

FOSSIL TRAGULID FROM THE BOKABIL FORMATION (MIOCENE) OF TRIPURA

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ABSTRACT

The paper describes a lower left third molar (IM₃) of *Dorcatherium* from the Bokabil Formation of Tripura. The fossil assembly from Tripura indicates occurrence of *Dorcatherium colberti* in the Indian subcontinent since the Late Aquitanian.

INTRODUCTION

An inferior left third molar of *Dorcatherium* was recovered by the author from a conglomerate horizon towards the upper part of the Bokabil Formation (Miocene) from the northern part of Baramura range about 25Km east of Agartala, Tripura (fig.1). The specimen under description, together with other vertebrate fossils, was reported by the author in 1966 and the details of the proboscidean fossils were published in 1980. This is the first report of *Dorcatherium* from north-east India. Prior to this, *Dorcatherium* was known by three species from the Indian subcontinent. These were *Dorcatherium majus* and *D. minus* (Lydekker, 1874-80) from the Chinji, Nagri and Dhok Pathan Formations and *Dorcatherium* sp. (Colbert, 1935) from the Chinji and Tatrot Formations. Colbert (1935) kept the nomenclature of his species open for further future finds.

SYSTEMATIC PALAEOLOGY

Order Artiodactyla

Suborder Ruminantia

Infra-Order Pecora

Family Tragulidae Milne-Edward, 1864

Genus *Dorcatherium* (Kaup, 1833)

Dorcatherium colberti n. sp.
(Pl. I, figs. 1-2; fig. 2)

Material : Left lower last molar (IM₃) with a part of mandible.

Horizon : Intra-formational conglomerate in the upper part of the Bokabil Formation (Miocene).

Locality : About 5 Km west of Teliamura on the right bank of Chindral nala.

Repository : Palaeontology & Stratigraphy Division, Geological Survey of India, Jawahar Lal Nehru Road, Calcutta-16.

Holotype : G.S.I. Type No. 20288.

Etymology : The species is named after Dr. E.H. Colbert who first discovered similar species from Chinji Formation, but did not name it.

Diagnosis : Smallest known species of the genus, molars hypsodont, development of basal cingulum and median pillar, strong development of proto- and hypoconid, cusps selenodont.

Description : The specimen consists of a part of left mandible containing last molar (M₃) (Pl. I, figs. 1&2; fig. 2). The tooth is well preserved and moderately worn. It has developed minute cleavages but without any crack. The enamel is wavy and shows perichymata which are fine increment lines traversing the tooth longitudinally. A wedge-shaped contact facet of M₂ is developed at the upper mesial side. Metaconid is the highest cusp. It is joined by the mesial arm of the protoconid. A conical

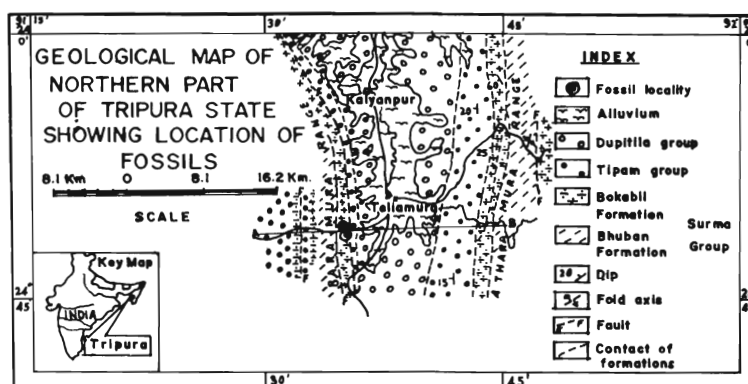


Fig. 1. Geological map of the northern part of Tripura State showing location of fossils.

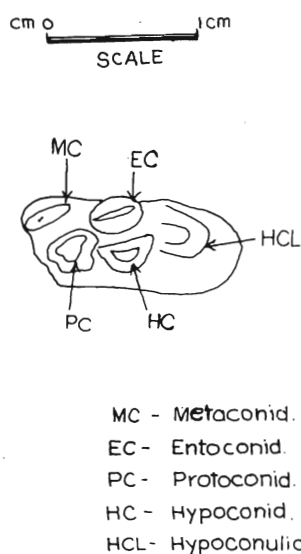


Fig. 2. Sketch depicting details of the dental characters

cingulum is developed at the mesio-lingula corner of the metaconid. Buccal cusps are selenodont. The distal arm from the hypoconid extends up to the mesio-lingual edge of the hypoconulid. This arm of the hypoconid and distal border of hypoconulid enclose the distal fovea which is higher than the slit-like central fovea. The central fovea is obstructed buccally but widens and deepens on the lingual side. The mesial fovea is also slit like and is the highest and opens steeply to the central fovea. Basal cingulum is developed at the junction of proto- and hypoconid. Basal pillar present at the junction of hypoconid and the *hypoconulid* is less than half the height of the *hypoconulid*. The roots are paired and fused. The root of the talonid is single.

The mandible is slightly swollen below the tooth without forming a distinct ledge.

Comparison : The name *Dorcatherium* was first used by Kaup (1833) with reference to some Miocene tragulids from Eppelshiem. Later, *Hyaemoschus* reported from Africa was considered synonymous with *Dorcatherium*. Lydekker (1874 -'80) described certain tragulids from the Chinji Formation of Siwalik and assigned them to ?*Dorcatherium majus* and *D.minus*. Colbert (1935) identified another species—*Dorcatherium* sp. from the Chinji Formation of Siwaliks.

Dorcatherium seems to be generically distinct from *Hyaemoschus* in development of external styles, basal cingulum, median pillar and hypsodonty. On the other hand, they appear to be congeneric with Miocene and Pliocene *Dorcatherium* of Europe. However, the Indian species appear to be more specialised in being more hypsodont.

Of the three species of *Dorcatherium* from the Indian subcontinent, namely *D. majus*, *D. minus* and *D. sp.*, the specimen under description compares with *Dorcatherium minus* and *D. sp.* With regard to *D. minus* it is forty per cent smaller in size and also less hypsodont in having height of the crown forty five per cent smaller than *D.minus*. On the other, hand it conforms to the characters of *Dorcatherium* sp. of Colbert (1935) in having strong development of proto- and hypoconid, slight development of cingulum and shape and size of the tooth. The measurements of the M₃ of the three species are given in the table below:

Table 1

	Specimen from Tripura <i>Dorcatherium colberti</i> (mm)	<i>Dorcatherium</i> sp. from Chinji Formation (Colbert, 1935) (mm)	<i>Dorcatherium minus</i> (Lydekker, 1874-80) (mm).
Mesio-distal diameter	11.4	11.5 to 13	18
Bucco-lingual diameter	5.00	5.00	9.00
Height of the Crown	5.00	5.00	9.00

Thus, the specimen from Tripura compares closely with *Dorcatherium* sp. described by Colbert (1935) from north-west India, and beyond all reasonable doubt both belong to one and the same species.

AGE

Dorcatherium sp. has been reported from the Chinji Formation of Lower Siwaliks (Tortonian) of north-western India. The present specimen is the only reported occurrence of the genus in north-eastern India. *Gomphotherium angustidens* recovered from the area indicates Late Aquitanian-Early Helvetian age for the Bokabil Formation (Trivedy, 1980). This suggests that *Dorcatherium colberti* existed in the Indian subcontinent prior to Tortonian, probably since the Late Aquitanian.

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EXPLANATION OF PLATE

Plate I

(Scale : Bar represents 1 cm)

- 1-2. *Dorcatherium colberti* n. sp., left lower third molar; Buccal view; 2, Occlusal view. G.S.I. Type no. 20288.

PLATE I

