A SURVEY OF BLACK SCALE, *SAISSETIA OLEAE* (OLIV.), PARASITOIDS IN TRÁS-OS-MONTES REGION (NORTHEAST OF PORTUGAL)

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The black scale, *Saissetia oleae* (Oliv.) (Hom.: Coccidae), is a polyphagous species particularly dangerous for Mediterranean olive-growing, mainly due to its ubiquity. Central to the development of any sustainable strategy of protection against the pest is a comprehensive study about its natural limiting factors, namely its natural enemies. In order to contribute for a better knowledge on the diversity and abundance of the parasitoid complex of *S. oleae* in Trás-os-Montes region (northeast of Portugal), surveys carried out in the region, between the end of summer and the beginning of autumn, in the period from 1997-1999. A total of 388 olive groves were sampled during the above mentioned years: 121 in 1997, 187 in 1998 and 80 in 1999. At each grove two twigs of two years old were collected from each of five random selected trees. The twigs were stripped of their leaves and a representative sample of 100 leaves was kept in the laboratory for the parasitoid emergence. Seven Hymenoptera species were identified, namely: *Coccophagus lycimnia* Walker, *Coccophagus semicircularis* Förster, *Metaphycus flavus* Howard, *Metaphycus helvolus* Compere, *Metaphycus lounsburyi* Howard, *Scutellista cyanea* Motschulsky and *Scutellista nigra* Mercet, and two hiperparasitoids *Marietta picta* (André) and *Pachyneurum muscarum* (Linnaeus). *M. lounsbouryi* was the most abundant species in 1997 and 1999, representing 62.4% of the 1500 specimens recovered in 1997, and 39.6%, of the 921 recovered in 1999, whereas *C. lycimnia* was the most abundant one in 1998, representing 27.4% of the 1018 individuals recovered this year. *M. flavus*, *C. semicircularis* and *S. nigra* were also common species. The most frequent species was *C. lycimnia,* found in 35.3% of the groves sampled, followed by *S. nigra*, found on 31.1%. *M. lounsburyi* and *M. flavus* were present, respectively, in 22.9 and 22.0% of the groves. *M. picta* was the less abundant and frequent species with only four specimens recovered in two samples.

Key-words: *Saissetia oleae*; parasitoids, natural control; sustainable olive growing

This work was partially financed by the project AGRO 236 "Protecção contra pragas em olivicultura biológica"