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CADURCOTHERIUM FROM MONGOLIA¹

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Six Tertiary formations have thus far been determined in Mongolia, as follows:

HORIZON NAMES	FIELD NOTES	MUSEUM NOTES
Hung Kureh	<i>Mastodon</i> and <i>Cervus</i> —2000'	<i>Hipparion</i> , <i>Castor</i>
Hsanda Gol	<i>Baluchitherium</i> and rodents—3000'	<i>Baluchitherium grangeri</i> type
Houldjin	Rhinoceros and <i>Baluchitherium</i> —50'	
Ardyn Obo	Rhinoceros—500'	<i>Cadurcotherium</i> , <i>Schizotherium</i>
Shara Murun	Titanothere beds—50'	<i>Protitanotherium mongoliense</i> type
Irdin Manha	Lophiodont beds—50'	<i>Desmatotherium mongoliense</i> type

The Ardyn Obo formation was named and defined by Berkey and Granger in American Museum Novitates No. 77, p. 12. The fauna was judged in the field to be of mid-Tertiary age, not very different from the Hsanda Gol and Houldjin formations in other Tertiary basins in Mongolia. The preliminary examination in the Museum of the material collected in 1922 confirms this judgment and likewise confirms the suspicion intimated by Berkey and Granger that they are either of different facies or of somewhat different geologic age. A preliminary list of the fauna follows:

CANIDÆ, cf. *Cynodictis*; part of lower jaw

AMYNODONTIDÆ

Cadurcotherium ardynense, new species; skulls, jaws, etc.

?RHINOCEROTIDÆ

New genus and species; upper jaw, etc.

CHALICOTHERIIDÆ

Schizotherium, new species; M₃.

CERVIDÆ

New genus and species; lower jaws

CHELONIA

Testudo, large species; parts of shell

Emydid, gen. indet.; fragments of shell

Trionyhid, gen. indet.; plates of carapace

¹Publications of the Asiatic Expeditions of The American Museum of Natural History. Publication No. 12.

The little cervid is the only element in common with the Hsanda Gol fauna except for the doubtful *Cynodictis* and perhaps the chelonians (not yet studied). *Cadurcotherium*, the extreme evolutionary stage in the family Amynodontidæ, appears to be represented by teeth and other fragments in the Houldjin fauna. Larger collections from the three Oligocene formations (Ardyn Obo, Hsanda Gol, and Houldjin) will presumably increase the common elements and means of comparison. At present, while it appears that all three are of Oligocene age, a more exact correlation would be premature.

***Cadurcotherium ardynense*, new species**

TYPE.—Amer. Mus. 19154; skull with lower jaw, fore and hind limbs and feet probably associated. With this are a young lower jaw and several limb and foot bones of other individuals.

PARATYPES.—Amer. Mus. 19155–19158; upper and lower jaw fragments and teeth.

HORIZON AND LOCALITY.—Ardyn Obo formation, Promontory Bluff, Ardyn Obo basin, about 350 miles west of Kalgan on the Sair Usu caravan trail.

FAMILY AND GENERIC CHARACTERS.—Dentition $\frac{3}{1} \cdot \frac{1}{1} \cdot \frac{3}{2} \cdot \frac{3}{3}$ (the incisors are not known in the Mongolian animal). Teeth moderately hypsodont, premolars reduced and crowded, molars compressed transversely, the transverse crests short and strongly oblique. Canines enlarged, vertical, of subcircular cross-section save at the unworn tip, the tips usually worn to a flattened oblique shear, anterior on the upper, posterior on the lower canines. Digits 4-3, the fifth metacarpal only a little smaller than Mc II or IV; the metacarpals considerably longer than the metatarsals.

DISTINCTIONS FROM *Metamynodon*.—(1) Upper premolars with the inner crests completely joined into an inner crescent, the wings extending to the external angles, and enclosing a deep round median fossa at almost all stages of wear. In *Metamynodon* the inner crests are more or less distinct and transverse. In European species of *Cadurcotherium* the condition is more or less intermediate. (2) Lower premolars like those of *Cadurcotherium cayluxi* and *minus*; P₃ very small and simple with two small subparallel crests extending backward from apex of main cusp; P₄ submolariform with obliquely transverse inner crests, anterior, median, and posterior, simulating the transverse lochs of the molars. In *Metamynodon* both P₃ and P₄ are of this submolariform type. (3) Limbs and feet small and slender in comparison with *Metamynodon*, proportioned much as in *Aphelops megalodus* except that the metacarpals are considerably more elongate. The metapodials are both smaller and more slender than in *Amyndodon*, and lack the peculiar broad flattening of the shafts that distinguishes both *Amyndodon* and *Metamynodon*. 1

SPECIFIC CHARACTERS.—About the size of *Cadurcotherium cayluxi*, but the molars appear to be shorter crowned, the upper premolars have the median fossa more fully developed. Other characters may appear when the type is completely prepared. As the skull and feet of *Cadurcotherium* have not hitherto been known, the new species will add materially to what is known of the genus as well as extend its distribution to a region hitherto unknown palæontologically.

Cadurcotherium indicum Pilgrim of the Gaj series of India is of much larger size and different in other particulars enumerated by Doctor Pilgrim.