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**OCCURRENCE OF STONE IMPLEMENTS AND VERTEBRATE FOSSILS AT BARBHANTA (21°56'45":82°47'50", 64K/13) AND LAKHALI (21°54'30":82°46'45", 64K/13) IN BAMNIDIHI AREA, CHAMPA TAHSIL, BILASPUR DISTRICT, MADHYA PRADESH**

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DURING the course of systematic mapping in the Bamnidihi area (Bamnidihi, 21°54'18":82°42'20", 64K/9), SSE of Champa in the Bilaspur District of Madhya Pradesh, the authors have found stone implements, and vertebrate fossils in the Quaternary gravel and calcareous concretionary (Kankar) horizons below the alluvium at several places intermittently all along the southern and western banks of Son *nadi*, a tributary to the Mahanadi river, in the western part of Toposheet No. 64K/13. Stone implements has been found 2 km SSE of Lakhali village (21°54'30":82°46'45", 64K/13), and vertebrate fossils along with the stone implements, 400 m SE of Barbhanta (21°56'45":82°47'50", 64K/13). Vertebrate fossils in the form of partially petrified parts of bones and teeth, and stone implements have also been noticed at Parsapali (21°51'40":82°45'55") on the bank of Son *nadi*. N. K. Dutta, R. Choubey and C. Thanavelu of G.S.I. have found similar occurrences in the adjoining area near Harethi (22°01':82°56'30", 64J/16), Suvadera (22°01'15":82°53'45", 64J/16), and

Putekela (22°05':82°52', 64J/16). These occurrences have been observed for the first time in this area (figure 1).

The gravel, and the calcareous concretionary horizon form part of the Quaternary alluvial zone (terrace), and directly overlie the red-brown calcareous shale with green argillaceous bands and calcareous bands. The shale shows effects of warping and minor shearing or faulting. The calcareous concretionary horizon is about 1 m thick, and is exposed for about 100–200 m intermittently all along the Son *nadi* in this area. The gravel zone is partially consolidated to unconsolidated, and consists of pebbles and gravels of chert, cryptocrystalline (chalcedony) and crystalline quartz, shale, and laterite and bauxite set in a sandy or gritty matrix. The stone implements occur within this gravel.

The stone implements are of various shapes and sizes. They vary from small flakes, chips or blades to bigger chisel, chopper, borer and hammer-like forms. They are characterized by conchoidal facets and sharp edges artificially carved from mainly cherty rock. At Lakhali, some crude forms and seemingly unused cherty rock pieces and boulders are also found. The implements are mainly made up to chert, and less predominantly of agate, chalcedony, flint, and ortho-quartzite. The shape and size of the implements suggest a Pre- to Palaeolithic age<sup>1</sup>.

The vertebrate fossils are in the form of partially petrified and preserved bones of different parts of different animals, which include jaws with teeth, hind limbs, horn, etc. These and their fragmentary finds have been found on the upper exposed part of the gravel zone, and the calcareous kankary horizon of the alluvium e.g. SE of Barbhanta and north of Putekela.

Preliminary palaeontological study of 9 specimens of parts of the bone fossils and horn cores, and 15 specimens of stone implements has been done by Shri A. Sonakia, Geologist (Sr.), Geological Survey of India, Palaeontological Division, Nagpur (figure 2A, B). It is concluded that the fossils collected greatly resemble the one collected from the base of yellow clay in Narmada Quaternary sediments, and might represent the upper-Pleistocene period. None of the fossils resemble human form, but the possibility of an upper pleistocene man yet to be recorded from the sub-continent increases. The palaeolithic industry, here, has a varied combination of Acheulian industry with chopper type tools.

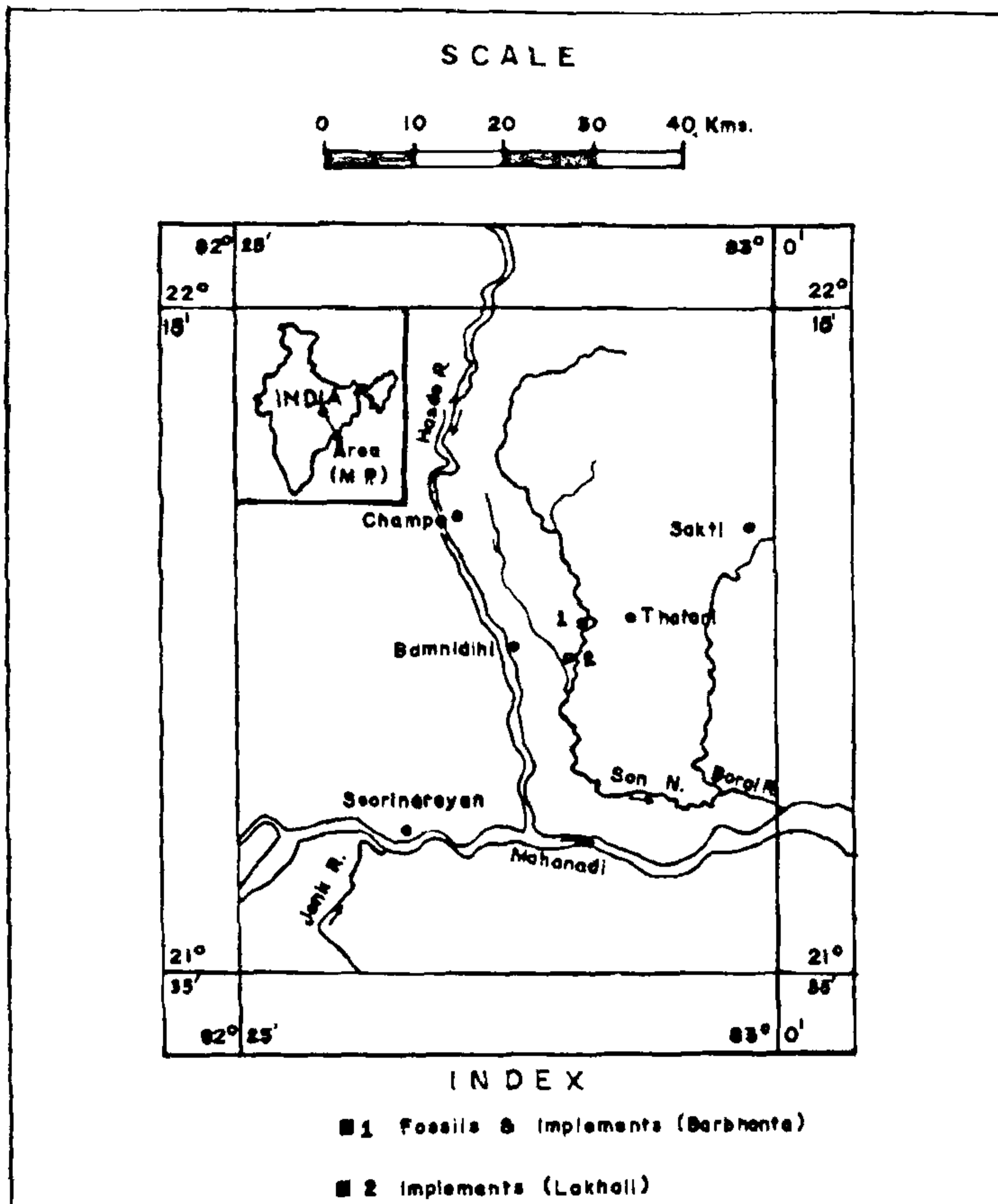
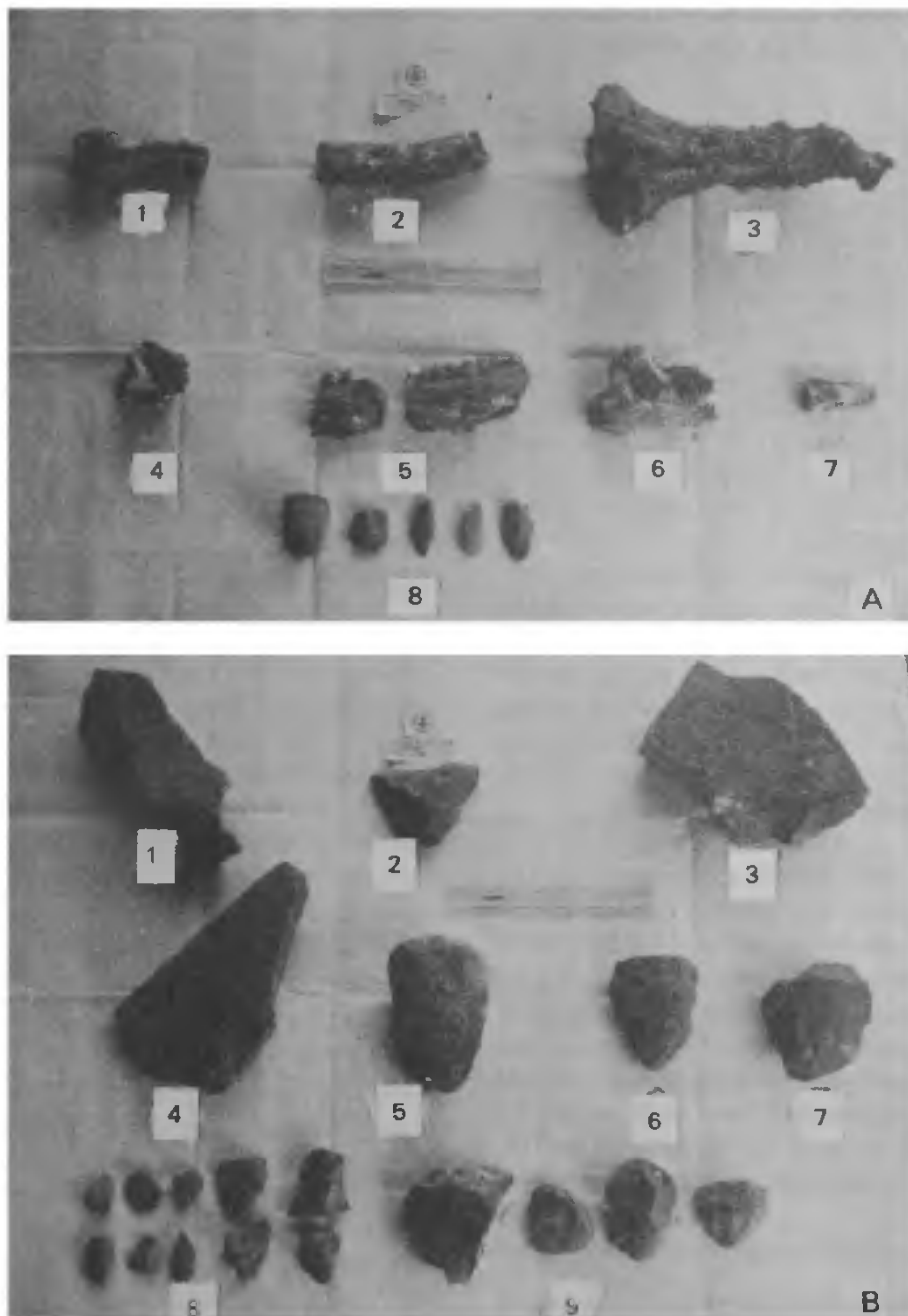


Figure 1. Location of stone-implements and vertebrate fossils in Bilaspur District.

During regional geological traverses in the adjacent area, the chert and quartzite beds have been found in association with the calcareous shale-(non-calcareous) shale sequence SSE of Thatari ( $21^{\circ}55'45''$ : $82^{\circ}49'30''$ , 64K/13). This is about 2 km east of Son *nadi* locations of the implements. Associated with the chert are some clayey greenish rocks which may be tuff.

The occurrence of stone implements and vertebrate fossils in the Son *nadi* alluvium (belonging to the major Mahanadi basin) clearly indicates a relationship between them. At this stage, it may be deduced that the primitive man inhabited this valley. This find will open a new vista for search of fossil hominid in this area in the light of the find in the Narmada valley in a similar set up.



**Figure 2A, B.** A. (Collection from SE of Barbhanta). 1. Distal end of Metatarsum of *Cervus* sp. (Deer); 2. Piece of Horn core of *Gazella* sp.; 3. Tibia of *Bos* sp.; 4. Proximal end of limb bone of *Bos* sp.; 5. Part of left mandible of *Cervus* sp.; 6. Scapula/Humerus bone of sp. ind.; 7. Limb bone of *Cervus* sp.; 8. Small flakes of stone tools chipped off while attempting to make tools from a block of stone. B. (Collection from SSE of Lakhali). 1. A scraper-like larger form of chert; 2. Flake of an unfinished scraper of chert; 3. Chopper(?) like unfinished tool of chert; 4. (?) a heavier form like chopper of chert; 5. A pebble tool of ortho-quartzite; 6. Scraper or a small hand axe; 7. Flake with attempts to make a cleaver of chert; 8. Flakes of chert; 9. Unfinished chopper and other tools and flakes of chert.

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