

TWO NEW RECORDS OF THE GENUS *AGROECA* WESTRING, 1861 (ARANEAE: LIOCRANIDAE) FROM TURKEY

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ABSTRACT: A short history of the genus *Agroeca* Westring, 1861 for Turkey is given and two species of the genus are recorded for the first time from Turkey: *A. dentigera* Kulczyński, 1913 and *A. brunnea* (Blackwall, 1833). After these records, the number of species of genus *Agroeca* for Turkey increases to six.

KEY WORDS: Spider; Turkey; *Agroeca* Westring, 1861; spiny-legged sac spiders

Liocranids are free-living and ground-dwelling hunters. They usually prefer to live in leaf litters on the forest floor. Some members of the family are known as in symbiotic relation with termites and ants. They are called spiny-legged sac spiders. Especially metatarsi and tibia of the first two pairs of legs bear ventrally several pairs of spines. They have two tarsal claws, eight eyes in two rows, anterior row straight, posterior row procurved or recurved. The prosoma and abdomen ovoid slightly widening toward posterior end (Jocqué & Dippenaar-Schoeman, 2006). Family is represented by 31 genus and 271 species around the world (World Spider Catalog, 2017) and 7 genus and 12 species in Turkey (Bayram et al., 2016).

The genus *Agroeca* consists of 28 valid species and has holarctic distribution. Although two species (ones from India and Peru) are considered most likely misplaced in this genus, *Agroeca* is the second most species-rich genus in the family according to Zonstein et al. (2015). *Agroeca* can be distinguished from the other genera in the family by having three pair of spines on ventral side of metatarsi I- II and two pairs on ventral side of tibia I- II. Additionally, tegulum of male palp has generally longitudinal grooves (Roberts, 1995).

This short paper gives a brief history of the genus *Agroeca* in Turkey and the report of two new records for the genus with distributional information.

MATERIAL AND METHODS

The specimens which are considered in this paper are part of the master thesis collection of the first author. All specimens were collected by hand aspirator and pitfall traps in 2012-2014 years. They are preserved in 70% ethanol at the first author's personal collection.

RESULTS

Agroeca brunnea (Blackwall, 1833) (Figs. 2A-B)

Agelena brunnea Blackwall, 1833: 351 (Description female).

Philoica linotina Grube, 1859: 467 (Description male).

Agroeca brunnea Jocqué, 1977d: 80, f. 6-7 (male).

Agroeca brunnea Roberts, 1995: 137, f. (male and female).

Agroeca brunnea Almquist, 2006: 336, f. 292a-h (male and female).

Materail examined: 1 male, Yedipınar Village, Korkut District, Muş Province (38°49'13.9"N; 41°42'46.3"E), 04.04.2014, leg: G. Gündüz. 1 male, Dagdibi Village, Hasköy District, Muş Province (38°41'03.8"N; 41°39'34.6"E), 19.06.2014, leg: G. Gündüz. The specimens were collected under the stones on an open area by means of hand aspirator.

Diagnosis: Prosoma has some irregular patterns on pale yellow ground in dorsally. Carapace surrounded by dark margins. Abdomen with dark chevrons. The length between posterior median eyes equals the length between posterior lateral eyes and posterior median eyes. There are very light brown bants on ventral side of femora. Retrolateral tibial apophysis long, slender, pointed upward and has a small tubercule distally. *A. brunnea* can be distinguished from other species in Turkey with the shape of retrolateral tibial apophysis, tegulum and tegular apophysis. This species is new to Turkey.

Distribution: Palearctic (World Spider Catalog, 2017).

Agroeca dentigera Kulczyński, 1913 (Figs. 2C-D)

Agroeca dentigera Kulczyński, 1913a: 26, pl. 1, f. 10 (Description **female**).

Agroeca dentigera Wunderlich, 1975b: 44, f. 6-10 (**female**, Description **male**).

Agroeca dentigera Jocqué, 1977d: 80, f. 1-4 (**male and female**).

Agroeca dentigera Jonsson, 2005: 49, f. 1-6 (**male and female**).

Agroeca dentigera Almquist, 2006: 339, f. 294a-d (**male and female**).

Materail examined: 1 female, Bögürdelen Village, Hasköy District, Muş Province (38°37'35.4"N; 41°48'18.9"E), 12.05.2012, leg: G. Gündüz. 2 female, Yedipınar Village, Korkut District, Muş Province (38°49'10.9"N; 41°42'41.4"E), 01.09.2013- 15.10.2013 (from pitfall trap), leg: G. Gündüz.

Diagnosis: This species is smaller than *A. brunnea*. Prosoma pale yellow with dark dentated striae, while eye region much darker. Carapace is enclosed by thin dark border. Abdomen brownish and has dorsally marked chevrons. Legs without any stripe or ring. Femora have dorsally 3 fine and robust spines. Epigyne has heart-shaped chitinous wall and two eyelid-like structure near the anterior part. This species is recorded for the first time for Turkey.

Distribution: Europa, Russia (World Spider Catalog, 2017).

DISCUSSIONS

Agroeca is a holarctic genus and has 28 valid species now. The genus is represented by four species in Turkey until now: *Agroeca cuprea* Menge, 1873 (Özkütük et al., 2013), *A. inopina* O. P. Cambridge, 1886 (Topçu et al., 2007), *A. parva* Bosmans, 2011 (Elverici et al., 2013) and *A. proxima* (O. P.-Cambridge, 1871) (Özkütük et al., 2011) (Figure 1). The first record of the genus was reported in 2007 (Topçu et al., 2007). However, some members of the genus is very common, there are several rare representatives, too. Two of them is reported in this short paper. By this study, the situation of the genus *Agroeca* in Turkey changed, as well. The number of the species raised from 4 to 6. And the distribution of genus is widened through the east. It is also considered that the presence of the other species for *Agroeca* in Turkey, *A. maculata*, is very probable as mentioned in previous studies (Özkütük et al., 2013).

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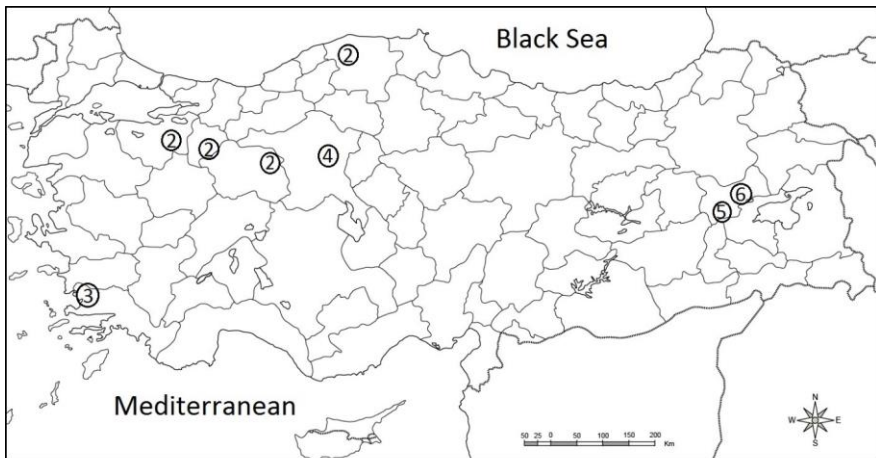


Figure 1. Distribution map of genus *Agroeca* in Turkey based on current knowledge. 1: *A. inopina*, 2: *A. proxima*, 3: *A. parva*, 4: *A. cuprea*, 5: *A. brunnea*, 6: *A. dentigera*.

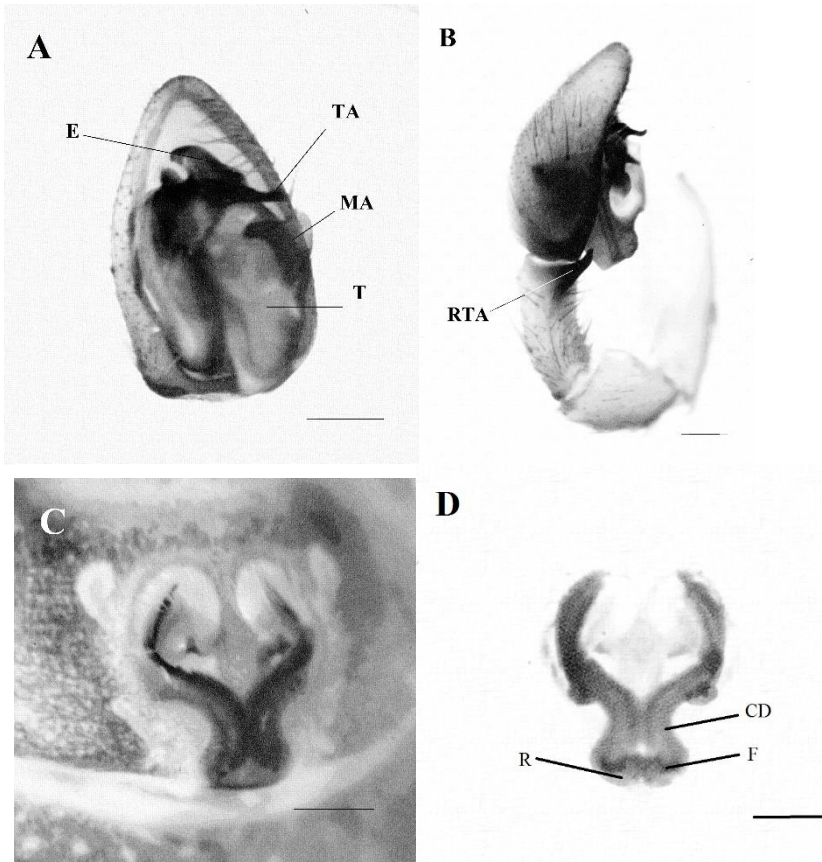


Figure 2. *Agroeca brunnea* (Blackwall, 1833), male. (A) Palp, ventral. (B) Palp, lateral. *Agroeca dentigera* Kulczyński, 1913, female. (C) epigyne, (D) vulva, ventral. **Diagnostic abbreviations:** E: embolus, T: tegulum, TA: tegular apophysis, MA: median apophysis, RTA: retrolateral tibial apophysis, CD: copulatory duct, F: fertilisation duct, R: receptacle. Scale bar: 0,1 mm.