

## TWO NEW RECORDS FOR TURKISH HARVESTMEN FAUNA (ARACHNIDA: OPILIONES)<sup>1</sup>

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**ABSTRACT:** Two harvestmen species, *Mediostoma haasi* (Roewer, 1953) and *Phalangium armatum* Snegovaya, 2005, are recorded in Turkey for the first time. Their description, characteristic features, distributions, measurements and photographs of genitalia and general habitus of both sexes are presented.

**KEY WORDS:** Opiliones, Nemastomatidae, Phalangiidae, *Mediostoma haasi*, *Phalangium armatum*, new records, Turkey

### INTRODUCTION

To date, 11 species of the genus *Mediostoma* Kratochvíl, 1958 have been described worldwide (Schönhofer, 2013). These species are: *M. armatum* Martens, 2006 (Iran), *M. ceratocephalum* Gruber, 1976 (Turkey), *M. cypricum* (Roewer, 1951) (Cyprus), *M. globuliferum* (L. Koch, 1867) (Greece), *M. haasi* (Roewer, 1953) (Israel, Lebanon), *M. humerale* (C. L. Koch, 1839) (Greece, Albania), *M. nigrum* Martens, 2006 (Iran), *M. pamiricum* Staręga, 1986 (Tajikistan), *M. stussineri* (Simon, 1885) (Greece, Bulgaria, Turkey), *M. variabile* Martens, 2006 (Iran, Azerbaijan) and *M. vitynae* (Roewer, 1927) (Greece). Two of them, *M. ceratocephalum* Gruber, 1976 and *M. stussineri* (Simon, 1885), have previously been known in Turkey (Kurt 2014a). Here we report the first record of *Mediostoma haasi* from Turkey.

Twenty-one species of *Phalangium* Linnaeus, 1758 are known worldwide (Snegovaya, 2014). These species are: *P. armatum* Snegovaya, 2005, *P. armenicum* Tcherneris, 2012, *P. bakuense* Snegovaya, 2006, *P. clavipes* Roewer, 1911, *P. ghissaricum* Gricenko, 1976, *P. gorbunovi* Snegovaya, 2014, *P. gromovi* Tcherneris, 2012, *P. jakesi* (Šilhavý, 1966), *P. kitabensis* Tcherneris, 2012, *P. kopetdaghensis* Tcherneris & Snegovaya, 2012, *P. licenti* Schenkel, 1953 (?), *P. ligusticum* (Roewer, 1923), *P. mcheidzeae* Snegovaya, 2014, *P. opilio* Linnaeus, 1758, *P. punctipes* (L. Koch, 1878), *P. savignyi* Audouin, 1826, *P. staregai* Snegovaya, 2005, *P. riedeli* Staręga, 1973, *P. targionii* (Canestrini, 1871), *P. venustum* Snegovaya, 2008, and *P. wahrmanni* Roewer, 1953 (Snegovaya, 2014). Four of them, *P. opilio* Linnaeus, 1761, *P. punctipes* (C. L. Koch, 1878), *P. riedeli* Staręga, 1973, and *P. savignyi* Audouin, 1826 have been known from Turkey (Kurt 2014a, b). The present report represents the first record of *Phalangium armatum* from Turkey.

<sup>1</sup> Received on February 26, 2015. Accepted on June 27, 2015.

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## MATERIALS AND METHODS

This study was carried out in different parts of Turkey at different times. Samples were collected by hand (with pinset and aspirator) from grass, under shrubs, and under stones. The specimens were examined under a Leica EZ4 stereomicroscope. Examined specimens were preserved in 70% ethanol and deposited in the collection of the Arachnological Laboratory of Şiran Vocational School, Gümüşhane University (GUSAL). Measurements were made of one female and one male. All measurements are given in millimeters.

### Taxonomy

#### Nemastomatidae Simon, 1872

*Mediostoma* Kratochvíl, 1958

#### *Mediostoma haasi* (Roewer, 1953) (Fig. 1a-g)

*Mitostoma haasi* Roewer, 1953: 209-210, Figs. 6a-c.

*Nemastoma haasi* Starega, 1973: 132-133, Figs. 7-9.

*Mediostoma haasi* Gruber, 1976: 799; Martens, 2006: 184; Snegovaya, 2008: 272-274, Figs. 2-13; Schönhofer, 2013: 31.

Material Examined: TURKEY: Osmaniye Province, Zorkun Plateau (N 37° 02' 07" E 36° 17' 10"), 3 ♂, 14-VI-2014, Kilis Province, Seven Dam, (N 36° 43' 59" E 37° 14' 382"), 1 ♂, 2 ♀♀, 14-V-2013; leg. E. A. Yağmur and H. Koç. This species was collected from grass and under shrubs.

### Description

**Male:** Body (Figure 1a), approximately ovoid to quadrangular shape in dorsal view; body dorsally with papillae, dark brown with two large light spots in laterally. Eye mound with small round tubercles anteriorly and laterally; with two rows of small tubercles posteriorly (not exactly with access to the edge). Body dorsally covered with numerous small blunt tubercles. Tergites I-VII with a pair of large cylindrical tubules. Body ventrally light brown, covered only with setae.

Ocularium: Eye tubercle situated low and covered with small blunt tubercles in two rows.

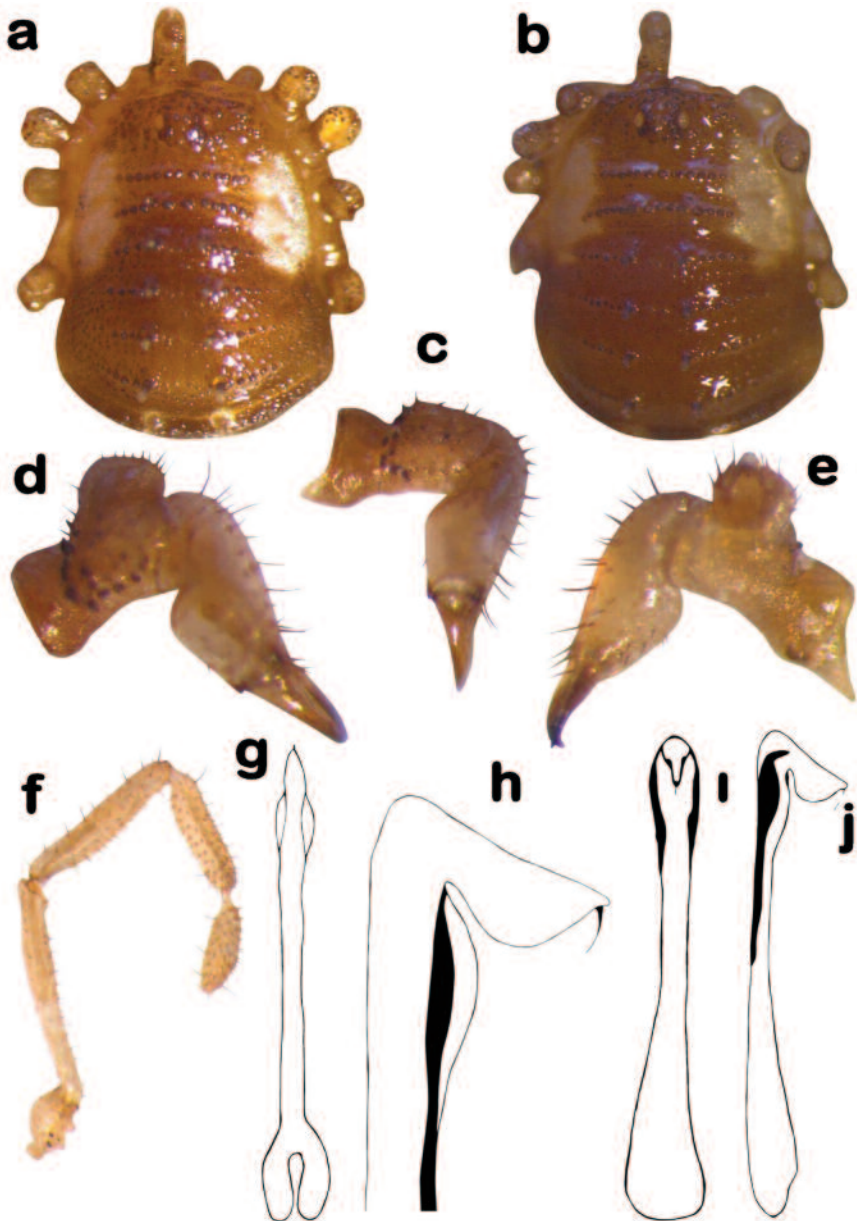


Fig. 1 a-g. *Medioloma haasi*: a. body, dorsal view, male; b. body, dorsal view, female; c. chelicera, lateral view, female; d,e. chelicera, lateral view, male; f. pedipalp, lateral view, male; g. penis; h-j. Penis of *Phalangium armatum*: h. glans, lateral view, i. penis, dorsal view, j. penis, lateral view.

Table 1. Measurements (mm) of male (female) of *Mediostoma haasi*

<b>Body</b>	<b>Length</b>	1.58(1.88)				
♂ (♀)	<b>Width</b>	1.35(1.60)				
<b>Chelicerae</b>	<b>Basal segment</b>	<b>Distal segment</b>				<b>Total</b>
	0.43(0.45)				0.57(0.55)	
<b>Pedipalp</b>	<b>Femur</b>	0.65(0.66)	0.5(0.62)	0.35(0.45)	0.2(0.25)	1.7(1.98)
<b>Leg I</b>	0.9(0.91)	0.3(0.32)	0.45(0.58)	0.85(1.01)	0.95(1.0)	3.48(3.82)
<b>Leg II</b>	1.8(1.86)	0.55(0.4)	1.0(1.01)	2.5(2.85)	1.75(2.0)	7.6(8.12)
<b>Leg III</b>	1.1(0.94)	0.31(0.34)	0.48(0.57)	0.95(0.98)	0.9(1.02)	3.74(3.83)
<b>Leg IV</b>	1.4(1.4)	0.4(0.33)	0.8(0.71)	1.2(1.37)	1.1(1.1)	4.9(4.91)

Chelicera (Figure 1d,e): small, normal structure. Basal segment dorsally and retrolaterally covered by small black tubercles, basal segment dorsally with apophyses consisting of group of long setae. Distal segment typical shape, covered with setae.

Pedipalps (Figure 1f): Normal structure, covered with setae and club-shaped bristles. Patella extended ventrally, tibiae narrowed distally, tarsus rather short.

Legs: not very long, pair I, III thicker and longer than others. Femora, patellae and tibiae with tiny tubercles. All segments covered with setae and hairs. There are pseudosegments on femur: Femur I (0), Femur II (3), Femur III (1), Femur IV (3).

Penis (Figure 1g): Glans with two wings and covered with setae. Corpus, thin and long, is divided into two equal parts at the base.

**Female:** General appearance similar to male. Body is longer and wider than male (Figure 1b). Chelicerae basal segment without apophyses (Figure 1c).

Distribution: This species had been previously recorded from Israel and Lebanon (Snegovaya, 2008).

## Phalangiidae Latreille, 1802

*Phalangium* Linnaeus, 1758

*Phalangium armatum* Snegovaya, 2005 (Fig. 1h-j, 2)

*Phalangium savignyi*: Snegovaya 1999: 455, Figs. 9-13; 2004: 313, Figs. 17-19.

*Phalangium armatum* Snegovaya, 2005: 22-26, Figs. 17-34; Snegovaya & Starega, 2011: 50; Snegovaya, 2014: 4-5, Figs. 34-50, 128.

*Phalangium zuvandicum* Snegovaya, 2005: 23-28, Figs. 35-45.

Material Examined: TURKEY: Siirt Province, Meydandere Village (N 37° 55' 18" E 42° 05' 29"), 1009 m, 1 ♂, 2 ♀♀, 20-V-2010; leg. E. A. Yağmur and H. Koç.

## Description

**Male:** Body (Figure 2a), ovoid-quadrangular shape in dorsal view. Cephalothorax anteriorly consisting of group of long black-tipped tubercles in front-center. Cephalothorax, lateral borders of eye mound and around opening of odoriferous gland with long black-tipped tubercles. Abdomen dorsally with indistinct light brownish-yellow saddle. Abdominal tergites with transverse rows of long

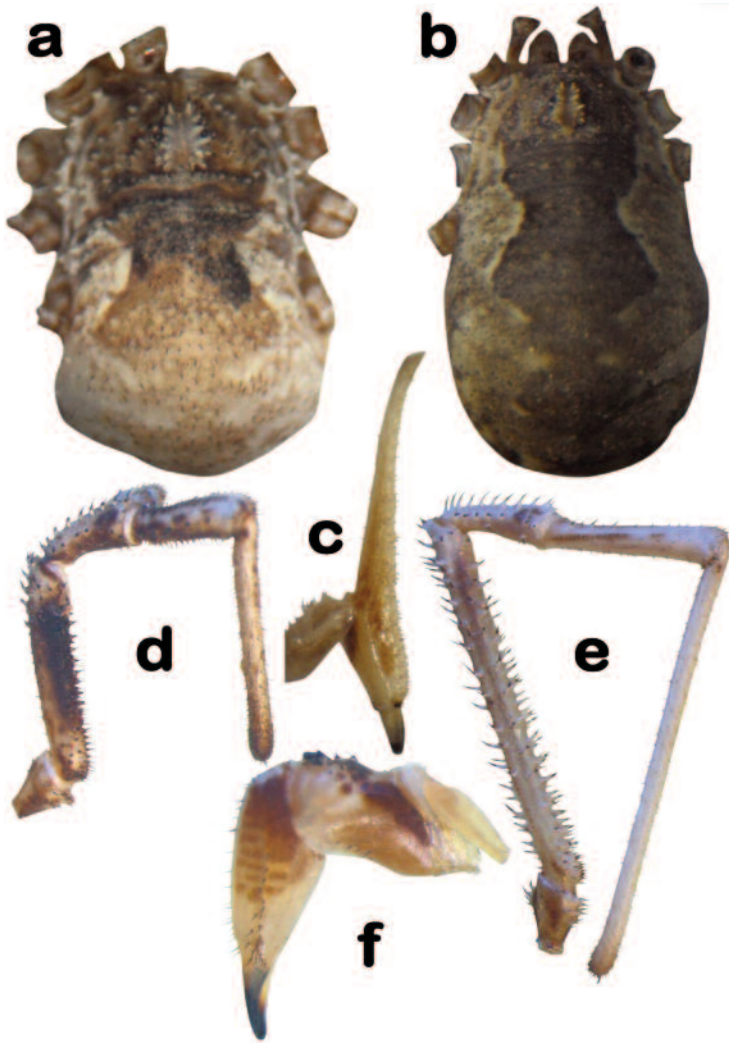


Fig. 2 a-e. *Phalangium armatum*: a. body, dorsal view, male; b. body, dorsal view, female; c. chelicera, lateral view, male; d. pedipalp, lateral view, female; e. pedipalp, lateral view, male, f. chelicera, lateral view, female.

black-tipped tubercles and with irregular black spots, especially numerous posterior borders. Body ventrally covered with small black-tipped tubercles and setae. Supracheliceral lamellae visible and not equipped.

Ocularium: Eye tubercle situated high and with 10-11 long black-tipped tubercles in two longitudinal rows.

Table 2. Measurements (mm) of male (female) of *Phalangium armatum*.

<b>Body</b> ♂ (♀)	<b>Length</b>	5.1 (7.5)				
	<b>Width</b>	3.22 (4.38)				
<b>Chelicerae</b>	<b>Basal segment</b>	<b>Distal segment</b>				
	1.2 (1.44)	4.9 (1.89)				
	<b>Femur</b>	<b>Patella</b>	<b>Tibia</b>	<b>Metatarsus</b>	<b>Tarsus</b>	<b>Total</b>
<b>Pedipalp</b>	3.0 (1.65)	1.27 (0.85)	1.5 (1.0)	—	3.78 (1.84)	9.55 (5.34)
<b>Leg I</b>	4.0 (3.0)	1.08 (1.2)	3.2 (2.58)	3.96 (3.3)	5.1 (3.86)	17.34 (13.94)
<b>Leg II</b>	6.2 (5.35)	1.48 (1.35)	5.1 (6.34)	7.75 (4.25)	7.0 (5.75)	27.53 (23.04)
<b>Leg III</b>	3.75 (3.5)	1.1 (1.2)	3.0 (2.75)	4.5 (4.15)	6.3 (4.1)	18.65 (15.7)
<b>Leg IV</b>	5.1 (5.15)	1.25 (1.34)	3.86 (3.58)	6.5 (6.15)	7.2 (5.95)	23.91 (22.17)

Chelicera (Figure 2c): Basal segment, typical shape, covered with small black-tipped tubercles dorsally and with several black setae retrolaterally. Distal segment a long apophyses, laterally and frontally covered with scattered black-tipped tubercles and setae.

Pedipalps (Figure 2e): Long and thin. Trochanter ventrally and dorsally armed with black-tipped tubercles. Femur and patella with longitudinal rows of black-tipped tubercles. Tibia dorsally covered with several black tubercles and ventrally with setae. Tarsus only with setae. Femur, patella and tibiae retrolaterally with small lateral apophyses. Tarsal claw smooth.

Legs: Long. Pair II thinner than others. Coxae with tiny black tubercles, trochanter dorsally and laterally with black-tipped tubercles. Femur, patella and tibia of all legs covered with longitudinal rows of black-tipped tubercles. Metatarsus and tarsus only with setae.

Penis (Figure 1h-j): Wide at base, narrow at middle and then enlarged at top. Glans with two pair of setae. Stylus long.

**Female:** General appearance similar to male. Body is longer and wider than male (Figure 2b). Chelicerae basal segment without apophyses (Figure 2f). Palps shorter than in males (Figure 2d).

Distribution: This species had been previously recorded from Azerbaijan (Snegovaya, 2005).

Remarks: This species was recorded for the first time in Azerbaijan in 2005. In this study, the species of *Phalangium armatum* Snegovaya, 2005 is recorded in Turkey for the first time except for type locality (Azerbaijan).

#### ACKNOWLEDGMENTS

We are very grateful to Dr. Nataly Snegovaya (Institute of Zoology NAS of Azerbaijan) and Dr. Osman SEYYAR (Niğde University) for their advice and valuable comments.

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