Genus	vol. 4(4): 309-357	Wrocław, 15 XII 1993

Notes on some species of the related genera *Aegyptobia* SAYED, *Phytoptipalpus* TRÄGÅRDH and *Pentamerismus* MCGREGOR, with descriptions of eight new species (*Acari*: *Tenuipalpidae*)

MAGDALENA K.P. SMITH MEYER AND J. CECILIA S. VAN DIS
Biosystematics Division, Plant Protection Research Institute, Private Bag X134, Pretoria 0001, South Africa

ABSTRACT. Seventeen already known species of the genera *Aegyptobia* SAYED, 1950, *Phytoptipalpus* TRÄGÅRDH, 1904 and *Pentamerismus* MCGREGOR, 1949 are reviewed and their descriptions supplemented. The epithet *Phytoptipalpus albiziae* (MEYER) has been replaced by the name *P. harveyi* nom. nov. The following new species are described and habitus figures are presented: *Aegyptobia abuzabiensis*, *A. cedermontana*, *A. ericae*, *A. lineati*, *A. monacanthae*, *A. nasicornensis*, *Pentamerismus collinus* and *Phytoptipalpus alexandriae*. Remarks on taxonomic and nomenclatorial aspects are given under each genus. Keys to the species dealt with here, are presented.

INTRODUCTION

This paper deals with some tenuipalpid species belonging to the genera *Aegyptobia* SAYED, *Phytoptipalpus* TRÄGÅRDH and *Pentamerismus* MCGREGOR. Seventeen known species are reviewed and their descriptions supplemented. Eight new species are described: 6 in the genus *Aegyptobia*, 1 in *Phytoptipalpus* and 1 in *Pentamerismus*. This new material was collected in South Africa and Abu-Zabi (Abu-Dhabi) in the United Arab Emirates.

The type material of the new species is deposited in the National collection of Arachnida, Plant Protection Research Institute, Pretoria. All types are preserved as slide-mounted specimens.

The setal nomenclature used in the species description follows LINDQUIST's (1985) system. All measurements are given in micrometres (μm). The setal formulae of legs

I to IV of the different species reviewed here, do not include the tarsi because it is often difficult to determine the exact number of setae on this segment.

Aegyptobia SAYED, 1950

Aegyptobia SAYED, 1950: 1018; MEYER, 1979: 117; BAKER and TUTTLE, 1987: 6-7.

Type-species: *Aegyptobia tragardhi* SAYED, by original designation.

The genus *Aegyptobia* can be diagnosed as follows: palpus five-segmented, distal segment with 3 phaneres, second and fourth segments with or without setae; prodorsum with 3 pairs of setae (v2, sc1-2); opisthosoma with 6 pairs of dorsolateral setae (c3, d3, e3, f3, h1-2), 4 pairs of dorsosublateral setae (c2, d2, e2, f2), 3 pairs of dorsocentral setae (c1, d1, e1); pregenital shield present or absent, 1 pair of aggenital setae (ag) present; genital shield well developed, with 2 pairs of setae (g1-2); intercoxal setae IC3a and IC4a and 3 pairs anal setae (ps1-3) present; body form ovate to obovate; tarsal claws uncinate or padlike. Based on the structure of the tarsal claws, the species of this genus are divided by BAKER and TUTTLE (1987) into 2 groups:

A. macswaini group

Species belong here have padlike tarsal claws. The following species dealt with in this paper fall under this group: *A. cedermontana* sp. nov, *A. edenvillensis* MEYER, *A. ericae* sp. nov. and *A. lineati* sp. nov.

A. tragardhi group

This group of species possesses uncinate tarsal claws. The following species belong here: *A. abuzabiensis*, *A. eremia* MEYER and GERSON, *A. monacanthae* sp. nov, *A. nasicornensis* sp. nov., *A. neobapta* MEYER, *A. odontopilis* MEYER, *A. prolixa* MEYER, *A. pyramidi* EL-ENANY and SOLIMAN, *A. salixi* ZAHER and YOUSEF, *A. sayedi* YOUSEF and *A. tragardhi* SAYED.

Discussion: MEYER (1979) recorded and described 12 species in *Aegyptobia*. After examining the type material of MEYER's newly described species we came to the conclusion that 5 species were incorrectly placed in *Aegyptobia*. Four of these species viz. *A. multistriatum*, *A. nyalai*, *A. kalahariensis* and *A. albiziae* are here transferred to *Phytoptipalpus* because they possess 2 pairs of anal setae. Amongst other characters *Phytoptipalpus* differs from *Aegyptobia* in having 2 instead of 3 pairs of anal setae. The name *P. albiziae* is preoccupied by *P. albizziae* PRITCHARD and BAKER in *Phytoptipalpus*. Therefore the epithet *P. albiziae* (MEYER) has been replaced by the name *P. harveyi* nom nov. The fifth species , *A. foetidae* is here transferred to *Pentamerismus* because it has 2 pairs of dorsosublateral setae and not 4 pairs. The following key is based primarily on the females:

KEY TO SOME SPECIES OF *AEGYPTOBIA*

1. Tarsal claws padlike ..... (*A. macswaini* group) 2
-. Tarsal claws uncinate ..... (*A. tragardhi* group) 6
2. Anterior margin of prodorsum not emarginate ..... *A. prolixa* MEYER
-. Anterior margin of prodorsum emarginate 3
3. Dorsal body setae subspatulate to spatulate (fig. 2,3) 4
-. Dorsal body setae slender (fig. 10) ..... *A. ericae* sp. nov.
4. Dorsal integumentary pattern mostly striate-rugose (fig. 1) 5
-. Dorsal integumentary pattern areolate-rugose (fig. 16) ..... *A. lineati* sp. nov.
5. Rostrum extending to distal end of genu I; ornamentation of dorsum striate-rugose medially and more subareolate-rugose laterally ..... *A. edenvillensis* MEYER
-. Rostrum extending to base of genu I; ornamentation of dorsum striate-rugose (fig. 1) ..... *A. cedermontana* sp. nov.
6. Anterior margin of prodorsum evenly rounded 7
-. Anterior margin of prodorsum indented 8
7. Prodorsum striate; prodorsal setae linear-lanceolate ..... *A. tragardhi* SAYED
-. Prodorsum areolate mediodorsally; prodorsal setae broadly lanceolate, coarsely serrate ..... *A. salixi* ZAHER and YOUSEF
8. Rostrum extending to or beyond distal end of tibia I 9
-. Rostrum not extending to or beyond distal end of tibia I 10
9. Prodorsum smooth mediodorsally; opisthosoma areolate .... *A. pyramidi* EL-ENANY and SOLIMAN
-. Prodorsum areolate mediodorsally; opisthosoma rugose ..... *A. sayedi* YOUSEF
10. Trochanter III with 1 seta; fourth palpal segment without setae 11
-. Trochanter III with 2 setae; fourth palpal segment with 1 seta 13
11. Genital shield strigate-rugose (fig. 44) ..... *A. nasicornensis* sp. nov.
-. Genital shield smooth or coarsely punctate (fig. 48) 12
12. Dorsal body setae with strong, marginal serrations; anterior margin of prodorsum slightly emarginate; dorsal integumentary pattern subareolate-rugose; intercoxal setal area striate ..... *A. odontopilis* MEYER
-. Dorsal body setae without strong, marginal serrations; anterior margin of prodorsum deeply notched; dorsal integumentary pattern areolate-rugose; intercoxal setal area smooth or slightly rugose ..... *A. neobapta* MEYER
13. Genu I and II each with 2 setae 14
-. Genu I and II each with 3 setae ..... *A. eremia* MEYER and GERSON
14. Rostrum extending to distal end of genu I; dorsal integument striate-rugose (fig. 34) ..... *A. monacanthae* sp. nov.
-. Rostrum extending to base of genu I; dorsal integument areolate to areolate-rugose (fig. 26) ..... *A. abuzabiensis* sp. nov.

A. macswaini group

Aegyptobia cedermontana sp. nov.
(figs. 1-8)

This species is similar to *A. ericae* sp. nov., from which it can be distinguished by the spatulate body setae and the shape of the receptaculum seminis.

FEMALE. Dimensions of holotype (measurements indicated parenthetically are variations in the paratype): length of body (including gnathosoma) 338 (347); length (excluding gnathosoma) 275 (285); breadth 180 (193).

Dorsum (fig. 1). Anterior margin of prodorsum emarginate medially; body setae spatulate (fig. 2-3) and finely barbed; prodorsal setae (fig. 2) about a third as long as distance between bases of v2; integumentary pattern mostly costulate-rugose.

Venter. Area posteriad of intercoxal setae IC4a broadly strigate; pregenital area or shield irregularly striate; genital and anal shields striate (fig. 6); intercoxal setae IC3a as long as IC4a; aggenital setae (ag) as long as genital setae (g1-2); genital setae barbed, paired laterally; anal setae (ps1-3) about two thirds as long as genital setae, finely barbed; receptaculum seminis as figured in fig. 4.

Gnathosoma. Rostrum extending to base of genu I; palpus (fig. 5) five-segmented, with 1 seta and 2 eupathidia distally; second palpal segment with 2 dorsal setae.

Legs (figs 7-8). Inclusive counts of setae on legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 3-3-1-0; tibiae 4-4-3-3; dorsal setae on femora I to III and genua I and II similar to dorsal body setae (figs. 7-8); tarsal claws padlike (figs. 7-8).

MALE AND IMMATURE STAGES. Unknown.

Type data. Holotype female and 1 paratype female ex *Anthospermum aethiopicum* L. (*Rubiaceae*), Dwars River, Ceder Mountains, Cape Province, South Africa, 10 September 1991 (E. A. UECKERMANN).

Aegyptobia edenvillensis MEYER

Aegyptobia edenvillensis MEYER, 1979: 119-121.

MEYER (1979) defined this species as having padlike tarsal claws, dorsal body setae spatulate and serrate, dorsal ornamentation striate-rugose medially and more subareolate-rugose laterally.

The following characters supplement MEYER's (1979) description: faint opisthosomal pores present; ventrally, intercoxal setae IC3a and IC4a equal in length, about as long as aggenital setae (ag); genital setae (g1-2) about as long as ag, paired laterally; rostrum extending to about middle of genu I; palpus with 2 eupathidia and 1 seta distally, second palpal segment with 2 setae; setal formula of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 3-3-1-0; tibiae 4-4-3-3.

Host and locality. MEYER (1979) described this species from unidentified grass, Edenville, Orange Free State, South Africa.

Aegyptobia ericae sp. nov.
(figs. 9-15)

This species resembles *A. cedermontana* sp. nov. in that the dorsal integumentary pattern is mostly striate-rugose and the tarsal claws are padlike. However, the dorsal body setae of *A. ericae* are slender while those of *A. cedermontana* are subspatulate to spatulate.

FEMALE. Dimensions of holotype (measurements indicated parenthetically are variations in paratypes): length of body (including gnathosoma) 301 (304-306); length (excluding gnathosoma) 253 (241-247); breadth 157 (155-158).

Dorsum (fig. 9). Anterior margin of prodorsum emarginate medially; body setae (fig. 10) slender, finely barbed; prodorsal setae (v2 and sc1) about two thirds as long as distance between bases of v2 whereas sc2 are about half as long as this distance; opisthosomal setae d1-2, e1-2 and h1 about a third as long as other opisthosomal setae; integumentary pattern mostly costulate-rugose with a strigate-rugose pattern laterally; indistinct pores could be observed behind setae d2.

Venter. Area posteriad of intercoxal setae IC4a finely strigate; pregenital area strigate; genital shield and anal shields strigate (fig. 12); intercoxal setae IC3a as long as IC4a; aggenital setae (ag) as long as genital setae g1; genital setae g2 the longest of the genital setae; genital setae finely barbed, paired laterally; anal setae (ps1-3) relatively short and smooth; receptaculum seminis (fig. 11) oval-shaped.

Gnathosoma. Rostrum extending to about middle of genu I; palpus fig. 13) five-segmented, with 2 eupathidia distally; second palpal segment with 2 setae.

Legs (figs. 14-15). Inclusive counts of setae on legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 3-3-1-0; tibiae 4-4-3-3; dorsal setae on femora and genua I and II similar to body setae; tarsal claws padlike (fig. 14-15).

MALE AND IMMATURE STAGES. Unknown.

Type data. Holotype female and 1 paratype female ex *Erica walkeria* ANDR. (*Ericaceae*), Dwars River, Ceder Mountains, Cape Province, South Africa (E. A. UECKERMANN); 1 paratype female ex mixed vegetation, 8 km from Dwars River (Ceres road), Cape Province, South Africa (M.K.P. SMITH MEYER).

Aegyptobia lineati sp. nov.
(figs. 16-25)

This species resembles *A. edenvillensis* in the spatulate body setae, the padlike tarsal claws and to a certain extent the dorsal sculpturing. However, the dorsocentral setae (c1, d1 and e1) of *A. lineati* tend to be more subspatulate and the ornamentation is more areolate-rugose and not striate-rugose as in *A. edenvillensis*.

FEMALE. Dimensions of holotype (measurements indicated parenthetically are variations in paratypes): length of body (including gnathosoma) 300 (278-303); length (excluding gnathosoma) 243 (228-258); breadth 163 (153-173).

Dorsum (fig.16). Anterior margin of prodorsum emarginate medially; prodorsal setae (fig. 17) spatulate, finely serrate, about a third as long as distance between bases of v2; 3 pairs of dorsocentral setae (c1, d1 and e1) subspatulate (fig 18) whereas other opisthosomal setae are spatulate as prodorsal setae; integumentary pattern areolate-rugose to subareolate-rugose; in some specimens indistinct pores could be observed behind setae d2.

Venter. Area posteriad of intercoxal setae IC4a broadly strigate; pregenital area strigate; genital shield and anal area strigate (fig. 20); intercoxal setae IC3a as long as IC4a; aggenital setae (ag) longer than genital setae (g1-2); genital setae robust, serrate, paired laterally; anal setae (ps1-3) as long as and similar to genital setae; receptaculum seminis (fig. 19) oval to pear-shaped.

Gnathosoma. Rostrum extending slightly beyond femur to base of genu I; palpus (fig. 21) five-segmented, with 1 seta and 2 eupathidia distally, second palpal segment with 2 setae.

Legs (figs. 22-23). Inclusive counts of setae on legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 3-3-1-0; tibiae 4-4-3-3; dorsal setae on femora and genua I and II similar to body setae; tarsal claws padlike (fig. 22-33).

MALE (fig. 24). Dimensions: length (including gnathosoma) 215; length (excluding gnathosoma) 165; breadth 108.

Similar to female except for sexual differences; anterior margin of prodorsum rounded; prodorsal setae and some opisthosomal setae broadly lanceolate; dorsal integument striate-rugose; opisthosoma with transverse striae between dorsocentral setae d1 and e1.

DEUTONYMPHA (fig. 25). Dimensions: length (including gnathosoma) 266; length (excluding gnathosoma) 228; breadth 135. Anterior margin of prodorsum rounded; dorsal setae broadly lanceolate to subspatulate; prodorsum striate-rugose; opisthosoma with transverse lines medially; setal formula of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-0; femora 3-3-2-1; genua 3-3-1-0; tibiae 4-4-3-3.

PROTONYMPHA AND LARVA. Unknown.

Type data. Holotype female and 17 paratypes (15 females, 1 male and 1 deutonympha) ex *Thesium lineatum* L.F. (*Santalaceae*), Karoo National Park, near Beaufort-West, Cape Province, South Africa, 26 September 1988 (E.A. UECKERMANN); 15 paratype females ex unidentified wild shrublet, Never-ending Hills, North of Naukluft Park, Namibia, 22 April 1992 (S. NESER).

A. tragardhi group

Aegyptobia abuzabiensis sp. nov.
(figs. 26-33)

Aegyptobia abuzabiensis has some resemblances to *A. monacanthae* sp. nov, collected together with the former species on *Cornulaca monacantha* in Abu Zabi, in that the dorsal body setae are smooth and without marginal serrations, in the presence of 2 setae on genu III. However, the dorsal body setae of *A. abuzabiensis* are spatulate whereas those of *A. monacanthae* are lanceolate to oblanceolate; the dorsal integumentary pattern of the female is areolate-rugose in *A. abuzabiensis* and striate-rugose in *A. monacanthae*.

FEMALE. Dimensions of holotype (measurements following in parentheses indicate variations in paratypes): length of body (including gnathosoma) 329 (289-337); length (excluding gnathosoma) 253 (244-276); breadth 157 (142-155).

Dorsum (fig. 26). Anterior margin of prodorsum shallowly emarginate medially; body setae spatulate, without marginal serrations, transparent; prodorsal setae about half as long as distance between bases of v2; prodorsum areolate, becoming rugose towards rear; opisthosoma entirely areolate-rugose; strong pores present.

Venter. Intercoxal setae IC3a and IC4a about equal in length; intercoxal setal area lightly striate; area posteriad of IC4a broadly strigate; pregenital shield demarcated by broad, concave striae, slightly rugose; aggenital setae (ag) finely serrate, about twice as long as genitals (g1-2) which are also finely serrate, nearly equally spaced; inner pair (g1) posteriad of outer pair (g2); genital and anal shields (fig. 27) punctate; 3 pairs of anal setae (ps1-3) finely serrate, shorter than genitals (g1-2); receptaculum seminis as depicted in fig. 28.

Gnathosoma. Rostrum extending beyond femur to base of genu I; palpus five-segmented, with 3 distal eupathidia, 2 setae on second segment and 1 seta on fourth segment (fig. 29).

Legs (figs. 30-31). Setal formula for legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 2-2-1-0; tibiae 4-4-3-3; dorsal setae on femora and genua I spatulate as body setae; tarsal claws uncinate (figs. 30-31).

MALE (fig. 32). Dimensions: length of body (including gnathosoma) 235; length (excluding gnathosoma) 188; breadth 101.

Similar to female in most respects except sexual differences.

DEUTONYMPHA (fig. 33). Dimensions: length of body (including gnathosoma) 290; length (excluding gnathosoma) 228; breadth 152.

Anterior margin of prodorsum rounded; prodorsal setae narrowly lanceolate, serrate, about half as long as distance between bases of v2; prodorsum smooth mediodorsally and lineate laterally; opisthosomal setae c3, similar to prodorsal setae; rest of opisthosomal setae similar to those of female; opisthosoma striate-rugose; setal formula for legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-0; femora 3-3-2-1; genua 2-2-1-0; tibiae 4-4-3-3.

PROTONYMPHA AND LARVA. Unknown.

Type data. Holotype female and 15 paratypes (13 females, 1 male and 1 deutonympha) ex *Cornulaca monacantha* DEL. (*Chenopodiaceae*), Abu-Zabi (Abu-Dhabi), United Arab Emirates, 19 July 1982 (W. HELLE).

Aegyptobia eremia MEYER and GERSON

Aegyptobia eremia MEYER and GERSON, 1981: 77-80.

Distinguished from other related species by the shape of the dorsal body setae, which are obovate, without marginal serrations but with obscure transverse lines over the surface of the seta.

The following descriptive notes supplement MEYER and GERSON's (1981) description: dorsal integument areolate; intercoxal setal area with a few indistinct striae; area posteriad of intercoxal setae IC4a broadly strigate; pregenital area outlined by incurved lines; aggenital setae (ag) about as long as intercoxal setae IC3a and IC4a; genital shield faintly punctate, with 2 pairs of genital setae (g1-2), slightly barbed, paired laterally, shorter than aggenital setae; anal setae (ps1-3) shorter than genitals and also slightly barbed; rostrum extending to distal end of genu I; palpus five-segmented, with 3 eupathidia on distal segment, 2 setae on second segment and 1 short seta on fourth segment; setal formula of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 3-3-1-0; tibiae 4-4-3-3; tarsal claws uncinate.

Hosts and locality. *Aegyptobia eremia* was collected on *Hammada scoporia* (POMEL) ILJIN (*Chenopodiaceae*) and *Salsola* sp. (*Chenopodiaceae*) in Yeroham and Nahal Boqer, Israel.

Aegyptobia monacanthae sp. nov.
(figs, 34-40)

Aegyptobia monacanthae resembles *A. abuzabiensis* sp. nov. most closely, especially in the smooth dorsal body setae, which are devoid of marginal serrations and in the presence of 2 setae on genu III, but *A. monacanthae* has lanceolate to oblanceolate dorsal body setae and a striate-rugose integumentary pattern.

FEMALE. Dimensions of holotype (measurements following in parentheses indicate variations in paratypes): length of body (including gnathosoma) 334 (325-342); length (excluding gnathosoma) 261 (253-272); breadth 155 (146-184).

Dorsum (fig. 34). Anterior margin of prodorsum shallowly notched medially; prodorsal setae (fig. 35) lanceolate, nude, transparent, prodorsal setae v2 and sc1 about half as long as distance between bases of v2 whereas sc2 are less than half the length of this distance; opisthosomal setae (fig. 36) lanceolate to oblanceolate; prodorsum striate-rugose; opisthosoma striate-rugose, with subareolate-rugose lateral areas between e1 and e2; indistinct pores present posteriad of d2.

Venter. Intercoxal setae IC3a and IC4a about equal in length and shorter than aggenital setae (ag); intercoxal setal area finely striated; area posteriad of intercoxal setae IC4a broadly strigate; pregenital shield demarcated by broad, concave striae, slightly rugose; aggenital setae (ag) about twice as long as genital setae (g1-2),

sparsely barbed, paired laterally; genital and anal shields (fig. 37) punctate; anal setae (ps1-3) about half as long as genitals, sparsely barbed.

Gnathosoma. Rostrum extending beyond femur and genu to base of tibia I; palpus five-segmented, with 3 eupathidia distally, 2 setae on second segment and 1 seta on fourth segment (fig. 38).

Legs (figs, 39-40). Setal counts of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 2-2-1-0; tibiae 4-4-3-3; dorsal setae on femora and genua I and II oblanceolate ; tarsal claws uncinate (figs. 39-40).

MALE AND IMMATURE STAGES. Unknown.

Type data. Holotype female and 2 paratype females ex *Cornulaca monacantha* DEL. (*Chenopodiaceae*), Abu-Zabi (Abu-Dhabi), United Arab Emirates, 19 July 1982 (W. HELLE).

Aegyptobia nasicornensis sp. nov.
(figs. 41-47)

This species resembles *A. odontopilis* MEYER in that the anterior margin of the prodorsum is indented medially, in the spatulate, serrate dorsal body setae, in the uncinate tarsal claws and the presence of opisthosomal pores. However, the pregenital and genital shields of *A. nasicornensis* are striated and not smooth as in *A. odontopilis*; the dorsal body setae are finely serrated and broader.

FEMALE. Dimensions of holotype (measurements indicated parenthetically are variations in paratypes): length of body (including gnathosoma) 285 (256-289); length (excluding gnathosoma) 241 (222-249); breadth 149 (135-142).

Dorsum (fig. 41). Anterior margin of prodorsum emarginate medially; body setae broadly spatulate (figs. 42-43), finely serrate; prodorsal setae (fig. 42) about a third as long as distance between bases of v2; prodorsal pattern striate-rugose, with areolate-rugose spots on antero-medial and postero-lateral areas of prodorsum; pattern on opisthosoma subareolate-rugose; opisthosomal pores posteriad of setae d2.

Venter. Area posteriad of intercoxal setae IC4a broadly strigate; pregenital area irregularly striated; genital and anal shields strigate (fig. 44); intercoxal setae IC3a and IC4a, aggenital setae (ag) and genital setae (g1-2) about equal in length; aggenital and genital setae finely barbed; genital setae paired laterally; anal setae (ps1-3) about half as long as and similar to genital setae; receptaculum seminis a long, simple duct - no bulb could be detected.

Gnathosoma. Rostrum extending to about distal end of genu I; palpus (fig. 45) five-segmented, with 1 seta and 2 eupathidia distally; second palpal segment with 2 setae.

Legs (figs. 46-47). Inclusive counts of setae on legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-1-1; femora 4-4-2-1; genua 3-3-0-0; tibiae 4-4-3-3; dorsal setae on femora I to III and genua I and II similar to dorsal body setae; tarsal claws uncinate (figs. 46-47).

MALE AND IMMATURE STAGES. Unknown.

Type data. Holotype female and 10 paratype females ex *Aptosimum spinescens* (THUNB.) WEBER (*Scrophulariaceae*), Pofadder, Cape Province, South Africa, 16 September 1983 (E. A. UECKERMANN).

Aegyptobia neobapta MEYER
(fig. 48)

Aegyptobia neobaptus MEYER, 1979: 125-126; MEYER and UECKERMANN, 1989: 18-19.

Aegyptobia neobapta is separated from *A. odontopilis* MEYER by the areolate-rugose, dorsal integumentary pattern and the dorsal, spatulate setae, which are devoid of strong marginal serrations but with spiked surfaces.

The following characters supplement MEYER's (1979) description: anterior margin of prodorsum deeply notched; opisthosoma areolate-rugose; areolae forming a transverse line between dorsocentral setae d1 and e1; opisthosoma with prominent pores; intercoxal setae IC3a and IC4a equal in length and slightly longer than aggenital setae (ag); intercoxal setal area smooth or indistinctly rugose; area posteriad of IC4a broadly strigate; pregenital and genital shields (fig. 48) punctate; aggenital setae (ag) longer than genital setae (g1-2) which are paired laterally; inner pair (g1) posteriad of outer pair (g2); anal setae (ps1-3) shorter than genitals; rostrum extending to distal end of genu I; palpus five- segmented, with 2 eupathidia and 1 seta distally, second segment with 2 setae; counts of setae on podomeres of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-1-1; femora 4-4-2-1; genua 3-3-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

Hosts and localities. MEYER (1979) described this species from *Diospyros lycioides* DESF. subsp. *lycioides* (*Ebenaceae*), *Populus alba* L. (*Salicaceae*), *Walafrida saxatilus* (E. MEY) ROLFE (*Selaginaceae*) collected in various localities in the Cape Province. It was also collected on *Aptosimum albomarginatum* MARLOTH and ENGL. (*Scrophulariaceae*) in the Kalahari Gemsbok National Park in South Africa.

Aegyptobia odontopilis MEYER
(fig. 49)

Aegyptobia odontopilis MEYER, MEYER and UECKERMANN, 1989: 19-20.

Aegyptobia odontopilis appears to be allied to *A. nasicornensis* sp. nov. and *A. neobapta* MEYER. From these species *A. odontopilis* differs most notably in the strongly serrated, spatulate, dorsal body setae.

The following descriptive notes will serve to supplement MEYER's description in MEYER and UECKERMANN (1989): anterior margin of prodorsum conical, slightly emarginate; dorsal integumentary pattern subareolate-rugose; areolae forming a transverse line between dorsocentral setae d1 and e1; opisthosoma with pores; intercoxal setal area striate: area posteriad of intercoxal setae IC4a broadly strigate;

pregenital shield smooth or with a few indistinct striae; genital shield coarsely punctate (fig. 49); setae IC3a, IC4a and ag about equal in length; genital setae (g1-2) finely barbed, about half as long as aggenital setae (ag), paired laterally; inner pair (g1) posteriad of outer pair (g2); anal setae (ps1-3) shorter than genital setae; rostrum extending beyond femur to about distal end of genu I; palpus with 2 eupathidia and 1 seta distally, second segment with 2 setae; chaetotaxy of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-1-1; femora 4-4-2-1; genua 3-3-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

Host and locality. This species was collected on *Aptosimum marlothii* (ENGL.) HIERN. (*Scrophulariaceae*) in the Kalahari Gemsbok National Park, Cape Province, South Africa.

Aegyptobia prolixa MEYER

Aegyptobia prolixa MEYER, 1979: 116-119.

Distinguished from all other species by the elongate body.

The following characters supplement MEYER's (1979) description: anterior margin of prodorsum slightly truncate, entire; dorsal body setae slender, sparsely barbed; prodorsum striate-rugose, with lines running obliquely on dorsolateral areas; area posteriad of sejugal suture with transverse lines or streaks; opisthosoma subareolate-rugose between dorsocentral setae c1 and d1; area posterior to d1-2 striate; pores absent; intercoxal setae IC3a and IC4a equal in length to aggenital setae (ag), which are about half as long as genital setae (g1-2), paired laterally; inner pair (g1) posteriad of outer pair (g2); intercoxal setal area striate; pregenital area and genital shield rugose; anal shields rugose, with 3 pairs of setae (ps1-3); rostrum extending beyond femur to base of genu I; palpus five-segmented, with 3 distal eupathidia, second segment with 2 setae and fourth segment with 1 seta; setal formula of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 3-3-1-0; tibiae 4-4-3-3; tarsal claws padlike.

Host and locality. This species was recorded from South Africa, collected from grass and soil, Ngotsche, near Pongola, Natal.

Aegyptobia pyramidi EL-ENANY and SOLOMAN

Aegyptobia pyramidi EL-ENANY and SOLOMAN, 1987: 1-7.

Aegyptobia pyramidi is easily recognised by the female prodorsum, which is smooth mediodorsally whereas the rest of the prodorsum and opisthosoma are areolate.

The following descriptive notes will serve to distinguish this species: anterior margin of prodorsum strongly convex, nearly pointed, deeply notched medially; body setae spatulate, serrate, subequal in length; prodorsum smooth mediodorsally,

areolate laterally and strigate posteriorly; pores absent; intercoxal setae IC3a and IC4a much longer than aggenital setae (ag), which are about twice as long as genital setae (g1-2); the latter setae are more or less in a transverse row, paired laterally; 3 pairs of anal setae (ps1-3) present; rostrum extending to distal end of tibia I; palpus five-segmented, with 1 eupathidium and 2 setae distally, second and fourth segment each with 1 seta; chaetotaxy of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 3-3-1-0; tibiae 5-4-3-3; tarsal claws uncinate.

Host and locality. This species was collected on a desert plant in Egypt.

Aegyptobia salixi Zaher and Yousef

Aegyptobia salixi Zaher and Yousef, 1969: 273-275.

Aegyptobia salixi is readily distinguished by the areolate pattern mediodorsally on the female prodorsum; rest of dorsal integument virtually smooth.

The following combination of characters is also distinctive for the female of this species: anterior margin of prodorsum convex, entire; body setae broadly lanceolate and coarsely serrate; pores absent; intercoxal setae IC3a and IC4a long and nearly equal in length; venter of body smooth except for some lines bordering genital and anal shields; genital shield with 2 pairs of genital setae (g1-2), paired laterally; anal shields with 3 pairs of setae (ps1-3); rostrum extending beyond femur to distal end of genu I; palpus five-segmented, with 1 eupathidium and 2 setae on distal segment, second and fourth segments each with 1 seta; tarsal claws uncinate.

Host and locality. This species was found on *Salix* sp. (*Salicaceae*) in Egypt.

Aegyptobia sayedi Yousef

Aegyptobia sayedi Yousef, 1971: 135-136.

The following characters will serve to distinguish the female of *A. sayedi*: anterior margin of prodorsum deeply notched medially; dorsal body setae broadly lanceolate, coarsely serrate; first pair of prodorsal setae (v2) about half as long as distance between their respective setal bases; prodorsum areolate; opisthosoma lightly rugose; pores absent; intercoxal setae IC3a longer than IC4a; venter of body smooth; aggenital setae (ag) shorter than genital setae (g1-2), which are paired laterally; anal shields with 3 pairs of setae (ps1-3); rostrum extending beyond femur and genu to middle of tarsus I; palpus five-segmented; with 1 eupathidium and 2 short setae on distal segment, second segment with 2 setae and fourth segment with 1 seta; tarsal claws uncinate.

Host and locality: This species was described from *Cupressus sempervirens* L. (*Cupressaceae*) in Egypt.

Aegyptobia tragardhi SAYED

Aegyptobia tragardhi SAYED, 1950: 1018-1019.

Female *A. tragardhi* is distinguished by the following characters: anterior margin of prodorsum rounded, entire; prodorsal setae slender, finely serrate, slightly shorter than half the distance between bases of v2; opisthosomal setae c1-3 and d1-2 similar to prodorsal setae whereas the rest of the dorsal opisthosomal setae are broadly lanceolate, serrate; prodorsum finely striate; area posteriad of opisthosomal setae c1-3 with curved to transverse striae and behind setae d1-2 curved to longitudinal; pores absent; intercoxal setae IC3a and IC4a long; area posteriad of IC4a strigate; aggenital setae (ag) shorter than genital setae (g1-2), which are paired laterally; genital shield smooth; anal shields with 3 pairs of setae (ps1-3); rostrum extending beyond femur and genu to base of tibia I; palpus five-segmented, with 3 eupathidia on distal segment, second segment with 2 setae and fourth segment with 1 seta; tarsal claws uncinate.

Host and locality. This species was collected on *Platycladus orientalus* (L.) FRANCO (*Cupressaceae*) in Egypt.

Pentamerismus MCGREGOR, 1949

Pentamerismus MCGREGOR, 1949: 23; MEYER, 1979: 128-130; BAKER and TUTTLE, 1987: 111-112.

Type-species: *Tenuipalpus erythreus* EWING, by original designation.

Pentamerismus shares many characters in common with *Aegyptobia* SAYED and can be diagnosed as follows: Palpus five-segmented, with or without seta on second segment, with 3 phaneres on distal segment; without rostral shield; prodorsum with 3 pairs of setae (v2, sc1-2); opisthosoma with 7 pairs (c3, d3, e3, f2-3, h1-2) to 8 pairs of dorsolateral setae (c3, d3, e2-3, f2-3, h1-2), 2 pairs of dorsosublateral setae (c2 and d2), and 3 pairs of dorsocentral setae (c1, d1, e1); genital shield well defined posteriorly, with 2 pairs of genital setae (g1-2); intercoxal setae IC3a and IC4a and 1 pair of aggenital setae (ag) are present.

According to BAKER and TUTTLE (1987) the members of this genus possess 3 pairs of anal setae. However, *P. collinus*, a new species described here, has only 2 pairs of anal setae. This genus is further characterised by the tarsal claws which are uncinate; body ovate to obovate.

Based on the number of dorsolateral opisthosomal setae BAKER and TUTTLE (1987) divided this genus into 2 groups:

1. *P. oregonensis* group, with 7 pairs of dorsolateral setae. The 3 species dealt with here viz. *P. collinus* sp. nov., *P. foetidae* (MEYER) and *P. retusus* MEYER belong to this group.

2. *P. erythreus* group - species in this group has 8 pairs of dorsolateral setae and is not represented here.

The following key is based on females:

KEY TO SOME SPECIES OF *PENTAMERISMUS*

1. Opisthosoma with 7 pairs of dorsolateral setae (fig. 50) ..... (*P. oregonensis* group) 2
-. Opisthosoma with 8 pairs of dorsolateral setae ..... (*P. erythreus* group)
2. With 2 pairs of anal setae (fig. 54); intercoxal setae IC3a and IC4a flagelliform ..... *P. collinus* sp. nov.
-. With 3 pairs of anal setae (fig. 58); intercoxal setae IC3a and IC4a relatively short (fig. 58) 3
3. Reticulate pattern on median part of prodorsum and posteriad of opisthosomal setae c1-2; rostrum extending to about distal end of tibia I ..... *P. foetidae* (MEYER)
-. Prodorsum rugose medially; opisthosoma strigate posteriad of setae c1-2; rostrum extending to about distal end of genu I ..... *P. retusus* MEYER

Pentamerismus collinus sp. nov.
(figs. 50-56)

Like the species of *Phytoptipalpus*, *Pentamerismus collinus* has 2 pairs of anal setae (ps1-2) but the opisthosoma is provided with 2 pairs of dorsosublateral setae and not 4 pairs. Therefore this species is classified under *Pentamerismus*.

FEMALE. Dimensions of holotype (measurements following in parentheses indicate variations in paratypes): length of body (including gnathosoma) 373 (344-395); length (excluding gnathosoma) 317 (317-332); breadth 177 (158-203).

Dorsum (fig. 50). Anterior margin of prodorsum convex; body setae spatulate (fig. 51) to palmate (fig. 52), serrate; prodorsal setae about half as long as distance between bases of v2; integumentary pattern rugose; pores absent.

Venter. Intercoxal setae IC3a and IC4a flagelliform; intercoxal setal area and area posteriad of IC4a finely strigate; aggenital setae (ag) sparsely barbed, shorter than genital setae (g1-2) which are also sparsely barbed, paired laterally; inner pair (g1) anteriad of outer pair (g2); genital shield (fig. 54) with well defined, rounded, posterior margin, with a few striae; anal shields striated, bearing 2 anal setae (ps1-2); ps1 broadly lanceolate, serrate, longer than ps2 which are setiform and sparsely barbed (fig. 54).

Gnathosoma. Rostrum extending to about basal half of genu I; palpus (fig. 53) five-segmented, with 1 seta and 2 eupathidia distally, 2 setae on second segment and 1 seta on fourth segment.

Legs (figs. 55-56). Chaetotaxy of legs I to IV as follows: coxae 2-2-1-1; femora 3-3-2-1; genua 2-1-0-0; tibiae 4-4-3-3. Dorsal setae on femora I to III and genua I subspatulate to spatulate; tarsi with uncinate claws (figs. 55-56).

MALE AND IMMATURE STAGES. Unknown.

Type data. Holotype female and 3 paratype females ex *Passerina falcifolia* C.H.

WR. (*Thymelaceae*), Meiringspoort, Cape Province, South Africa, 23 September 1989 (E.A. UECKERMANN).

Pentamerismus foetidae (MEYER) comb. nov.

Aegyptobia foetidae MEYER, 1979: 120-121.

MEYER (1979) classified this species under the genus *Aegyptobia* because the third pair of dorsolateral setae are more in a line with the 2 pairs of dorsosublateral setae than with the other dorsolaterals. However the consecutive pair which were taken as the fourth pair of dorsosublaterals are more in a lateral position. Thus this species has 2 pairs of dorsosublateral and 7 pairs of dorsolateral setae and was erroneously placed in *Aegyptobia*.

The following descriptive notes will serve to distinguish this species: anterior margin of prodorsum slightly truncate; dorsal body setae broadly spatulate, serrate; prodorsal setae v2 nearly half as long as distance between their respective setal bases; prodorsum areolate dorsomedially and broadly striate laterally; opisthosoma strigate between sejugal suture and first pair of dorsocentral setae (c1); area between dorsocentral setae c1 and d1 subareolate-rugose; transverse lines posteriad of d1-2 separating metapodosoma from posterior part of opisthosoma, which are striate-rugose; pores absent; intercoxal setae IC3a and IC4a short, equal in length to aggenital setae, which are finely barbed; intercoxal setal area striate, with lines forming a biconcave pattern; area posteriad of IC4a strigate; genital shield with well defined, rounded, posterior margin, bearing 2 pairs of setae (g1-2), barbed, paired laterally, more robust than aggenital setae (ag) and about as long as these setae; 3 pairs of anal setae (ps1-3) robust, barbed, shorter than genital setae; ps3 shorter than ps1-2; rostrum extending beyond femur and genu to distal end of tibia I; palpus five-segmented, distal segment with 2 eupathidia and a small seta, second segment with 2 setae; setal formula for legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 2-2-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

Host and locality. This species was recorded from *Zygophyllum foetidum* SCHRAD. and WENDL. (*Zygophyllaceae*), Vanrhynsdorp, Cape Province, South Africa.

Pentamerismus retusus MEYER
(figs. 57-58)

Pentamerismus retusus MEYER, 1979: 130.

The following descriptive notes will serve to distinguish the female of *P. retusus*: anterior margin of prodorsum rounded; prodorsal setae broadly lanceolate to subspatulate, serrate; prodorsal setae v2 about a third as long as distance between their respective setal bases; opisthosomal setae spatulate, serrate, becoming broader towards rear; prodorsum rugose dorsomedially and broadly striate laterally; opisthosoma

broadly strigate between setae c1-2 and d1-2, broadly striate posteriorly and laterally; pores absent; intercoxal setae IC3a and IC4a about equal in length, slightly longer than aggenital setae (ag); intercoxal area with striae running obliquely medially, transverse between IC3a and IC4a; area posteriad of IC4a strigate; genital shield (fig. 58) with well defined rounded, posterior margin, bearing 2 pairs of setae (g1-2), linear, barbed, paired laterally; anal setae ps3 similar to genitals but shorter, ps1-2 broader, lanceolate, serrate, longer than ps3; rostrum extending beyond femur to distal end of genu I; palpus five-segmented, distal segment with 3 eupathidia of which one is minute, second segment with 2 setae; chaetotaxy of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 2-2-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

MEYER (1979) described and figured only the female of this species; the deutonymph is described below:

DEUTONYMPHA (fig. 57). Dimensions: length of body (including gnathosoma) 263; length (excluding gnathosoma) 218; breadth 127.

Anterior margin of prodorsum rounded; prodorsal setae narrowly lanceolate, serrate, about half as long as distance between bases of v2; opisthosomal setae c1-2 similar to prodorsal setae; rest of opisthosomal setae spatulate, serrate, becoming broader towards rear; prodorsum striate, slightly irregular mediodorsally and dorsolaterally; opisthosoma strigate mediodorsally, becoming irregular dorsolaterally; striae longitudinal behind dorsocentral setae e1; setal formula for legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-0; femora 3-3-2-1; genua 2-2-0-0; tibiae 4-4-3-3.

Hosts and localities. This species was described from *Zygophyllum simplex* L. (*Zygophyllaceae*), Swartkop, near Upington, Cape Province, South Africa.

A new record is from: *Zygophyllum* sp., Klein Tinkas, Namib Nauklugy Park, Namibia, 23 April 1992 (S. NESER).

Phytoptipalpus TRÄGÅRDH, 1904

Phytoptipalpus TRÄGÅRDH, 1904: 9; MEYER, 1979: 111-112; BAKER & TUTTLE, 1987: 115.

Type-species: *Phytoptipalpus paradoxus* TRÄGÅRDH, by original designation.

The genus *Phytoptipalpus* is characterised as follows: palpus five-segmented, distal segment with 3 phaneres, second and fourth segments with or without setae; prodorsum with 3 pairs of setae (v2, sc1-2); opisthosoma with 5 pairs (c3, d3, f3, h1-2) to 6 pairs of dorsolateral setae (c3, d3, e3, f3, h1-2), 4 pairs of dorsosublateral setae (c2, d2, e2, f2) and 3 pairs of dorsocentral setae (c1, d1, e1); pregenital shield absent; genital shield well defined posteriorly, with 2 pairs of genital setae (g1-2); 1 pair of aggenital setae (ag) anteriad of genital shield; intercoxal setae IC3a and IC4a and 2 pairs of anal setae (ps1-2) present; tarsal claws uncinate; body form ovate to obovate.

Remarks. BAKER & TUTTLE (1987) questioned the significance of the possessing of 3 pairs of legs in certain species as a generic character. They considered this

character as aberrant. Based primarily on the number of dorsolateral setae on the opisthosoma BAKER & TUTTLE (1987) grouped the members of this genus as follows:

P. cercidium group

Species that belong in this group have 6 pairs of dorsolateral setae. The following species dealt with in this paper, belong here: *P. aegyptetrapodus* ZAHER and YOUSEF, *P. harveyi* nom. nov., *P. multistriatum* (MEYER), *P. muukuorum* Meyer, *P. nyalai* (MEYER).

P. paradoxus group

This group contains those species which have 5 pairs of dorsolateral setae. The following species are assigned to this group: *P. alexandriae* sp. nov., *P. kalahariensis* (MEYER), *P. paradoxus* TRÄGÅRDH.

The following key is based primarily on the females:

KEY TO SOME SPECIES OF *PHYTOPTIPALPUS*

1. Opisthosoma with 6 pairs of dorsolateral setae (fig. 60) ..... (*P. cercidium* group) 2
-. Opisthosoma with 5 pairs of dorsolateral setae (fig. 61) ..... (*P. paradoxus* group) 6
2. With 4 pairs of legs 3
-. With 3 pairs of legs ..... *P. muukuorum* MEYER
3. Dorsal body setae spatulate to broadly lanceolate; dorsal integument areolate to rugose 4
-. Dorsal body setae linear; dorsal integument striate .... *P. aegyptetrapodus* ZAHER and YOUSEF
4. Prodorsum with a thick-walled reticulum medially, with broadly lanceolate dorsal body setae ..... *P. nyalai* (MEYER)
-. Prodorsum rugose, with spatulate dorsal body setae 5
5. Dorsal integument rugose-costate (fig. 60); anterior margin of prodorsum entire, rounded; rostrum extending to about middle of genu I .... *P. multistriatum* (MEYER)
-. Dorsum with a confused, irregular, rugose pattern; anterior margin of prodorsum notched medially; rostrum extending to about basal quarter of tarsus I .... *P. harveyi* nom. nov.
6. With 4 pairs of legs 7
-. With 3 pairs of legs ..... *P. paradoxus* TRÄGÅRDH
7. Prodorsum virtually smooth; dorsal body setae broadly spatulate .... *P. kalahariensis* (MEYER)
-. Prodorsum broadly striate laterally; dorsal body setae narrowly to broadly lanceolate to subspatulate; setae h1 broadly spatulate (fig. 61) ..... *P. alexandriae* sp. nov.

P. cercidium group

Phytoptipalpus aegyptetrapodus ZAHER and YOUSEF

Phytoptipalpus aegyptetrapodus ZAHER and YOUSEF, 1969: 275-277.
Aegyptobia aegyptetrapoda (ZAHER and YOUSEF), MEYER, 1979: 123.

The following descriptive notes will serve to distinguish this species: anterior margin of prodorsum rounded; prodorsal setae slender, finely serrate; first pair of prodorsal setae (v2) shorter than half the distance between their respective setal bases, second pair (sc1) somewhat longer, third pair (sc2) the longest; opisthosomal setae similar to prodorsal setae; prodorsum strigate anteromedially, with irregular striae laterally and posteromedially; opisthosoma strigate between first (c1) and third (e1) dorsocentral setae, with irregular striae laterally; pores absent; intercoxal setae IC3a and IC4a relatively short, equal in length, about 3 to 4 times as long as aggenital setae (ag) which are shorter than genital setae (g1-2), paired laterally; 2 pairs of short anal setae (ps1-2); intercoxal setal area and area posteriad of IC4a strigate; rostrum extending to about distal end of genu I; body oval, with 4 pairs of legs.

Host and locality. This species was described in Egypt from *Acacia nilotica* (L.) WILLD. ex DEL. (*Mimosaceae*).

Phytoptipalpus harveyi nom. nov.

Aegyptobia albiziae MEYER, 1979: 125 (nom. pre-occ. *Phytoptipalpus albizziae* PRITCHARD & BAKER, 1958).

When MEYER (1979) originally described this species under the genus *Aegyptobia*, the name *A. albiziae* was valid. However, after it was transferred to *Phytoptipalpus* the name *P. albiziae* became a secondary homonym of *P. albizziae* PRITCHARD & BAKER. Therefore *P. harveyi* is proposed as the new name for *P. albiziae* (MEYER).

We are giving a short diagnosis of this species and add some undescribed characters to MEYER's (1979) description. The long rostrum extending to about the basal quarter of tarsus I, the notched prodorsal anterior margin and the confused, irregular pattern of the dorsum easily separate *P. harveyi* from related species. Opisthosoma devoid of pores; intercoxal setae IC3a and IC4a elongate and not short as depicted by MEYER (1979), being about 4 times as long as aggenital setae (ag); area posteriad of IC4a broadly strigate; pregenital area and genital shield coarsely strigate; aggenital setae (ag) about as long as genital setae (g1-2) which are robust, serrate and paired laterally; anal setae ps2 slightly shorter than ps1 and genital setae (g1-2); anal setae ps1 as long as genital setae but stouter; five-segmented palpus with 3 eupathidia on distal segment, 2 setae on second segment and 1 seta on fourth segment; chaetotaxy of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 2-2-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

Host and locality. This species was described from *Albizia harveyi* FOURN. (*Mimosaceae*), Kruger National Park, Transvaal, South Africa.

Phytoptipalpus multistriatum (MEYER) comb. nov.
(figs. 59-60)

Aegyptobia multistriatum MEYER, 1979: 123-125.

This species appears to be nearest to *P. harveyi* nom. nov. from which it differs in the dorsal integumentary pattern, the rounded anterior margin of the prodorsum and the rostrum, which extends to about the base of tibia I.

The following additional data have been obtained for this species from newly collected specimens: dorsal body setae spatulate, serrate; prodorsal setae v2 about half as long as distance between their respective setal bases; prodorsum (fig. 60) striate-rugose; opisthosoma (fig. 60) subareolate-rugose, with a transverse break in pattern anteriad of second pair of dorsocentral setae (d1); pores absent; intercoxal setae IC3a and IC4a flagelliform; intercoxal setal area strigate; area posteriad of IC4a coarsely strigate; genital shield (fig. 59) with well defined, rounded posterior margin, punctate, bearing 2 pairs of setae (g1-2), lanceolate, serrate, paired laterally, about as long as aggenital setae (ag) which are similar to genitals; anal setae (ps1-2) lanceolate, serrate, ps1 stout, about twice as long as ps2; palpus five-segmented, with 3 distal eupathidia, second segment with 2 setae and fourth segment with 1 seta; chaetotaxy of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-1-1; genua 1-1-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

Hosts and localities. This species was first described from *Acacia karroo* HAYNE (*Mimosaceae*), Pretoria, Transvaal, South Africa. MEYER and UECKERMANN (1989) recorded it from the Kalahari Gemsbok National Park, Cape Province, South Africa on *A. erioloba* E. MEY. and *A. reficiens* WAWRA subsp. *reficiens*.

A new record is from: *A. albida* DEL., 22 km East of Gobabeb, Namibia, 10 February 1980 (P.D. THERON).

Phytoptipalpus muukuorum MEYER

Phytoptipalpus muukuorum MEYER, 1979: 112.

Phytoptipalpus muukuorum resembles the type-species, *P. paradoxus* in general habitus, in possessing 3 pairs of legs, in the patterning of the dorsal integument and the shape of the dorsal body setae but differs in the presence of 6 pairs of dorsolateral setae.

The following additional characters supplement MEYER's (1979) description: anterior margin of prodorsum rounded; prodorsal setae slender, serrate; opisthosomal setae similar to prodorsal setae except that these setae becoming more robust towards rear; prodorsum rugose-striate, with lines forming an irregular, confused pattern

dorsomedially; opisthosoma strigate, pores absent; intercoxal setae IC3a and IC4a flagelliform; intercoxal setal area, area posteriad of IC4a and pregenital area strigate; genital shield with well defined, rounded posterior margin, coarsely strigate, with 2 pairs of serrate genital setae (g1-2), about half as long as aggenital setae (ag), paired laterally; anal setae ps2 about half as long as ps1, which are slightly shorter than the genital setae; rostrum extending to about base of tibia I; palpus five-segmented, with 2 eupathidia and 1 very small seta distally, second segment with 2 setae and fourth segment with 1 seta; setal formula of legs I to IV as follows: coxae 2-2-1; trochanters 1-1-2; femora 3-3-1; genua 0-0-0; tibiae 4-4-3; tarsal claws uncinate.

Host and locality. *Phytoptipalpus muukuorum* is known only from *Acacia karroo* HAYNE (*Mimosaceae*), Pienaarspoort, 16 km from Pretoria, Transvaal, South Africa.

Phytoptipalpus nyalai (MEYER) comb. nov.

Aegyptobia nyala MEYER, 1979: 123.

A distinctive species which is distinguished by the areolate pattern on the prodorsum, the divided opisthosoma and the broadly lanceolate to spatulate, serrate dorsal body setae.

The following descriptive notes supplement MEYER's (1979) description: prodorsum areolate dorsomedially; opisthosoma areolate-rugose, divided posteriad of second pair of dorsocentral setae (d1); pores absent; intercoxal setae IC3a and IC4a flagelliform; intercoxal setal area and area posteriad of IC4a broadly strigate; pregenital area outlined by incurved and transversal lines; genital shield with well-defined, rounded, posterior margin, bearing 2 pairs of setae (g1-2), barbed, paired laterally, about as long as aggenital setae (ag); anal setae ps2 shorter than ps1, which are shorter as, but stouter than genital setae; rostrum extending beyond femur and genu to about distal end of tibia I; palpus five-segmented, with 3 eupathidia distally, second segment with 2 setae, fourth segment with 1 seta; chaetotaxy of legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 2-2-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

Host and locality. This species was found on *Dichrostachys cinerea* (L.) WIGHT and ARN. (*Mimosaceae*) in the Kruger National Park, Transvaal, South Africa.

P. paradoxus group

Phytoptipalpus alexandriae sp. nov.
(figs. 61-70)

A distinctive species based on its dorsal integumentary pattern and the shape of the dorsal body setae; prodorsum coarsely striated laterally and opisthosoma broadly

strigate; dorsal body setae vary from being narrowly lanceolate to subspatulate; with fourth pair of dorsocentral setae (h1) broadly spatulate.

FEMALE. Dimensions of holotype (measurements indicated parenthetically are variations in paratypes): length of body (including gnathosoma) 313 (292-347); length (excluding gnathosoma) 253 (240-279); breadth 171 (142-196).

Dorsum (fig. 61). Anterior margin of prodorsum evenly rounded; prodorsal setae broadly lanceolate to subspatulate, strongly serrate; prodorsal setae (v2) about two thirds as long as the distance between their respective setal bases whereas sc1-2 are about as long as this distance; opisthosomal setae narrowly to broadly lanceolate (fig. 62-63), with setae c3 subspatulate and h1 broadly spatulate; prodorsum with coarse striae laterally and mediodorsal area smooth (fig. 61); opisthosoma broadly strigate (fig. 61).

Venter. Area posteriad of intercoxal setae IC4a finely strigate, pregenital area striate; genital shield rugose; anal shields smooth (fig. 64); intercoxal setae IC3a and IC4a flagelliform; aggenital setae (ag) serrated and longer than genital setae (g1-2); genital setae serrated, paired laterally; anal setae ps2 about half the length of genital setae and finely serrate, ps1 about two thirds as long as genital setae, lanceolate and finely serrate; sacculus of receptaculum seminis (fig. 65) oval.

Gnathosoma. Rostrum extending beyond genu to about distal part of tibia I; palpus (fig. 66) five-segmented, with 1 short seta and 2 eupathidia distally, second segment with 2 setae, fourth segment with 1 dorsal seta.

Legs (figs. 67-68). Inclusive counts of setae on legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 3-3-2-1; genua 2-1-0-0; tibiae 4-4-3-3; dorsal setae on femora I to III and genua I similar to body setae (fig. 67); tarsal claws uncinate (fig. 68).

MALE (fig. 69). Dimensions: length of body (including gnathosoma): 228-263; length (excluding gnathosoma) 187-190; breadth 127-129.

Similar to female in most respects except for sexual differences; most dorsal body setae broadly lanceolate to subspatulate; dorsal integument with a few broad, uneven transverse striae between dorsocentral setae d1 and e1.

DEUTONYMPHA (fig. 70). Dimensions: length of body (including gnathosoma) 253; length (excluding gnathosoma) 190; breadth 127.

Prodorsal setae narrowly lanceolate, subequal in length; prodorsum mostly with parallel longitudinal striae; integumentary pattern on the opisthosoma and dorsal setae similar to those of female; chaetotaxy of legs I to IV as follows: coxae 2-1-1-0; trochanters 0-0-1-0; femora 3-3-1-1; genua 1-1-0-0; tibiae 4-4-3-3.

PROTONYMPHA AND LARVA. Unknown.

Type data. Holotype female and 12 paratypes (8 females, 3 males and 1 deutonympha) ex *Catophractes alexandri* D. DON (*Bignoniaceae*), Naukluft Mountains, Namib-Naukluft Park, Namibia, 22 April 1992 (S. Neser); 11 paratype females ex same host and collector data, Hardap Dam, near Mariental, Namibia, 25 April 1992.

Phytoptipalpus kalahariensis (MEYER) comb. nov.

Aegyptobia kalahariensis MEYER, 1979: 121-123; MEYER and UECKERMANN, 1989: 17-18.

This species is easily recognised by the broadly spatulate dorsal body setae, varying from ovate to obovate, with acute or acuminate tips and being serrate; the virtually smooth prodorsum, slightly rugose laterally and the broadly strigate opisthosoma.

The following additional data have been obtained for this species: opisthosomal pores absent; intercoxal setae IC3a and IC4a flagelliform; intercoxal setal area and area posteriad of IC4a strigate; pregenital area striate; genital shield with well-defined, rounded posterior margin, rugose; aggenital setae (ag) and genital setae (g1-2) robust, serrate; setae g1-2 shorter than ag, paired laterally; anal setae ps2 much shorter than ps1, which are lanceolate, serrate; rostrum extending to distal end of tibia I; palpus five-segmented, with 3 eupathidia on distal segment, 2 setae on second segment and 1 seta on fourth segment; inclusive counts of setae on legs I to IV as follows: coxae 2-2-1-1; trochanters 1-1-2-1; femora 3-3-2-1; genua 2-1-0-0; tibiae 4-4-3-3; tarsal claws uncinate.

Hosts and locality. This species was collected on *Rhigozum trichotomum* BURCH (*Bignoniaceae*), *Monechma genistifolium* (ENGL.) C.B. subsp. *australe* (*Acanthaceae*) and *Protasparagus pearsonii* (KIES) OBERM. (*Liliaceae*) in the Kalahari Gemsbok National Park, Cape Province, South Africa.

A new host record is from *Rhus* sp. (*Anacardiaceae*), Mata-Mata, Kalahari Gemsbok National Park, 14 March 1980 (P.D. THERON).

Phytoptipalpus paradoxus TRÄGÅRDH

Phytoptipalpus paradoxus TRÄGÅRDH, 1904: 10; SAYED, 1942: 116; MEYER 1979: 114.

As in *P. muukuorum* this species has 3 pairs of legs, the dorsal body setae linear and serrate, the dorsal integument strigate but *P. paradoxus* has 5 pairs of dorsolateral opisthosomal setae; the rest of the dorsal setal pattern of the opisthosoma is as follows: 4 pairs of dorsosublateral and 3 pairs of dorsocentral setae; first pair of prodorsal setae (v2) longer than half the distance to base of oppposite member and equal in length to second (sc1) and third (sc2) pairs. The formula of the coxal setae is: 2-1-1.

Host and locality. This species was described from Kaka, Sudan and Sayed (1942) stated that it is found all over Egypt on *Acacia nilotica* (L.) WILLD. ex DEL. (*Mimosaceae*) causing cortical galls.

REFERENCES

BAKER, E.W., TUTTLE, D.M. 1987. The false spider mites of Mexico (*Tenuipalpidae*: Acari). U.S. Dept. Agric. Techn. Bull. **1706**: 237pp.

EL-ENANY, M.A.M., SOLIMAN, Z.R. 1987. Two new species of family *Tenuipalpidae* (*Acari*: *Tenuipalpidae*). Agric. Res. Rev. (Giza) **65**(1): 1-7.

LINDQUIST, E.E. 1985. Anatomy, phylogeny and systematics. 1.1.1. External anatomy. In: HELLE, W. and M.W. SABELIS eds. Spider mites, their biology, natural enemies and control. World Crop Pests **1A**: 3-28.

MCGREGOR, E.A. 1949. Nearctic mites of the family *Pseudoleptidae*. Mem. S. Calif. Acad. Sci. **3** (2), 45pp.

MEYER, MAGDALENA K.P. (SMITH), GERSON, U. 1981. Some false spider mites (*Prostigmata*: *Tenuipalpidae*) from Israel. Israel J. Ent. **15**: 67-81.

MEYER, MAGDALENA K.P. (SMITH), UECEKRMANN, E.A. 1989. South African *Acari*. V. Some mites of the Kalahari Gemsbok National Park. Koedoe **32** (1): 1-24

PRITCHARD, A.E., BAKER, E.W. 1958. The false spider mites (*Acarina*: *Tenuipalpidae*). Univ. Calif. Publ. Ent. **14** (3): 175-274.

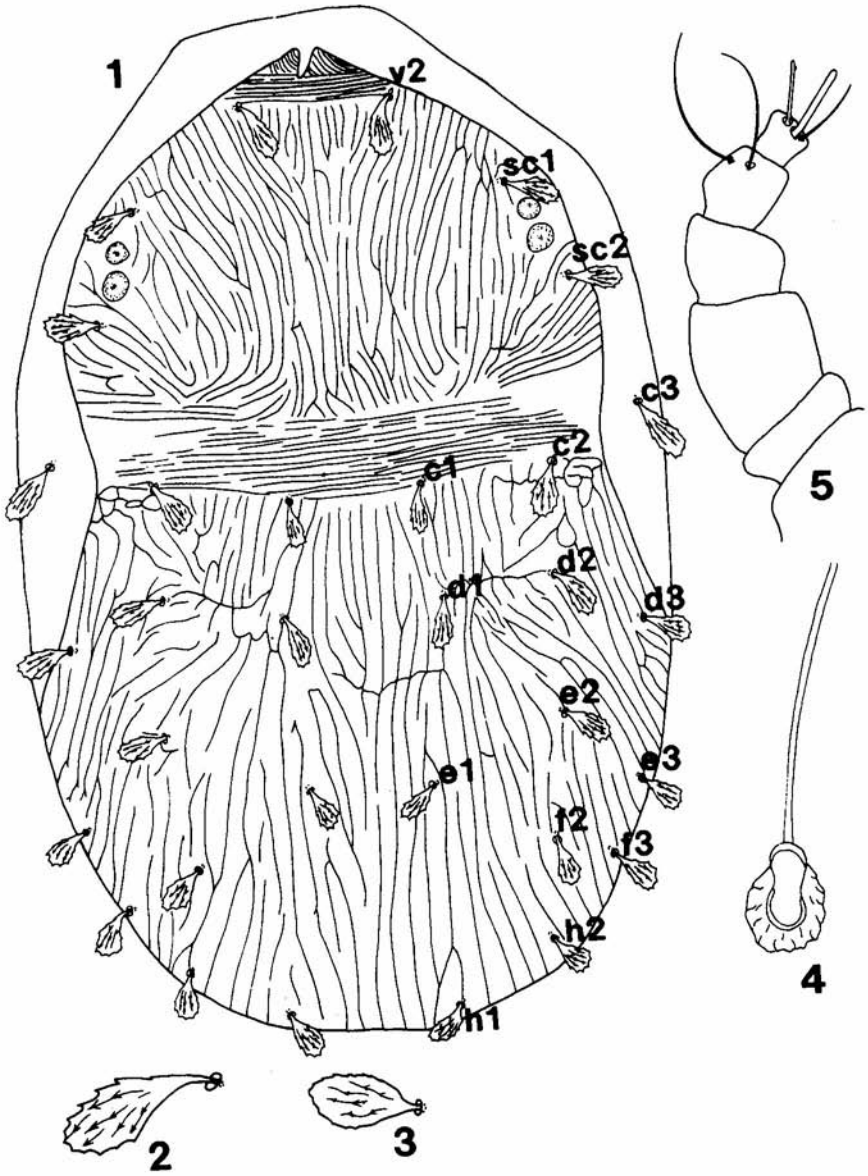
SAYED, M.T. 1942. Contribution to the knowledge of the *Acarina* of Egypt. III. The genus *Phytoptipalpus* TRÄGÅRDH. 1er Ent. Bull. Soc. Fouad **26**: 115-123.

SAYED, M.T. 1950. Description of a new genus and two new species of the family *Tenuipalpidae* (*Acarina*). Proc. Eighth Int. Congr. Ent: 1018-1021.

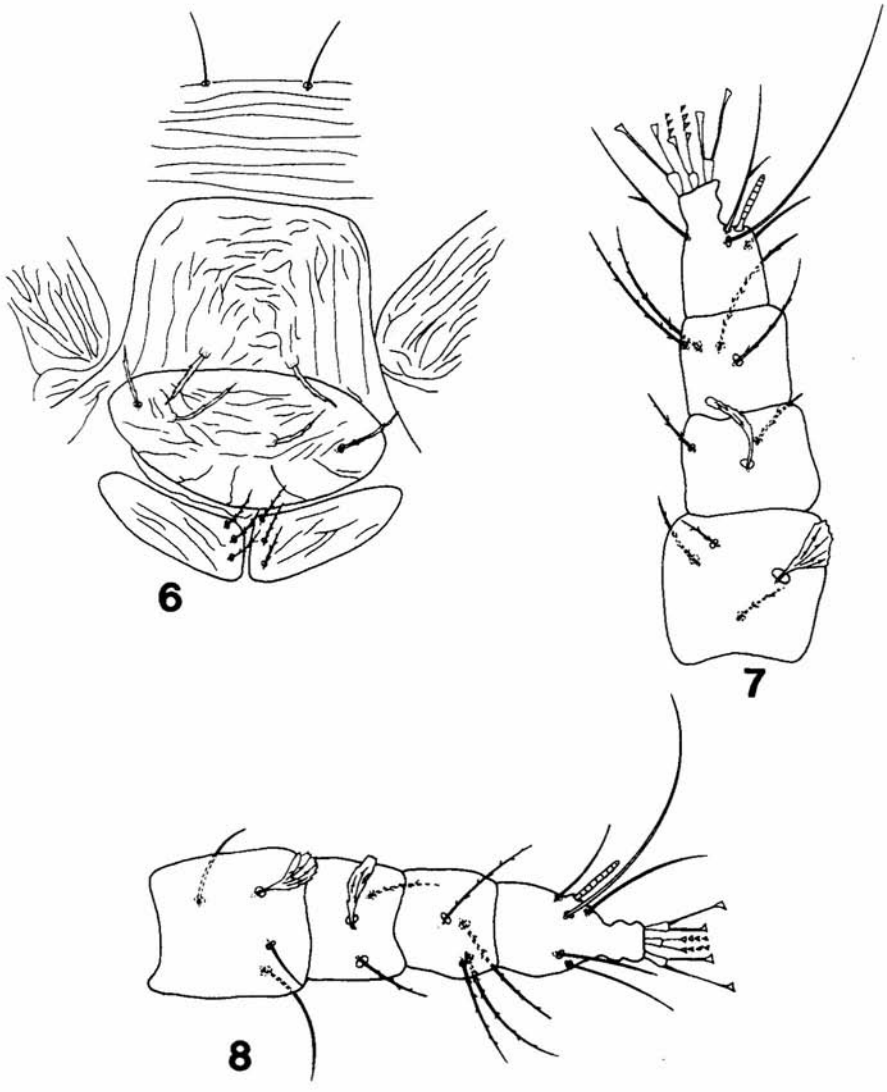
TRÄGÅRDH, H. 1904. Acariden aus Egypten und dem Sudan. 1. Results of the Swedish zoological expedition to Egypt and the White Nile 1901, **20**, 124pp.

YOUSEF. A.E.A. 1971. Genus *Aegyptobia* SAYED (*Acar.*, *Tenuipalpidae*) in the U.A.R., with a description of a new species. Z. angew. Ent. **67** (4): 134-136.

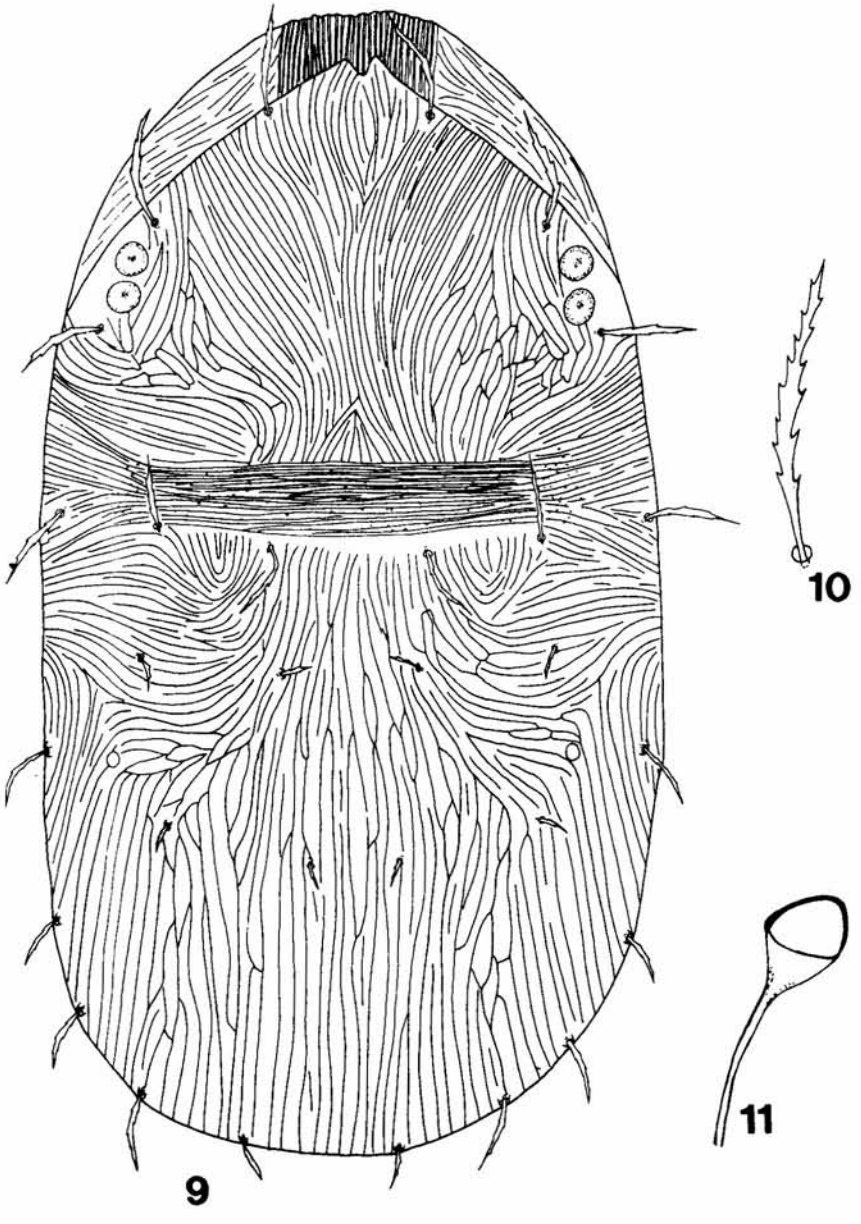
ZAHER, M.A., YOUSEF, A.A. 1969. Three genera of family *Tenuipalpidae* (*Acarina*) in the U.A.R. with description of three new species. Acarologia **11** (2): 272-280.



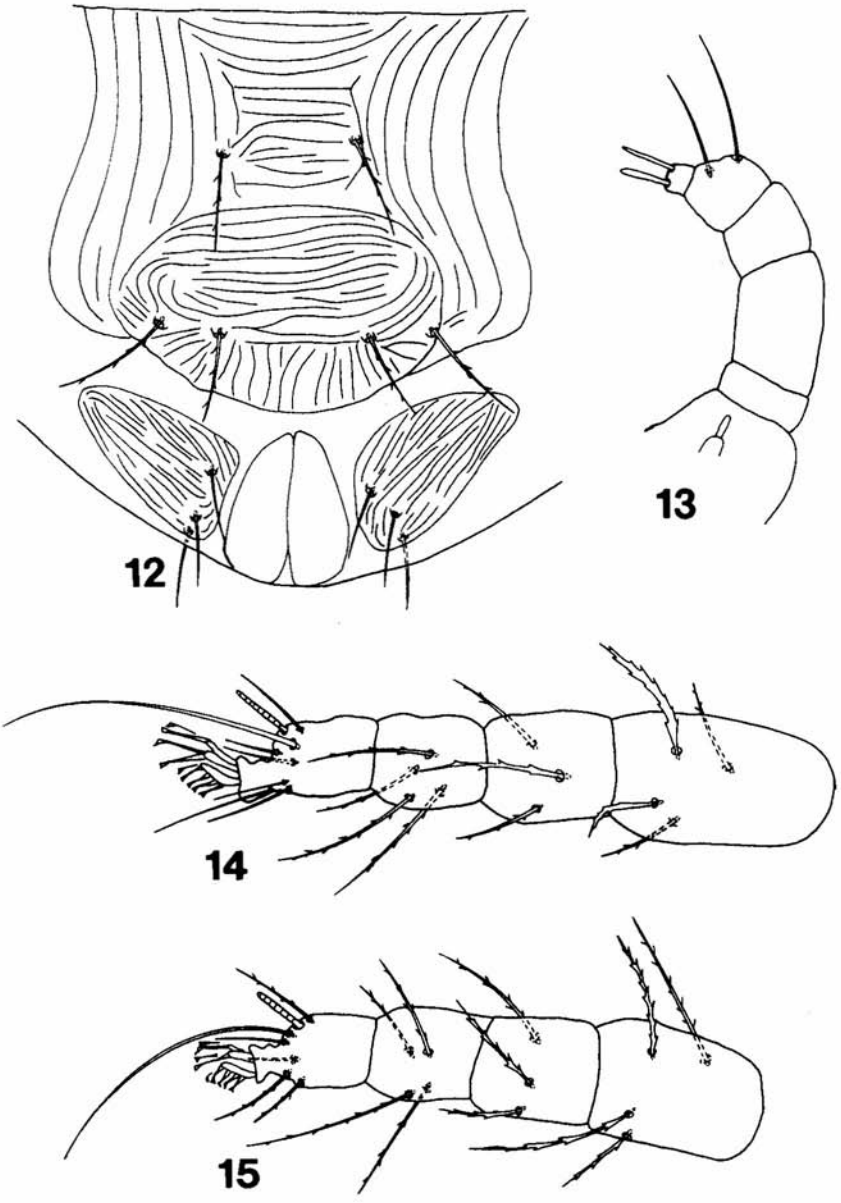
1-4. *Aegyptobia cedermontana* sp. nov. Female: 1. Dorsal view; 2. Prodorsal seta v2; 3. Dorsocentral seta e1; 4. Receptaculum seminis; 5. Palpus



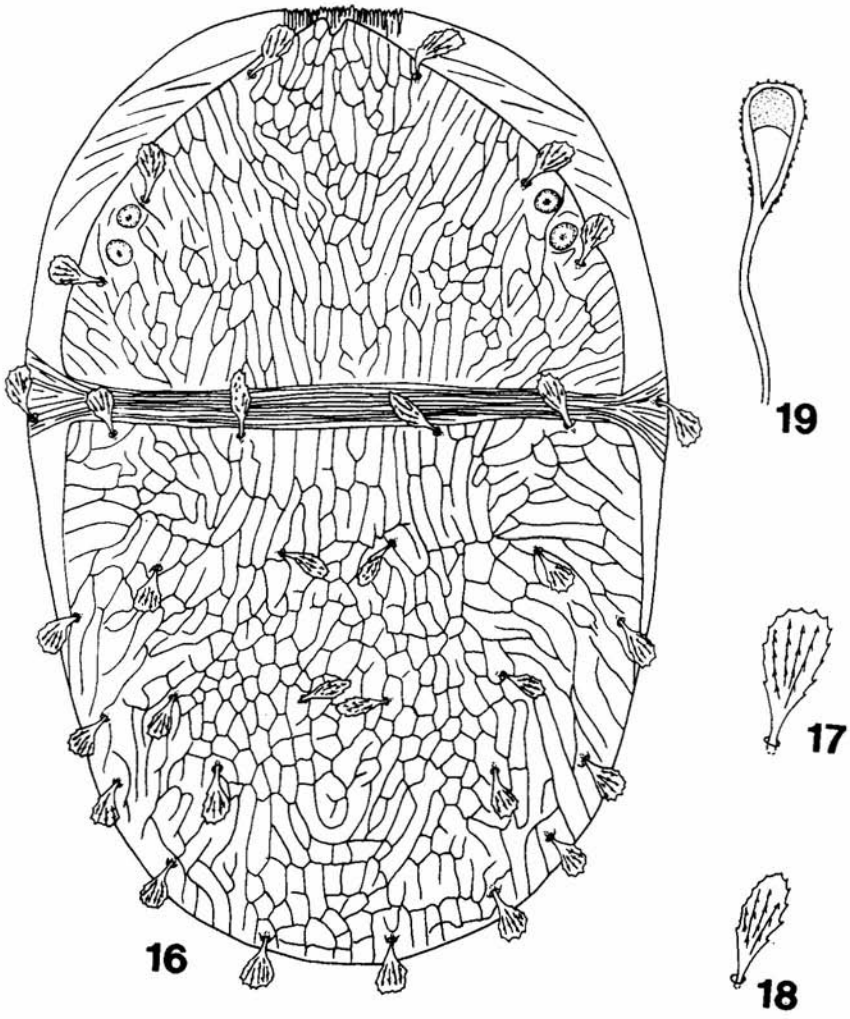
6-8. *Aegyptobia cedermontana* (continued). Female: 6. Venter of opisthosoma; 7. Leg I; 8. Leg II



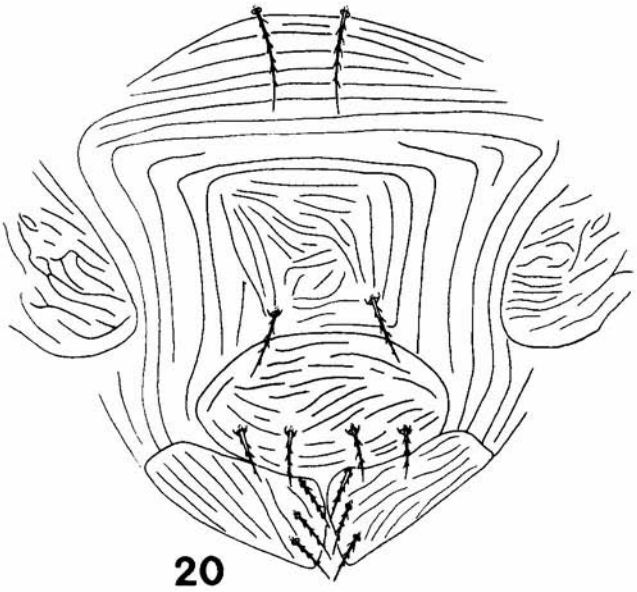
9-11. *Aegyptobia ericae* sp. nov. Female: 9. Dorsal view; 10. Dorsal body seta; 11. Receptaculum seminis

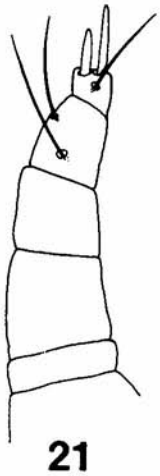


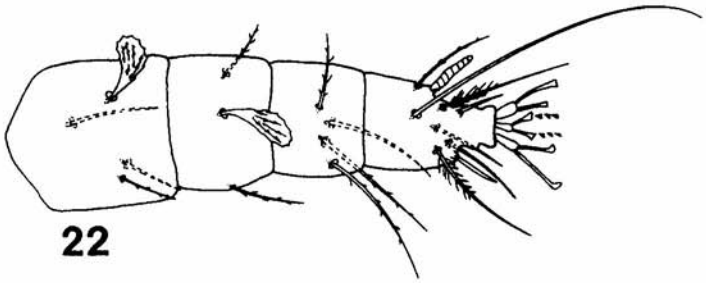
12-15. *Aegyptobia ericae* (continued). Female: 12. Venter of opisthosoma; 13. Palpus; 14. Leg I; 15. Leg II

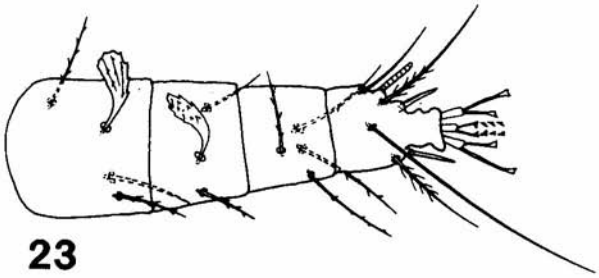


16-19. *Aegyptobia lineati* sp. nov. Female: 16. Dorsal view; 17. Prodorsal seta v2; 18. Dorsocentral seta d1; 19. Receptaculum seminis

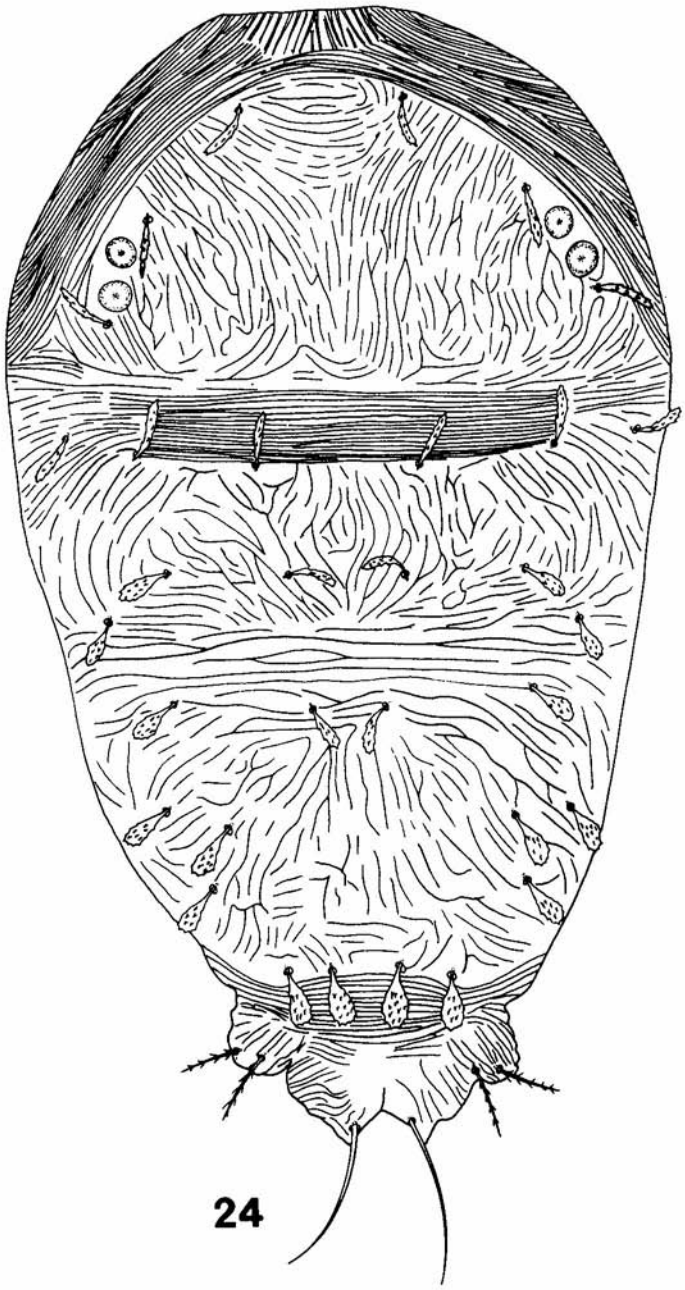




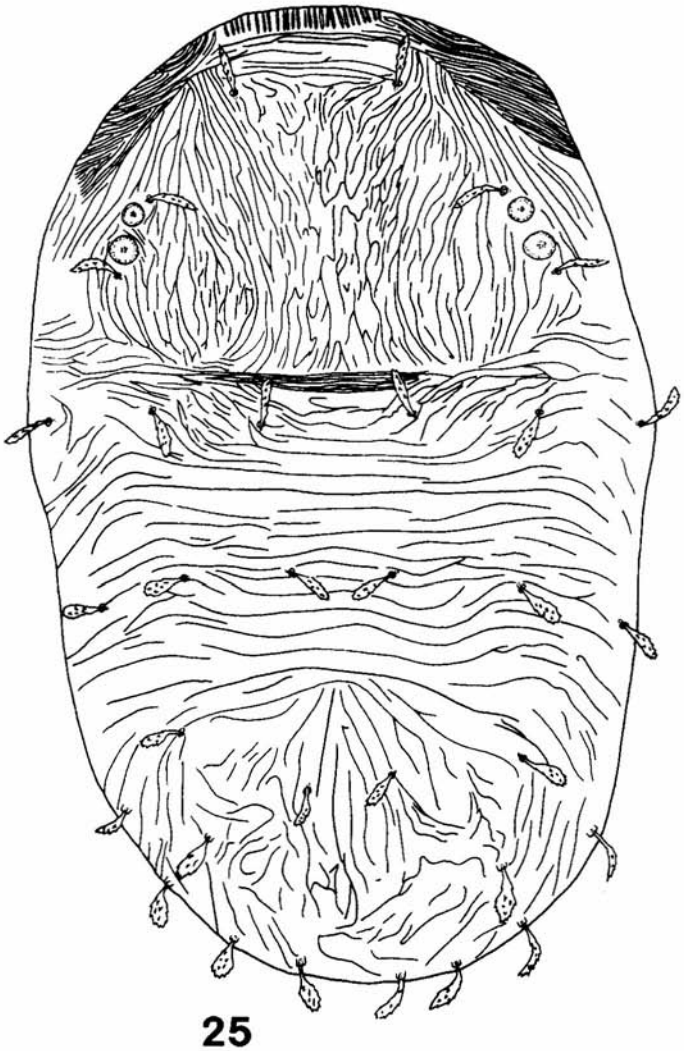




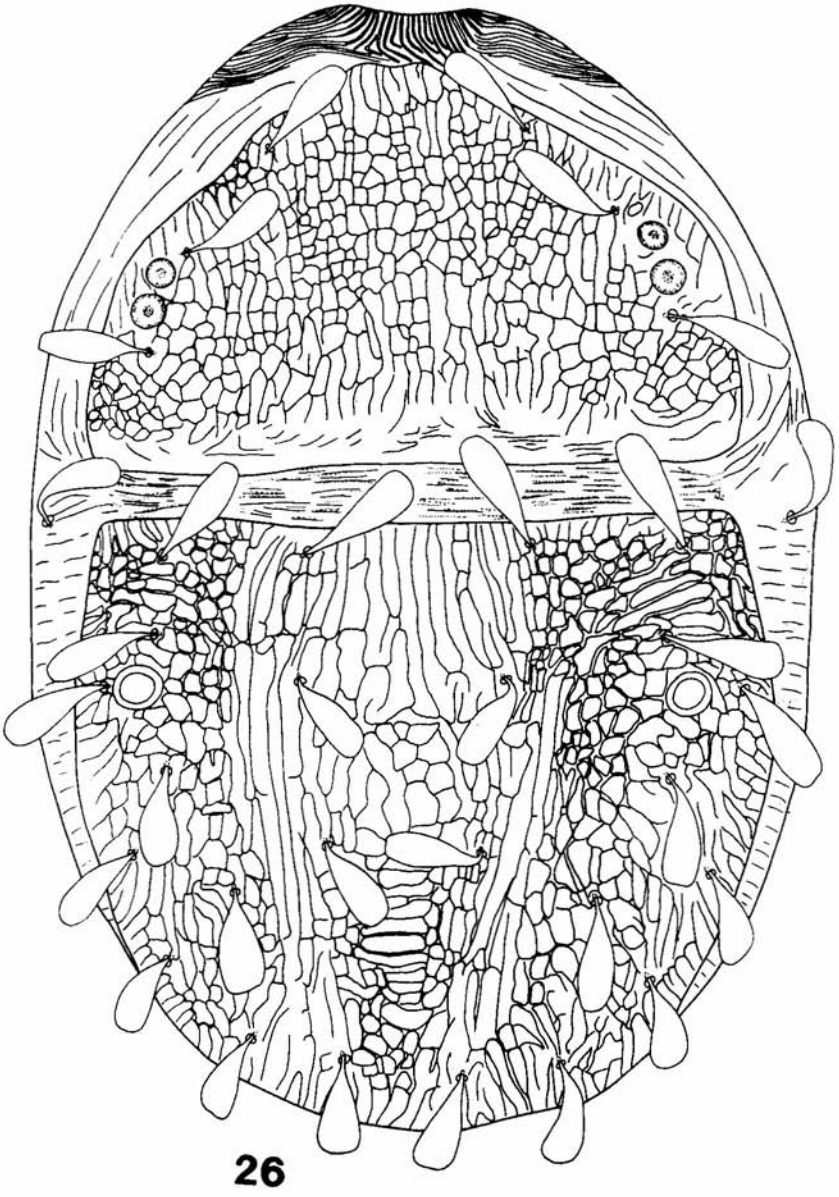
20-23. *Aegyptobia lineati* (continued). Female: 20. Venter of opisthosoma; 21. Palpus; 22. Leg I; 23. Leg II



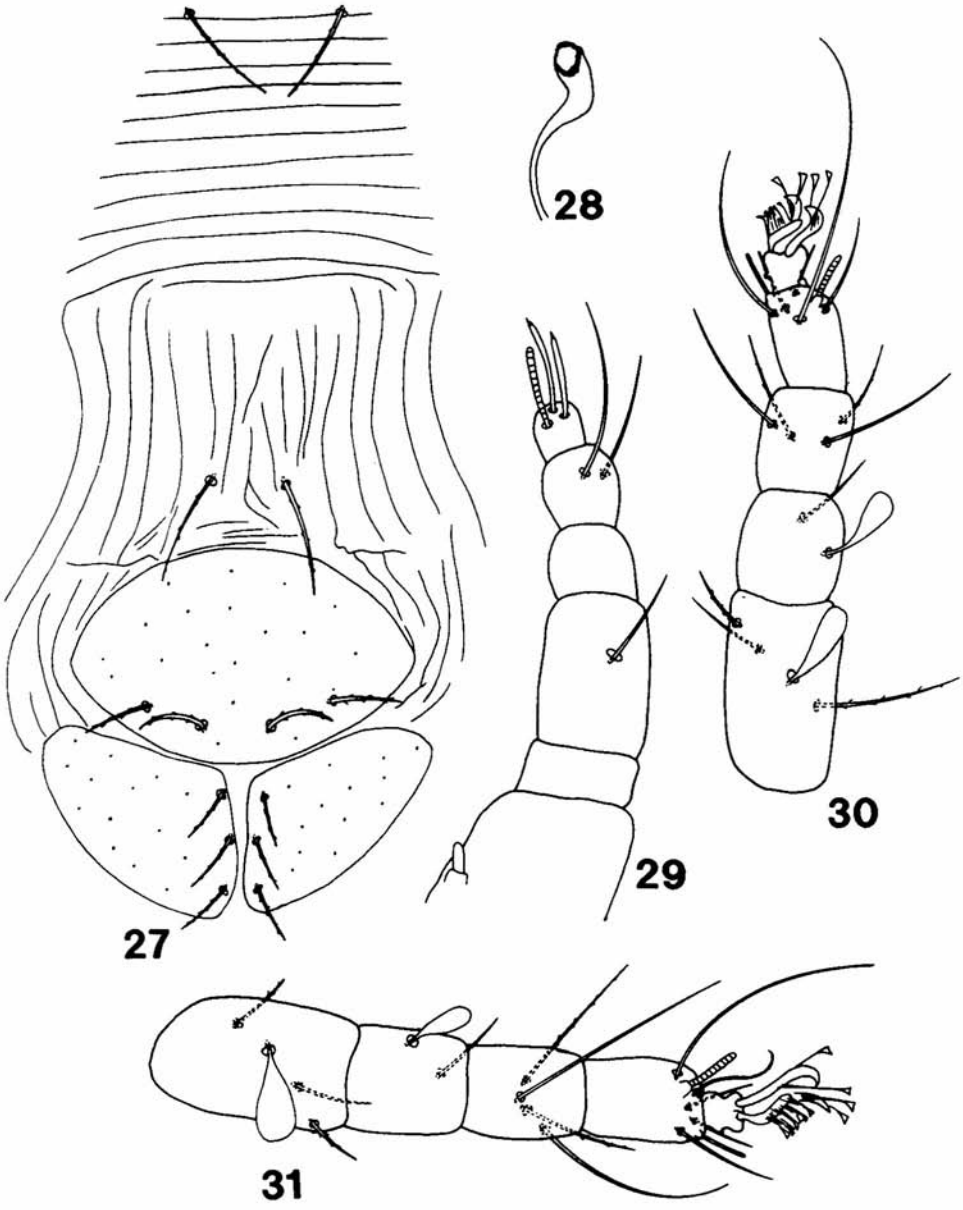
24. *Aegyptobia lineati* (continued). Dorsal view of male



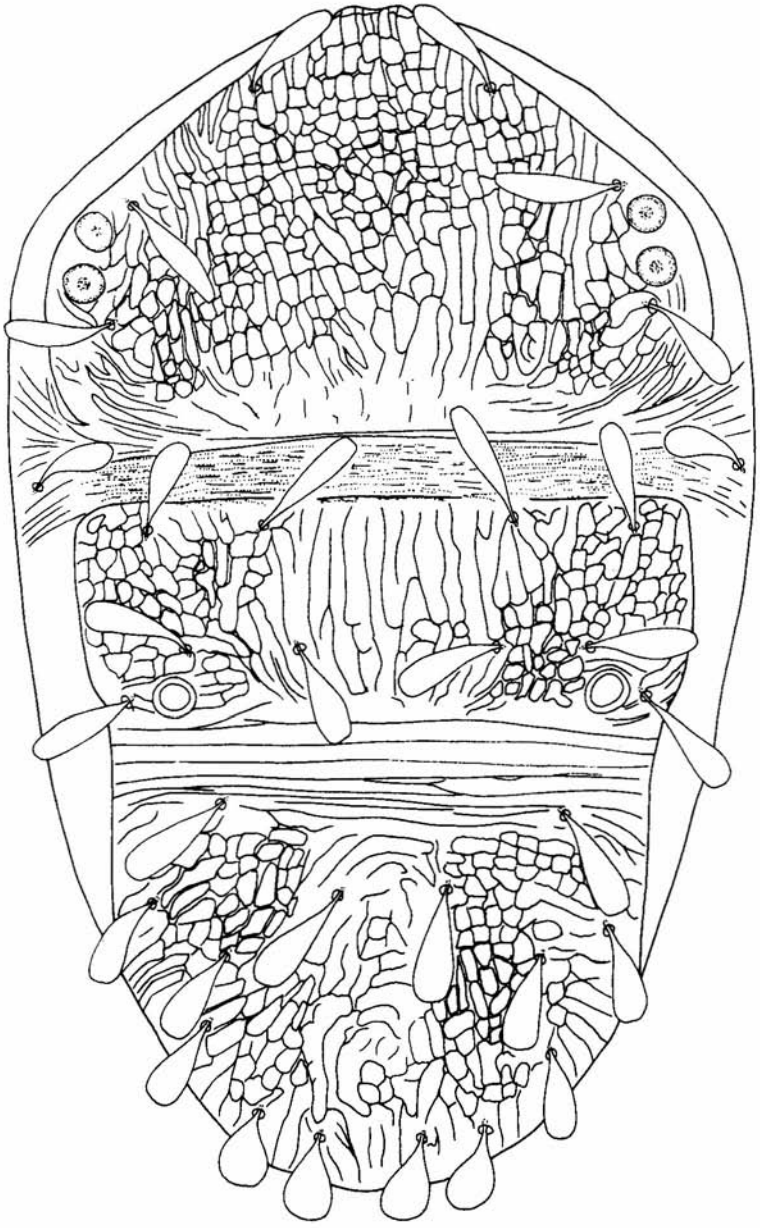
25. *Aegyptobia lineati* (continued). Dorsal view of deutonympha



26. *Aegyptobia abuzabiensis* sp. nov. Dorsal view of female

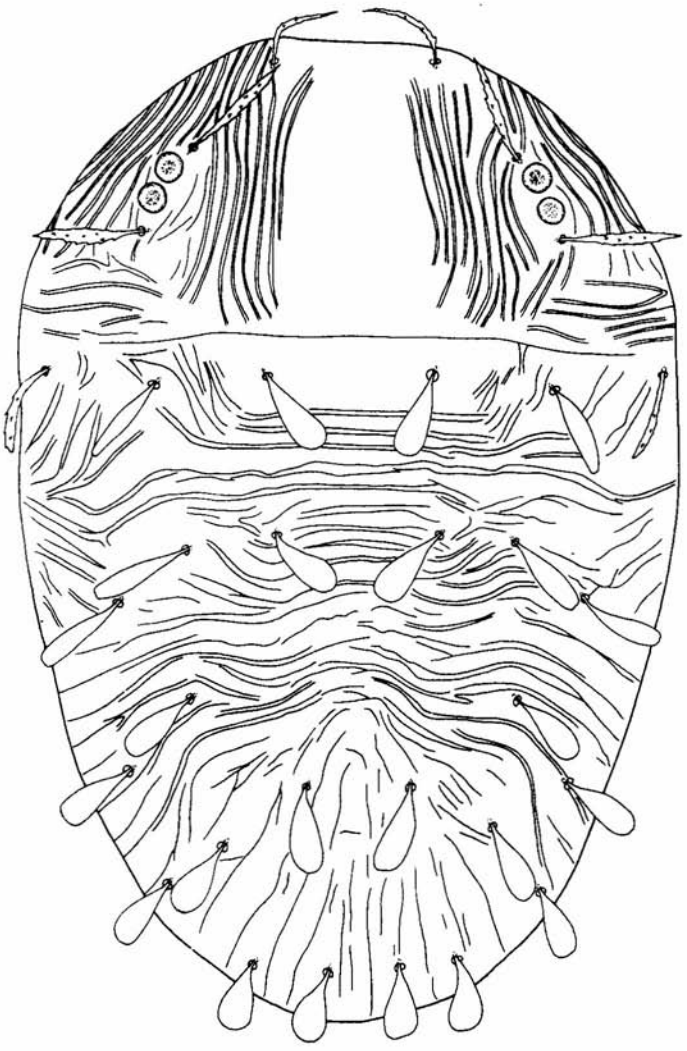


27-31. *Aegyptobia abuzabiensis* (continued). Female: 27. Venter of opisthosoma; 28. Receptaculum seminis; 29. Palpus; 30. Leg I; 31. Leg II



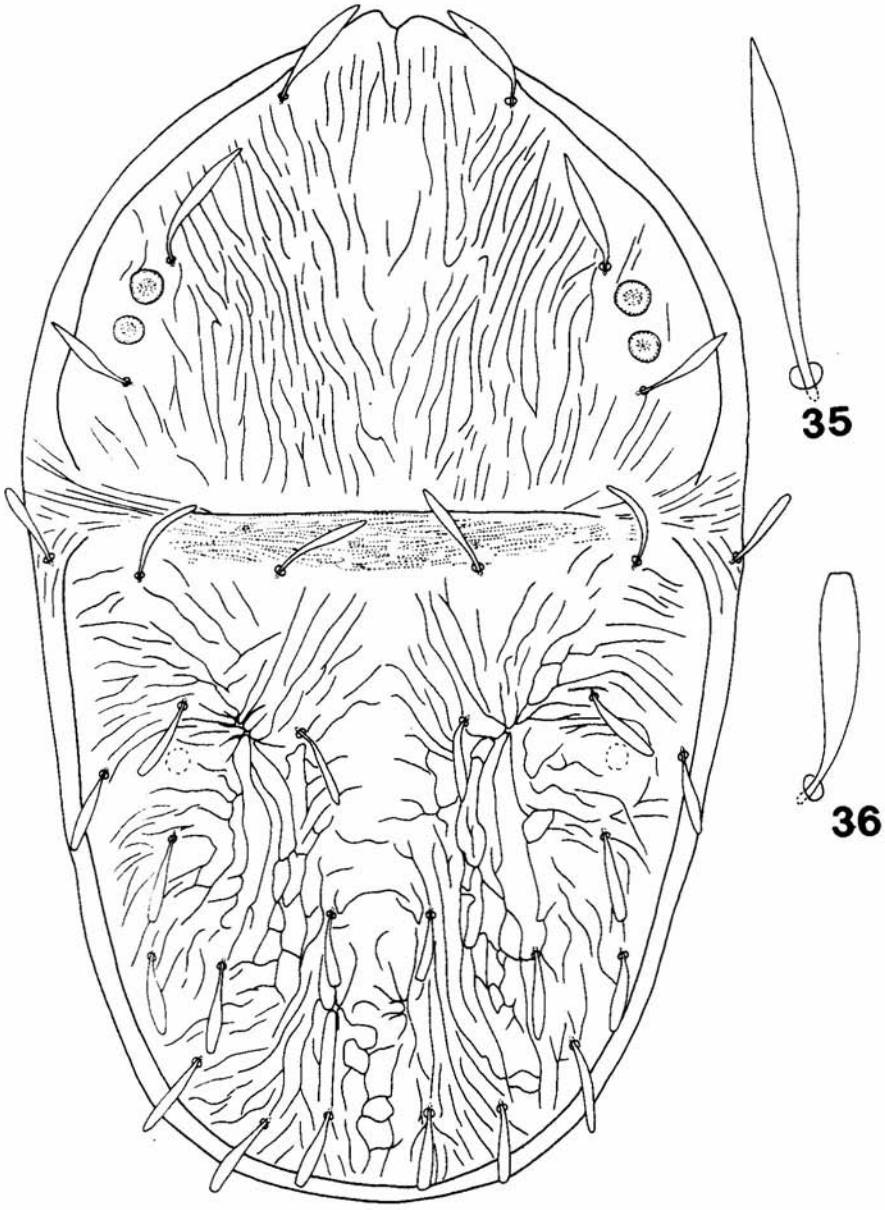
32

32. *Aegyptobia abuzabiensis* (continued). Dorsal view of male

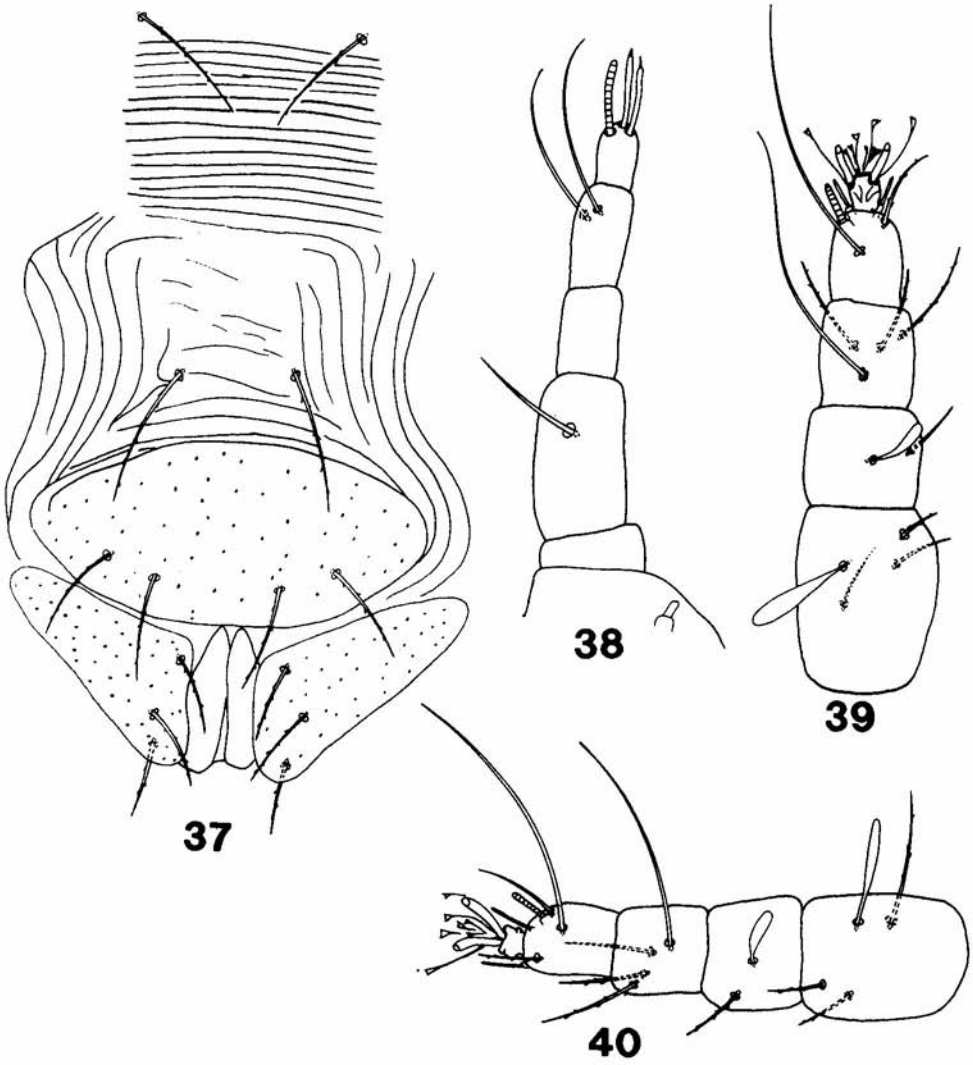


33

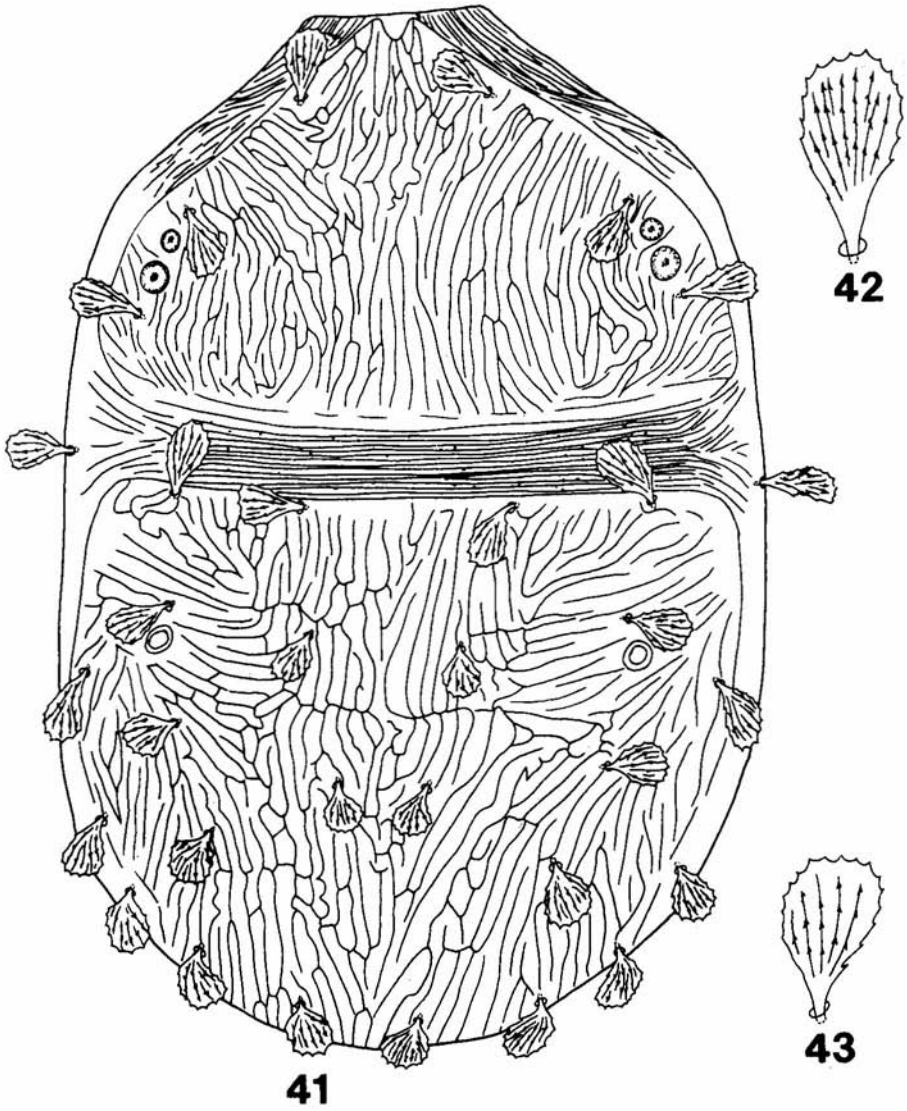
33. *Aegyptobia abuzabiensis* (continued). Dorsal view of deutonympha



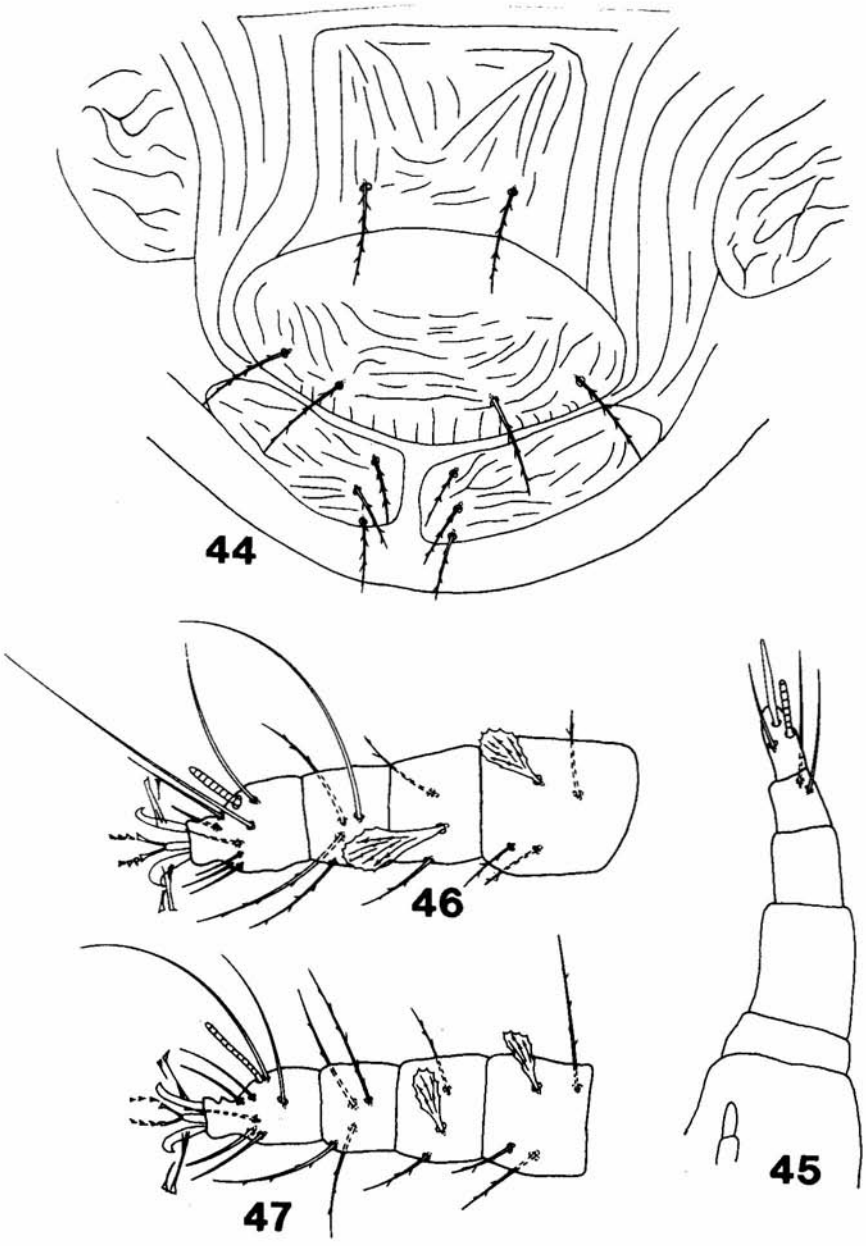
34-36. *Aegyptobia monacanthae* sp. nov. Female: 34. Dorsal view; 35. Prodorsal seta sc1; 36. Dorsocentral seta e1



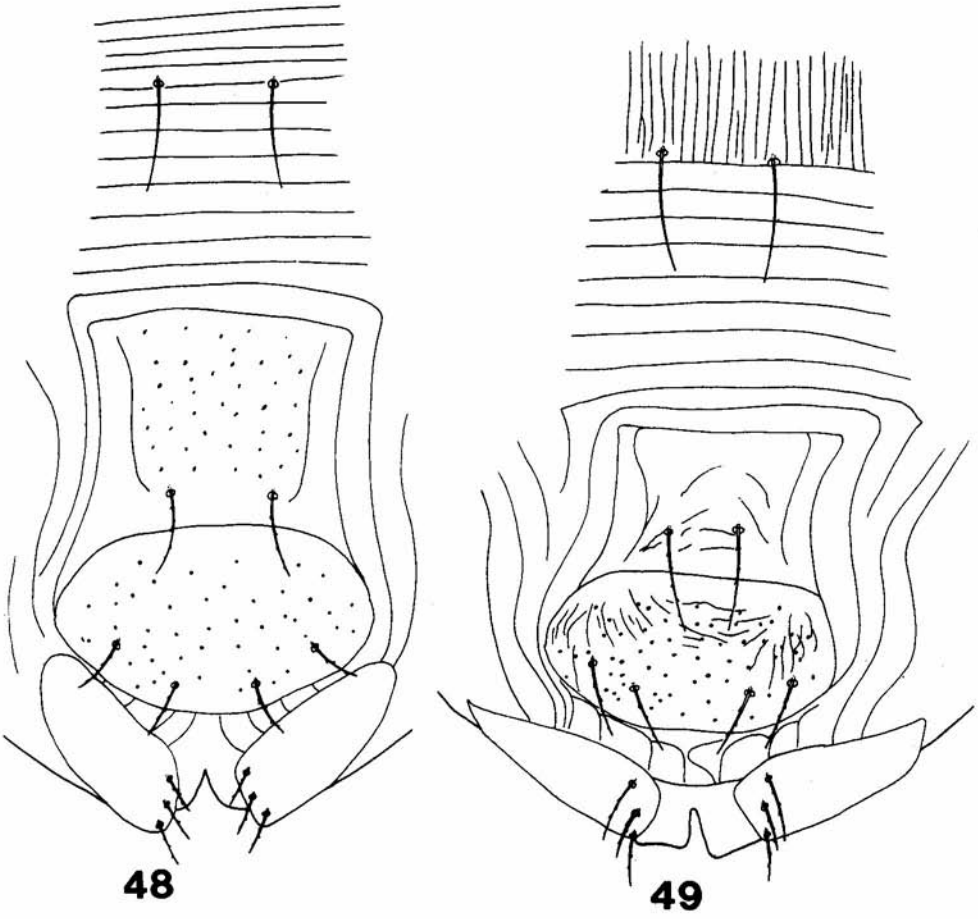
37-40. *Aegyptobia monacanthae* (continued). Female: 37. Venter of opisthosoma; 38. Palpus; 39. Leg I; 40. Leg II



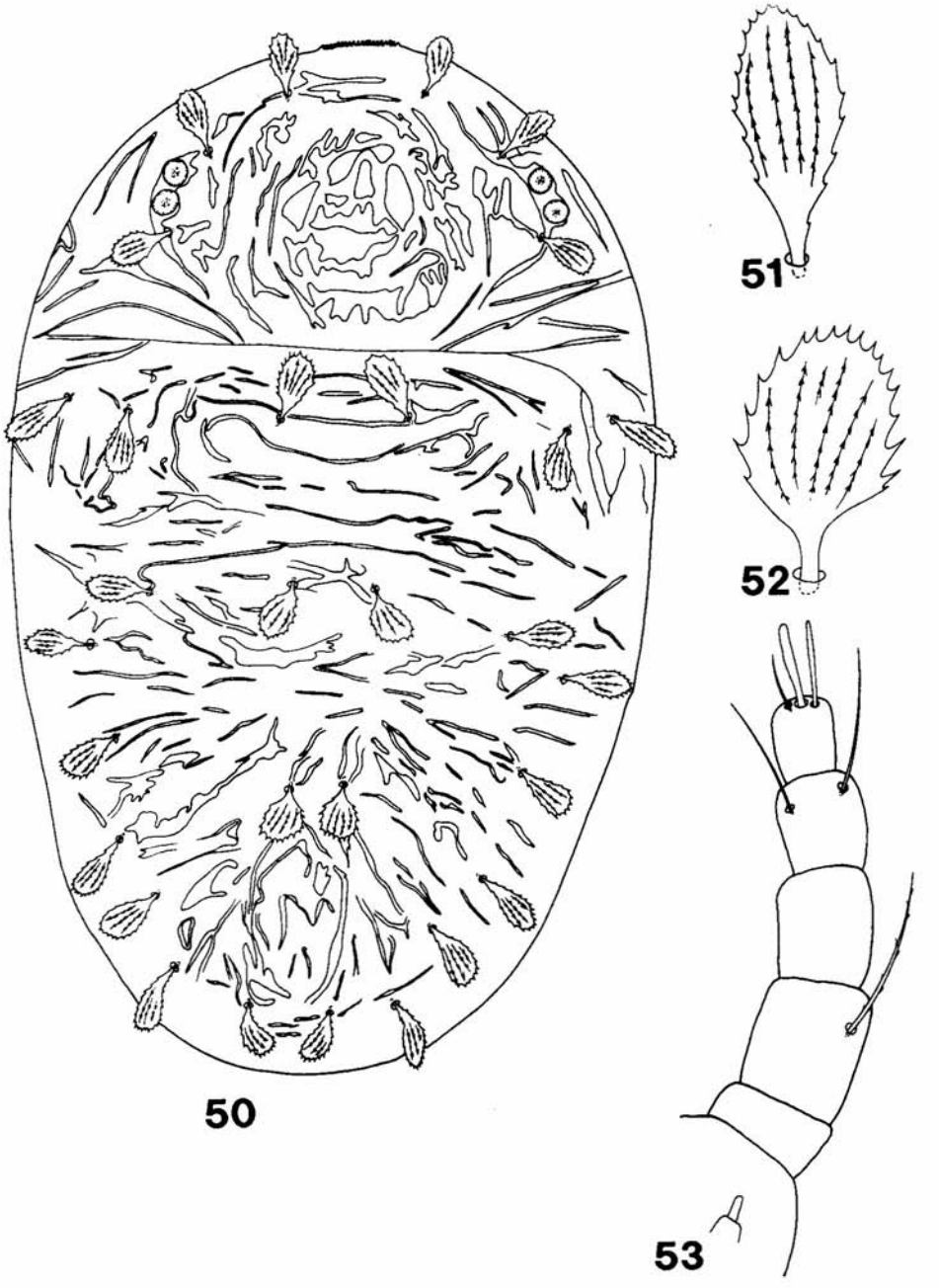
41-43. *Aegyptobia nasicornensis* sp. nov. Female: 41. Dorsal view; 42. Prodorsal seta v2; 43. Dorsocentral seta d1



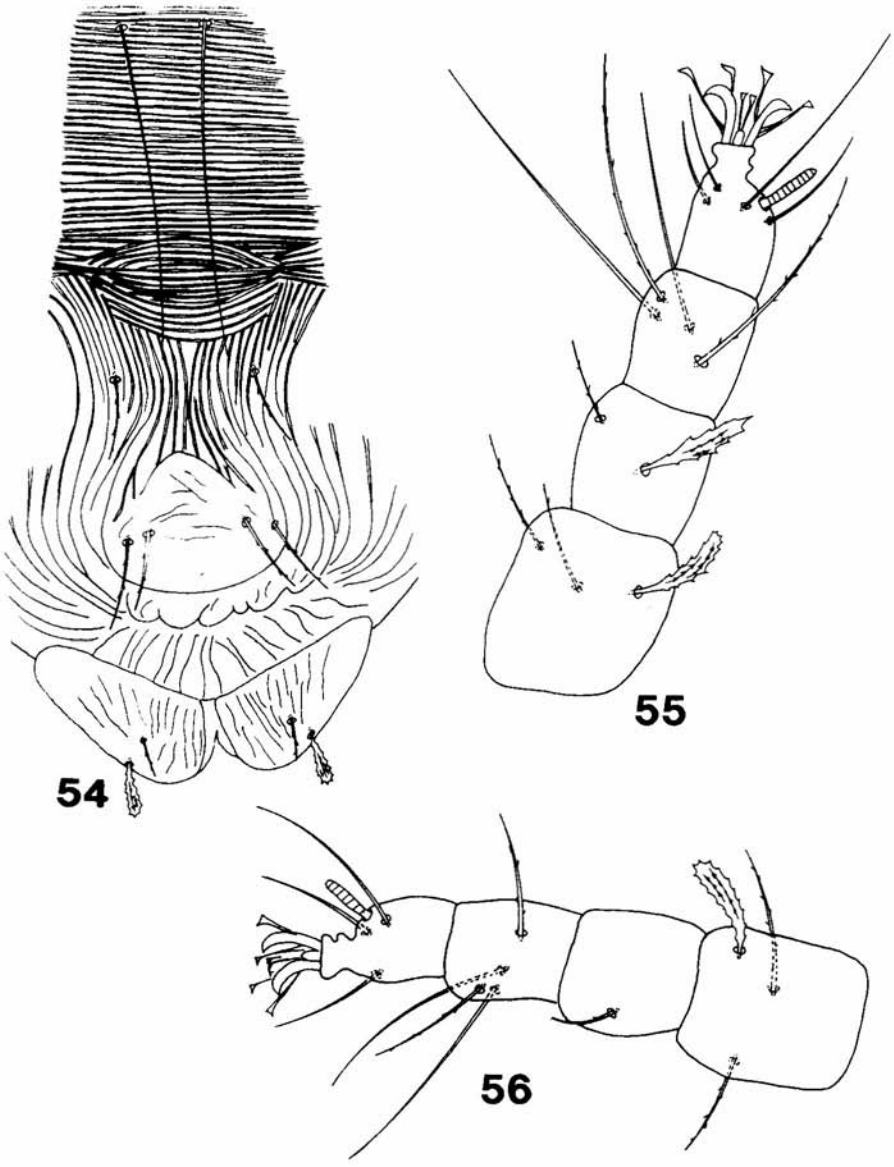
44-47. *Aegyptobia nasicornensis* (continued). Female: 44. Venter of opisthosoma; 45. Palpus; 46. Leg I; 47. Leg II



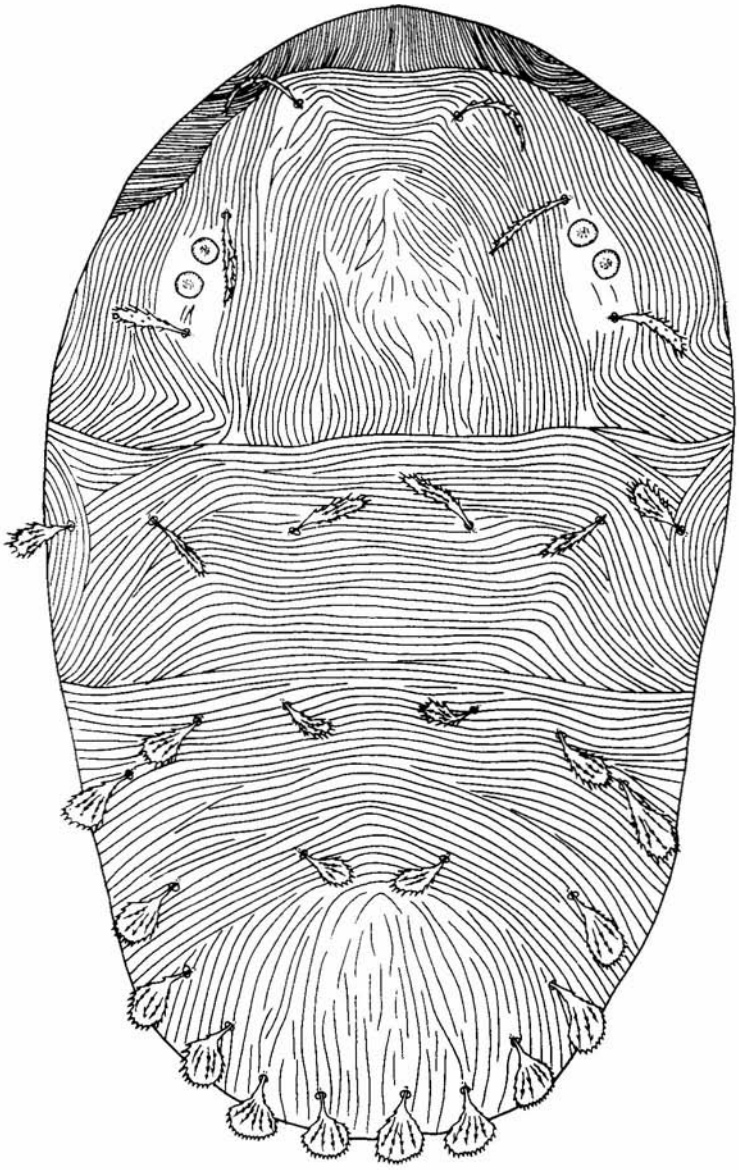
48-49. Venter of opisthosoma of female: 48. *Aegyptobia neobapta* MEYER; 49. *A. odontopilis* MEYER



50-53. *Pentamerismus collinus* sp. nov. Female: 50. Dorsal view; 51. Dorsosublateral seta d2; 52. Dorsocentral seta e1; 53. Palpus

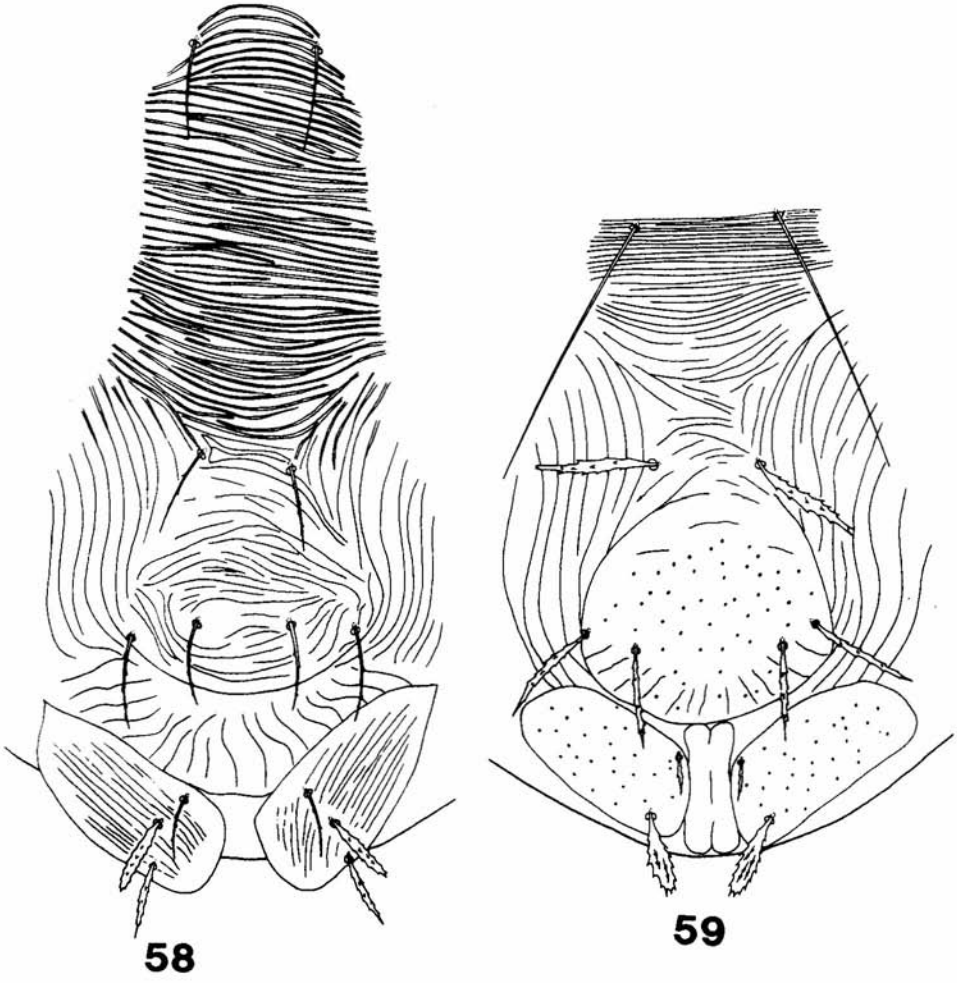


54-56. *Pentamerismus collinus* (continued). Female: 54. Venter of opisthosoma; 55. Leg I; 56. Leg II

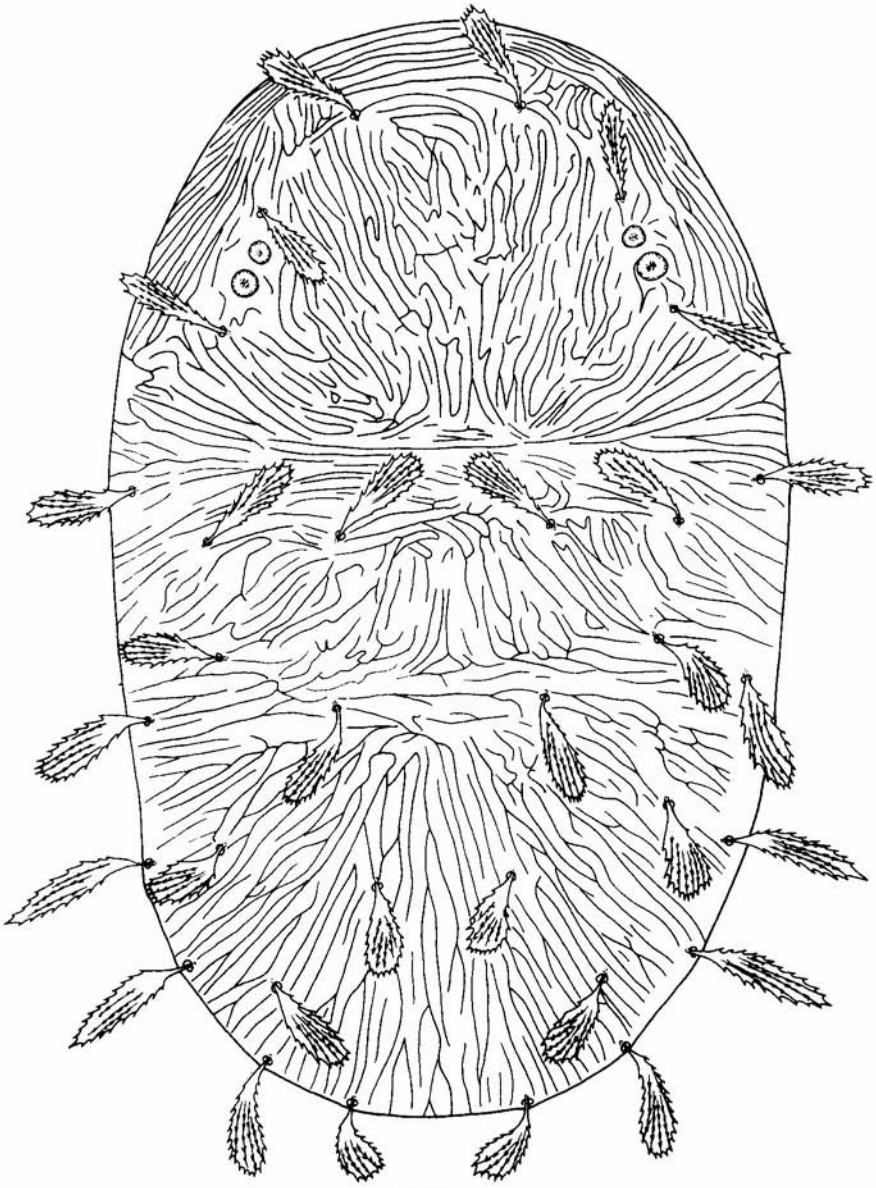


57

57. *Pentamerismus retusus* MEYER. Dorsal view of deutonympha

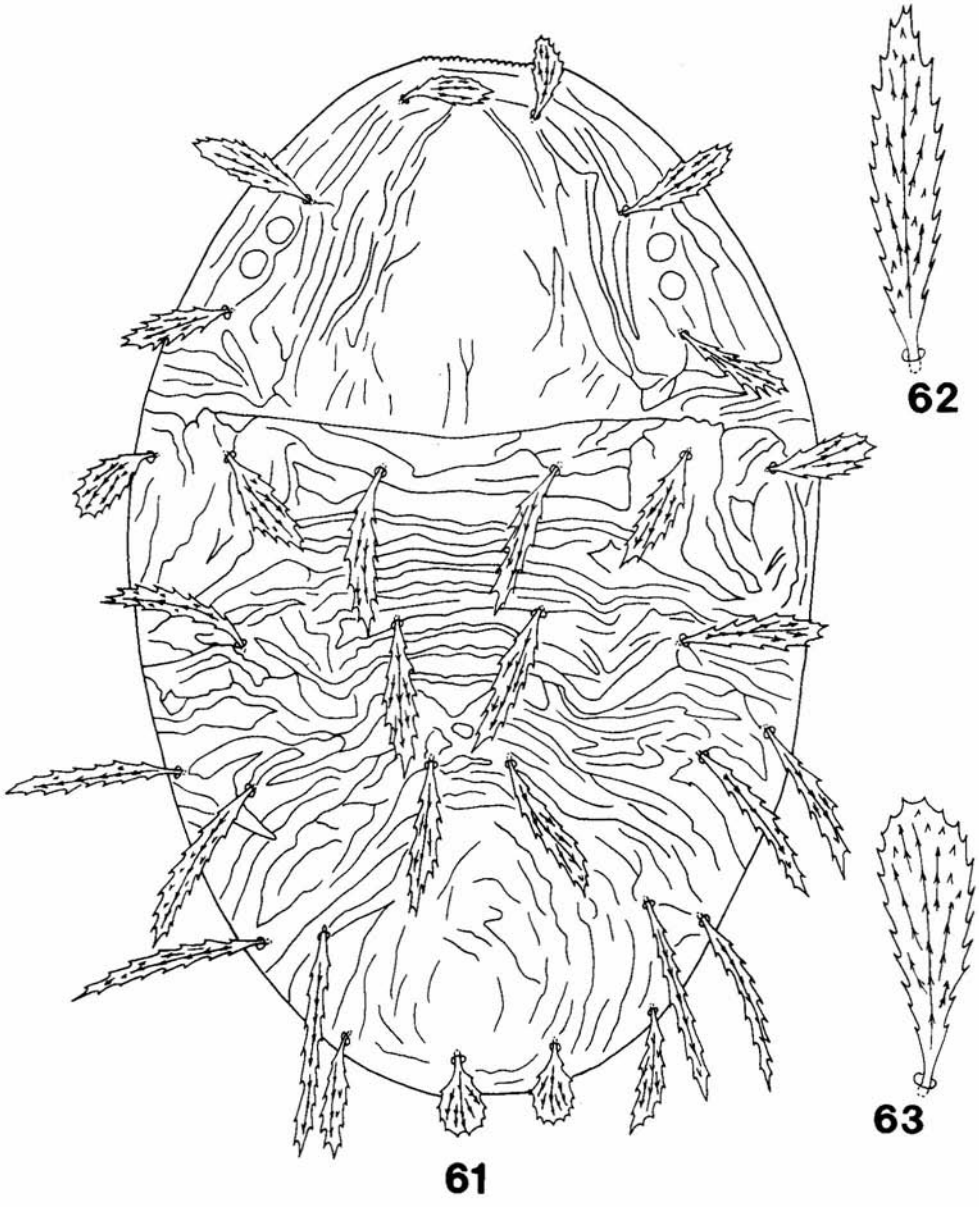


58-59. Venter of opisthosoma of female: 58. *Pentamerismus retusus* (continued); 59. *Phytoptipalpus multistriatum* (MEYER)

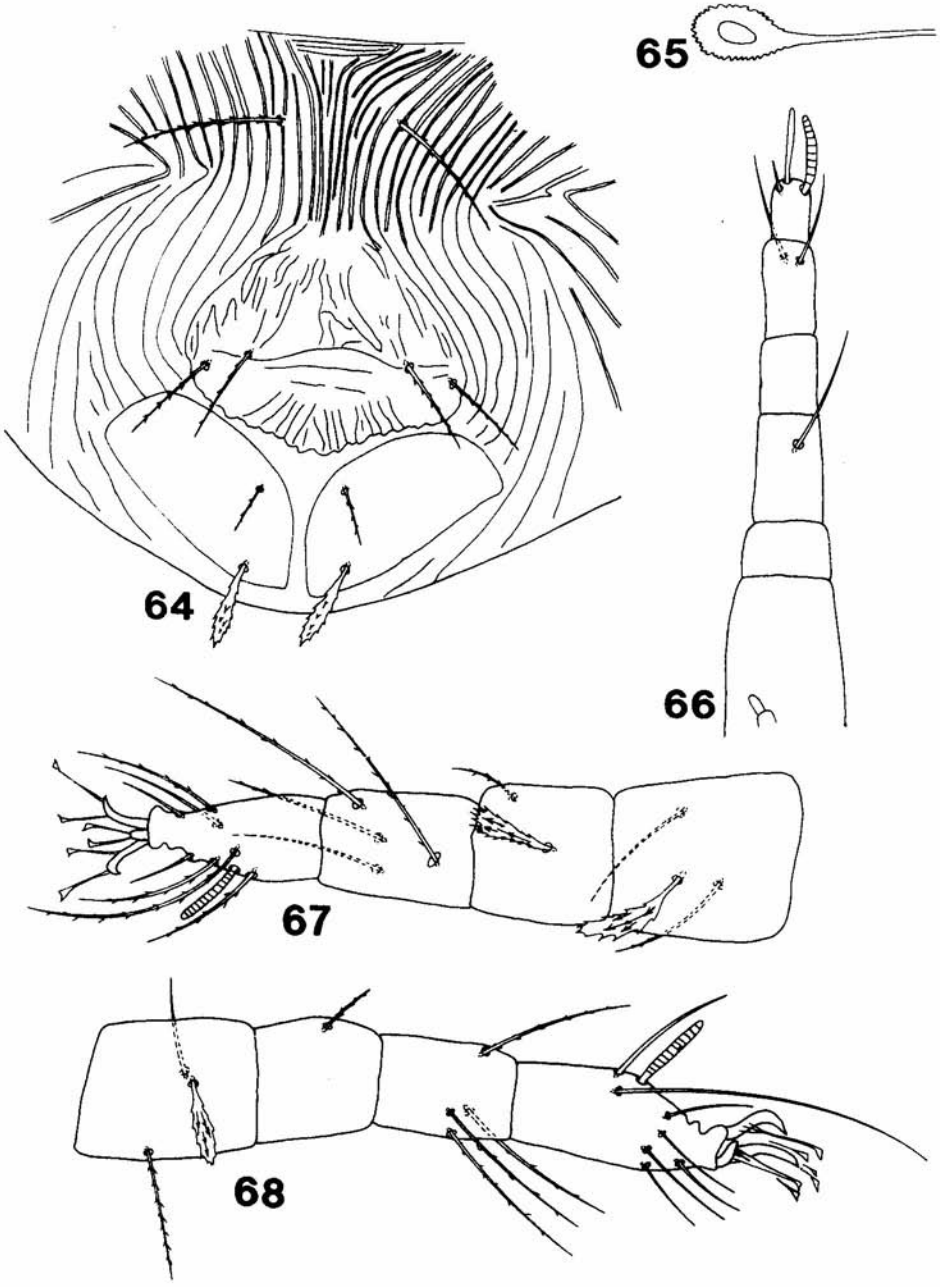


60

60. *Phytoptipalpus multistriatum* (continued). Dorsal view of female



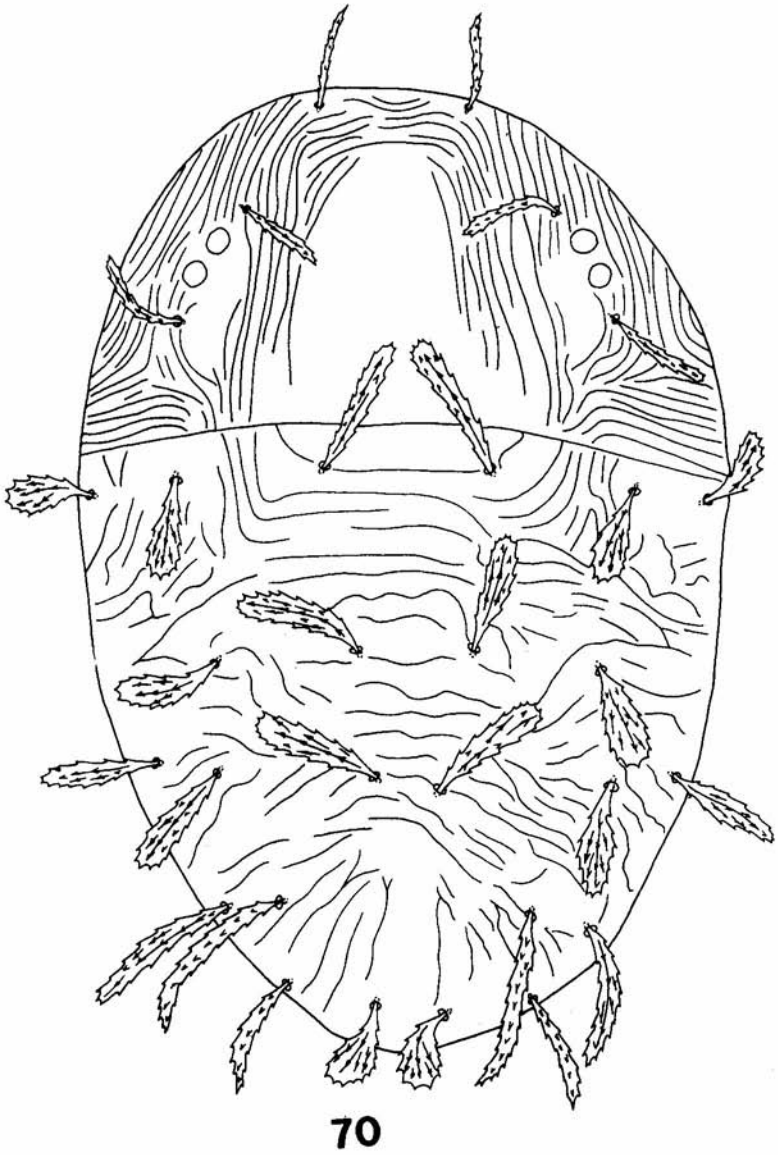
61-63. *Phytoptipalpus alexandriae* sp. nov. Female: 61. Dorsal view; 62. Dorsocentral seta d1; 63. Dorsolateral seta c3



64-68. *Phytoptipalpus alexandriae* (continued). Female: 64. Venter of opisthosoma; 65. Receptaculum seminis; 66. Palpus; 67. Leg I; 68. Leg II

69

69. *Phytoptipalpus alexandriae* (continued). Dorsal view of male



70. *Phytoptipalpus alexandriae* (continued). Dorsal view of deutonympha