



## SPECIES BELONGING TO CLADONIA CHLOROPHAEA GROUP DISTRIBUTED IN TURKEY

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### ABSTRACT

Cladonia which is widely distributed on all continents and includes more than 400 species worldwide is one of the most common genus of lichens. Cladonia genus is divided into different groups studied by many researchers in terms of phylogeny. *Cladonia chlorophaea* group includes eleven Cladonia species; *C. fimbriata*, *C. chlorophaea*, *C. humilis*, *C. conista*, *C. pocillum*, *C. hammeri*, *C. pulvinella*, *C. dimorpha*, *C. pyxidata*, *C. magyarica* and *C. momomorpha*. Samples were collected during field studies from different regions and ecological characteristics were noted. The collected samples were examined morphologically and anatomically under stereomicroscope. The characters that are important in the systematics of genus; the anatomy and morphology of the primary and secondary thallus, surface anatomy, branching and morphology of the podetia, vegetative propagules, conidium properties and secondary metabolites. Morphological, anatomical and ecological features of 11 Cladonia species collected from various regions of Turkey have been identified. The distinctive characteristics of the species were determined. It has been compared with the samples outside our country.

**Key words** - Lichen, *Cladonia chlorophaea*, Biodiversity, Systematic

## MATING GENOTYPES AND SUSCEPTIBILITY PROFILES OF CLINICAL ISOLATES OF *CANDIDA GLABRATA* FROM TURKEY

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### ABSTRACT

The sexual cycle of *Candida glabrata* is not known; however, genomic evidence is indicative of recombination among subpopulations and the genome harbors genes necessary for undergoing mating and meiosis, which may increase fitness. The relationship between specific mating type-like (MTL) loci and antifungal susceptibility is not well understood in *C. glabrata*. Objectives: We investigated different combinations of clinical *C. glabrata* isolate mating types and their antifungal susceptibility profiles. Allele profiles of the mating genes of 103 clinical *C. glabrata* isolates were identified and their antifungal susceptibility to azoles, echinocandins, and amphotericin B was compared. The majority (88.3%) of screened isolates harboured the  $\alpha$  allele in the locus. The MTL1, MTL2, and MTL3 loci harbored a (88.3%),  $\alpha$  (95.1%), and  $\alpha$  (71.8%) alleles, respectively. The *C. glabrata* isolates were susceptible to echinocandins but displayed high minimal inhibitory concentrations (MICs) for azoles. The MIC ranges and MIC90 values of all isolates were 1.0– $\geq$ 64 and 8.0  $\mu$ g mL<sup>-1</sup> for fluconazole, 0.06– $\geq$ 16.0 and 0.5  $\mu$ g mL<sup>-1</sup> for voriconazole, 0.06– $\geq$ 16.0 and 1.0  $\mu$ g mL<sup>-1</sup> for posaconazole,  $\leq$ 0.015–0.06, and 0.03  $\mu$ g mL<sup>-1</sup> for caspofungin,  $\leq$ 0.015–0.06 and 0.015  $\mu$ g mL<sup>-1</sup> for anidulafungin, and 0.5–2 and 2.0  $\mu$ g mL<sup>-1</sup> for amphotericin B, respectively. The mating gene alleles of the clinical *C. glabrata* isolates were not associated with differences in the MICs of the tested antifungals, except for the MTL3  $\alpha$ -allele and echinocandins. The mating genotypes of the clinical *C. glabrata* isolates had no recognizable common effect on antifungal susceptibility.

**Key words** - Antifungal susceptibility, *Candida glabrata*, echinocandins, hospitalization, mating, mycoses, MTL locus, Turkey

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