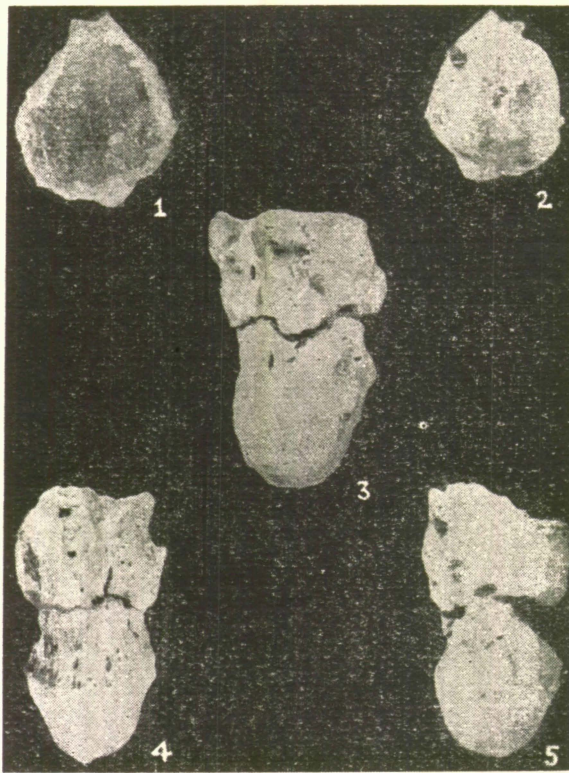


A NOTE ON THE OCCURRENCE OF FOSSIL VERTEBRA FROM
BARIPADA BEDS (MIOCENE), ORISSA

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Introduction: During the course of a palaeontological investigation of the Baripada beds, a vertebra was found entombed in limestones exposed on the left bank of the river Burhabalang, a short distance south of Baripada ($22^{\circ}54'$: $86^{\circ}44'$) in Orissa. Jena (1942, 1943) noted the presence of vertebrate remains in those beds; but neither their descriptions nor identifications were given by him. This note gives for the first time an account of the fossil vertebra from these beds. A few invertebrate fossils, especially lamellibranchs, are found associated with this fossil bone.



1. Anterior view 2. Posterior view 3. Lateral view
4. Dorsal view 5. Ventro-lateral view.

Description: The vertebra is procoelous i.e. hollow in front and with ball behind. Most parts of the vertebra are broken except the centrum which is somewhat cylindrical in nature. Neural canal is visible. The broken part of the left transverse process is slightly inclined towards the neural canal. The presence of prominent elongated keel-like swelling on the ventral side points towards the possible development of the ventral process. These features combined with the overall shape and size of the

vertebra, indicate that it probably belongs to the caudal region of some reptile, possibly a crocodile. .

Measurements (in mm):

Length at the centre	47.25
Diameter of hollow end	29.76
Diameter of ball end	23.00

The present vertebra was found entombed in a sandy to silty, sparse intramicrite containing variable amounts of skeletal debris. The occurrence together of well-rounded intraclasts on the one hand and poorly sorted, entire, skeletal debris along-with large quantities of micrite on the other, suggests that the limestone was deposited essentially in a protected nearshore environment e. g. lagoon, in which there was periodic influx of intraclasts produced in a high energy environment such as a shoal area. In the light of these, it is quite possible that the vertebra under study was brought into the present environment of deposition along with the intraclasts from adjoining shoals or beaches inhabited by crocodiles and other vertebrates by occasional storms. This may also explain why despite thorough search, the other parts of the skeleton were not found in the vicinity. It appears likely that the original skeleton was dismembered by wave action or by any other means on shallow beaches or shoals, and then the fragmented parts were scattered and reworked into the present environment during storms.

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