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A new species of the genus *Phytoptipalpus* (Acari: Tenuipalpidae) from Iran

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ABSTRACT

A new species, *Phytoptipalpus calligonus* sp. nov., collected from *Calligonum comosum* (Polygonaceae) is described and illustrated from adult female specimen from southern Iran.

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Calligonum comosum; flat mites; Polygonaceae; Tetranychoidae; Trombidiformes

Introduction

Phytoptipalpus Trägårdh is a small genus of the family Tenuipalpidae (Acari: Prostigmata: Tetranychoidae). This genus was created by Trägårdh in 1904 based on its type species *P. paradoxus* Trägårdh (Meyer 1979; Meyer and Van Dis 1993). It currently includes 22 species listed in the key to world species of the genus *Phytoptipalpus*, prepared by of Ueckermann et al. (2019). Adults of four species of *Phytoptipalpus* have been described with three pairs of legs, namely: *P. occultuae* Ueckermann, Ochoa & Bauchan, *P. muukuorum* Meyer, *P. albizziae* Pritchard & Baker and *P. paradoxus* (Pritchard and Baker, 1958; Beard et al. 2013; Ueckermann et al. 2019). Only two species of the *Phytoptipalpus* have been recorded from Iran: *P. rosae* (Mitrofanov and Strunkova, 1978) and *P. salicicola* (Al-Gboory, 1987) (Khanjani et al. 2012, 2013). It should be mentioned here that *P. kurdestaniensis* (Khanjani et al.) is also reported from Iran, but was later synonymized with *P. rosae*, Mitrofanov and Strunkova. (Khanjani et al. 2013). In this paper, we described a new Iranian species of the *Phytoptipalpus* collected from *Calligonum comosum* (Polygonaceae) (Figures 11–13).

Material and methods

Leaves and sheaths of *C. comosum* were collected in plastic bags and brought to the research laboratory. A dipping-washing-filtering method was used to remove the mites (Boller 1984) from host plant leaves. The solution was filtered through a 400 mesh sieve and retained mites were washed with 70% ethanol into a petri dish, collected individually with the aid of an Olympus® SZ1145 Trinocular stereomicroscope, prior to being mounted on microscope slides in Hoyer's medium. Specimens were examined using an Olympus® BX51 phase-contrast compound microscope. Measurements were taken by means of a Dino-Eye® soft imaging system and are given in micrometres (µm), and presented as the holotype followed by measurements of 10 paratype females in parentheses. We followed the terminology and setal notations of Lindquist (1985) adapted to the Tenuipalpidae. Depositories are cited using the following abbreviations:

SBUK – Collection of the Acarology Laboratory, Shahid Bahonar University of Kerman, Kerman, Iran

QM – Queensland Museum, South Brisbane, Australia.

Systematics

Family Tenuipalpidae Berlese 1913 Genus *Phytoptipalpus* Trägårdh, 1904

Type species – *Phytoptipalpus* Trägårdh, 1904, by monotypy.
Diagnosis. See Ueckermann et al. (2019)

Phytoptipalpus calligonus sp. nov., (Figures 1–9, 14)

Type material (Figures 11–13). Holotype one female, nine female paratypes ex. *Calligonum comosum* (Polygonaceae), Sirjan, Kerman province, Iran (29°30'N, 55°39'E) (AMSL: 1766 m), 26 July 2018, coll. D. Bastani Rad.

Type deposition. Holotype female and eight paratype females were deposited at SBUK, one paratype female was deposited at QM.

Diagnosis

Dorsal opisthosoma with 13 pairs of setae (f_2 present). Anterior margin of prodorsum rounded, without projections or lobes. All dorsal setae linear, acicular and barbed. Prodorsum with arched striation medially, becoming weak towards setae v_2 , and longitudinal striae laterally. Dorsal opisthosoma with mostly transverse striae medially between setae c_1 to e_1 , with longitudinal striae laterad setae c_2 , with irregular broken longitudinal striae in pygidial region posterior to setae e_1 ; three pairs of visible pores. Genital shield sparsely punctate; pseudanal setae ps_1 and ps_2 barbed, short; palp 5-segmented; palp tarsus minute with one eupathidium. Leg IV present in female. Trochanters I–IV 1-1-2-1; genua I–IV 1-1-0-0. Dorsal setae on femora I and II slightly thickened, and finely barbed.

Description

FEMALE (Holotype). (Figures 1–9, 14) ($n = 10$): All stages are red in colour (Figure 10). Body measurements: length excluding gnathosoma (v_2-h_1) 243 (221–240); width (c_3-c_3) 124 (118–120).

Dorsum (Figure 1). All dorsal setae linear, acicular and barbed; full complement of dorsal setae present (16 pairs). Anterior margin of prodorsum rounded without projections or lobes. Prodorsum with mostly arched setae medially, becoming weak towards setae v_2 , and becoming longitudinal laterally. Dorsal opisthosoma with mostly transverse striae medially between setae c_1 to e_1 , with longitudinal