

Spiders (Araneae) community associated with the olive tree canopy, in Alentejo (Southern Portugal)

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Abstract: For more sustainable agriculture regimes it is important to maintain and protect the occurrence of beneficial arthropods. This objective requires a better knowledge about their occurrence and composition, contributing for the development of plant protection strategies with less negative effects to the environment. Since spiders (Araneae) seem to be one of the main arthropod predator groups in olive groves, the objective of this study was to gain insight on this community occurring in the canopy of olive groves from Alentejo (South region of Portugal), an ecosystem that could be considered relatively undisturbed at the time of this study. During two consecutive years, 1999 and 2000, four olive groves, located near Évora, were sampled for arthropods. Spiders were collected from the canopy by beating tree branches using a modified japanese umbrella device. Sampling was done weekly between March and November in 1999, and between April and November in 2000. In each sampling period, two branches from each of 60 trees per grove were randomly selected for sampling. A total of 15808 individuals were captured along the sampling period, mainly immature stages, and 6927 were identified to belong to 14 families. The most abundant were, by decreasing order: Thomisidae (23%), Philodromidae (18%), Linyphiidae (15,8%) Araneidae (15,4%), Salticidae (10,5%) and Theridiidae (7,3%). The remaining families, Clubionidae, Dictynidae, Gnaphosidae, Lycosidae, Miturgidae, Oxyopidae, Pisauridae and Tetragnathidae, accounted for less than 10% of the captures. The most captured species were the active hunter philodromid *Philodromus buxi* Simon, the orb-web weaver tetragnathid *Tetragnatha obtusa* Koch and the sheet-web weaver linyphiid *Diplocephalus graecus* (Cambridge). Second year captures raised about 50% related to the ones accounted in the first year. Nevertheless, spiders were present during all the sampling period, with Linyphiidae and Thomisidae (in 2000) being captured in high numbers in June, while Philodromidae numbers seemed to be higher during the summer period.

Key words: Aranea fauna, olive tree canopy.