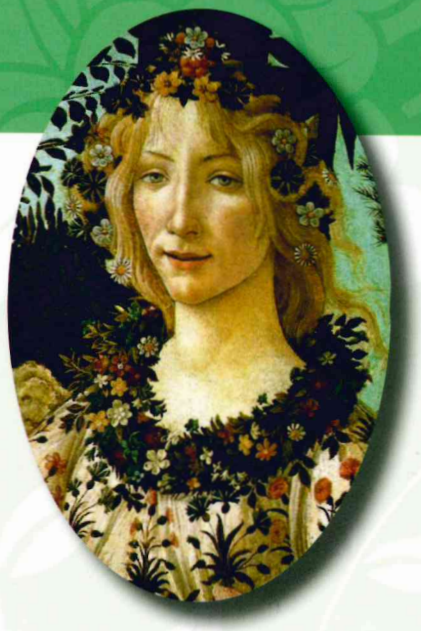

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P.41 - AEROBIOLOGICAL COMPARISON BETWEEN ZAFRA AND DON BENITO (SW SPAIN)

Pecero Casimiro R.[2], Maya Manzano J.M.[3], Tormo Molina R.[2], Fernández Rodríguez S.[4], Gonzalo Garijo Á.[5], Silva Palacios I.[6], Monroy Colín A.[1]

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Two cities in Extremadura region (SW of Spain) as Don Benito (DB) and Zafra (ZA) have been aerobiologically monitored. Surroundings of DB are mainly orchard crops, fruit cultures, grapevine, olive cultures and cereals crops and from ZA are mainly cereal crops, olive crops and some holm oak 'dehesas'. The aim of this work is to develop a first comparison between the two sites using aerobiological data.
Aerobiological sampling was performed using Hirst volumetric sampler during the years 2017 and 2018. Samplers were located in DB on the terrace of the High School Donoso Cortés (6 m above the ground) and in ZA on the terrace at the Hospital Zafra (12 m above the ground). The two places were separated by 75 km in straight line with a little differentiated altitude (DB 278 m - ZA 507 m). Meteorological data were provided from the government meteorological agency (AEMET).
Annual average total pollen concentration was higher in DB than in ZA, with a difference about 20%. The pollen types responsible for these differences were mainly Platanus and Cupressaceae. For the rest of the pollen types values of airborne pollen concentration were similar, including value light higher of Olea and Quercus for ZA and light higher of Cupressaceae for DB.
Airborne pollen records for DB and ZA showed that differences between both places are due mainly to ornamental pollen sources placed in the urban environment around spore trap. The land use around those urban places provides a minor relevance in relation to pollen in the air. Nevertheless, it is necessary to take into account that meteorological factor as wind blowing from pollen sources at the time of pollen shedding may distort a suitable comparison. Notwithstanding, olive crops and holm oak forest around ZA are reflected in the pollen records in comparison with DB with herbaceous crops more abundant around the city.

Keywords: Pollen concentration, Aerobiological comparison, Aerobiological data.

P.42 - PRELIMINARY STUDY OF THE ATMOSPHERIC POLLEN IN 'SIERRA DE LAS NIEVES' NATURAL PARK (SOUTHERN SPAIN)

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'Sierra de las Nieves' is a Natural Park and a Biosphere Reserve located in the south of Spain. This protected area has a high diversity of ecosystems with abundant endangered species which have led it to be in ways to become a National Park. Some of those species have anemophilous pollination strategies such as Abies pinsapo Boiss. and Quercus alpestris Boiss. Since 1991, the Aerobiology research team of the University of Malaga has been sampling and studying airborne pollen in different cities of Malaga province. Nevertheless, a pollen trap had never been installed inside a Natural Park for a continuous sampling process. To complete this missing information, a pollen trap was installed inside 'Sierra de las Nieves' Natural Park in January 2018. The objectives of this study were to determinate the atmospheric pollen behaviour of the main taxa registered during the winter and spring months in this protected area, as well as compare the results with the data obtained by other sampling stations during the same period, searching for significant differences.
The pollen samplings were made by means of a Hirst-type volumetric pollen trap placed on 'Las Conejeras' recreative area (36°39'N, 5°5'W, 1070m a.s.l.) inside the protected area of the Natural Park. The samples obtained were mounted and counted according to the methodology proposed by the Spanish Aerobiology Network (REA).
The high vegetal diversity of 'Sierra de las Nieves' are reflected in the pollen counts. Significant differences ($\alpha = 0.05$) between the samplings obtained at 'Sierra de las Nieves', Malaga (the province capital) and the nearby city of Ronda stations were found regarding to daily pollen concentrations. Until now, these differences were particularly significant for some pollen types such as Cupressaceae and Urticaceae.
The qualitative and quantitative differences between 'Sierra de las Nieves' and other nearby stations can be explained by the different land use, altitude, climatic characteristics and by the distance between aerobiological stations and pollen emission sources. There is an important influence of wind dynamic and others meteorological factors. Due to the natural vegetation in which this station is immersed, some pollen types with abundant nitrophilous species such as Urticaceae are underrepresented in comparison with the levels detected in other urban stations.

Keywords: protected area, endemic species, native species.