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Diversity and genetic relationships in ‘Amaral’ grapevine cultivar from ‘Vinhos Verdes and Lafões’ wine regions

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Abstract

In recent years, the interest on Portuguese grapevine cultivars diversity has increased since the Iberian Peninsula was considered a domestication centre of grapevines. Portugal has a great richness in grapevine cultivars, a similar or higher number than other important wine countries.

Using twelve SSR markers scattered across twelve grape chromosomes, thirty three accessions collected in Vinhos Verdes and Lafões Controlled Designations of Origin (DOC) and supposedly of the grapevine cultivar ‘Amaral’, were analysed. Names present in the prospected ranged from ‘Amaral’, ‘Azal Tinto’ and ‘Sousão Galego’. Eight different genotypes were detected. The higher number of accessions had the genotype attributed to ‘Amaral’. However, three accessions were identified as misnaming cases and four genotypes were considered unknown, as no cultivar identification was achieved. Nevertheless, not only the misnamed cultivars, ‘Vinhão’, ‘Melhorio’ and ‘Touriga Nacional’, but also the four unknown genotypes, ‘Azal Tinto’ (AT2203 and AT2206), ‘Amaral-1’, ‘Amaral-2’ and ‘Sousão Galego’, share at least one allele in each of the 12 SSR *loci* analysed.

The accessions AT2203 and AT2206 were found as possible offspring of ‘Amaral’ and 'Folgasão' and the accession ‘Amaral-2’ is likely result of a cross between ‘Amaral’ and 'Pedral'.

The high number of synonym names that are attributed to ‘Amaral’, like ‘Azal Tinto’, ‘Azar’, ‘Cainho’ or ‘Sousão Galego’ and the fact that it probably has parent-offspring relations with many cultivars, suggests that ‘Amaral’ is an ancient cultivar in the Northwest of Iberian Peninsula and was a very important cultivar in the past.