A NEW RECORD FOR THE HARVESTMEN FAUNA OF TURKEY: *LACINIUS EPHIPPIATUS* (C.L. KOCH, 1835) (OPILIONES, PHALANGIIDAE)

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ABSTRACT: In this study, characteristic features and drawings of *Lacinius ephippiatus* (C.L. Koch, 1835), which is a new record for the harvest spider (Opiliones) fauna of Turkey, are given. In addition, habitat, phenology and the geographical distribution of the species are presented. The specimens were collected from different parts of Turkey.

KEY WORDS: *Lacinius ephippiatus,* Harvestmen, Phalangiidae, Opiliones, New record, Turkey.

TÜRKİYE OTBİÇEN FAUNASI İÇİN YENİ BİR KAYIT: *LACINIUS EPHIPPIATUS* (C.L.KOCH, 1835) (OPILIONES, PHALANGIIDAE)

ÖZET: Bu çalışmada, Türkiye otbiçen faunası (Opiliones) için yeni kayıt olan *Lacinius ephippiatus* (C.L. Koch, 1835)'nin karakteristik özellikleri ve çizimleri verilmiştir. Ayrıca türün habitatı, fenolojisi ve coğrafi dağılışı verilmiştir. Türe ait örnekler Türkiye'nin farklı yerlerinden toplanmışlardır.

ANAHTAR SÖZCÜKLER: *Lacinius ephippiatus*, Otbiçen, Phalangiidae, Opiliones, Yeni kayıt, Türkiye.

INTRODUCTION

The harvestmen are small arachnids that live in the soil zone of the agricultural ecosystems. They prefer to be under grasses, mosses and fallen leaves, and feed on aphids, leaf-hoppers, flies, spiders, woodlice, small snails, mushroom and soft fruits. So far, a total of 6150 species were established on the world (Kury 2006). Among these 50 species were recorded from Turkey (Çorak 2004).

Lacinius ephippiatus (C.L. Koch, 1835) is member of the Family Phalangiidae (Suborder Palpatores). It is a cosmopolitan species. *L. ephippiatus* is known from Scandinavian countries (Stol 2003, 2004), Latvia (Spungis 2008), Belarus, Ukraine, Poland, Czechoslovakia, England (Hillyard & Sankey 1989), Ireland (Cawley 2002), Belgium, France, Portugal, Italy, Switzerland, Austria (Starega 1976), Germany, Holland, Luxemburg, Slovenia (Novak et al. 2006), Croatia, Bosnia and Herzegonia (Novak 2004, 2005), Albania, Hungary, Romania (Babalean 2004) and Bulgaria (Mitov 2003) in Europe. This species is distributed also in Russia and Caucasia (Starega 1966, Chevrizov 1979, Snegovaya 1999, Snegovaya & Chemeris 2004). *L. ephippiatus* was recorded from Bad Gastein (a thermal spring town in Austria) as the type species.

There is no information on the distribution of *L. ephippiatus* in the Middle East countries.

So far, the Genus *Lacinius* Linne, 1758 and *L. ephippiatus* (C.L.Koch, 1835) have not been recorded from Turkey. This paper reports the characteristic features of *L. ephippiatus* and adds a genus and species to the harvestmen fauna of Turkey.

MATERIAL AND METHODS

In all, 22 adults and 1 nymphs were collected from different parts of Turkey between 1994 and 2004 (Fig. 1). The specimens were collected with pens, aspirator and hand pots, and preserved in 70 % ethanol. The identification was made with a SMZ10A Nikon Stereo microscope. The drawings was made by means of a camera lucida attached to the microscope. The keys of Komposch & Gruber (2004), Chevrizov (1979), Babalean (2004), Pinto-da-Rocha et al. (2007), Hillyard & Sankey (1989) and Komposch & Gruber (2004), Mitov & Stoyanov (2005) were used. Measurements are in mm. The specimens were deposited in the Zoological Museum of Kırıkkale University.

RESULTS AND DISCUSSION

Lacinius ephippiatus (C.L. Koch, 1835)

Type species: *Lacinius ephippiatus* (C.L. Koch, 1835), Bad Gastein, Austria.
Opilio ephippiatus C.L. Koch 1835: Faunae Insecta, Germany, init, 128: p. 17.
Acantholopus ephippiatus C.L. Koch 1848: Die Arachniden, 15: 121.

Lacinius ephippiatus Roewer 1912: Abh. Naturwiss. Ver. Hamburg, 20 (1): 78.

Diagnosis.
Opisthosoma has quadrilateral dorsum, abdominal color is changeable brown to grey and yellow. Male of this species has a remarkable saddle (in Greek, "*ephippios*" refers to something –saddle for *Lacinius*- put on a horse). There are for to six spines on ocular area, and tridents on front-middle of head. There are accessories tubercles on lateral and behind side of trident. Prosoma is also remarkable. On ventral side of the basal segment of chelicera there is an unremarkable spur. Pedipalps and legs are yellow, and have dark spots. Femur, patella and tibia have angular shape in cross section. Femur has remarkable, partly endways acute tubercles.

Description.
Body length: Male 3.5-4.5 mm (n=8), female 4.5-5.5 mm (n=14).
Length of second leg: For male 16.0-20.0 mm (n=8), for females 15.2-17.4 mm (n=14).
Body: Body is pale brown or grey dorsum in color. Male has remarkable saddle but famale has indefinite quantity saddle (Fig. 2A). It is dark brown in male. Transverse lenght of oculer area is a bit over size than the longitudinal lenght of oculer area. There are 4-6 number short tubercles on oculer area, tridents are in equal sizes (Fig. 2B), and there arae accessories tuberclus behind the teridents. A few acute tuberclus located on lateral areas of the prosoma. Smell glands are remarkable. Ventrum is covered by white or pale spots.
Chelicerae: It is pale yellow, in normal shape. Basal segment with an unremarkable ventral spur (Fig. 2C).
Pedipalps: Pedipalps are pale yellow, and have dark brown spots. There are a lot of acute tubercles on ventral surface of femur (Fig. 2D).
Legs: Legs are yellow, with dark yellow rings. Femur, patella and tibia have angular shape in transverse plane. Femur has remarkable, partly endways acute tubercles (Fig. 2E). There are acute tubercles on coxa I and II, also trochanters have same tubercles.
Penis: It is wider at the base, and narrower at the midd-upper part (Fig. 2F). The spines on the had are shorter and blunt than the others.

Material examined.
Van (38º 34′ N, 43º 35′ E): Muradiye, 1670 m, 05.VII.1999, 3♂♂; Erciş, 1650 m, 11.IV.2002, 2♀♀, 3♂♂; University Campus, 1646 m, 15. VI..2004, 5♀♀; Edremit, 1662 m, 02.VI.2004, 1♂, 1 nymph; Gevaş, 1668 m, 06.XI.2004, 4♀♀; Bingöl (40º 37′ N, 39º 27′ E): 1151 m, 02.VI.2004, 1♂, 3♀♀.

Habitat and phenology.
According to the literature prevalance of the species are so much. Species can be seen on soil zone of forests, under leaves, on branch, stone and trunk of trees, and also on fen zones, among mosses or grasses. It can migrate to grasses from forests and pastures at night. In this study, the specimens were collected among grasses, leaves and branches of trees that fallen down in period of april to november.

Distribution.
Europe, Russia, Caucasia and Turkey (Chevrizov 1979, Çorak 2004, Pinto-da-Rocha et al. 2007,).

Starega (1976) gave the leg measurements of the species in his article titled "The harvestmen (Opiliones, esp. Sironidae) fauna of Bulgaria". Sizes of the second legs (especially femur length) are confident with the Anatolian specimens. Also, other morphological features are similar.
Habitat of the harvest spiders was studied by Stol (2003) in Norvay. In this study, some biotopes such as coniferous wood, deciduous wood, mixed wood, heather, grazing land, garden and beach were observed for the harvest spiders. In order to establish the real habitat of *Lacinius ephippiatus* detailed ecological works have to be done. Also, this species were recorded only from two provinces in Turkey (Van and Bingöl). For geographical distribution of the species more works and recordes are needed.

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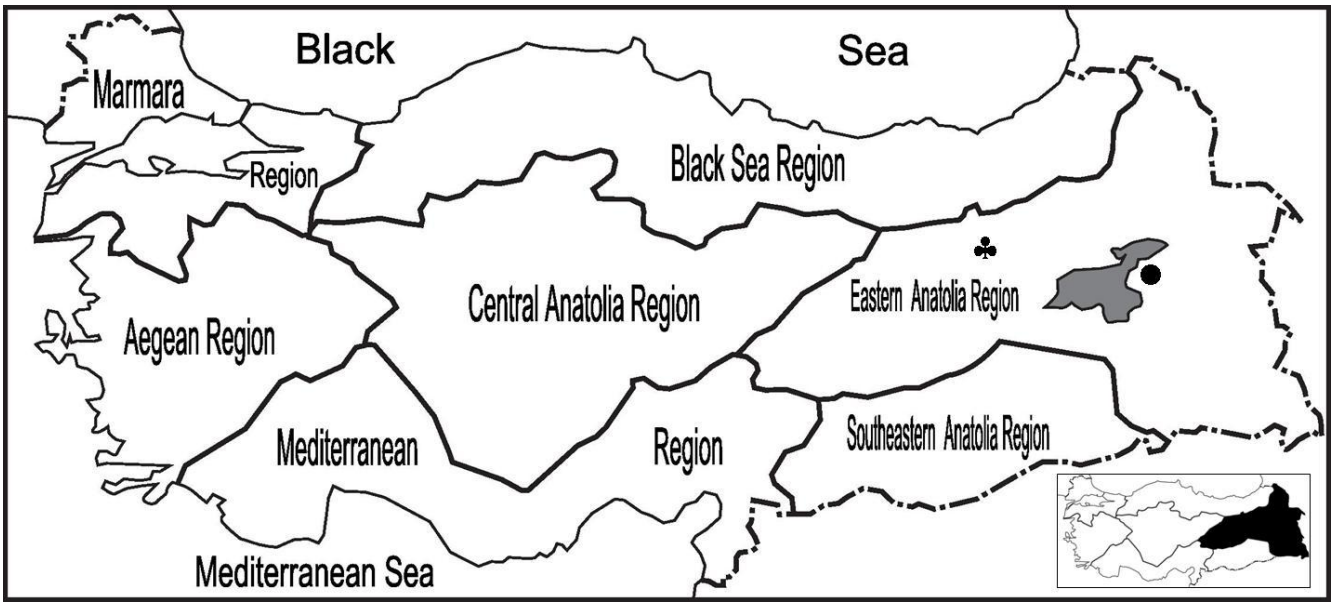

Fig. 1. Localities for *Lacinius ephippiatus* in the Eastern Anatolia Region in Turkey (●, Van; ♣, Bingöl).

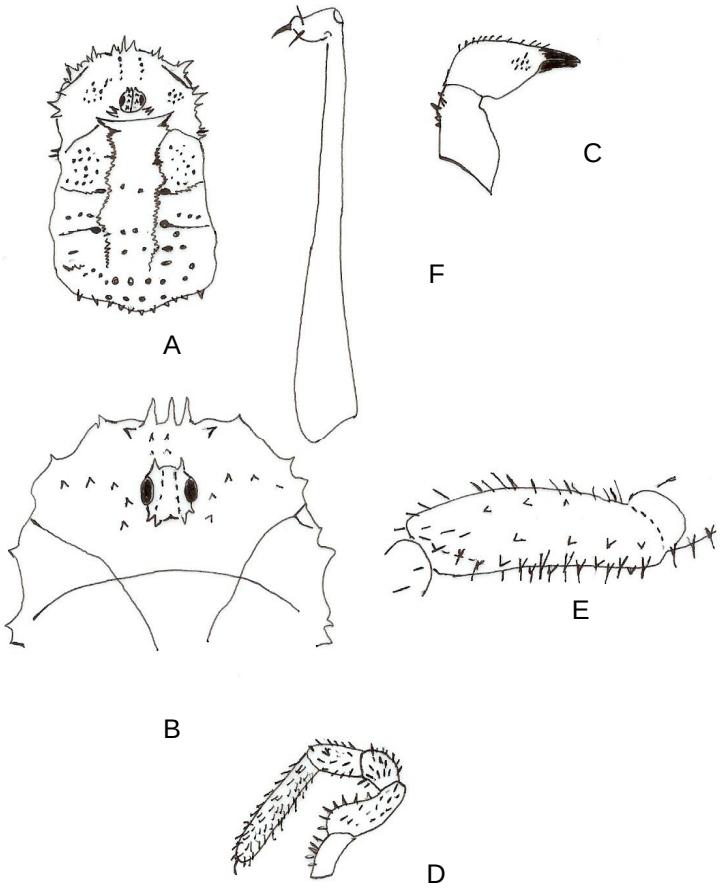

Fig. 2. *Lacinius ephippiatus:* A- Body, dorsal view; B- Trident; C- Chelicera; D- Pedipalpus; E-Femur in male; F- Penis, lateral view.