



## **Isolation, Characterization and Heavy Metal Tolerance Capacity of Indigenous Fungi: A Case Study of Iron Mine Waste**

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**Abstract:** Rapid urbanization and industrialization without proper environmental planning lead to the discharge of toxic heavy metals into the environment. Biological related technologies may provide an alternative or addition to conventional methods for remediation of the contaminated sample. The current investigation was focused to study the fungal diversity of rhizosphere soil, overburden and tailings samples of the iron mining area of Barbil, Odisha, India. Fifteen fungal strains were isolated from collected sample using serial dilution technique and all the isolated strains were screened for metal tolerance assay. The degree of tolerance of fungi was measured by minimum inhibitory concentration in the presence of different concentration of iron. Tolerance analysis depicts that some are tolerant and sensitive. All isolated fungal strains were tolerant up to 600ppm but species of *Aspergillus* and *Penicillium* can tolerate up to 800 and 1000ppm, respectively. Hence, it can be act as a potential agent for bioremediation purpose.

**Keywords:** *Heavy metals; Tolerance potential; Fungi; MIC; Iron*

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