

ABSTRACT

MORPHOLOGICAL AND GENETIC CHARACTERIZATION OF *Aspergillus* spp. FROM DRIED FIGS (*Ficus carica* L.) IN THE VICINITY OF AYDIN

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Aspergillus genus is one of the most important fungus in filamentous fungi due to their toxigenity, causing degradation on foods, have high adaptation ability to environmental conditions and also common usage in industry. No studies are available to exhibit population structure of Flavi and Niger Group species with the potential to produce aflatoxin and ochratoxin. Therefore, the aim of this study is to exhibit the flora of filamentous fungi from contaminated dried figs in Aydin province and to determine the genetic diversity and population structure of potential aflatoxigenic and ochratoxigenic *Aspergillus* strains using microsatellite markers. For this purpose, dried figs samples were collected from 37 different villages (in October-December, 2010) in Aydin province. The presence of aflatoxin was determined in 3 towns (Nazilli, Köşk and Incirliova) as a result of 360 nm UV treatment of dried figs samples. As a consequence of our study, we have obtained 15 different microfungi species belonging to 10 different genera (*Aspergillus*, *Penicillium*, *Fusarium*, *Cladosporium*, *Alternaria*, *Acremonium*, *Mortierella*, *Rhizopus*, *Trichoderma* and *Trichophyton*) among total of 99 isolates. 72% of the isolates constitute the species belonging to the genus *Aspergillus*. Genomic DNA isolation was performed from common isolates of *Aspergillus flavus* and *A.niger* in Aydin. A total of fourteen loci was studied to determine structure of *A. flavus* (n=15) and *A niger* (n=45) populations using microsatellite markers. Statistical analyses of obtained data have been performed using by Genepop, FSTAT and Genealex Programmes. In conclusion, populations of *A .flavus* ve *A.niger* showed statistically significant genetic structuring through Aydin province.

Key words: *Aspergillus*, dried figs, microsatellite, Aydin.