

## A ZOOGEOGRAPHICAL REVIEW OF THE SPIDERS (ARANEAE) OF THE BALKAN PENINSULA

Christo DELTSHEV

Institute of Zoology of the Bulgarian Academy of Sciences, Sofia, Bulgaria

According to their current distribution, the over 1,400 established spider species can be classified into 24 zoogeographical categories, grouped into 4 complexes (widely distributed, European, Balkan endemic and Mediterranean). The largest number of species belongs to the widely distributed complex, but the most characteristic are the Balkan endemics. The established number (389) in the latter category is high and reflects the local character of the fauna. In the context of palaeoenvironmental changes since Pliocene, this phenomenon can be attributed to the relative isolation of the mountains compared to the lowlands. Moreover, the high percentage representation of endemics suggests an important process of autochthonous speciation. Thus, the Balkan Peninsula can be considered as being a major centre of speciation for the European araneofauna.

**Key words:** spiders, diversity, endemism, Bulgaria, speciation

## MAMMAL BIODIVERSITY IN THE BALKANS

Boris KRYŠTUFEK

Slovenian Museum of Natural History, Ljubljana, Slovenia

Mediterranean Europe is known to be a host of endemic taxa in general and in rodents in particular. In comparison with the remaining peninsulas (the Iberian and the Italian), the Balkans are particularly rich in both phylogenetic and biogeographic relics. It has been shown that the hot spots of European rodent diversity are focused in the Balkan Peninsula (including the Carpathian Basin) and adjacent parts of southern Ukraine and Ciscaucasia, where >80% of rodent genera and species occur on merely 11.4% of the continent's surface (Kryštufek & Griffiths, *in press*). Among the eight mainland European rodents with particularly restricted distributional ranges (range encompassing <1% of the continent's surface), no less than five are from the Balkans (*Mesocricetus newtoni*, *Dinaromys bogdanovi*, *Microtus felteni*, *M. tatricus*, *Miomymus roachi*), and a number of other species have similarly narrow ranges (e.g. *Spermophilus citellus*, *Nannospalax arenarius*, *Microtus thomasi*, *Apodemus mystacinus* s. s.). Due to high chromosomal polymorphism in some taxa on one hand (particularly *Nannospalax leucodon*, but also *Sorex araneus* and *Microtus thomasi*) and a lack of comprehensive taxonomic treatments on the other, the number of taxa with very restricted ranges is likely to be higher than actually recognised. In addition, the island of Crete hosts two island endemics (*Crociodura zimmermani*, *Acomys nesiotes*) out of the three documented for Europe. This accords with the oft suggested role of the Balkans as a Quaternary refugium - based on its age as a distinct landscape unit and also because of complex Plio-Pleistocene vicariant interactions between the Balkans and Anatolia. In general, mammalian spatial patterns have been poorly documented and studied - e.g. Mediterranean small mammal communities are less species rich than are continental ones, and the transition between the two lies at c. 700-900 m on the Dinaric Alps (north-western Balkans; Kryštufek & Griffiths, 1999). Mustelids show a monotonous latitudinal decline in  $\alpha$ -diversity, with their highest values in the Carpathian Basin (Kryštufek, 2000).

**Key words:** mammals, refugia, biodiversity, autochthony

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