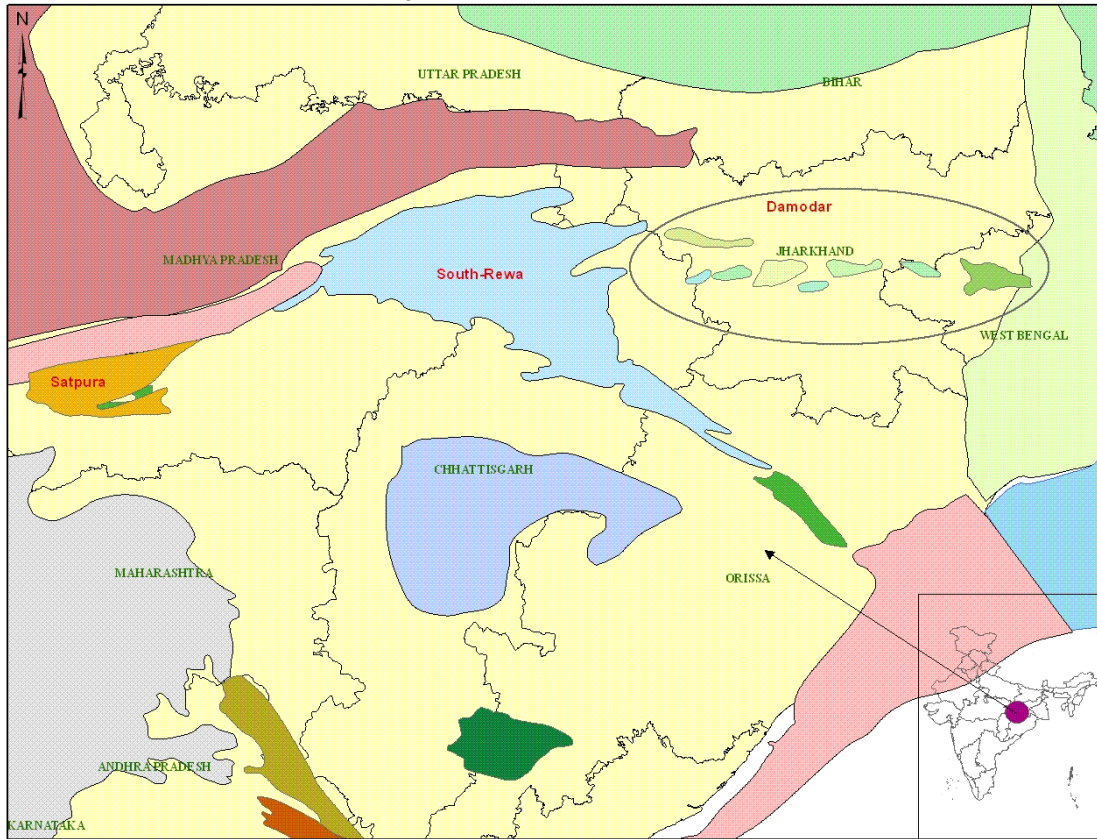


Basin Introduction :

Satpura-South Rewa-Damodar Basin



The Satpura basin is located south of Narmada River and extends from Jabalpur to Lokartalai, Mohapani, The lower Gondwana sediments are exposed in a board syncline whose southern limb is marked by Pench-Kanhan and Tawa coalfields and Mohapani is located on the northern limb. Most of the lower Gondwana tracts are concealed by the Upper Gondwana sedimentary cappings. The Satpura basin is spindle-shaped with a length to breadth ratio of 4:1. The entire area of the Satpura basin is about 1200 sq.km. The shape of the basin is governed by the intersection of the three prominent tectonic trends (i) the ENEWSW fault parallel to the Narmada-Son lineament in the north, (ii) the NW-SE trend confirming to the Dharwar tectonic grain in the west and (iii) the NE-SW trend parallel to the Eastern Ghat tectonic grain. The Matkuli Formation encompasses the Denwa and Bagra stages, which are believed to display intertonguing relationship.

About 490 m thick Talchir Formation is represented by diamictite, light green sandstone, olive green needle shale (varves) and rhythmites. Striated pavement, an unequivocal evidence for glaciation, is recorded from Popas nala near Chordongri beneath a basal diamictite/tillite. Movement of glaciers was towards NW and WNW. Sandstone, carbonaceous shale and coal constitute the Barakar Formation, where upper part only is known to contain economically workable coal seams. Succeeding the Barakar Formation,

along a gradational contact, is the Motur Formation (=Barren Measures) comprising red clay, feldspathic sandstone and grey shale with thin coal laminae. This formation derives its name from Motur village located 18 km SSE of Pachmarhi. The Bijori Formation derives its name from the village of the same name and is said to be the equivalent of the Raniganj Formation. Maximum thickness of the Bijori Formation is estimated to be 1600 m. There is a variation in lithology, i.e. clays are prominent in the east whereas sandstones in the west. Besides *Glossopteris* flora, a labyrinthodont vertebrate *Gondwanosaurus bijorensis* of late Permian age was recorded from this formation.

The type area of Pachmarhi Formation is in Mahadeo hill ranges, where it attains a maximum of 750 m thickness. Thick beds of white sandstones interlayered with pebble beds are the prominent rock units. The Pachmarhi Formation is devoid of any well preserved fossil remains. A 300 m thick Denwa beds (Formation) shows normal contact with the underlying Pachmarhi Formation. Sandstones and clays are prominent lithounits. The latter has yielded plant fossil *Phoenocopsis* along with labyrinthodonts *Mastodonosaurus indicus*, *Metaposaurus* and *Paratosaurus* of Early Triassic to Middle Triassic age. Recent surveys have indicated that the Bagra conglomerates overlie the Denwa clays. The Bagra beds (Formation) are mainly a 180–240 m thick conglomerate sequence of late Triassic age.