

## MOLECULAR AND PHYLOGENETIC ANALYSIS OF *RHIZOPUS* ISOLATES BASED ON ITS REGION AND D1-D2 REGIONS OF rDNA \*

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(Received: 16.10.2010; Accepted: 22.6.2011)

### Abstract

For taxonomic studies, 37 isolates of the genus *Rhizopus* obtained from various hosts in Tehran and west Azarbaijan provinces were investigated. Internal transcribed spacer (ITS) region and D1-D2 regions of the large subunit ribosomal DNA were amplified using ITS1/NL4 primer pair. Amplified products were digested with four restriction endonucleases *Hae*III, *Rsa*I, *Hinf*I and *Msp*I and seven representative isolates were selected and sequenced. These and 23 isolates from GenBank were analyzed to determine their phylogenetic relationship. In contrast to the extreme variation of the ITS region and D1/D2 regions of LSU rDNA proved to be valuable in the phylogeny of the genus *Rhizopus*. Based on the results, 37 isolates were divided into three groups, *R. lyococcus*, *R. stolonifer* and *R. oryzae*. *R. lyococcus* is a new record for Iran which is the first report of *R. stolonifer* on nectarines and *R. oryzae* on persimmons and nectarines. *R. stolonifer* on nectarines is a new record for the world.

**Keywords:** phylogeny, species, Classification, Taxonomy, rDNA.

See Persian text for figures and tables (Pages            ).

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\*: A Part of MSc. Thesis of the First Author, Submitted to University College of Aboureyhan, University of Tehran, Tehran, Iran.

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