



<http://dx.doi.org/10.11646/zootaxa.4012.1.3>

<http://zoobank.org/urn:lsid:zoobank.org:pub:7FBE3CA1-4A80-45D9-B530-0EE0565EA29A>

Check list and zoogeographic analysis of the scale insect fauna (Hemiptera: Coccomorpha) of Greece

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Abstract

This paper presents an updated checklist of the Greek scale insect fauna and the results of the first zoogeographic analysis of the Greek scale insect fauna. According to the latest data, the scale insect fauna of the whole Greek territory includes 207 species; of which 187 species are recorded from mainland Greece and the minor islands, whereas only 87 species are known from Crete. The most rich families are the Diaspididae (with 86 species), followed by Coccidae (with 35 species) and Pseudococcidae (with 34 species). In this study the results of a zoogeographic analysis of scale insect fauna from mainland Greece and Crete are also presented. Five species, four from mainland Greece and one from Crete are considered to be endemic. Comparison with the scale insect fauna of other countries is provided.

Key words: biogeography, chorotypes, Crete, mainland Greece

Introduction

The compilation of faunistic check lists provides a deeper knowledge on the local distribution of autochthonous and alien species and gives important information on the faunal history of a territory and on environmental changes.

With regard to the Western-Palaeartic scale insects (Hemiptera: Coccomorpha) fauna, recent check lists for the following countries are available: France (Foldi 2001), Italy (Pellizzari & Russo 2005), Croatia (Masten Milek & Simala 2008), Slovenia (Seljak 2010), Portugal (Franco *et al.* 2011), Israel (Ben-Dov 2012), Hungary (Kozár *et al.* 2013), Iran (Moghaddam 2013), Malta (Mifsud *et al.* 2014) and Turkey (Kaydan *et al.* 2013).

The scale insects fauna of Greece has been studied in the past by Lindinger (1912), Koroneos (1934), Paloukis (1979), Argyriou (1983) and Argyriou & Kourmadas (1980). Faunistic researches throughout the country have been carried out also by Kozár (1985, 1991) and Kozár *et al.* (1991), etc.

The first check list of the scale insect species recorded in Greece up to 2006 was presented by Milonas *et al.* (2008). At that time the number of scale insect species known from Greece was 168 and included species occurring both on mainland Greece and Crete.

Additional more recent faunistic papers added several new records, including new, undescribed species (Ben-Dov 2006; Jansen *et al.* 2010; Stathas & Kozár 2010; Pellizzari *et al.* 2011; Kozár *et al.* 2012; Milonas *et al.* 2013; Stathas *et al.* 2013 a, b; Kaydan *et al.* 2014).

Here we have gathered and checked all known distributional data to provide an updated checklist of scale insects recorded from mainland Greece and Crete. Moreover, this study has stimulated a first approach to a