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Research Article

Redescription of Deutonymph of *Curteria curticristata* (Willmann, 1951) (Acari: Erythraeidae)

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Abstract

Deutonymph of *Curteria curticristata* (Willmann, 1951) is redescribed based on single specimen which is found in Bayburt, Turkey. New morphometric data of this species are also presented in the study. *C. curticristata* is for the first time reported from Turkey with this study.
Keywords: Prostigmata**,** deutonymph, habitat, Turkey

***Curteria curticristata* (Willmann, 1951) (Acari: Erythraeidae) Deutonymphinin Yeniden Tanımlanması**

Öz

Curteria curticristata (Willmann, 1951) deutonymphi, Türkiye'nin Bayburt ilinde bulunan tek bir örneğe dayandırılarak, yeniden tanımlandı. Ayrıca, çalışmada bu türe ait yeni morfometrik bilgiler sunuldu. *C. curticristata* bu çalışmayla, Türkiye'den ilk kez rapor edildi.
Anahtar Kelimeler: Prostigmata**,** deutonymph, habitat, Türkiye

1. Introduction

The genus *Curteria* was founded by Southcott (1961) with the type species *Morieria curticristata* Willmann, 1951. The genus *Curteria* currently represented by seven species; 2 of them are known from both active postlarval and larval stage while of which 2 only larvae and 3 from only active postlarval forms are known (Mąkol and Wohltmann, 2012). A comparative taxonomic analysis of active postlarval species of *Curteria* was provided by Gabryś (1992). Woltmann et al. (2007) described the larval forms of *C. episcopalis* (Koch, 1837) and *C. southcotti* Gabryś, 1992 previously known only from their active postlarval forms. Until now, only one larval *Curteria* species, *C. duzgunesae* (syn. *Zhangiella duzgunesae*) was reported from Turkey (Ankara province) by Saboori et al. (2007). Adult form of *C. curticristata* (syn. *Morieria curticristata*) was first described by Willmann (1951) from Austria and characterized as a species with a "high alpine" distribution by the same author. A deutonymph of *C. curticristata* (syn. *Morieria curticristata*) was recorded by Schweizer (1951) from Switzerland, despite doubts for Willmann as to whether these specimens are conspecific. However, Gabryś (1992) stated that the species given by Willmann and Schweizer are the same species, both as a result of his examinations and based on the relevant notes of Schweizer and Bader (1963).

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This study includes redescription of deutonymph of *C. curticristata* based on single specimen. Also, new morphometric data for this species are given.

2. Material and methods

Mite specimen was obtained in Bayburt Province, Turkey (40°26' N, 40°07' E, Aydıntepe plateau, 2230 m, at a semi-aquatic grassland and mossy area, 17 May 2013, during the research process, it was not necessary to obtain permission for the collection of samples). Only one deutonymph was extracted in Berlese funnels and preserved in 70% ethyl alcohol. Specimen was fixed on slide in Hoyer's medium (Walter and Krantz, 2009) for microscopic studies. Leica DM 4000 microscope was used for measurements, photographs and drawings. The morphological terminology follows Gabryś (1992). All measurements are given in micrometers (μm).

Voucher specimen was deposited in Acarology Laboratory of Erzincan Binali Yıldırım University, Turkey (EBYU).

3. Results

Family Erythraeidae Robineau-Desvoidy, 1828

Genus *Curteria* Southcott, 1961

Type species *Morieria curticristata* Willmann, 1951

Diagnosis. Adult and deutonymph: see Woltmann et al. (2007).

Larva. see Woltmann et al. (2007).

***Curteria curticristata* (Willmann, 1951)**

Diagnosis. Deutonymph. Palp tibia and genu without conalae. Crista metopica consists of anterior and posterior sensillary areas and a straight rod extending between them. Dorsal setae spiniform, almost smooth and short (< 60). Stems are slightly narrowed terminally and covered sparsely with delicate barbs. L/W of tarsus I < 2,5.

Larva. Not known.

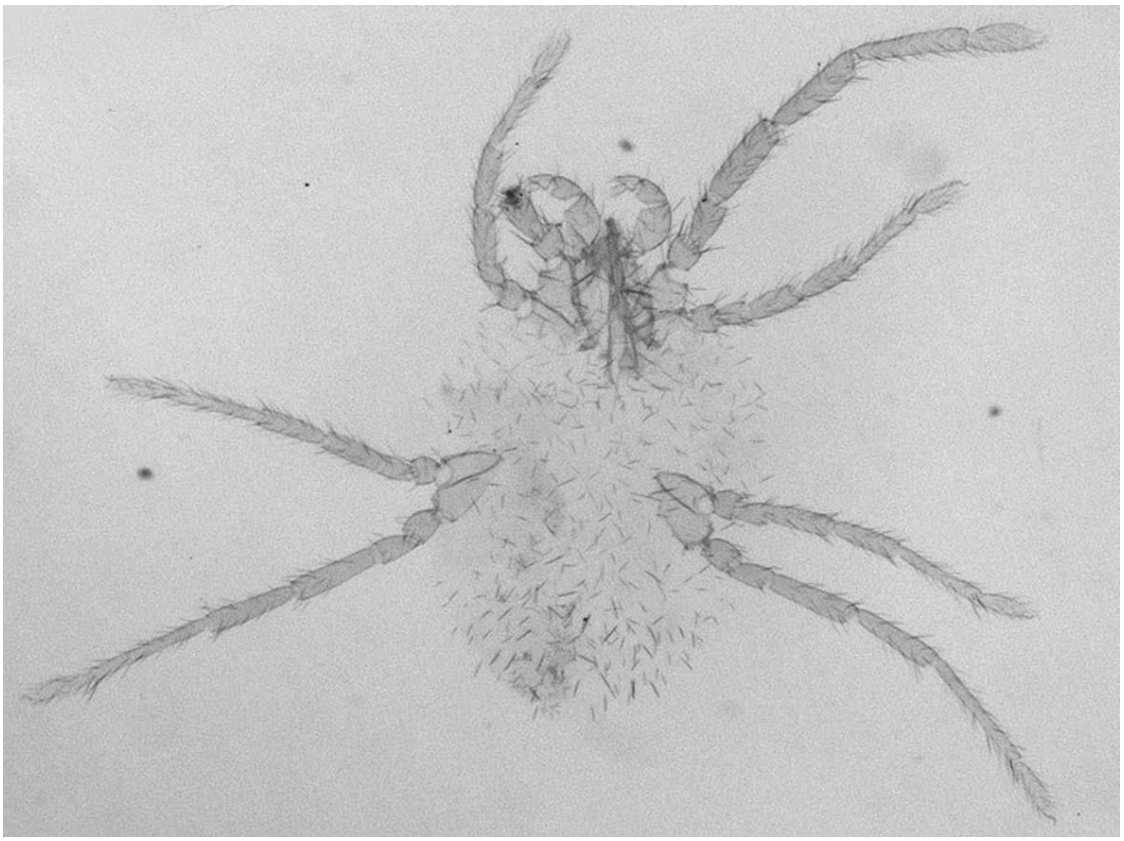


Figure 1. Curteria curticristata (Willmann, 1951) (deutonymph), General view (not to scale)

Description. Deutonymph (Figures 1-7). Body length 970, width 680 (for other measurements see Table 1). Body colour is reddish brown.

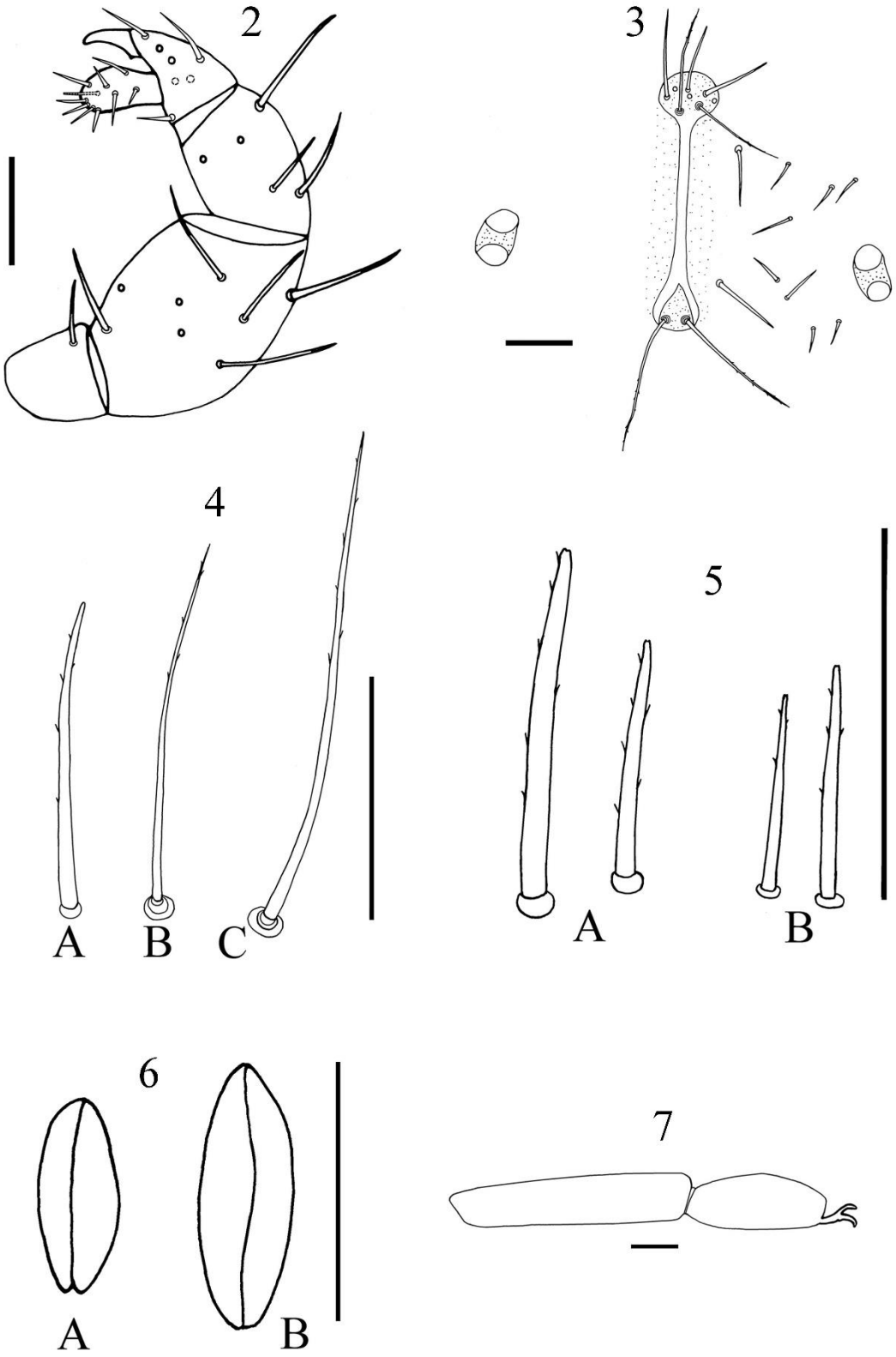
Gnathosoma. Chelicerae typical for the genus. Palp trochanter with one smooth seta. Palp femur, genu and tibia with several smooth setae. Tibial claw with a hook placed near its base. Palp tarsus with 5-6 distal eupathidia, 4-5 short, spine-like setae and one solenidium. Palp tibia and genu without conalae (Figure 2).

Table 1. Compression of morphometric data on active postlarval forms of *Curteria curticristata* (Willmann, 1951). DN=Deutonymph, AD=Adult.

Characters	*C. curticristata* (DN) Turkey	from Gabryś (1992)	
		C. curticristata (DN?) Switzerland	*C. curticristata* (AD?) Austria
LB	970	1032	1900-2600
WB	680	680	1500-1700
ASRo	170	-	+100
PSG	360	-	-
GAn	130	-	-
GOp	360	-	-
AnOp	190	330	-
MDS	20-38	20-28	±27
PDS	20-50	22-50	±27
MVS	30-36	30-34	-
PVS	25-45	30-50	-
AL(n)	6	4?6?	6?
AL	48-60	47-57	-
ASens	75	81	-
PSens	96-98	91	-
CML	190	145	380-390
PSBp	7	6	-
ISD	155	-	-
ASBa	30	-	-
SBa	14	14	-
SBp	15	15	-
PSAL	35	45	-
PSAW	36	36	-
CMW	10	-	-
O	27	-	-
O-O	275	-	-
OCM	135	-	-
OAS	95	-	-
OPS	60	-	-
ExG(L)	35	35	-
An(L)	50	50	-
Palps			
PaFe(W)	75	75	-
PaGe(W)	45	42	-
PaTi(W)	30	42	-
PaTa(L/W)	40/17	48/26	-
PaTr(L)	47	48	-
PaFe(L)	110	103	-
PaGe(L)	75	57	-
PaTi (L)	50	52	-
PaTiCl(L)	25	22	-
L(sum)	307	282	-
Legs			

Table 1 (continued)

I			
Cx	170	190	-
Tr	70	47	-
bFe	120	87	-
tFe	205	174	-
Ge	230	209	-
Ti	250	221	-
Ta	140	134	-
Ta(H)	60	61	-
L(sum)	1185	1062	1605-2232
II			
Cx	130	142	-
Tr	50	47	-
bFe	80	63	-
tFe	120	110	-
Ge	140	142	-
Ti	165	156	-
Ta	105	95	-
Ta(H)	40	40	-
L(sum)	790	755	-
III			
Cx	150	134	-
Tr	60	43	-
bFe	80	59	-
tFe	135	126	-
Ge	150	142	-
Ti	200	197	-
Ta	110	99	-
Ta(H)	32	34	-
L(sum)	885	800	-
IV			
Cx	170	166	-
Tr	95	67	-
bFe	95	47	-
tFe	195	182	-
Ge	200	201	-
Ti	280	248	-
Ta	125	114	-
Ta(H)	35	39	-
L(sum)	1160	1025	1655-2573
IP	4020	3642	-



Figures (2 - 7). *Curteria curticristata* (Willmann, 1951) (deutonymph), **2** Palp, medial view **3** Crista metopica region **4** A) AL seta B) ASens C) PSens **5** A) Dorsal setae B) Ventral setae **6** A) Genital opening B) Anal opening **7** Tibia and tarsus of leg I. Scale bars: 50 μm.

Idiosoma. Scutum available. Crista metopica consists of anterior and posterior sensillary areas and a straight rod extending between them. Anterior and posterior processes of crista metopica not detectable. Paired sessile eyes, located at laterally slightly under halfway the length of crista metopica. Posterior lens slightly larger than anterior ones (Figure 3). The anterior sensillary area bears 6 nonsensillary setae with a few barbs (AL) (Figure 4A) and pair sensilla. Anterior sensilla with very short barbs in its distal third (Figure 4B). Posterior sensillary area with a pair sensilla with very short barbs in its distal half (Figure 4C). Posterior sensilla longer than anterior ones. Dorsal setae spiniform, almost smooth, of various lengths (20-50). All dorsal setae originate from small plates. Stems are slightly narrowed terminally and covered sparsely with delicate barbs. Distal end of setal stems blunt shaped (Figure 5A). Ventral setae like dorsal ones but shorter (25-45) and thinner (Figure 5B). Genital opening much shorter (mean 35) while anal opening relatively long (mean 50). Both openings without seta (Figures 6A, B).

Legs. Legs I and IV clearly much longer than legs II-III (legs II shortest). All legs covered smooth or barbed setae. All legs without serratalae. Tibia I longer than tarsus I and length/width of tarsus I < 2.5 (Figure 7).

Distribution

Austria, Greece, Switzerland (Gabryś, 1992; Mąkol and Wohltmann, 2012) and Turkey (present study).

Note. Gabryś (1992) approached with suspicion that this species characterized by its "high-alpine" was reported by Cooreman (1955) from Greece.

4. Discussion

The active postlarval members of *Curteria* typically have similar dorsal setae (spiniform and almost smooth). The most distinctive feature that distinguishes *C. curticristata* from other active postlarval species of *Curteria* is its short dorsal setae. The length of dorsal setae is up to 50 in *C. curticristata* but up to 140 in *C. episcopalis*, up to 70 in *C. fageli*, up to 75 in *C. graeca* and up to 85 in *C. southcotti* (Schweizer, 1951; Willmann, 1951; Gabryś, 1992). The habitat (at an altitude of 2230 m) of deutonymph of *C. curticristata* in Turkey, confirms mountain regions (according to Willmann (1951) "high-alpine") living of this species.

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Ethics

This study does not require ethical approval.

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