

## First report of two species of false-scorpions (Pseudoscorpions-Arachnida) from Kerman province

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**Abstract- Recent intensive field work of Pseudoscorpions faunistic in Kerman province (2010-11) yielded interesting results 17 genera belong nine families. Two species, *Dactylochelifera brachialis* Beier 1952 and *Chthonius Ephipiochthonius antolicus* Beier 1969, are reported for first in Kerman province. *D. brachialis* has separated from dry leaf litters by sieving samples that collected from Bidkhan, Dalfard, Khabr and Rayen. Another species has separated from moisture soils by Berlese funnel that collected from Se-Konj.**

Key words- Chelicerata - Faunistic – Kerman – Pseudoscorpions

چکیده - در بررسی فونستیک شبه عقرب های استان کرمان (۱۳۸۹-۱۳۹۱) مجموعاً ۹ خانواده و ۱۷ جنس شناسایی شد. شبه عقرب های متعلق به گونه های *Dactylochelifera brachialis* Beier 1952 و *Chthonius Ephipiochthonius antolicus* Beier 1969 برای نخستین بار از استان کرمان گزارش می شوند. گونه *D. brachialis* از بقایای گیاهی خشک و به وسیله الک کردن نمونه های جمع آوری شده از بیدخوان، دلفارد، خبر و راین به دست آمده است. گونه دیگر از خاک های مرطوب سه کنج و با استفاده از قیف برلیز جمع آوری شده است.

کلیدواژه - شبه عقرب ها - کرمان - کلیسرداران - فونستیک

### 1- Introduction

Pseudoscorpions are minute animals only a few millimeters long, with the general appearance of diminutive scorpions having no tails [10]. They belong to the large phylum of joint-legged animals, the Arachnida, which, in addition to pseudoscorpions, embraces the spiders, mites, ticks, scorpions and these related groups [9].

Pseudoscorpions are special animals in habits, occurring in soil cover and rotten logs, under bark, hoses, in birds nests and phoresie with other animals [6,10,11]. The pseudoscorpions comprise about 3.3% of the described arachnid species [7,9]. First record of pseudoscorpions from Iran had been published by Redikorzev

(1934), who reported *Diplotemnus insolitus*. Next attempt was introducing 42 species of pseudoscorpions belong to 23 genera by Beier (1949-1971). Three species, *Dactylochelifer gracilis* Beier 1951, *D. afghanicus* Beier 1959 and *Minniza babylonica* Beier 1931 had been collected and reported from Kerman province before [1,4]. These reports were the only recorded activities done in this geographical region for many years [8].

Recent intensive field works in Iran-Kerman Province yielded interesting results 17 genera belong to 9 families that two species of them, *D. brachialis* and *C. E. antolicus*, are identified for first time from this region. We try to explain geographical distribution, re-description and preference hosts of them in this article.

## 2-Material method

Specimens had separated from leaf and wood litter samples that collected from different area of Kerman province. They had preserved on 70% ethanol and later studied under a dissection microscope.

The specimens are prepared for measurements. These had separated by thin and slender needles. Pedipalps, chelicera, first and fourth legs had dissected. Appendages, those are separated, and remain parts of body had cleared with lactic acid 60% solution and mounted by Hoyer's medium. Finally, available slides had checked by Olympus BH-2 compound microscope and identified by us based on Harvey's classification (1992).

Drawings had based on basic characters and done with drawing tube joined to microscope.

You will find the abbreviation of trichobotria here-under based on Harvey classification (1992):

eb = external basal; esb = external subbasal; ib = internal basal; isb = internal subbasal; ist = internal subbasal; est = external subbasal; it = internal terminal; et = external terminal; t = terminal; sb = subbasal; st = subterminal and the replacement of the term 'flagellum' with 'rallum' has been proposed by Judson (2007) and followed here.

Other nomenclatures are: mm = Millimeter; L. = Length; W = Width; h. = height, m = meter.

## 3- Systematics

### *Dactylochelifer brachialis* Beier 1952

**Ord. Pseudoscorpionida**

**Subord. Icocheirata**

**Superfam. Cheliferoidea**

**Fam. Cheliferidae**

**Subfam. Cheliferinae**

Re-description: Carapace longer than wide, finely granulated, front of carapace dull brown and distal margin dark brown, carapace surface with 2 transvers furrows, anterior furrow deep and narrower than posterior one, with 2 developed eyes, anterior margin of carapace with 8-10 and posterior margin with 9-11 seta, Tergites brown with brown-yellow margins, bristles on carapace and tergites short and slightly denticulate, all tergites divided and granulated, last tergite with 2 pseudo-tactile seta, cheliceral hand with 5 seta, female's galea with 4-6 rami and male's with 2 rami, rallum with 3 blades, exterior lamina with 18 blades, pedipalps slender and granulated regularly, pedipalpal femur rate 4.17 to 4.33, patellar rate 3.3 to 3.39, Chelal with pedicel rate 4.6 in males and 4.34 in females, Chela without pedicel rate 4.27 in males and 4.05 in females, length of movable finger as long as hand length with pedicel, both fingers with 50 -52 internal teeth, trichobotrium (st) in equal distance from trichobotria (sb) and (t), legs dull brown, Males with coxal suck; Atrium well developed; femur + patella rate of male first leg 3.81 and fourth leg 3.85, first tarsus rate of male 2.1 to 2.3, fourth tarsus of both sexes without tactile seta, claws asymmetric and simple.

Male measurements: body length 2.87mm; Carapace length 0.93 and width 0.78mm; Pedipalp: Femure L. 0.96 and W. 0.23mm; Patella L. 0.89 and W. 0.27mm; Chela L. 1.47 and W. 0.32mm; Finger L. 0.7mm; First tarsus L. 0.33 and W. 0.16 mm.

Female measurements: body length 3.22mm; Carapace length 1.03 and width 0.85mm; Pedipalp: Femure L. 1 and W. 0.23mm; Patella L. 0.89 and W. 0.27mm; Chela L. 1.52 and W. 0.35mm; Finger L. 0.7mm.

Distribution: This specimen has been found in dry leaf litters that accumulated together. They had been separated by sieving samples.

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