

## NOTE ON A FEMUR OF BIRD FROM THE UPPER PLEISTOCENE DEPOSITS OF THE SON VALLEY IN CENTRAL INDIA

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### ABSTRACT

A left femur of a bird comparable to that of vulture is recorded from the alluvial deposits of the Son Valley in Central India. The specimen has been found in association with mammalian fossils of the Late Pleistocene age.

**Key words :** Bird, femur, Pleistocene, alluvial deposits, Son Valley (M.P.).

### INTRODUCTION

Birds form a significant component of life in all sorts of ecological niche. It is expected that the picture was not different during the Pleistocene. But fossils of birds are rare, so much so that even the highly fossiliferous Pleistocene deposits of the Narmada Valley in Central India have yielded only a single specimen of fossilized avian bone (Patnaik and Sahni, 1994). This rarity, no doubt, is mainly due to light and delicate nature of birds' bones.

The specimen under study is a fossilized left femur collected from the Upper Pleistocene alluvial deposits of the Son Valley near the village Baghor (24°33'00" : 82°19'30") in Sidhi district, Madhya Pradesh (fig.1). The Quaternary deposits in this area occur in a narrow belt bounded in the north and south by the Vindhyan and extended for about 70 km east-west. The alluvial deposit exposed at the Baghor section is about 25m thick. The formation yielding the Bird bone is a fining upward, highly

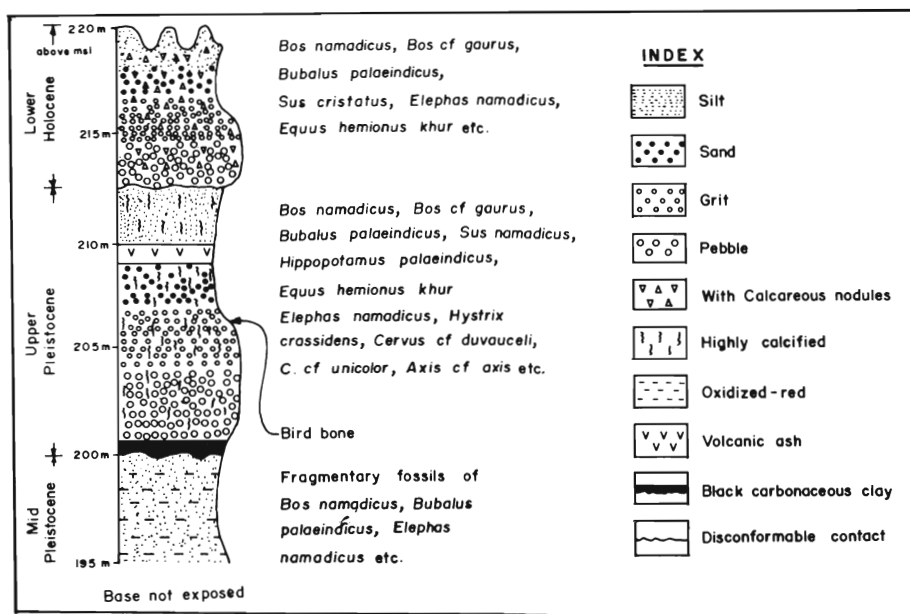


Fig. 1. Quaternary section along the nalah near Baghor, Distt. Sidhi, M.P., India.

calcified sequence containing a volcanic ash bed and a lot of mammalian fossils. The specimen has been found in association with mammalian fossils of *Bos namadicus*, *Bos cf. gaurus*, *Bubalus palaeindicus*, *Sus namadicus*, *Hippopotamus palaeindicus*, *Elephas namadicus*, *Equus hemionus khur*, etc. of the Upper Pleistocene age (Dassarma and Biswas, 1977).

## DESCRIPTION

The femur bone is stout and comparatively short. The distal end of the femur (fig.2) is missing,

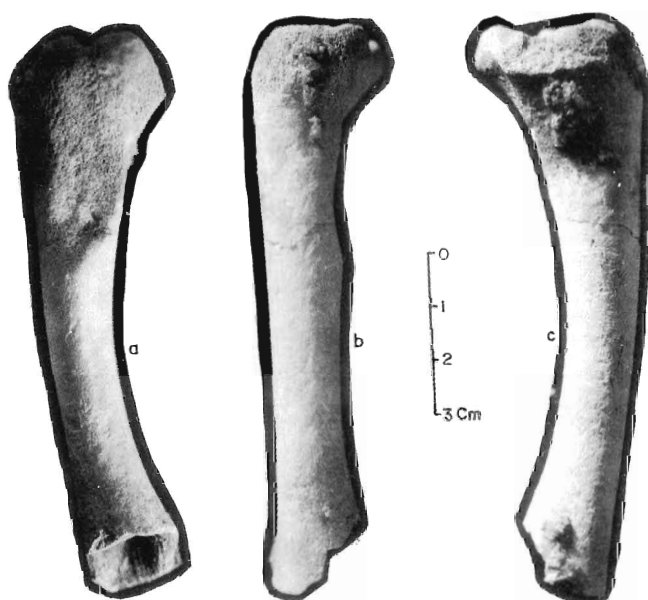


Fig. 2. Femur of bird from the Quaternary Section at Baghor in the Son Valley, M.P., India.

a. Posterior view b. Lateral view c. Anterior view

trochanter and head are also abraded. Head is oriented nearly perpendicular to the axis of the shaft. Shaft is fairly curved in posterior/anterior view and straight in lateral view. Trochanter is feebly developed. Cross-section of the shaft at the midpoint is almost circular. Posterior excavation on the shaft below the head is fairly deep and large. However, the bone as a whole is circular in cross-

section with smooth surface and shows less development of keels and facets. Measurement of the specimen (Table 1) is not accurate due to missing state of the distal end besides the ill preservation of the proximal end.

Table 1: Comparative measurement (mm) of the femur of (1) the Son Valley specimen (GSI, CR, A 1466), (2) *G. barbatus* (mounted in the Veterinary College, Nagpur) and (3) *Gymnogyps kofordi* (condor UF63513, table 3 and calculated from fig. 8 in Emslie, 1988).

	(1)	(2)	(3)
Length- (proximal end to root of the distal expansion) (proximal to distal end)	105	82	106
Proximal breadth	32	31	35.5
Proximal depth	26	22	29
Least breadth shaft	13	12.5	16
Least depth shaft	13	13	16.7

## DISCUSSION

The size of the femur compares well with that of the Indian vulture *Gypaetus barbatus*. Smooth nature of the bony surface is also comparable to that of the vulture. Indian vulture is a large heavy bird with more of flying and less of walking activity. This is possibly manifested in stout and comparatively short femur with smooth surface. Femur of the New World condor is also stout and comparatively short (Emslie, 1988); however, femur is not considered by Dr. Emslie a remarkable element for specific diagnosis.

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