

**A NEW GENUS AND SPECIES OF LARVAL WONDECLIINAE SOUTHCOFF, 1987
(ACARI: TROMBIDIIDAE) FROM A JUMPING BRISTLE-TAIL (MICROCORYPHIA:
MACHILIDAE) FROM THE U.S.A.**

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ABSTRACT - *Machilitrombium cokendolphi* n.g., n.sp. (Acari: Trombidiidae: Wondecliinae) is described from larval stages parasitic on a bristle-tail *Mesomachilus nearcticus* Silvestri, 1911 (Microcoryphia: Machilidae) from New Mexico, U.S.A. It is the first record of a trombidiid mite from this order of host.

INTRODUCTION

A new genus and species, *Machilitrombium cokendolphi*, represented only by the larva, is described in the Trombidiidae, Wondecliinae. The larvae were collected by Dr James C. Cokendolpher from jumping bristle-tails, *Mesomachilus nearcticus* Silvestri, 1911 from New Mexico, U.S.A. It is the first time that a trombidioid mite is found from the order Microcoryphia (Welbourn, 1983).

The measurements used herein are in micrometers. The standard measurements are following Southcott, 1986 and Fain, 1992.

Genus *Machilitrombium* n.g.

Definition (Based on larva): Presence of 2 median dorsal shields. Anterior shield with a short nasus carrying 3 pairs of barbed setae and 1 pair of long sensilla, latter situated behind and inside of setae PL. Anterior shield not extending to anterolateral ventral surface. Posterior shield with 2 pairs of barbed setae set on a transverse row. Dorsum with 2 pairs of eyes and 11 pairs of shortly barbed setae set on soft cuticle. Coxae with 2-2-1 pairs of relatively long barbed setae. A small spine present dorsally in front of coxa I (? supra-coxal seta). Urstigma oval. Uropore present. A pair of barbed setae situated between coxae III. Opisthogaster with 19 barbed setae (10 + 9). Legs with 5 free segments. All tarsi normal ending in 3 small normal claws, the laterals equal, the median more curved and

poorly sclerotized in its apical half. Solenidia: tarsi 1-1-0, tibia 2-2-0, genua 2-1-1. Two apical eupathidia *zeta* on tarsus I (a dorsal and a ventral). A small famulus present on tarsi I and II (more distal than their solenidion) and on tibia I. Gnathosoma small, mostly ventral; palpfemur with a dorsal seta, palptibia ending in a forked spine. Mouth without a peribuccal ring.

Type species: Machilitrombium cokendolphi n.sp.

Remarks: This new genus is close to *Wondeclia* Southcott, 1987 (Wondecliinae Southcott, 1987). It differs from it mainly by the presence of well-developed eyes, the shape of the anterior shield much longer than wide, the normal shape of setae AL (modified in *Wondeclia*), and of the sensilla (short, thick and clavate in *Wondeclia*), urstigma oval, chelicerae with one poorly developed tooth.

Machilitrombium is distinguished from *Allothrombium* Berlese, 1903 by the following characters: presence of a seta on dorsal surface of palpfemur, all dorsal setae set directly on the soft cuticle (in *Allothrombium* most of these setae are set on rounded or oval sclerotized platelets), sensilla situated behind and inside setae PL. Leg chaetotaxy different. In *Allothrombium fuliginosum* (type species) the number of setae is as follows: femora 5-4-4, genua 4-3-3, tibiae 5-5-5, tarsi 15-14-13 (in specimens from aphids from Belgium), while in *Machilitrombium* the formula is: femora 6-4-4, genua 4-2-2, tibiae 6-5-5, tarsi 17-13-12 (see below).

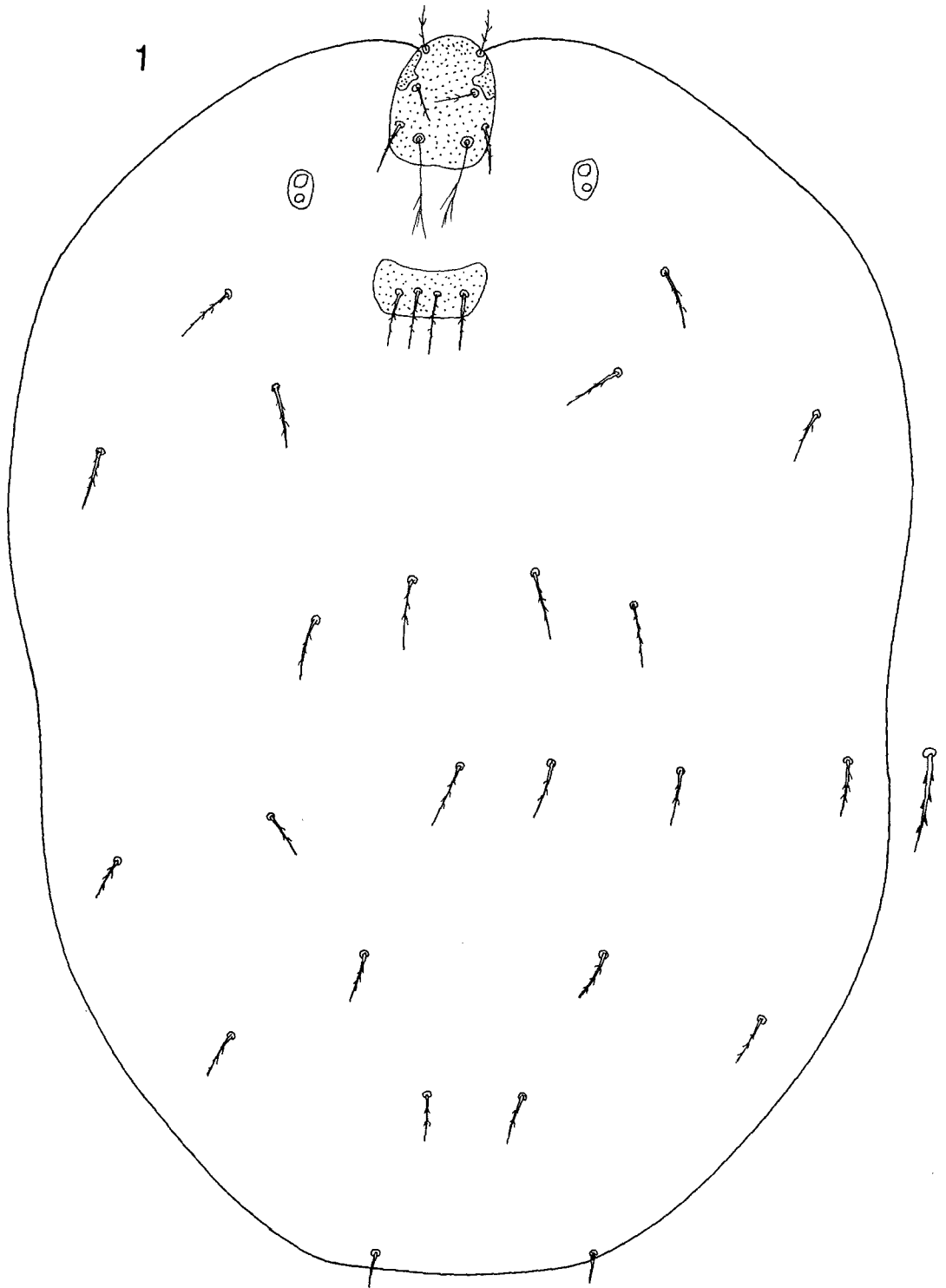


Fig. 1. *Machilitrombium cokendolpheri* n.sp. - Larva in dorsal view.

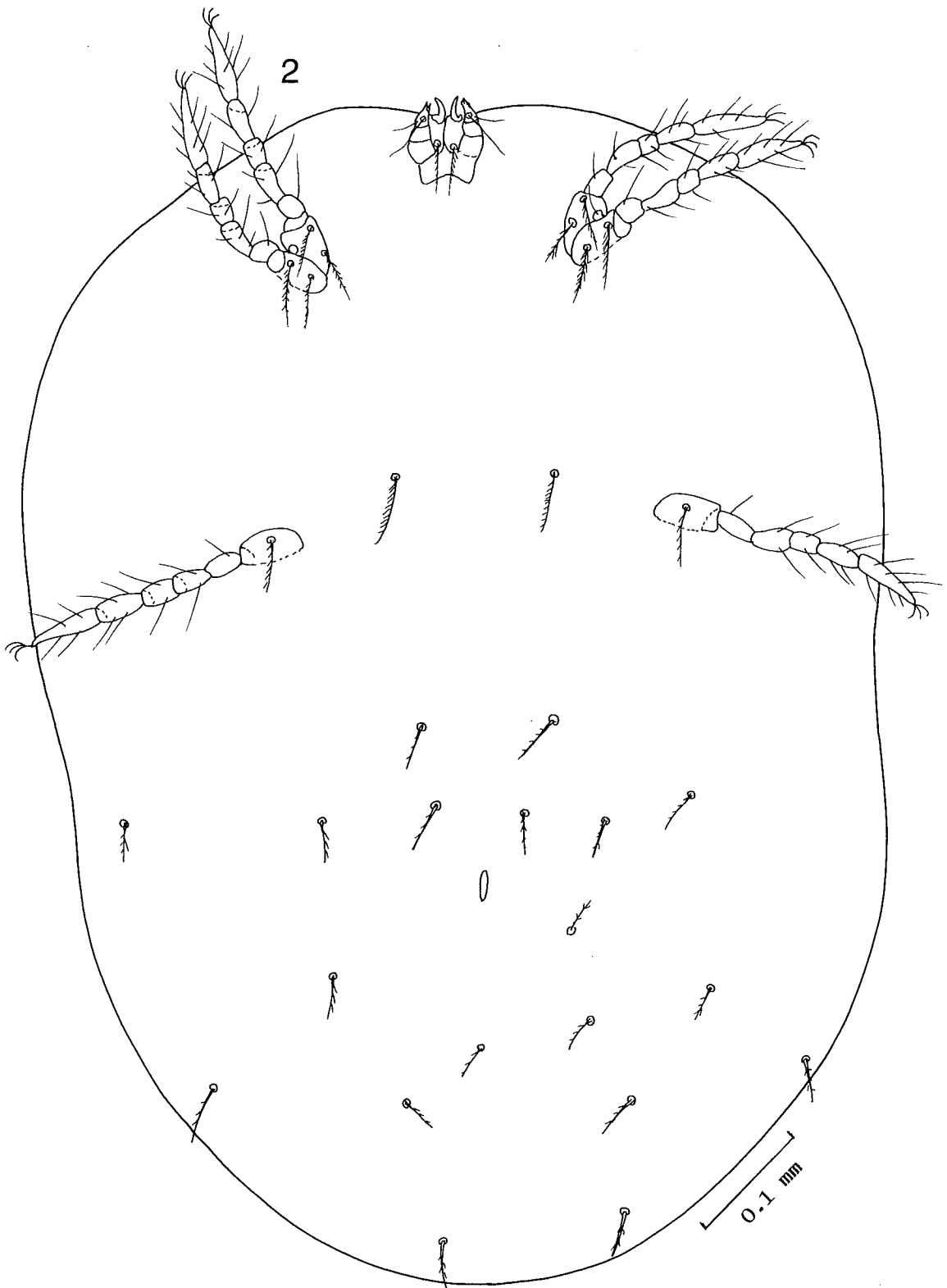
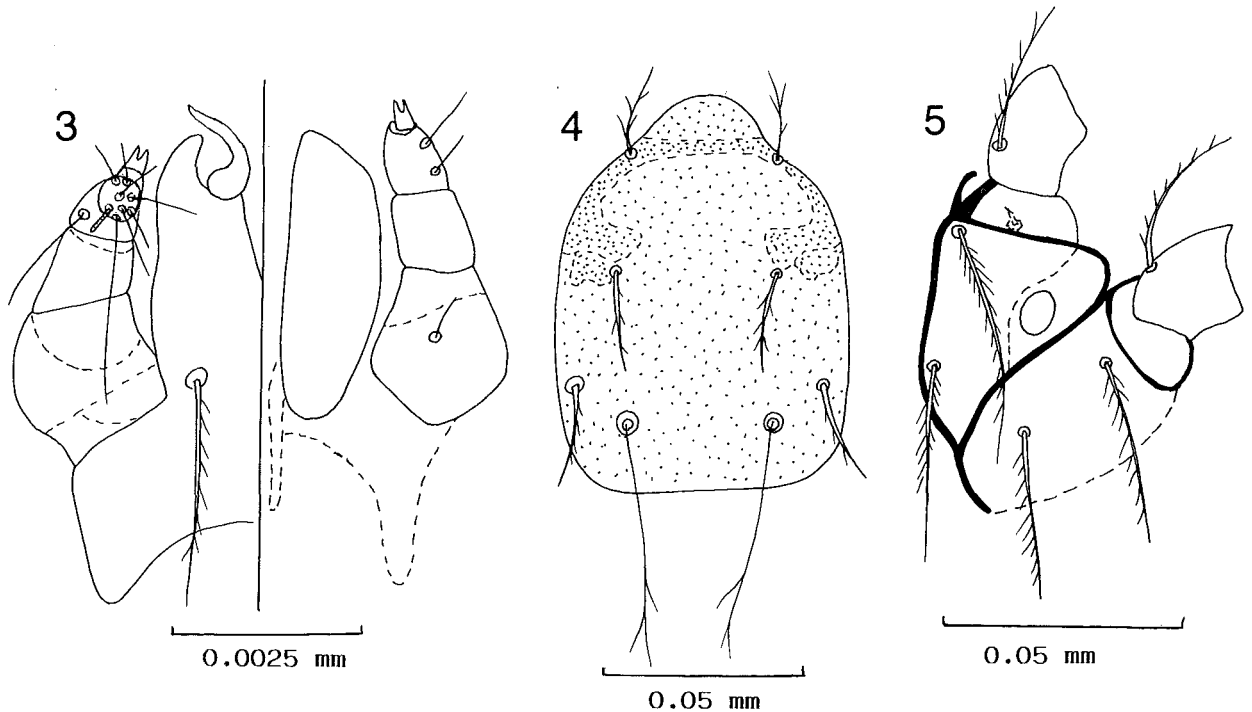


Fig. 2. *Machilitrombium cokendolpheri* n.sp. - Larva in ventral view.



Figs 3-5. *Machilitrombium cokendolpheri* n.sp. - 3. Larva: gnathosoma, in ventral view (to the left) and in dorsal view (to the right); 4. Anterior dorsal shield; 5. Coxae I and II.

Machilitrombium cokendolpheri n.sp.

This species is named for Dr James C. Cokendolpher, Lubbock, Texas, U.S.A. who collected this mite.

Larva (Figs 1-9): Length and width of holotype 870 x 620, of paratype 900 x 630. *Standard data* of holotype and paratype (those of paratype are in brackets): AM 18 (25), AL 24 (26), PL - (24), SENS 59 (48), AMB 36 (35), AW 38 (42), PW 61 (67), MA 31 (-), AP 29 (28), SA 35 (36), SP 14 (18), SB 35 (38), L 96 (-), W 96 (-), LN 16 (-), ASB 79 (-), PSB 18 (19), PSW 72 (78), PSL 36 (-), PLN 18 (-), QW - (16), QL 38 (36), Tal 45 (46), Ta2 45 (45), Ta3 50 (48), Ti1 26 (27), Ti2 24 (27), Ti3 34 (36), Ge1 23 (24), Ge2 21 (26), Ge3 22 (26), Fe1 32 (33), Fe2 30 (32), Fe3 36 (36). Solenidia: ωI 15 (14), ωII 16 (17), φI apic. 14 (13), φI basal 19 (17), φII apic. 10 (13), φII basal 16 (15), σI apic. 17 (18), σI basal 20 (18), σII 23 (26), σIII 23 (22). Famuli of tarsi I and II very small and more apical than solenidia. Two cylindrical eupathidia (*zeta*) on apex of tarsus I, none on tarsus II. Setae of hysteronotum 21 to 36 long, those of opisthogaster 15 to 21 long, seta of coxa III 38 long. Chaetotaxy of legs (number of barbed setae): trochanters 1-1-1, femora 6-4-4, genua 4-2-2, tibiae 6-5-5, tarsi 17-13-12. Posterior hypostomal setae thin and barbed, 35 long. A narrow famulus present on tibia I (homologous of the famulus of the ereynetal organ in the Ereyneidae) (Fain, 1985). The chaetotaxy of leg

segments differs from that of *Wondeclia centipedae* Southcott only by the presence of 5 setae on tibia III (instead of 6) and of 12 setae on tarsus III (instead of 13 in this species).

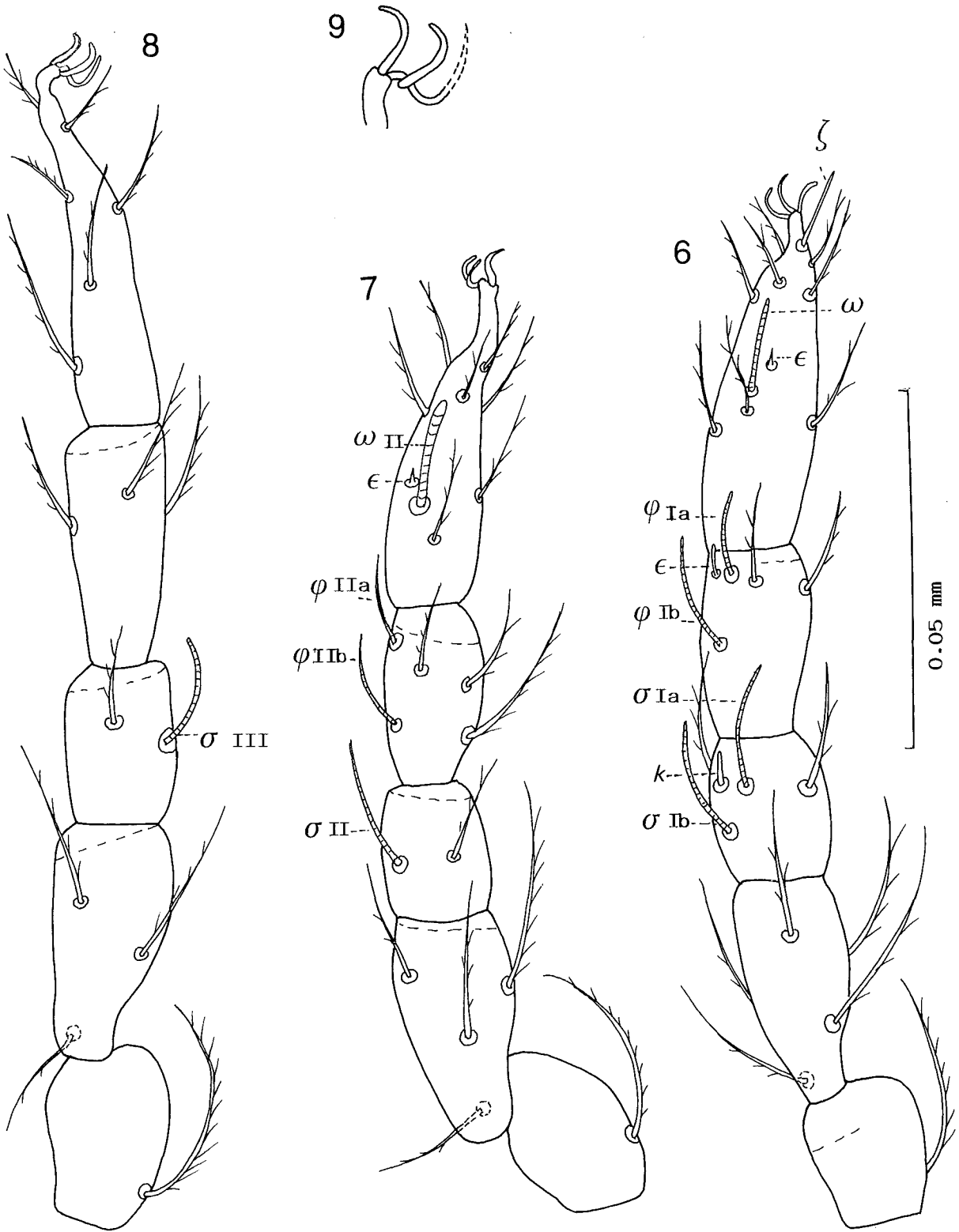
Habitat: Holotype and 1 paratype taken from *Mesomachilus nearcticus* Silvestri, 1911 (female) (Machilidae, Machilinae (Mycrocoryphia)). The bristle-tail was found under a limestone rock, Barnalillo Co, Pine Flat Picnic Grand Cibola, National Forest, 6.8 miles SE of Tijeras, on Highway 337 (coll. J. Cokendolpher, 12.VIII.1993). Holotype in US National Museum, Washington, 1 paratype in the Institut royal des Sciences naturelles de Belgique, Bruxelles.

ACKNOWLEDGEMENTS

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Figs 6-9. *Machilitrombium cokendolphi* n.sp. Larva - 6. Leg I; 7. Leg II; 8. Leg III (in dorsal or dorsolateral view); 9. Claws of leg I.

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