

**A NEW SPECIES OF *COTROMBICULA*  
(ACARI: TROMBICULIDAE) FROM THE COMMON  
SHEATH-TAILED BAT IN AUSTRALIA<sup>1</sup>**

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*Abstract.* *Cotrombicula lukoschusi*, n. sp., is described from specimens from the Common Sheath-tailed Bat, *Taphozous georgianus*, taken in Western Australia.

Examination of ectoparasites from Western Australia has revealed a new species of *Cotrombicula* Vercammen-Grandjean, 1960, collected from specimens of the Common Sheath-tailed Bat, *Taphozous georgianus* Thomas, 1915. Collections of bats and their ectoparasites were made under the direction of Dr F.S. Lukoschus, Katholieke Universiteit, Nijmegen, and Dr John B. Kethley, Field Museum of Natural History, Chicago. The holotype is deposited in the collection of the Western Australian Museum, Perth (WAM), and paratypes are in WAM and the Field Museum of Natural History, Chicago, B.P. Bishop Museum, Honolulu, and U.S. National Museum of Natural History/Smithsonian Institution (chigger collection currently housed at Bishop Museum). All measurements are given in micrometres. Terminology follows Goff et al. (1982).

***Cotrombicula lukoschusi* Goff, new species**

Fig. 1

*Diagnosis.* Palpal setal formula B/B/BBB/6B; galeala B; palpal claw 3-pronged; 2 genualae I, genuala II and III, genuala III elongate (73-78); tibiala III elongate (76-82); tarsala I 36-38; tarsala II 27-29, with bulbapex; scutum quadrate, with scrobiculae; AM > PL > AL; PW/SD = 0.91-1.30; 1 pair of humeral setae; 34 dorsal idiosomal setae, arranged beginning 8-6-6.

*Description of species.* Larva. *Idiosoma.* Measuring 330 × 195 in engorged specimen. Eyes 2/2, anterior 14-16, posterior 10-11, free on cuticle. 1 pair of humeral setae, measuring 45-50; 34 dorsal idiosomal setae, measuring 23-37, anterior setae longer, arranged beginning 8-6-6 + 14; 2 pairs of sternal setae, anterior 38-40, posterior 23-27; 20 preanal setae, 23-26; 10 postanal setae, 23-28; total idiosomal setae 70. *Gnathosoma.* Palpal setal formula B/B/BBB/6B; palpal claw 3-pronged; galeala B; cheliceral blade (26-28) with small tricuspid cap; gnathobase lightly punctate, bearing a pair of branched setae. *Scutum.* Scrobiculate with biconcave anterior margin; lateral and posterior margins convex; AM base in line with AL bases; SB anterior to PL bases; AM > PL > AL; PW/SD = 0.91-1.30; sensillae flagelliform with branches

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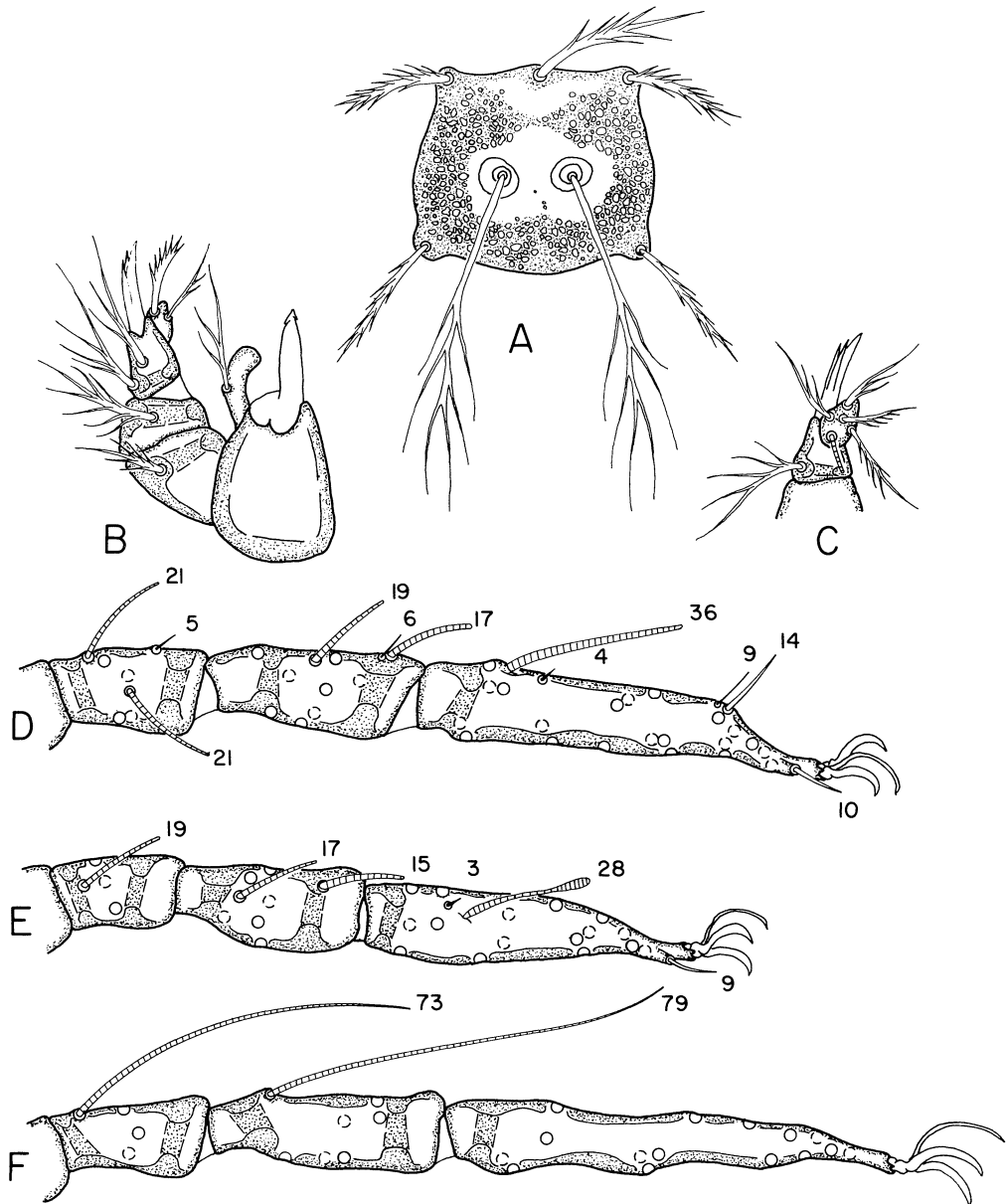


FIG. 1. *Cotrombicula lukoschusi*. **A**, scutum; **B**, dorsal aspect of gnathosoma; **C**, ventral aspect of palpal tibia and tarsus; **D**, leg I distal 3 segments, showing specialized setae (measurements in micrometres) and bases of branched setae; **E**, leg II, as above; **F**, leg III, as above.

on distal  $\frac{1}{2}$ , nude basally. Scutal measurements of holotype followed by means and ranges of type series in parentheses: AW 27 (33, 27–37); PW 40 (47, 40–52); SB 13 (13, 10–14); ASB 23 (22, 20–23); PSB 19 (21, 19–25); AP 35 (33, 31–35); AM 35 (36, 35–38); AL 24 (26, 24–29); PL 29 (29, 24–33); sens. 65 (64, 60–68). *Legs.* All 7-segmented, terminating in a pair of claws and a clawlike empodium. Onychotriches absent. IP 793–838. *Leg I.* 273–290; coxa with 1 branched seta (1B); trochanter 1B; basifemur 1B; telofemur 5B; genu 4B, 2 genualae ( $\sigma$ ), microgenuala (*k*); tibia 8B, 2 tibialae ( $\phi$ ), microtibiala (*k*); tarsus (78 × 16) 21B, tarsala ( $\omega$ ), microtarsala (*e*), subterminala ( $\zeta$ ), parasubterminala, pretarsala ( $\zeta$ ). *Leg II.* 234–242; coxa 1B; trochanter 1B; basifemur 2B; telofemur 4B; genu 3B, genuala ( $\sigma$ ); tibia 6B, tibiala ( $\zeta$ ); tarsus (66 × 16) 16B, tarsala ( $\omega$ ) with bulbapex, microtarsala (*e*), pretarsala ( $\zeta$ ). *Leg III.* 286–316; coxa 1B; trochanter 1B; basifemur 2B; telofemur 3B; genu 3B, elongate (73–78) genuala ( $\sigma$ ); tibia 6B, elongate (76–82) tibiala ( $\zeta$ ); tarsus (85 × 14) 15B.

*Type data.* Holotype, 11 paratypes, WESTERN AUSTRALIA: Kimberley Region, Napier Downs, ex 2 Common Sheath-tailed Bats (*Taphozous georgianus*) (WAM #2657 & 2659), 2.IX.1976, Kimberley Exped.

*Remarks.* Goff (1983) described another species of *Cotrombicula*, *C. mitchellensis*, from the same host species in the Kimberley Region. These 2 species are similar in having a bulbapex to tarsala II and the elongate genuala and tibiala III, but differ in the number and arrangement of the dorsal idiosomal setae [40–42 in *C. mitchellensis*, arranged 10-10-10-10(8)-2], relative lengths of the scutal setae (AM = PL in *C. mitchellensis*), scutal form and measurements (AW 58–67, PW 74–81 in *C. mitchellensis*) and setation of the palpal tibia (BfB in *C. mitchellensis*). *C. lukoschusi* may be separated from *C. macclurei* (Vercammen-Grandjean & Nadchatram, 1963) in having dorsal palpotibial seta branched (nude in *C. macclurei*), sensillae nude basally (with basal barbs in *C. macclurei*), and longer genuala and tibiala III (genuala III 34  $\mu\text{m}$  and tibiala III 30  $\mu\text{m}$  for *C. macclurei*). *C. lukoschusi* may be separated from *C. dewae* (Domrow, 1964) and *C. dasyphloea* (Domrow, 1958) in having tarsala II with a bulbapex bluntly tapering in both these species).

This species is named in honor of Dr F.S. Lukoschus in recognition of his numerous contributions to acarology.

#### LITERATURE CITED

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