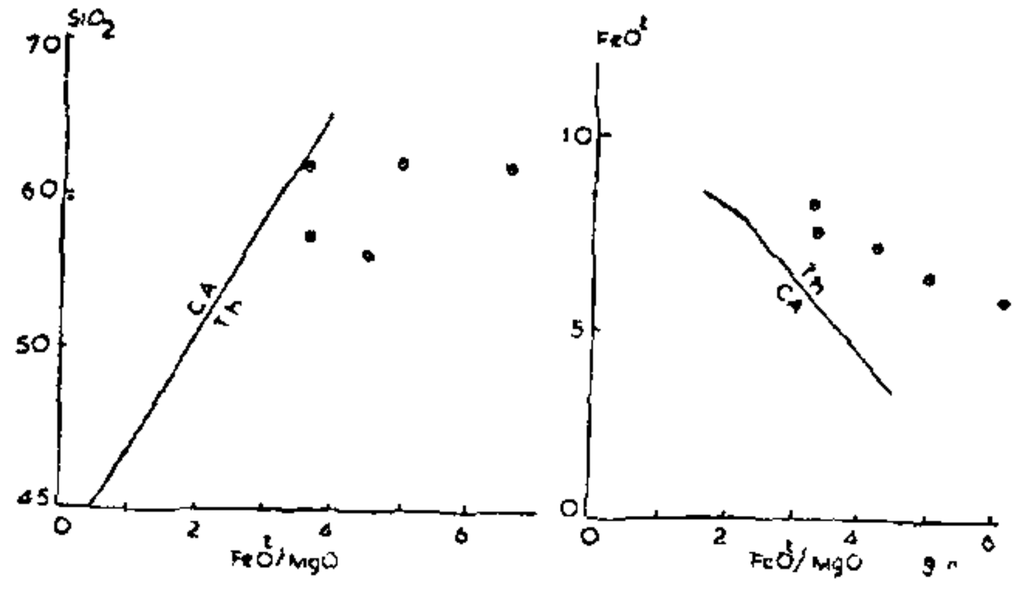

FIG. 1. FeO^t/MgO *vs* SiO_2 and FeO^t/MgO *vs* FeO^t variation diagrams after Miyashiro[7] for dacites of Chitradurga greenstone belt showing tholeiitic line of descent.

Discussion

The Hoskere-Gurusiddapura conglomerates are polymict conglomerates interbedded with meta-greywacke chlorite schist. The formation of such conglomerates under the influence of turbidity currents has been suggested by Sreenivas and Srinivasan[10] and Naqvi *et al.*[11]. The contribution of pene-contemporaneous volcanic rocks to the turbidite sequences is well known. It is suggested that the dacite pebbles have been derived from the pene-contemporaneous volcanic rocks of the Chitradurga Formation, since such rocks have not been noticed in the underlying Javanahalli Formation. The tholeiitic line of descent indicated by the composition of the dacites combined with the extensive geochemical data given by Naqvi[12], and Naqvi and Hussain[13] for the volcanic rocks of Chitradurga schist belt suggests that the volcanic rocks of the Chitradurga belt were emplaced over a thin mafic crust similar to the oceanic side of island arc type continental margin.

The dark colour and greasy appearance of these dacites renders it possible that such rocks are overlooked in the volcanic sequence of Dharwars, with an impression that they may be fine grained metagabbros. A closer examination of the volcanic suite of Dharwars may bring to light many more such occurrences of dacites.

Tholeiite-dacite type of magmatism has been recognised from the Early Precambrian sequences in other parts of the world (Barker and Peterman[14]). Further studies on trace elements and REE composition of these dacites are in progress.

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ANTIBACTERIAL ACTIVITY OF *RHIZOCTONIA BATATICOLA* (TAUB.) BUTLER

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DURING the routine screening of antimicrobial activities in fungal metabolites, the authors noticed the antibacterial activities of culture filtrate of *Rhizoctonia bataticola*. The present paper reports some preliminary data on the antibiotic substance produced by *R. bataticola*.

Material and Methods

The strain of *R. bataticola* used in this experiment was isolated from infected jute (root rot of *Corchorus capsularis*) obtained from the Jute Agricultural

Research Institute, Barrackpore. Cultures were maintained on potato dextrose agar slants at 30° C by subculturing at regular intervals.

For antibiotic screening, *R. bataticola* was grown both on Czapek dox medium and on malt peptone medium; 30 ml of each medium was taken in a 150 ml Erlenmeyer flask. After sterilization, each flask was inoculated with the mycelium of *R. bataticola* at 30° C for fifteen days. Then the flasks were harvested by filtration and the culture filtrates of each type thus obtained were concentrated to one-tenth the volume under reduced pressure. Antibiotic activity of each of the culture filtrates was then tested by cup-plate[1] method on several plates containing nutrient peptone agar medium[2] and each plate was seeded with the organisms *Bacillus subtilis*, *Escherichia coli* and *Staphylococcus aureus*. The well-developed inhibition zones indicated the antibiotic activity.

Another set of experiments was also performed in order to show the effect of incubation period on the antibiotic production by *R. bataticola*. This experiment was done by growing the fungus on Czapek dox medium in several flasks and these flasks (3 flasks *per each set*) were harvested for different incubation periods, *i.e.*, 5, 10, 15, 20, 25 and 30 days respectively. Each set of culture filtrates thus obtained was concentrated to one-tenth the volume and the *optimum period for maximum antibiotic activity* was then determined by testing the culture filtrate of different incubation periods against *Bacillus subtilis*.

In order to show the effect of heating on the activity of antibiotic compound the culture filtrate of 25 days growth (concentrated to one-tenth the volume under reduced pressure) was autoclaved in a stoppered glass tube at 120° C for fifteen minutes and the activity was tested by the 'cup-plate' method described above.

Results and Discussion

The formation of well-developed inhibition zone[3] (19 mm) on plate seeded with *Bacillus subtilis* showed the antibacillus activities of the cultural filtrate of *R. bataticola* growing both in Czapek dox medium and in malt peptone medium. But the culture filtrate fails to produce inhibition zone against *E. coli* and *S. aureus*.

The data on the effect of incubation period on the antibiotic production revealed that there is no production of antibiotic upto 5 days of growth. After this, the production starts, increases gradually upto 25 days and then declines again. The culture filtrate of 10, 15, 20, 25 and 30 days produced a zone of inhibition of 16·5 mm, 19 mm, 20 mm, 25 mm and 19 mm respectively.

The results obtained by the heating effect, on antibiotic compounds activity produced by the 25 days culture filtrate of *R. bataticola* showed a regular zone of inhibition the same size as produced by the unautoclaved culture filtrate (25 mm). These data proved that the antibiotic compound produced by the *R. bataticola* is thermostable. Further research work is in progress to characterise the compound.

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EFFECT OF CYCLOHEXIMIDE ON ISOCITRATE LYASE ACTIVITY IN *NEUROSPORA CRASSA*

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CYCLOHEXIMIDE is an eukaryotic cytosolic translation inhibitor which acts at the level of the 60 S subunit of ribosomes[1–2]. It is used extensively for the studies on the inhibition of *de novo* synthesis of proteins or repressor or inhibition of the induction of enzymes etc. However, the addition of cycloheximide to the growth medium may at times result in an increase in the levels of enzymes (as we have observed in our system) by either inhibiting the synthesis of a repressor or of a protein needed for the turnover of mRNA[5–10]. Because of these reasons cycloheximide may not provide the right answer to the problem. Present study therefore focusses attention on the paradoxical effects of cycloheximide and suggests that the interpretation of the results and the use of cycloheximide or any other protein synthesis inhibitor in a particular system should be done cautiously.

Experimental

Neurospora crassa was cultured and the composition of the synthetic medium used were the same as described earlier[3] from this laboratory. The cell-free extract for isocitrate lyase was prepared by homogenizing the mycelial tissues in 0·1 M Tris-HCl buffer of pH 7·5 at 0° C and centrifuging at 5000 × g for 30 minutes. The supernatant thus obtained was recentrifuged at 15000 × g for 30 minutes. The