

Risk of pollen allergy in Nerja (southern Spain): a pollen calendar

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Abstract An aeropalynological study was carried out in the atmosphere of the city of Nerja (southern Spain) during a period of 4 years (2000–2003), using a Hirst type volumetric pollen trap. An annual pollen index of 59,750 grains, on average, was obtained with 80–85% of the total pollen recorded from February to May, with *Pinus*, *Olea*, Urticaceae, Cupressaceae, *Quercus* and Poaceae being the principal pollen producers in abundance order. A total of 29 pollen types that reached a 10-day mean equal to or greater than 1 grain of pollen per m³ of air is reflected in a pollen calendar. The results were compared with those obtained for nearby localities and a correlation analysis was made between the daily fluctuations of the main pollen types and total pollen, and meteorological parameters (temperature, rainfall and hours of sun). The daily, monthly and annual values reached by the most important pollen types from an allergenic point of view (*Olea*, Urticaceae and Poaceae) confirms Nerja as a high-risk locality for the residents and the numerous tourists who visit the area.

Keywords Nerja · Southern Spain · Pollen calendar · Aerobiology

1 Introduction

The province of Malaga (southern Spain) is one of the most popular tourist resorts in Europe. It is especially known for its coast, the “Costa del Sol”, in which Nerja constitutes an important city, situated 60 km eastwards from the provincial capital. Near the Nerja urban centre is located one of the biggest and most visited caves in the world, the “Cueva de Nerja”, which receives more than half a million visitors every year.

As knowledge of the atmospheric pollen content is considered very useful in the diagnosis and treatment of pollinosis, aerobiological studies have previously been carried out in several localities of the province of Malaga: in the capital (Recio et al. 1998), in the western coast (Recio et al. 2006) and inlands (Trigo et al. 1999, 2000). This, however, is the first study developed in the eastern coast. The station at Nerja forms part of the Spanish Aerobiology Network (REA) and covers information from a wide territory situated between the coastal aerobiological stations of Malaga and Motril, this last in the province of Granada. The aim of this work is to present a study of the atmospheric pollen content of the locality by elaboration of a pollen calendar as well as to show the annual behaviour presented by the different pollen types in order to assess the allergenic potential of this zone of the Costa del Sol. Finally, we will compare the results obtained with other nearby station and its relationship with meteorological parameters will be analyzed.

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