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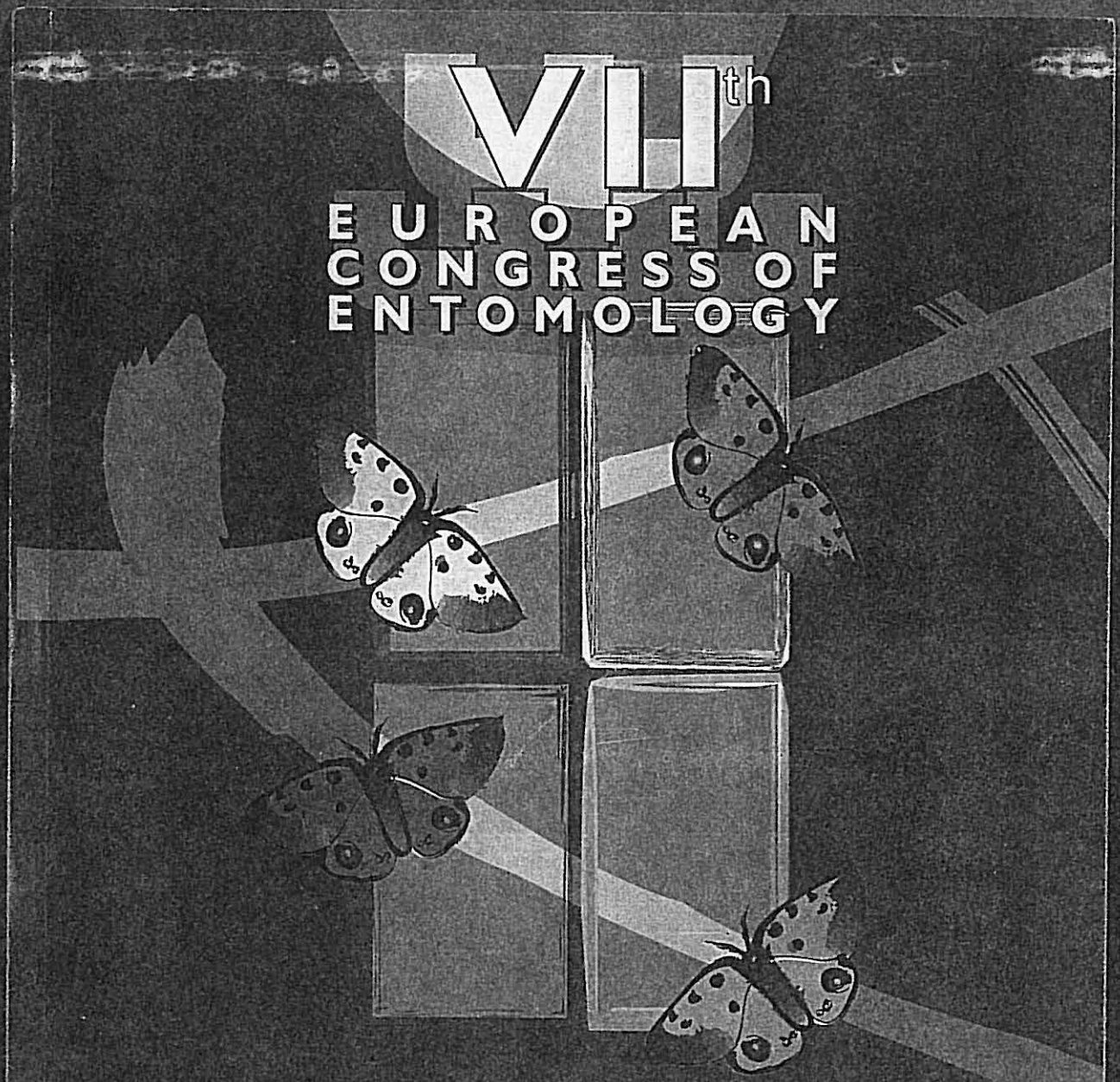

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CONGRESS ABSTRACTS

194

I. Salmane

Long-term investigations of soil dwelling Gamasina mites (Acari, Mesostigmata) in the pine forests of Latvia

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Soil dwelling predatory Gamasina mites are one of the pedobiont groups, which have a valuable importance in the soils because of their position in the food chains and, hence, they are frequently used in the environmental monitoring research as indicators of the respective soil conditions. Investigations of Gamasina mites in the Pinetum myrtilosa on sandy podzolic soils in the North Vidzeme Biosphere reserve near Mazsalaca (25°00'10"/ 57°30'30") were made during 1992-2000. Sampling of soil dwelling Gamasina mites was made at three differing aged pine forest stands. These were 30-40 years (young stand), 50-70 years (middle stand) and 150-200 (old stand) years of age. The sampling interval was annual (once-a-year in August). Several characteristics of the respective stands (soil structure and relative soil humidity, average air temperature per month, vegetation cover) were investigated as well. Number of Gamasina individuals and species composition were investigated, as well as species diversity index H' (Shannon's index), species eveness (E), species richness (S) and dominance structure were calculated. Altogether 41 Gamasina species were registered. The most frequent were Pergamasus vagabundus, Veigaia nemorensis, Parazercon sarekensis, and Prozercon kochi. The highest species richness (34 species) was found for old pine forest stand, but the least (24 species) for young pine forest stand. Differences in Gamasina species composition amongst pine forest stands were found. The highest number of individuals was stated for middle and the lowest for young pine forest stand, however, differences in the numbers of individuals amongst stands were not significant. Dynamics of the numbers of individuals, species richness and species diversity index H' of Gamasina mites and soil ecological conditions were observed and correlation found, although some individual species deviate from that realtionship.

Index terms: predatory mites, Pinetum myrtilosa, species composition, dynamics.

195

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Diversity and abundance of ants (Hymenoptera: Formicidae) associated with the olive agroecosystem in the northeast of Portugal

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Several studies indicate the importance of ants (Hym., Formicidae) in the olive orchard ecosystem, namely the contribution of these organisms for the biodiversity of the ecosystem and their influence in the distribution and abundance of other invertebrate groups. The olive orchard is one agrarian ecosystem with a great representation in Trás-os-Montes (Northeast of Portugal). The present work aims to contribute to the knowledge of the biodiversity and the abundance of formicidae associated with olive orchards. This work was performed from April to November of 1999, 2000 and 2001. Various representative olive orchards were sampled. A total of 84 samples were collected, of which 13 in 1999, 49 in 2000 and 22 in 2001, from different parts of the ecosystem extract – soil, trunk and tree canopy. A total of 15 593 specimens of formicidae belonging to three subfamilies, 15 genera and 26 species were collected. The identified species, in decreasing order of abundance, were: Crematogaster scutellaris (Olivier 1792), Messor barbarus (Linnaeus 1767), Tapinoma nigerrimum (Nylander 1856), Tetramorium semilaeve André 1883, Cataglyphis hispanica (Emery 1900), Cataglyphis iberica (Emery 1901), Camponotus piceus (Leach 1825), Formica subrufa Roger 1859, Lasius niger (Linnaeus 1758), Messor bouvieri Bondroit 1918, Crematogaster auberti Emery 1869, Formica cunicularia Latreille 1798, Camponotus lateralis (Olivier 1792), Messor lusitanica Tinaut 1985, Pheidole pallidula (Nylander 1849), Camponotus cruentatus (Latreille 1802), Proformica nasuta (Nylander 1856), Camponotus foreli Emery 1881, Lasius brunneus (Latreille 1798), Leptothorax angustulus (Nylander 1856), Aphaenogaster iberica Emery 1908, Camponotus aethiops (Latreille 1802), Colobopsis truncatus (Ito 1914), Gonioma sp., Plagiolepis pygmaea (Latreille 1798) and Leptothorax recedens (Nylander 1849). C. scutellaris was the most abundant specie on the tree trunk, although T. nigerrimum, was the most abundant on the tree canopy and M. barbarus was observed principally in

the soil where it was the most abundant specie. Gonioma sp., P. pygmaea and L. recedens were the less abundant species with six, two and one specimens collected in the total samples.

Index terms: Crematogaster scutellaris, Messor barbarus, Tapinoma nigerrimum.

196

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Characterization of natural Swedish wetland types by mosquito diversity

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Mosquitoes form an obvious faunistic component of wetlands and humid forested areas. Knowledge on biology and life-history is available for most species, and these characteristics can be linked to habitat characteristics, and vice versa. The aim of the present study was to characterize common natural wetlands by their mosquito diversity. Three wetlands types were selected in the lower part of the Dalalven river in Central Sweden: alder swamp wood, alluvial sedge meadow with Salix bushes, and bog bordered by pine trees. A large and a small representative were chosen for each type, resulting in six study areas in total. Adult female mosquitoes were collected with CDC miniature light traps baited with dry ice on two nights per month from May to September 2000 and 2001, employing three traps per study area. We found highest mosquito diversity and abundance in alder swamps and alluvial sedge meadows. Within the same wetland type, the large wetlands produced more mosquitoes than the small wetlands. The mosquito species compositions were more influenced by wetland type then by wetland size, as could be seen by cluster analysis and correspondence analysis. The three wetland types had characteristic mosquito species compositions. Differences in mosquito faunas between the two years were caused by different flooding patterns of the Dalalven River.

Index terms: mosquitoes, diversity, wetlands, cluster analysis, Sweden.