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A New Record for the Harvest Spider Fauna of Turkey: *Dicranolasma giljarovi* Silhavy, 1966 (Opiliona, Dicranolasmatidae)

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Abstract: The characteristic features and drawings of *Dicranolasma giljarovi* Silhavy, 1966, which is a new record for the harvest spider 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: *Dicranolasma giljarovi*, harvest spider, Dicranolasmatidae, Opiliona, taxonomy, new record, Turkey

Türkiye Otbiçen Faunası İçin Yeni Bir Kayıt: *Dicranolasma giljarovi* Silhavy, 1966 (Opiliona, Dicranolasmatidae)

Özet: Bu çalışmada, Türkiye otbiçen faunası için yeni kayıt olan *Dicranolasma giljarovi* Silhavy 1966'nin taksonomik özellikleri ve çizimleri verilmiştir. Ayrıca türün habitatu, fenolojisi ve coğrafi dağılışı verilmiştir. Türe ait örnekler Türkiye'nin farklı yerlerinden toplanmıştır.

Anahtar Sözcükler: *Dicranolasma giljarovi*, Otbiçen, Dicranolasmatidae, Opiliona, Taksonomi, Yeni kayıt, Türkiye

Introduction

Harvest spiders are small arachnids that live in the soil zone of agricultural ecosystems. They prefer to be under grasses, mosses, and fallen leaves. They feed on aphids, leaf-hoppers, flies, spiders, woodlice and small snails. They also eat fungi and soft fruits. To date, about 3800 species have been identified worldwide (Kury, 2003), of which 39 were recorded from Turkey (Çorak, 2004).

Dicranolasma (Sorensen, 1873) is a cosmopolitan genus seen throughout the world. According to Gruber (1998), *Dicranolasma* consists of 5 species groups: the *Dicranolasma scabrum* group, the *D. mladeni* group, the *D. cristatum* group, the *D. soerensenii* group, and the *D. apuanum* group. The *D. scabrum* group includes the following species: *D. scabrum* (Herbst, 1799); *D. opilionoides* (L.Koch, 1867); *D. hoberlandti* Silhavy, 1956; *D. giljarovi* Silhavy, 1966; *D. kurdistanum*

Starega, 1970; *D. thracium* Starega, 1976; *D. resslii* Gruber, 1998; *D. ponticum* Gruber, 1998; and *D. cretaeum* Gruber, 1998. These species are known from southeast Europe, the Aegean islands, Turkey, Caucasia, and the Middle East, and several articles were published on the geographical distribution of these species (Martens 1965, 1978; Starega, 1966; Gruber, 1969, 1998; Snegovaya, 1999).

Dicranolasma giljarovi was first recorded from the Kuban Mountains in Caucasia by Silhavy (1966). In Turkey, among *Dicranolasma*, *D. scabrum* (Herbst, 1799) was recorded from İstanbul, Ankara, Kırıkkale, and Van, while *D. hoberlandti* Silhavy, 1955 was recorded from Uludağ (Bursa), Amanus (Hatay), and the eastern Taurus region (Adana). *D. resslii* Gruber, 1998 was recorded from Sultandağ (Konya) and *D. ponticum* Gruber, 1998 from Ordu and Samsun (Gruber, 1969,

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1998; Çorak, 2004). This paper reports the characteristic features of *D. giljarovi* Silhavi, 1966 and adds a species to the harvest spider fauna of Turkey.

Materials and Methods

In all, 21 adults and 4 nymphs were collected from different parts of Turkey between 1994 and 2004. The specimens were collected with pens, aspirators, and hand pots, and were preserved in 70% ethanol. They were identified using a SMZ10A Nikon stereomicroscope. The drawings were made by means of a camera lucida attached to the microscope. The keys prepared by Roewer (1959), Silhavy (1966), Starega (1966), Gruber (1969), Chevrizov (1979), Hillyard and Sankey (1989), and Cokendolpher (1990) were used. Measurements are given in millimeters. The specimens were deposited in the Zoological Museum of Kirikkale University.

Results

Genus *Dicranolasma* (Sorensen, 1873)

Type species: *Dicranolasma scabrum* (Herbst, 1799), southeast Europe.

Diagnosis: Front edge of the prosoma bears a hood (cucullus) covering the mouthparts. There are teeth inside of the cucullus in some species. Eyes are placed at the base of the cucullus, not raised on an ocularium. In most species, the distal segment of the chelicera is strong and rotund. The second leg is longer than the others. Leg segments are angular in the cross section. No saddle on the opisthosoma. Base of the corpus is usually enlarged.

Dicranolasma giljarovi Silhavi, 1966

Dicranolasma giljarovi Silhavi 1966, Neue Troguliden aus dem Kuban-Gebiet und dem Kaukasus, Senck. biol. 47, 2: 151-154.

Description: Inside of the cucullus there are teeth. Distal segment of the chelicera is robust. Tibia of the pedipalp is longer than the tarsus. Pointed tubercles on the dorsal and ventral side of the femora are not conspicuous. Base of the corpus is concave, proximal of the corpus is larger than the distal.

Body length: male: 3.0-3.5 mm; female: 3.5-4.5 mm.

Length of second leg: 9.0-12.0 mm.

Body: There are several teeth inside the cucullus, and no arms extend forward from the sides. Eyes are placed on the mid-lateral of the cucullus (Figure 1A). There are black tubercles on the dorsum of the opisthosoma. Tubercles are ordered and conspicuous. There is no saddle or pattern on the dorsum.

Chelicerae: Distal segment of the chelicera is robust. Basal segment is strong with a cheliceral gland in males; the gland is remarkable. There are some spines on the dorsal and ventral sides of the basal segment (Figure 1B).

Pedipalps: There are a few denticles on the ventrum of coxa. Femur is refined. Patella is strong. Tibia is slightly longer than the tarsus. Tarsus is thick at the middle (Figure 1C).

Legs: Second leg is the longest. Leg length is as follows: II, IV, III, and I. Femora of III and IV are strong and remarkable. Tarsal claw is conspicuous (Figure 1D-E). Segment measurements of leg IV in females: Coxa: 0.5 mm; trochanter: 0.35 mm; femur: 1.8 mm, patella: 0.5 mm, tibia: 1.5 mm, tarsus: 3.2 mm (in drawn species).

Penis: Base of the corpus is concave, proximal of the corpus is larger than the distal. The glans of the penis looks like the tip of an arrow and is covered with fine spines. The tip of the glans is not pointed (Figure 1F-G-H). Penis length: 1.85 mm (in drawn species).

Material examined: Van (lat 39°N, long 43°25'E), Muradiye, 1670 m, 02.VI.1994, 3♂♂; Van, Erciş, 1650 m, 09.V.1995, 3♀♀, 2♂♂, 1 nymph; Ankara (lat 40°N, long 33°E), Kızılcahamam, Soğuksu National Park, 960 m, 06.IV.1999, 3♂♂, 1 nymph; Ankara, Kızılcahamam, Çiğirler village, 13.VIII.2001, 4♀♀; Ankara, Kızılcahamam, stream bed of the mineral water factory, 24.VI.2003, 1♂; Ankara, Çamlıdere, Çamkoru Forest, 1100 m, 09.VI.2004, 3♀♀, 1 nymph; Ankara, Çamlıdere, Çamkoru lakeside, 28.VII.2004, 2♂♂, 1 nymph.

Habitat and phenology: The specimens were collected from moist places of grasslands and forests in spring and summer months. They were found under leaves, between litter, and in grasses in the soil zone.

Distribution: Rhodos, Carpathos, Caucasus, and Turkey.

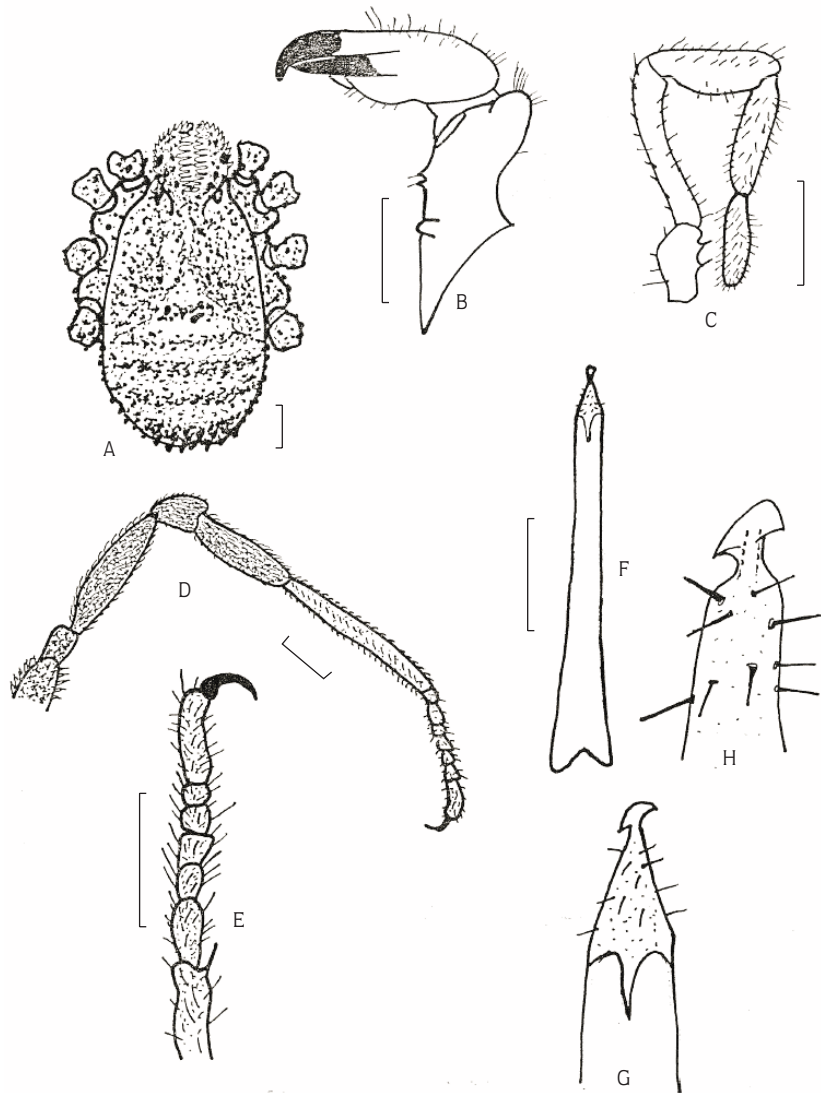


Figure 1A-H. *Dicranolasma giljarovi* Silhavy, 1966. A. Female body, dorsal; B. Chelicera (male), lateral; C. Pedipalpus (male), lateral; D. Leg IV (female), lateral; E. Tarsal claw (female, Leg IV); F. Penis, dorsal; G. Glans of penis, dorsal; H. Tip of penis, dorsal. Scale lines = 0.5 mm.

Discussion

The species that form the *Dicranolasma scabrum* group (*D. scabrum*, *D. opilionoides*, *D. hoberlandti*, *D. giljarovi*, *D. kurdistanum*, *D. thracium*, *D. resslie*, *D. ponticum*, and *D. cretaeum*) are known from southeast Europe, the Aegean islands, Turkey, Caucasia, and the Middle East (Martens, 1965, 1978; Starega, 1966; Gruber, 1969, 1998). In Turkey, among the species of the group, the most common opilionid was *D. giljarovi*,

followed by *D. scabrum*. Both species were caught in central and eastern Turkey, but probably these species are common in all parts of Turkey. Still, there are no studies encompassing the other parts of Turkey, except the short survey by Gruber (1969, 1998).

In *D. giljarovi*, the measurements and characters of the Anatolian population are not different from the Caucasian population. Silhavy (1966) recorded specimens from 500- and 800-m altitudes on Kuban Mountain. In

Turkey, the specimens were collected from 1650-1670 m in Van and from 950-1100 m in Ankara. Like *D. hoberlandti* this species may be distributed on the highlands.

Immature specimens were not evaluated for this study because they lack genital organs.

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