



TWO NEW SPECIES OF TENUIPALPUS DONNADIEU FROM NEW SOUTH WALES (ACARI: TENUIPALPIDAE)

J. GUTIERREZ and E. SCHICHA

Office de la Recherche Scientifique et Technique Outre-Mer, B.P. A5, Nouméa, New Caledonia.
Biological and Chemical Research Institute, New South Wales Department of Agriculture, Rydalmere, N.S.W. 2116.

Abstract

Tenuipalpus banksiae and *T. grevilleae* spp. n. are described and illustrated from the native Australian *Banksia spinulosa* Sm. and *Grevillea sericea* (Sm.) (Proteaceae).

Introduction

Tenuipalpus Donnadieu was revised by Meyer-Smith (1979) to include the genera *Tenuipalpus sensu stricto* and *Colopalpus* Pritchard and Baker. As the mites recorded by Womersley (1940, 1941) belong in *Brevipalpus* Donnadieu, only 3 species of *Tenuipalpus* were known from Australia. *T. womersleyi* Pritchard and Baker (*quadrisetosus* group) was originally collected in Queensland on *Leptospermum* sp. and later by Collyer (1973b) in New Zealand on *L. ericoides* A. Rich. *T. pacificus* Baker (*caudatus* group), a widespread pest of orchids (England, Holland, Germany, California, Florida, Indonesia and the Philippines) was recorded on Orchidaceae and on *Platyserium* sp. in Australia by Baker (1945), Pritchard and Baker (1958) and Manson (1967). *T. mansoni* (Collyer) (*caudatus* group) was intercepted entering New Zealand on leaves of *Pomaderris* sp. from Australia (Collyer 1973a).

The 2 new species described below belong to the *caudatus* group (3 pairs of dorsocentral hysterosomal setae plus 3 pairs of non-flagellate and 1 pair of whip-like caudolateral hysterosomal setae).

All measurements are in micrometres (μm), the body size being measured from all specimens, whereas setal lengths are from the holotype and paratype males only.

Depositories are abbreviated: BCRI, Biological and Chemical Research Institute, Rydalmere; MHNP, Muséum d'Histoire Naturelle de Paris; ORSTOM, Office de la Recherche Scientifique et Technique Outre-Mer, Paris.

***Tenuipalpus banksiae* sp. n. (Figs 1-5)**

Types.—NEW SOUTH WALES: holotype ♀ and 20 paratypes on *Banksia spinulosa* Sm., Woolwich, 13.i.1980, J. Gutierrez and E. Schicha. Holotype and 2 ♀ and 2 ♂ paratypes in BCRI; 1 ♀ and 1 ♂ paratype in MHNP; 11 ♀ and 3 ♂ paratypes in ORSTOM.

Female

Dorsum.—Length of idiosoma 265-290, including gnathosoma 295-315; width of idiosoma 130-140. Idiosoma almost oval; podosoma slightly differentiated from opisthosoma. Propodosoma with loose polygonal cells. Twelve pairs of serrated setae, all on tubercles and some setae very long. Second pair of propodosomal setae 180 long, directed anteriorly and up. All 3 pairs of dorsocentral hysterosomal setae directed posteriorly and up, with second pair 125 the longest. First pair of dorsolateral hysterosomal setae 130, longer than first, second and fourth pairs of caudolateral hysterosomal setae. Third pair of caudolateral hysterosomal setae very long and whip-like (Fig. 1).

Venter.—Ventral and genital plates indistinctly separated. All setae smooth. Podosoma with 1 pair of short anterior medioventral setae and 1 pair of long posterior medioventral setae. Two pairs of relatively long genital setae; 2 pairs of very short anal setae (Fig. 2).

Gnathosoma.—Palpus 2-segmented, with single slightly serrate terminal seta (Fig. 3).

Legs.—Setae and solenidia on podomeres of legs I to IV: coxae 2-2-1-1, trochantera 1-1-1-1, femora 4-4-2-1, genua 2-2-0-0, tibiae 3-3-3-3, tarsi 8-8-5-5.

Male

Dorsum.—Length of idiosoma 204-207, including gnathosoma 245-258; width of idiosoma 92-100. Chaetotaxy resembling that of female, but setae relatively shorter, with second and third pairs of dorsocentral hysterosomal setae very much shorter. Second pair of propodosomal setae 125 long, first pair of

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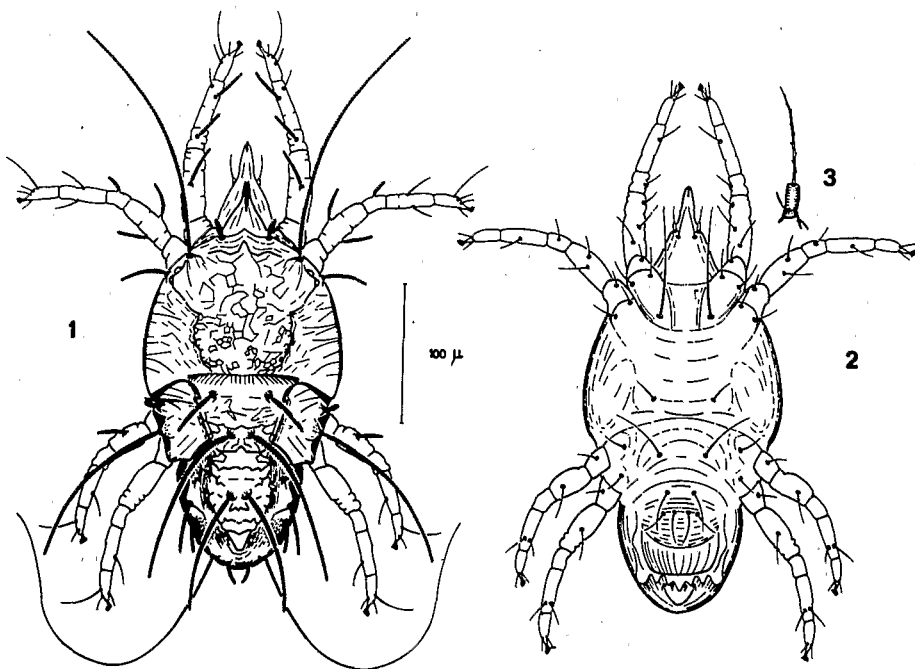
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dorsolateral hysterosomal setae 110 long. Dorsocentral hysterosomal setae shorter than distance between bases of setae of 2 successive pairs (Fig. 4).

Venter.—Three pairs of genitoanal setae as long as setae on coxae IV (Fig. 5).

Field recognition

Adults whitish, living on undersides of leaves (along midrib). Eggs yellow, oblong, with longitudinal mediiodorsal ridge.



Figs 1-3—*Tenuipalpus banksiae* sp. n., female: (1) dorsal aspect; (2) ventral aspect; (3) palpus enlarged.

Tenuipalpus grevilleae sp. n. (Figs 6-10)

Types.—NEW SOUTH WALES: *Holotype* ♀ and 8 paratypes on *Grevillea sericea* (Sm.), Woolwich, 13.i.1980, J. Gutierrez and E. Schicha. *Holotype* and 1 ♀ and 1 ♂ paratype in BCRI; 1 ♀ paratype in MHNP; 5 ♀ paratypes in ORSTOM.

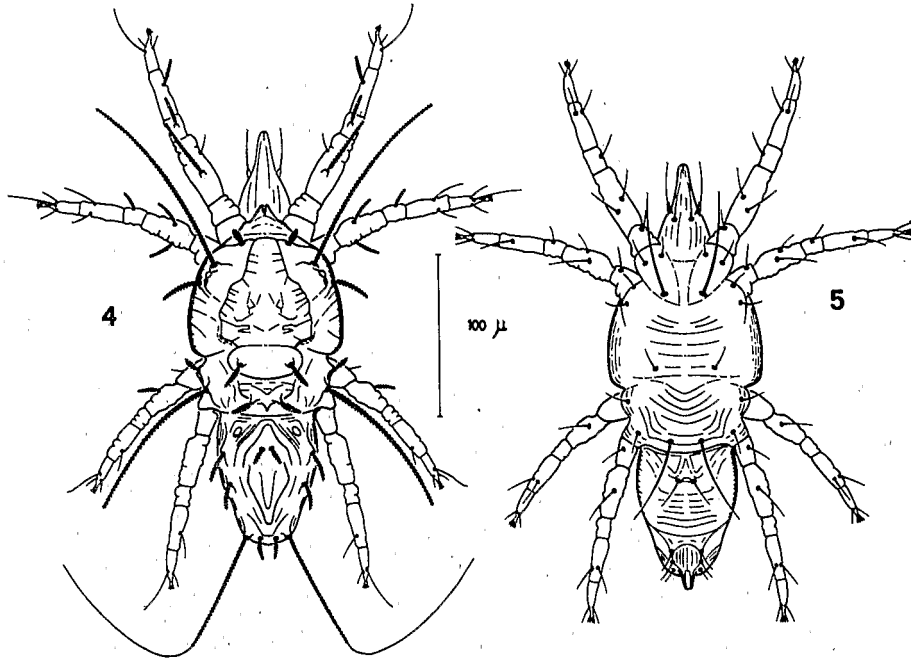
Female

Dorsum.—Length of idiosoma 292-303, including gnathosoma 315-330; width of idiosoma 123-138. Idiosoma elongate-ovate, with fine striae laterally and oval patterns mediolaterally; podosoma not strongly differentiated from opisthosoma. Twelve pairs of relatively long, subspatulate setae, all set on small tubercles except for third pair of caudolateral hysterosomal setae which is very long and flagelliform. Second pair of propodosomal setae 50 long, directed anteriorly and up. All 3 pairs of dorsocentral hysterosomal setae directed posteriorly and up, with first pair 55 the longest, reaching to base of second pair. First pair of caudolateral hysterosomal setae as long as distance between its base and base of second pair, which in turn is longer than the distance between its base and base of third pair (Fig. 6).

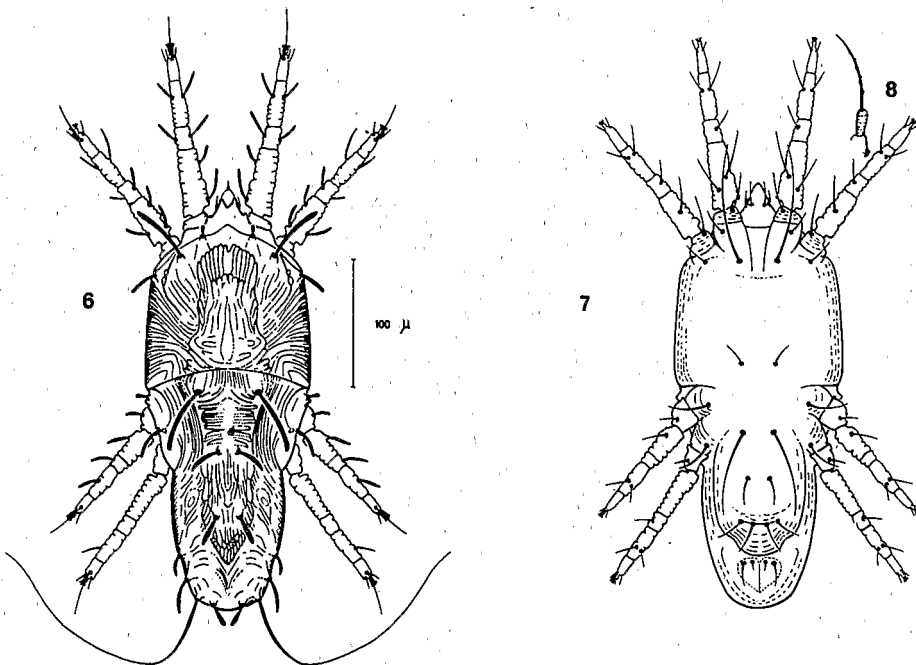
Venter.—Ventral and genital plates indistinctly separated. All setae smooth. Podosoma with 1 pair of short anterior medioventral setae and 1 pair of long posterior medioventral setae. Two pairs of nearly equal genital setae; inner pair of anal setae much shorter than outer pair (Fig. 7).

Gnathosoma.—Palpus 1-segmented, with single slightly serrate terminal seta (Fig. 8).

Legs.—Setae and solenidia on podomeres of legs I to IV: coxae 1-1-1-1, trochantera 1-1-2-1; femora 4-4-2-0, genua 3-3-1-1, tibiae 4-4-3-3, tarsi 8-8-5-5.



FIGS 4-5—*Tenuipalpus banksiae* sp. n., male: (4) dorsal aspect; (5) ventral aspect.



FIGS 6-8—*Tenuipalpus grevilleae* sp. n., female: (6) dorsal aspect; (7) ventral aspect; (8) palpus enlarged.

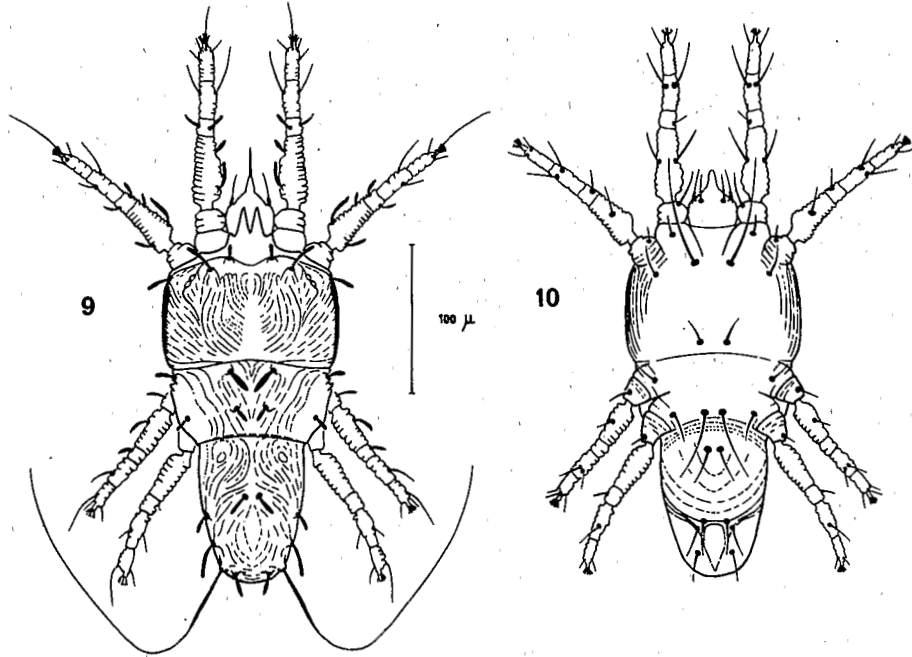
Male

Dorsum.—Length of idiosoma 246, including gnathosoma 276; width of idiosoma 115. Chaetotaxy resembling that of female, but setae shorter and first pair of dorsocentral hysterosomal setae not reaching base of second pair (Fig. 9).

Venter.—Three pairs of genitoanal setae as long as setae on coxae IV (Fig. 10).

Field recognition

Adults orange-yellow, living on undersides of leaves. Eggs yellowish, similar in shape to those of *T. banksiae*.



FIGS 9-10—*Tenuipalpus grevilleae* sp. n., male: (9) dorsal aspect; (10) ventral aspect.

Discussion

In Meyer-Smith's (1979) key to the world species of *Tenuipalpus*, only 6 species of the *caudatus*-group show 3 pairs of non-flagellate caudolateral setae and 1 pair of posterior medioventral setae.

In 3 of these, the dorsal integument is not reticulate: *T. lalbaghensis* Channabasavanna and Lakkundi, *T. proteae* Meyer and *T. matthyssei* Pritchard and Baker. In the other 3, the dorsal integument is densely reticulate: *T. mansoni* (Collyer), *T. rhusi* Meyer and *T. oribiensis* Meyer. The 2 new species described above are different. *T. grevilleae* has a striated dorsal integument and, dorsally, long setae on the propodosoma and hysterosoma. *T. banksiae* has a dorsal integument with loose reticulations and long dorsal setae.

These observations and the descriptions of Pritchard and Baker (1958), Collyer (1973a), Channabasavanna and Lakkundi (1977) and Meyer-Smith (1979) allow this subgroup to be keyed.

Key to females of world species of *caudatus* group (genus *Tenuipalpus*) with 3 pairs of non-flagellate caudolateral setae and 1 pair of posterior medioventral setae

- | | | |
|----|--|---|
| 1. | Dorsal integument not reticulate | 2 |
| | Dorsal integument reticulate | 5 |

2.	Dorsal integument smooth, hysterosoma with a prominent projection anterior to coxa III	lalbaghensis
	Dorsal integument with striae	3
3.	Propodosomal setae minute	proteae
	Propodosomal setae nearly as long or longer than distances between bases of consecutive setae	4
4.	Dorsocentral hysterosomal setae minute	matthyssei
	Dorsocentral hysterosomal setae long and subspatulate	grevilleae
5.	Dorsal integument loosely reticulate, dorsal setae long	banksiae
	Dorsal integument densely reticulate, dorsal setae short	6
6.	Dorsal body setae setiform	mansoni
	Dorsal body setae lanceolate or spatulate	7
7.	Dorsal body setae lanceolate	oribiensis
	Dorsal body setae spatulate	rhusi

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