

host and to Prof. J. N. Rai, Botany Department, Lucknow University for encouragement. One of the authors (NM) is indebted to CSIR, New Delhi for financial assistance.

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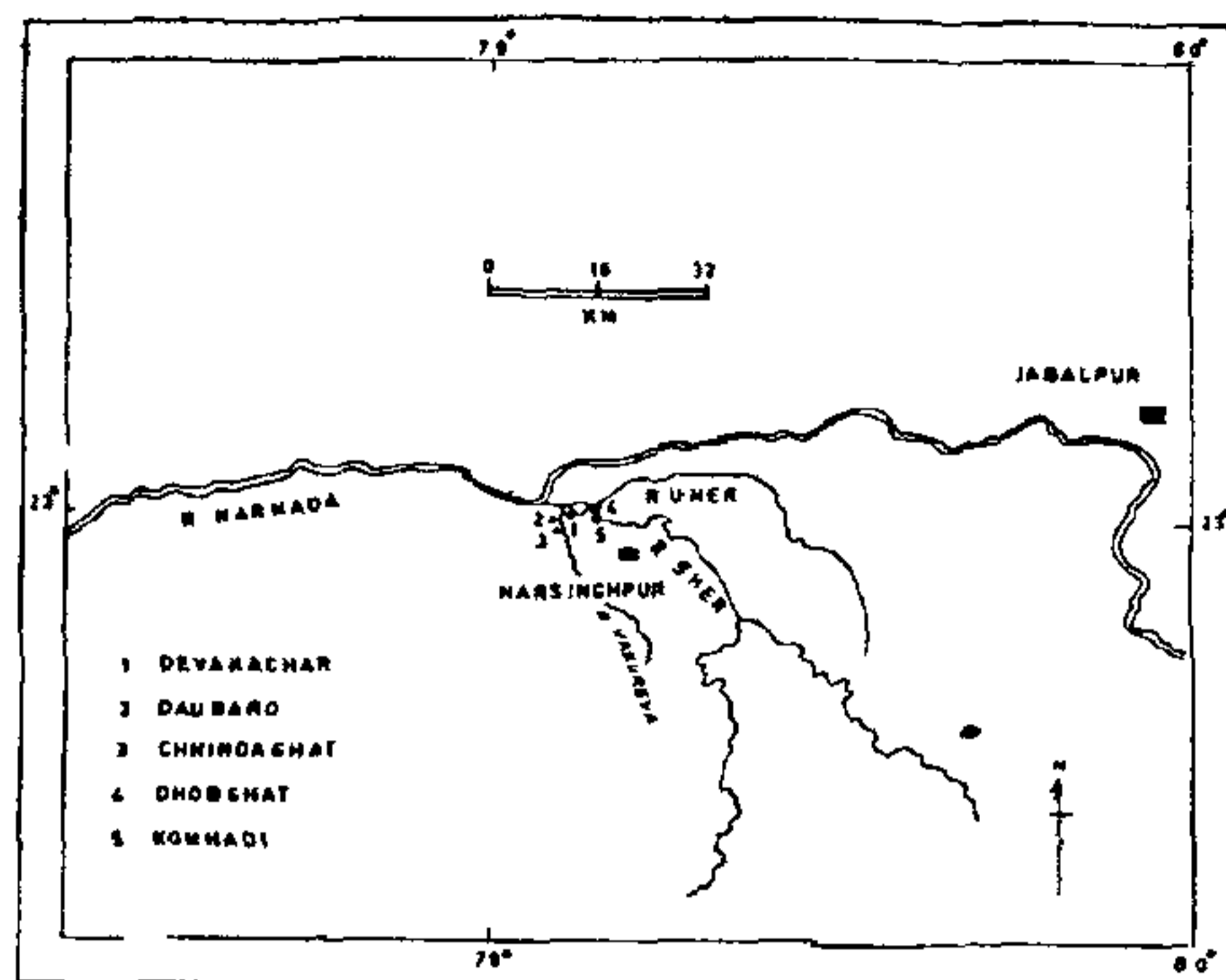


Figure 1. Map showing fossiliferous sites around Narsinghpur.

SOME NEW FOSSIL SITES ON THE CENTRAL NARMADA VALLEY, MADHYA PRADESH, INDIA

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THE Central Narmada Valley has freshwater sediments rich in mammalian fossil treasure in the country next only to the Siwaliks of northwest India. These deposits are known to geologists, palaeontologists and prehistorians since more than a hundred years and have yielded numerous vertebrate fossils, the important ones being *Ursus namadicus*, *Bos namadicus*, *Bubalus palaeindicus*, *Leptobos frazeri*, *Cervus duvauceli*, *Hippopotamus palaeindicus*, *Rhinoceros unicornis*, *Equus namadicus*, *Stegodon insignis-ganesa*, *Elephas hysudricus*, *Elephas namadicus*, *Elephas maximus*, *Crocodylus palaeindicus*, *Pangura tectum*, *Trionyx* and *Emys*¹. Cultural materials of the Early and Middle Palaeolithic periods (hand-axes, cleavers, scrapers, points, burins, blades, etc., made of quartzite, chert and chalcedony) have been found in abundance either in association with the fossils or in close proximity to them^{2,3}.

Broadly, two lithological units can be identified in the valley—the sandy pebbly gravel (Lower Narmada Group) overlain by yellow or red sandy silt and gravels (Upper Narmada Group). The concentration of fossils is in the yellow or red sandy horizon in sections exposed along the Sher, the Umer and the Varurewa streams near Devakachar village in the Narsinghpur district of Madhya Pradesh (see figure 1).

In a recent exploration about 130 vertebrate fossils were collected in Narsinghpur district from various localities, of which four (Chhindaghat, Daubaro, Dhobghat, and Komhdi) are new. Distribution of important fauna from various sites, including the four new ones, explored in a recent survey is given in table I. (see next page)

Some fossils found in the Narmada definitely represent the fore-runners of the present-day animals as can be gleaned from the well-preserved features of the dentition and other osteological parts. The total complex of the faunal remains indicates that the valley was a vast savannah land punctuated by flood plain lakes and swamps in which flourished a vast assemblage of hooved mammals and reptiles. However, there were no significant departures from the existing tropical climate in the area and therefore the valley provided a favourable ecosystem in which some of the animals that migrated from the northwest because of the climatic rigour in the glacial periods of early Pleistocene could survive upto almost 20,000 years ago.

A detailed morphological and palaeoecological study of the fauna is under progress.

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TABLE I
Distribution of fauna in the Narmada Valley (based on recent exploration)

Species	Sites						
	A	B	C	D	E	F	G
	Chhindaghat 22° 59'45" N: 79° 06'45" E	Daubaro 22° 59'53" N: 79° 06'32" E	Devakachar 23° 23'00" N: 79° 07'00" E	Dhobghat 22° 59'48" N: 79° 10'45" E	Komhdi 22° 59'37" N: 79° 10'08" E	Talaiyaghat (Varurewa) 23° 60'00" N: 79° 07'00" E	Umeria 23° 23'00" N: 79° 09'00" E
Proboscidea <i>Elephas</i> sp.	-	+	+	-	-	-	-
Artiodactyla <i>Bos namadicus</i> <i>Bubalus</i> sp. * <i>Bibos</i> sp.	+	+	+	+	+	+	+
<i>Cervus duvauceli</i> <i>Hexaprotodon namadicus</i> ?	-	-	-	-	-	-	-
<i>Hippopotamus</i> <i>palaeindicus</i>	-	-	+	-	-	+	+
Perissodactyla <i>Equus namadicus</i>	-	-	-	-	-	-	+
Reptilia <i>Trionyx</i> sp.	-	-	-	-	-	+	-

* This is the first report of fossil *Bibos* from India. Details will be published shortly.