

Departamento de Ciências da Vida

Microbe Domestication and the Identification of the Wild Genetic Stock of Wine Yeasts



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Objectives

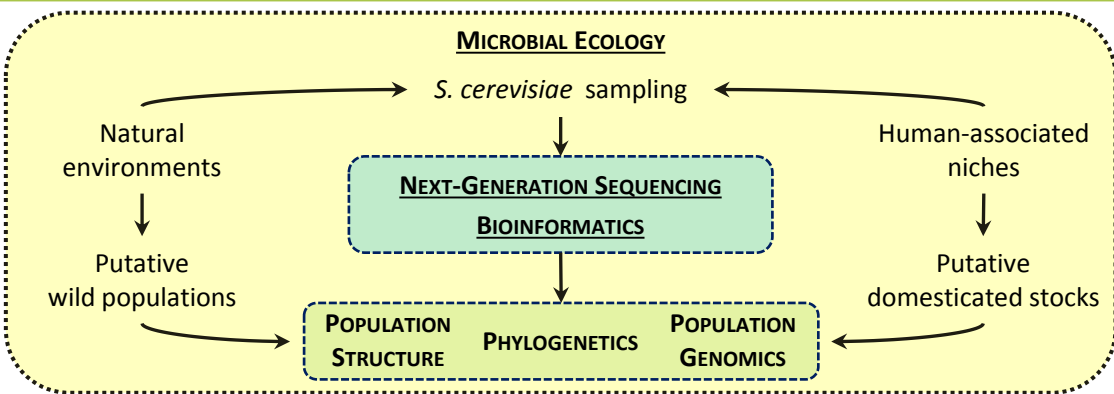
❑ Improve the understanding of the domestication process in a group of biotechnologically relevant microorganisms, the yeasts of the genus *Saccharomyces*.

Specific objectives:

- Compare population biology parameters of wild and domesticated lineages of *S. cerevisiae*
- Identify the wild genetic stock(s) of *S. cerevisiae* that can be associated with wine yeast domestication
- Unveil, in genes that encode domestication traits, the evolutionary processes associated with the domesticated phenotype



Methodology



Expected Results

Hypothesis: the wild ancestors of wine yeasts can be found close the main center of origin and spread of winemaking, the Mediterranean basin

- ❑ provide convincing evidence that Mediterranean wild lineages are more genetically related to domesticated wine yeasts than other lineages

Hypothesis: specific genes that control the changes associated with domestication are evolving differently in wild and wine-related strains

- ❑ phenotypes for these traits in the domesticated wine stock could be distinguished from its putatively wild progenitors, shedding new light on the evolutionary processes associated with the emergence of wine strains

