

## A note on the occurrence of Deccan Trap outlier over Hutti schist belt, Raichur District, Karnataka

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### Abstract

An occurrence of Deccan Trap outlier over Hutti schist belt of Precambrian age is reported. The traps are found at an elevation of 560m as against their occurrence between 500 and 520m contours north of the Krishna river. This is attributed to an ENE-WSW trending post trappean fault along the present course of river Krishna. A thin spread of waterworn cobbles and pebbles of orthoquartzite, sandstone, slate and chert of Kaladgi affinity is seen below the Deccan Trap.

### Introduction

A basaltic flow of Deccan Trap affinity is recorded over the Hutti schist belt of Archaean age in Raichur district, Karnataka. This new find has some significance in extending the southern limit of the Deccan Trap flows south of the Krishna river. The occurrence of waterworn cobbles and pebbles of quartzite, chert and slate, below the Deccan Trap indicates the existence of an easterly flowing river in this area during Pre-Deccan Trap period.

Two small outliers of Deccan Trap occur about 3 km west of Uti village (16°16' : 76°48'). The contours in this area rise from 440 m to 580 m forming a gently undulating plateau at 560 m above m.s.l. (Fig. 1).

### Geological set-up

Waterworn cobbles and pebbles of quartzite, slate, chert and sandstone are spread over the plateau made up of schistose formations. These are well rounded and are of varied sizes. The quartzite pebbles which are dominant are greyish white and pink in colour, compact and show current bedding structures. The pebble zone is about 1.5 km wide and extends in an E-W direction. Waterworn pebbles of quartzite are also noticed over granite hillocks north of Amareshwar Temple (16°15'30" : 76°34'). Bruce Foote (1876) has described beds of rounded waterworn pebbles mostly of quartzite and less frequently of jasperoid quartzite, sandstone and rarely gneisses, scattered over an area of 2 sq miles near Kachapur (16°05' : 76°25'). He considered the basal conglomeratic beds of the Kaladgi series as the source of the pebbles.

Deccan Trap occurs as two detached outcrops at 560 m contour, covering an area of about 1 sq km. Only one flow has been recognised. The northern of the two flows is about 8 m in thickness while the southern one is about 10 m, thinning out southwards.

### Discussion

River Krishna is the major river flowing in the area. It can be presumed that Krishna river had its course along the pebble/cobble spread zone and gradually migrated northwards. The nearest sedimentary formations are the Kaladgi (Cuddapah) and the Bhima (Lower Vindhyan). The orthoquartzite, slate and chert pebbles are lithologically similar to Kaladgi quartzite and the sandstone pebbles are similar to Bhima sandstone.

Deccan Trap flows occur at an elevation of 500 m to 520 m north of river Krishna, where as they occur at an elevation of 560 m in the area under report. In between these occurrences river Krishna follows a straight course in a N60°E-S60°W direction for a length of about 80 km separating the rugged hilly terrain to the south from the undulating plains in the north. The occurrence of Deccan Trap at different levels on either side of Krishna river may be due to faulting along the river course, the downthrow side being the northern block. Several minor faults with the northern blocks on the downthrow side are observed in the Bhima basin

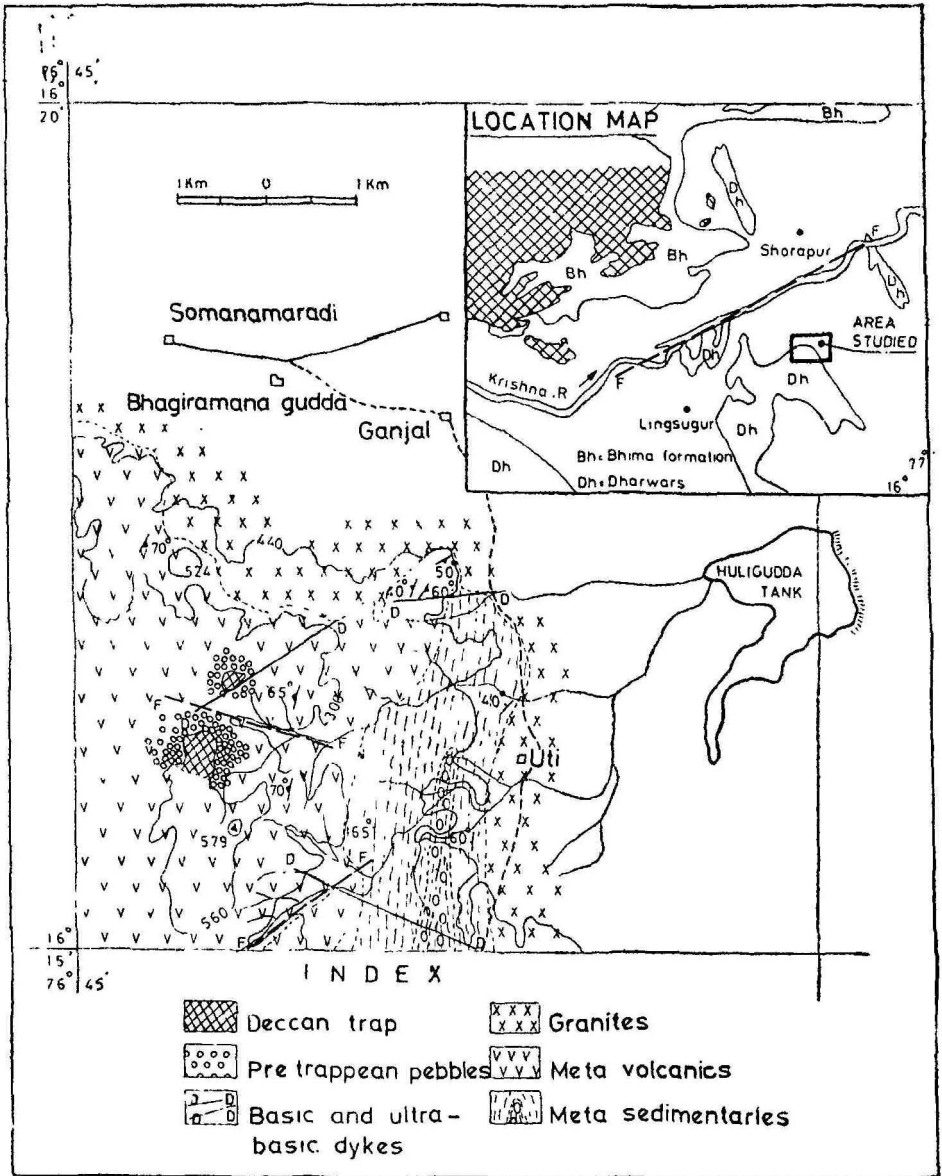


Figure . 1

(Narasimha, 1977). The faulting along the straight course of Krishna river, dislocating the Deccan Trap (marker) is post-Deccan Trap in age.

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