

New Data on the Harvestmen (Arachnida, Opiliones) Fauna of Turkey

*Kemal Kurt*¹, *Nataly Yu. Snegovaya*², *Hakan Demir*³ and *Osman Seyyar*⁴

¹Gümüşhane University, Şiran Vocational Scholl, TR-29700, Gümüşhane, Turkey; E-mail: kemalkurtmyo@gmail.com

²Zoological Institute NAS of Azerbaijan, proezd 1128, kvartal 504, Baku, AZ1073, Azerbaijan

³Gazi University, Science and Arts Faculty, Department of Biology, TR-06500 Ankara, Turkey

⁴Niğde University, Science and Arts Faculty, Department of Biology, TR-51200 Niğde, Turkey

Abstract: A new collection of 8 species of harvestmen are reported from Turkey. Two of them: *Zachaeus redikorzevi* (Starega et Chevrizov, 1978) and *Opilio coxipunctus* (Sørensen, 1912), collected from the southern part of the country, represent new records for Turkish harvestmen fauna. These species are illustrated and their data regarding collecting sites and distribution all over the world are given.

Key words: Opiliones; new records, *Zachaeus redikorzevi*, *Opilio coxipunctus*, Turkey

Introduction

The harvestmen fauna of Turkey is rather poorly known compared to other regions of the world.

Up to now, 6125 species of 1638 genera of Opiliones have been described in the world (Hallan 2005). There are only 61 species and 3 subspecies belonging to 7 families known from Turkey (Kurt *et al.* 2010).

The paper presents a new collection of 8 opilionid species, two of them: (*Zachaeus redikorzevi* (Starega, Chevrizov, 1978) and *Opilio coxipunctus* (Sørensen, 1912), are new to the fauna of Turkey.

Material and Methods

This study was carried out between April and September 2008 in Kayseri, Osmaniye, Adana and Kahramanmaraş provinces in Turkey. Samples were collected by hand (with pinset and aspirator). Examined specimens were preserved in 70% ethanol and deposited in the zoological collection of Organic Agriculture Department of Şiran Vocational Scholl,

Gümüşhane University.

Distribution of species in geographical regions of Turkey is summarized in remarks according to Topçu *et al.* (2005) (MR= Marmara, AR= Aegean, BSR= Black sea (WBR, MBR, EBR), CAR= Central Anatolie, EAR= East Anatolia, MER= Mediterranean, and SAR= Southeast Anatolia Regions) (Map. 1).

Comparative material used:

Opilio coxipunctus (Sørensen, 1912): 4♂♂, 3♀♀ (Reference collection of Nataly Snegovaya (RCNS).

Metaplatybunus rhodiensis Roewer, 1924: 1♂, 2♀♀ (Naturmuseum und Forschungsinstitut Senckenberg, Frankfurt am Main, Germany, SMF No 17101/3).

Phalangiidae Latreille 1802

Zachaeus crista (Brullé, 1832)

Zacheus crista: Roewer 1923: 820, fig. 1023; Šilhavý 1965: 384, Tab III-V, figs 1-4; Martens 1965: 71; – 1978: 301, figs. 559, 567; Starega 1976: 372, fig. 71-73; Çorak & Bayram 2007: 456.



Map. 1. Distribution map of *Opilio coxipunctus* [1,2,3], *Opilio parientinus* [1,3,5], *Phalangium punctipes* [1], *Phalangium savignyi* [1], *Rafalskia cretica* [2,3,4], *Zachaeus anatolicus* [5], *Zachaeus crista* [3] and *Zachaeus redikorzevi* [3] in Turkey.

Material. MER: Osmaniye province, surrounding of Hieropolis–Kastabala, (2♀♀), 30.IV.2008.

Distribution in Turkey: CAR (Ankara, Niğde, Kırıkkale), WBR (Bolu) (Kurt *et al.* 2010, Bayram *et al.* 2010).

***Zachaeus anatolicus* (Kulczyński, 1903)**

Egaenus crista var. *anatolicus* Kulczyński, 1903: 660.

Zacheus anatolicus: Šilhavý 1956: 34, figs 1-5; Starega 1976: 376, figs 75-77; Chevrizov 1979: 22, figs 119-121.

Material. Kayseri province, Erciyes mountain (1♂), 25.VIII.2008.

Distribution in Turkey: MER (Adana), AR

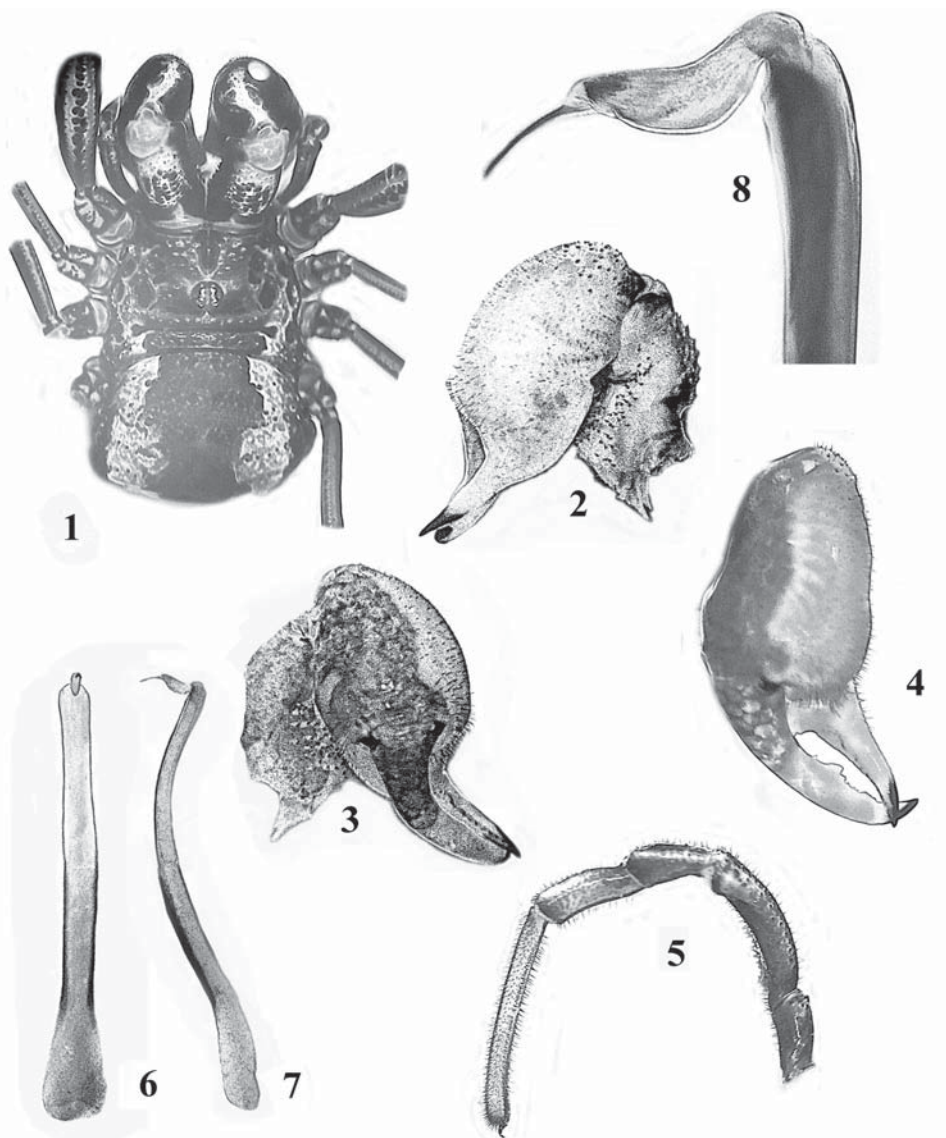


Fig. 1-8. *Zachaeus redikorzevi*. Male: 1 – body, dorsal view; 2 – right chelicera, prolateral view; 3 – right chelicera, retrolateral view; 4 – distal segment of chelicerae, frontal view; 5 – right pedipalpus, prolateral view; 6 – dorsal view of penis; 7 – lateral view of penis; 8 – glans penis, lateral view;

(Manisa, Alaşehir) (Kulczynski, 1903; Bayram *et al.*, 2010).

***Zachaeus redikorzevi* (Starega, Chevrizov, 1978)**

Figs. 1-8, Map. 1

Zachaeus redikorzevi Starega, Chevrizov 1978: 419-422, figs. 1-2 ; Starega 1978: 219; Chevrizov, 1979: 22, figs. 122-124.

Material. MER: Osmaniye province, surrounding of Hieropolis–Kastabala (2♂♂), 30.IV.2008.

Description: See Starega et Chevrizov (1978).

Comments. Earlier it was marked from Caucasus (Starega & Chevrizov 1978, Chevrizov 1979). Our specimens differ from found in Stavropol Province by absence of a longitudinal white strip on carapace, absence doubled setae on glans penis.

***Phalangium savignyi* Audouin, 1826**

Phalangium savignyi Audouin, 1826: 182, fig. 3; Roewer 1923: 752-753, fig. 928; Starega 1973: 133-134, figs. 10-12; Snegovaya 2008: 273-274, figs. 14-29.

Material. MER: Adana province, Ceyhan District, Yilankale village, (1♂, 1♀, 1 juv.), 24.V.2008.

Distribution in Turkey: MER (Bayram *et al.* 2010).

***Phalangium punctipes* (C.L.Koch, 1878)**

Phalangium punctipes: Starega, 1966: 401-402; 1973: 134-135, figs. 13-15; 1978: 216-217; Chevrizov, 1979: 19, figs. 110-111; Snegovaya, 1999: 455-456, figs. 24-33; Chemeris, Kovblyuk, 2005: 307, 309-312, figs. 9-18.

Material. MER: Adana province, Ceyhan District, Yilankale village (2♂♂, 1 juv.), 20.V.2008.

Distribution in Turkey: CAR (Niğde), BSR (Samsun, Amasya) (Roewer 1912; Kurt *et al.* 2010).

***Rafalskia cretica* (Roewer, 1923)**

Metaplatybus rhodiensis: Roewer, 1924; 1956: 272; Martens, 1965: 71-73, figs. 20-23; 1966: 358-360

Metaplatybus creticus: Roewer, 1923; Mitov, 2003:273-288.

Material. MER: Kahramanmaraş Province, Andırın District, Geberin village (1♂), 03.VI.2008; Osmaniye Province, Zorkun Plateau (1♂), 13.V.2008; Gaziantep Province, İslahiye District (1♀), 26.V.2008.

Distribution in Turkey: West, Southwest Anatolia (Mitov 2003).

***Opilio parientinus* (De Geer, 1778)**

Opilio parientinus: Roewer, 1923: 770; Martens, 1978: 240-243, fig. 423-428; Starega, 1978: 30;-2003:96; Chevrizov, 1979: 26, fig. 141-143; Chemeris *et al.*, 1998: 197-198, fig. 43-48; Snegovaya, 1999: 455;- 2004: 313-316; 2010: 5, figs. 20-37.

Material. CAR: Kayseri province, Erciyes mountain (5♂♂, 2♀♀), 25.VIII.2008; MER: Adana Province, Saimbeyli District (1♂,1♀), 30.VII.2008; surrounding of Hieropolis–Kastabala (8 juv.), 30.IV.2008; Osmaniye province, surrounding of Yarpuz (2♀♀), 04.IX.2008.

Distribution in Turkey: CAR (Konya, Kırşehir, Kırıkkale, Ankara, Niğde), BSR (Kastamonu) (Kurt *et al.* 2010, Bayram *et al.* 2010).

***Opilio coxipunctus* (Sørensen, 1912)**

Figs. 9-13, Map. 1

Phalangium coxipunctum Soerensen, 1912: 55
Opilio coxipunctus: Roewer, 1912: 128; 1923: 772; Starega, 1973: 142-143; Snegovaya, 2008:277-278, figs. 47-63.

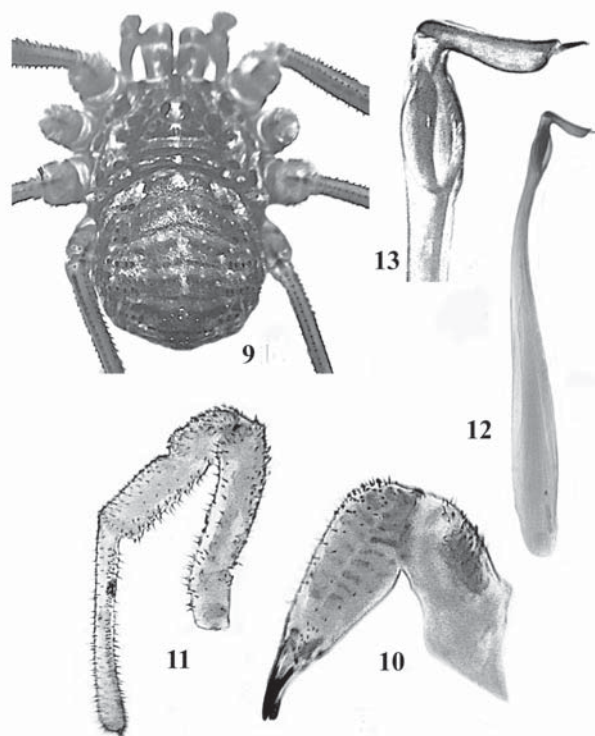


Fig. 9-13. *Opilio coxipunctus*. Male: 9 – body, dorsal view; 10 – right chelicera, prolateral view; 11 – right pedipalpus, prolateral view; 12 – lateral view of penis; 13 – glans penis, lateral view;

Description: See Snegovaya (2008).

Material. MER: Osmaniye province, surrounding of Yarpuz (2♂♂), 20.X.2008; Kahramanmaraş Province, Andırın District, Geberin village (1♂, 1♀), 03.VI.2008; Adana Province, Saimbeyli District (1♂, 1♀), 30.VII.2008; Osmaniye province, surrounding of Yarpuz (3♂♂), 04.X.2008.

Comments. This species extended from Israel,

Lebanon, Libya, Syria, Iraq (Starega 1973). Some specimens differ in larger sizes, than noted from Israel (Snegovaya 2008).

Acknowledgements: We thank Dr. P. Jaeger (Naturmuseum und Forschungsinstitut Senckenberg, Frankfurt am Main, Germany) for help in granting of a comparative material. Also thank to Dr. Pl. Mitov (Sofia University, Faculty of Biology, Bulgaria) for critical review and help to correct the article.

References

- AUDOUIN V. 1826. Explication sommaire des planches d'Arachnides de l'Égypte et de la Syrie, publiées par Jules-Cesar Savigny, Membre de l'Institut; offrant un exposé des caractères naturelles des genres, avec la distinction des espèces. – In: J. C. Savigny, Description de l'Égypte, ou recueil des observations et des recherches qui ont été faites en Égypte pendant l'expédition de l'armée française, publiée par les ordres de sa majesté l'empereur Napoléon le Grand. – *Histoire Naturelle*, **1** (4): 99-186, pl. 1-9.
- BAYRAM A., ÇORAK İ., DANIŞMAN T., SANCAK Z. & YİĞİT N. 2010. Checklist of harvestmen of Turkey (Arachnida: Opiliones). – *Munis Entomology & Zoology*, **5** (2): 563-585.
- CHEMERIS A. N., LOGUNOV D. V., TSURUSAKI N. 1998. A contribution to the knowledge of the harvestman fauna of Siberia (Arachnida: Opiliones). – *Arthropoda Selecta*, **7**(3): 189-199.
- CHEMERIS A. N., M. M. KOVBLYUK 2005. A contribution to the knowledge of the harvestman fauna of the Crimea (Arachnida: Opiliones). – *Arthropoda Selecta*, **14** (4): 305-328.
- CHEVRIZOV B. P. 1979. A brief key to the harvestmen (Opiliones) from the European part of the USSR. – The fauna and ecology of Arachnida. – *Proceedings of the Zoological Institute*, **85**: 4-27. (in Russian).
- ÇORAK İ. & BAYRAM A. 2007. Harvestmen fauna of the Soğuksu National Park, Ankara (Arachnida: Opiliones). – *Munis Entomology & Zoology*, **2**: 455-460.
- HALLAN J. 2005. Synopsis of the described Opiliones of the world. – [Internet]. [cited 15 April 2010] Available from: <http://insects.tamu.edu/research/collection/hallan/Acari/Family/Opiliones1.htm>
- KULCZYŃSKI W. 1903. Arachnoidea in Asia Minore et ad Constantinopolim a Dre. F. Werner collecta. – *Sitzungsberichte der K. Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Klasse (Vienna)*, **112**: 627-680.
- KURT K., BABAŞOĞLU A., SEYYAR O., DEMİR H. & TOPÇU A. 2008a. New faunistic records for the Turkish harvestmen fauna (Arachnida: Opiliones). – *Munis Entomology & Zoology*, **3** (2): 654-660.
- KURT K., DEMİR H., SEYYAR O. & TOPÇU A. 2008b. Some harvestmen records (Arachnida: Opiliones) from Niğde province of Turkey. – *Serket*, **11** (1): 2-6.
- KURT K., Ö. K. EMAN, H. DEMİR, O. Seyyar 2010. The Turkish Harvestmen (Opiliones) with zoogeographical remarks. – *Serket*, **12** (2): 33-44.
- MARTENS J. 1965. Über südägaische Weberknechte der Inseln Karpathos, Rhodos und Kos. – *Senckenbergiana biologica*, **46**: 61-79.
- MARTENS J. 1966. Zoologische Aufsammlungen auf Kreta III. Opiliones. – *Annalen des Naturhistorischen Museums in Wien*, **69**: 347-362.
- MARTENS J. 1978. Spinnentiere, Arachnida: Weberknechte, Opiliones. – *Die Tierwelt Deutschlands*. 64. G. Fischer Verlag, Jena, 464 p.
- MITOV P. G. 2003. Rare and endemic harvestmen (Opiliones, Arachnida) species from the Balkan Peninsula. II. Three new for the Bulgarian fauna Opiliones (Arachnida) with zoogeographical notes. – *Linzer biologische Beiträge*, **35**: 1, 273-288.
- ŠILHAVÝ V. 1956. Výsledky zoologické expedice Národního musea v Praze do Turecka. – *Sborník Entomologického Oddělení Národního Musea v Praze*, **30**: 31-39.
- ŠILHAVÝ V. 1965. Die Weberknechte der Unterordnung Eupnoi aus Bulgarien; zugleich eine Revision europäischer Gattungen der Unterfamilien Oligolophinae und Phalangiinae (Arachnoidea, Opilionea). – *Acta entomologica bohemoslov*, **62**: 369-406.
- SNEGOVAYA N.Yu. 1999. Contribution to the harvest spider (Arachnida, Opiliones) fauna of the Caucasus. – *Turkish Journal of Zoology*, **23**: 453-459.
- SNEGOVAYA N.Yu. 2004. Preliminary notes on the harvestman fauna (Opiliones) of Azerbaijan. – *European Arachnology*, (Logunov D.V., Penney D. Eds.), 307-318.
- SNEGOVAYA N.Yu. 2008. New data on the harvestmen fauna of Israel (Arachnida: Opiliones). – *Bulletin British Arachnological Society*, **14** (6): 272-280.
- SNEGOVAYA N.Yu. 2010. Further studies on harvestmen of the genus *Opilio* Herbst, 1798 (Arachnida: Opiliones: Phalangiidae) from the Caucasus. – *Caucasian Entomological Bulletin*, **6** (1): 3-18.
- SØRENSEN W. 1912. Description de quatre espèces nouvelles d'Arachnides de l'ordre des Opiliones, trouvées par M. Henri Gadeau de Kerville pendant son voyage zoologique en Syrie. – *Bulletin de la Société des Amis des Sciences naturelles de Rouen*, **5**: 47, 55-63.
- STARĘGA W. 1966. Beitrag zur Kenntnis der Weberknecht-Fauna (Opiliones) der Kaukasusländer. – *Annales Zoologici*, Warszawa, **23**: 387-411.
- STARĘGA W. 1973. Beitrag zur Kenntnis der Weberknechte (Opiliones) des Nahen Ostens. – *Annales Zoologici*, Warszawa, **30**: 129-153.
- STARĘGA W. 1976. Die Weberknechte (Opiliones, excl. Sironidae) Bulgariens. – *Annales Zoologici*, Warszawa, **33**: 287-433.
- STARĘGA W. 1978. Katalog der Weberknechte (Opiliones) der Sowjet-Union. – *Fragmenta faunistica*, Warszawa, **23**: 197-241.

- STAREGA W. 1981. Über *Platybunus strigosus* (L. Koch, 1867), nebst Bemerkungen über andere Arten der Platybuninae (Opiliones: Phalangiidae). – *Bulletin de l'Académie Polonaise des Sciences, Varsovie, Cl. II, Série des Sciences Biologiques*, **28** (8-9): 521-525.
- STAREGA W. 2003. On the identity and synonymies of some Asiatic Opilioninae (Opiliones: Phalangiidae). – *Acta Arachnologica*, **52**: 91-102.
- STAREGA W., B. P. CHEVRIZOV 1978. New species of the genus *Zacheus* C.L.Koch (Opiliones, Phalangiidae) from Northern Caucasus. – *Entomological Review*, LVII, **2**: 419-422.
- ROEWER C. F. 1912. Revision der Opiliones Palpatores (= Opiliones Plagiostethi). II. Teil: Familie der Phalangiidae. (Subfamilien: Sclerosomini, Oligolophini, Phalangiini). – *Abh. Naturwiss. Ver. Hamburg*, **20** (1): 1–295.
- ROEWER C. F. 1923. Die Weberknechte der Erde. – Systematische Bearbeitung der bishe bekannten Opiliones. *G. Fischer*, Jena, 1116 p.
- ROEWER C. F. 1924. Opilioniden von der Insel Rhodos, Italien und Sardinien, sowie der Cyrenaica. – *Bollettino dei Musei di Zoologia e di Anatomia Comparata della Reale Università di Torino*, Torino, **39**: (19), 1-7.
- ROEWER C. F. 1956. Über Phalangiinae (Phalangiidae, Opiliones Palpatores). – (Weitere Weberknechte XIX). – *Senckenbergiana biologica*, Frankfurt, **37**: (3/4), 247-318.
- TOPÇU A., DEMİR, H. & SEYYAR O. 2005. A Checklist of the spiders of Turkey. – *Serket*, **9**: (4), 109-140.

Received: 24.11.2010

Accepted: 13.01.2011