbit, as lying approximatively opposite the posterior end of M^2 .

Among the separate teeth all three molars are represented; of the premolars but the fourth has been preserved.

¹ See Bulletin of Ac. of Sciences, 1927, № 3—4, p. 273.

² To which corresponds one of the mandibles ($\frac{1401}{606} + \frac{1401}{607}$).

M^3 —third molar—ist best represented in the fragments mentioned of the upper jaw by two paired teeth (pl. I, fig. 5,6) with excellently preserved crowns scarcely at all worn ($\frac{1401}{614}d$ and $\frac{1401}{1152}s$); the second pair ($\frac{1401}{642}s$ and $\frac{1401}{620}d$) is very much worn and modified by gypsum (pl. II, fig. 1).

The crown very much narrows posteriorly: the third loph is less developed than the two preceding ones, while the fourth is but very poorly expressed. The median longitudinal sulcus somewhat deviates posteriorly outwards. Each of the two parts of the loph (pre- and posttritor) consists of two conelets more or less distinctly separated by a groove (vanishing when subjected to abrasion). The first and second lophs are provided with two intermediate conules, of which the anterior slightly exceeds the posterior in size; the third loph possesses but one fairly large anterior conule. The intermediate conules are situated opposite the groove separating the two principal conelets of the pretritor part of the loph, and in the third loph alone more closely approach the median longitudinal sulcus. The fourth loph is considerably lower than the others, its posttritor part being lower than the pretritor: in connection with the transposition of the median sulcus (see above) the posttritor part is reduced, consisting as it were but of one cone; there is but one intermediate conule, the posterior, which fuses with the talon-cingulum.

The conelets, of which the lophs are composed, are high and narrow towards their summits, but adjoin at their base, i. e. the interlophal valleys are narrow (pl. I, fig. 6). The outer conelets of the pretritor parts have truly rounded outward faces, while the latter are somewhat flattened in the posttritor parts, thus bearing both anteriorly and posteriorly prominently expressed keels; especially prominent is the posterior keel of the fore loph. The enamel on the outer cones of the posttritor parts is wrinkled (transversely striated or grooved).

The cingulum is very much developed on the inner face of the crown, much less so on the outer, where it forms tubercular inclusions in the valley mouths. The same cingulum forms an anterior, and a more weakly expressed posterior talon fused with the fourth loph (see above).

In the first pair of teeth referred to, abrasion has left slight marks on the three anterior lophs in the form of oblique areas (on the fore- and back-parts of the loph) set at an angle with one another, the posterior area of abrasion being less than the anterior. The resulting figures of abrasion have so far a circular shape.

In the second pair of teeth, subjected to greater attrition (pl. II, fig. 1), the figure of abrasion of the pretritor part of the anterior lophs constitutes a non typical trefoil with narrow outer part and small and narrow supplementary lobes, while in the posttritor part that figure represents a narrow oval. In this pair the fourth lophs (unaffected as yet by abrasion) are somewhat larger than in the preceding pair.

M^2 —the second molar—of the fragments of the jaw described ($\frac{1401}{614}d$ and $\frac{1401}{1152}s$) are considerably worn (pl. I, fig. 5); the other representatives of this tooth extant $\frac{1401}{643}d$ and $\frac{1401}{618}s$ are but scarcely affected by abrasion; of these the first (slightly shattered by gypsum) is larger than the second, which (pl. II, fig. 2) is distinguished by being in a somewhat dissimilar state of preservation and is possibly derived from deeper strata (attested by its black colour and a total absence of gypsum).

The crown of the tooth is exactly of the same type as M^3 described above; in a much worn tooth it markedly narrows posteriorly, such narrowing hardly occurring in non-abraded teeth; median longitudinal sulcus exhibiting no deviation posteriorly towards the outer face of the tooth. The pretritor parts of the lophs consist of two, the posttritor of two or three (in the last and, probably, median lophs) conelets. Intermediate conules in the anterior loph are disposed as in M^3 ; in the second and third lophs a tendency is displayed by the conules to deviate wider from the median sulcus: the anterior conule of the second loph lies opposite the groove separating the two conelets of the pretritor part, the posterior is already beyond it and nearer to the outer margin; while in the third loph the anterior conule recedes from the groove referred to, and the posterior is still further removed from the latter than in the second loph. Such a transposition does not occur in M^3 . The posterior talon in the form of a tuberculated crest fuses with the posterior intermediate conule of the third loph.

Cingulum is constructed as in M^3 .

In both teeth $\left(\frac{1401}{643}, \frac{1401}{618}\right)$ but the anterior loph, the pretritor part of which forms a trefoil, is affected by abrasion, — the remaining lophs presenting but oblique areas of attrition.

In the more highly worn M^2 , $\frac{1401}{614}$ and $\frac{1401}{1152}$ (of which the first is half decayed), the first loph presents a pretritor part worn to the base (pl. I, fig. 5), which fuses with the oval figure of the posttritor part; such fusion has commenced in the second loph, while in the third the figures are still separate: rhombic in the pretritor part and oval expanding outward (frequently constricted in the middle and becoming hour-glass shaped) in the posttritor.

M^1 —first molar—is represented by two specimens $\left(\frac{1401}{637} d, \frac{1401}{628} d\right)$ both much worn (pl. II, fig. 3). Of these the first may have probably belonged to the same maxillary as M^2 , already described $\left(\frac{1401}{618}\right)$.

Crown rectangular exhibiting no tendency to narrow posteriorly. The figure of abrasion of the pretritor parts of the lophs may be characterised as being of the form described above, with a narrow (oval) outer part and two supplementary lobes, very small and receding from the median sulcus of the tooth; third loph has no posterior lobe, while the talon displays no figure of abrasion. The posttritor parts exhibit an oval figure of abrasion slightly or scarcely at all expanding outwards; that figure in the third loph $\left(\frac{1401}{628}\right)$ is composed of two ovals not yet fused together.

Cingulum and talon, as in preceding tooth; cingulum (talon) extends likewise over the anterior face of tooth.

P^4 — fourth premolar — is represented by two specimens $\left(\frac{1401}{623} s, \frac{1401}{629} s\right)$ scarcely affected by abrasion (pl. I, fig. 4).

Crown of rounded rectangular shape, with a flatter outer and rounded inner border (shape not constant). Two lophs, well expressed median sulcus, each half of loph consists of two or three conelets; anterior loph is supplied with an anterior and a less distinct posterior intermediate conule; these are lacking in the second loph.

Cingulum well developed on inner face and forms anterior and posterior talon; on outer face feebly expressed.

Abrasion is manifested in oblique areas; besides which figures of abrasion have appeared in one tooth $\left(\frac{1401}{629} s\right)$: oval in posterior, circular in anterior loph on respective pretritor parts; the posttritor part of posterior loph bears three rudimentary figures of abrasion (i. e. traces of three conelets are indicated).