TENOTROMBICULA MINTERI n. g., n. sp., AN INTERESTING COMMENSAL OF AFRICAN TERMITES (TROMBICULIDAE : ACARINA) [1]

BY

P. H. VERCAMMEN-GRANDJEAN [2].

During July 1956, Dr. D. MINTER, Entomologist of the Medical Research Laboratory of Nairobi (Kenya, East Africa), collected and sent us a certain number of specimens of an adult trombiculid. These were found in the company of *Macrotermes bellicosus,* at the outlets of their mound.

Small in size, elongate and slender, this trombiculid seemed to be adapted to reaching the smallest galleries, holes, and cavities of a termitary.

Diagnosis : True TROMBICULINAE, with eight-shaped body and typical crista-metopica ; classical leg aspect, segmentation and pilosity ; typical chelicera and palpus shapes and ornamentation. However, its peculiar elongate body and rostrum show that it belongs also to an undescribed genus. Because of this, and in order to thank our generous collegue, Dr. MINTER, it will be called :

Tenotrombicula minteri n. g., n. sp.

Tenotrombicula minteri, as already mentioned, was found near the outlets of a termitary in the company of *Macrotermes bellicosus.* Also with these specimens were chigger mites identified as a new species belonging to the genus *Eltonella* and called *E.* (*E.*) *celiae* (5). It might be assumed that *T. minteri* is the parent of *E. celiae.* Nevertheless, until this is experimentally proven, we have to separate them. However, if that fact is one day established, perhaps *Tenotrombicula* will be considered as a normal subgenus of *Eltonella.*

1. This work was supported by a PHS Research Grant AI-03793-03 from the National Institute of Allergy and Infectious Diseases, U. S. Public Health Service.

2. Research Parasitologist, The George Williams HOOPER Foundation, University of California Medical Center, San Francisco 22, California, U. S. A.

A. — DESCRIPTION.

1) *Measurements :* means of 12 specimens, in micra :

ASL	PSL	CTL	SB	S	T	PL	OL	IL	PW	OW
194	60	272	30	88	19	300	1030	1330	220	260

CW	PH	OH	CH	P_1	P_2	P_3	P_4	IP
210	225	280	150	728	430	472	624	2244

2) *Crista metopica :* (fig. 9). Characteristic tectum with a single barbed tectal hair (Tect. = 19 μ). The two sensillae, 88 μ long, are barbed (12 branches) on their distal 50 μ. The " paracristal " zone bears numerous, barbed setae (40 to 60 on each side). No eyes, no ocular pigment.

3) *Hypostome :* (fig. 1, 3 & 5). The rostrum, of which the hypostome is a part, is elongate and slender. The chelicerae are fixed dorsally on its distal half, while the two palpi are placed laterally, near the hypostomal apex. This disposition constitutes a valuable character of the new genus. The apical lip of the hypostome possesses, on each side, four strong nude setae (fig. 3).

4) *Chelicerae :* (fig. 2). Very elongate and slender chelobase. Cheliceral blade of typical shape, with a dorsal serrated edge.

5) *Palpi :* (fig. 4, 6 & 7). Palpal-tarsus provided with 5 nude terminala or subterminala and 12 barbed hairs ; as a constant organel the striated sub-basal, tarsala is present on the external side of the tarsus.

It is a matter of observation that adults showing an fT = 12B.5S can originate from nymphs having an fT = 9B.3S or 9B.4S, issuing themselve from larvae with a fT = 6B. This strenghtened the hypothesis of the possible identity of *T. minteri* with *E. celiae* (4).

Palpal-tibia armed with a strong terminal claw presenting a ventral basal prong ; on the internal side, three typical paraglyphic " incisor-spines ", a striated tibiala and a slender barbed hair (fig. 6) ; on the external side, one paraglyphic nude strong seta, four nude setae and one slender barbed hair (fig. 7).

Palpal-genu with a certain number of barbed hairs and four or five nude strong setae, bearing sometimes one or two short barbs (fig. 4).

Femora with 5 to 7 ordinary barbed hairs (fig. 4).

6) *Legs :* (fig. 1 & 5). Relation of dimensions : $P_1 > P_4 > P_3 > P_2$. All seven segmented and each segment, or article, covered with a certain number of barbed hairs. These hairs are longer and more rare on the proximal than on the distal segments. The claws of the anterior pair of legs are half as long and strong as those of the other legs. Tarsus 1 bears a great variety of organels : nude straight setae of different shape and thickness (eupathidia), nude striated setae (solenidions), nude short setae or spines or microspurs (famuli)... all in a large number. Tibia 1 is also provided with the same kind of organels, but in a smaller amount.

Genu 1 also, but in a smaller quantity than the tibia. On the telofemur they remain in a small number. On the other legs, the tarsus, tibia, genu and telofemur bear a small number of nude setae. Tarsus length and width : TL = 162, TW = 76. Tibia length : 120.

7) *Body :* (fig. 1 & 5). Prodigiously elongate, eight shaped and covered with typical barbed hairs (fig. 8). The propodosoma is separated from the opisthosoma by a characteristic constriction. It should be noted that the body dimensions were taken before mounting in Marc André's medium. The sternal area is shown on fig. 14. The male genital organs (fig. 10) are somewhat different from the female (fig. 12). Although the area occupied by the male genitalia seems larger, on the contrary, the aperture, the plates, and the three pairs of genital discs are larger in the female organ. The male plates delimit roughly a triangular pattern, while this pattern is oval in the female. The male possesses also a distinctive internal " horseshoe-bow " and a seminal vesicle which is, probably, the spermatophore moulding chamber or vesicle, or " spermatophore-mould ".

The lips of the male opening bear only four short nude setae on each side. The female aperture lips are clothed with 14 to 20 barbed hairs, and four nude and short setae on each side.

The male uropore is smaller (fig. 11) than that of the female (fig. 13).

B. — LOCALITY & DATE : KENYA (East Africa), nursery zone of SMEATH, N.F.D. ; during July 1956.

C. — BIOTOPE & COLLECTOR : mound of *Macrotermes bellicosus* ; by Dr. D. MINTER, Entomologist of the Medical Research Laboratory of NAIROBI (Kenya, British East Africa).

D. — MATERIAL : The holotype, nº 756/T/1 at the Musée d'Afrique Centrale, Tervuren (Belgium), and 11 paratypes.

ABBREVIATIONS :

ASL ; PSL = distances from tectal seta base to sensillary base line ; from that line to the end of the posterior sclerite.

CTL = total length of crista metopica (from anterior edge of tectal fringe to pointed end of posterior sclerite).

SB ; S = distance between the two sensilla bases ; total length of the sensilla.

T = length of the tectal or epistomal single barbed hair.

PL, OL, IL = Lengths of the propodosoma of the opisthosoma and of the total idiosoma.

PW, OW, CW ; PH, OH, CH = Largest Width and Height of the propodosoma, of the opisthosoma and of the constriction.

P_1, P_2 P_3, P_4 & IPn = length of the four legs (coxae included, claws excluded) and leg-index (sum of the length of the 4 legs).

BIBLIOGRAPHY

1 — AUDY (J. R.), 1954. — Malaysian Parasites. IX. Notes on the Taxonomy of Trombiculid mites with description of a new subgenus. *Stud. Inst. med. Res. Malaya*, 28, 123-170.

2 — AUDY (J. R.), 1956. — Trombiculid mites infesting birds, reptiles and arthropods in Malaya, with a taxonomic revision, and descriptions of a new genus, two new subgenera, and six new species. *Bull. Raffles Mus.*, Singapore, 28, 27-80.

3 — VERCAMMEN-GRANDJEAN (P. H.), 1960. — Introduction à un essai de classification rationnelle des larves de *Trombiculinae* Ewing, 1944 (Acarina, *Trombiculidae*). *Acarologia*, 2, 469-471.

4 — VERCAMMEN-GRANDJEAN (P. H.), 1963. — Valuable taxonomic characters of Trombiculidae, including correlations between Larvae and Nymphs., in Advances in Acarology, Cornell Univ. Press, Ithaca (N. Y.), 1, 399-407.

5 — VERCAMMEN-GRANDJEAN (P.-H.), 1965. — Revision of the genera : *Eltonella* Audy, 1956 and *Microtrombicula* Ewing, 1950, with descriptions of fifty new species and transferal of subgenus *Chiroptella* to genus *Leptotrombidium* (Acarina, *Trombiculidae*), *Acarologia* (suppl.).

Tenotrombicula minteri n.g., n.sp..

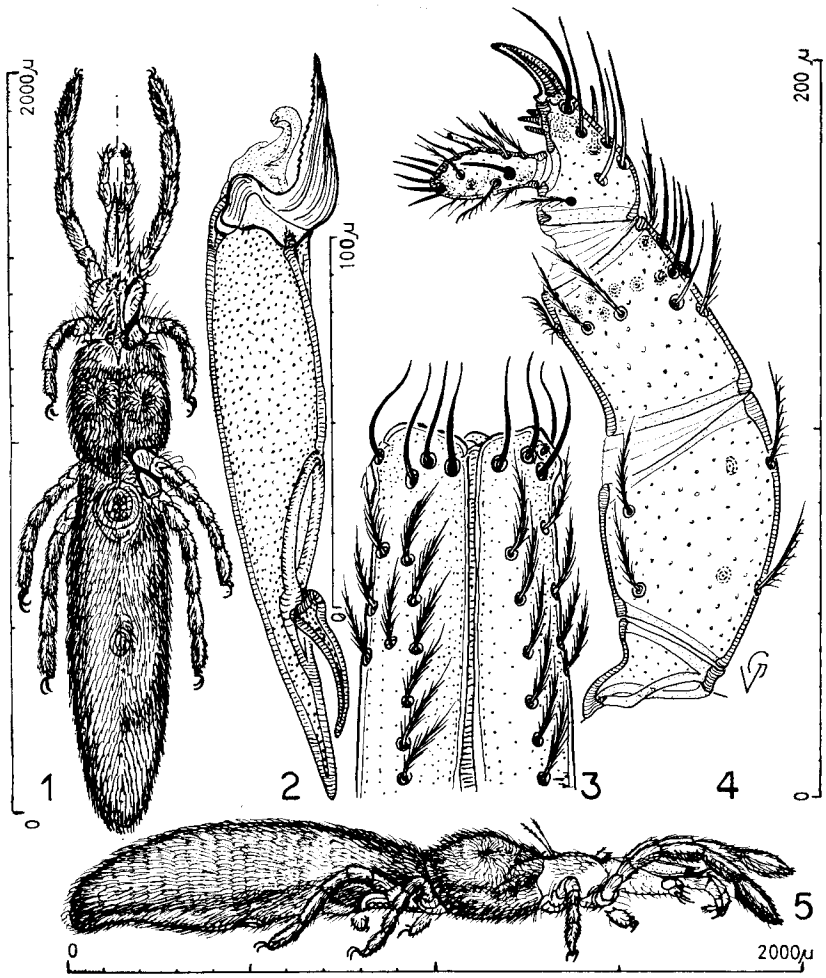

FIG. 1-5.

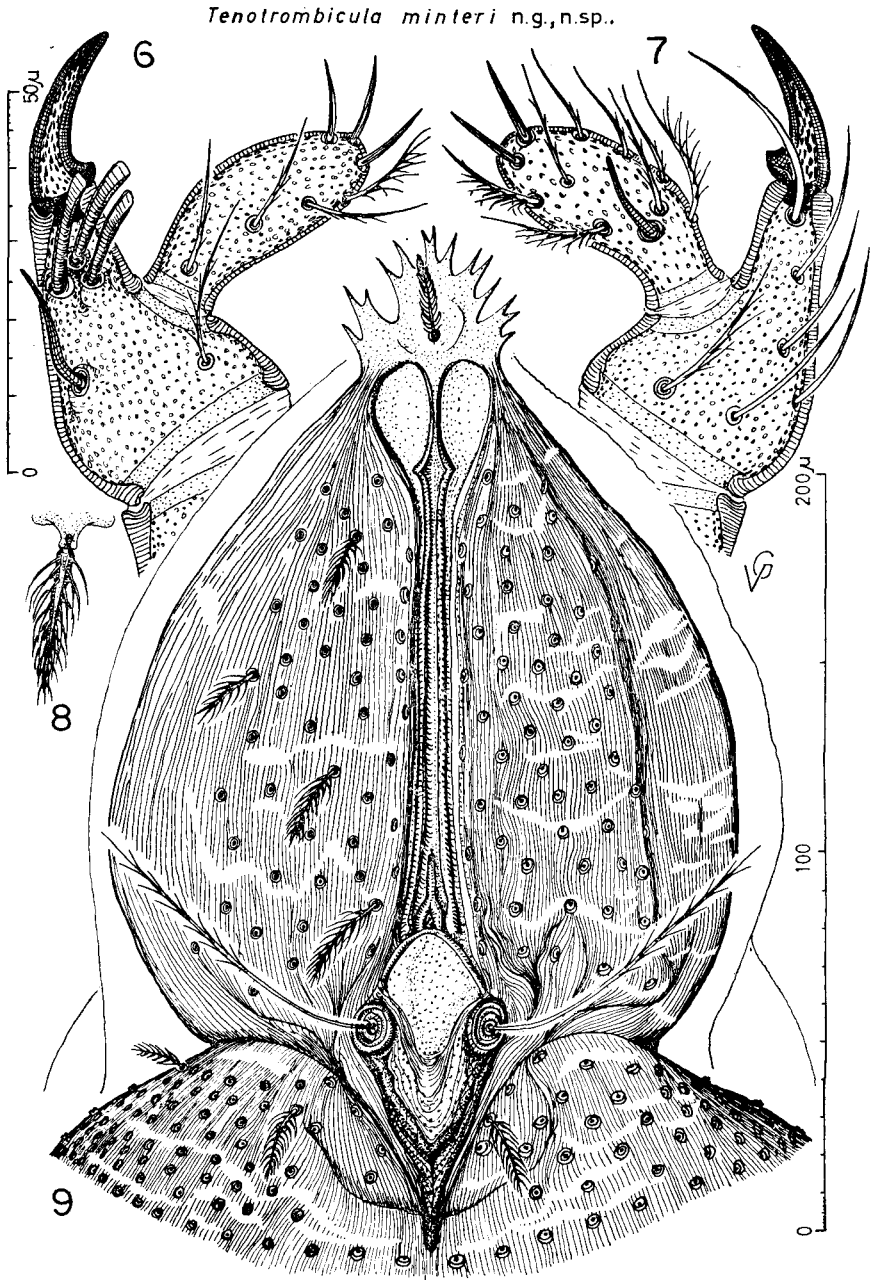

FIG. 6-9.

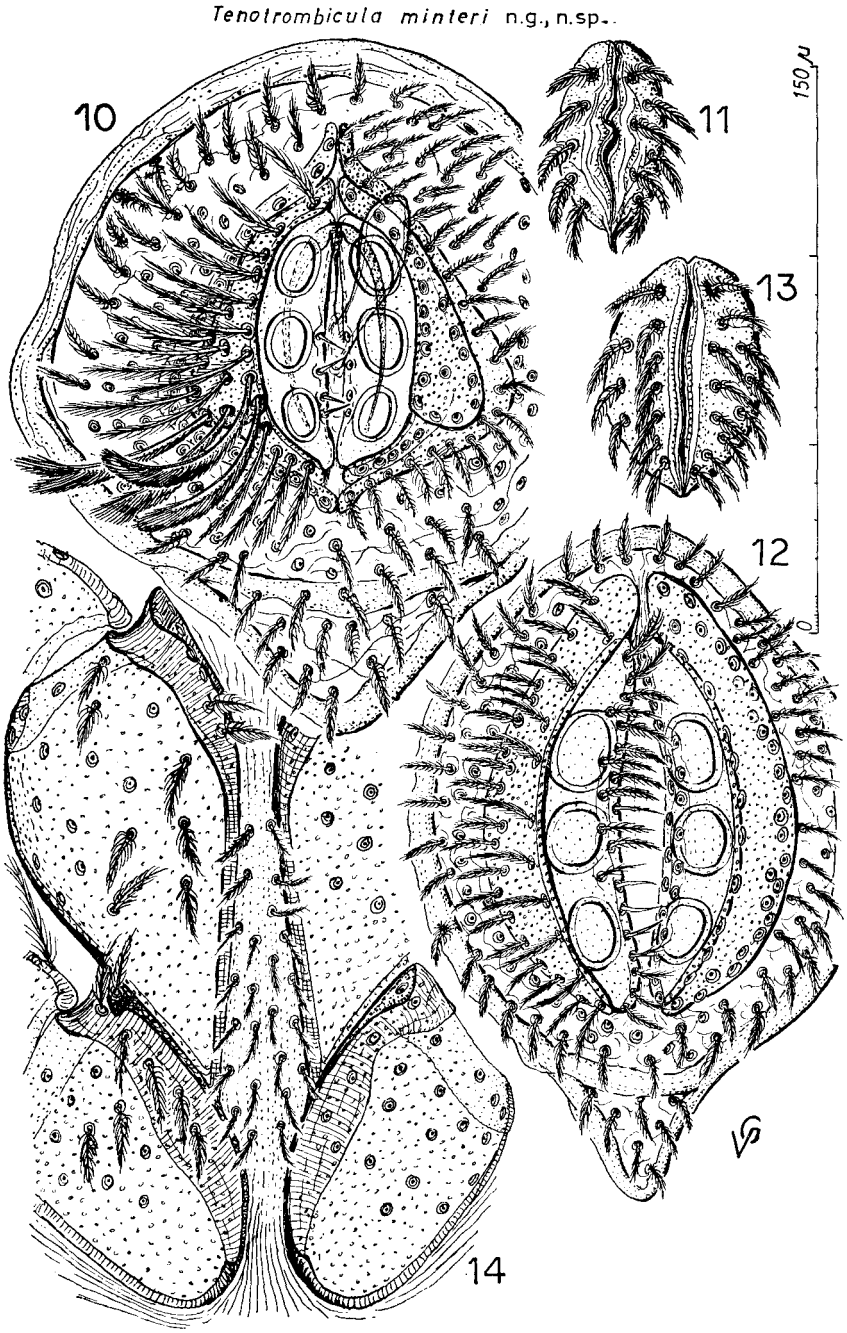

FIG. 10-14.