

**A NEW AND UNUSUAL UROPODINA MITE  
(UROOBOVELLA VAZQUEZAE SP. NOV.)  
FROM MEXICO (ACARI: MESOSTIGMATA)**

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**ABSTRACT.** A new unusual Uropodina mite (*Uroobovella vazquezae* sp. nov.) is found in the tropical part of Mexico. The new species is easy to separate from the other known *Uroobovella* species on the basis of the cavities on dorsal and ventral idiosoma. Original description and illustrations are given. With 6 figures.

**Key words:** Acari, Uropodina, new species, Mexico.

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**RESUMEN.** Se describe e ilustra una nueva y rara especie de ácaro *Uroobovella vazquezae* sp. nov. para la zona tropical de México. La nueva especie es fácil de reconocer de las otras especies de *Uroobovella* por las cavidades del idiosoma dorsal y ventral.

**Palabras clave:** Acari, Uropodina, nueva especie, México.

## INTRODUCTION

Uropodina mites are well-characterized group of the soil animals of tropics, these mites live in the soil, moss and leaf litter and well-known members of the canopy.

Regarding the Uropodina fauna, Mexico is one of the poorly-investigated countries of Latin-America, when Wisniewski (1993) summarized the knowledges about the occurrences of the Uropodina mites he listed 61 species from this country. Later Vázquez & Klompen (2001, 2007) presented several new records of Uropodina species from several parts of Mexico.

## MATERIAL AND METHODS

Specimens were cleared in lactic acid and later stored in alcohol. Drawings were made with a camera lucida. The holotype and paratype are deposited in the Collections of Soil Zoology of the Hungarian Natural History Museum, Budapest.

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Abbreviations: h1-h4, hypostomal setae, St1-St5, sternal setae (after Stachowiak *et al.* 2008). Measurements are given in micrometres ( $\mu\text{m}$ ).

***Uroobovella vazquezae sp. nov.***

**Diagnosis:** Dorsal and marginal shields completely isolated. Dorsal and marginal shields bear several small and deep cavities, two large cavities can be found on central region of dorsal shield. Near these cavities several well sclerotized furrows can be seen on posterior part of dorsal shield. Dorsal and marginal setae pilose and setae on anterior margin wide, phylliform and bear short hairs on their margins. Genital shield of female linguliform, bear deep maculate ornamentation.

**Materials examined:** Holotype: female. D-Am 347. Mexico, Estado Chiapas, Selva Lacandonia. Selva alta tropical lowland rainforest from the station. 40 m a.s.l., from leaf litter and humus from the base of a huge tree in a flatland rain forest. Leg. S Mahunka. VI. 1996. Paratype: male. Locality and date same as holotype.

**Description:** Female. Length of idiosoma 380  $\mu\text{m}$ , width 290  $\mu\text{m}$  (n=1). Shape oval, posterior margin rounded.

**Dorsal idiosoma** (Fig. 1): Dorsal and marginal shields completely separated. All dorsal setae long, wide and setiform, their margins bear short hairs. Several deep and small cavities can be found on dorsal shield, two large cavities placed on central region. Well sclerotized furrows can be seen on posterior part of these large cavities. Marginal setae (except on anterior part) similar to dorsal setae in size and shape (Fig. 2). Setae on anterior margin wide, phylliform and bear short hairs. Marginal shield ornamented by small and deep cavities.

**Ventral idiosoma** (Fig. 3): Tritosternum with narrow basis and its laciniae with four branches. Sternal shield without ornamentation. All of sternal setae short, smooth and needle-like. The positions of sternal setae are the follows: St1 near the anterior margin of sternal shield, St2 near central region of coxae II, St3 near the anterior-, but St4 near posterior margin of coxae III, St5 near central part of coxae IV. Ventral setae similar to dorsal setae in shape and size. Positions can be seen on Fig. 3. One pair of adanal setae can be found near anterior margin of anal platelets (Fig. 4), they are smooth, short and needle-like. Ventral shield ornamented by deep and maculate cavities. Stigmata and peritreme not clearly visible. Genital shield linguliform, with maculate ornamentation and without process.

**Legs:** bear short, smooth and needle-like setae, leg I without ambulacral prolognation.

**Gnathosoma** (Fig. 5). Corniculi horn-like, internal malae long, anterior part pilose. Hypostomal setae are the follows: h1 long, smooth and needle-like, h2 three times shorter than h1, h3 similar to h1 in shape and size, h4 two times shorter than h1, but their margins serrate. Epistome bifurcated anteriorly and pilose, basal part not

clearly visible. Chelicerae not clearly visible. Setae on palp trochanter illustrated on Fig. 5, other setae smooth, short and needle-like.

**Male.** Length of idiosoma 370  $\mu\text{m}$ , width 290  $\mu\text{m}$  (n=1). Shape oval, posterior margin rounded.

**Dorsal idiosoma.** Ornamentation and chaetotaxy of dorsal shield as for the female.

**Ventral idiosoma** (Fig. 6). Sternal shield with some deep cavities. Sternal setae smooth, short and needle-like. Ventral setae and ventral ornamentation similar to that of the female. Genital shield circular, situated between coxae III and IV. Legs and gnathosoma similar to female.

Nymphs and larvae are unknown.

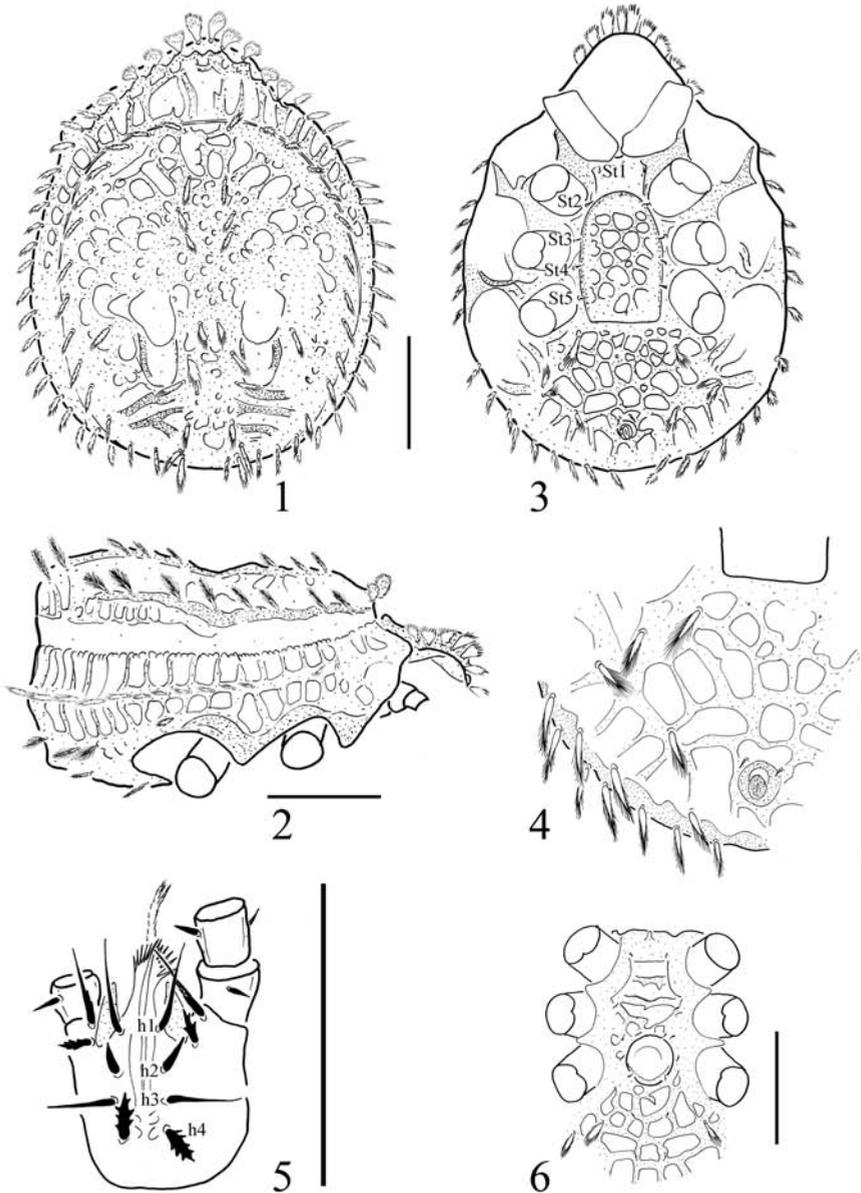
### Etymology

I dedicate the new species to the famous Mexican acarologist Dr. Ma. Magdalena Vázquez.

### NOTES

I placed the new species in the large genus *Uroobovella* Berlese, 1903. This genus is divided into several species groups (see Hirschmann 1989), but the new species does not belong to any of the known species groups, however it has several common characters with the *pulchella*- and *elegans*-species groups. In other respect this species differs from these groups by the characteristic deep dorsal and ventral cavities and by the completely separated dorsal and marginal shields. Furthermore the known species have claws on leg I, in the *pulchella* group (five species are known from this group: *U. andrassyi* Hirschmann & Zirngiebl-Nicol, 1972; *U. ceylonensis* Zirngiebl-Nicol & Hirschmann, 1975; *U. denticulata* Hirschmann & Zirngiebl-Nicol, 1972; *U. pulchella* (Berlese, 1904); *U. foraminosa* Hiramatsu, 1979) (Hirschmann, 1989) but the new species does not bear claws on leg I.

On the other hand ten species are known from the species group *elegans*, these species do not bear claws on leg I. similarly to the new species. The new species differs to the other species of this group by the following characters: all sternal setae are smooth in the new species, but two sternal setae are marginally pilose in species *U. pectinata* (Hirschmann, 1973); *U. pectinatasimilis* Hiramatsu, 1980 and *U. serangensis* Hiramatsu, 1980. The other known species have needle-like sternal setae, one species of them have egg-like genital shield in female (*U. imadatei* Hiramatsu, 1980), the other species have sugar-loaf-like genital shield in females (*U. faceta* Hiramatsu & Hirschmann, 1978; *U. enodis* Hiramatsu, 1985; *U. incerta* Hiramatsu & Hirschmann, 1978; *U. incertaoides* Hiramatsu & Hirschmann, 1978; *U. facetaoides* Hiramatsu & Hirschmann, 1978), but the genital shield of female in the new species is linguliform.



**Figures 1-6.** *Uroobovella vazquezae* sp. nov. 1: dorsal view, 2: lateral view, 3: ventral view, 4: ventral cavities and setae, 5: ventral view of gnathosma (female, holotype), 6: sternal region (male, paratype) (Scale bars: 100  $\mu$ m).

Presumably this species belongs to a new undescribed genus, but recently the systematics of the Uropodina has several problems at family and genus levels, with uncertain and unclear diagnoses, accordingly now I placed it into the genus *Uroobovella*.

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