DESCRIPTION OF A NEW ADULT OF *PODOTHROMBIUM* BERLESE 1910 FROM TURKEY; *PODOTHROMBIUM FILIPES* C.L. KOCH, 1837 (ACARI: PROSTIGMATA: PODOTHROMBIIDAE)

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ABSTRACT: In this study, adult of *Podothrombium filipes* C. L. Koch, 1837 which are first new record for Turkish fauna and are given the morphological characters and drawings of various organs, identification key and its zoogeographical distributions.

KEY WORDS: Acari, Podothrombiidae, *Podothrombium*, adult, Erzincan, Turkey.

Podothrombiidae is a family that has 52 species registered in 2 genus (Makol & Wohltmann, 2012). Genus *Podothrombidium* is widely distributed in Western Palaearctic. One species of this genus has been given which as *Podothrombium proti* from Turkey by Haitlinger (2000) basing on the larvae. But, *P. proti* is regarded a synonym of *P. filipes* by Makol (2005).

In this paper females, males and deutonymphs of *Podothrombium filipes* is firstly described and illustrated, which is collected from Erzincan, Turkey. The species *Podothrombium filipes* adult is recorded from Turkey for the first time.

MATERIAL AND METHODS

Adults collected from land with aspirator, handing sifting and with Berlese funnels. Examined material was preserved in 70% ethyl alcohol and cleared in 9% KOH. Specimens for light microscope studies were fixed on slides in Hoyer's medium (Krantz & Walter, 2009). Measurements were taken and drawings made under a Leica DM 4000 microscope with differential interference contrast and phase contrast. Makol (2005 & 2007) followed for the morphological terminology in the text. All measurements are given in micrometers (μm).

RESULTS AND DISCUSSION

Family Podothrombiidae Thor, 1935

Genus *Podothrombium* Berlese, 1910

Type species *Trombidium filipes* C. L. Koch, 1837

Podothrombium filipes C. L. Koch, 1837

Adult. Standart measurements in Table 1. Colour in life orange-red to brick red. Body length is 1230-1596 and width 759-1061.

Gnathosoma. Internal edge of cheliceral blade serrated (Fig. 1a). Palps curved towards the body venter. Palp tarsus extending beyond the termination of palp tibia claw, covered with numerous solenidia (Fig. 1b).

Idiosoma. Anterior border of aspidosoma concave. Anterior process of crista metopica not clearly marked termination (Fig. 1c). Eyes parallelised, length and width equal length. Anterior lens slightly larger than posterior lens. Sensillary

area of crista metopica widened. Dorsal opisthosomal setae uniform. Setal bases asymmetrical and close to the circle. Dorsal opisthosomal setae pointed toward end and single-side barbed (Fig. 1d). Genital opening between koksa III and IV; consist of epivalve and centrovalve. Epivalve surround centrovalve. Centrovalval setae smooth and sharply terminated. Epivalval setae with several barbs (Fig. 1e).
Legs. Each one occur seven part. Femur divided into basifemur and telofemur. Normal setae on all segments narrowing apically, setulose. All tarsi termination with paired claws. Females Ti I ≤ Ta I and males Ti I > Ta I.
In this species display sexual dimorphism ratio of the Ti I / Ta I length and palp tibia also the structure of dorsal opisthosomal setae.
Males. Standard measurements in Table 1. Ti I > Ta I (Fig. 2c). The basal height of palp tibia almost equal length to the ventral edge of segment. Dorsal surface of palp tibia, 2-3 spine like setae arranged in row behind odontus. Ventral surface of palp tibia, 4-7 spine like or some of splinter setae arranged (Fig. 1b). Dorsal opisthosomal setae not bifurcate at the end (Fig. 1d).
Females. Standard measurements in Table 1. Ti I ≤ Ta I (Fig. 2d). The basal height of palp tibia shorter than ventral edge of segment. Dorsal surface of palp tibia 3-4 spine like setae arranged in row behind odontus. Ventral surface of palp tibia, 4-7 spine like or some of splinter setae arranged (Fig. 2a). Dorsal opisthosomal setae asymmetrically bifurcate at the end (Fig. 2b).
Deutonymphs. Body smaller than adult. Other characters as in adults. Standart measurements are give in Table 1. Ti I < Ta I (Fig. 3c). Dorsal surface of palp tibia with one spine like setae behind odontus (Fig. 3a). Two pairs of genital papillae.
Material examined. 06.11.2012, 1 male. Litter under trees, 39°43'36" N 39°29'38" E 1176 m Ergan mountain, Erzincan, Turkey. 30.06.2012, 17 male. Grassy soil, 39°34'34" N 39°30'17" E 3134 m the valley of snow water. Ergan Mountain, Erzincan, Turkey. 30.06.2012, 15 female. Grassy soil, 39°34'34" N 39°30'17" E 3134 m, Ergan Mountain Erzincan, Turkey. 30.06.2012, 1 deutonymph. Grassy soil, 39°34'34" N 39°30'17" E 3134 m the valley of snow water. Ergan Mountain, Erzincan, Turkey. Leg. S. Adil.
Disribution. Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Italy, Latvia, Lithuania, Moldova, Norway, Poland, Slovenia, Sweden, Switzerland, Ukraine, Turkey (Makol & Wohltmann, 2012).

DISCUSSION

Podothrombium filipes are given from Turkey similar to the European specimens. But differs by structure of crista metopica and dorsal setae (*pDS*). European specimens, anterior and posterior border of crista metopica marked but of Turkish specimens not clearly marked. Dorsal setae (*pDS*) in male similar to European specimens but females don't. In female of European specimens, dorsal setae (*pDS*) stour, with several barbs esp. in distal part of a stem and asymmetrically bifurcate at the end. But in Turkish specimens, sharply terminated top of stem not divided. Morphometric data on adult of Turkish specimens and European specimens show of Table 1.

ACKNOWLEDGEMENTS

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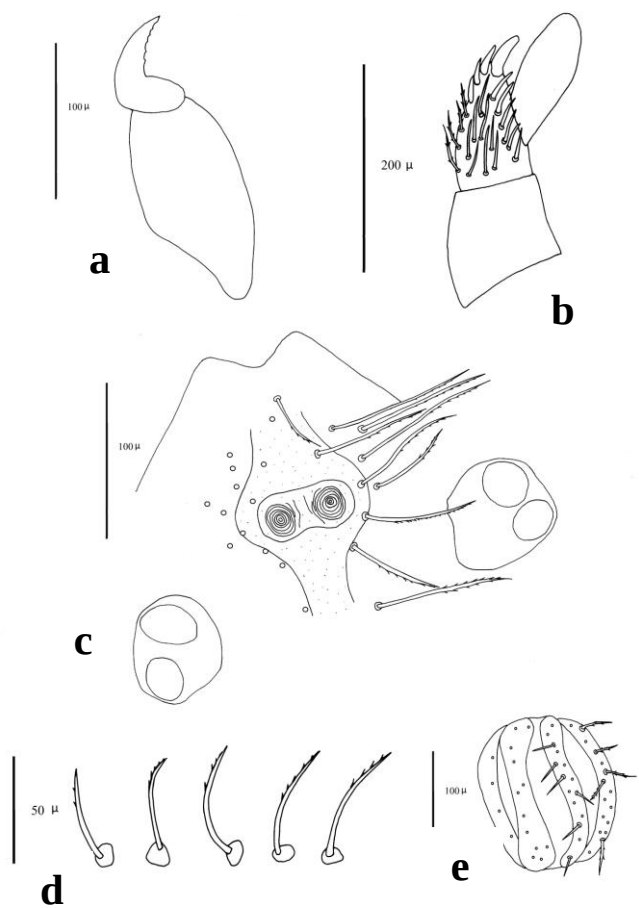

Figure 1. *Podothrombium filipes* (C. L. Koch). Male. a) Chelicer b) Palp c) Crista metopica d) *pDS* setae e) Genital opening.

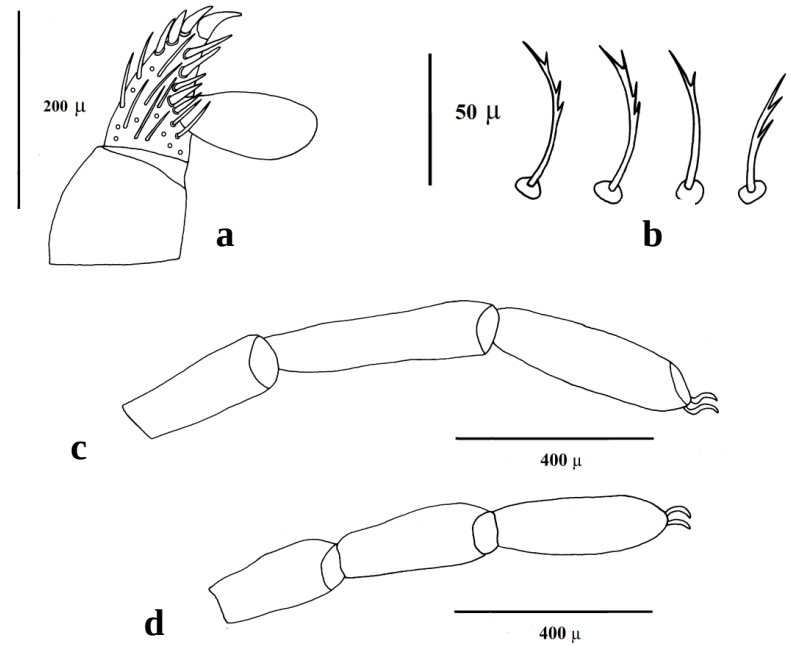

Figure 2. *Podothrombium filipes* (C. L. Koch). Female. a) Palp b) *pDS* setae c) Male Leg I d) Female Leg I.

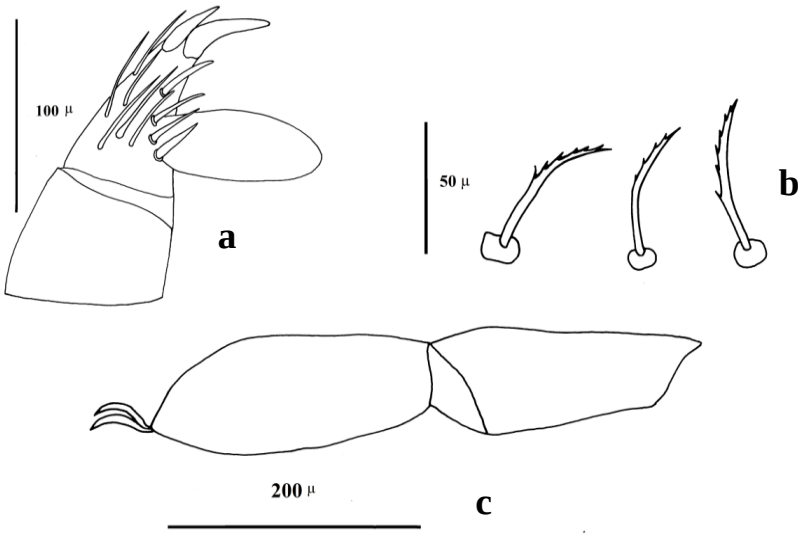

Figure 3. *Podothrombium filipes* (C. L. Koch). Deutonymph. a) Palp b) *pDS* setae c) Leg I.

Table 1. Morphometric data on adults and deutonymphs of *Podothrombium filipes* (C. L. Koch).

	Podothrombium filipes male		*Podothrombium filipes* female				*Podothrombium filipes* deutonymph	
	Turkish Specimens	Europe Specimens	Turkish Specimens		Europe Specimens		Turkish Specimens	Europe Specimens
Character	Mean (n=6)	(n=1)	min.	max.	min.	max.	(n=1)	Mean
L	1641,8	1540	1230	1596	1925	3080	1213	117,3
W	1099,3	847	759	1061	1078	1694	877	611,8
L/W	1,51	1,8	1,5	1,62	1,5	2	1,38	1,7
CML	256,4	-	-	-	181,7	304,1	-	134,3
SB	35,8	43,4	25,6	40,6	35,5	51,3	26,7	30,6
S	168,8	-	98,7	207	209,3	237	201	135,6
E	84,3	102,7	55	81,2	67,1	114,5	50	43,9
pDS min./max.	44,3 / 61,1	49 / 59	35	62	49,5	59,4	39/46	39,5/55,4
GOP I	361,2	225,1	246,5	246,5	25,7	379,2	-	135,2
GOP w	237,4	185,6	195,7	195,7	217,2	331,8	-	104,7
GOP I/w	1,56	1,2	1,25	1,25	1,1	1,4	-	1,3
Ch	42,4	43,4	38,3	46,7	47,4	67,1	33,4	39
TiCI	46,9	55,3	42,4	49,8	43,4	75	45,4	42,3
PaTa	133,8	120	130,3	153,6	122,5	162,5	83,1	67,2
Ti I	353,1	523,6	272,2	385	235,2	400,4	205	142,1
Ta I I	345,3	462	291	413	277,2	446,6	201	202,7
Ta I w	124,9	130,3	110	138	114,5	184,8	85	98,3
Ta I I/w	2,77	3,5	2,64	2,99	2,1	3,8	2,36	2,1