Genus Scytodes Latreille, 1804 in Turkey (Araneae, Scytodidae)

Türkiye'de Scytodes Latreille, 1804 Cinsi (Araneae, Scytodidae)

Research Article

Recep Sulhi Özkütük^{1,*}, Yuri M. Marusik², Tarık Danısman³, Kadir Boğac Kunt⁴, Ersen Aydın Yağmur⁵, Mert Elverici⁶

¹ Anadolu University, Faculty of Science, Department of Biology, Eskişehir, Turkey

² Institute for Biological Problems of the North RAS, Portovaya Str. 18, Magadan, Russia

³ Kırıkkale University, Faculty of Science and Arts, Department of Biology, Kırıkkale, Turkey

⁴ Poligon Site, 71/27B, Türkkonut, Ankara, TURKEY

⁵ Celal Bayar University, Alaşehir Vocational School, Alaşehir, Manisa, Turkey

⁶ University of Erzincan, Faculty of Science and Arts, Department of Biology, Erzincan, Turkey

⁶Middle East Technical University, Faculty of Arts and Sciences, Department of Biological Sciences, Ankara, Turkey

ABSTRACT

survey of the Scytodes Latreille, 1804 in Turkey is presented. So far, only two species, S. thoracica A (Latreille, 1802) and S. *velutina* Heineken and Lowe, 1832 have been known from Turkey. Here, we record S. kinzelbachi Wunderlich, 1995 for the first time from Turkey, which was originally described from Jordan. All available information on these little known Scytodidae species is presented along with comments on their distribution patterns in Turkey. All species occurring in Turkey are illustrated and key to them is provided. Additional information, illustrations and interspecific comparisons are also provided involving some other members of the Scytodes from Middle East, which may actually have distribution ranges reaching Turkey; and from these species, we record S. univittata Simon, 1882 for the first time from Iran.

Kev Words

Haplogynae, Mediterranean, Middle East, New record, Spider

ÖZET

ürkiye'deki Scytodes Latreille, 1804 cinsine dair bir araştırma sunulmuştur. Şimdiye kadar Türkiye'den S. thoracica (Latreille, 1802) ve S. velutina Heineken ve Lowe, 1832 bilinmekteydi. Bu çalışmada Ürdün'den betimlenen S. kinzelbachi Wunderlich, 1995'i Türkiye'de ilk kez kaydedilmektedir. Bu az bilinen Scytodidae türüne dair, dağılımı da dahil olmak üzere tüm mevcut veriler sunulmaktadır; Türkiye'de görülen diğer türlere ait resimler ve bir teşhis anahtarı da sağlanmaktadır. Bunlara ilave olarak Ortadoğudan bilinen ve ileride Türkiye'den de rapor edilme ihtimali bulunan bazı Scytodes türlerine ait ilave bilgiler, türler arasındaki kıyaslamalarla beraber verilmektedir; ve bu türlerden S. univittata Simon, 1882 İran'dan ilk kez bu çalışma ile kaydedilmektedir.

Anahtar Sözcükler

Haplojin, Akdeniz, Orta Doğu, Yeni kayıt, Örümcek

Article History: Received Jan 04, 2013; Revised Jan 15, 2013; Accepted Feb 10, 2013; Avaliable Online: May 08, 2013.

Correspondence to: Recep Sulhi Özkütük, Anadolu University, Faculty of Science, Department of Biology, Eskişehir, Turkey

Tel: +90 222 335 05 80 / 47 05

INTRODUCTION

Cytodidae Blackwall, 1864 is relatively small globally distributed family of haplogyne spiders with peculiar dome-shaped carapace. So far 228 species belonging to five genera are known in this family. The most species rich genus of the family is Scytodes Latreille, 1804. It encompasses 219 valid species names [1]. As most of Scytodidae are restricted to tropical regions, only few species penetrates to subtropics and especially to areas with temperate climate. For example only one species, S. thoracica (Latreille, 1802) is known throughout Europe, while there are ten species in Mediterranean region [2]. Although Turkey lies in Mediterranean, only two species of Scytodes where known until now, S. thoracica and S. velutina Heineken and Lowe, 1836 [3]. Neighboring Bulgaria has only one species, but Greece has three species of Scytodes [2].

In order to clarify diversity of Scytodidae in Turkey, we undertook collecting throughout the country and studied all available collections in Turkish and foreign museums and institutions. As a result we found one species, *S. kinzelbachi* Wunderlich, 1995, new to the fauna of Turkey. Earlier this species was known only from Jordan [1]. Main goals of this paper are as follow: 1) to provide detailed illustrations of all three species occurring in Turkey, 2) to trace distribution of species found in the country, 3) to provide a key and 4) discuss diversity of *Scytodes* in East Mediterranean and adjacent areas in the Near East.

MATERIAL and METHODS

Specimens examined were collected from different regions of Turkey (Figure 1) by using aspirators from the ground or by means of pitfall trap surveys. All specimens were directly taken into 70% ethanol; while trap samples were previously exposed to 80% ethylene glycol used as preservative liquid in pitfall traps. Specimens belonging to *S. univittata* Simon, 1882 and *S. strandi* Spassky, 1941 were photographed using an Olympus Camedia E-520 camera attached to an Olympus SZX16 stereomicroscope; while specimens belonging to *S. thoracica*, *S. kinzelbachi* and *S. velutina* were photographed

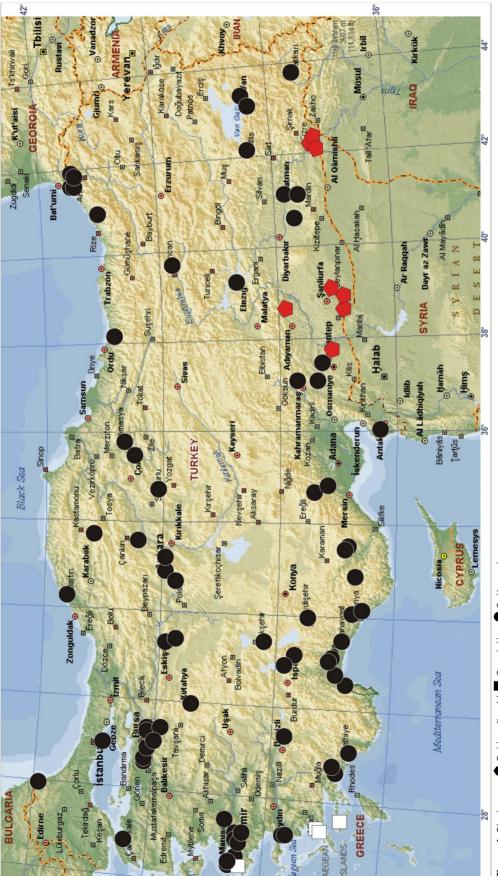
using a Leica DFC295 camera attached to a Leica S8APO stereomicroscope. The images were montaged using "CombineZP" image stacking software. Photographs were taken in dishes of different sizes with paraffin in the bottom. Different sized holes were made in the paraffin to keep the specimens in the correct position. For SEM photographies, the male palps were dried at 30°C and coated with a thin layer of gold by Polaron SC 502 sputter coater. The materials were examined at an accelerating voltage of 15 kV under Jeol JSM 6060 LV Scanning Electron Microscope, and the electron micrographies were recorded. All measurements are given in mm. Abbreviation used for the collectors: **AB** Abdullah Bayram; EAY Ersen Aydın Yağmur; KBK Kadir Boğaç Kunt; ME Mert Elverici; RK Rahşen Kaya; RSÖ Recep Sulhi Özkütük; SVV Sakin Vural Varlı; TD Tarık Danışman; YMM Yuri M. Marusik.

SPECIES SURVEY

Family Scytodidae Blackwall, 1864 Genus Scytodes Latreille, 1804 *Scytodes kinzelbachi* Wunderlich, 1995 Figure 2

S. k. [4]: 621, f. 1-5 (♂). S. k.: [5]: 13, f. 1-5 (♂♀).

Material examined: Adiyaman Province 1 Q, Gerger District, Açma Village (37°59'15.07"N; 38°56'49.94"'E), 19.04.2008 (EAY). Gaziantep **Province** 1∂, Şehitkamil District, Suboğazı Village (37°9'28.77"N; 37°28'18.85"'E), 11.05.2007 (EAY). **Şanlıurfa Province** 13, Duruca Village (36°57'24.94"N; 38°52'45.66"E), 07.05.2006 (EAY); 1♂, Akçakale District, Edebey Village (36°50'6.88"N; 38°41'8.91"E), 22.05.2007 (EAY); 222, Birecik District, c. 2 km SW of Haydarahmet Village (37°7'10.41"N; 38°14'1.00"E), 10.04.2008 (EAY); 1♂, Karahisar Village, Karaca Field 39°15'53.19"E), (37°3'43.32"N; 25.04.2009 (EAY); Harran District, Şuayip Şehir Village 39°22'21.87"'E), (36°52'9.06"N; 25.04.2009 (EAY). **Şırnak Province** 4[⊖], Cizre District, Yalıntepe Village (37°17'21.30"N; 42°3'29.21"E), 12.05.2007 (EAY); 1♂, 1♀, İdil District, Çığır Village (37°10'29.71"N; 41°42'4.22"'E), 13.05.2007 (EAY); 2^{QQ} , 6 juv., İdil District, Yörük Village (37°15'25.56"N; 41°58'33.74"E), 20.05.2009 (EAY).





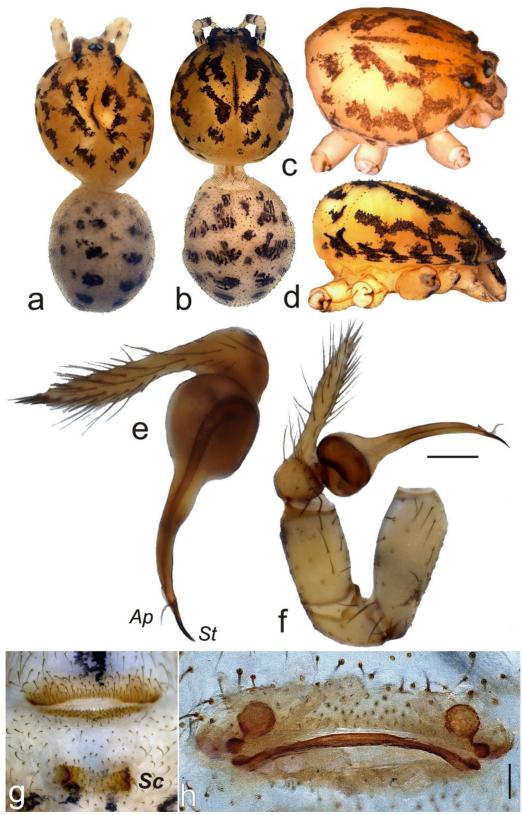


Figure 2. *Scytodes kinzelbachi.* a: Habitus; male b: Ditto, female; c: Carapace, male; d: Ditto, female; e: Male palp, retrolateral view; f: Ditto, prolateral view; g: Vulva, ventral view; h: Ditto, dorsal view *Ap* – apophysis of psembolus *Sc* – scutula *St* – stylus Scale line: 0.2 mm.

Measurements ♂ (n=4): Total length 4.53. Carapace 2.34 long, 1.86 wide. Eye diameters: posterior median eyes 0.11, anterior lateral eyes 0.12, posterior lateral eyes 0.12. Labium 0.17 long, 0.23 wide. Sternum 1.30 long, 1.00 wide. Leg I 12.40, II 9.08, III 6.44, IV 9.72. Leg I > Leg IV > Leg II > Leg III.

Comments: Scytodes kinzelbachi was described on the basis of a male specimen from Azraq village at the east of Amman (Jordan) by Wunderlich [4]. The female was subsequently described by Gasparo [5] from a single specimen collected from 180 km southwest of the type locality. Furthermore, Gasparo has assessed the taxonomical position of this species by giving detailed descriptions of the male as well. Consequently, *S. kinzelbachi* has been currently known only from these localities and assumed to have a distribution restricted to Jordan [1].

We found *S. kinzelbachi* in the southeastern Anatolian Region of Turkey during our field studies dealing with diversity of spiders in Turkey. In general view, *S. kinzelbachi* resembles *S. thoracica*, the most common *Scytodes* species in Turkey, and it can easily be distinguished from *S. velutina* at first glance by its colour. However, it differs by having a large hook-shaped apophysis in the

Key to Scytodes species found in Turkey

terminal part of psembolus, and short stylus (small apophysis and long stylus in S. thoracica, stylus and apophysis lacking in S. velutina) (Figure 2e). The alobular spermatheca in the vulva of females of S. kinzelbach is also a diagnostic character as well as closely spaced scutula far separated from the epigastral furrow (Figure 2g). Gasparo [5] noted the close relationships between S. strandi Spassky, 1941 and S. kinzelbachi. Scytodes strandi, a species ranging from Iran to Tajikistan [1,6] and possibly occuring in Eastern Anatolian region of Turkey, can be differentiated from S. kinzelbachi by having a flat and leaf-shaped apophysis at the end of psembolus. Besides, the psembolus in S. strandi is weakly sclerotised and more curved, in comparison with that of S. kinzelbachi. The general morphology of the bulb is thinner, longer and curved upwards in S. kinzelbachi (Figure 3).

Note: Likewise *Scytodes strandi*, *S. univittata* is another species that may possibly be found in Turkey in the Southeastern Anatolia, as a species with a distribution range from Canary Islands to Myammar, and also distributed in the Nearctic as a result of synanthropy [1]. *Scytodes univittata* could be easily distinguished from *S. strandi* and other *Scytodes* known from Turkey by the morphology of male and female copulatory organs (Figure 4).

1.	Male	2
	-Female	6
2.	Femur I and metatarsus III with spines	S. univittata
	-Spines on legs are lacking	3
3.	Bulbus without stylus and apophysis, abdomen dark	S. velutina
	-bulbus with stylus and apophysis	
4.	Terminal part of bulbus (psembolus) as long as basal part, apophysis fine	S. thoracica
	-Stylus short, euqual or twice longer than apophysis	
5.	Apophysis thinner than stylus, twice shorter	S. kinzelbachi
	-Apophysis thicker than stylus, stylus and apophysis subequal in length	S. strandi
6.	Scutula longer than high, spaced by less than one width	S. velutina
	-Scutula higher than long	
7.	Scutula straight	S. strandi
	-Scutula semiround or triagle-shaped	
8.	Scutula large, triangle-shaped, heavily sclerotized	
	-Scutula semiround	9
9.	Scutula small, stay apart of epigastric fold about 2.5 of their length	S. kinzelbachi
	-Scutula large, separated from epigastric fold by less than ½ of their height	S. thoracica

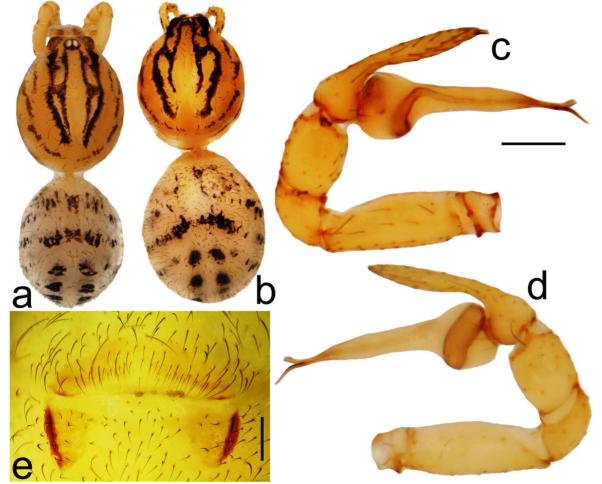


Figure 3. Scytodes strandi. a: Habitus, male; b: Ditto, female; c: Male palp, prolateral view; d: Ditto, retrolateral view; e: Vulva, ventral view [5 \Im , 2 \Im , 15 juv., IRAN, Tehran, Plant-Protection-Organization Pk., 7-22.06.2000 (Y.M. Marusik)] Scale lines: 0.2 mm.

Scytodes velutina Heineken and Lowe 1836 Figure 5

S. v.: [7]: 151, f. 26-33 (♂♀). S. v.: [8]: 100, f. 257-261, 706 (♂♀). S. v.: [9]: 203, f. 28.1-2 (♂♀).

For a complete list of references see Platnick [1].

Material examined: *İzmir* Province **3**♀♀, 233, Karaburun District, Parlak Village (38°35′59″N; 26°23′17″E), 17.01.2009 (EAY); 1♂, Urla District, Gülbahçe Village (38°20'573"N; 26°38'19"'E), 21.01.2009 (EAY). Muğla Province 2QQ, Bodrum District, Aspat (36°58'58"N; 27°18'36"E), 14.11.2009 (EAY); 3♂♂, 3♀♀, Milas District, Kıyıkışlacık Village (37°16'26.34"N; 27°34'23.44"'E), along summer period from June to August 2010 (ME); 1^o, Datca District (36°44'27.00"N; 27°40'29.00"E), 25.10.2010 (TD).

Comments: Scytodes velutina, is known across the Mediterranean and also in Seychelles and Cape Verde islands [1]. It has been recently recorded from the Aegean region of Turkey [10]. Apart from the morphological differences of the copulatory organs, it differs from other Turkish Scytodes by colouration and patterns (darker general view) (Figure 5a-d). Additionally, it was determined that S. velutina exists only in small and local populations alongside range of S. thoracica, although the latter is always the dominant species.

Scytodes thoracica (Latreille, 1802) Figure 6

S. *t*.: [11]: 124, f. 2, 4, 7, 10-13 (♂ ♀). S. *t*.: [12]: 204, f. 2283-2285 (♂♀). S. *t*.: [13]: 36, f. 13.1-4 (♂♀). For a complete list of references see Platnick [1].

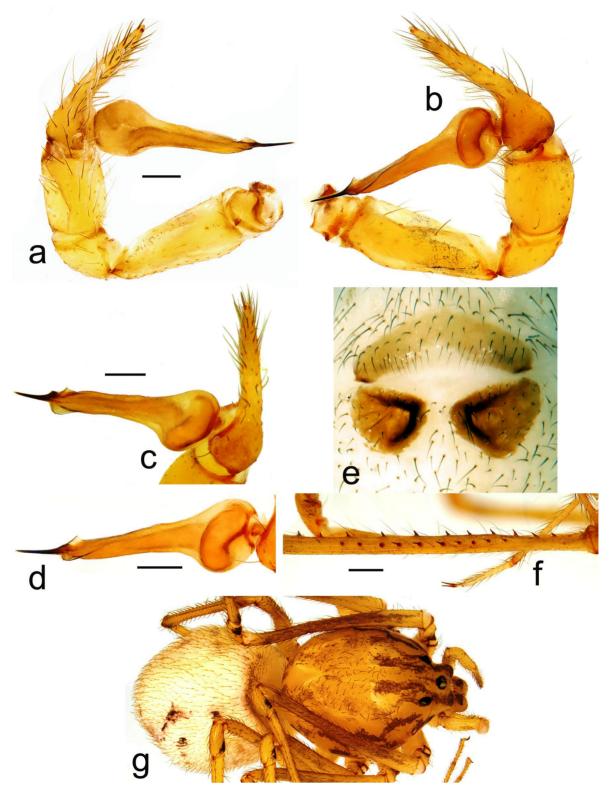


Figure 4. Scytodes univittata. a: Male palp, prolateral view; b, c, d: Ditto, retrolateral view; e: Vulva, ventral view; f: femur I, male; g: Habitus, female [1 Å, IRAN, Mazandaran Province, Ghaemshahr, rice fields, 09. 2005 (H. Ghahari); 1 ¢, Fars Province, Shiraz, 18-25.05.2000 (Y.M. Marusik)]; Scale lines: 0.2 mm.

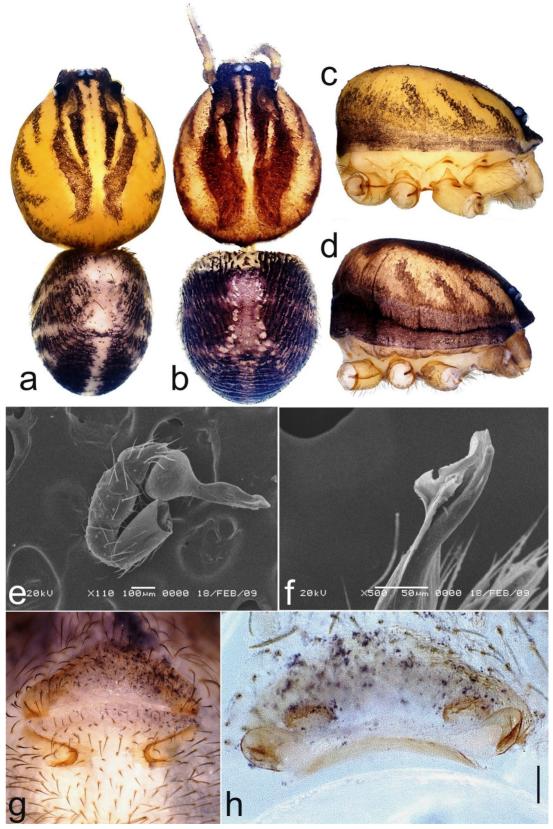


Figure 5. *Scytodes velutina.* a: Habitus, male; b: Ditto, female; c: Carapace, male; d: Ditto, female; e: Male palp, prolateral view; f: Ditto, tip of embolus; g: Vulva, ventral view; h: Ditto, dorsal view Scale line: 0.2 mm.

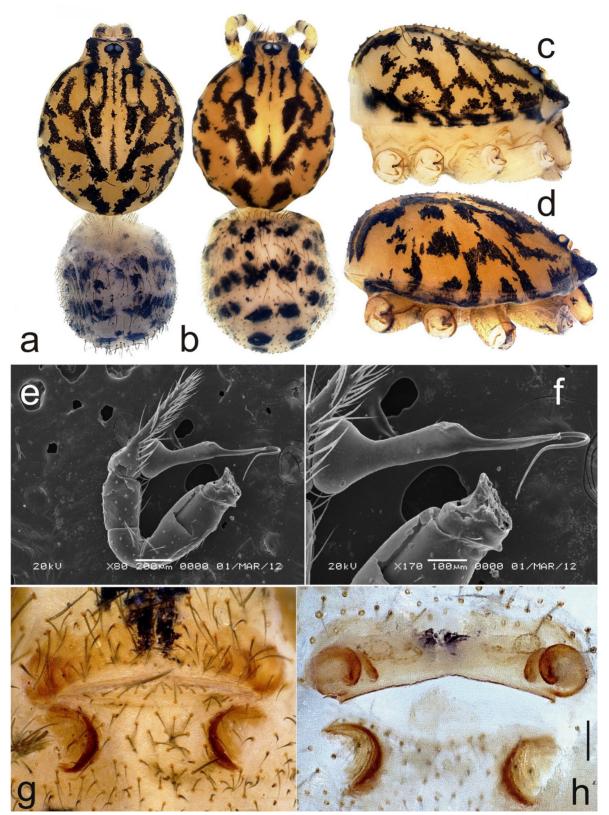


Figure 6. Scytodes thoracica. a :Habitus, male; b: Ditto, female; c: Carapace, male; d: Ditto, female; e: Male palp, prolateral view; f: Ditto, tip of embolus; g: Vulva, ventral view; h: Ditto, dorsal view Scale line: 0.2 mm.

Material examined: Antalva Province 12. Serik District, Environs of Zeytintaşı Cave (37°2'48.40"N; 31°6'37.52"E), 10.07.2007 (TD); 12. Kemer District. Camvuva Town (36°47'11.66"N: 30°34'14.11"'E), 15.03.2009 (EAY); 1♀, Manavgat District, Oymapınar (36°53'60.00"N; 31°32′5.47″E), 16.05.2009 (RK): 1♂, Alanva District, Taşatan Plateau (36°38'29.00"N; 32° 4′5.00″E), 09.06.2009 (YMM); 1♂, 2♀♀, Alanya District. Tasatan Plateau (36°38'29.66"N: 32° 4'42.99"E), 09.06.2009 (KBK); 3♂♂, 2♀♀, Alanya District, Alanya Castle (36°32'15.19"N; 31°59'33.82"'E), 04.12.2011 (KBK). Ankara **Province** 2♂♂, 3♀♀, Çankaya District, Emniyet Quarter, A. U. Science Faculty (39°56'11.29"N; 32°49′50.70″E), 17.06.2003 (KBK). Artvin **Province** 1^Q, Fistikli Village (41°13'0.00"N; 41°46'55.00"E), 11.06.2009 (YMM); 3 juv., Savsat District, Meydancık Town (41°24'18.12"N; 42°17'48.54"E), 12.06.2009 (KBK); 1[♀], Arhavi (41°22'4.08"N; District 41°20'24.72"'E), 13.06.2009 (KBK); 1♂, 2♀, 2 juv., c. 9 km NW Artvin (41°15'38.00"N; 41°46'21.00"E), of 13.06.2009 (YMM). Aydın **Province** 200, Kuşadası District, Dilek Peninsula National Park, (37°41'44.00"N; 27°9'48.00"E), 07.06.2009 (YMM); 1∂, Kuşadası District, Dilek Peninsula National Park (37°42'31.97"N; 27°12'29.55"E), 07.06.2009 (KBK). **Bartin Province** 3건건, 2^{QQ} , Kurucaşile District, Karaman Village (41°49'34.14": 32°37'15.80"'E), 28.06.2012 (KBK). **Batman Province** 2건건, Hasankeyf District (37°42'44.64"N; 41°24'39.24"E), 09.07.1999 (AB). **Bitlis Province** 233, 499, Centrum (38°23'44.82"N; 42° 6'4.00"E), 03.07.2000 (AB). Bursa Province 1 juv., Seytan Island, Uluabat Lake (40°9'41.63"N; 28°38'6.42"E), 08.04.2001 (RK); 2승승, 1 juv., Nilüfer District (40°7'27.00"N; 28°42′6.00″E), 02.06.2009 (YMM); 2♀♀, 2 juv., University of Uludağ, Central Campus (40°13'32.00"N; 28°52'6.00"E), 2-03.06.2009 (YMM); 1², 4 juv., Nilüfer District, Environs of Oylat Cave (39°55'59"N; 29°35'20"E), 23.09.2010 (YMM); 13, 52, 2 juv., Uludağ National Park, İnkaya Area (40°09'55''N; 29°00'56''E), 24.09.2010 (YMM); 1♂, Keles District, near Lake (39°57'59''N; 29°14'24''E), Baraklı 25.09.2010 (YMM); 3♂♂, 1♀, 1 juv., Osmangazi Village (40°02'50.8"'N; District. Çaybaşı 29°04'11.4''E), 25.09.2010 (YMM). Çanakkale

Province 14 ♂♂, 16♀, Biga District, Karabiga Town (40°22'38.58"N; 27°18'14.99"E), 05.07.2008 (SVV). **Cankırı Province** 1^Q, Ilgaz Mountain National Park (41°4'36.52"N; 33°43'54.98"E), 06.05.2008 (TD); 1[°]₂, Ankara-Çankırı Hwy (40°23'23"N; 33°34'14"E), 15.09.2010 (YMM). **Denizli Province** 1^O. Honaz District. Honaz (37°45'19.48"N; Mountain 29°15'14.67"'E), 17.10.2009 (EAY). **Eskisehir Province** 299, 2 juv., Alpu-Mihalıççık Hwy, 20-25 km to Mihalıççık (39°50'05"N; 31°11'36"E) 27.09.2010 (YMM); 1∂, Çatacık Forests (39°55′54′′N; 31°08′22′′E), 27.09.2010 (YMM). Hakkari Province 2 소소. 4오오. Centrum (37°34'60.00"N; 43°43'60.00"'E), 22.06.1999 (AB). *Hatay Province* 1⁽²⁾, Antakya District, Entrance of Narlica Cave (36°13'25.00"N: 36°12'0.00"E), 16.05.2008 (EAY). İzmir **Province** 1♂, Karaburun District, Parlak Village, (38°35′59″N, 26°23′17″E), 06.06.2009 (EAY); 1♀. Buca District, Kaynaklar Village (38°21'39.50"N; 27°17'17.90"E), 10.04.2008 (EAY); 233, Karaburun District. Parlak <u>3</u>22. Village, (38°35'59"N, 26°23'17"E), 17.01.2009 (EAY); 1 juv., Kemalpaşa District, Vişneli Village, Environs of Fetrek Cave (38°20'46.62"N; 27°25'16.26"E), 05.06.2009 (KBK); 2♀♀, 8 juv., Kemalpaşa District, Vişneli Village, Environs of Fetrek Cave (38°20'46.00"N; 27°25'16.00"E), 05.06.2009 (YMM); 4♂♂, 1♀, Karaburun District, c.1 km N of Parlak Village (38°36'0.00"N; 26°23'15.00"E), 06.06.2009 (YMM); 2♀, Buca District. Üçkuyular (38°22'55.41"N; 27°10'34.73"E), 17.08.2009 (EAY). Kahramanmaras Province 1♂, Pazarcık District, Narlı Town (37°27'24.12"N; 37°14'40.05"'E), 03.07.2008 (EAY). Karaman **Province** 1♂, Ermenek District, Entrance of Maraspoli Cave (36°38'30.42"N; 32°53'31.50"E), 14.05.2009 (RK); 1♂, Sertavul Pass (36°53'50''N; 33°16'09''E), 19-20.09.2010 (YMM). Kırklareli **Province** 299, Demirköy District, Sislioba Village (41°57'44.20"N; 27°54'36.10"E), 09.10.2009 (KBK). *Konya Province* 2♂♂, 5♀♀, Akşehir District, Sultan Mountains (38°18'5.64"N; 31°27'30.63"E), 25.03.2011 (KBK); 3^{\Box}_{\Box} , Seydişehir District, Environs of Ferzene Cave (37°23'3.84"N; 31°50'24.46"'E), 27.03.2011 (RSÖ). Manisa *Province* 2♀♀, Spil Mountain (38°33'24.70"N; 27°23'14.30"'E), 10.10.2008 (EAY). Mardin *Province* 3♀♀, Derik District (37°21'45.37"N; 40°15'34.94"'E), 05.06.2000 (AB); 3승승, Midyat

District (37°24′23.60″N; 41°21′34.66″E), 25.05.2000 (AB). **Muğla Province** 2♂♂, 4♀♀, Yatağan District, Bencik Mountain (37°16′11.90″N; 28° 1′16.91″E), 06.07.2009 (EAY). **Van Province** 3♀♀, Edremit District (38°25′12.00″N; 43°15′0.00″E), 21.09.1999 (AB); 2♂♂, 3♀♀, Gevaş District (38°18′6.54″N; 43° 5′37.60″E), 14.09.1999 (AB).

Older records: Ankara Province [14]; Elazığ Province, Harput [15]; Amasya Province – Antalya Province: Akseki, Korkuteli – Bursa Province: Uludağ – Çorum Province: Boğazkale, Mecitözü – Giresun Province – Isparta Province: Anamas Plateau (Zindan Cave), Eğirdir – Karaman Province: Sertavul Pass – Kütahya Province: Gediz (Abide Village) – Muğla Province: Fethiye, Gökbel, Ortaca [7]; İstanbul Province: Burgazada [Antigoni] [16]; Mersin and Niğde Provinces [17].

Comments: Scytodes thoracica has a Cosmopolitan distribution [1]. It was recorded for the first time in Turkey by Kulczyński [16] from istanbul Province (Burgazada-Antigoni). It is obvious that this species is widespread in Turkey, by considering the available materials in our collections and the related literature. The long and tapering stylus together with small spophysis, spiral channels on vulva and oval-shaped spermatheca are characteristics for *S. thoracica* (Figure 6e-h).

RESULTS and DISCUSSION

Together with S. *kinzelbachi*, there are three species of Scytodes known from Turkey. Scytodes velutina is only known from the Aegean region. The distribution of S. *kinzelbachi* is restricted between Gaziantep and Şırnak provinces, between catchment basins of the Fırat (Euphrates) and Dicle Rivers (Tigris). Scytodes thoracica, is widespread in Turkey, but its co-occurance with S. *kinzelbachi* has not been recorded yet. This is probably due to different habitat preferences of these two species. As it was also mentioned before, it is possible to encounter some other species of *Scytodes* from Turkey as well in future with the ongoing studies on fauna. *Scytodes strandi* is one of them as a species unknown in the Balkan neighbors Greece and Bulgaria and other southern and eastern neighbors except Iran and *S. univittata* is another, which is recorded from Iran for the first time with this study. A third species that would possibly be found especially in the southern parts of Turkey is *S. aharonii* Strand, 1914. It is known by female sex only from Israel [1].

REFERENCES

- N. I. Platnick, The world spider catalog, version 13.5., American Museum of Natural History, Available from: http://research.amnh.org/iz/spiders/catalog. DOI: 10.5531/db.iz.0001. (2013).
- P.J. van Helsdingen, Araneae, In: Fauna Europaea Database (Version 2012.1), Available from: http:// www.european-arachnology.org (2012).
- K. Bayram, B. Kunt, T. Danışman, The Checklist of the Spiders of Turkey, Version 2013.1, Available from: http://www.spidersofturkey.com (2013).
- J. Wunderlich, Beschreibung der Speispinne Scytodes kinzelbachi n. sp. aus Jordanien (Arachnida: Araneae: Scytodidae), Beiträge zur Araneologie, 4 (1995) 621.
- F. Gasparo, Note su Scytodes kinzelbachi di Giordania, con descrizione della femmina (Araneae, Scytodidae), Fragmenta entomologica, 35 (2003) 13.
- K.G. Mikhailov, Catalogue of the spiders of the territories of the former Soviet Union (Arachnida, Aranei), Moscow, (1997) 416.
- 7. P.M. Brignoli, Beiträge zur Kenntnis der Scytodidae (Araneae), Revue suisse Zoologie, 83 (1976) 125.
- J. Wunderlich, Die Spinnen der Kanarischen Inseln und Madeiras: Adaptive Radiation, Biogeographie, Revisionen und Neubeschreibungen, Triops Verlag, Langen, West Germany, (1987).
- 9. M.I. Saaristo, Araneae, In: Arachnida and Myriapoda of the Seychelles islands, J. Gerlach, Y. Marusik (eds.), Siri Scientific Press, Manchester, UK, (2010) 306.
- K.B. Kunt, R.S. Kaya, R.S. Özkütük, T. Danışman, E. A. Yağmur, M. Elverici, Additional notes on the spider fauna of Turkey (Araneae), Turkish J. Zool., 36 (2012) 637.

- P. M. Brignoli, Note sugli Scytodidae d'Italia e Malta (Araneae), Fragm. ent., 6 (1969) 121.
- P. Paquin, N. Dupérré, Guide d'identification des araignées de Québec, Fabreries, Suppl., 11 (2003) 1.
- P. Paquin, C. Vink, N. Dupérré, Spiders of New Zealand: Annotated Family Key and Species List. Manaaki Whenua Press, Lincoln, New Zealand, (2010).
- S. Karol. Spiders of Ankara and environs with a description of a new species *Xysticus turcicus* (Araneae, Thomisidae), Communs Fac. Sci. Univ. Ankara., 11C (1966) 15.
- C.F. Roewer, Die Araneae, Solifuga und Opiliones der Sammlungen des Herr. Dr. K. Lindberg aus Griechenland, Creta, Anatolien, Iran und Indien, Göteborgs Zoology Museum, 129, Serie B, Band 8, No 4, (1960).
- W. Kulczyński, Arachnoidea in Asia Minore et ad Constantinopolim a Dre F. Werner collecta, Sitzungsberichte der Akademie der Wissenschaften, Wien, 112 (1903) 627.
- A. Topçu, H. Demir, O. Seyyar, T. Türkeş, The spider fauna of the Gülek Pass (Turkey) and its environs (Araneae), In C. Deltshev & P. Stoev (eds.), European Arachnology 2005, Acta zool. bulg. Suppl., 1 (2006) 335.