Allergen profile of soluble protein fraction of pollen from *Quercus rotundifolia*

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Grasses and olive are the most relevant allergenic species in the Alentejo region. However, aggravation of allergic symptoms has been reported in the early spring, before grass and olive pollen seasons. Quercus pollen is the most abundant pollen type in the early spring in Alentejo, nonetheless its allergen profile has not yet been evaluated.

The aim of this work was to characterize the allergen profile of pollen from *Quercus rotundifolia* the most representative species showing pollination in April, prior to the main pollen season in Alentejo.

Pollen from *Quercus rotundifolia* and *Olea europaea* was extracted with ammonium bicarbonate buffer, lyophilized and stored at -80ºC until analysis. Extract from *Quercus ilex* pollen was kindly offered by Bial. Protein content was determined by the Bradford method. SDS-PAGE followed by western blot, using allergic patient sera (obtained from the Hospital do Espírito Santo de Évora – HESE), were performed to evaluate the allergen profile of the pollen.

Protein profile of *Q. rotundifolia* has shown several bands in the Mr 10-94 KDa, mostly overlapping with *Q. ilex*. Western blot have shown 9 immunoreactive bands, identified in the Mr (7.5, 11.7-12.6, 18.7-19.0 and 20.9-23.6, 29.2-33.3, 40.9, 51.7, 75.9 and 83.7 KDa). Protein profile according to the pI showed four immunoreactive bands in the pI range 4.0-6.1. Cross-reactivity between *Q. rotundifolia* and *O. europaea* was found.

These results evidenced allergens found in *Q. rotundifolia* pollen. It also shows that protein profile of *Q. rotundifolia* and *Q. ilex* are mostly alike suggesting that similarities in allergen profile are expected. Moreover, cross–reactivity between *Q. rotundifolia* and *O. europaea* was found which probably contributes for aggravation of pollinosis in the early spring.

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