

NEILSTIGMAEUS, A NEW AUSTRALIAN GENUS IN THE FAMILY STIGMAEIDAE (ACARI : PROSTIGMATA)

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TAXONOMY	ABSTRACT : <i>Neilstigmaeus lamingtoni</i> , gen. et sp. nov., is described in the Stigmaeidae
PLANT	(Acari : Prostigmata). <i>Neilstigmaeus</i> differs from related genera by having an arolium
MITES	instead of claws on all legs, discrete dorsal plates and a large basal solenidion on its
AUSTRALIA	palpal tarsus. The type series was collected at Lamington National Park, Queensland,
	Australia, on leaves of <i>Parsonsia fulva</i> (Apocyanaceae); additional specimens were
	found on other plants in Victoria and New South Wales.
TAXONOMIE	RÉSUMÉ : <i>Neilstigmaeus lamingtoni</i> , genre et espèce nov., est décrit dans les
ACARIENS	Stigmaeidae (Acariens : Prostigmata). <i>Neilstigmaeus</i> diffère des genres voisins en ce
PLANTICOLES	qu'il possède un arolium au lieu de pinces à toutes les pattes, des plaques dorsales
AUSTRALIE	distinctes et un grand solénidion basal sur son tarse palpal. La série du type a été
	recueillie au Parc National Lamington, au Queensland, en Australie, sur des feuilles
	de <i>Parsonsia fulva</i> (Apocyanaceae). Des spécimens supplémentaires ont été trouvés sur
	d'autres plantes au Victoria et en Nouvelle-Galles du Sud.

Most genera in the family Stigmaeidae (Acari : Prostigmata) possess, on each leg, two tarsal claws and a pad-like empodium that carries three pairs of capitate raylets (tenent hairs). The only exceptions are *Mullederia* Wood and *Pilonychiopus* Meyer, dissimilar genera whose tarsal claws are replaced by a membraneous arolium (out of which the raylets emerge) on all tarsi (MEYER and UECKERMANN, 1989; TSENG, 1982). *Mullederia* has a globose body with fused dorsal shields, whereas species of *Pilonychiopus* have an elongated body with, or without, a weak dorsal opisthosomal plate, devoid of setae (MEYER, 1969). The new genus to be described is closely related to *Pilonychiopus* in possessing an arolium instead of claws and an elongated body, but carries setose dorsal plates.

In the following description, all measurements are in microns (μm); terminology for body setae follows KETHLEY (1990).

Neilstigmaeus gen. nov.

Type species : *Neilstigmaeus lamingtoni* sp. nov.

Chelicerae independent. Body elongated, with 3 clearly-defined dorsal plates and 12 pairs of setae. Propodosomal plate with setae *vi*, *ve* and *sce*, opisthosomal plate with *c*₁, *d*₁, *e*₁ and *f*₁, and suranal plate carries *h*₁ and *h*₂; other setae on striated parts of body. One pair of eyes and one pair of postocular bodies present. Claws on all legs replaced by a membraneous arolium, out of which emerge the capitate raylets. Palptarsus with a strong, long, basal solenidion almost reaching distal end of segment.

Besides *Pilonychiopus*, this genus also resembles *Agistemus* Summers and some species of *Zetzellia* Oudemans in having the dorsum covered by three plates, with the propodosomal plate carrying 3 pairs of setae.

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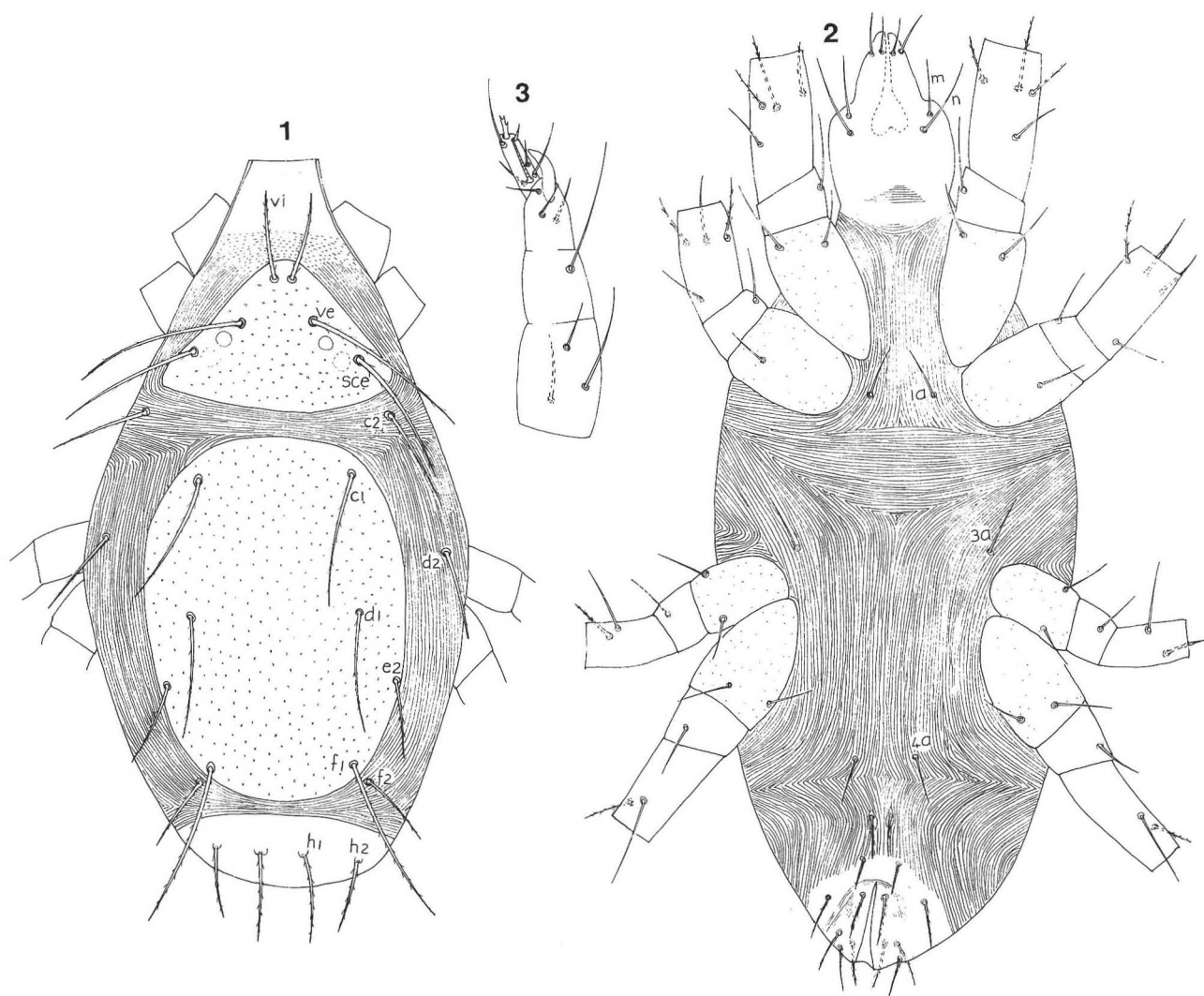


FIG. 1-3 : *Neilstigmaeus lamingtoni* n. sp., female.

1. — Dorsum of idiosoma. 2. — Venter of idiosoma. 3. — Palpus.

This genus is named in memory of Dr Neil GOUGH, Queensland Department of Primary Industries, a student of agricultural acarology who collected these mites.

Neilstigmaeus lamingtoni sp. nov.

(Figs 1-14)

Female (n=5). Body (from tip of palpal tarsus to caudal extremity) 374 (360-390) long; greatest width 145. Dorsum (Fig 1) with 3 plates covered by a thin sheath punctated with minute transparent

dots. Propodosomal plate with setae *vi*, *ve* and *sce*, eyes and post-ocular bodies. Median opisthosomal plate carries *c*₁, *d*₁, *e*₂ and *f*₁, while *h*₁₋₂ are on the suranal plates. Setae *c*₂ and *d*₂ are inserted laterally on the integument laterad to the opisthosomal plate, while *f*₂ are placed on the integument behind that plate. Dorsal setae setiform and finely barbed. Setae *f*₂ 22 long; *h*₁=*h*₂=27 to 29; *d*₂=*e*₂=31; *vi*=*d*₁=*c*₂=34 to 37; *sce*=*c*₁=47 to 50; *f*₁=56 and *ve* longest, 61. Ventral setae hair-like (Fig 2) *1a* 18 long and apart from each other, *3a* 16 long and 64 apart and *4a* 17 long and 31 apart. Anogenitals 10-15, *g* longest.

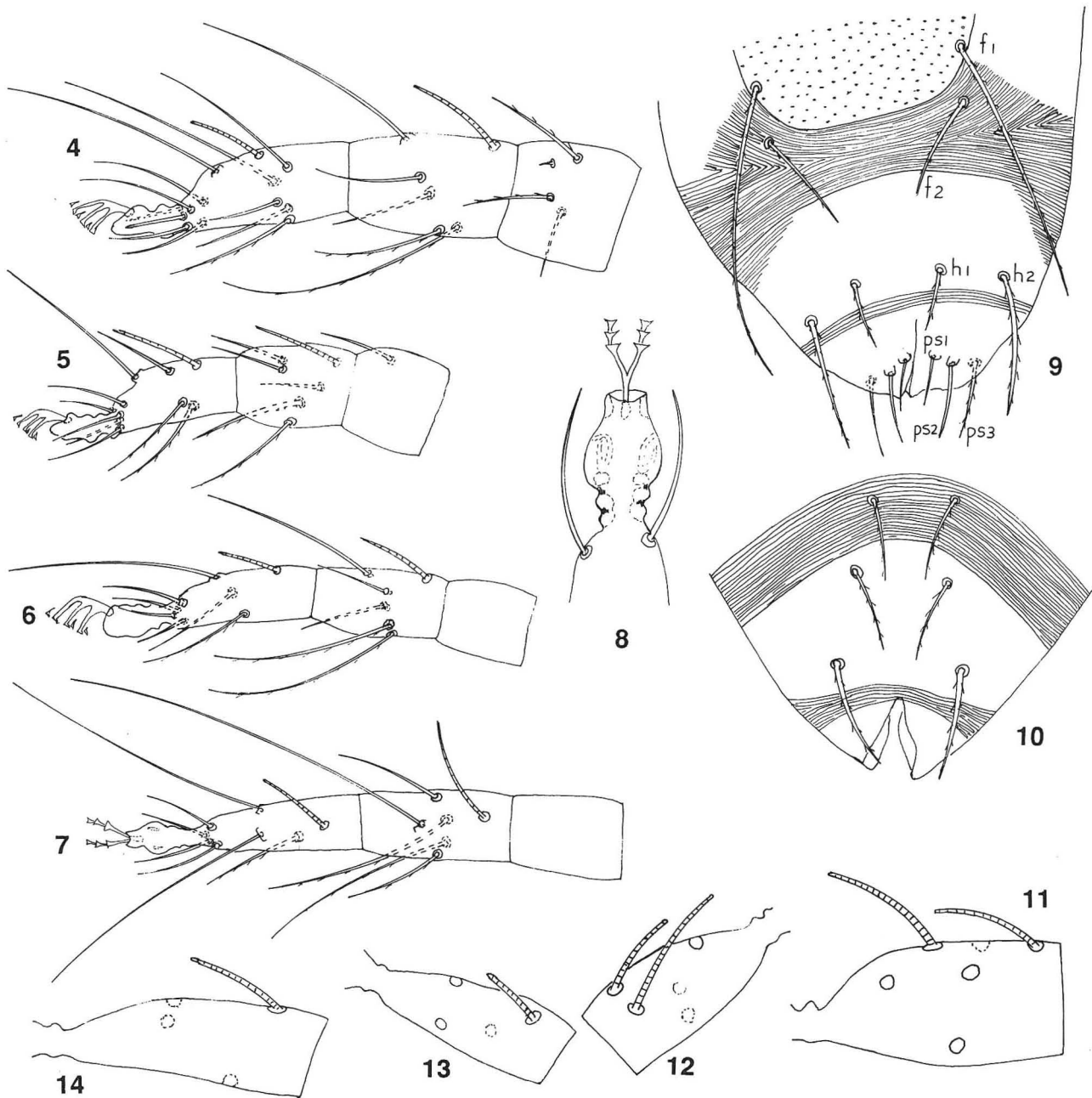


FIG. 4-14 : *Neilstigmaeus lamingtoni* n. sp.

4. — Female, Leg I. 5. — *Idem*, Leg II. 6. — *Id.*, Leg III. 7. — *Id.*, Leg IV. 8. — *Id.*, Tarsal arolium. 9. — Male, dorsum of opisthosoma. 10. — *Idem*, venter of opisthosoma. 11. — *Id.*, tarsus I. 12. — *Id.*, tarsus II. 13. — *Id.*, tarsus III. 14. — *Id.*, tarsus IV.

Gnathosoma (tip of tarsus to cheliceral bases) 111 (105-115) long. Palpfemur (Fig 3) with 3 setae, genu carries one, tibia with 3, one of which emerges from base of claw, and tarsus (which is slightly longer than claw) with 4 hair-like and 3 sensory setae : a long basal solenidion, almost as long as

segment, another, minute, placed subterminally, and a distal tridentate eupathidium. Subcapitular setae *n* and *m* hairlike, subequal in length, 21-23. Adoral setae 13 long.

Legs in 2 groups. Legs I-IV (from tip of tenent hairs to base of trochanter) 182, 134, 136 and 176

long, respectively. Setal counts on all podomeres (solenidia added in parentheses) : coxae 2-1-2-2 ; trochantera 1-1-1-1 ; femora 4-4-2-2 ; genua 3 (+1)-1-0-0 ; tibiae 6-6-6-6 and tarsi 13 (+1)-9 (+1)-7 (+1)-7 (+1). Solenidia on legs I-II long, almost reaching end of segment (Figs 4-5), reduced on legs III and IV (Figs 6-7). No solenidia could be detected on tibiae. No tarsal claws present ; they are replaced on all tarsi by a membraneous arolium, out of which the raylets emerge (Fig 8).

Male (n=1). Body 300 long, greatest width 101. Dorsal ornamentation and setation as in female, but setae h_1 attain only half the length of h_2 (Fig 9). Setae ps_{1-3} placed subcaudally on dorsum, while the ventral anogenital region carries three pairs of setae (Fig 10), of which the posteriormost is longest (12 long). Legs I-IV 156, 118, 125 and 161 long, respectively. Setal counts on all podomeres as in female, except that a small spine is present on genu I and with male solenidia on all tarsi (Figs 11-14). Gnathosoma 84 long, but palpal tarsus twice as long as claw ; otherwise as in female.

Deutonymph (n=1). Body 288 long, 108 wide. Dorsal ornamentation and setation as in female, but with only 6 anogenital setae (ag_{1-3} ; ps_{1-3}). Legs I-IV 140, 108, 110 and 130 long, respectively. Setal counts differ from female in having the trochanteral formula 0-0-1-0, genu I with a small sensillum. Palpal tarsus subequal to claw in length, apparently without subterminal solenidium.

Types : Holotype and 5 paratypes, all female : Lamington National Park, south-eastern Queensland, Australia, leaves of *Parsonsia fulva* (Apocynaceae), collected by the late Dr Neil GOUGH, August 14, 1992. Holotype in Queensland Museum, Brisbane. Paratypes deposited in the Australian National Insect Collection, CSIRO, Canberra ; in the Collection of the Queensland Department of Primary Industries, Indooroopilly ; and in the authors' collections (Department of Entomology, Faculty of Agriculture, Rehovot, Israel, and National Collection of Arachnida, Plant Protection Research Institute, Pretoria, South Africa, respectively).

Other (non-type) Australian records, all collected by D. E. WALTER : Chinaman's Creek, Victoria, on leaves of *Pomaderris aspera*, November 1990 ; Mt. Warning, NSW, leaves of *Sloanea woollsii*, March 1991 ; Allyn River, NSW, leaves of *Commersonia fraseri* and *Cissus antarctica*, March 1991 ; Lamington National Park, Queensland, leaves of *Parsonsia fulva*, March 1993. The single male specimen was collected along with the type material at Lamington National Park, August 14, 1992.

Notes

Some variation was seen in the Victorian mites. One female had smaller plates. Consequently setae *sce* were laterad to the propodosomal plate, and one of the e_2 setae was off the opisthosomal plate. Furthermore, the humeral pair (c_2) tended to migrate to a lateral position.

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