ZOOGEOGRAPHY AND FAUNISTICS Posters and Abstracts:

DENDROPHILOUS COCCOIDS (HEMIPTERA: COCCOIDEA) OF THE WALNUT-FRUIT FOREST AREA OF KYRGYZSTAN.

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A study of dendrophilous coccoid fauna of the walnut-fruit forest area of southern Kyrgyzstan (the Fergana and Chatkal mountain ranges) was undertaken. Forty-five coccoid species were discovered belonging to 27 genera and 6 families: Diaspididae (9 genera, 18 species), Coccidae (9 genera, 15 species), Pseudococcidae (6 genera, 9 species) and Margarodidae, Eriococcidae and Ortheziidae (1 species each). The scale insect fauna contains 9 species which are basically from Central Asia (20%) and 14 species which are subendemic to the Iranian and Turanian regions (31%). The rest of the species are Mediterranean (7 spp., 16%), European (2 spp., 5%), Palaearctic (4 spp., 9%) and Holarctic (3 spp., 7%). The complex of accidental species includes 6 species (13.5%). These scale species could be referred to three groups: polyphagous - 24 species (53.3%), oligophagous - 18 species (40%) and monophagous - 3 species (6.7%). In addition, on the basis of their frequency and damage, 10 species were categorised as numerous, 21 species as moderately numerous and 14 species as rare or infrequent.

The most numerous and economically important species was *Sphaerolecanium prunastri* (Fonsc.), which caused extensive damage to the local alycha species (*Prunus sogdiana* Vass.). In these areas of Kyrgyzstan, biological control of the scale insect fauna is considered the most appropriate and promising method and such encyrtid parasitoids as *Discodes coccophagus* Ratz. and *Microterys hortulanus* Erd. play an important role in the control of *S. prunastri.*

A ZOOGEOGRAPHICAL ANALYSIS OF THE ITALIAN SCALE INSECT FAUNA.

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The results of a zoogeographical analysis of the Italian scale insect fauna, which currently includes 365 species were presented. Eleven species were excluded in the analysis, either because they were poorly described and were therefore of doubtful identity or because they had not been recorded since their original description. This analysis divided the Italian scale insect fauna into three major groups according to the distributional patterns currently used in faunistic studies in the Western Palaearctic

Region: A) Species primarily of the Western-Palaearctic Region (226 species). This group included the following sub-groups: i) species widely distributed in the Holarctic region (115 spp.); ii) species widely distributed in Europe (52 spp.); iii) species widely distributed in the Mediterranean Basin (57 spp.), and iv) Afrotropical or Oriental species also present in the Mediterranean area (2 spp.). B) Cosmopolitan species or cultural immigrants (111 spp.). C) Endemic species (17 spp). Each major group or sub-group included several species which had a more restricted distribution pattern. The analysis revealed that the Italian scale insect fauna (with the exclusion of the cosmopolitan species, which are of little zoogeographical interest), was represented mainly by widely distributed species in the Holarctic region (31.5% of total scale fauna); those which were widely distributed in the Mediterranean Basin (15.6%) and those widely distributed in Europe (14.25%). The Afrotropical or Oriental species represented only 0.5% of the total. A brief comment on each group was given.

SCALE INSECTS (HEMIPTERA: COCCOIDEA) INTERCEPTED ON IMPORTED PLANT MATERIAL AND RECENT INTRODUCTIONS IN ENGLAND AND WALES.

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There have been almost 300 species of Coccoidea intercepted on imported plants and plant produce in England and Wales since 1968, which is more species of Coccoidea intercepted than any other superfamily of invertebrates. For example, in 1995, a third of all species intercepted on imported plant material were Coccoidea. This makes scale insects the most significant superfamily of invertebrates being dispersed in the international plant trade, in terms of numbers of species. The most frequently intercepted species are listed and the reasons why they are so commonly transported briefly discussed. Despite the large number of exotic scale insects entering Britain very few have become established and even fewer have become widespread. New introductions of exotic species reported in non-commercial premises in Britain since 1968 are also listed. Finally, recent outbreaks of exotic pest species at commercial nurseries are given, all of which have been successfully eradicated.

AN ANNOTATED LIST OF SCALE INSECTS (HEMIPTERA: COCCOIDEA) FROM TURKEY.

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A list of the 171 species of Coccoidea from Turkey, belonging to 10 families, is presented. This list is based on the authors' collection data and on bibliographical sources. The most numerous families are Diaspididae (92 species), Coccidae (31 species) and Pseudococcidae (18 species). The remaining families have between 1 and 7 species each. Among this 171 species are 15 species which are considered to be endemic and their distribution was discussed. In our orchard ecosystems, 11 species are of sufficient importance to require control measures, while in our citrus pest management program, 4 species have pest status. In addition to the cultivated plants, non-cultivated plants have many scale insect species because of the zoogeographical situation of Turkey, lying as it does between the Mediterranean, the Irano-Turanian and Euro-Siberian subregions of Palaearctic. This list is unlikely to be complete and further studies are needed.

AN ANNOTATED LIST OF THE NATURAL ENEMIES OF THE SCALE INSECTS (HEMIPTERA: COCCOIDEA) OF TURKEY.

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A list of the known natural enemies collected from the Coccoidea of Turkey was presented, based on the authors' collection data and from bibliographical sources. This includes 70 species belonging to 7 orders and 17 families. The most numerous family of predators is the Coccinellidae (Coleoptera) with 30 species, while the most numerous hymenopteran parasitoid families are the Aphelinidae with 21 species and the Encyrtidae with 12 species. The remaining orders include the Acarina, Thysanoptera, Heteroptera, Neuroptera, Diptera and Lepidoptera, which have between 1 to 5 species each. Some of these natural enemies are considered to be effective in decreasing the scale populations. For instance, in our citrus ecosystem, 18 species of natural enemies are known for *Aonidiella aurantii* (Maskell). Other Diaspididae, from a variety of ecosystems, are particularly parasitised by several *Aphytis* spp. Twenty-five species of native natural enemies give good control of *Planococcus citri* Risso, while *Rodolia cardinalis* (Mulsant) completely controls *Icerya purchasi* Maskell. Seven new records of biocontrol agents in Turkey were discussed.