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Tenuipalpus mansoniculus (Acari: Tenuipalpidae) of Australia: redescription of the holotype

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Abstract

The holotype female of *Tenuipalpus mansoniculus* Ghai & Shenhmar, 1984 (replacement name of *Colopalpus mansoni* Collyer, 1973) is described and illustrated. The nomenclatural history of this species is documented and errors in the original description are corrected.

Introduction

Collyer (1973) described two new species of *Colopalpus*, including *Colopalpus mansoni* from leaves of *Pomaderris* sp. imported from Australia. *Colopalpus* was synonymised with *Tenuipalpus* by Meyer (1979). As a result, *T. mansoni* (Collyer 1973) became a homonym of *Tenuipalpus mansoni* De Leon, 1965, and was later replaced with *Tenuipalpus mansoniculus* Ghai & Shenhmar, 1984.

Tenuipalpus mansoniculus is one of the six species of *Tenuipalpus* known from Australia (Smiley & Gerson 1995; Halliday 1998), but it is the least known species among these six species. Since its original description by Collyer (1973), no further information is available. In a recent study of the Tenuipalpidae from Australasia, we reexamined the holotype of this species. Since the original description by Collyer (1973) is brief and contains some errors, we herein redescribe the holotype to enable correct identification of this species in the future.

The specimen was examined at 1000 times using DIC Nikon E800 microscope. All measurements were made from the slide-mounted specimen using a stage-calibrated ocular ruler and are given in micrometers (μm) (Zhang & Fan 2004). Body length was measured from the anterior margin of the rostral shield to the posterior end of the idiosoma, and the body width was measured as the greatest width between legs I and II. Setae were measured from the centre of setal base to the tip of the seta; distances between setae were measured from the centre of one setal base to that of the other. Legs were measured from the base of the trochanter to the distal end of tarsus (excluding pretarsus). Terminology follows that of Lindquist (1985).

Tenuipalpus mansoniculus Ghai & Shenhmar, 1984 (Figs. 1–4)

Colopalpus mansoni Collyer, 1973: 531, figs. 2–3.
Tenuipalpus mansoni: Meyer, 1979: 5; Gutierrez & Schicha, 1982: 141.

Tenuipalpus mansoniculus Ghai & Shenhmar, 1985: 117; Smiley & Gerson, 1995: 41; Halliday, 1998: 84.

Material examined

Holotype female. Intercepted in New Zealand quarantine from *Pomaderris* sp. imported from Australia, 29 May, 1970, forwarded by C. A. F. Jaques to D. C. M. Manson. Originally deposited in Collection of Entomology Division, Department of Scientific and Industrial Research, Nelson, New Zealand, and now in New Zealand Arthropod Collection (NZAC), Landcare Research, Auckland, New Zealand.

Redescription of the holotype female

Gnathosoma. (Figs. 1B, 2) Rostrum reaching middle of femur I, subcapitular setae *m* setiform, *m*= 15, *m*–*m*= 15. Palp 1-segmented, tarsus with 1 spine-like seta, 18 long.

Idiosoma. (Fig. 1A) 245 long, 125 wide. Rostral shield pitted, with 1 median conical projection. PRODORSUM covered with irregular wrinkles mesally and laterally and a transverse sclerotized bar-like basally, bearing 3 pairs of setiform setae (v_2, sc_1 and sc_2), sc_1 about twice as long as v_2, and sc_2 about 3 times as long as v_2; lengths: v_2 5, sc_1 11, sc_2 15; distances: v_2–v_2 38, v_2–sc_1 21, sc_1–$sc_1$73, sc_1–sc_2 23, sc_2–sc_2 110. HYSTEROSOMA covered with irregular wrinkles mesally and laterally; bearing 1 pair of pores, 1 pair of humeral setae (c_3), 3 pairs of dorsocentral setae (c_1, d_1 and e_1), and 5 pairs of dorsolateral setae (d_3, e_3, f_3, h_2 and h_1). All setae setiform except flagelliform h_2. Lengths: c_1 6, d_1 5, e_1 7, c_3 7, d_3 4, e_3 9, f_3 11, h_2 205, h_1 8; distances: c_1–c_1 35, d_1–d_1 16, e_1–e_1 8, c_3–c_3 105, d_3–d_3 95, e_3–e_3 74, e_3–f_3 12, f_3–f_3 60, f_3–h_2 18, h_2–h_2 33, h_2–h_1 9, h_1–h_1 20.

Venter. (Fig. 2) Venter covered with oblique striae between coxae II–IV and transversal striations posterior to setae *1a*; oblique striations between setae *3a*–*3a* V-shaped; oblique striations between *3a* and *4a* also V-shaped. All coxal setae setiform. Setae *1a* flagelliform, middle medioventral setae *3a* and posterior medioventral setae *4a* setiform. Setae *3a* and *4a* subequal in length, *1a* longest, about 5 times as long as *3a*. Lengths: *1a* 96, *1b* 20, *1c* 14, *2b* 20, *2c* 17, *3a* 18, *3b* 17, *4a* 20, *4b* 18. Distances: *1a*–*1a* 26, *3a*–*3a* 41, *4a*–*4a* 31. Genital and ventral area with transversal striae mesally and oblique laterally as shown in Fig. 2, bearing 1 pair of aggenital setae (*ag*) and 2 pairs of gential setae (g_1 and g_2), setiform. Anal area with 2 pairs of pseudanal setae (ps_1 and ps_2), ps_1 about twice as long as ps_2. Setae lengths: *ag*14, g_1 19, g_2 16, ps_1 20, ps_2 11. Distances: *ag*–*ag* 16, g_1–g_1 11, g_1–g_2 8, g_2–g_2 23, ps_1–ps_2 6.

Legs. (Figs. 3–4) Lengths of legs I–IV: 115, 100, 92, 105. Chaetotaxy: coxae 2-2-1-1; trochanters 1-1-1-1; femora 4-4-2-1; genua 3-3-1-1; tibiae 5-5-3-3; tarsus 8+ω-8+ω-5-5. Most dorsal and lateral setae on trochanters, femora, genua and tibiae barbed, lateral setae *l*' and *l*'' on femura I–II, genu I and tibiae I–II spine-like; ventral setae *v*', *ev*' and *bv*'' on trochanters and femora setiform, setae *v*' and *v*'' on tibiae I–IV pectinate; Setae *ft*' on tarsi I–IV flagelliform, *ft*'' barbed; unguinal setae *u*' and *u*'' pectinate and equal in length; tectal seta *tc*' and *tc*'' on tarsus I–IV spine-like. Solenidion ω'' and eupathidium $p'\zeta$ and $p''\zeta$ on tarsi I–II rod-like. Lengths of solenidia: I ω'' 7, II ω'' 7. Claws and empodium reduced, pad-like, each with tenent hairs on each side.

Remarks

Collyer (1973) reported that only tarsus II in the female has a solenidion, but actually tarsi I and II each bears a solenidion. Collyer (1973) also mentioned four paratype females and two paratype males (three females sent to other institutions), but now only the holotype is preserved in NZAC. Collyer (1973) noted that males are similar to females but lack "the sclerotized bar" in the propodosomal area and smaller than females. She observed a solenidion each on tarsi I and II in males—this agrees with the pattern in the holotype female.

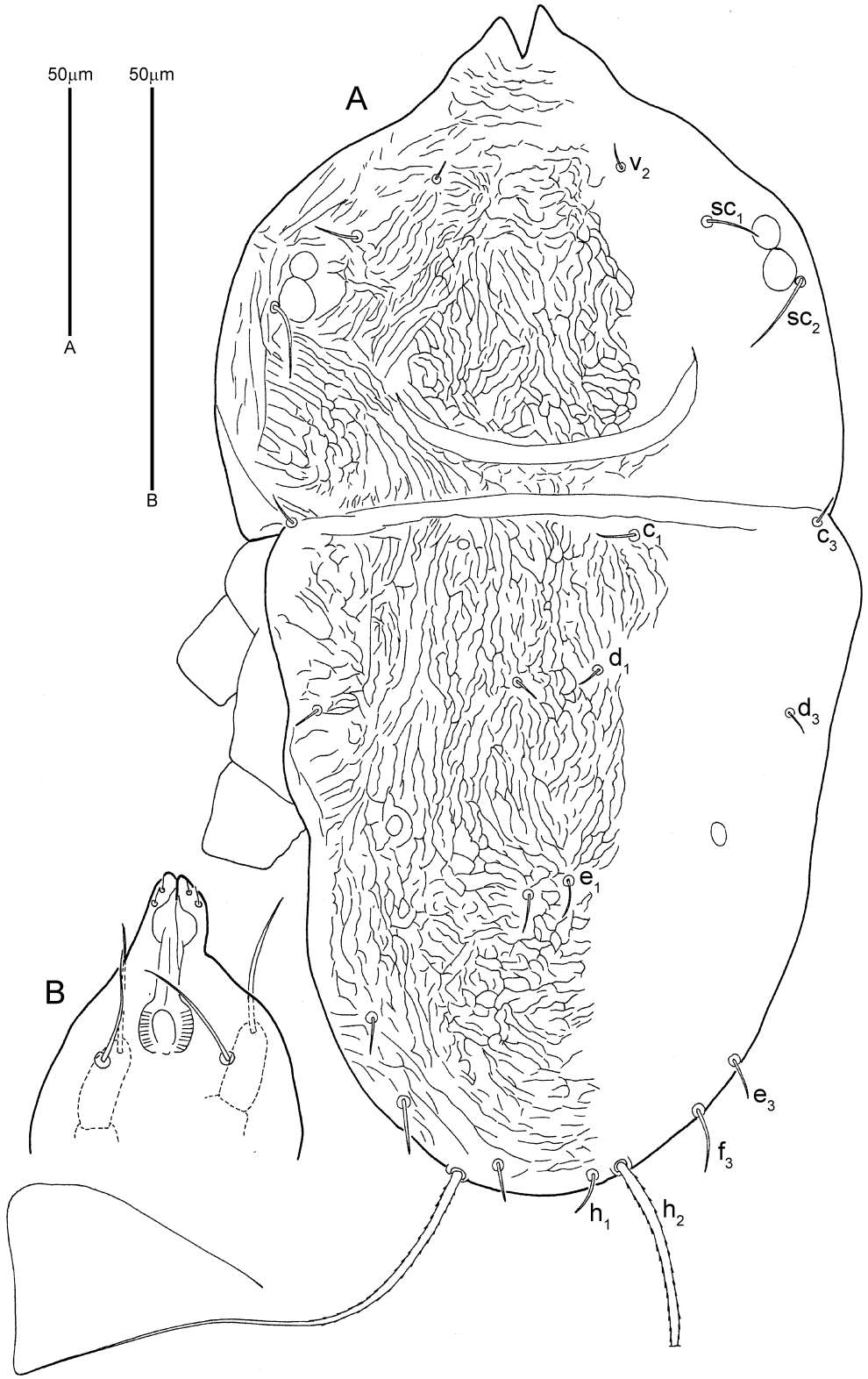

FIGURE 1. *Tenuipalpus mansoniculus* Ghai & Shenhmar (female). A, dorsal view of idiosoma; B, subcapitulum.

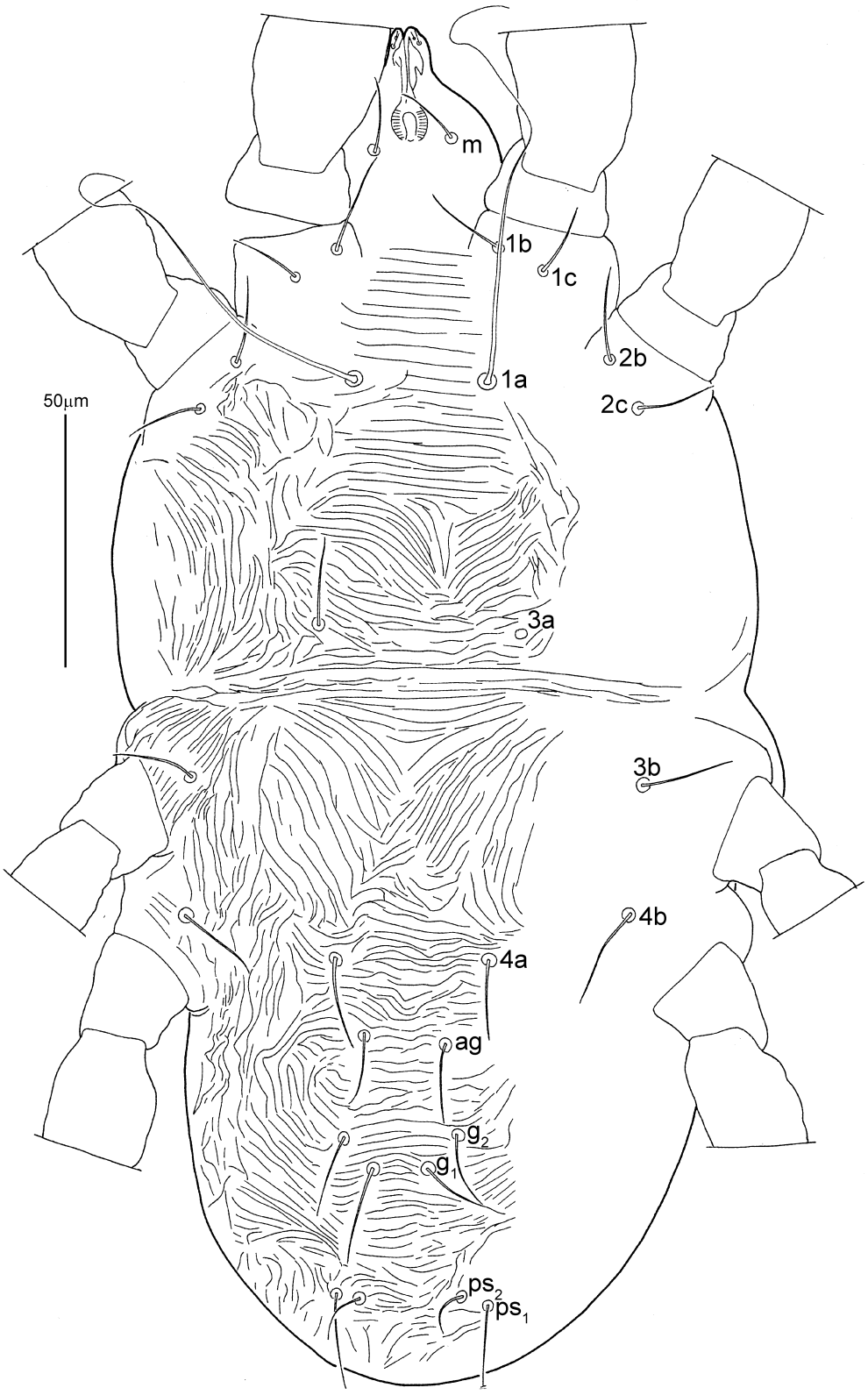

FIGURE 2. *Tenuipalpus mansoniculus* Ghai & Shenhmar (female).Ventral view of idiosoma.

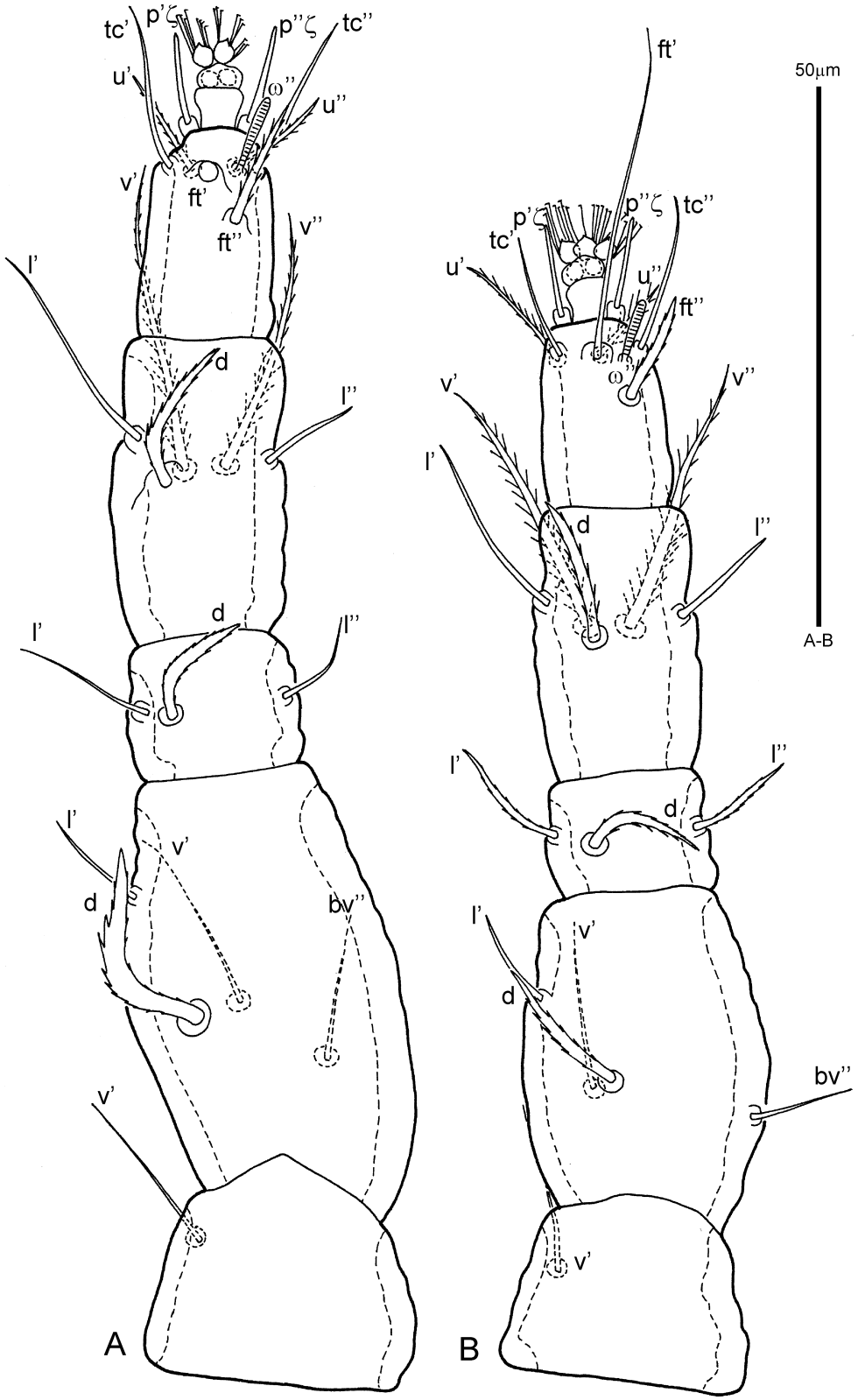

FIGURE 3. *Tenuipalpus mansoniculus* Ghai & Shenhmar (female). A, leg I; B, leg II.

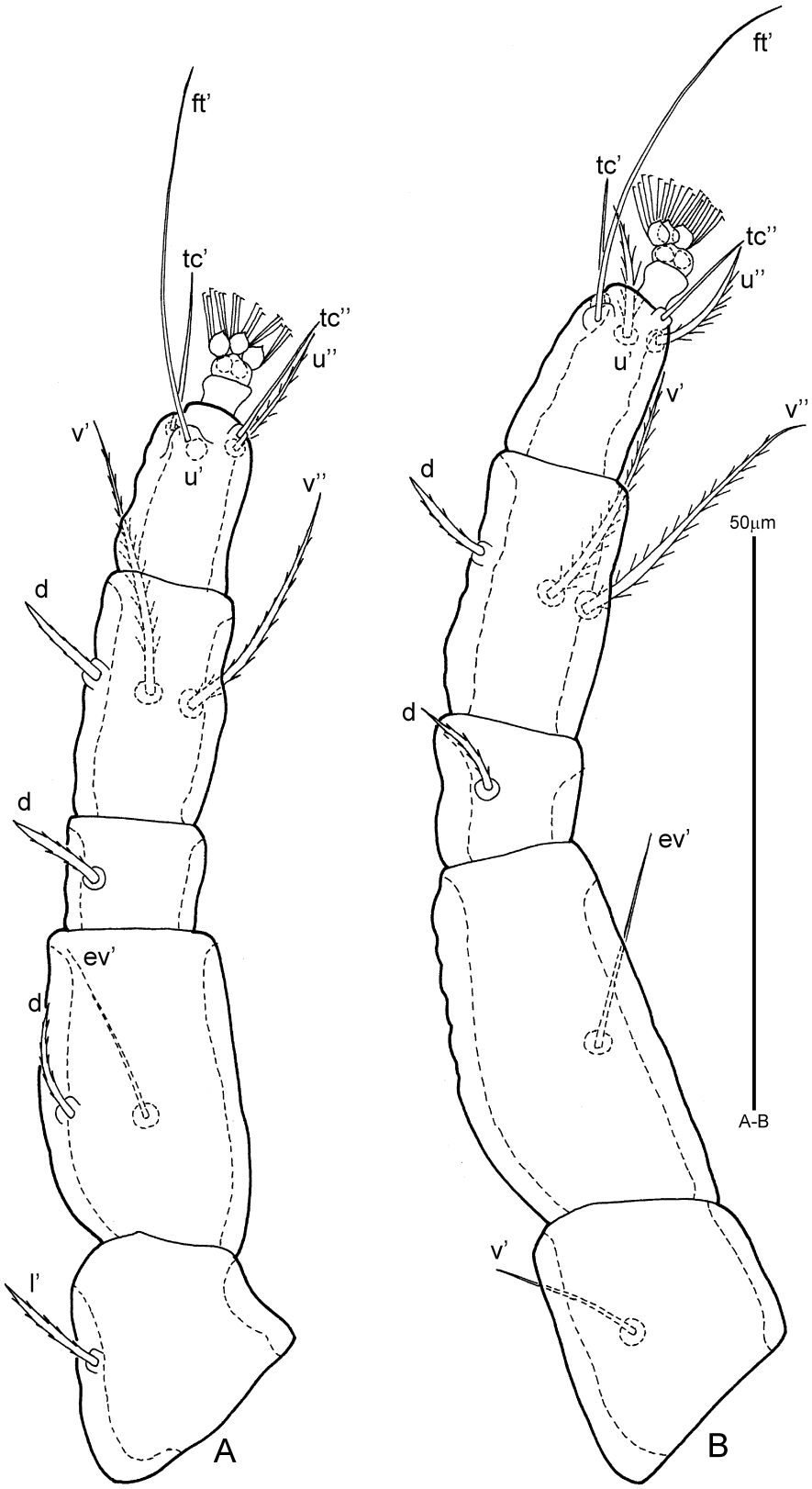

FIGURE 4. *Tenuipalpus mansoniculus* Ghai & Shenhmar (female). A, leg III; B, leg IV.

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