

Isolation and Molecular Identification of Two Fungal Strains Capable of Degrading hydrocarbon Contaminants on Saudi Arabian Environment

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Abstract : In the vicinity of the red sea about 15 fungi species were isolated from oil contaminated sites. On the basis of aptitude to degrade the crude oil and DCPIP assay, two fungal isolates were selected amongst 15 oil degrading strains. Analysis of ITS-1, ITS-2 and amplicon pyrosequencing studies of fungal diversity revealed that these strains belong to *Penicillium* and *Aspergillus* species. Two strains that proved to be the most efficient in degrading crude oil was *Aspergillus niger* (54 %) and *Penicillium commune* (48 %) Subsequent to two weeks of cultivation in BHS medium the degradation rate were recorded by using spectrophotometer and GC-MS. Hence, it is cleared that these fungal strains has the capability of degradation and can be utilized for cleaning the Saudi Arabian environment.

Keywords : fungal strains, hydrocarbon contaminants, molecular identification, biodegradation, GC-MS

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