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A review on the huntsman spider genus *Spariolenus* Simon, 1880 (Araneae: Sparassidae: Heteropodinae) in Iran with description of four new species

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Abstract

Four new species of the huntsman spider genus *Spariolenus* Simon, 1880 are described from Iran: *S. aratta* **spec. nov.** (female) from Jebal Barez mountains in Kerman Province, *S. iranomaximus* **spec. nov.** (male, female) from Khofash cave in Ilam Province, *S. manesht* **spec. nov.** (female) from Manesht mountain in Ilam and *S. zagros* **spec. nov.** (male, female) from Kenesht cave, Kermanshah Province. We present an extended diagnosis for the genus and information on the natural history of the new species. This is the first record of the subfamily Heteropodinae in Iran. Females of *S. iranomaximus* **spec. nov.** are larger than any spider ever found in the Middle East. All the species occurred in caves and rock crevices of the Zagros mountain range in Iran. According to the geographical distribution of currently known *Spariolenus* species, palaeontology perspectives and geological history of the area an evolutionary scenario of speciation associated with Zagros orogeny is proposed.

Key words: taxonomy, evolutionary scenario, speciation, biogeography, refugia, Miocene, caves, Zagros orogeny, Middle East

Introduction

The huntsman spider family Sparassidae Bertkau, 1872 currently comprises 1109 species (Platnick 2011) distributed all over the world in various habitats from tropical rainforests to xeric sand dunes. Among different subfamilies distributed in the old world, members of Heteropodinae Thorell, 1873 are more intensively investigated and are common inhabitants in subtropical and tropical forests of Africa, Asia and Australia. Simon (1897a) placed *Spariolenus* Simon, 1880 in the subfamily Heteropodinae (sub Heteropodeae) due to similarities of the eye arrangement. Subsequently, using character of female copulatory organs, Järvi (1912) classified *Spariolenus* as "Heteropodeae verae". Jäger (1998) clarified some synapomorphic characters of *Spariolenus* and classified it later (Jäger 2002) with eleven further genera in the subfamily Heteropodinae. Individuals of the genus *Spariolenus* are large to very large Heteropodinae. Up to now only two species could clearly be assigned to the genus: the type species, *Spariolenus tigris* Simon, 1880 from caves in Calcutta in India and *S. secundus* Jäger, 2006a from the Al Hota cave system in Oman, north eastern Arabian Peninsula (Jäger 2006a). Of these two, only the type species was described from both sexes, while *S. secundus* is known only by females. *Spariolenus* specimens have rarely been collected so far and practically nothing was known about their biology and natural history except that they are cave dwellers. Heteropodinae have mostly been found in humid forests, in dry environment, in crevices of rocks and in caves. Examples of such cave dwellers occurring in the Middle East include *Heteropoda variegata* (Simon, 1874) from the eastern Mediterranean, *H. afghana* Roewer, 1962 from Afganistan, *Spariolenus secundus* from Oman and also the newly discovered *Spariolenus* species presented in this study from Iran. This is the first record of the subfamily Heteropodinae from Iran.

Iran covers the largest part of the Iranian Plateau which is located in the transition zone of three main zoogeographic regions: Palaearctic, Ethiopian and Oriental regions. Varied topography and climate as well as palaeogeographical location and geological history present a wide collection of diverse habitats which house a rich fauna and flora (Zehzad *et al.* 2002). However, spiders of Iran are very poorly investigated, of the family Sparassidae just

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