

## Portuguese traditional grapevine cultivars and wild vines (*Vitis vinifera* L.) share morphological and genetic traits

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**Abstract** Portugal has a long tradition in viticulture and a great number of grapevine cultivars. To analyze the genetic relations among wild vines from Portuguese populations and old Portuguese grapevine cultivars we use morphological traits and chloroplastidial microsatellites from 53 accessions of four distinct populations of *Vitis vinifera* L. ssp. *sylvestris* (Gmelin) and 57 accessions of *Vitis vinifera* L. ssp. *vinifera* from the Portuguese National Ampelographic Collection. Principal coordinate analyses with the scores obtain from the descriptors of both the accessions of *sylvestris* and *vinifera* vines revealed two groups. One group is formed by the wild vine population of Alcácer do Sal and three *vinifera* accessions Rufete, Seara Nova and Trincadeira das Pratas and a second group includes all the other wild

vines and grapevine cultivars. A total of four different chlorotypes (A, B, C and D) are present in the *vinifera* accessions and two in the *sylvestris* accessions (A, B). Chlorotype A is the most frequent in all the plants analyzed and correspond to 75.4% of the grapevine cultivars and 66% of the wild vines. The mixed distribution of chlorotypes in the Portuguese cultivars and the predominance of chlorotype A both in its wild populations and cultivars reinforced the hypothesis that West Europe was a domestication center for *Vitis vinifera* L. ssp. *vinifera*.

**Keywords** cpSSR · Morphology · Multivariate analysis · *Vitis vinifera* L. ssp. *sylvestris* · *Vitis vinifera* L. ssp. *vinifera*

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