

## **Ecological factors affecting of fruit set among Euro-Mediterranean orchids**

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Fruit set of plants is an important demographic trait, since it reflects the efficiency of the pollination strategies and it is frequently used as a proxy of plant fitness in evolutionary ecology. Despite the increasing interest of reproductive success, the effect of ecological strategies on plant reproduction remains poorly documented hitherto especially at the scale of a family. Euro-Mediterranean orchids exhibit complex combinations of reproductive and ecological strategies, even at the scale of their different genera. We built here an original database on values of fruit set of 170 Euro-Mediterranean orchid species and we identified different ecological and environmental factors affecting this trait along a large spatial scale. This database is composed of more than 2250 observations of fruit set in natural populations, coming both from published and grey literature, and from observations made by orchid specialists. Nectar production, number and size of flowers, and opening up of the environment were revealed here as the most influent factors on fruit set. Despite potential influences by seed set and efficiency of germination, such information on fruit set allows comparative analysis on functional ecology and provide relevant information for population dynamics and conservation.