



Further records of pseudoscorpions (Arachnida, Pseudoscorpiones) from Saudi Arabia

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Abstract

Five species of pseudoscorpions are recorded from the southwestern mountains of the Kingdom of Saudi Arabia. *Pseudochthonius arabicus* Mahnert **n. sp.** is described as new to science; this genus was previously known only from sub-Saharan Africa and tropical South America and represents the first record of the family Chthoniidae from the Arabian Peninsula. *Paratemnoides ellingseni* (Beier, 1932), a widespread species in tropical Africa, and *Withius piger* (Simon, 1878) are added to the faunal list of Saudi Arabia. *Minniza monticola* Mahnert, 1991 and *Rhacochelifer sonyae* Mahnert, 1991 are apparently endemic to the southwestern mountains of Saudi Arabia.

Keywords: New species, Arabian Peninsula, Palaearctic region, taxonomy, Asir Mountains

Introduction

The Kingdom of Saudi Arabia occupies the 80% of the area of the Arabian Peninsula, with a land area of approximately 2.15 million km² (Zaharani *et al.* 2011). Biogeographically, Saudi Arabia lies between three main zoogeographical zones—the Palaearctic, the Oriental, and the Afrotropical realms—and therefore has faunal elements of all three. The southwestern mountains of Saudi Arabia extend parallel to the Red Sea coast. These mountains can be divided into two regions: the northern Al Sarawat Mountains and the southern Asir Mountains. The whole mountain range is one of the most interesting regions of the country in regard to both the flora and fauna. Several studies on its fauna revealed a high diversity with clear Afrotropical affinities (Eig 1938; Zohary 1973; Lehrer & Abou-Zied 2008; Doha 2009; Aldawood *et al.* 2011; Sharaf & Aldawood 2011, 2012; Sharaf *et al.* 2012a, 2012b; El-Hawagry *et al.* 2013; Sharaf & Aldawood 2013).

The earlier faunistic explorations of 1980–1990, mainly by W. Büttiker, yielded 16 nominal pseudoscorpion species from Saudi Arabia which were studied by Mahnert (1980, 1991), who emphasized the biogeographical importance of the mountainous region of southwestern Saudi Arabia. Three out of the 16 species are apparently endemic to the southwestern mountains and underline the biogeographical affinities between this region and adjacent countries representing the Afrotropical Realm.

This paper is a part of an ongoing research project studying the arthropod fauna of southwestern Saudi Arabia. The purpose of this paper is to describe a new species and report additional species of pseudoscorpions from the remarkable mountains of southwestern Saudi Arabia. The results obtained confirm the biogeographical affinities of this region and raise to 19 the number of species of Pseudoscorpiones known from Saudi Arabia.

Withiidae

Withius piger (Simon, 1878)

Material examined. Al Urdiyah Government, W. Qonouna, 12.v.2011, 353 m, 19°25'45.7"N, 41°36'18.1"E: 2 ♂, 1 deutonymph. Al Bahah, Al Mukwah, Dhi Ayn Archeological Village, 11.v.2011, 20°12'39.7"N, 1°26'30.2E, 741 m: 6 ♂, 9 ♀, 2 tritonymphs + 24 specimens (adults and nymphs). Al Bahah, W. Turabah, Al Mandaq, 14.v.2011, 20°12'39.7"N, 41°17'17.6"E, 1793m: 1 ♂ (under a rock, next to an *Acacia* tree, in company with the ant *Tetramorium caespitum* (Linnaeus, 1758)). Asir Province, W. Jallah, 16.v.2011, 20°08'04.1" N, 41°20'34.4" E: 2 ♂.

Remarks. The specimens listed above exhibit the major characters of this cosmopolitan synanthropic species, as defined by Heurtault (1971).

Mahnert (1980) described the new species *Withius arabicus* from this same area, Dorf Qaraah (Al Qar'a or Al Gar'a Abha, Asir Province, 2000 m, 18.24080°N, 42.48965°E; Wadi Marba (near the Abha-Jazan road, approximately 53 km from Jazan), Khamis-Mushyat, 17.9000°N, 42.3833°E, 2050m). The separation of these species is consistent: *Withius arabicus* has the distal position of trichobothrium *est* on the fixed chelal finger, smaller and also slightly more slender pedipalps. The number of setae in the sternal glandular patches in the males is variable in both species. *Withius arabicus* was not collected during this study.

Ecological observations. In Al Bahah, *Withius piger* was collected by sifting leaf litter under banana and *Ficus* trees. Several ant species were found coexisting with this species, including *Tetramorium hirsutum* Collingwood & van Harten, 2005; *Tapinoma wilsoni* Sharaf & Aldawood and *Lepisiota obtusa* (Emery, 1901). This pseudoscorpion was also collected by sifting leaf litter under *Ricinus communis* L. (Euphorbiaceae). In Wadi Qonouna, it was collected from beneath a date palm tree, *Phoenix dactylifera* L. (Arecaceae), in loose sandy soil with a high moisture content and among roots of small *Portulaca oleracea* L. (Portulacaceae) plants. The specimens were in company with *Monomorium kondratieffi* Sharaf & Aldawood, 2013 and *Monomorium exiguum* Forel, 1894. Other ant species occurring in the area included *Monomorium destructor* (Jerdon, 1851), *M. mayri* Forel, 1902, *Tetramorium caldarium* (Roger, 1857), *T. sericeiventre* Emery, *Paratrechina longicornis* (Latreille, 1802), *Nylanderia jaegerskioeldi* (Mayr, 1904), *Cardiocondyla* sp., *Pheidole* sp. and *Lepisiota* sp.

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