Occurrence of Matsucoccus josephi in Cyprus and Turkey and its Relation to Decline of Aleppo Pine (Homoptera: Matsucoccidae)

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The hypothesis is confirmed that the incidence of Elatophilus spp. [Hemiptera: Anthocoridae] in pine forests of Turkey and Cyprus is evidence of the occurrence of Matsucoccus spp. Matsucoccus josephi Bodenheimer & Harpaz 1955 which was believed to be endemic to Israel on Aleppo pine Pinus halepensis, is proven to have an Eastern Mediterranean distribution since it occurs throughout the distribution area in W' Turkey and Cyprus of brutia pine P. brutia ssp. brutia. In W' Turkey population densities on brutia pine are very low; due to lack of resistance, and absence of introgression with brutia pine, severe decline and mortality of Aleppo pine (confirmed to small enclaves within brutia pine forests) suggest that these stands are not natural relicts, but the result of introduction by man. In Cyprus, scale densities on brutia pine are higher than in similar stands in Turkey, yet injury is seen but rarely; resistance to the insect is displayed by plantations of Aleppo pine from introgressed Greek seed and of artificial hybrids whose male parent is brutia pine. The relative abundance is discussed of predators and associates of M. josephi in Turkey, Cyprus and in Israel.

Key words: Homoptera — Matsucoccus — Elatophilus — Pinus halepensis — Pinus brutia.

1 Introduction

Pine bast scales (Matsucoccus spp.) are known since the lower Cretaceous and may be considered living fossils among insect fauna of pines [Koteja 1990]. Matsucoccidae are obligatory parasites of pine; each species develops on one or few host species of a given section of the genus Pinus [eg Rieux 1975, Ray 1982, Liphschitz & Mendel 1989b]. The majority of the 30 known species of the family are rare or occur at very low densities. A small number of Matsucoccus spp. have become serious pests of natural and planted pine forests; outbreaks are due to the activity of man, viz introduction of the scale into new environments stocked with susceptible genotypes of the host tree or related susceptible pines [eg: Li et al 1980, McClure 1983, Schvester & Ughetto 1986, Mendel et al 1988].