

# Comparative study between two aerobiological stations situated in the city of Malaga (southern Spain)

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An aerobiological sampler covers the pollen information of a determined area, whose extension mainly depends on the topography of the territory but, in a city, buildings are the elements that obstruct and re-distribute winds as well as the particles suspended in the air. This is the reason for what several pollen traps are often needed for covering the information in a big city.

Malaga is one of the biggest cities in Spain with a population of more than 600,000 inhabitants. In 1991 a Hirst-type pollen trap was installed in the northwest part of the city (Malaga-Teatinos station), which have been kept operational until nowadays. Additionally, in 2017, a second device (Malaga-Centre station) was installed in the very city centre, 4 km apart from the first. The aim of this work is to search whether or not there are significant differences between the results obtained in the two locations. For that, the samples obtained were mounted and counted following the methodology proposed by the Spanish Aerobiology Network (REA) and the pollen concentrations expressed as number of pollen grains/m<sup>3</sup> of air (daily mean).

Results indicate that pollen spectra are quite similar in both sampling stations. However, we found important differences in the annual amount of pollen recorded, regarding some of the more abundant pollen types in the city, *Amaranthaceae*, *Olea europaea*, *Plantago* and *Quercus* being much more abundant in Malaga-Teatinos, with annual pollen indexes that sometimes triple the obtained in Malaga-Centre. On the contrary, *Pinus* and *Parietaria* reach higher values in Malaga-Centre, especially the last one, with annual pollen index almost four times highest than the obtained in Malaga-Teatinos. Phenology was quite similar in the case of almost all the pollen types with scarce differences in the case of *Olea* and *Parietaria*.

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