First record of Vertebrate fossils from Middle Eocene, Bandah Formation, Jaisalmer Basin, Jaisalmer Rajasthan

During the course of field under RP item no.120 titled *"Search for Vertebrate fauna from Palaeogene of the Jaisalmer Basin and Barmer Basin of Western Rajasthan, India,"* a number of vertebrate fossils, including fossilized bone and fish teeth (mainly shark and ray) have been recovered ***first time*** from greyish-green to khaki color shale and chocolate color siliceous marl of Bandah Formation of middle Eocene age (Lutetian).

The area of investigation area is occupied by the rocks of Cenozoic succession viz, Sanu, Khuiala and Bandah Formations. The Khuiala Formation unconformably overlies Sanu Formation and comprises a sequence of argillaceous to calcareous rocks including foraminiferal limestone, bouldery limestone, bentonitic clay, fuller's earth in Lower Member and massive crystalline limestone, fossiliferous chalky limestone in Upper Member. Bandah Formation overlies the Khuiala Limestone, with a gradational contact and comprises a sequence of gypseous bentonitic clay (at the base), ochreous marly layers, fossiliferous bioclastic limestone, fragmental limestone, hard compact fine grained crystalline limestone rich in large foraminifers.

Kumar et al., (2007) discovered assemblage of the early Eocene (Yprisian) fish from the Khuiala Formation. However, Bandah Formation of Jaisalmer Basin was never studied for its vertebrate content.

The fossils have been recovered from the Bandah Formation exposed, 2 km. NE of Bandah village, (N 27°09'0.2"; E 70°28'08.7") falling under SOI T.S No.40I/12.

Fossilized bones, mainly broken part of Jaw and vertebrae are identified as marine mammal (primitive whale?). The jaw is about 14 cm in size; only alveoli (Plate-1 Fig. A) are preserved. The vertebrae are complete size varies from 4 cm to 8 cm (Plate-1 Fig. B, C & D).

The fossilized teeth are identified as different genera of shark mainly *carcharias sp.* (Plate-1 Fig. E)., *Lamna sp.*, (Plate-1 Fig. F)., *Galaeocerdo sp.*, (Plate-1 Figs. G &H)., while the ray are identified as *myleobatis sp.* (Plate-1 Fig. J).

The sharks, ray fish and marine mammal are common in many Cenozoic marine Formations of the world and the vertebrate fossils collected from middle Eocene Bandah Formation of Jaisalmer Basin are similar to those described from, middle Eocene Harudi Formation of Kuchhch Basin.

The study was carried out by the Krishna Kumar, Senior Geologist, Palaeontology Division Geological Survey of India, Western Region, Jaipur. Further work is under progress.

PLATE-I

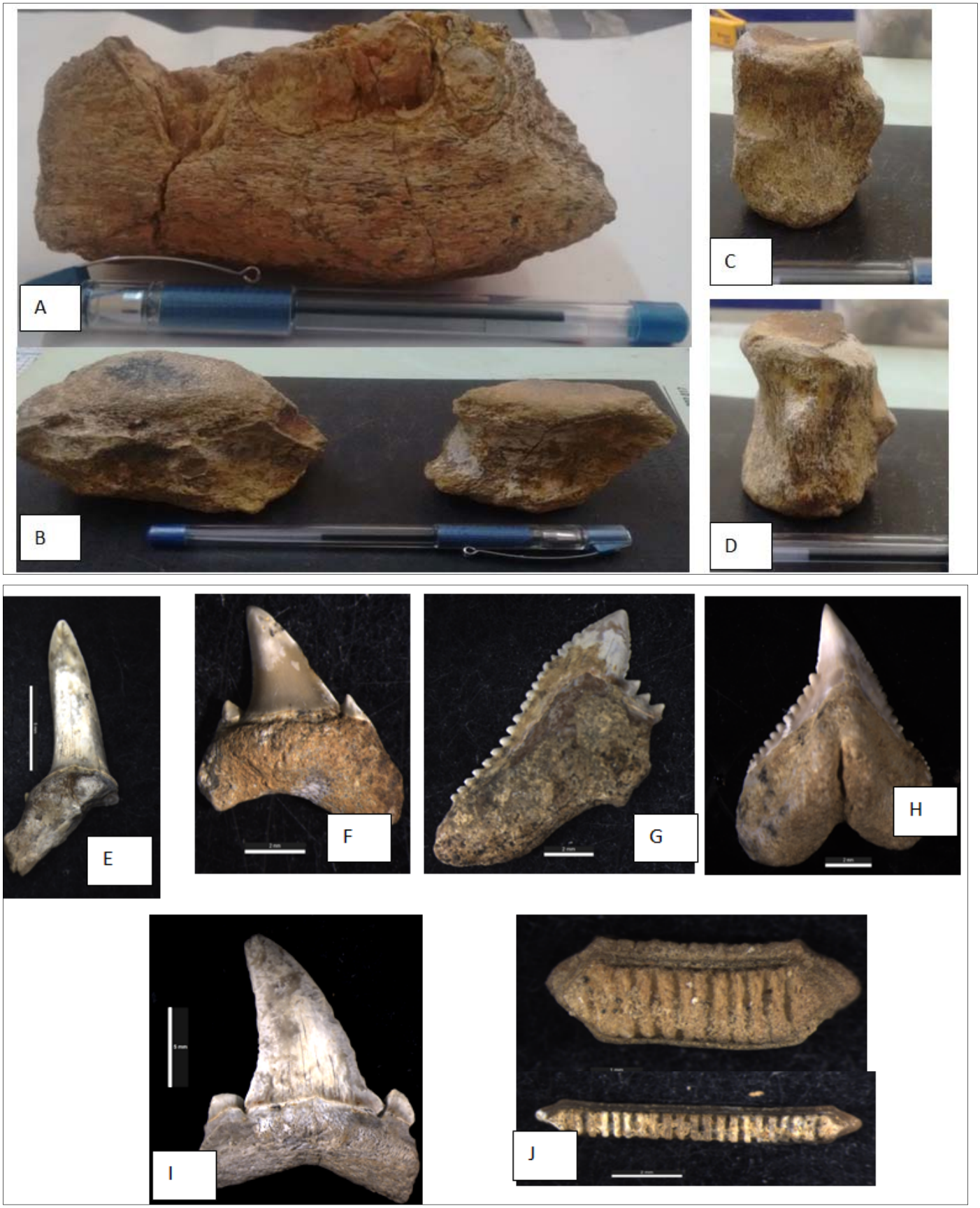

Plate-I. Fig. A. Part of Jaw of **Marine mammal** (primitive whale?). **Figs. B,C & D.** Vertebrae of Marine mammal (primitive whale)., **Fig. E**. Shark teeth identified as ***carcharias sp.,*** **Fig. F.** Shark teeth identified as ***Lamna sp.*** **Fig. G & H.** Shark teeth identified as ***Galaeocerdo sp.,*** **Fig. I.** shark teeth **Fig. J.** Ray fish teeth are identified as ***myleobatis sp.*** collected from NE of Bandah Village, Jaisalmer, Rajasthan.