

## **An ubiquitous perspective of the intraspecific diversity of the aquatic fungus**

### ***Articulospora tetracladia***

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The cosmopolitan *Articulospora tetracladia* is a dominant sporulating species on decomposing plant-litter in streams of Northwest Iberian Peninsula. In an attempt to elucidate the intraspecific genetic diversity of *A. tetracladia* of Iberian Peninsula, isolates were attained from various types of substrates from streams of North and Central Portugal and North Spain, between 2000 and 2010. Genetic diversity of these fungal populations was assessed by denaturing gradient gel electrophoresis (DGGE) fingerprints and by using ITS1-5.8S-ITS2 barcodes. The ITS1-5.8S-ITS2 barcodes published at the National Center for Biotechnology (NCBI) or National Institute of Technology and Evaluation Biological Resource Center (NBRC) were retrieved to probe into the genetic diversity of *A. tetracladia* isolated from Iberian Peninsula and other parts of the world (Central Europe, UK, Canada, Japan and Malaysia). The PCR-DGGE of ITS2 region of 50 Iberian fungal isolates distinguished 8 OTUs. The ITS sequences of 68 fungal isolates yielded nine OTUs, but 5 fungal isolates were not assigned to any of these OTUs. The *A. tetracladia* strains did not exhibit cohesiveness based on sampling date or substrate or geographic location. Overall results indicate that, apart Malaysian genotypes, *A. tetracladia* genotypes are geographically widespread irrespective of sampling time, sites or substrates. Moreover, PCR-DGGE appeared to be a rapid tool for assessing intraspecific diversity of aquatic hyphomycetes.

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