Evaluation of the Protein Components

When the proteins were fairly well resolved and each band could definitely be related to an electrophoretic component the paper was cut into pieces each containing only one component. The dye was then extracted by sodium carbonate solution (5%, w./v.) in methanol (50%, v./v.). The extract was diluted to a definite volume and the optical density of each component extract was measured in an SP 300 colorimeter. In cases, where the resolution of the proteins was not sharp the papers were cut into strips of equal width at right angles to the direction of migration. From the peaks observed the number of components of proteins in the samples was determined and represented diagrammatically (Fig. 1).

The results obtained suggest that the latex of *Artocarpus integrifolia* contains the maximum number of four proteins. On the other hand, the latices of *Carica papaya*, *Euphorbia nerifolia* and *Ficus carica* evince the presence of three proteins each whereas those of *Ficus glomerata*, *Ficus religiosa*, *Ervatamia coronaria*, *Wrightia tinctoria*, *Calotropis procera* and *Calotropis gigantea* show the presence of only two each. The latices of *Euphorbia tirucalli* and *Ficus bengalensis* seem to consist of one single protein.

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Allahabad, *November* 23, 1964.

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ORIGIN OF KATNI BAUXITE BY ALTERATION OF SEMRI SERIES

The bauxite deposits of Katni (Lat. 23° 50′ N.; Long. 80° 24′ E.) cover an area of about 5 sq. km. It is interesting to note that no trace of altered or unaltered trap rocks exists in the Katni area, yet C. S. Fox[1] (1923) thought that these deposits may be an alteration product of Deccan Traps.

The bauxite deposits rest over interbedded limestone and shales of Semri Series (Lower Vindhyans). The authors have come to the conclusion that the Katni bauxite is most probably genetically related to clays or shales of Lower Vindhyan formations. This can be easily explained with the help of the generalised section of Flag Staff Hill of Katni in Fig. 1.

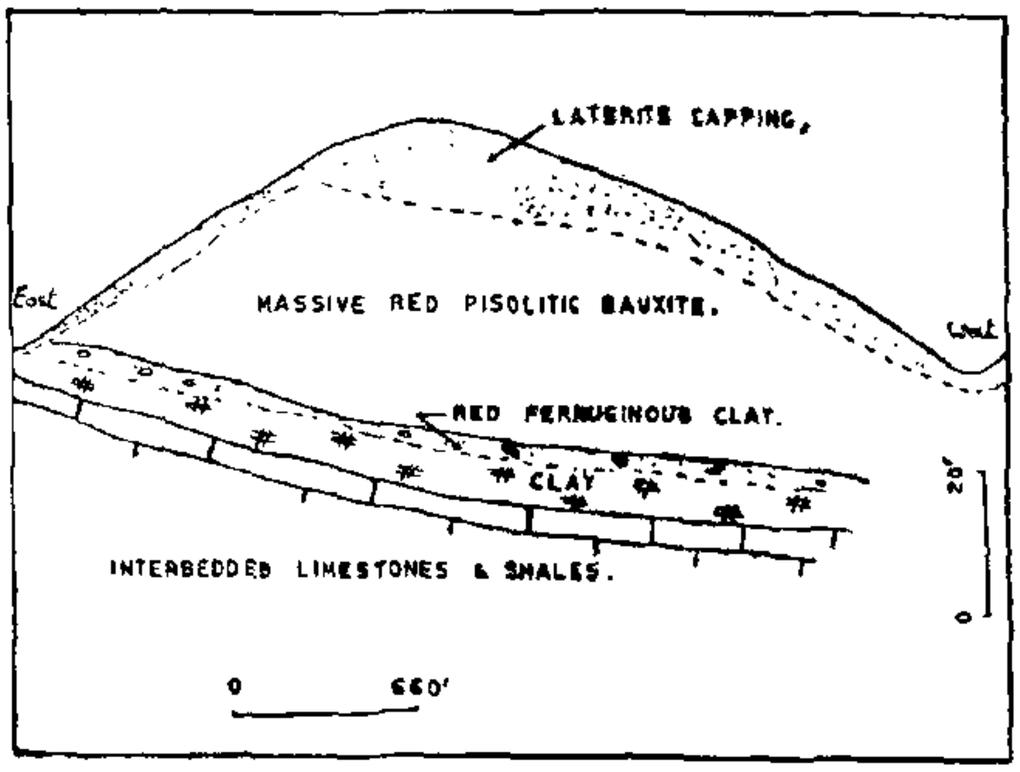

FIG. 1

The bedded nature of bauxite is well seen at village Tikuri, where the whole formation, bauxite as well as the underlying limestone and shale, shows a constant dip of 15° to 18° towards west. When the formations are traced laterally towards north or south, the bauxite occurs as discontinuous bands with the larger dimensions parallel to the regional strike direction. Such discontinuous bands of bauxite are surrounded by argillaceous and calcareous matrix, which invariably contain unaltered relicts of limestone patches or chips. These limestone patches or chips show a marked regularity in their alignment parallel to the regional north-south strike direction.

The bauxite is pinkish to white, mottled with red or brown colour and is pisolitic. Pisolites, varying from pea to walnut sizes, are mainly composed of cliachite and boehmite. Cracks healed up by iron oxide or by chalcedony, are common in these pisolites. The matrix is composed of gibbsite and iron oxide. Brucite in the form of platy aggregates, partly replaced by

iron oxide, has been observed in the matrix of two thin sections of bauxite from Tikuri.

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RELATION OF BASIC DIKES TO FLUORITE DEPOSITS AT CHANDIDONGRI, DURG DISTRICT, MADHYA PRADESH

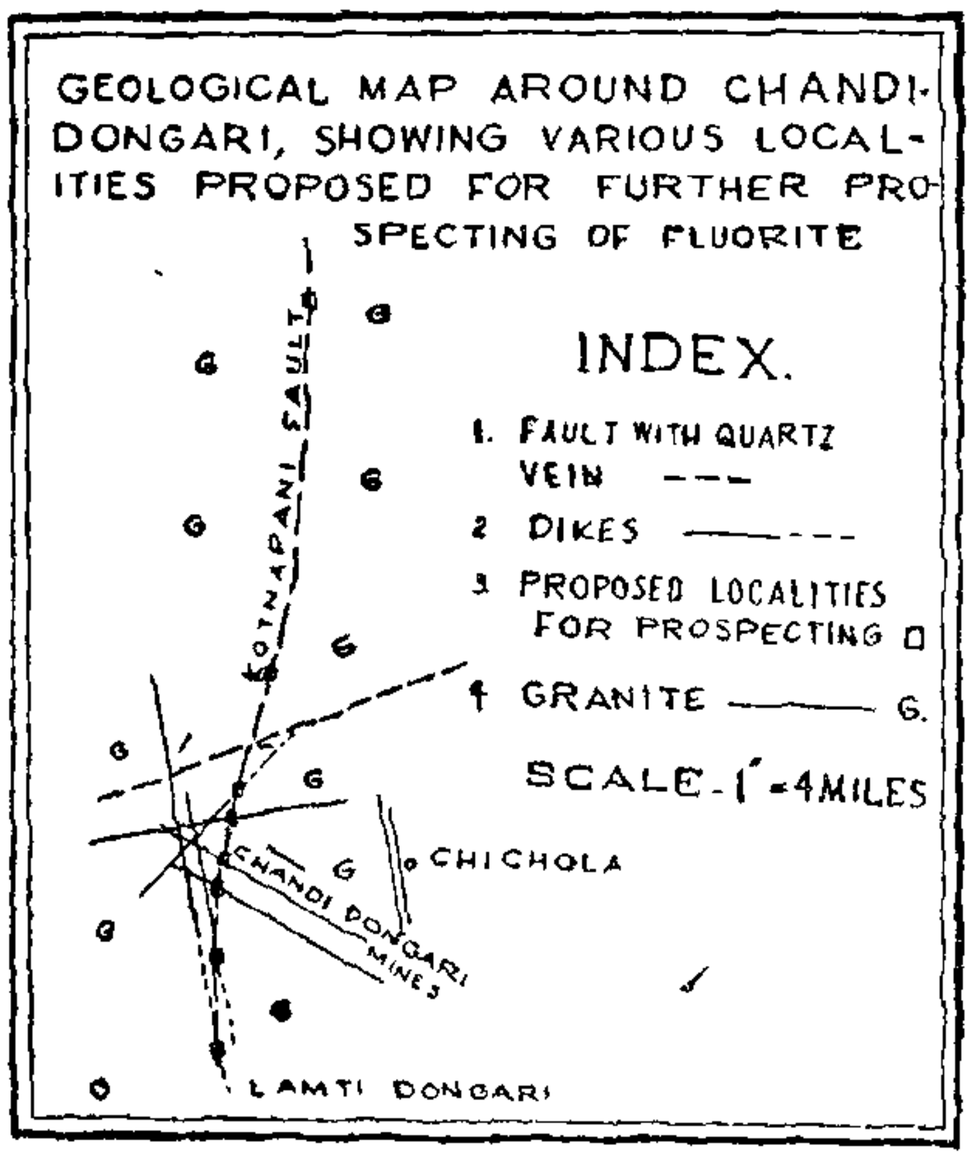
DURING the course of field investigations around the Chandidongri fluorite mine, Durg District, M.P., the author came across some basic dikes which are closely associated with the fluorite deposits at and around Chandidongri. The fluorite deposits of this area occur as separate bodies within the Kotnapani fault (S. N. Sarkar). The country rock is coarse to porphyritic granite. Twelve basic dikes each up to 2 miles in length and 15 to 30 feet in thickness intrude into the granite. A few of them studied under microscope have been found to be dolerite to metadolerite in nature.

At Chandidongri, a dolerite dike having a strike of N 65° W comes in contact with the fluorite deposit towards the west. At this contact it has been deviated parallel to the ore vein for about 400'. On the eastern side it has again followed its original trend of strike. The following evidences prove that the dike is older than the ore:

(1) The dike is brecciated and fragments of the dike rocks are associated with the ore.
(2) The dike is mineralized with fluorite, quartz and galena in the form of narrow veins.
(3) The mineralizing solutions have reacted with the dike rock and have altered it into a green chloritized and silicified rock.

An outer zone of chloritization and kaolinization and an inner zone of sericitization associated with minor propilitization of the country rock are found around the deposit.

This type of rock alteration and structural relation are seen at Lamtidongri and Katnapani. It is obvious that the intersection of dikes and fault plane have provided excellent sites for ore deposition due to intensive brecciation. On the basis of this study, seven localities have been located which are proposed for further prospecting (Map 1).



MAP 1

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OBSERVATIONS ON *MORANOCLADUS OLDHAMI* (ZEILLER)—AN APPRAISAL OF THE GENUS *MORANOCLADUS*

A SPECIMEN of coniferous shoot, collected by T. W. H. Hughes in 1877 from Morand valley in Madhya Pradesh, referred to as belonging to Lower Gondwanas was identified by Zeiller (1902) as *Araucarites oldhami*. While describing this new species Zeiller, however, remarked that the genus *Araucarites* was not known from Lower Gondwanas and that in fact he was not aware of its occurrence from formations below Jurassics. Seward and Sahni (1920) re-examined the specimen (G.S.I. Type No. 7180) and also noted the close resemblance of the shoot with that of Araucarias. However, they observed that "....in view of the age of the fossil and the absence of any Araucarian cone-scales from the same horizon, the generic name *Araucarites* implies excessive confidence in the significance of superficial resemblance. We therefore propose the new name, *Morania*". Later, Sahni (1928) changed the generic name to *Morano-*