

Four new species of larval Microtrombidiidae (Acari) parasitic on Diptera (Insecta) from Papua New Guinea and Brunei (Borneo)*

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Summary

Four new species of mites of the genus *Microtrombidium* HALLER, 1882 (Acari, Microtrombidiidae), represented by their larvae parasitic on small flies (Diptera), are described.

Three of them were found in Papua New Guinea, i.e. *M. striatum* n.sp. from *Nanodromia elongata* (Hybotidae), *Meoneura* sp. (Carnidae), Ephyridae sp. and Phoridae sp.; *M. prostriatum* n. sp. from *Nanodromia spuria* and *M. punctatum* n. sp. from *Meoneura* sp. The fourth species, *M. bruneiense* n. sp. was collected from *Tambemyia* sp. (Dolichopodidae), in Brunei (Borneo).

Key words : Taxonomy. Larvae of *Microtrombidium*. Acari. Parasitic on Diptera. Papua New Guinea and Brunei (Borneo).

Resumé

Quatre nouvelles espèces d'acariens du genre *Microtrombidium* HALLER, 1882 (Acari, Microtrombidiidae), représentées par leurs larves parasites de petits Diptères, sont décrites. Parmi celles-ci, 3 furent récoltées en Papouasie Nouvelle Guinée, c'est le cas de *M. striatum* n. sp. trouvée sur *Nanodromia elongata* (Hybotidae), *Meoneura* sp. (Carnidae), Ephyridae sp. et Phoridae sp.; *M. prostriatum* n. sp. ex. *Nanodromia spuria* et *M. punctatum* n. sp. ex. *Meoneura* sp. La quatrième espèce, *M. bruneiense* n. sp. fut récoltée sur *Tambemyia* sp. (Dolichopodidae) à Brunei (Borneo).

Mots clé : Taxonomie. Larves de *Microtrombidium*. Acari. Parasites de Diptères. Papouasie Nouvelle-Guinée. Brunei (Borneo).

Introduction

The 4 new species of *Microtrombidium* (Acari), described in this paper, were collected from several small flies (Diptera) in Papua New Guinea and in Brunei (Borneo) by the junior author. All these mites were attached to the abdomen or the ventral surface of the thorax of these flies.

All the measurements used here are in micrometers. The metric data are those proposed by SOUTHCOTT (1986) and FAIN and BAKER (1993). Nomenclature of the claws of the leg III as in SOUTHCOTT (1993).

The holotype and the paratypes of these new species are deposited in the Institut royal des Sciences naturelles de Belgique (IRSNB).

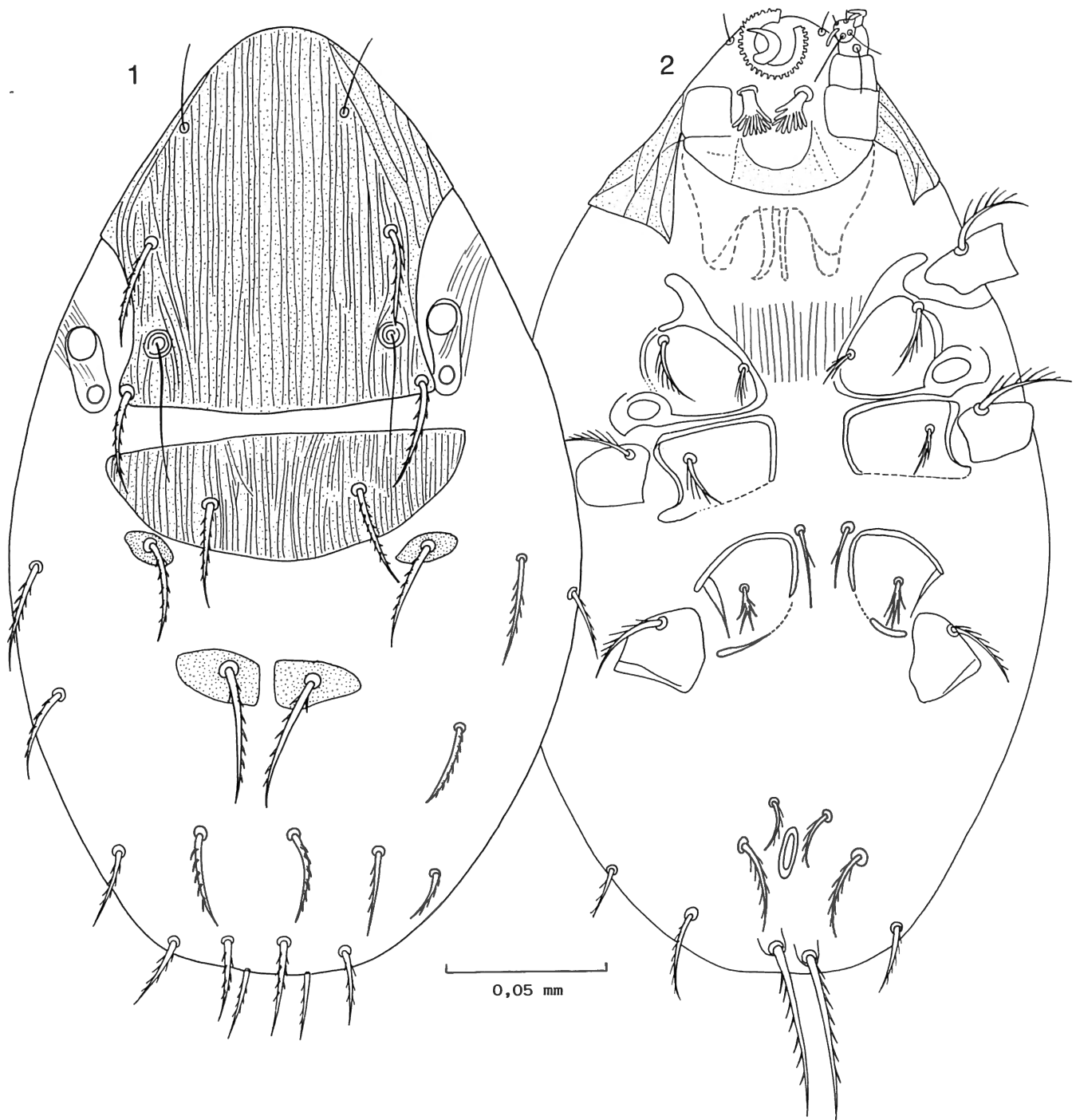
GENUS *Microtrombidium* HALLER, 1882

The four new species that we describe herein are the most close to *Microtrombidium fasciatum* (C.L. KOCH, 1836), a species that has been recorded from several European countries (OUDEMANS, 1909 and 1912, FEIDER, 1955, ROBAUX, 1972).

THOR and WILLMANN (1947) synonymized *Trombidium demijerei* OUDEMANS, 1909 with *Microtrombidium fasciatum*. This position was later confirmed by FEIDER (1955) and ROBAUX (1972) who were able to obtain larvae from adult females of *M. fasciatum* kept in the laboratory. *M. fasciatum* is probably a complex of several closely related species and in order to clarify this situation a neotype should be designated and described among the larvae obtained from adult females.

The four species that we describe in this paper present the main characters of *M. fasciatum*, i.e. presence of 2 median dorsal shields, an anterior one prolonged anterior-ventrally and bearing 4 pairs of setae (including a pair of sensillae) and a posterior one smaller and carrying 1 pair of setae; behind these main shields the dorsum bears, in addition, 2 pairs of much smaller oval shields each carrying a strong pectinate seta; coxae with 2-1-1 setae; tarsi I and II ending in 3 normal claws (one median long and narrow and 2 shorter and thicker and with 2 preapical barbs, representing the anterior and the posterior claws); tarsus III inflated with 3 modified claws; posterior region of venter with 4 to 5 pairs of setae, the posterior pair being paramedian and distinctly longer than the other setae; mouth surrounded by a sclerotized ring open anteriorly and bearing 25 to 30 well-developed sclerotized teeth; hypostomal setae hand-shaped ending in 7 to 12 thick cylindrical finger-like processes; 2 pairs of eye-lenses, the anterior always larger than the posterior. Most of these characters have been clearly depicted by

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Figs 1-2. – *Microtrombidium striatum* n. sp. Larva : dorsal (1) and ventral (2) view.

OUDEMANS (1912) in his drawing of *Trombidium demeijerei*.

Key to the four new species from New Guinea and Borneo (Larvae)

1. The two dorsal median shields completely striated longitudinally. The posterior shield 45 long in midline with anterior border straight or

slightly convex. Tarsi I 47 to 51 long. diameter of anterior eyes 10. Seta DU of tarsus III without a basal abnormally long pectination. Intercoxal setae with one short pectination *M. striatum* n. sp.
 The two dorsal median shields only partly striated, the non-striated areas being finely punctate. Posterior shield variable. Tarsi I 54 to 99 long. Anterior eyes larger. Seta DU of tarsus III with a very long basal pectination 2

2. Posteromedian shield very short (16 in midline) with anterior margin sclerotized and strongly concave. Anterior shield with anterior two thirds striated, the posterior third punctate. Setae of coxae I-II bifid, seta of coxae III trifold. Intercoxal setae III pectinate. Tarsi I 54 to 59 long. Anterior pair of eyes very large (diameter 30) *M. prostriatum* n. sp.
Posteromedian shield from 33 to 50 long in midline, with anterior margin either straight or slightly convex. Anterior shield not as above. Coxal setae I-III with more pectinations. Tarsi I 68 to 99 long. Anterior pair of eyes smaller (diameter 16 to 21) 3
3. The punctate and not striated part of the anterior shield is confined to a small posteromedian rectangular area. Intercoxal setae III pectinate. Tarsi I 89 to 99 long. Apical solenidion ϕ I 40-41 long and set close to the basal ϕ I; σ I posterior 60 long. *M. bruneiense* n. sp.
Anterior shield almost completely punctate, with a few striations confined around the base of sensillae and outside of the AM and AL setae. Intercoxal setae III smooth. Tarsi I 68 to 75 long. Apical solenidion ϕ I 18-22 long

and far from the basal ϕ I; σ I posterior 37 to 42 long *M. punctatum* n. sp.

Description of the new species

1. *Microtrombidium striatum* nov. spec.

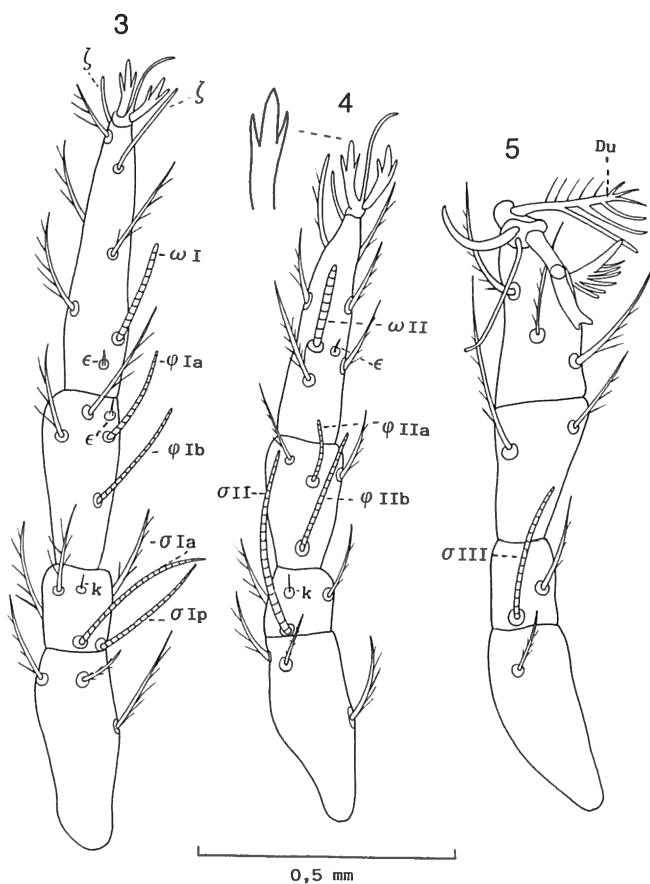
Larva, holotype (figs 1-5) : the metric data are listed in table I. *Dorsum* : the 2 median shields are completely punctate longitudinally as in *M. fasciatum*. Behind these shields the dorsum bears a total of 22 pectinate setae forming 5 transverse rows of 6-4-6-4-2 setae, among them 2 pairs (the anteromedian) are arising from small punctate platelets. These setae are 18 to 45 long. Diameters of eyes : 10 and 7-8. *Venter* : coxal setae 2-1-1, with 4 to 7 thin pectinations. The 2 intercoxal setae (between coxae III) bear one short and very thin setule. Opisthogaster with 4 pairs of pectinate setae, the anterior 18 to 30 long except for the posteroparamedian pair much longer (57 long) and thicker. Uropore well developed. Urstigma oval. *Gnathosoma* : palps 36 long; palptarsus very short bearing a solenidion and 7 normal inequal setae; palptibia ending in a bifid strongly curved spine. Hypostomal setae hand-shaped, ending in 9-10 long fingerlike prolongations. Chelicerae 36 long; movable digit curved with a preapical tooth. Mouth surrounded by a sclerotized ring bearing 28 teeth; the mouth is flanked by 2 thin and short (8 long) setae. *Legs* : Chaetotaxy (number of normal, pectinate setae) : trochanters 1-1-1, femora 6-5-4, genua 4-2-2, tibiae 6-5-5. Tarsi I-II with a median long and thin claw, and 2 (the anterior and the posterior) claws thicker and longer and bearing 2 narrow preapical barbs; tarsus III enlarged bearing 3 modified claws. *Specialized setae* : *Eupathidia* : tarsus I with a long (25 long) dorsal ζ and a shorter (15) apico-ventral ζ . *Solenidia* : tarsi 1-1-0, tibiae 2-2-0, genua 2-1-1. *Famulus (eta)* present on tarsi I and II and on tibia I. Genua I and II with a seta *k*. (see table 1).

Hosts and localities :

All our specimens (all larvae) were taken in Papua New Guinea from several families of flies : Hybotidae, Carnidae, Phoridae and Ephydriidae.

Holotype larva from *Nanodromia elongata* (Hybotidae), from a sandy beach at Laing Island, Madang Province, Bogia Distr. (May 1992).

Paratypes : 9 paratypes with the same data as holotype; 1 paratype from the same host as holotype but from New Ireland, Taskiki (27.VI.1993); 4 paratypes from *Meoneura* sp. (Carnidae) (072C) also from Taskiki (27.VI.1993); 1 paratype from Ephydriidae sp. from Taskiki; 1 paratype from Phoridae sp. from Laing Island (5.V.1993) and 1 paratype from *Chersodromia nigra* (Hybotidae) (051), New Ireland, Nusen Island (24.IV.1993) (sandy beach).



Figs 3-5. — *Microtrombidium striatum* n. sp. Larva : dorsal view of the right legs I (3), II (4) and III (5).

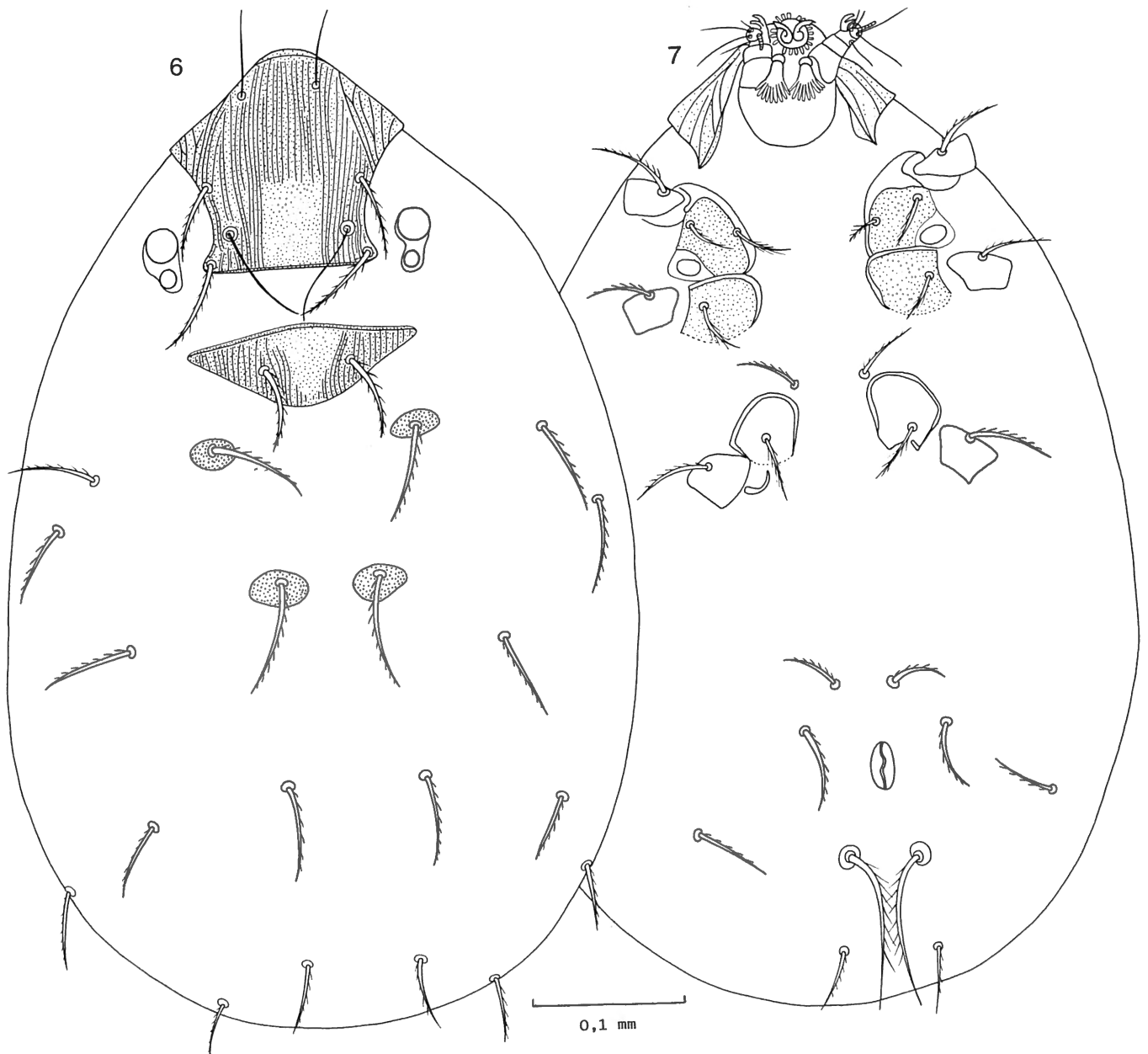
2. *Microtrombidium bruneiense* nov. spec.

Larva, holotype (figs 6-10): the metric data are listed in table 2. *Dorsum*: anterior shield longitudinally striated except in a small rectangular area situated in the posteromedian region of the shield which is finely punctate. Anteroventral prolongation of the anterior shield narrowly triangular. Posterior shield with anterior margin slightly convex and striated in its lateral parts and in the posterior third of the median part behind the QL setae. There are 2 pairs of small oval platelets each bearing a pectinate seta, as in *M. striatum*. Behind the posterior shield the dorsum bears 20 pectinate setae, 36 to 70 long, forming 4 rows of 6-4-6-4 setae. Diameter of eyes: 21 and 9. *Venter*: coxal setae as in *M. striatum*;

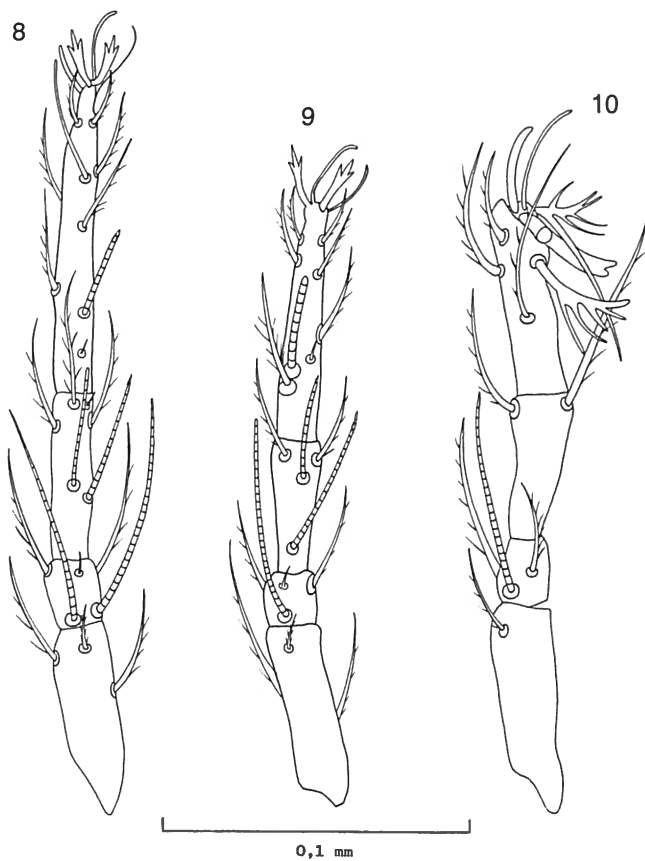
intercoxal setae III pectinate. There are 5 pairs of opisthogastric setae, 24 to 36 long except the postanal pair stronger and longer (90 long). *Gnathosoma* as in *M. striatum* but hypostomal setae with 12-13 prolongations. *Legs*: number of setae as in *M. striatum*. *Eupathidia* as in this species but the dorsal *dzeta* is 36 long. *Solenidia* and setae *k* as in *M. striatum* but some *solenidia* are much longer (see table 1 and 22) and the two *solenidia* ϕI are close to each other whilst in *M. striatum* they are more widely separated.

Host and locality:

Holotype and 4 paratypes larvae taken from *Tambemyia* sp. (Dolichopodidae) (n° 0018) from Tungku Rocks (rocky beach), Brunei, Borneo, 15.IV.1993.



Figs 6-7. – *Microtrombidium bruneiense* n. sp. Larva: dorsal (6) and ventral (7) view.



Figs 8-10; – *Microtrombidium bruneiense* n. sp. Larva : dorsal view of the right legs I (8), II (9) and III (10).

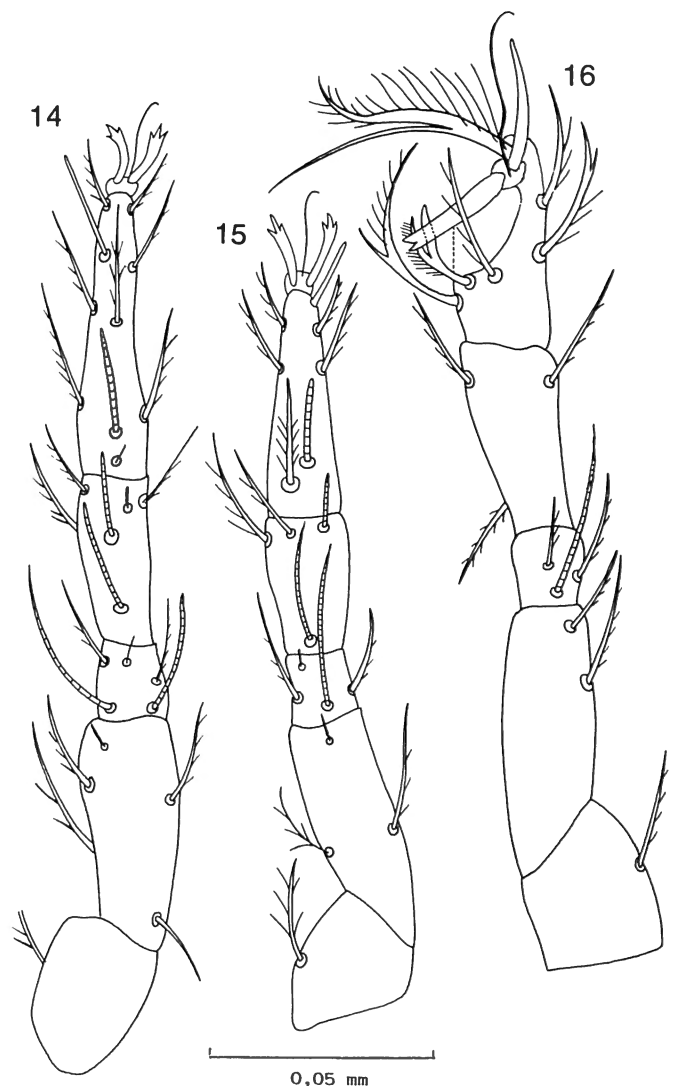
3. *Microtrombidium prostriatum* nov. spec.

Larva, holotype (figs 11-16) : the metric data are listed in table 3. *Dorsum* : anterior shield longitudinally striated in its anterior two thirds, the posterior third is finely punctate. Lateral parts of the shield, outside of the setae AM and AL, with a network of lines. Postero-median shield very short (16 in midline), with anterior margin sclerotized and strongly concave. Behind the main shields the dorsum bears 2 pairs of small oval punctate platelets, each of them bearing a pectinate seta. There are a total of 20 pectinate setae, 30 to 60 long, behind the posterior median shield, they form 6-4-6-4 transverse rows. Anterior pair of eyes relatively very large (diameter 30), posterior pair only 10 wide. *Venter* : coxae I-II with 2-1 bifid setae, coxae III each with a trifid seta. Intercoxal setae III pectinate. Opisthogaster with 5 pairs of pectinate setae 18 to 30 long except the pair situated behind the uropore which is stronger and longer (90 long) than the other setae.

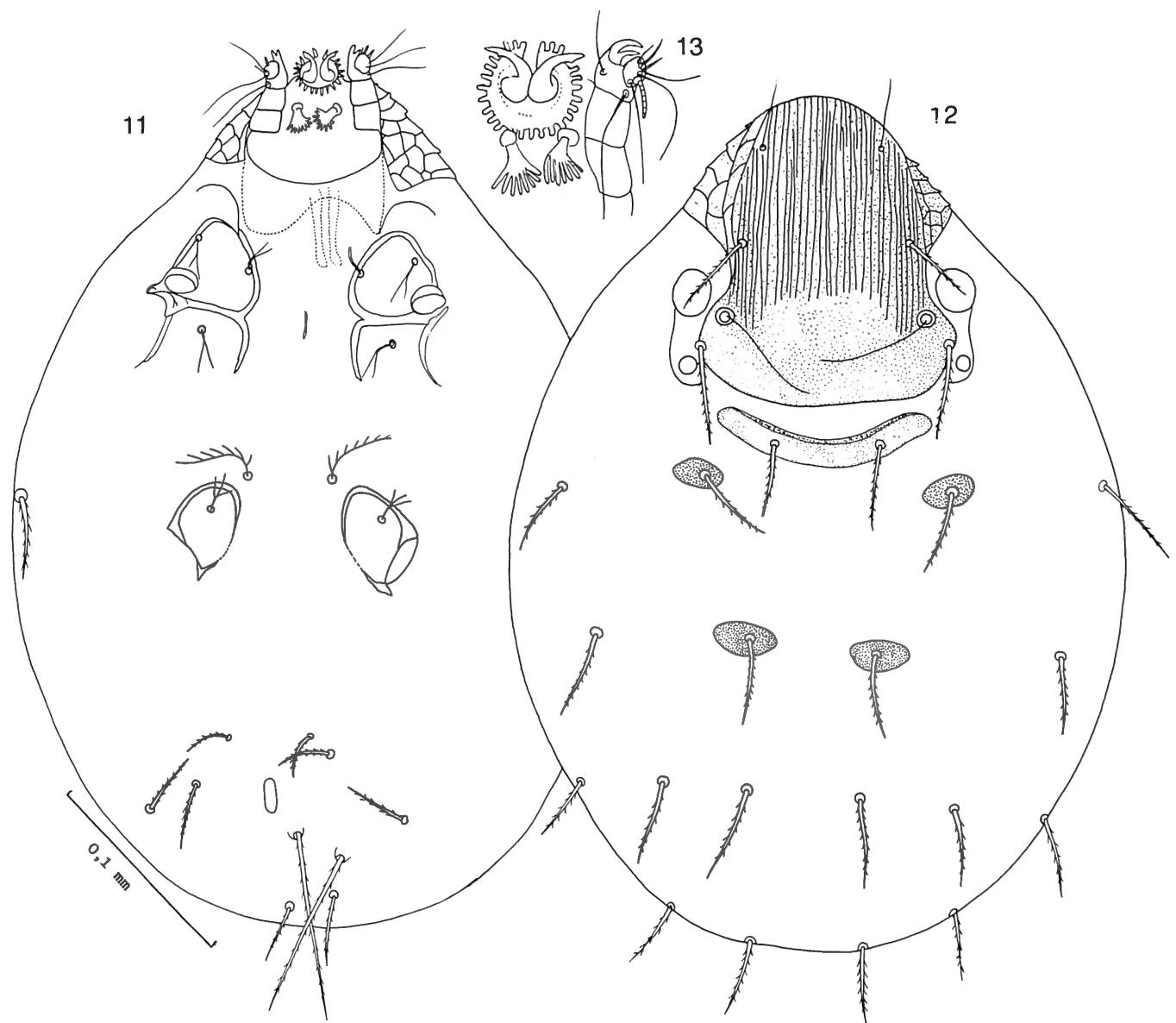
Gnathosoma : peribuccal toothed ring, hypostomal setae and palps as in *M. striatum*. *Legs* : leg segments, chaetotaxy and length of solenidia resembling those of *M. striatum* but distinctly longer than in this species (see tables 1 and 3). *Famuli* and setae *k* as in *M. striatum*.

Host and locality :

Holotype and 2 paratypes larvae from *Nanodromia spuria* (n° 137) from Papua New Guinea, Madang Province, Boroi (bush), 14.V.1993. This host develops in fresh water ponds and not in sea water as for *Nanodromia elongata* and this biological difference might explain why it is parasitized by another species of *Microtrombidium*.



Figs 14-16. – *Microtrombidium prostriatum* n. sp. Larva : dorsal view of right legs I (14), II (15) and III (16).



Figs 11-13; – *Microtrombidium prostriatum* n. sp. Larva : dorsal view (11) and ventral view (12); ventral view of gnathosoma enlarged (13).

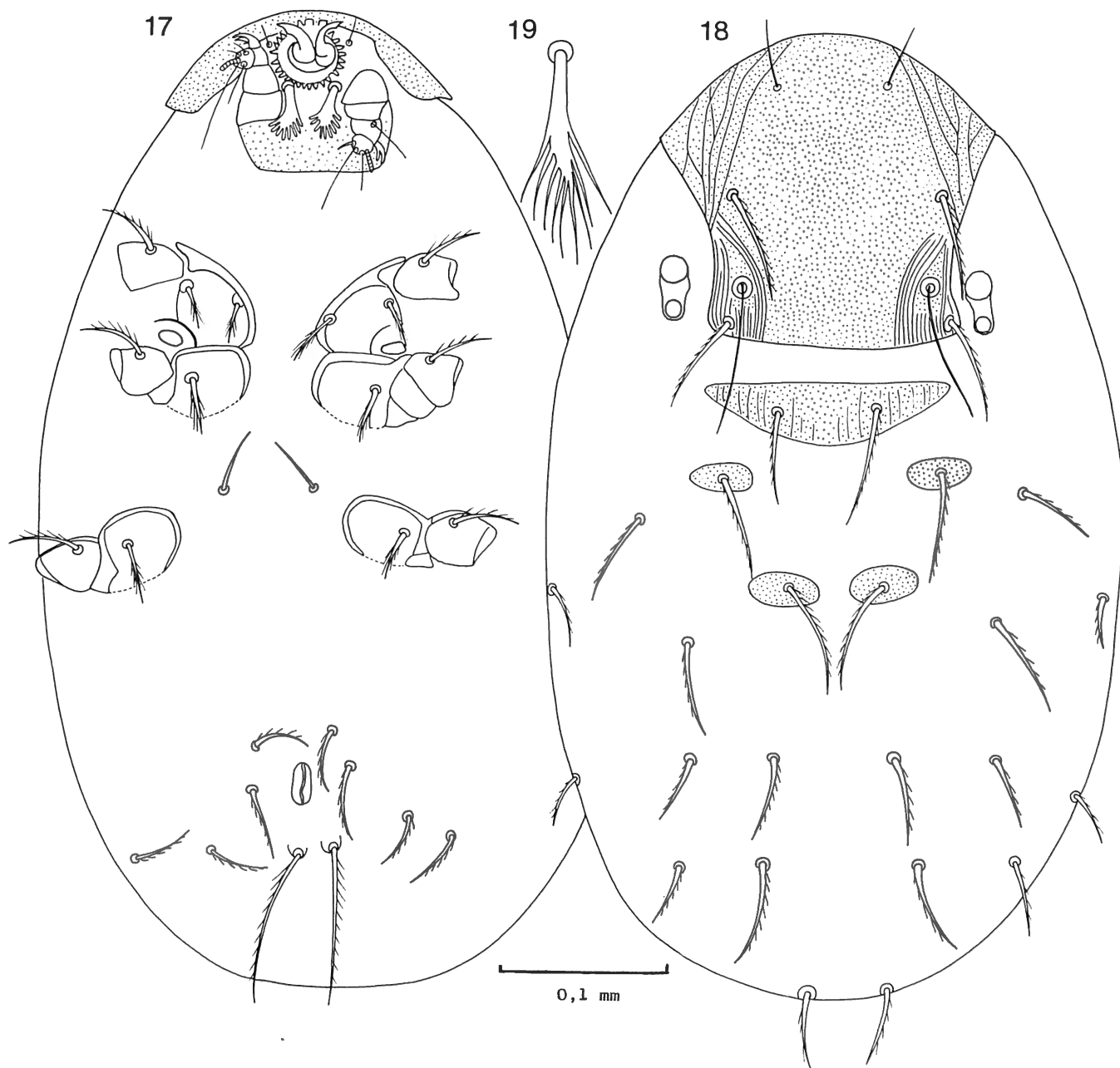
4. *Microtrombidium punctatum* nov. spec.

Larva, holotype (figs 17-22) : the metric data are listed in table n° 4. *Dorsum* : anterior median shield almost completely punctate except in its lateral parts outside the AM and AL setae and in 2 small areas around the bases of the sensillae which are striated. Ventrally the lateral prolongations of the shield are short and rounded. Posterior median shield with anterior margin straight and with unobvious striations. There are 2 pairs of small oval punctate platelets, each of them bearing a punctate seta, behind the posterior shield. Dorsum behind the posterior shield with 22 pairs of pectinate setae, forming 5 transverse rows of 6-4-6-2 setae 35 to 60 long. Diameters of eyes 16 to 10. *Venter* : coxal setae

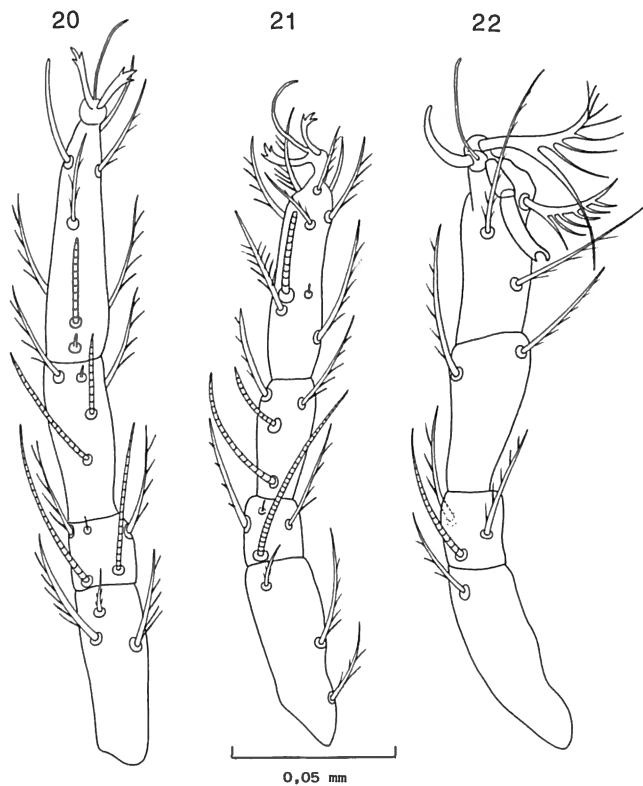
relatively thick, specially the internal I, bearing 6 to 12 thin pectinations. Intercoxal setae III smooth Opisthogaster with 5 pairs of pectinate setae 25-30 long except the posteromedian pair which is 78 long and bears long pectinations. *Gnathosoma* : as in *M. striatum*. *Legs* : number of setae as in *M. striatum*. Specialized setae : a *famulus* is present on tibia I, a seta *k* is present on genua I and II. Lengths of solenidia : see table 4.

Hosts and localities :

Holotype and 3 paratypes larvae, from *Meoneura* sp. (n° 065A), Papua, New Ireland, Lauapula, 27.IV.1993. Paratypes : 2 larvae from *Phoridae* sp. (n° 088) from Laing Island, 5.V.1993 and 1 larva from *Nanodromia elongata*, from New Ireland, Taskiki, 27.IV.1993.



Figs 17-19. – *Microtrombidium punctatum* n. sp. Larva : ventral (17) and dorsal view (18), seta of coxa III (19).



Figs 20-22. – *Microtrombidium punctatum* n. sp. Larva : dorsal view of leg I (20), II (21) and III (22).

References

- FAIN, A. & BAKER, A., 1993. On some larval Microtrombidiidae (Acarina : Prostigmata) parasitic on Phlebotomine Sandflies (Diptera : Psychodidae). *Bulletin et Annales de la Société royale belge d'Entomologie*, 129 : 325-339.
- FEIDER, Z., 1955. Studiul citorva larve de Microtrombidiinae (Acarina) si noua delimitare a genului *Microtrombidium*. *Analele Stiintifice ale Universitatii "Al. I. Cuza" din Iasi (Serie noua)*. 1 : 61-117.
- OUDEMANS, A.C., 1912. Du bis jetzt bekannten Larven von Trombidiidae und Erythraeidae. *Zoologische Jahrbücher. Supplement* 14. Erste Heft. pp. 1-230.
- ROBAUX, P., 1972. Etude des larves de Trombidiidae. IV. Redescription des formes larvaires d'*Allothrombium neapolitanum* OUDEMANS, 1910, *Neothrombium neglectum* (BRUYANT, 1908) et *Microtrombidium fasciatum* (KOCH, 1836). *Acarologia* XIV : 612-630.
- SOUTHCOTT, R.V., 1986. Studies on the Taxonomy and Biology of the Subfamily Trombidiinae (Acarina : Trombidiidae), with a critical Revision of the Genera. *Australian Journal of Zoology*, Supplementary Series, 123 : 1-116.
- SOUTHCOTT, R.V., 1993. Revision of the Taxonomy of the larvae of the Subfamily Eutrombiinae (Acarina : Microtrombidiidae). *Invertebrate Taxonomy*, 7 : 885-959.
- THOR, S. & WILLMANN, C., 1747. Trombidiidae. *Das Tierreich*, 71b, pp. 187-541.

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Table 1 : Metric data of *Microtrombidium striatum* n.sp. (larvae).

| | Holotype | Paratype 1 | Paratype 2 | Paratype 3 | Paratype 4 | Mean |
|-----------------------------|----------|------------|------------|------------|------------|-------|
| Anterior shield | | | | | | |
| AM | 22 | 18 | 20 | 20 | 22 | 20.4 |
| AL | 32 | 29 | 30 | 25 | 33 | 29.8 |
| PL | 40 | 32 | 31 | 30 | 30 | 32.6 |
| SENS | 54 | 48 | — | 42 | 48 | 48 |
| AMB | 51 | 54 | 49 | 45 | 55 | 50.8 |
| AW | 78 | 75 | 78 | 73 | 75 | 75.8 |
| PW | 96 | 90 | 92 | 89 | 93 | 92 |
| MA | 41 | 42 | 38 | 37 | 35 | 38.6 |
| AP | 48 | 43 | 43 | 42 | 45 | 44.2 |
| SA | 30 | 28 | 28 | 27 | 28 | 28.2 |
| SP | 19 | 17 | 19 | 17 | 18 | 18 |
| SB | 74 | 73 | 70 | 68 | 74 | 71.8 |
| L | 125 | 120 | 113 | 111 | 114 | 116.6 |
| W | 114 | 110 | 115 | 119 | 122 | 116 |
| LN | 28 | 28 | 24 | 24 | 28 | 26.4 |
| ASB | 101 | 99 | 90 | 88 | 93 | 94.2 |
| PSB | 24 | 22 | 23 | 23 | 21 | 22.6 |
| Posteromedian shield | | | | | | |
| PSW | 118 | 108 | 114 | 99 | 110 | 109.8 |
| PSL | 44 | 42 | 38 | 39 | 42 | 41 |
| PLN | 23 | 20 | 19 | 22 | 22 | 21.2 |
| QW | 49 | 47 | 50 | 46 | 46 | 47.6 |
| QL | 32 | 32 | 32 | 30 | 34 | 32 |
| Legs | | | | | | |
| Ta1 | 51 | 48 | 51 | 47 | 49 | 49.2 |
| Ta2 | 37 | 40 | 40 | 37 | 40 | 38.8 |
| Ta3 | 44 | 40 | — | 38 | 41 | 40.7 |
| Ti1 | 32 | 30 | 30 | 30 | 24 | 29.2 |
| Ti2 | 25 | 24 | 26 | 26 | 24 | 25 |
| Ti3 | 30 | 28 | — | 28 | 30 | 29 |
| Ge1 | 16 | 17 | 17 | 17 | 16 | 16.6 |
| Ge2 | 13 | 12 | 12 | 13 | 12 | 12.4 |
| Ge3 | 16 | 14 | — | 14 | 14 | 14.5 |
| Fe1 | 37 | 35 | 36 | 36 | 34 | 35.6 |
| Fe2 | 36 | 34 | 35 | 36 | 33 | 34.4 |
| Fe3 | 42 | 39 | — | 36 | 37 | 38.5 |
| Solenidions | | | | | | |
| ω I | 22 | 19 | — | 19 | 19 | 19.7 |
| ω II | 16 | 14 | 17 | 14 | 14 | 15 |
| φ I apic. or poster | 18 | 18 | — | 19 | 18 | 18.2 |
| φ I basal or anter. | 24 | 23 | — | 24 | 24 | 23.7 |
| φ II apical | 12 | 14 | — | 13 | 12 | 12.7 |
| φ II basal | 22 | 22 | — | — | 22 | 22 |
| σ I anterior | 37 | 35 | 36 | 38 | 34 | 36 |
| σ I posterior | 30 | 30 | 28 | 31 | 30 | 29.8 |
| σ II | 36 | 36 | 37 | — | — | 36.3 |
| σ III | 27 | 30 | — | 30 | — | 29 |
| Idiosoma | | | | | | |
| L | 300 | 330 | 390 | 250 | 450 | — |
| W | 160 | 195 | 234 | 150 | 255 | — |

Table 2 :
Metric data of *Microtrombidium bruneiense* n. sp. (larvae).

| | Holotype | Paratype 1 | Paratype 2 | Paratype 3 | Mean |
|-----------------------------|----------|------------|------------|------------|-------|
| Anterior shield | | | | | |
| AM | 42 | 36 | 40 | 39 | 39.2 |
| AL | 42 | 41 | 39 | 36 | 39.5 |
| PL | 60 | 62 | 61 | 56 | 59.7 |
| SENS | 64 | 58 | 60 | — | 60.6 |
| AMB | 48 | 43 | — | 45 | 45.3 |
| AW | 99 | 100 | 96 | 96 | 97.7 |
| PW | 105 | 108 | 110 | 108 | 107.7 |
| MA | 63 | 65 | 64 | 69 | 65.2 |
| AP | 48 | 51 | 48 | 50 | 49.2 |
| SA | 34 | 33 | 30 | 30 | 31.7 |
| SP | 24 | 24 | 23 | 24 | 23.7 |
| SB | 75 | 78 | 77 | 76 | 76.5 |
| L | 144 | 144 | 136 | — | 141.3 |
| W | 144 | 155 | — | 159 | 152.6 |
| LN | 28 | 27 | 23 | — | 26 |
| ASB | 120 | 120 | 112 | — | 117.3 |
| PSB | 24 | 24 | 24 | 26 | 24.5 |
| Posteromedian shield | | | | | |
| PSW | 144 | 138 | 142 | — | 141.1 |
| PSL | 48 | 49 | 51 | 48 | 49 |
| PLN | 21 | 22 | 21 | 21 | 21.2 |
| QW | 52 | 52 | 52 | 60 | 54 |
| QL | 55 | 57 | 56 | 51 | 54.7 |
| Legs | | | | | |
| Ta1 | 99 | 94 | 90 | 89 | 93 |
| Ta2 | 69 | 65 | 69 | 69 | 68 |
| Ta3 | 66 | 64 | 63 | 63 | 64 |
| Ti1 | 57 | 53 | 51 | 51 | 53 |
| Ti2 | 42 | 41 | 42 | 39 | 41 |
| Ti3 | 53 | 53 | 51 | 54 | 52.7 |
| Ge1 | 24 | 22 | 24 | 24 | 23.5 |
| Ge2 | 19 | 18 | 18 | 18 | 18.2 |
| Ge3 | 19 | 21 | 19 | 19 | 19.5 |
| Fe1 | 60 | 61 | 59 | 60 | 60 |
| Fe2 | 60 | 56 | 60 | 57 | 58.2 |
| Fe3 | 66 | 66 | 65 | 65 | 65.5 |
| Solenidions | | | | | |
| ω I | 26 | 26 | 23 | 24 | 24.7 |
| ω II | — | 28 | 23 | 24 | 25 |
| φ I apic. or anter. | 40 | 41 | 40 | 41 | 40.5 |
| φ I basal or post. | 40 | 41 | 35 | 38 | 38.5 |
| φ II apical | — | 18 | 18 | 20 | 18.6 |
| φ II basal | 35 | 35 | 35 | 35 | 35 |
| σ I anterior | 75 | 70 | 70 | 75 | 72.5 |
| σ I posterior | 60 | 60 | 60 | 60 | 60 |
| σ II | 65 | 70 | 70 | 75 | 70 |
| σ III | 66 | 65 | 60 | 60 | 62.7 |
| Idiosoma | | | | | |
| L | 615 | 810 | 510 | 405 | — |
| W | 420 | 550 | 300 | 195 | — |

Table 3.
Metric data of *Microtrombidium prostriatum* n. sp. (larvae).

| | Holotype | Paratype 1 | Paratype 2 | Mean |
|-----------------------------|----------|------------|------------|-------|
| Anterior shield | | | | |
| AM | 28 | 30 | 30 | 29.3 |
| AL | 35 | 35 | — | 35 |
| PL | 45 | 46 | 45 | 45.3 |
| SENS | 45 | 55 | 60 | 53.3 |
| AMB | 56 | 63 | 57 | 58.6 |
| AW | 82 | 85 | 86 | 84.3 |
| PW | 119 | 126 | 123 | 122.6 |
| MA | 46 | 45 | 42 | 44.3 |
| AP | 54 | 58 | 57 | 56.3 |
| SA | 36 | 39 | 36 | 37 |
| SP | 18 | 17 | 21 | 18.6 |
| SB | 96 | 99 | 96 | 97 |
| L | 155 | 150 | 150 | 151.6 |
| W | 124 | 126 | — | 125 |
| LN | 30 | 28 | 36 | 31.3 |
| ASB | 116 | 107 | 105 | 109.3 |
| PSB | 39 | 43 | 45 | 42.3 |
| Posteromedian shield | | | | |
| PSW | 99 | 110 | 111 | 106.6 |
| PSL | 27 | 24 | 24 | 25 |
| PLN | 15 | 11 | 12 | 12.6 |
| QW | 50 | 55 | 51 | 52 |
| QL | 36 | 39 | 36 | 37 |
| Legs | | | | |
| Ta1 | 57 | 59 | 54 | 56.6 |
| Ta2 | 43 | 42 | 42 | 42.3 |
| Ta3 | 42 | 43 | 42 | 42.3 |
| Ti1 | 35 | 36 | 33 | 34.6 |
| Ti2 | 28 | 27 | 28 | 27.6 |
| Ti3 | 44 | 41 | 39 | 41.3 |
| Ge1 | 16 | 15 | 15 | 15.3 |
| Ge2 | 13 | 13 | 15 | 13.6 |
| Ge3 | 17 | 15 | 16 | 16 |
| Fe1 | 48 | 48 | 50 | 48.6 |
| Fe2 | 44 | 43 | 45 | 44 |
| Fe3 | 52 | 51 | 54 | 52.3 |
| Solenidions | | | | |
| ω I | 20 | 22 | 22 | 21.3 |
| ω II | 12 | 13 | 13 | 12.6 |
| φ I apic. or poster | 17 | 17 | 16 | 16.6 |
| φ I basal or anter. | 31 | 28 | 29 | 29.1 |
| φ II apical | 12 | 10 | 12 | 11.3 |
| φ II basal | 24 | 22 | 25 | 23.6 |
| σ I anterior | 43 | 47 | 44 | 44.6 |
| σ I posterior | 34 | 36 | 32 | 34 |
| σ II | 42 | 42 | 42 | 42 |
| σ III | 31 | 31 | 29 | 30.3 |
| Idiosoma | | | | |
| L | 414 | 300 | 405 | — |
| W | 285 | 156 | 245 | — |

Table 4.
Metric data of *Microtrombidium punctatum* n. sp. (larvae)

| | Holotype | Paratype 1 | Paratype 2 | Paratype 3 | Paratype 4 | Mean |
|-----------------------------|----------|------------|------------|------------|------------|-------|
| Anterior shield | | | | | | |
| AM | 36 | 32 | 34 | 33 | 36 | 34.2 |
| AL | 46 | 48 | 53 | 47 | 45 | 48 |
| PL | 60 | 65 | 61 | 60 | 67 | 62.2 |
| SENS | — | 54 | 65 | — | — | 60 |
| AMB | 49 | 48 | 51 | 46 | — | 48.5 |
| AW | 120 | 119 | 111 | 116 | 111 | 115.4 |
| PW | 138 | 135 | 130 | 140 | 150 | 138.6 |
| MA | 66 | 72 | 66 | 72 | 69 | 69 |
| AP | 75 | 75 | 74 | 69 | 75 | 73.6 |
| SA | 54 | 54 | 51 | 49 | 51 | 51.8 |
| SP | 24 | 27 | 22 | 27 | 24 | 24.8 |
| SB | 114 | 115 | 106 | 117 | 114 | 113.2 |
| L | 171 | 180 | 179 | 180 | 180 | 178 |
| W | 174 | 160 | 161 | 171 | — | 166.5 |
| LN | 20 | 30 | 31 | 24 | 31 | 27.2 |
| ASB | 126 | 141 | 140 | 141 | 146 | 138.8 |
| PSB | 45 | 39 | 39 | 39 | 34 | 39.2 |
| Posteromedian shield | | | | | | |
| PSW | 150 | 150 | 144 | 150 | 156 | 150 |
| PSL | 33 | 36 | 39 | 38 | 40 | 37.2 |
| PLN | 18 | 18 | 16 | 20 | 18 | 18 |
| QW | 66 | 69 | 65 | 68 | 68 | 67.4 |
| QL | 59 | 63 | 58 | 57 | 60 | 59.6 |
| Legs | | | | | | |
| Ta1 | 75 | 68 | 69 | 69 | 74 | 71 |
| Ta2 | 60 | 57 | 57 | 60 | 60 | 58.8 |
| Ta3 | 63 | 60 | 58 | 60 | 60 | 60.2 |
| Ti1 | 45 | 45 | 45 | 42 | 42 | 43.8 |
| Ti2 | 36 | 39 | 37 | 36 | 36 | 36.8 |
| Ti3 | 45 | 49 | 46 | 46 | 50 | 47.2 |
| Ge1 | 20 | 21 | 19 | 18 | 21 | 19.8 |
| Ge2 | 16 | 16 | 15 | 15 | 16 | 15.6 |
| Ge3 | 16 | 18 | 18 | 18 | 20 | 18 |
| Fe1 | 54 | 51 | 51 | 49 | 55 | 52 |
| Fe2 | 54 | 49 | 50 | 51 | 54 | 51.6 |
| Fe3 | 61 | 60 | 63 | 60 | 62 | 61.2 |
| Solenidions | | | | | | |
| ω I | 30 | 28 | 26 | 26 | 26 | 27.2 |
| ω II | 24 | 24 | 23 | 23 | 23 | 23.4 |
| φ I apic. or poster | 18 | 22 | 21 | 20 | 20 | 20.2 |
| φ I basal or anter. | — | 36 | 37 | 33 | 36 | 35.5 |
| φ II apical | 18 | 18 | 19 | 18 | 19 | 18.4 |
| φ II basal | 30 | 33 | 33 | — | 33 | 32.2 |
| σ I anterior | — | 52 | 54 | — | 50 | 52 |
| σ I posterior | — | 42 | 40 | — | 37 | 39.6 |
| σ II | 60 | 58 | 56 | — | 54 | 57 |
| σ III | 50 | 48 | 49 | 50 | 44 | 48.2 |
| Idiosoma | | | | | | |
| L | — | 330 | 336 | 900 | 1200 | — |
| W | — | 185 | 190 | 550 | 610 | — |