First record of *Neognathus terrestris* (Acari, Caligonellidae) in Turkey

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Abstract: In the present work, on the basis of specimens collected from Erzurum, the characteristic features and the figures of *Neognathus terrestris*, recorded for the first time from Turkey, have been given.

Key Words: Acari, Caligonellidae, Neognathus, new record, Turkey

**Türkiye’de Neognathus terrestris (Acari, Caligonellidae)’ın İlk Kaydı**

**Özet:** Bu çalışmada, Türkiye faunası için yeni olan *Neognathus terrestris*’in tanımları ve şekilleri verilmiştir.

Anahtar Sözcükler: Acari, Caligonellidae, Neognathus, yeni kayıt, Türkiye

Introduction

Summers and Schlinger (1955) fully described the genus *Neognathus* under *Stigmagnathus*. Summers (1957) synonymized the latter genus with *Neognathus*, erected by Willmann (1952). Fan (2000) suggested that four species belonging to *Neognathus* are transferred to the genus *Paraneognathus*. Therefore, there are seven species in the genus: two from the United States, two from Africa, one from Europe, one from Egypt, and one from Pakistan (Summers and Schlinger, 1955; Willmann, 1952; Fan, 2000; Chaudhri et al., 1979; Khaustov and Kuznetzov, 1997; Meyer and Ueckermann, 1989; Soliman, 1971; Swift, 1996; Gerson, 1968). *Neognathus terrestris* is described and illustrated on the basis of the female as *Stigmagnathus terrestris* by Summers and Schlinger (1955) from Glendale, California. Later, Summers (1957) synonymized the genus *Stigmagnathus* with *Neognathus*, and the status of *Stigmagnathus terrestris* was as follows: *Neognathus terrestris* (Summers and Schlinger, 1955). This species has not been identified by contemporary workers.

*Neognathus* can be recognized by the following characteristics: idiosoma without dorsal shield or eyes; stylophore elongate, conical; peritremata confined to stylophore, w-shaped, outer arms ending on small lobules projecting from side walls of inflated section of stylophore.

To date, there have been no reports of this genus in Turkey. *Neognathus terrestris* is the only species reported from California (Summers and Schlinger, 1955). In this paper, *Neognathus terrestris* from Turkey is described and figured, and a species is thus added to the acari fauna of Turkey.

Materials and Methods

Soil, litter, grass and moss samples taken from Erzurum province were brought to the laboratory in nylon bags and extracted in Berlese funnels. Mites were collected in 70% ethanol. *Neognathus* mites were picked out from the samples under a stereomicroscope and mounted on slides in modified Hoyer’s medium and 35% lactic acid. The drawings were made with the aid of a camera lucida attached to a compound microscope.

The dorsal setal and leg setal designations follow Kethley (1990) and Grandjean (1944), respectively.
chaetotaxy of leg segments is given in descriptions as a formula from legs I to IV, with the solenidia in parenthesis. All measurements are given in micrometers (µm). The range as measures of the dispersion of the values of the length and width of the idiosoma has been given, and other measurements are averages. The examined materials are deposited at the Acarology Laboratory of Erciyes University, Kayseri, Turkey.

Results

Neognathus Willmann, 1952


Type species: Neognathus insolitus Willmann, 1952

Dorsal shields and eyes absent; stylophore elongate, conical; peritremata confined to stylophore, w-shaped.

Neognathus terrestris (Summers and Schlinger, 1955)

Stigmagnathus terrestris Summers and Schlinger, 1955: 547.


Female - Length of body (excluding gnathosoma) 233-267, width 127-137.

Dorsum - Dorsum without shields and eyes; with striae; 11 pairs of setae, simple about equal in length, 12-

Figure 1. Neognathus terrestris: Female; A) Dorsal view, B) Ventral view, C) Palpus. Abbreviations: (Co) coxa, (Tr) trochanter, (vi) internal vertical setae, (ve) external vertical setae, (sc) internal scapular setae, (sce) external scapular setae, (c1) internal humeral setae, (c2) external humeral setae, (d1) internal dorsal setae, (e1) internal lumbral setae, (f1) internal sacral setae, (h1) internal clunal setae, (h2) external clunal setae, (1a) anterior intercoxal setae, (3a) posterior intercoxal setae, (4a) anterior paragenital setae, (4d) posterior paragenital setae, (ag1-3) aggenital setae, (g1-3) genital setae, (p1-3) pseudoanal setae, (ia) dorsal cupules, (im) lumbral cupules, (ip) sacral cupules, (ih) clunal cupules.
14. Distances between setae: vi-vi 17, sci-sci 36, vi-sci 20, ve-ve 60, sce-sce 100, ve-sce 17, c2-c2 103, sce-c2 33, c1-c1=d1-d1 33, c1-d1 46, e1-e1=f1-f1 50, d1-e1=e1-f1 36, h1-h1 13, f1-h1 23, h2-h2 50, h1-h2=f1-h2 27. Three pairs of cupules dorsolaterally on integument: a pair (ia) posterolaterad of setae c1, a pair (im) posterolaterad of setae d, and a pair (ip) posterolaterad of setae e1; anal shields terminal with two pairs of posterolateral of setae (ps1,2): a pair of setae dorsally, a pair of setae subdorsally (Fig. 1A).

Venter - Ventral surface with striae, seven pairs of setae; endopodal shields absent; 1a, 3a, 4a and 4c setae present, 1a and 3a not set on coxae; coxae in two groups; three pairs of aggenital setae (ag1,3) on ventral shield; genital and anal shields confused, each bearing two pairs of simple setae (g1,2 and ps1,2); one pair of cupules (ih) laterad of genital shields (Fig. 1B).

Gnathosoma - Stylophore conical; peritremata W-shaped, with four segments; tibial claw of palp about half as long as tarsus of palp (Fig. 1C).

Legs - Leg I 227, leg II 177, leg III 163, leg IV 207. Number of setae (solenidia in parenthesis) on leg segments as follows: tarsi 16(p,w)-11(pp,ω)-9-8; tibiae 7(φ,π)-6(φp,ω)-4(φ); genua 6(k)-6(k)-3-3; femora 3-3-2-2; trochanters 1-1-2-1; coxae 2-1-1-1. Tarsi I and II each bearing a chemosensory claviform solenidion φ and a thin, curved solenidion φp; tibiae I-III each also bearing a thin, curved solenidion φp, tibia I with a short, straight solenidion φ, genua I and II with small spiniform solenidion k (Fig. 2A-D).

Male - Unknown.


Examined material - Three females from litter under Populus sp., 3 July 1999, Pasinler, Erzurum; three females from litter under Astragalus sp., Akveren village, Hınıs, Erzurum, 19 May 2000.

Discussion
The size of the body of N. terrestris is 280/170 (Summers and Schlinger, 1955), and 233-267/127-137 in the Turkish specimens. Our specimens are therefore smaller than the type specimen. Except for the body size, Turkish specimens closely resemble the type species in all other features.

The cosmopolitan genus Neognathus comprises seven species: two from the United States of America, two from Africa, one from Europe, one from Egypt and one from Pakistan (Summers and Schlinger, 1955; Willmann, 1952; Fan, 2000; Chaudhri et al., 1979; Khaustov and Kuznetzov, 1997; Meyer and Ueckermann, 1989; Soliman, 1971; Swift, 1996; Gerson, 1968). N. terrestris is the only species reported by Summers and Schlinger (1955) from California. Turkish specimens closely resemble the type species in all other features. Turkey and the United States of America are in the same zoogeographical region: the Holarctic. For this reason, the same species can exist in both the United States of America and Turkey. However, the authors believe that N. terrestris is a cosmopolitan species.

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References


