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## First record of the genus *Conoppia* Berlese, 1908 (Acari: Oribatida: Compactozetidae) from Turkey

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**Abstract:** The genus *Conoppia* Berlese, 1908 is firstly recorded from Turkey. The species *Conoppia palmicincta* (Michael, 1880) is redescribed based on the specimens collected from Kandıra town of Kocaeli Province.

**Keywords:** Acari, Oribatida, SEM, new record, Turkey.

### Introduction

Oribatid mites are the most species rich and numerically dominant arthropod group in forest soil and litter. The roles of oribatids in litter and soil ecosystem are mineralization, decomposition and development of soil microstructure (Behan-Pelletier and Walter, 2000).

The oribatid mite genus *Conoppia* Berlese, 1908 included in family Compactozetidae Luxton, 1988 and consists of only two species with a semicosmopolitan distribution (Subías 2004, updated 2016). The main characteristics of this genus are; lateral lamella without long cuspis extending beyond rostrum, reduced notogastral setae and fusiform sensillus, extending far from bothridium (Balogh and Balogh, 1992; Weigmann, 2006)

Up to date, there has been no study on oribatid mites of Kocaeli province of Turkey. The genus *Conoppia* is recorded for the first time from Turkey with the species *Conoppia palmicincta*.

### Materials and Methods

Mites were extracted by a Tullgren funnel apparatus from the soil samples collected from soil with moss on rock, Miço forest, Kınıcılı village of Kandıra town, Kocaeli. They were fixed and stored in 70% ethanol. Mites were sorted from the samples under a stereomicroscope (Olympus SZX51) and mounted on slides in modified Hoyer's medium or 35% lactic acid.

The terminology used follows Balogh and Balogh

(1992). Examined materials are deposited in the Acarological Collection of the first author, Sakarya University, Sakarya, Turkey. All measurements are given in micrometers ( $\mu\text{m}$ ).

### Results

#### Family: Compactozetidae Luxton, 1988

**Diagnosis:** Lamellae situated on lateral edges and well-developed, bothridial opening lateral, humeral setae absent, humeral processes more-or-less well developed. Integument smooth or punctate but not roughly sculptured, five or six pairs of genital setae present (Luxton, 1988).

#### Genus: *Conoppia* Berlese, 1908

**Diagnosis:** Integument smooth, lamella narrow, lateral and without long cuspis extending beyond rostrum. Most notogastral setae absent, sensillus fusiform (Balogh and Balogh, 1992; Weigmann, 2006; Walter et al., 2013)

#### *Conoppia palmicincta* (Michael, 1880)

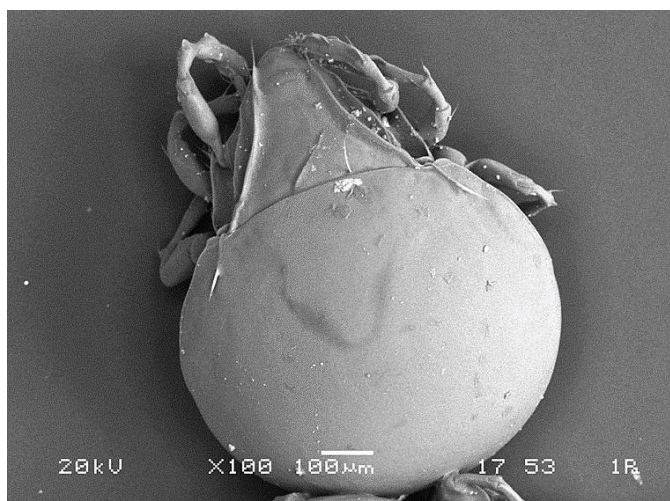
(Figs. 1-7)

#### Redescription:

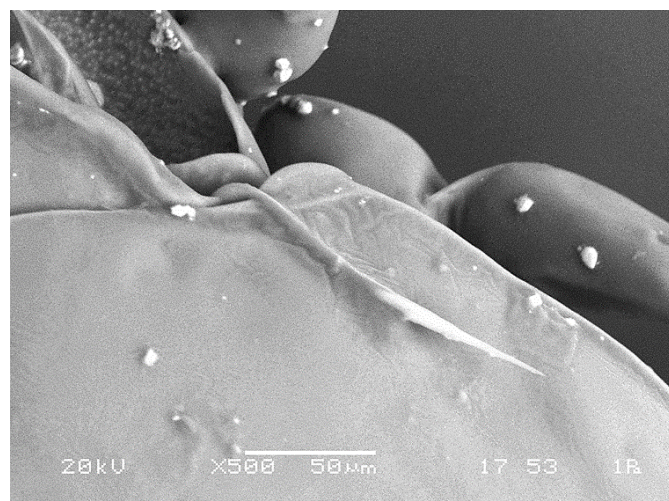
**Measurements:** 800-840 in length, 635-680 in width, sensillus (*ss*) 133, length of anal plate 210-226, width of anal plate 191-195, length of genital plate 137-139, width of genital plate 160-164 (n=7).

**Integument:** Colour yellowish or dark brown (Fig. 7).

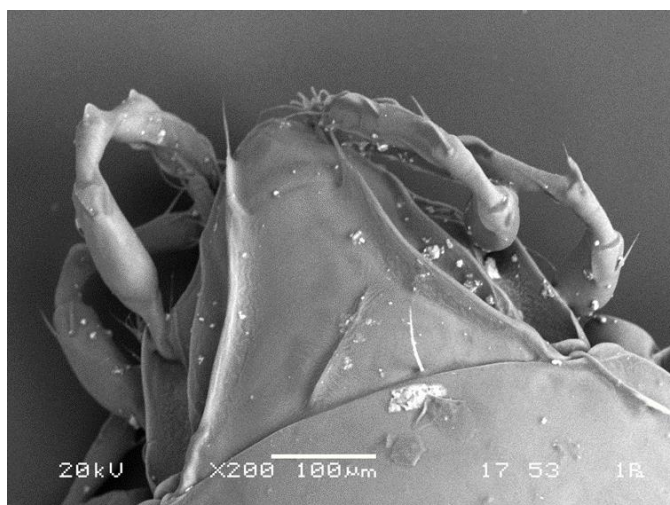
**Prodorsum** (Figs. 1-3): Rostrum broadly rounded.



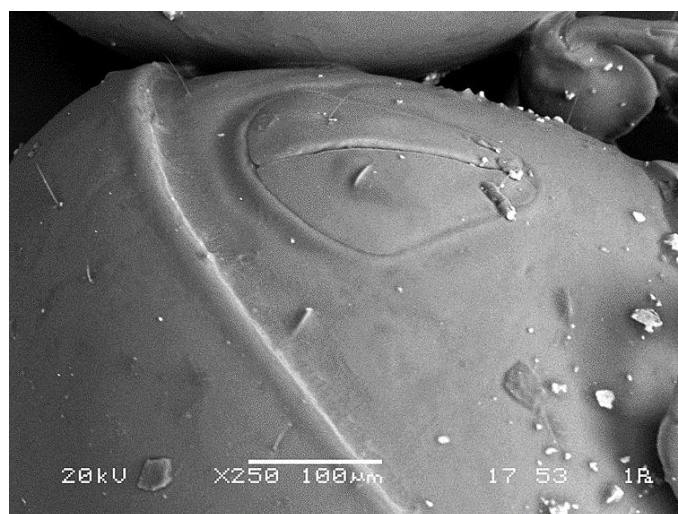
**Figure 1.** *Conoppia palmicineta* SEM image, dorsal view.



**Figure 3.** *Conoppia palmicineta* SEM image, sensillus.



**Figure 2.** *Conoppia palmicineta* SEM image, prodorsum.



**Figure 4.** *Conoppia palmicineta* SEM image, anal plate and notogastral setae *p1* and *p2*.

Prodorsum 425 in length and 266 in width. Rostral setae (*ro*) straight, lamellar (*le*) setae originating on lamellar cuspides (Fig. 2). Setae *le* nearer to seta *ro* than interlamellar (*in*) setae. Setae *in* setiform and originating posteriorly. Sensillus fusiform (Fig. 3).

**Notogaster** (Fig. 1): Notogaster domed, anterior border of notogaster slightly arched with lateral protruding process (Fig. 1). Only two pairs of short (19-33) and fine notogastral setae present (*p1* and *p2*) (Fig. 4). Notogastral surface smooth.

**Ventral region** (Figs. 4-6): Apodemata well observable. Genital and anal plates large, distances between genital and anal plates less than length of genital one (Fig. 5). All ventral setae smooth and thin. Six pairs of long genital setae, one pair of aggenital setae, two pairs of anal and 3 pairs of adanal setae present (Figs. 4, 6).

**Legs.** All legs tridactylous is typical for the genus.

**Material examined:** All materials were collected from soil with moss on rock, Miço forest, Kincilli village of Kandıra town, Kocaeli, Turkey, 28 November 2015. Geographic co-ordinates of the locality: 41°09'38.7"N, 30°12'02.5"E, 12 m.

**Remarks:** The genus *Conoppia* has only two species *C. palmicineta* (Michael, 1880) and *C. setiformis* Golosova and Karppinen, 1985. These two species closely resemble to each other but *C. setiformis* differs from *C. palmicineta* by the following features; presence of medially wider lamella, absence of translamella, longer interlamellar setae, thorny sensillus (Golosova and Karppinen, 1985).

The body dimensions of *C. palmicineta* have been given as 800-1250 in length (Luxton, 1990; Weigmann, 2006). According to our data, body length is in between

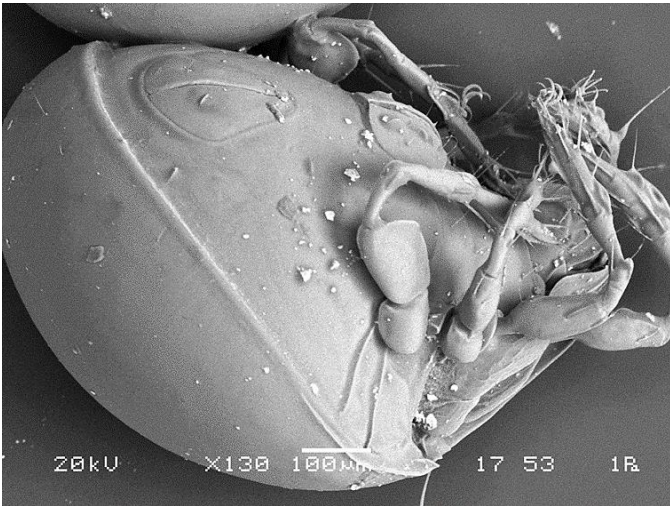


Figure 5. *Conoppia palmicincta* SEM image, ventral view.

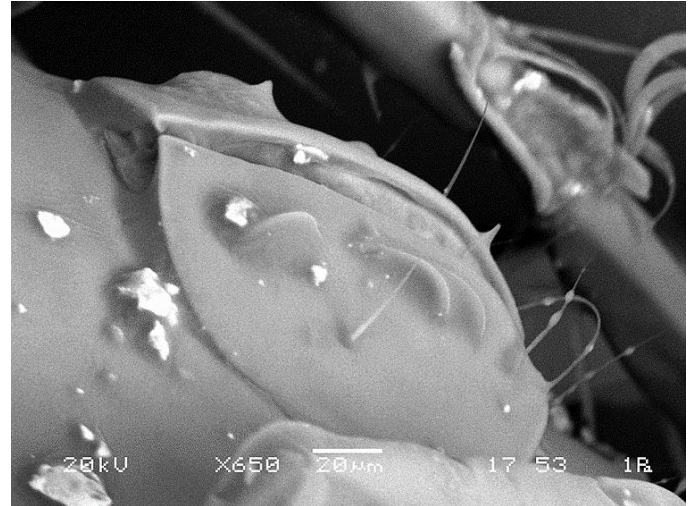


Figure 6. *Conoppia palmicincta* SEM image, genital plate.

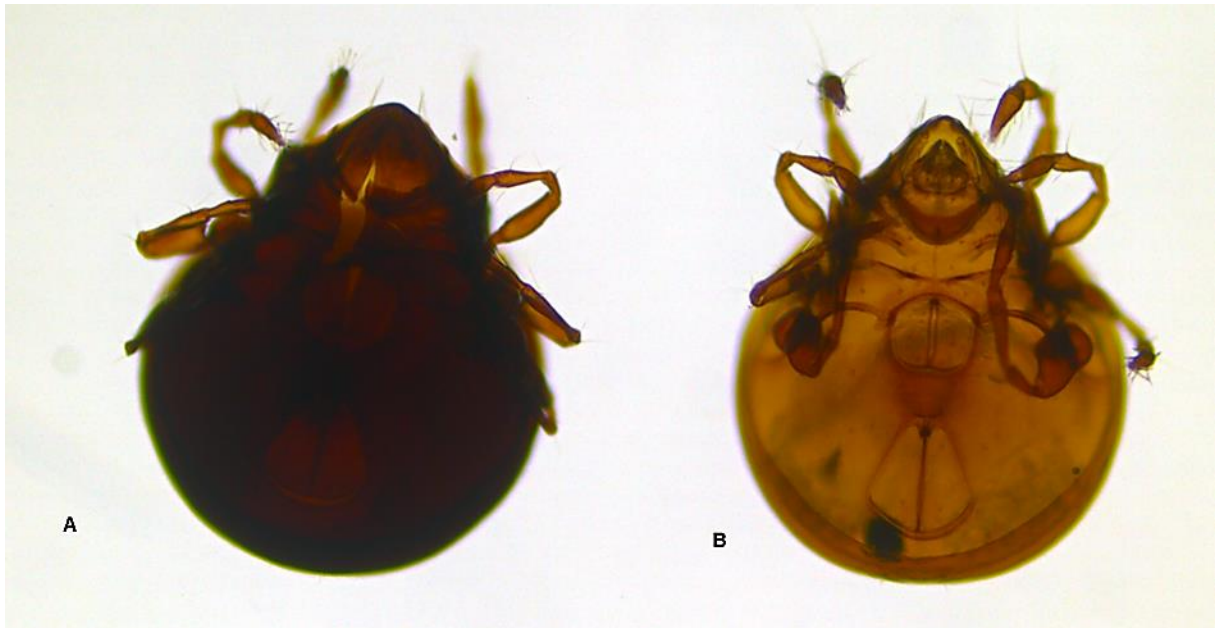


Figure 7. *Conoppia palmicincta*, light microscopy image A- adult specimen, B- specimen newly moulted from the tritonymph.

800-840. In this respect, the dimensions of the specimens found in Turkey are in accordance with previously known specimens.

Colour of the body is variable yellowish or dark brown (Fig. 7). According to Luxton (1990) these two different colours refer to the relative ages of adults; newly moulted specimens from the tritonymph (breeds) are yellowish.

**Distribution:** Holarctic region (Subías 2004, online version 2016).

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