

**OCCURRENCE OF LOWER PALAEOLITHIC ARTEFACTS IN  
THE PINJOR MEMBER (LOWER PLEISTOCENE) OF  
HIMACHAL PRADESH**

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The author is engaged in the study and systematic collection of vertebrate fossils from the Upper Siwalik Formation along the foothills of the north western Himalayas since 1965. During the field investigations in January 1975, in parts of Nalagarh Tehsil, Solan district, Himachal Pradesh, a rich fossil locality was discovered in the lower horizons of Pinjor Member, containing numerous mammalian remains and closely associated human artefacts—like crude handaxes, choppers, scrapers, light duty flakes and other pebble tools. The present note records the result of the preliminary field and laboratory studies of the material.

The earliest record of human artefacts on the Siwalik platform dates back to Middle Pleistocene 'Pre-Soan Industry' from the Boulder Conglomerate stage of Soan valley in Pakistan (De Terra, 1939). In the eastern extension of the area in India, along the Siwalik hills, palaeolithic artefacts have been reported from the Beas river terraces in Kangra district and Sutlej-Sirsa river terraces in Solan district, H.P. (Lal, 1953). Lower Palaeolithic implements of pebble chopper type have recently been reported from Terrace (Ti) of Ghaggar river near Chandigarh (Sahni and Khan, 1964) and a number of tools and one bifacial scraper from the Markanda river terrace (T3) of Sirmur district, H.P. (Joshi and Khanna, 1974). All these terraces rest unconformably over the Siwalik Formations and range in age from Middle Pleistocene to Recent.

The picturesque outcrops of the Upper Siwalik beds along the southern bank of Sirsa river, five kilometres south of Nalagarh, are famous for their vertebrate fossils. The formation, comprising a conformable sequence of sandstones, conglomerate and clays is several hundred metres thick and is divisible into three members viz., Tatrot, Pinjor and Lower Boulder Conglomerate Members on the basis of their gross lithologies and corresponding vertebrate faunal assemblages. Wadia (1951) suggested Upper Pliocene (Astian) age to the Pinjor Member whereas Pilgrim (1944) opined a Villafranchian age to this member on faunistic basis. According to the recent studies conducted in the area by Sahni and Khan (1968) the geological age of the different members has been established as, Tatrot: Upper Pliocene (Astian), Pinjor: Lower Pleistocene (Villafranchian), and Lower Boulder Conglomerate: Lower Pleistocene. Vertical stratigraphic thickness of Pinjor and Lower Boulder Conglomerate Member as measured along the Kheri (Long. 76°: 42' Lat. 31°: 01')—Jhiran (Long. 76°40' Lat. 31°00') section is 450 metres (Fig. 1). The formation met with in the present locality is the southwestern extension of the Pinjor beds found in the type locality of Pinjor, and is about 30 kilometres from Pinjor town.

The material under study was collected from a site in the Kheri area, located near the lower part of Pinjor Member, containing highly fragmentary but well fossilised remains representing about a dozen mammalian species, within an area of 75 sq.

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metres. Closely associated with these fossilised bones were found about 45 fresh artefacts comprising Abbevillian type of handaxes, unifacial and bifacial choppers and scrapers, one discoid and several rounded pebble tools. The artefacts are made of quartzite and chert pebbles and cobbles (Fig. 2). Significant feature of the artefacts is that they lack retouching and are of crude typology. Some of the tools were excavated *in situ* from the sandstone/conglomerate bed. The site also yielded unmodified quartzitic pebbles (five to ten cm in diameter), about 50 in number, scattered around the fossil remains. The locality has been designated as GSI 107 for future studies.

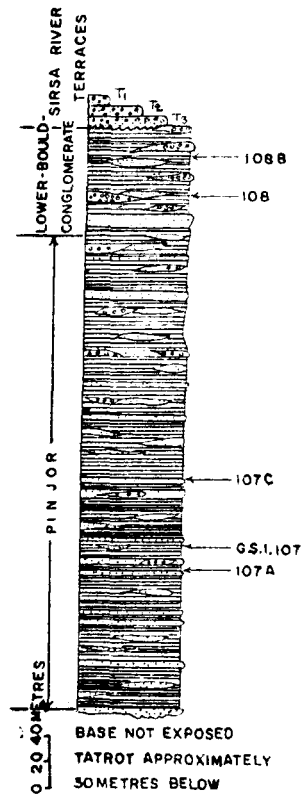


Figure 1. Lithostratigraphical column of the Pinjor/Lr. Boulder conglomerate deposits along Kheri-Jhiran section.

Nearly 20 metres below and 45 metres above this site, in vertical section, two more levels also revealed similar pebble tools along with fossil bones. About 220 metres vertically above this level and near the contact zone of Pinjor and Lower Boulder Conglomerate Members, a fourth level yielded a number of crude artefacts of the above type as well as two bifacial scrapers cum choppers and a multiple faceted discoid, with comparatively improved workmanship. This indicates a slow and gradual evolution in the culture and topology of the artefacts through the long depositional history of Pinjors.

The following is the up-to-date check list of the important mammalian forms present in the Pinjor Member of the present and the adjoining area, and which are

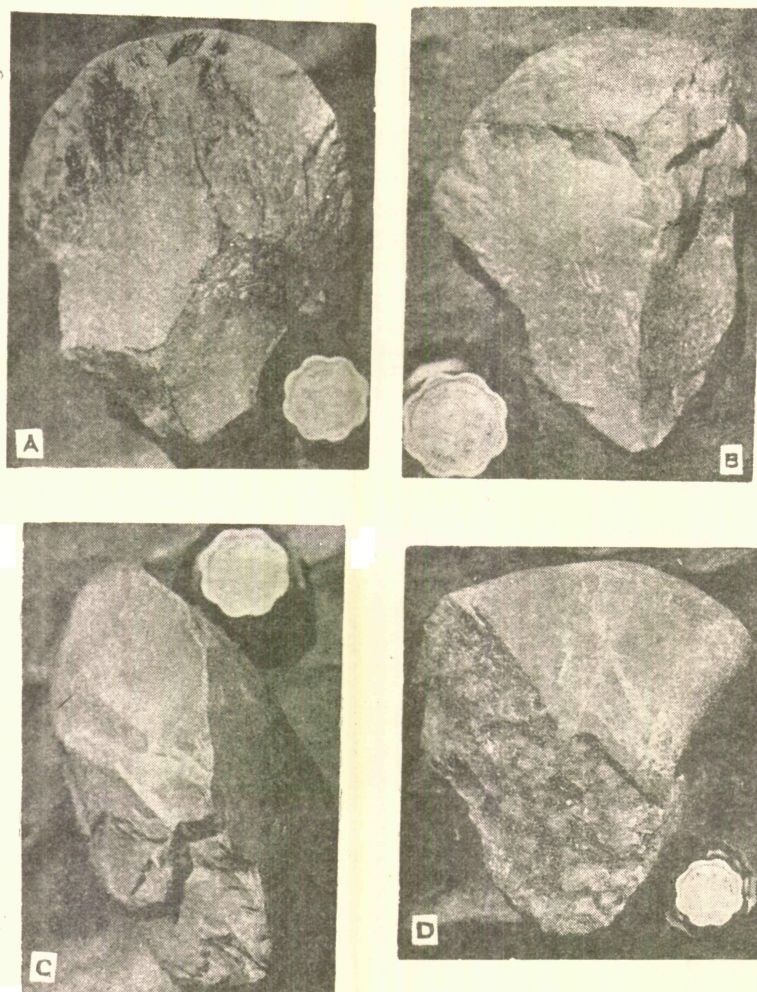


Figure 2. Quartzite pebble tools from locality GSI 107, Pinjor member (Lower Pleistocene), Nalagarh, H.P.

a. A rounded pebble tool. b. A pointed chopper.  
c. & d. Unifacial chopper types.

present in the collections of the Punjab University, Chandigarh and the Geological Survey of India, made during the last 15 years.

*Stegodon insignis-ganesa* F & C; *Archidiskodon planifrons* F & C; *Elephas hysudricus* F & C; *Equus sivalensis* F & C; *E. Punjabiensis* F & C; *Rhinoceros palaeindicus* F & C; *R. sivalensis* F & C; *Potamochoerus palaeindicus* F & C; *Sus hysudricus* F & C; *Dichoryphochoerus sahnii* Srivastava and Verma; *Camelus sivalensis* F & C; *Hemibos acuticornis* F & C; *H. triquetricornis* Rutimeyer; *Cervus punjabiensis* Brown; *Bos acutifron* Lydekker; *Procynocephalus pinjorii* Verma; and *Sivatherium giganteum* F & C.

These forms reflect on the age and varied fauna that flourished on the Siwalik platform during the Pinjor time. The bone heaps of the locality GSI 107 under study contain forms like *Equus sivalensis* F & C; and *Hemibos* sp. characteristic of Pinjor Member along with *Cervus* sp.; *Camelus* sp.; *Canis* sp.; *Rhinoceros* sp.; *Gazella* sp.; *Bos* sp.; and an unidentified large carnivore; a small feline, a giraffid, turtle scutes, etc.

This is perhaps the first report of lower palaeolithic artefacts occurring along with well fossilised bones within the folded Upper Siwaliks.

From the present find it is concluded that the tool making hominid was a contemporary of *Equus sivalensis* F & C (which first makes its appearance in the Siwalik Group in Pinjor Member and is found in profusion) along with other mammalian forms of Pinjor. Detailed study of the material is in progress.

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