

INDRICOTHERIUM FROM HAMI BASIN, SINKIANG

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During the last decade great progress has been made concerning our knowledge on the evolution and distribution of the giant rhinoceros (Incritheriinae) the results of which have been summarized in a recent paper by Gromova (1957). Besides, the first occurrence of this group in Europe reported lately by Petronijevic and Thenius is of particular interest. In China several important discoveries have been made during the same period. These are the localities with new materials of *Indricotherium* at Lingwu (Ninhsia) and Hami Basin (Sinkiang). The fossils from the last named locality were described in this paper, and that of Shichong, Yunnan, which is represented by a single astragalus is also appended here.

In the autumn of 1958 during the construction of the railroad between Lanchow (Kansu) and Urumchi a great number of fossil bones were recovered from the Mid-Tertiary beds in the Gobi desert between Hami and Chichaoching. The discovery was soon reported to the State Museum of Sinkiang at Urumchi, under the instruction of which part of the materials were rescued and subsequently sent to the Institute of Vertebrate Paleontology, Academia Sinica, for identification through the courtesy of the said Museum. All the fossils were badly shattered during the blasting of the embedding rocks for railroad foundation. Those which were collected and sent to the Institute for investigation include a lower jaw with several well preserved teeth that forms the subject of this paper.

Genus *Indricotherium* Borissiak

Indricotherium cf. *grangeri* (Osborn)

Material. A left mandibular ramus with P_4-M_2 , a right M^3 , and fragments of some other teeth. IVP No. V. 2370.

Horizon. Upper Oligocene or Lower Miocene (?).

Locality. Some 200 Km. west of Hami, Hami Basin, Sinkiang.

Description The teeth:

Last Upper Molar. (M^3). We have at our disposal two incomplete teeth, one of which is comparatively well preserved enough to show its principal structural points. The tooth is of gigantic dimensions. It seems to be the largest specimen of its kind that

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has ever been found. Structurally it is characterized by the comparative hypsodonty of the crown and that the outline of the tooth is more quadratic, and the metaloph seems to be more transversal. The cingula are strongly developed and nearly continuous on all sides.

Lower cheek teeth. Only the last premolar and two anterior molars were known. They were not yet erupted from the alveola. Except being of larger size and with more hypsodont crown there is no noticeable difference in comparison with the corresponding teeth known from the other localities. In correlation with their larger size the enamel of the teeth is correspondingly thicker.

Measurements (in mm):—

	M ³	P ₄	M ₁	M ₂
Length (Int.)	123	76.3	104	130
Width (at hypolophid)	—	49	54.7	56
Height (at ext. of metalophid)	80(at Int. of metaloph)	72	87.5	104

Discussion The *Indricotherium* from Hami as noted above is characterized by its unusually large size, more hypsodonty of the cheek teeth and more quadratic M³ with very strong singular borders. In correlation with these more diagnostic characters it seems that the animal is probably more of a grazing type or feeding on tougher vegetation than the typical species of the genus.

The variation of the dimension of the teeth and other skeletal parts of the giant rhinoceros has long been noticed by various workers. It was emphasized by Granger and Gregory (1926) who established a graded series among the group. Recently Gromova (1957) has gone so far as to include all the known species of the genera *Indricotherium* and *Baluchitherium* into one single species i.e. *I. transuralicum*.

We have followed her opinion in using the generic name *Indricotherium* for the Chinese forms considering *Baluchitherium* as its synonym, as to the specific distinction of the various forms of the genus we have retain the specific name "*grangeri*" at least provisionally for the larger Chinese form ("*Baluchitherium grangeri*" typical form, Teilhard, 1926) to which species our specimens from Hami can be more closely compared. The size of the molar teeth of the larger Chinese form from Hami and Ordos is in average nearly twice those of a comparatively large sized *Indricotherium transuralicum* from the Soviet Central Asia.

The hypsodonty of the teeth from Hami seem to be unique. As the material available for observation at present is too scanty any further inference would be purely speculative.

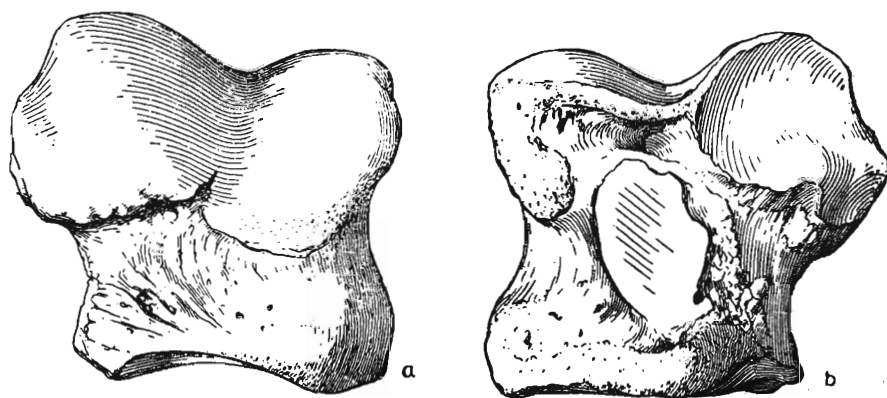


Fig. 1 *Indricotherium* sp. Right astragalus, $\times 1/3$ v. 2371.
a—anterior view; b—posterior view.

Appendix

An Astragalus from Shichong, Yunnan. V. 2371

The specimen was collected recently by Mr. Han Tsai-an of Provincial Geological Bureau of Yunnan from Tatung Village, Shichong District in the eastern part of Yunnan Province. The astragalus which is one of the right side is essentially same as those from the other localities. However, it seems that our specimen from Yunnan is relatively somewhat higher dorso-ventrally than those of the Mongolian species. In this respect it is closer to the Ordos species.

Measurements and comparison (data of other localities after Teilhard, 1926, P. 15, and Granger and Gregory 1936, P. 52):—

	Shichong, Yunnan	Ordos	Iren Dabasu ("Bal. osborni")	Kazakhstan ("Bal. asiaticum")
Width	166	160	180	185
Height	152	160	132	185

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Explanation of the Plate

Indricotherium cf. *grangeri* (Osborn)

1, 1a, left M³, $\times 1/2$, V. 2370. 1—Crown view; 1a—anterior view.

2, 2a, left lower jaw, $\times 1/3$, V. 2370. 2—Crown view; 2a—lingual view.

