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TWO NEW SPECIES OF RAPHIGNATHOIDEA
(ACARI: RAPHIGHATHIDAE; CAMEROBIIDAE) FROM TURKEY

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(Accepted December 2004)

RAPHIGNATHUS NEW SPECIES

SUMMARY: Two new species Raphignathus ueckermanni sp. n. and Camerobia turcicus sp.n., are described and illustrated from Turkey. A key to the known species of Camerobia is provided.

RéSUMÉ: Raphignathus ueckermanni sp. n. et Camerobia turcicus sp.n., deux nouvelles espèces de Turquie, sont décrites. Une clé pour l’identification des Camerobia est donnée.

The superfamily Raphignathoidea suggested by Grandjean (1944) for the Stigmaeidae, Raphignathidae and Caligonellidae was the first defined by Cunliffe (1955). Summers (1966) constructed the first key to 7 families of this superfamily Krantz (1978) included 9 families in his key. They are inhabitants of litter, tree bark, moss, lichens, soil and terrestrial and semi aquatic and aquatic plants. Members of the families Eupalopsellidae, some Stigmaeidae, Caligonellidae and Camerobiidae are predacious. The morphological structure of these mites is as varied as the habitats they occupy, ranging from the highly ornamented cryptognathids and some stigmaeid to the practically unsclerotized Barbutidae and Caligonellidae (Meyer & Ueckermann, 1989).

This study deals with the description of two new raphignathoid mite species from Turkey.

MATERIALS AND METHODS

The litter, soil and moss samples taken from İzmir province were brought to the laboratory in nylon bags and extracted in Berlese funnels. Mites were collected in 70% ethanol and mounted on slides in modified Hoyer’s medium.

Dorsal body and leg setal designations follow Kethley (1990) and Grandjean (1944), respectively. All measurements are given in micrometers (µm). Type material and specimens examined are deposited in the Zoological Museum of Celal Bayar University, Manisa, Turkey.

Genus Raphignathus Dugès, 1834


Type species: Raphignathus ruberrimus Dugès, 1834

Podosoma with 3-4 shields, with one pairs of eyes on lateral shields, opisthosoma with a large shield, which are often feebly sclerotized; cheli-
ceral bases fused to form a conical stylophore; peritremes arising from mid-basal part of stylophore.

**Raphignathus ueckermanni** sp. n.  
(Figs. 1-3)

**Description. Female. Holotype.** (n=23) Variations in measurements of paratypes with measurements of holotype in brackets: Lenght of body (including gnathosoma) 390-437 (343), width 182-203 (187).

Dorsum. Podosoma with one median and 2 lateral shields; median podosoma bears 2 pairs of setae with notched posteriorly, seta vi set on membrane anterior of median shield; lateral shields bear one pair of eyes, 3 pairs of setae and one pair of cupules (ia). Opisthosoma with a large shield. Membrane with one pair of setae (d₁), one pair of cupules (im) and one pair of small shields near setae d₁. Opisthosomal shield bears 5 pairs of setae, one pair of cupules (ip), f₂ situated on ventral extension opisthosomal shield. Lenght of setae vi: 60-65 (68), sci: 70-88 (94), ve: 75-94 (91), sce: 49-62 (55), c₁: 70-91 (81), c₂: 68-88 (68), e₁: 78-88 (81), f₁: 68-94 (86), h₁: 68-81 (73), h₂: 49-60 (57), f₂: 44-55 (55); distances between setae: vi-vi: 16, sci-sci: 26, d₁-d₁: 31, e₁-e₁: 65, c₁-c₁: 13, c₂-c₂: 52, c₁-c₂: 96, c₁-d₁:31, d₁-d₂:52, d₁-e₁:23, e₁-e₂:65, c₁-f₁:21, f₁-f₁:65, f₁-h₁:26, h₁-h₂:23, h₁-h₂: 26, h₂-h₂: 31, h₁-f₂: 16. Anal pore dorso-terminal, with 3 pairs of setae, ps₁=ps₂=ps₃:21.

Venter. Venter as in female. 1a (23), 3a (21), 4a (18) and ag₁ present; setae ag₂ absent. Subcapitular setae present and m:31, n:26 length.

Gnathosoma. Palpal setation (from femur to tarsus): 3-2-3 + 1 claw-3 + 1 solenidion and 4 eupathidia. Setae on subcapitulum long, m:44-52 (47), n: 39-47 (49).

Legs. Lenght of legs I-IV (from base of trochanter to tip of tarsal claw): 218-244 (239) – 182-192 (187) – 187-208 (192) – 255-276 (265). Number of setae on leg segments I-IV (sensillae in parentheses): coxae 2-2-2-1, trochanters 1-1-2-1, femora 6-5-3-3, genua 6(k)-6(k)-4-4, tibiae 6(p)-6(p)-6(p)-5(p), tarsi 21 (p) -16 (ω)-14 (ω)-13.

**Male.** Lenght of body (including gnathosoma) 281, width 146.


Venter. Venter as in female. 1a (23), 3a (21), 4a (18) and ag₁ present; setae ag₂ absent. Subcapitular setae present and m:31, n:26 length.

Gnathosoma. Palpal setation (from femur to tarsus): 3-2-3 + 1 claw-3 + 1 solenidion and 4 eupathidia.

Legs. Lenght of legs I-IV (from base of trochanter to tip of tarsal claw): 189-156-172-213. Number of setae on leg segments I-IV (sensillae in parentheses): coxae 2-2-2-1, trochanter 1-1-2-1, femora 5-5-4-3, genua 6(k)-6(k)-4-4, tibiae 6(p)-6(p)-6(p)-5(p), tarsi 20 (ω)-15(ω)-14(ω)-14(ω).

**Material examined. Holotype** female and two para-ty females from litter and soil under **Quercus coccifera**, **Pistacia lentiscus** and **Ceratonia siliqua**, Dalyan, Çesme, İzmir, 15 October 2003; one male paratype from litter and soil **Ceratonia siliqua**; seven paratype females from litter and soil under **Pinus sp.**, Ilica, Çesme, 24 September 2003; one paratype female from litter and soil under **Pinus sp.**; twelve paratype females from soil and litter under **Pistacia lentiscus**, Ilica, Çesme, 24 September 2003, leg M. Kara.

**Etymology** The new species is named for our colleague, Dr. Eddie Ueckermann, ARC-Plant Protection Research Institute, Pretoria (South Africa).
Fig. 2. — *Raphignathus ueckermanni* sp.n., male: A) Dorsal view. B) Ventral view. C) Palpus. D) Leg IV. E) Dorsum of opisthosoma. F) Ventral view of opisthosoma.
Differential diagnosis: This new species differs from all known species of the genus as follows: 1. Dorsal setae very long, 2. Notch in posterior margin of median podosomal shield, 3. Setal formula of femora 6-5-3-3, 4. Setal formula of tibiae 6-6-4-4.

Genus *Cameroobia* Southcott, 1957

Type species: *Cameroobia australis* Southcott, 1957

Dorsum 15-17 pairs of short and round to bulb-like setae. Trochanter I without setae. Genual setae short. Tibiae I with six, seven or eight (this paper) setae. All tarsi with only one mid-ventral setae. Palptibiae with one seta and a sword-like setae, palptarsi with one seta, one eupathidium and a solenidion.

**Key to the known species of *Cameroobia***

1. Femur I with six setae ........................................ 2
   – Femur I with five setae .................................. *C. australis* Southcott, 1957
2. Femur III with four setae, tibia I with more than six setae .................................................. 3
   – Femur III with three setae, tibia I with six setae .................................................. *C. pistaciae* Bolland, 1986
3. Tibia I with seven setae ........................................ 4
   – Tibia I with eight setae ........................ *C. turcicus* sp. nov.
4. Dorsum without setae *d*₂ and *e*₂; bush like ...................... *C. southcotti* Gerson, 1972
   – Setae *d*₂ and *e*₂ present; bud like ...................... *C. monspeliensis* Bolland, 1986

*This key is based on BOLLAND (1986).
Camerobia turcicus sp. n.  
(Fig. 4)

Description. Male. Holotype. Length of body (excluding gnathosoma) 197, width 149.

Gnathosoma. Palpus reduced, chaetotaxy as follows: femur 2, genua 1, tibiae 1 setae and 1 claw, tarsi 2 setae and 1 solenidion and 1 eupathidium.

Dorsum. Almost spherical; striations on integument; two pairs of eyes between sci and sce; idiosoma with fifteen pairs dorsal setae bushlike, spiculate, with small stalks, six pairs of dorsomedians; including pdx, nine pairs of dorsolaterals. Length of setae vi: 21, ve: 21, sci: 21, sce: 21, c₁: 21, c₂: 21, d₁: 24, d₂: 21, e₂: 21, f₁: 18, h₁: 13, h₂: 13.

Venter. Seta 1a between coxae I, 3a and 4a between coxae III and IV. Anogenital shield terminal, with four pairs of setae; one pair of ag lateral of anogenital shield.

Legs. Length of legs I-IV: 270-234-244-276. Number of setae and solenidia (in parentheses) on leg segments as follows: tarsi 9(ω₁)-8(ω₂)-7(ω₃)-6(ω₄), tibiae 9(ϕ₃p)-8(ϕ₃p)-7(ϕ₃p)-7(ϕ₃p), genua 2(k₂)-4(k₁)-4-3, femora 5-4-3-4, trochanter 0-1-1-1, coxae 3-1-2-2; tarsi I-IV each with solenidion ωδ; all leg segment striated; genua I and II with solenidion k.

Female and immature stages: Unknown.

Material examined. Holotype. male from moss on stone, Çeşme, Izmir, 15 October 2003, leg. M.Kara.

Etymology. The specific epithet, “turcicus” refers to the type locality of this species, Turkey.

Differential diagnosis. The new species can be distinguished from all congeners by the chaetotaxy of tibia I. Tibia I with six setae (C. australis and C. pistaciæ) or seven setae (C. southcotti and C. monspeliensis) (Bolland, 1986). In C. turcicus tibia I has eight setae. The new species is described from a male.

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