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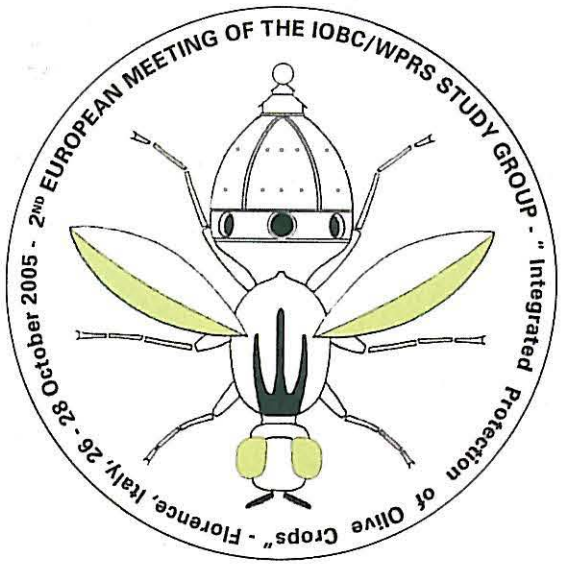

Abstract book

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DISTRIBUTION AND SPATIAL PATTERN OF *SAISSETIA OLEAE* (OLIVIER) ON THE OLIVE TREE IN THE NORTHEAST OF PORTUGAL

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The black scale, *Saissetia oleae* (Olivier), is a major olive tree pests throughout Portugal. In order to improve the knowledge on the pest population dynamics, as a basis for its optimal control, a study was conducted in the northeast region of the country on the within-plant distribution of the various insect stages and the spatial pattern of these stages on the host tree. The experimental work was carried out from April 1997 to December 1999, on two olive groves located near Mirandela, unsprayed for several years and non-irrigated. In each grove, ten trees were random selected and eight twigs about 30 cm in length were collected from each tree, on a biweekly basis from April to November and monthly from November to April. Twigs were taken from the four cardinal points and inside and outside of the tree canopy. A sub-sample of 20 leaves and 20 cm of branch was obtained from each of such samples and the scales present were counted, distinguishing the various stages of development and their position on the leaf (lower and upper side) Taylor's power law and Iwao`s patchiness regression technique were user to analyse the spatial pattern of the insect. The results showed that the immatures were located mainly on the lower side surface of the leaves, whilst the adults were preferentially located on the branches. In general, the number of scales was higher inside the tree canopy, but no preference was shown in respect to the cardinal points. The spatial pattern of *S. oleae,* which could be adequately described by Taylor's power law and Iwao`s regression methods, was generally aggregated. Also it was shown that the degree of aggregation decreased with the development of the insect and, in general, was higher in the inside of the tree canopy and in the lower side surface of the leaves.