

**Short Communication :**

**Effect of manganese on growth of fungi obtained from joda mines of Orissa**

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Seven fungi were isolated from heavy metal mine soils of Joda (Orissa) , India. These fungi exhibited tolerance to manganese salt in broth culture under laboratory conditions. The growth of *Aspergillus* sp. 3 and *Cunninghamella* sp. was found to be more in 0.2% concentration of manganese.

**Key words :** Manganese, Metal tolerance, Fungi, Bacteria , Growth.

SEVERAL bacteria and fungi from different soils have been reported as tolerant to metal ions<sup>1,2</sup>. To obtain metal tolerant strains , an attempt has been made to isolate fungi from heavy metal contaminated soils of Joda mines of Orissa and observe its growth under metal stress in laboratory conditions.

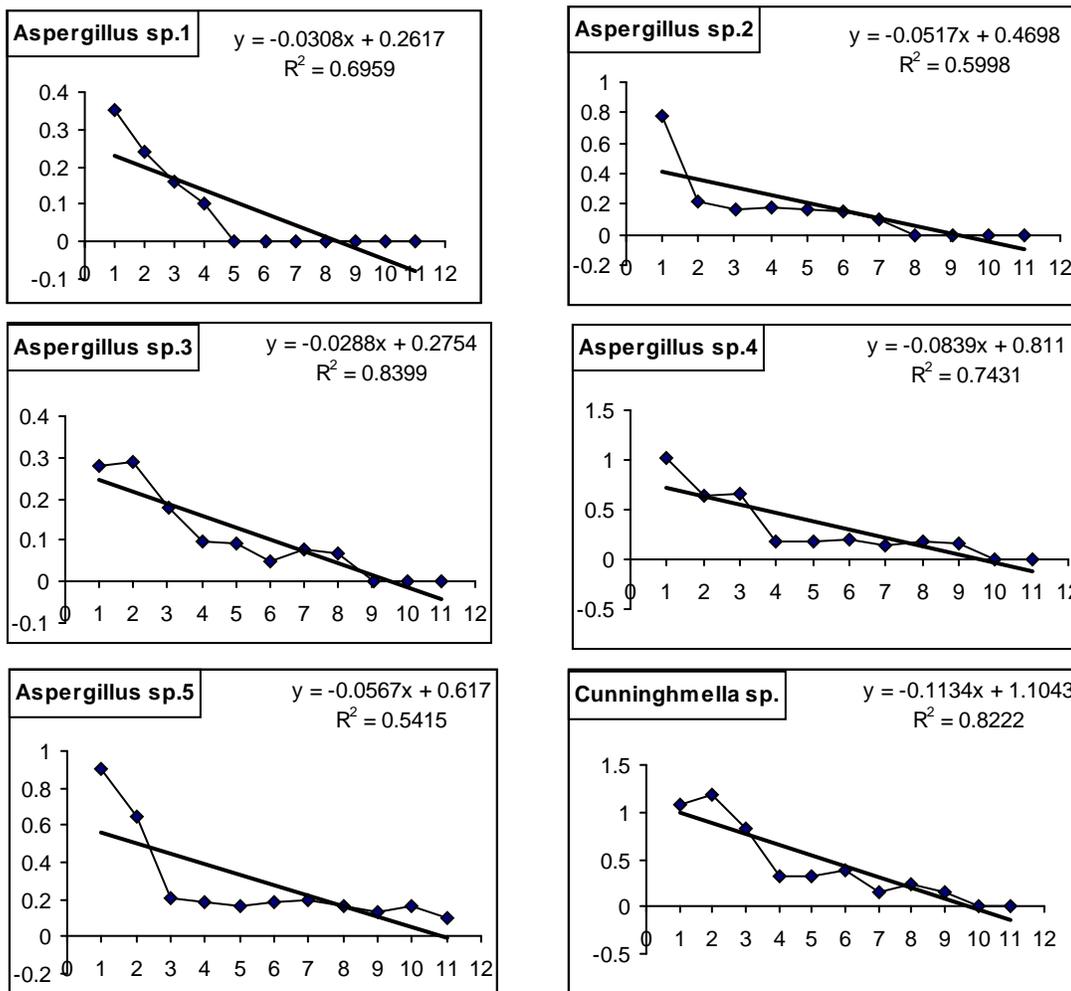
Total 45 soil samples were collected from different locations [A] open cast mine (5 samples), [B] approach to the Quarry (21), [C] upper layer dumping area (9) ,[D] loading point (1), [E] old plantations (10-15 years , 9 samples) of Joda mine of Orissa .

Serial dilution technique was followed for the isolation of

fungi on Mn Agar base (Hi media) consisted of Beef Extract 1g, yeast extract 0.075g, Manganese carbonate 2g, Ferrous ammonium sulphate 0.15g, Sodium citrate 0.15g . All fungal isolates were characterized morphologically.

Effect of manganese on all 7 fungi was studied by adding MnSO<sub>4</sub> in different concentration from 0.2 % to 2 % in Czapek's dox medium of 5.5 pH. The medium without MnSO<sub>4</sub> was treated as control. 10 mm fresh culture disc of the fungi was inoculated into the above 25 ml medium (in triplicate) and incubated for 15 days at 30°C. All experiments were set in triplicate. The dry

**Fig. 1 :** Effect of MnSO<sub>4</sub> on biomass (g) of fungi obtained from Joda mines



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