

# Monograph



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## Checklist of the spiders (Araneae) of Israel

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#### **Abstract**

This checklist records 631 spider species and subspecies belonging to 49 families in Israel. Species distributions are given in both generalised (by main geographic areas of the country) and detailed (by localities) form. Twenty-seven records are considered as doubtful and another ten are based on misidentifications. A historical survey is provided. Each record is presented in its original combination. The list is dominated by members of the families Gnaphosidae and Salticidae (20.0% and 17.1% of total species, respectively). The level of regional endemism exceeds 37.0%.

Key words: Araneae, spiders, fauna, Israel, checklist

#### Introduction

Spiders constitute one of the most megadiverse orders of living organisms, with almost 44,000 extant and fossil species (Platnick 2012). Only Coleoptera, Diptera, Lepidoptera, Hymenoptera, Hemiptera and Acari have more species than spiders (Zhang 2011). Within the Palaearctic, this order has been relatively well studied in Europe (ca. 4,800 species, Helsdingen 2011) and Japan (ca. 1,500 species, Ono *et al.* 2009).

Data on species diversity for all European countries are available in *Fauna Europea* (Helsdingen 2011); data on Russia and the former USSR (including Asian states) are summarised in Mikhailov (1997, 1998, 1999, 2000); and data on the Caucasian countries are available in Otto & Tramp (2011). Within the Mediterranean region, data on spider species richness have been summarised for Egypt by El-Hennawy (1990, 2006), for Greece by Bosmans & Chatzaki (2005), for the Iberian Peninsula by Cardoso & Morano (2010), and for Turkey by Bayram *et al.* (2012).

No similar data are available for Israel. Although the size of the country is small, it has a key role in the study of spider diversity in the Mediterranean, especially the Eastern Mediterranean. Israel hosts more species than many larger countries or islands in Europe (Corsica—541, Ireland—415, Latvia—453, Lithuania—460, Sicily—375, etc. (Helsdingen 2011) and in Africa (Egypt—385 (El-Hennawy 2006). Israel is the type locality for 280 species of spiders. Its spider fauna encompasses species from two biogeographical realms (Holarctic and Afrotropical) and several provinces. No proper study of the taxonomy and distribution of any spider species in Mediterranean countries, or from the Middle East and Central Asia, is possible without studying the literature of the spiders of Israel.

Although there are over 120 publications, including revisions, dealing with the spiders of Israel, these data have never been summarised. Only four species-rich spider families in Israel have some kind of a list: Gnaphosidae (Levy 2009), Thomisidae (Levy 1995b), Theridiidae (Levy 1998b) and Salticidae (Prószyński 2003). The three latter publications contain data on the spiders of Israel and Sinai, or Israel and its neighbouring countries, i.e., Lebanon and Egypt (Sinai).

#### **Historical survey**

The first three species of spiders were described from the areas now belonging to Israel by Hasselquist (1757). Although these three species, were described in the same year as by Clerck (1757), and with binominal names, his three species are not deemed valid, as Hasselquist's publication appeared prior to the establishment of current zoological systematics code.

Since Hasselquist's work, over 120 papers dealing with the spiders of Israel have been published. Conventionally, we divide the history of arachnological research in Israel into three major periods: from 1757 to 1871; from 1872 to 1965; and from 1966 to the present.

During the first period only four papers on this subject were published (Hasselquist 1757; Savigny & Audouin 1825, 1827; Simon 1868b) and several species were reported or described. The second period began with the pioneering publication by O. Pickard-Cambridge (1872) dealing with the spiders of "Palestine" (territories now belonging to Israel and Lebanon). All material treated in the 1872 publication was collected by O. Pickard-Cambridge in 1865 during his two month trip to Palestine. Two hundred and seventy-eight species were reported from the region and 127 of them were described as new to science. In his following publication dealing with the