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Rotundabaloghia (Rotundabaloghia) dogani sp. nov. from Hong Kong (Acari: Mesostigmata: Rotundabaloghiidae)

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ABSTRACT: *Rotundabaloghia (Rotundabaloghia) dogani* sp. nov. is described based on three females and one male collected from soil in Tai Po Kau Nature Reserve, in Hong Kong. The new species differs from the other species from the subgenus *Rotundabaloghia* in the shape and length of the ventral setae.

Keywords: Mite, Taxonomy, South-East Asia.

Zoobank: <http://zoobank.org/4C72C121-E7E2-42F2-A69A-4C17737D73AD>

INTRODUCTION

The *Rotundabaloghia (Rotundabaloghia)* Hirschmann, 1975 is an endemic subgenus in South-East Asia and in Austral-Asian region, the members of this taxon are described from New Guinea, southern parts of Japan, Taiwan, Philippines, Indonesia and Hong Kong (Kontschán, 2010, 2015, Kontschán & Kiss, 2015). This subgenus is well characterized by the three or four pairs of short and needle-like setae on rows *j-j* on dorsal body among the lot of long and apically pilose setae, contrary with the sister-group (*Rotundabaloghia (Circobalogia)* Kontschán, 2010) where these short and smooth dorsal setae are absent (Kontschán, 2010).

Till today only three Uropodina mites are presented from area of Hong Kong, all from the family Rotundabaloghiidae Kontschán, 2010 (Kontschán, 2015) and only one species belongs to this subgenus (*R. (R.) hongkongensis* Kontschán, 2015).

During my last visit to Natural History Museum of Geneva some soil samples from Hong Kong were also investigated. One of the samples contained several specimens of rotundabaloghiid mites, described herein as second species from this subgenus from Hong Kong.

MATERIALS AND METHODS

The specimens examined were cleared in lactic acid for a week and afterwards, the specimens were investigated on half-covered deep slides with a Leica 1000 microscope. Drawings were made with the aid of a drawing tube on a Leica 1000 microscope. All measurements and the scale bars in the figures are given in micrometres (µm).

All specimens are stored in ethanol and deposited in the Natural History Museum of Geneva.

Abbreviations

v = ventral setae, *st* = sternal setae, *ad* = adanal setae, *p* = pores, *lf* = lyriform fissures.

RESULTS

Rotundabaloghia (Rotundabaloghia) dogani sp. nov.

Zoobank: <http://zoobank.org/3083E06F-F613-4729-B2B9-9479030B463C>

(Figures 1-7).

Diagnosis. Dorsal shield covered by oval pits, dorsal setae long and apically pilose except three pairs of short and needle-like setae on central area. All ventral setae smooth and needle-like, setae *st1* short, setae *v2* and *v6* shorter than *v7* and *v8*.

Material examined. *Holotype.* Female. SBH-96/17, Hong Kong (New Territories), Tai Po Kau Nature Reserve, after the big picnic area soil sampled near a dead but still standing tree, 150 m a.s.l.; 9.XII.1996; leg. B. Hauser (soil extraction by means of a Berlese funnel in Geneva). *Paratypes.* Two females and one male, collection data as in holotype.

Description

Female (n=3).

Description. Length of idiosoma 325–335, width 265–280. Shape circular, posterior margin rounded, colour reddish brown.

Dorsal idiosoma (Fig. 1). Marginal and dorsal shields fused. Majority of dorsal setae basally curved and apically pilose (ca 36–39), except three pairs of short (ca 9–10) and smooth setae on rows *j-j*. Four pairs of lyriform fissures and two pairs of pore-like organs situated on central and centrolateral areas of dorsal shield. Surface of dorsal shield covered by oval pits (ca 4–5×4–6).

Ventral idiosoma (Fig. 2). Sternal shield covered by some oval pits (ca 4–5×4–5). All sternal setae smooth and needle-like, *st1* and *st4* short (ca 4–5), *st2* and *st3* long (ca 7–11). Setae *st1* situated at level of anterior margin of coxae II, *st2* at level of posterior margin of coxae II, *st3* at level of central area of coxae III, *St4* at level of anterior margin of

coxae IV. All ventral setae smooth and needle-like, v2 and v6 ca 8–10, v7 ca 17–18, v8 ca 23–25 and adanal setae ca 16–17 long. Setae v2 situated near basal edges of genital shield, v7 and v8 situated at level of setae *ad*. Setae v6 situated between v2 and v8. Setae *ad* placed lateral to anal opening, at level of its anterior margin. Ventral shield covered by oval pits (ca 5–6×5–6), but smooth around anal opening. One pair of lyriform fissures situated close to setae v2. Peritremes (Fig. 2) with a short straight post-stigmatid part and a longer hook-shaped prestigmatid part. Stigmata situated between coxae II and III. Genital shield wide, linguliform (108–110 long and 55–58 wide at base), without apical process. Surface of genital shield covered by oval pits (ca 4–6×5–6). Pedofossae deep, their surface smooth, separate furrows for tarsi IV present. Base of tritosternum narrow, vase-like, tritosternal lacinae smooth, subdivided into three smooth branches in its distal half.

Gnathosoma. Corniculi horn-like, internal malae smooth and as long as corniculi. Hypostomal setae *h1* long (ca 9–13), smooth and needle-like. Other setae and other parts not visible, covered by coxae I.

Legs (Figs 3–6). All legs with smooth and needle-like setae, the claws on first leg absent. All femora bearing flap-like ventral processes. Leg I 190–195, leg II 195–205, leg III 195–205, leg IV 200–210.

Male (*n*=1).

Length of idiosoma 325, width 275.

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

Ventral idiosoma (Fig. 7). Four pairs of sternal setae (*st1*–*st4*) situated anterior to genital shield, *st5* placed lateral to genital opening. Setae *st1*, *st4* and *st5* short (ca 4–7), *st2* and *st3* long (ca 12–13) all sternal setae smooth and needle-like. All ventral setae smooth and needle-like, v2 and v6 ca 13–15, v7 and v8 ca 22–26 and adanal setae ca 17–18 long. Positions of ventral setae same as in females. Ventral shield covered by oval pits (ca 4–5×4–6), but smooth around anal opening. One pair of lyriform fissures situated close to setae v2. Other characters as in female. Genital shield oval (27×28) and situated between coxae IV.

Larva and nymphs. Unknown.

Etymology. I dedicated the new species to my dear friend and the founder of the Acarological Studies, Dr. Salih Doğan.

Remark. Currently only three rotundabaloghiid species were described from Hong Kong (Kontschán, 2015), namely *Angolubaloghia staryi* Kontschán, 2015, *Rotundabaloghia* (*Rotundabaloghia*) *hongkongensis* Kontschán, 2015 and *Depressorotunda* (*Depressorotunda*) *taurina* Kontschán 2015. The new species differs in some characters from the previously described ones. The *R. (R.) dogani* does not have ventral cavity, contrary with the *D. (D.)*

taurina, where it is well-developed. The genital shield of the new species is linguliform, but it is triangular in the case of *A. staryi*. The setae v8 is very short and v2 very long in *R. (R.) hongkongensis*, but the new species bears short v2 and long v8 setae.

Updated key for the *Rotundabaloghia* (*Rotundabaloghia*) species (modified, after Kontschán, 2015).

1, Setae v8 smooth.....	2
– Setae v8 not smooth	8
2, Setae v8 shorter than other ventral setae	6
– Setae v8 similar in length to v7	3
3, Setae v2 and v6 shorter than v7 and v8.....	
..... <i>R. (R.) dogani</i> sp. nov.	
– Setae v2 and v6 similar in length to v7 and v8.....	4
4, Setae v7 longer than other ventral seta	
..... <i>R. (R.) kaszabi</i> Hirschmann, 1975	
– Setae v7 as long as other ventral setae	5
5, Scupltural patter between setae v7 present	
..... <i>R. (R.) makilingoides</i> Hirschmann & Hiramatsu, 1992	
– Scupltural patter between setae v7 absent	
..... <i>R. (R.) makilingensis</i> Hirschmann & Hiramatsu, 1992	
6, Setae v6 as long as v8	
..... <i>R. (R.) hongkongensis</i> Kontschán, 2015	
– Setae v6 longer than v8.....	7
7, Setae v8 as long as <i>ad</i> <i>R. (R.) korsosi</i> Kontschán, 2008	
– Setae v8 shorter than <i>ad</i>	
..... <i>R. (R.) hirschmanni</i> Hiramatsu, 1977	
8, Setae <i>ad</i> pilose	<i>R. (R.) baloghi</i> Hirschmann, 1975
– Setae <i>ad</i> smooth	9
9, Setae v7 pilose	10
– Setae v7 smooth	11
10, Setae <i>st1</i> , <i>st2</i> and <i>st3</i> much longer (10×) than <i>st4</i>	
..... <i>R. (R.) macroseta</i> Hirschmann, 1975	
– Setae <i>st1</i> , <i>st2</i> and <i>st3</i> not much longer (4×) than <i>st4</i>	
..... <i>R. (R.) mahunkai</i> Hirschmann, 1975	
11, Seate <i>st1</i> longer and wider than <i>st2</i> and <i>st3</i>	
..... <i>R. (R.) monomacroseta</i> Hirschmann, 1975	
– Setae <i>st1</i> not longer and wider than <i>st2</i> and <i>st3</i>	12
12, Setae v7 two times longer than <i>ad</i>	
..... <i>R. (R.) kaszabisimilis</i> Hirschmann, 1975	
– Setae v7 as long as <i>ad</i>	<i>R. (R.) pilosa</i> Hirschmann, 1975

Statement of ethics approval

Not applicable.

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Conflict of interest

The author declares that there is no conflict of interest regarding the publication of this paper.

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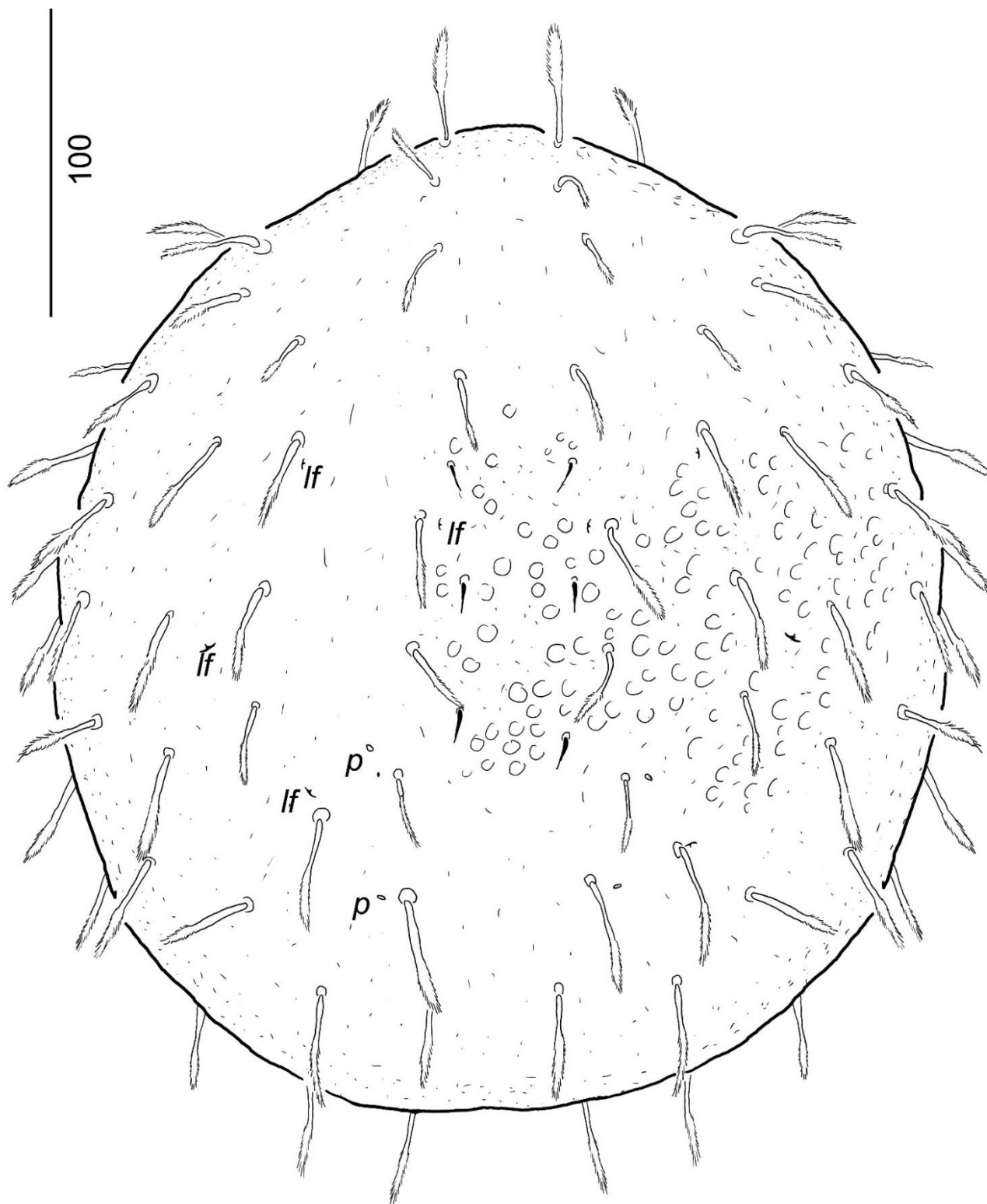


Figure 1. Dorsal view of *Rotundabaloghia* (*Rotundabaloghia*) *dogani* **sp. nov.** female, holotype.

REFERENCES

- Hiramatsu, N. 1977. Gangsystematik der Parasitiformes. Teil 239. Teilgang einer neuen *Rotundabaloghia*-Art aus Japan (Dinychini, Uropodinae). *Acarologie, Schriftenreihe für Vergleichende Milbenkunde*, 23: 19-20. [In German]
- Hirschmann, W. 1975. Gangsystematik der Parasitiformes. Teil 203. Teilgänge, Stadien von 16 neuen *Rotundabaloghia*-Arten (Dinychini, Uropodinae). *Acarologie, Schriftenreihe für Vergleichende Milbenkunde*, 21: 28-34. [In German]
- Hirschmann, W. and Hiramatsu, N. 1992. 34 *Rotundabaloghia* Arten aus Asien (Japan, Neuguinea, Philippinen, Borneo) (Dinychini, Uropodinae). *Acarologie, Schriftenreihe für Vergleichende Milbenkunde*, 39: 9-25. [In German]

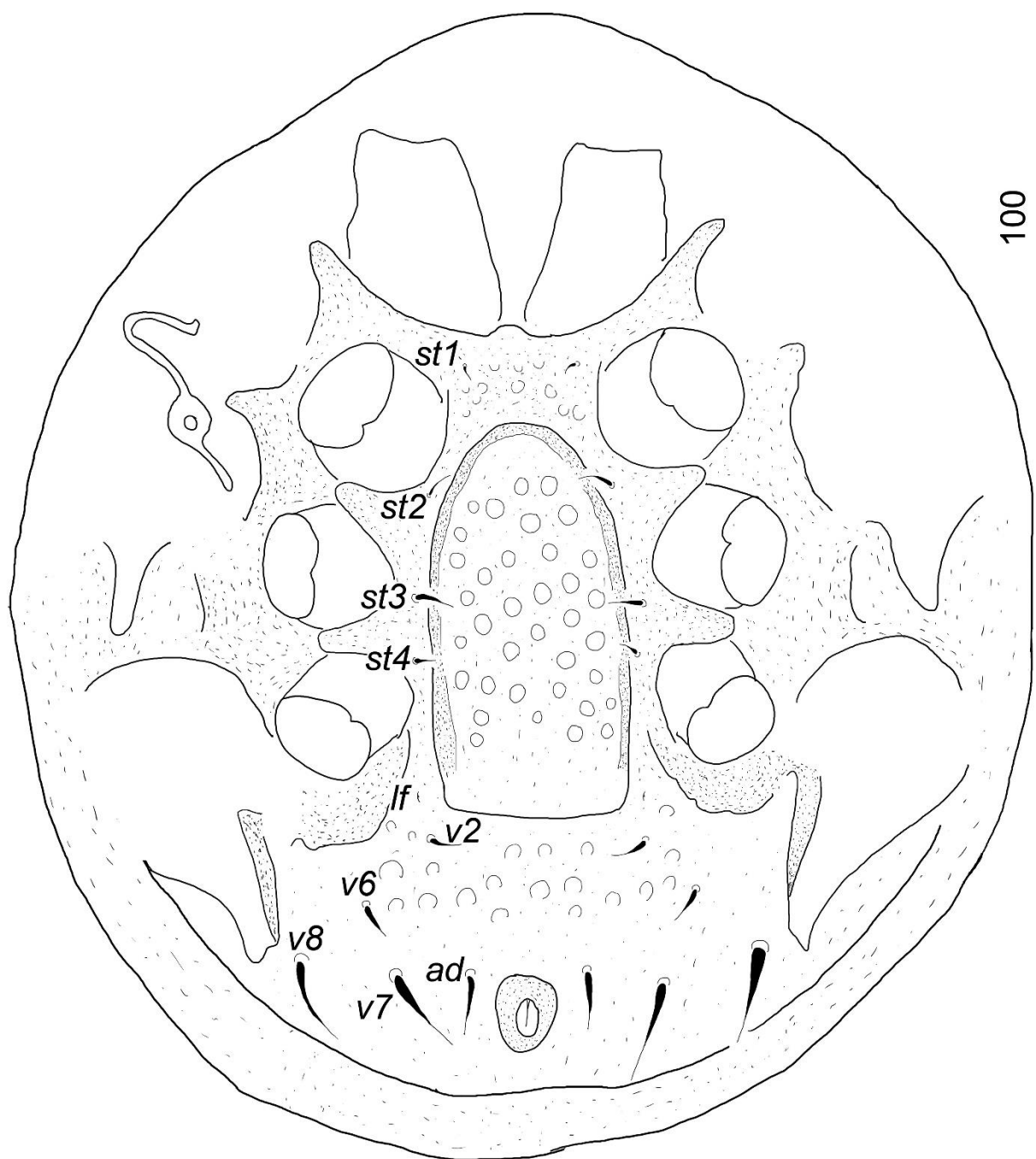


Figure 2. Ventral view of *Rotundabaloghia (Rotundabaloghia) dogani* **sp. nov.** female, holotype.

Kontschán, J. 2008. *Rotundabaloghia korsosi* sp. nov. (Acari: Uropodina) from Taiwan. Collection and Research, 21: 45-51.

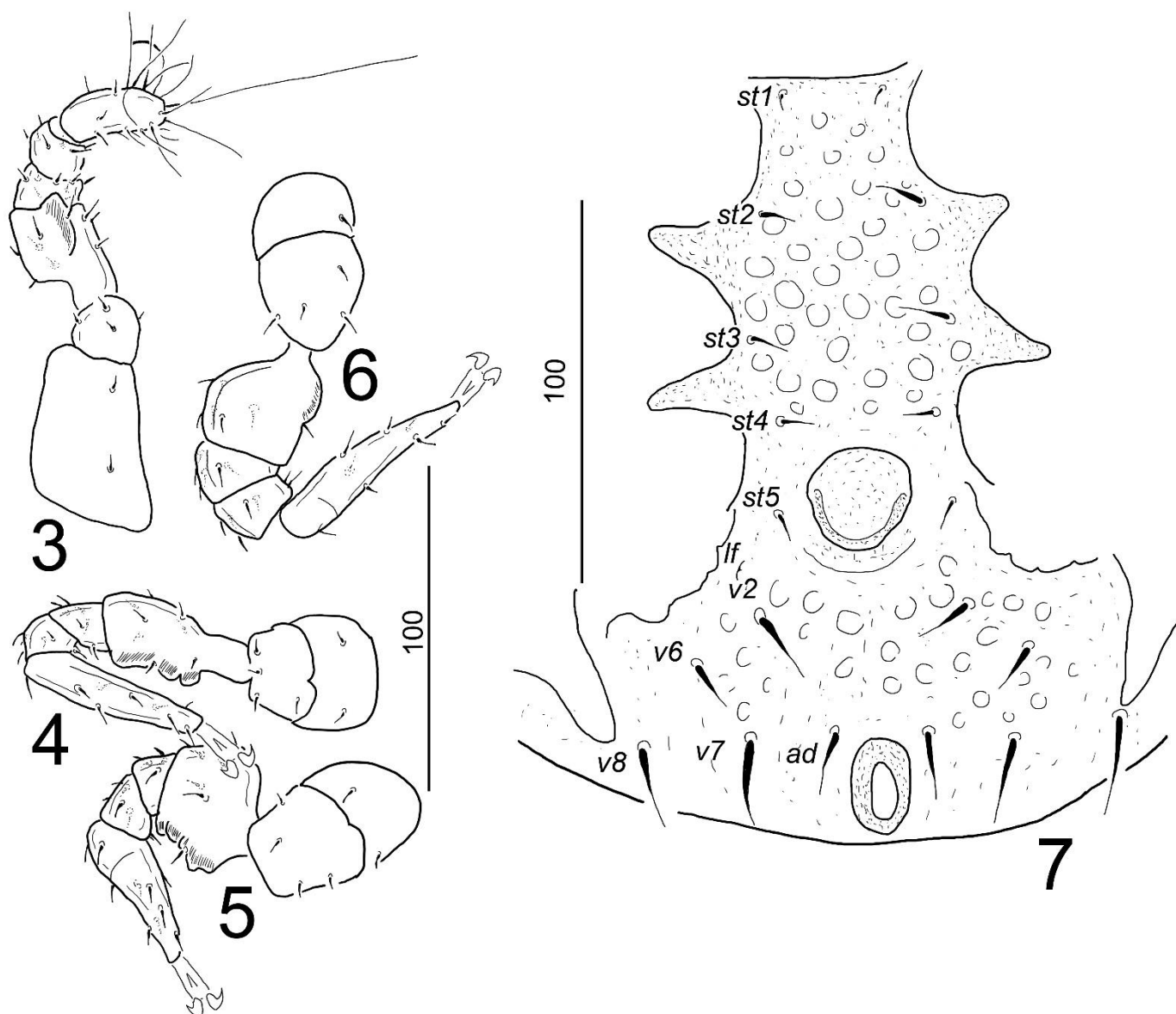
Kontschán, J. 2010. Rotundabaloghiid mites of the world (Acari: Mesostigmata: Uropodina). Ad Librum Kiadó, Budapest, Hungary, 116 pp.

Kontschán, 2015. Three new rotundabaloghiid mites (Acari: Uropodina) from Hong Kong. Revue suisse de Zoologi, 122 (1): 45-54.

doi: [10.5281/zenodo.14581](https://doi.org/10.5281/zenodo.14581)

Kontschán, J. and Kiss, B. 2015. Five new rotundabaloghiid mites (Acari: Uropodina) from South-East Asia. Zootaxa, 4021 (4): 515-528.

doi: [10.11646/zootaxa.4021.4.2](https://doi.org/10.11646/zootaxa.4021.4.2)



Figures 3-7. *Rotundabaloghia (Rotundabaloghia) dogani* sp. nov. female, holotype. **3.** Leg I. in ventral view, **4.** Leg II in ventral view, **5.** Leg III in ventral view, **6.** Leg IV in ventral view, **7.** Intercoxal area of male paratype.

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