



The *Scolopendra* species (Chilopoda: Scolopendromorpha: Scolopendridae) of Greece (E-Mediterranean): a theoretical approach on the effect of geography and palaeogeography on their distribution

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Abstract

The species of the genus *Scolopendra* Linnaeus, 1758 are very widely distributed in the Mediterranean region. Current knowledge is summarized, with references to material derived mainly from the well-explored islands of the Aegean Archipelago, several localities in continental Greece and old bibliographic reports. We suggest that *Scolopendra* species represent examples of both paradigms of historical biogeography, namely vicariance and dispersal. We propose that the dispersal routes of *Scolopendra* species in Greece were mainly influenced by late Miocene and upper Pleistocene palaeogeography. The formation of the Mid-Aegean trench (c. 12 – 9 Mya) considered as a remarkable geographical barrier between the Anatolian peninsula and mainland Greece, prevented the entry of certain *Scolopendra* species westwards. In total, five *Scolopendra* species have been recorded from mainland and insular Greece. A vicariance event that occurred in the area more than 17 Mya, when the Aegean region was part of a united landmass, better explains the biogeographical history of *S. canidens*. Cyclades harbours remnants of the ancient populations of *S. canidens*, whereas during the late Pleistocene (c. 400.000 - 21.000 ya) *S. canidens* was isolated in Dodecanese. *S. cretica* is the only endemic, being distributed in Crete and its adjacent islets. *S. clavipes* in E-Mediterranean and *S. dalmatica* in W-Mediterranean evolved from ancient *canidens* populations. *S. cingulata* entered central and southern Europe from the east (c. 20 – 11 Mya), while the formation of the Mid-Aegean trench (c. 12 – 9 Mya) prevented its entry in Crete.

Key words: Aegean archipelago, colonizer, competitive exclusion, Crete, Cyclades, dispersal routes, Dodecanese, Miocene, Mid-Aegean trench, Pleistocene, vicariance

Introduction

The complex geological history of the East Mediterranean region and especially of the Aegean area during the late Tertiary has influenced the distribution of many terrestrial animals (Douris *et al.* 1995; Parmakelis *et al.* 2003; Poulakakis *et al.* 2003). Mainland and insular Greece form the southern edge of the Balkan Peninsula. There are excellent areas for studying the distributional patterns and the faunistic relationships among different geographical compartments. Hundreds of continental shelf islands that have recently become disconnected from each other and the adjacent continental areas, such as Greece and Turkey (Perissoratis & Conispoliatis 2003), provide remarkable answers on how and when *Scolopendra* species reached the area.

The Aegean Archipelago is characterized by high levels of diversity and endemism (Strid 1997; Sfenthourakis & Legakis 2001) and a complex palaeogeographical history (Anastasakis & Dermitzakis 1990; Perissoratis & Conispoliatis 2003). A large number of articles have dealt with biogeographical patterns for particular animal groups, such as beetles (Trichas & Legakis 1987; Fattorini 2000; Chatzimanolis *et al.* 2003),