

First record of the genus *Dactylothrombium* Feider, 1952 (Acari: Microtrombidiidae) from Turkey

Sezai ADİL*, Sevgi SEVSAY, Salih DOĞAN, Sibel DİLKARAOĞLU

Department of Biology, Faculty of Arts and Sciences, Erzincan University, Yalnızbağ Campus, Erzincan, Turkey

Received: 06.05.2015 • Accepted/Published Online: 05.01.2016 • Final Version: 07.04.2016

Abstract: In this study, diagnoses and original drawings of *Dactylothrombium pulcherrimum* (Haller, 1882) are given for postlarval forms. Morphometric data for adults and deutonymphs are given. Information about habitat and distribution for the species is also provided. The genus *Dactylothrombium* is recorded for the first time from Turkey.

Key words: Acari, Microtrombidiidae, *Dactylothrombium*, new record, Turkey

The genus *Dactylothrombium* Feider, 1952 includes only two species: *D. pulcherrimum* (Haller, 1882) and *D. sheppardi* (George, 1913) (Mağol and Wohltmann, 2012). They are well known from Europe and Palearctic Africa (Wohltmann and Gabryś, 2003). This study contains descriptions of adult and deutonymphs of *D. pulcherrimum* (Haller, 1882). This genus is a new record for the Turkish fauna.

The materials (five adults and three deutonymphs) were collected individually from the soil surface or extracted with Berlese funnels from Gümüşhane Province, Turkey (40°43'12"N, 34°19'18"E, 1510 m a.s.l., 06.10.2013, leg. S. Adil). Specimens were mounted on slides using Hoyer's medium for light microscope studies (Krantz and Walter, 2009) after preservation in ethyl alcohol. Measurements and drawings were made under a Leica DM 4000 microscope with differential interference contrast and phase contrast. Examined specimens are deposited in the Biology Department of Erzincan University, Turkey. Terminology follows Gabryś (1999). All measurements are given in micrometers.

Family Microtrombidiidae Thor, 1935

Genus *Dactylothrombium* Feider, 1952

Type species *Microtrombidium pulcherrimum* Haller, 1882

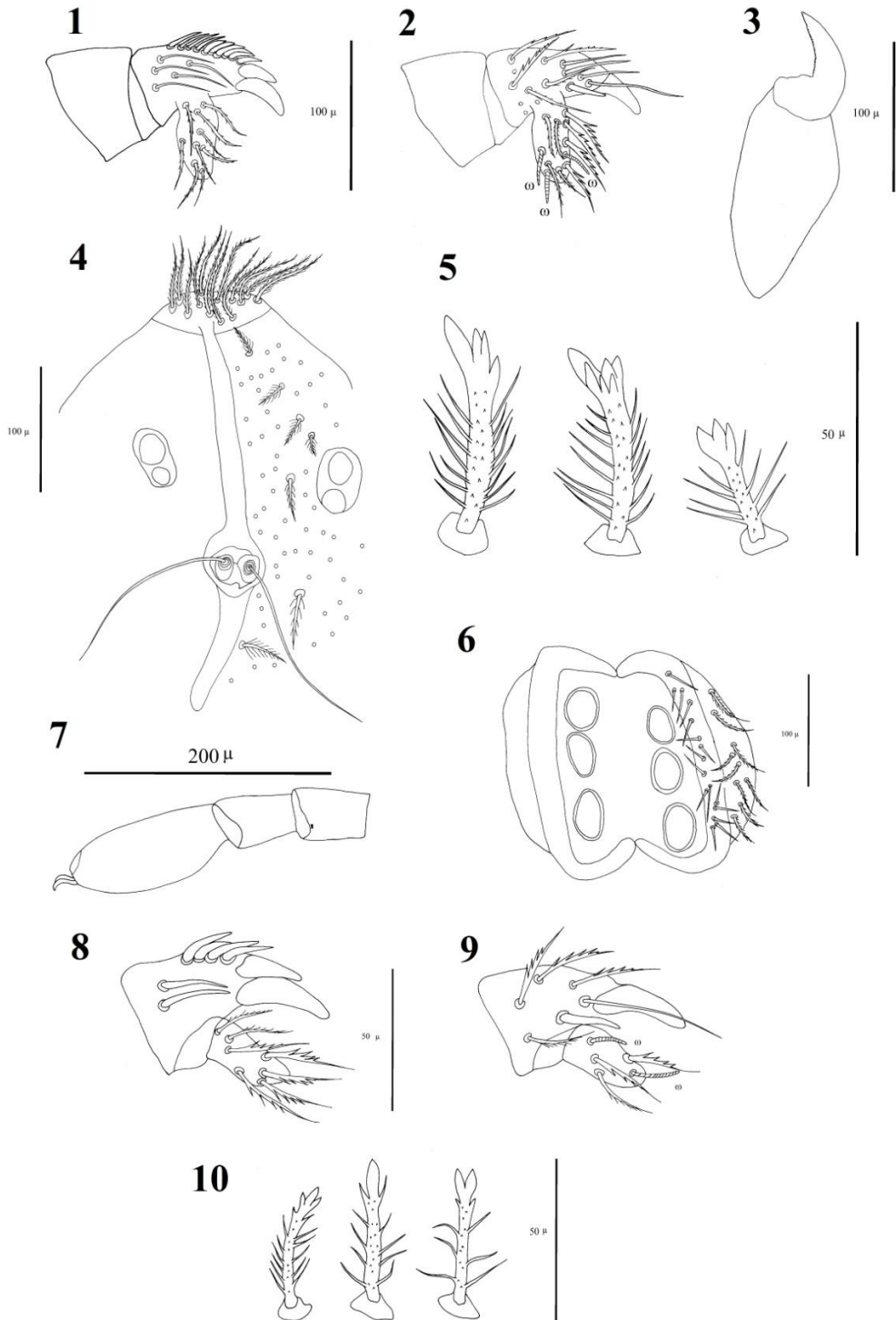
Dactylothrombium pulcherrimum (Haller, 1882)

Adult. Standard measurements are given in the Table. Body color in life red. Body length 1014–1224, width 707–877. Medial face of palp tibia (Figure 1) with two often overlapping ctenidia and a radula; distal ctenidium

made of 4–6 spinisetae situated behind paradont; proximal ctenidium composed of 4–6 uniform spinisetae; radula consists of 4–5 spine-like setae. Lateral face of palp tibia (Figure 2) covered with numerous setulose setae and feather-like setae; whip-like seta placed terminally near odontus; short and strong basidont situated between odontus and palp tarsus. Palp tarsus with a few solenidia. Chelicerae typical for the family (Figure 3). Anterior part of crista metopica reaching the sclerotized vertex, which bears 9–13 long, setulose nonsensillary setae (AL); rounded sensillary area bears two long, smooth sensillary setae; posterior process relatively short according to anterior process (Figure 4). Accessory posterior process absent. Double, almost sessile eyes located at half length of anterior part of crista metopica. Dorsal opisthosomal setae (pDS) (35–44) of one type (Figure 5), stem slightly curved, covered with long thin setulae; distal part of stem with short, digitate processes of different levels of development, and process not similar; the most developed processes are at the top of setae and the least developed, smaller are under the other processes. The number of processes 3 to 6. Three pairs of genital acetabula (Figure 6). External genitalia consist of a pair of epivalves and centrovalves covered densely with setae; epivalval setae setulose, centrovalval setae smooth. Legs without lamellar processes, shorter than idiosoma (Figure 7).

Deutonymph. Standard measurements are given in the Table. Smaller than adult. Body length 556–657, width 360–446. Medial face of palp tibia number of spinisetae in distal ctenidium 3–5 and smaller. Proximal ctenidium

* Correspondence: sadil@erzincan.edu.tr



Figures 1–7. *Dactylothrombium pulcherrimum* (adult). **1.** Palp medial aspect. **2.** Palp lateral aspect. **3.** Chelicerae, general view. **4.** Crista metopica region. **5.** Dorsal opisthosomal setae (pDS). **6.** Genital opening. **7.** Leg I tibia-tarsus. **Figures 8–10.** Deutonymph. **8.** Palp medial aspect. **9.** Palp lateral aspect. **10.** Dorsal opisthosomal setae (pDS).

Table. Morphometric data on adult and deutonymph of *D. pulcherrimum*.

Character	Adult (n = 5), min-max	Deutonymph (n = 3), min-max
L	1014-1224	556-657
W	707-877	360-446
L/W	1.34-1.58	1.41-1.50
Ch Cl	38-43	27-30
PaTi (L)	66-89	42-49
PaTi (W)	45-56	33-38
Odo (L) (Lf/Rt)	37-46	24-33
Par (L) (Lf/Rt)	24-33	20-22
diCt (n) (Lf/Rt)	4-7	3-5
prCt (n) (Lf/Rt)	4-7	-
Bas (n) (Lf/Rt)	1-1	1-1
Bas (Lf/Rt)	25-31	18-24
Rad (n) (Lf/Rt)	3-6	2-3
PaTaSol (n)	2-3	1-2
PaTa (L)	42-66	24-29
PaTa (W)	22-27	25-16
pDS [S]	34-45	30-39
GOP (L)	150-230	80-91

References

- Feider Z (1952). Impartirea genului *Microtrombidium* Haller 1882 in mai multe genuri. Bul Şti Repub Pop Romine Sect Şti Biol Agron Geol Geog 4: 587-629 (in Romanian).
- Gabryś G (1999). The world genera of Microtrombidiidae (Acari, Actinedida, Trombidoidea). Monogr Up Siles Mus 2: 1-361.
- George CF (1913). A new mite-*Ottonia sheppardii*. Naturalist 679: 287-288.
- Haller G (1882). Beitrag zur Kenntniss der Milbenfauna Wurttembergs. Jahresh Ver Vaterl Naturkd Wb 38: 293-325 (in German).
- Makol J, Wohltmann A (2012). An annotated checklist of terrestrial Parasitengona (Actinotrichida: Prostigmata) of the world, excluding Trombiculidae and Walchiidae. Annal Zool 62: 359-562.
- Thor S (1935). Übersicht und Einteilung der Familie Trombidiidae W. E. Leach 1814 in Unterfamilien. Zool Anz 109: 107-112 (in German).
- Walter DE, Krantz GW (2009). Collecting, rearing, and preparing specimens. In: Krantz GW, Walter DE, editors. A Manual of Acarology. 3rd ed. Lubbock, TX, USA: Texas Tech University Press, pp. 83-96.
- Wohltmann A, Gabryś G (2003). A description of adult and larva of *Dactylothrombium pulcherrimum* (Haller, 1882) (Acari: Parasitengona: Microtrombidiidae) with remarks on life cycle and biology. Annal Zool 53: 739-748.

absent (Figure 8). Radula composed of 1-2 spine-like setae. Lateral face of palp tibia with one basidont (Figure 9). Dorsal opisthosomal setae (pDS) (30-39) shorter than in adult and number of processes 1 to 3 (Figure 10).

Habitat. Forest litter layer; under *Quercus* and *Fagus* trees.

Distribution. Algeria, Austria, Great Britain, France, Germany, Hungary, Italy, Norway, Poland, Spain, Switzerland (Makol and Wohltmann, 2012). New for the Turkish fauna.

The Turkish specimens of *Dactylothrombium pulcherrimum* are different from the European specimens in terms of processes of dorsal setae (pDS). Dorsal setae (pDS) of European specimens (Wohltmann and Gabryś, 2003) with numerous processes (4 to 15); in Turkish specimens less than European specimens (3 to 6). All the other properties of Turkish and European specimens are similar.

Acknowledgments

This study is a part of the first author's PhD thesis. This study was supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK project number 113Z094).