

## South African Acari. IV. Some Mites of the Addo Elephant National Park

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Mites collected in the Addo Elephant National Park from 1968 to 1986 are given in a check list. Comments are made on the habitats and distribution of the 36 known species. The following species are described and illustrated: *Tenuipalpus robustae* Meyer, *spec. nov.*, *Tydeus schotiae* Ueckermann *spec. nov.*, *Paralorryia grewiae* Ueckermann, *spec. nov.* and *Pronematus pteroni* Ueckermann, *spec. nov.*

Key words: Addo Elephant National Park, mites, Acari, South African Acari.

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### Introduction

Mites in the Addo Elephant National Park have been collected, recorded and described by Van der Merwe (1968), Meyer (1970, 1974, 1979, 1987), Meyer and Ueckermann (1984, 1987), Ueckermann and Loots (1984, 1988) and Ueckermann and Meyer (1987). In this article we report the presence of 40 plant living mite species in the Addo Elephant National Park, which include those species recorded by former workers. Four species are described as new. A check list is provided which probably, does not represent a complete list of the mite fauna of the Addo Elephant National Park because the park has not been thoroughly surveyed.

### Materials and Methods

Mites were collected on four separate occasions by members of the Plant Protection Research Institute, Pretoria. The mites were collected by beating plant material over a white tray. Mites falling onto the tray were transferred with a fine brush to a vial containing 70–75% alcohol. The specimens were mounted in Heinze's modified PVA medium (Meyer & Rodrigues 1966). The type-slides and other specimens are deposited in the National Collection of Arachnida, Plant Protection Research Institute, Pretoria.

## Check List of the Mites of the Addo Elephant National Park

### Order Mesostigmata Family Phytoseiidae

1. *Typhlodromus (Anthoseius) paganus* Van der Merwe, 1968
2. *Typhlodromus (Anthoseius) capparidis* Van der Merwe, 1968
3. *Typhlodromus (Anthoseius) februs* Van der Merwe, 1968
4. *Typhlodromus (Anthoseius) incisivus* Van der Merwe, 1968
5. *Typhlodromus (Anthoseius) apoxys* Van der Merwe, 1968
6. *Typhlodromus (Meyerius) citimus* Van der Merwe, 1968
7. *Typhlodromus (Meyerius) convallis* Van der Merwe, 1968
8. *Amblyseius (Amblyseius) exiguus* Van der Merwe, 1968
9. *Amblyseius (Amblyseius) barkeri* (Hughes, 1948)

### Order Prostigmata Family Tetranychidae

10. *Bryobia tuberosa* Meyer, 1974
11. *Bryobia coatesi* Meyer, 1974
12. *Marainobia robusta* Meyer, 1987
13. *Neopetrobia globosa* Meyer, 1974
14. *Neopetrobia amaranthae* Meyer, 1987
15. *Neopetrobia galeniae* (Meyer, 1974)
16. *Neopetrobia eberlanziae* (Meyer, 1974)
17. *Tetranychina hartii* (Ewing, 1909)
18. *Schizotetranychus asparagi* (Oudemans, 1928)
19. *Tetranychus mesembryanae* Meyer, 1987
20. *Tetranychus lombardinii* Baker and Pritchard, 1960
21. *Tetranychus ludeni* Zacher, 1913
22. *Tetranychus urticae* Koch, 1836

### Family Tetranychidae

23. *Tenuipalpus robustae* Meyer, *spec. nov.*
24. *Tenuipalpus niekerkae* Meyer, 1979
25. *Brevipalpus obovatus* Donnadieu, 1875
26. *Brevipalpus phoenicis* (Geijskes, 1939)

### Family Stigmaeidae

27. *Agistemus africanus* (Meyer and Ryke, 1960)
28. *Eryngiopus bidens* Meyer, 1969
29. *Eryngiopus lindei* Meyer, 1969
30. *Storchia robusta* (Berlese, 1885)

### Family Eupalopsellidae

31. *Eupalopsellus oresbiosis* Meyer and Ueckermann, 1984
32. *Eupalopsellus sellnicki* Meyer and Ueckermann, 1984

### Family Anystidae

33. *Anystis baccharum* (Linn., 1758)
34. *Chaussierria venustissima* (Berlese, 1882)

### Family Tydeidae

35. *Triophtydeus myacanthus* Ueckermann, 1988
36. *Tydeus rhusi* Ueckermann, 1988
37. *Tydeus grabouwii* Meyer and Ryke, 1959
38. *Tydeus schotiae* Ueckermann, *spec. nov.*
39. *Paralorryia grewiae* Ueckermann, *spec. nov.*
40. *Pronematulus pteroni* Ueckermann, *spec. nov.*

## Species Accounts

The notations of the dorsal body setae used in the species descriptions are after Lindquist (1985). Unless otherwise stated, the following are all new records for the Addo Elephant National Park.

### Order Mesostigmata Family Phytoseiidae

In the Addo Elephant National Park this family of predacious mites is well represented by nine species. Several phytoseiid species are important predators of tetranychid mites and have been used successfully for the integrated control of certain agricultural pests.

#### 1. *Typhlodromus (Anthoseius) paganus* Van der Merwe

*Typhlodromus (Anthoseius) paganus* Van der Merwe, 1968: 46; Ueckermann & Loots (*in press*).

Van der Merwe (1968) described this species from several plants at Fort Beaufort, the Mountain Zebra National Park and Addo (Cape Province), but it was collected for the first time in the Addo Elephant National Park from: *Schotia afra* (L.) Thunb. and *Rhus longispina* Eckl. & Zeyh., 7 March 1986 (E.A. Ueckermann); *Grewia robusta* Burch, *Azima tetracantha* Lam. and *Euclea undulata* Thunb., 7–8 March 1986 (M.K.P. Smith Meyer).

#### 2. *Typhlodromus (Anthoseius) capparidis* Van der Merwe

*Typhlodromus (Anthoseius) capparidis* Van der Merwe, 1968: 26; Ueckermann & Loots (*in press*).

Van der Merwe (1968) described this species from *Capparis sepiaria* L. var. *citrifolia* (Lam.) Toelken in the Addo Elephant National Park, from an unidentified Malvacea species at Grahamstown and Port Elizabeth (Cape Province) and from *Ballota africana* (L.) Benth. at Oudtshoorn (Cape Province). *Typhlodromus (A.) capparidis* has also been recorded from *C. sepiaria* (L.) var. *citrifolia* (Lam.) at Hankey and from *Indigofera* sp. on the Gonubie beach, Cape Province (Ueckermann and Loots *in press*).

#### 3. *Typhlodromus (Anthoseius) februs* Van der Merwe

*Typhlodromus (Anthoseius) februs* Van der Merwe, 1968: 37; Ueckermann & Loots (*in press*).

Van der Merwe (1968) described this species from the Kruger National Park (Transvaal). Subsequent records were mainly from Kwazulu and eastern Transvaal (Ueckermann & Loots *in press*). The following record is from the Addo Elephant National Park: *Capparis sepiaria* (L.) var. *citrifolia* (Lam.), 8 March 1986 (E.A. Ueckermann).

#### 4. *Typhlodromus (Anthoseius) incisivus* Van der Merwe

*Typhlodromus (Anthoseius) incisivus* Van der Merwe, 1968: 35; Ueckermann & Loots (*in press*).

In the Addo Elephant National Park this species was collected from *Pentzia incana* (Thunb.) Kuntze, 14 February 1974 (F.W. Schultz); *Rhus longispina* Eckl. & Zeyh., 7 March 1986 (E.A. Ueckermann).

5. *Typhlodromus (Anthoseius) apoxys* Van der Merwe  
*Typhlodromus (Anthoseius) apoxys* Van der Merwe, 1968: 31; Ueckermann & Loots (*in press*).  
 In the Addo Elephant National Park *T. (A.) apoxys* was found together with *T. (A.) capparidis* Van der Merwe and *T. (A.) februs* Van der Merwe on *Caparis sepiaria* (L.) var. *citrifolia* (Lam.).
6. *Typhlodromus (Meyerius) citimus* Van der Merwe  
*Typhlodromus (Meyerius) citimus* Van der Merwe, 1968: 83; Ueckermann & Loots, 1984: 8.  
*Typhlodromus citimus* (Van der Merwe), Chant & Shaul, 1980: 1133.  
 This species has only been found in the Addo Elephant National Park. Van der Merwe (1968) described it from *Sideroxylon inerme* L.
7. *Typhlodromus (Meyerius) convallis* Van der Merwe  
*Typhlodromus (Meyerius) convallis* Van der Merwe, 1968: 94. Ueckermann & Loots, 1984: 9.  
*Typhlodromus convallis* (Van der Merwe), Chant & Shaul, 1981: 1260.  
 Ueckermann & Loots (1984) recorded this species from *Galenia pubescens* (Eckl. & Zeyh.) Druce in the Addo Elephant National Park.
8. *Amblyseius (Amblyseius) exiguus* Van der Merwe  
*Amblyseius (Amblyseius) exiguus* Van der Merwe, 1968: 128; Ueckermann & Loots (*in press*).  
 Ueckermann & Loots (*in press*) recorded this mite from an unidentified species of Mesembryanthemaceae and *Galenia pubescens* (Eckl. & Zeyh.) Druce, in the Addo Elephant National Park.
9. *Amblyseius (Amblyseius) barkeri* (Hughes)  
*Neoseiulus barkeri* Hughes, 1948: 142.  
*Amblyseius (Amblyseius) usitatus* Van der Merwe, 1965: 71.  
*Amblyseius (Amblyseius) barkeri* (Hughes), Ehara, 1972: 147; Ueckermann & Loots (*in press*).  
*Amblyseius (Amblyseius) pieteri* Schultz, 1972: 17.  
*Amblyseius masiaka* Blommers & Chazeau, 1974: 308.  
 The following are new records of *A. (A.) barkeri* from the Addo Elephant National Park: *Berula erecta* (Hudson) Cov., 14 February 1974 (C.J. Colijn); *Senecio rosmarinifolius* L.F., 14 February 1974 (F.W. Schultz).

Order Prostigmata  
 Family Tetranychidae  
 Subfamily Bryobiinae

10. *Bryobia tuberosa* Meyer  
*Bryobia tuberosa* Meyer, 1974: 34–40; Meyer, 1987: 15.  
*Bryobia tuberosa* is widely distributed in South Africa and has been collected on 23 plant species. Meyer (1987) recorded this mite from *Pentzia globosa* Less. and *P. incana* (Thunb.) Kuntze, in Addo Elephant National Park.
11. *Bryobia coatesi* Meyer  
*Bryobia coatesi* Meyer, 1974: 40; Meyer, 1987: 16.

This species was recorded by Meyer (1987) from *Walafrida geniculata* (L.F.) Rolfe, Addo Elephant National Park.

12. *Marainobia robusta* Meyer

*Marainobia robusta* Meyer, 1987: 24.

Meyer (1987) described this species from *Grewia robusta* Burch. in the Addo Elephant National Park. It was also collected on *Protasparagus buchananii* Bak. at Rustenburg Kloof Nature Reserve, Transvaal.

13. *Neopetrobia globosa* Meyer

*Neopetrobia globosa* Meyer, 1974: 95–100; Meyer, 1987: 51.

This species has been collected from eight plant species at various localities in the Cape Province. Meyer (1987) reported it from Addo Elephant National Park on *Mesembryanthemum* sp.

14. *Neopetrobia amaranthae* Meyer

*Neopetrobia amaranthae* Meyer, 1987: 60–63.

In 1974 this mite was collected from *Amaranthus thunbergii* Moq. at the Komga River (Grahamstown-Port Elizabeth road) and *Capparis sepiaria* L. at Addo Elephant National Park (Meyer 1987).

15. *Neopetrobia galeniae* (Meyer)

*Langella galeniae* Meyer, 1974: 87.

*Neopetrobia galeniae* (Meyer), Meyer, 1987: 58–60.

This species was recorded from seven plant species in the Cape Province and Namibia. It is now recorded from the Addo Elephant National Park on *Galenia* sp., 13 February 1974 (F.W. Schultz).

16. *Neopetrobia eberlanziae* (Meyer)

*Langella eberlanziae* Meyer, 1974: 86.

*Neopetrobia eberlanziae* (Meyer), Meyer, 1987: 54–55.

*Neopetrobia eberlanziae* was first described from *Eberlanzia ferox* (L. Bol.) L. Bol. and *Pteronia glaucescens* DC., Knapdaar, Cape Province. It was collected at Addo Elephant National Park on *Mesembryanthemum* sp., 14 February 1974 (F.W. Schultz).

17. *Tetranychina harti* (Ewing)

*Neophyllobius harti* Ewing, 1909: 405.

*Tetranychina harti* (Ewing), Meyer, 1974: 132; Meyer, 1987: 74.

This species occurs world-wide on *Oxalis* spp. However, it has been recorded from about 10 other host-plants in Africa. Meyer (1970) recorded this species under the name *Petrobia harti* (Ewing) from *Oxalis* sp. in the Addo Elephant National Park.

Subfamily Tetranychinae

18. *Schizotetranychus asparagi* (Oudemans)

*Epitetranychus asparagi* Oudemans, 1928: 288.

*Schizotetranychus asparagi* (Oudemans), Meyer, 1974: 166; Meyer, 1987: 101.

*Schizotetranychus asparagi* is widely distributed in Africa and usually infests *Protasparagus* spp. but can also damage pineapples. Here it is newly recorded

from the Addo Elephant National Park on *Protasparagus compactus* Salter, 13 February 1974 (M.K.P. Smith Meyer); *P. capensis* L., 14 February 1974 (L.C. Smit); *Aspalathus* sp., 7 March 1986 (E.A. Ueckermann).

19. *Tetranychus mesembryanae* Meyer

*Tetranychus mesembryanae* Meyer, 1987: 129.

Meyer (1987) described this mite from an unidentified species of Mesembryanthemaceae in the Addo Elephant National Park.

20. *Tetranychus lombardii* Baker & Pritchard

*Tetranychus lombardii* Baker & Pritchard, 1960: 551–553; Meyer, 1974: 231–233; Meyer, 1987: 134.

This species is widely distributed in Africa, has numerous host-plants and is of great economic importance. Meyer (1970) recorded it from Addo Elephant National Park on *Spathodea* sp., *Amaranthus* sp. and *Ricinus communis* L.

21. *Tetranychus ludeni* Zacher

*Tetranychus ludeni* Zacher, 1913: 40; Meyer, 1974: 245–246; Meyer, 1987: 140–142.

*Tetranychus ludeni* has a world-wide distribution and occurs on a great variety of cultivated and wild plants. In South Africa it is a pest of cotton. This mite was collected in the Addo Elephant National Park on an unidentified Malvacea species, *Datura stramonium* L. and *Verbena* sp.

22. *Tetranychus urticae* Koch

*Tetranychus urticae* Koch, 1836: 10; Meyer, 1974: 234; Meyer, 1987: 136–137.

*Tetranychus cinnabarinus* (Boisduval), Meyer, 1974: 235–238.

This species is commonly called the two-spotted spider mite but has also been known as the Glasshouse spider mite, red spider mite or simple red spider. These names referred to a complex of mites that included *T. cinnabarinus* (Boisduval), now considered a synonym of *T. urticae*. This complex included many synonyms, each described from different hosts or different localities. *Tetranychus urticae* has been recorded on more than 200 hosts which include many crops and ornamental plants. This species is one of the most destructive phytophagous mites, often killing its host very rapidly. Meyer (1970) recorded this mite under the name *T. cinnabarinus* from the Addo Elephant National Park on an unidentified Malvaceae species.

#### Family Tenuipalpidae

In the Addo Elephant National Park this family is represented by four species. One of these species is new and is described here.

23. *Tenuipalpus robustae* Meyer, *spec. nov.* Fig. 1–3

*Tenuipalpus robustae* belongs to a species group which is characterised by a single anterior and posterior pair of medioventral podosomal setae, a pair of flagellate and three pairs of nonflagellate caudolateral setae. As in *T. capparidis* Meyer, the opisthosoma of this species also bears only two pairs of dorso-central setae, of which the second pair ( $d_1$ ) is minute. However, in contrast to *T. capparidis* this species has a conical body projection immediately anterior to coxa III.

## Female

Dimensions of holotype: length of body 330  $\mu\text{m}$ ; greatest width of body 229  $\mu\text{m}$ ; leg I 154  $\mu\text{m}$ ; leg II 125  $\mu\text{m}$ ; leg III 103  $\mu\text{m}$ ; leg IV 110  $\mu\text{m}$ .

Dorsum (Fig. 1). Rostral shield notched with two lobes on each side; prodorsum conspicuously angulate anterior to eyes with few transverse to irregular striae mediodorsally; opisthosoma covered with a few irregular striae; first pair of prodorsal setae ( $v_2$ ) and second pair of dorsocentrals ( $d_1$ ) setiform and minute; second pair of prodorsal setae ( $sc_1$ ), humerals ( $c_3$ ), first pair of dorsocentrals ( $c_1$ ) and first pair of dorsolateral setae ( $d_2$ ) subspatulate and serrate; third pair of prodorsal setae ( $sc_2$ ), first ( $e_2$ ) and second ( $f_2$ ) pairs of caudolateral setae elliptic-lanceolate and serrate; third pair of caudolateral setae ( $h_2$ ) flagelliform; fourth pair of caudolaterals ( $h_1$ ) about half the length of first pair; first two pairs of caudolateral setae extend past bases of setae next behind.

Venter (Fig. 2). One pair of short medioventral setae ( $3a$ ) and one pair of long medioventral setae ( $4a$ ) on podosoma; no division between ventral and genital shields; remaining setae on opisthosoma consist of one pair of aggenital ( $ag$ ), two pairs of genital ( $g_{1-2}$ ) and two pairs of anal setae ( $ps_{1-2}$ ); all the ventral setae smooth.

Gnathosoma. Ventrally gnathosoma with one pair of setae; palpus three-segmented, second segment longest with a relatively long, smooth seta dorsodistally; third segment bears a relatively long solenidium, about twice as long as the respective segment.

Legs. Counts of setae and solenidia (in parentheses) of legs I-IV are: coxae 3-2-1-1; trochanters 1-1-1-1; femora 4-4-2-1; genua 2-1-0-0; tibiae 3-3-2-2; tarsi 7?(1)-6?(1)-4-4. Femur I with a broadly lanceolate, serrate inner dorsal seta and a lanceolate, serrate inner distal seta, which are subequal in length; genu I with an outer seta, which extends to about tip of tarsus; femur II with an inner, a distal and an outer set which are lanceolate and serrate.

## Male

Dimensions: length of body 263  $\mu\text{m}$ ; greatest width of body 172  $\mu\text{m}$ ; leg I 125  $\mu\text{m}$ ; leg II 97  $\mu\text{m}$ ; leg III 97  $\mu\text{m}$ ; leg IV 103  $\mu\text{m}$ .

Opisthosoma (Fig. 3) divided into two parts; in contrast to female first pair of dorsocentral setae ( $c_1$ ) also setiform and minute; first ( $e_2$ ) and second ( $f_2$ ) pairs of caudolateral setae subspatulate and shorter than distances between bases of consecutive setae; genu II with two setae.

Type data. Holotype female and one paratype male from *Grewia robusta* Burch., Addo Elephant National Park (Cape Province), 8 March 1986 (E.A. Ueckermann).

### 24. *Tenuipalpus niekerkae* Meyer

*Tenuipalpus niekerkae* Meyer, 1979: 70.

Meyer (1979) described this species from *Grewia robusta* Burch. and *Rhus longispina* Eckl. & Zeyh. in the Addo Elephant National Park.

### 25. *Brevipalpus obovatus* Donnadieu

*Brevipalpus obovatus* Donnadieu, 1875: 144; Meyer, 1979: 86-87.

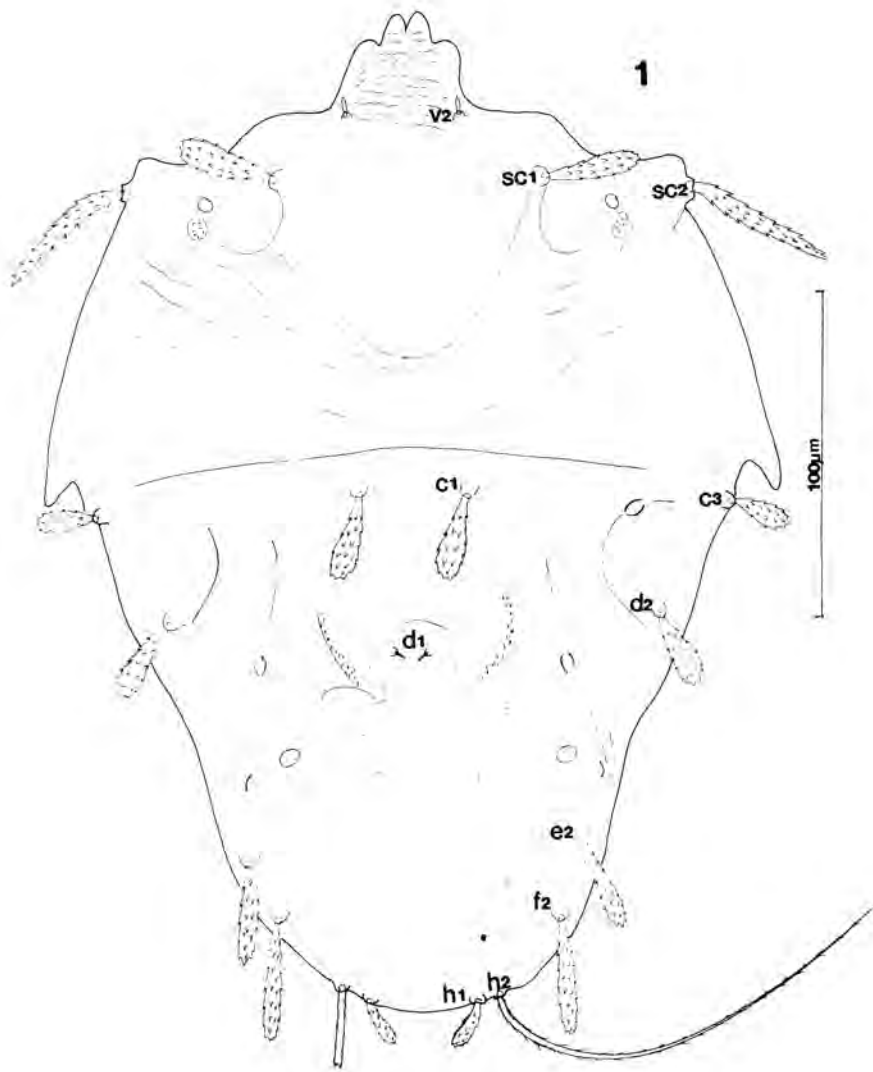


Fig. 1-3. *Tenuipalpus robustae* Meyer, *spec. nov.*

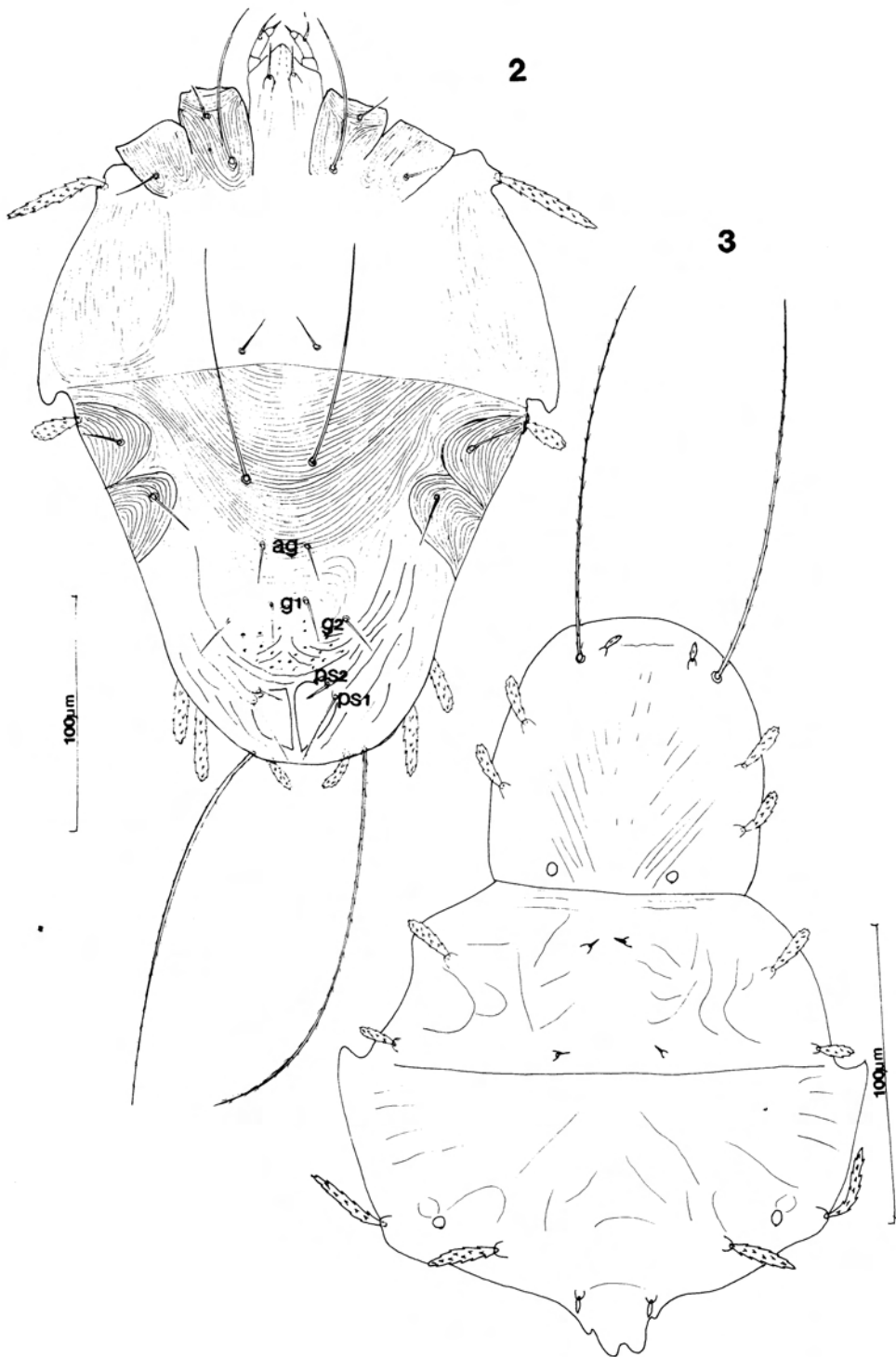
Fig. 1. Dorsal view of female

Fig. 2. Ventral view of female

Fig. 3. Dorsal view of male

*Brevipalpus obovatus* is not only a pest of citrus but also of more than 50 genera of ornamental plants. It occurs world-wide and is common in Africa. Meyer (1979) recorded this species from the Addo Elephant National Park on *Senecio mikanioides* Otto ex Harv. and *Rhus longispina* Eckl. & Zeyh.





26. *Brevipalpus phoenicis* (Geijskes)

*Tenuipalpus phoenicis* Geijskes, 1939: 230.

*Brevipalpus phoenicis* (Geijskes), Meyer & Rodrigues, 1966: 15–16; Meyer, 1979: 87–88.

This species is an important pest of citrus and tea but also attacks a wide variety of crops, ornamental and wild plants. It occurs throughout the world and has been reported from the Addo Elephant National Park on *Senecio rosmarinifolius* L. F. (Meyer 1979).

Family Stigmaeidae

To date only four species of this family are known from the Addo Elephant National Park.

27. *Agistemus africanus* (Meyer & Ryke)

*Mediolata africana* Meyer & Ryke, 1960: 220.

*Agistemus africanus* (Meyer & Ryke), Gonzalez, 1965: 40; Meyer, 1969: 257.

*Agistemus africanus* is widely distributed in southern Africa. Ueckermann & Meyer (1987) recorded this species from *Senecio rosmarinifolius* L. F. in the Addo Elephant National Park.

28. *Eryngiopus bidens* Meyer

*Eryngiopus bidens* Meyer, 1969: 234; Ueckermann & Meyer, 1987: 396.

Ueckermann & Meyer (1987) recorded this species in the Addo Elephant National Park from *Rhus longispina* Eckl. & Zeyh.

29. *Eryngiopus lindei* Meyer

*Eryngiopus lindei* Meyer, 1969: 236; Ueckermann & Meyer, 1987: 396.

*Eryngiopus lindei* was collected in the Addo Elephant National Park from *Lotononis laxa* Eckl. & Zeyh., 14 February 1974 (M.K.P. Smith Meyer). The mite was also recorded from this park by Ueckermann & Meyer (1987) on *Pentzia incana* (Thunb.) Kuntze.

30. *Storchia robusta* (Berlese)

*Caligonus robustus* Berlese, 1885.

*Apostigmaeus navicella* Grandjean, 1944: 105; Meyer, 1969: 231

*Storchia robustus* (Berlese), Oudemans, 1923: 150; Wood, 1973: 89.

*Storchia robusta* (Berlese), Ueckermann & Meyer, 1987: 394.

Meyer (1969) recorded this species under the name *Apostigmaeus navicella* from *Schotia afra* (L.) Thunb. and *Grewia* sp. in the Addo Elephant National Park.

Family Eupalopsellidae

31. *Eupalopsellus oresbiosis* Meyer & Ueckermann

*Eupalopsellus oresbiosis* Meyer & Ueckermann, 1984: 128.

Meyer & Ueckermann (1984) recorded this species from *Capparis sepiaria* L. var. *citrifolia* (Lam.) Toelken in the Addo Elephant National Park.

32. *Eupalopsellus sellnicki* Meyer & Ueckermann

*Eupalopsellus sellnicki* Meyer & Ueckermann, 1984: 126.

This species was recorded by Meyer & Ueckermann (1984) from *Senecio rosmarinifolius* L. F. in the Addo Elephant National Park.

#### Family Anystidae

In the Addo Elephant National Park this family is represented by only two species.

33. *Anystis baccharum* (Linn.)

*Acarus baccharum* Linnaeus, 1758: 106.

*Anystis baccharum* (Linnaeus), Trägårdh, 1905: 63; Meyer & Ueckermann, 1987: 2.

This cosmopolitan predacious mite was collected from various plants in southern Africa. In the Addo Elephant National Park, Meyer & Ueckermann (1987) recorded *A. baccharum* from *Grewia robusta* Burch. and an unidentified shrub.

34. *Chaussieria venustissima* (Berlese)

*Erythraeus venustissima* Berlese, 1882: fasc. 2 (3).

*Chaussieria venustissima* (Berlese), Hutterer & Rack, 1977: 434–438; Meyer & Ueckermann, 1987: 20.

*Chaussieria capensis* Meyer & Ryke, 1960: 185.

Meyer & Ueckermann (1987) recorded this species from *Lotononis laxa* Eckl. & Zeyh., Addo Elephant National Park.

#### Family Tydeidae

Three new species of this family were collected in the Addo Elephant National Park.

35. *Triophtydeus myacanthus* Ueckermann

*Triophtydeus myacanthus* Ueckermann, Meyer & Ueckermann, 1988: 22.

This species was described from a wide range of plants and many localities in South Africa. Meyer & Ueckermann (1988) also reported it from the Addo Elephant National Park on *Senecio mikanioides* Otto, *Capparis sepiaria* L. var. *citrifolia* (Lam.) Toelken and *Protasparagus capensis* (L.).

36. *Tydeus rhusi* Ueckermann

*Tydeus rhusi* Ueckermann, Meyer & Ueckermann, 1988: 16.

This species was first described from *Rhus lancea* L. F., Mountain Zebra National Park (Cape Province). A new record is from *Azima tetracantha* Lam., Addo Elephant National Park (Cape Province), 7 March 1986 (E.A. Ueckermann).

37. *Tydeus grabouwi* Meyer & Ryke

*Tydeus grabouwi* Meyer & Ryke, 1959: 410.

*Tydeus grabouwi* was collected from *Pteronia paniculata* Thund. in the Addo Elephant National Park, 14 February 1974 (C.J. Colijn).

38. *Tydeus schotiae* Ueckermann, *spec. nov.* Fig. 4–11

This species can be defined as follows: dorsal body setae strongly serrate; solenidion (W) on tarsus I like a long slender rod and three times longer than solenidion (W) on tarsus II; terminal eupathidium on palptarsus rather short and broad; setal formula of trochanters 0–0–1–0.

Female

Dimensions of holotype: length of body (including gnathosoma) 340  $\mu\text{m}$ ; length (excluding gnathosoma) 301  $\mu\text{m}$ ; width 214  $\mu\text{m}$ ; leg I 221  $\mu\text{m}$ ; leg II 176  $\mu\text{m}$ ; leg III and IV 189  $\mu\text{m}$ ; setae  $v_2$ ,  $sc_1$ ,  $c_1$  and  $d_1$  19  $\mu\text{m}$ ;  $sc_2$ ,  $c_2$ ,  $d_2$  and  $e_{1-2}$  22  $\mu\text{m}$ ;  $S$  57  $\mu\text{m}$ ;  $f_{1-2}$  and  $h_1$  28  $\mu\text{m}$ .

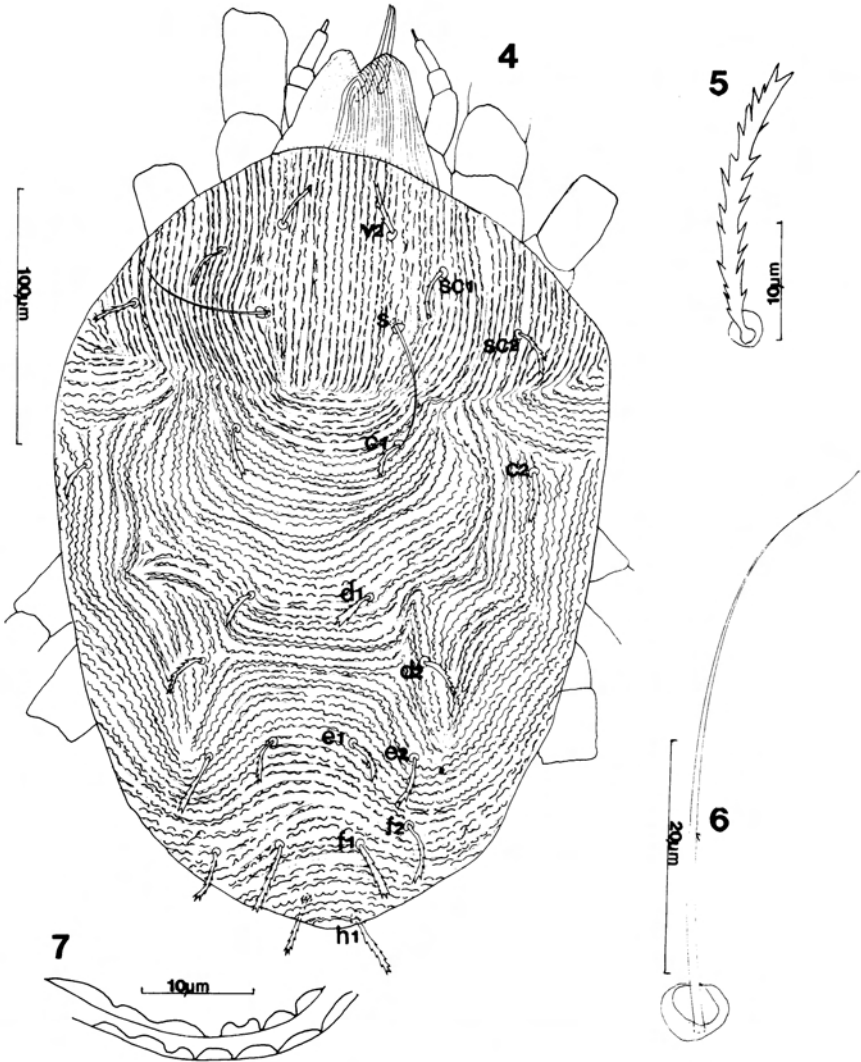
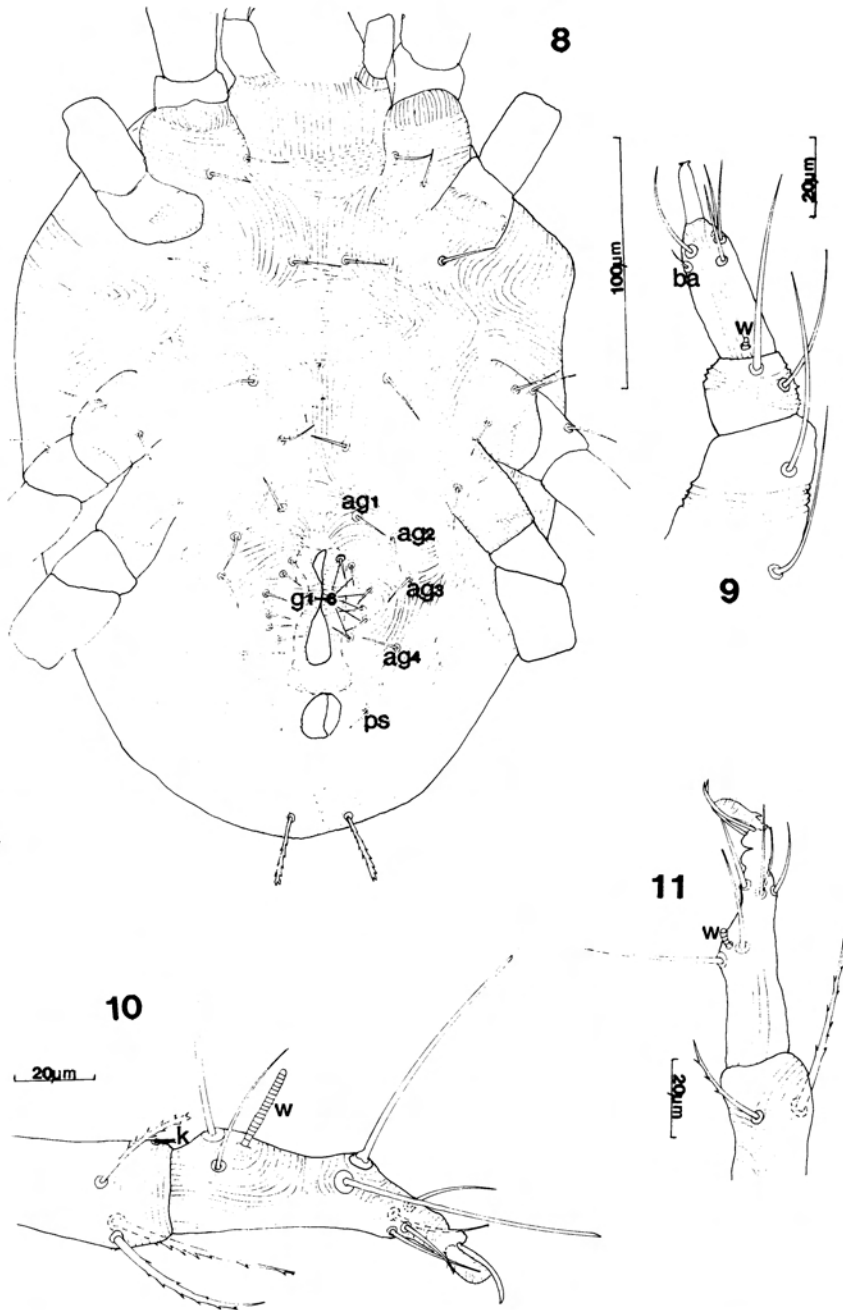


Fig. 4–11. *Tydeus schotiae* Ueckermann, *spec. nov.*, female  
 Fig. 4. Dorsal view  
 Fig. 5. Dorsal seta  
 Fig. 6. Bothridial sensillum *S*  
 Fig. 7. Dorsal lobes  
 Fig. 8. Ventral view  
 Fig. 9. Palpus  
 Fig. 10. Tibia and tarsus I  
 Fig. 11. Tibia and tarsus II

Dorsum (Fig. 4). Dorsal body setae strongly serrate (Fig. 5); bothridial sensilla (*S*) twice as long as the latter setae (Fig. 6); lobes on striae semicircular (Fig. 7).



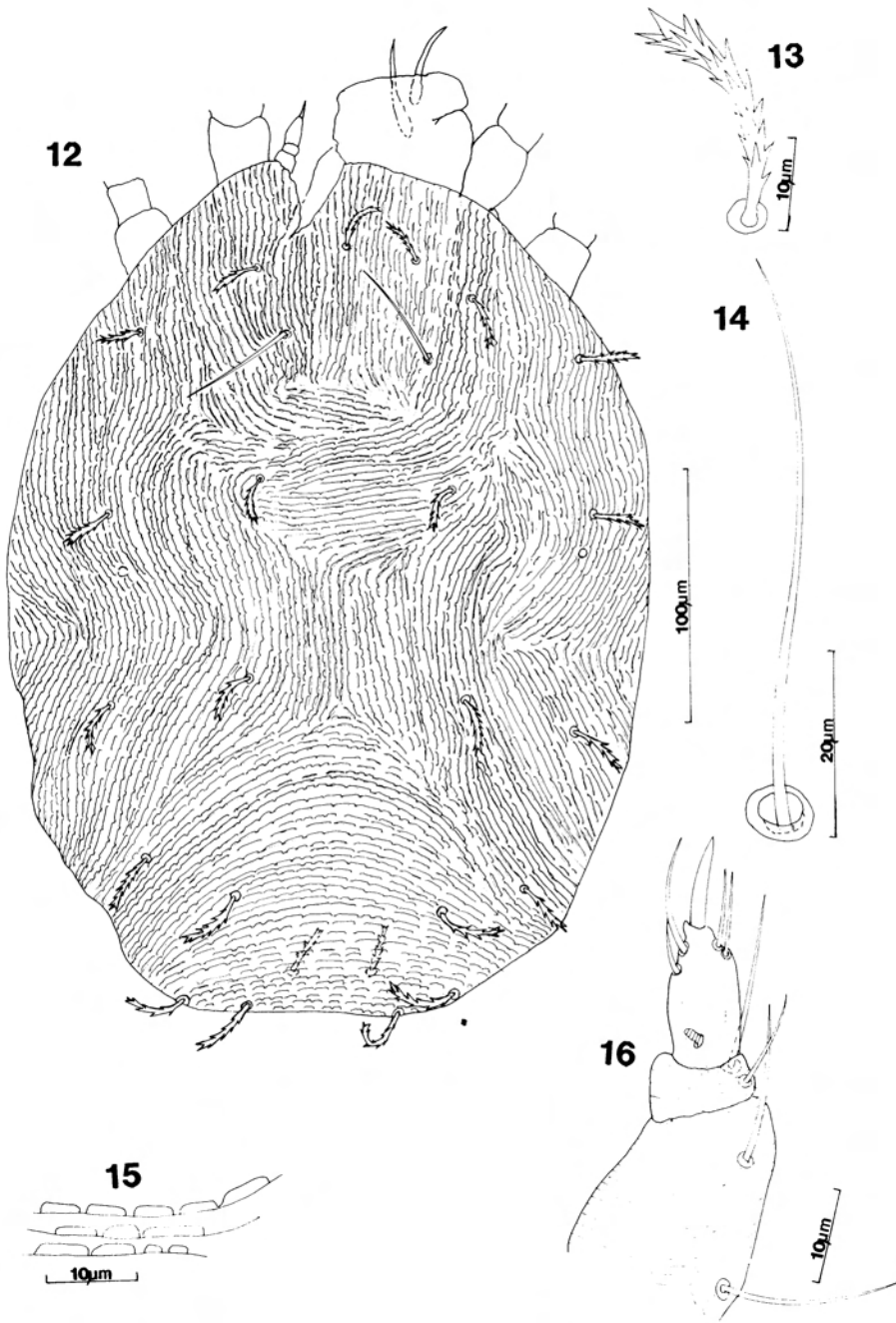
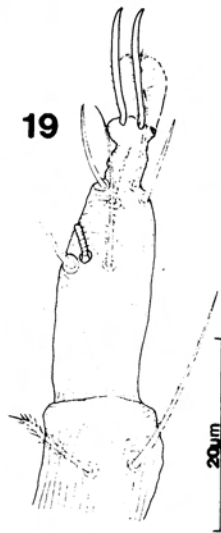
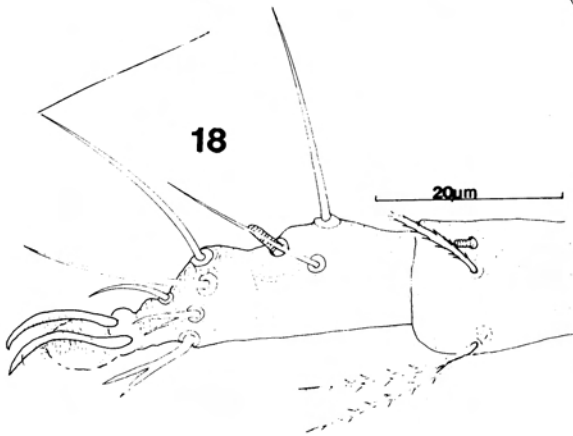
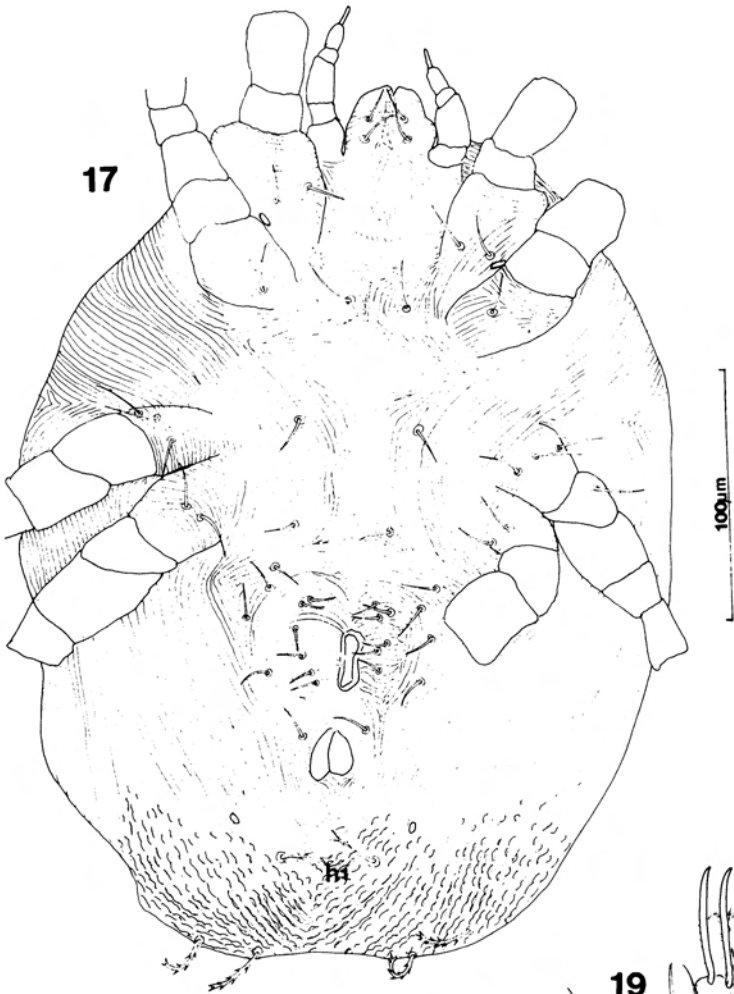


Fig. 12–19. *Paralorryia grewiae* Ueckermann, *spec. nov.*, female  
 Fig. 12. Dorsal view  
 Fig. 13. Dorsal seta  
 Fig. 14. Bothridial sensillum *S*  
 Fig. 15. Dorsal lobes  
 Fig. 16. Palpus  
 Fig. 17. Ventral view  
 Fig. 18. Tibia and tarsus I  
 Fig. 19. Tibia and tarsus II



Venter (Fig. 8). Venter bears three pairs of ventral setae (*Ia*, *3a* and *4a*), four pairs of aggenital setae (*ag*<sub>1-4</sub>), six pairs of genital setae (*g*<sub>1-6</sub>) and one pair of anal setae (*ps*); setae *Ia* and *4a* longitudinally in line whereas members of *3a* are further apart.

Gnathosoma. Palptarsus with terminal eupathidium broad and bidentate distally; seta *ba* and solenidion *W* very small; palpus formula (solenidion in parentheses): 6(1)-2-2 (Fig. 9).

Legs. All legs terminate into two claws and a hairy empodium, latter with a claw; distribution of setae and solenidia (in parentheses) on leg podomeres is as follows: coxae 2-1-3-1; trochanters 0-0-1-0; femora 3-3-2-1; genua 3-2-1-1; tibiae 3 or 4-2-2-2; tarsi 8(1)-6(1)-5-5; the presence or absence of seta *k* on tibia I not observed with certainty; solenidion *W* on tarsus I like a long slender rod (Fig. 10); solenidion *W* on tarsus II a third the length of *W* of tarsus I. (Fig. 11); leg setae smooth on tarsi, but on other segments setae mostly serrate.

Type data. Holotype female from *Schotia afra* (L.) Thunb., Addo Elephant National Park (Cape Province), 7 March 1986 (E.A. Ueckermann).

39. *Paralorryia grewiae* Ueckermann, *spec. nov.* Fig. 12-19

This species closely resembles *P. doddsi* (Baker) in the shape of the palpus, tarsi bearing forked setae and setae *h*<sub>1</sub> which are not as strongly serrate as the other dorsal body setae. However, it differs from *P. doddsi* in the shape of the dorsal body setae and the setal formula of the trochanters, namely 0-0-1-0 (instead of 1-1-1-0).

#### Female

Dimensions of holotype: length of body (excluding gnathosoma) 416  $\mu\text{m}$ ; width 328  $\mu\text{m}$ ; leg I 227  $\mu\text{m}$ ; leg II 208  $\mu\text{m}$ ; leg III 221  $\mu\text{m}$ ; leg IV 224  $\mu\text{m}$ ; setae *v*<sub>2</sub> 22  $\mu\text{m}$ ; *sc*<sub>1-2</sub>, *h*<sub>1</sub> and *c*<sub>2</sub> 25  $\mu\text{m}$ ; *c*<sub>1</sub>, *d*<sub>1-2</sub>, *e*<sub>2</sub> and *f*<sub>2</sub> 28  $\mu\text{m}$ ; *e*<sub>1</sub> and *f*<sub>1</sub> 31  $\mu\text{m}$ ; *S* 60  $\mu\text{m}$ .

Dorsum (Fig. 12). Dorsal body setae strongly serrated (Fig. 13); bothridial sensilla (*S*) twice the length of dorsal body setae (Fig. 14); lobes on dorsal striae tabular (Fig. 15); setae *h*<sub>1</sub> located ventrally and not as strongly serrated as other dorsal body setae.

Venter (Fig. 17). Anogenital area with four pairs of aggenital setae (*ag*<sub>1-4</sub>), six pairs of genital setae (*g*<sub>1-6</sub>) and one anal seta (*ps*); podosoma with three pairs of ventral setae (*Ia*, *3a* and *4a*).

Gnathosoma. Setal formula of palpus (Fig. 16), with solenidion in parentheses, are: 5(1)-2-2; terminal eupathidium stout; seta *ba* absent.

Legs (fig. 18-19). Each tarsus with two hairy claws and a hairy empodium bearing a claw; each tarsi bears two forked setae; distribution of leg setae and solenidia (in parentheses) is: coxae 2-1-3-2; trochanters 0-0-1-0; femora 3-3-1-0; genua 2-0-0-0; tibiae 3(1)-2-2-2; tarsi 8(1)-6(1)-5-5; solenidion on tarsus I twice the length of that on tibia I (Fig. 10).

Type data. Holotype female from *Grewia robusta* Burch., Addo Elephant National Park (Cape Province), 8 March 1986 (E.A. Ueckermann).



40. *Pronematus pteroni* Ueckermann, *spec. nov.* Fig. 20–27

*Pronematus pteroni* resembles *P. pyrrohippeus* (Treat) in that solenidion *W* on tarsus I extends past the anterior margin of the segment and in the leg chaetotaxy. However, it differs from *P. pyrrohippeus* in that the prodorsal bothridial sensilla (*S*) are smooth and subequal in length to setae *sc*<sub>2</sub> whereas tarsus I and tibia I are of equal length.

Female

Dimensions of holotype: length of body (including gnathosoma) 324  $\mu\text{m}$ ; length (excluding gnathosoma) 277  $\mu\text{m}$ ; width 151  $\mu\text{m}$ ; leg I 154  $\mu\text{m}$ ; leg II 132  $\mu\text{m}$ ; leg III and IV 158  $\mu\text{m}$ ; setae *v*<sub>2</sub>, *c*<sub>1</sub> and *d*<sub>1</sub> 19  $\mu\text{m}$ ; *sc*<sub>1</sub> and *ps* 16  $\mu\text{m}$ ; *sc*<sub>2</sub> 35  $\mu\text{m}$ ; *S* and *h*<sub>4</sub> 38  $\mu\text{m}$ ; *e*<sub>1</sub> and *h*<sub>2</sub> 22  $\mu\text{m}$ ; *f*<sub>1</sub> 25  $\mu\text{m}$ ; *f*<sub>2</sub> 44  $\mu\text{m}$ ; *h*<sub>1</sub> 28  $\mu\text{m}$ ; *h*<sub>3</sub> 47  $\mu\text{m}$ ; *c*<sub>2</sub> 23  $\mu\text{m}$ .

Dorsum (Fig. 20). Dorsal body setae simple (Fig. 21); setae *v*<sub>2</sub>, *sc*<sub>1</sub>, *c*<sub>1–2</sub>, *d*<sub>1</sub> and *e*<sub>1</sub> short, rest longer; bothridial sensilla (*S*) long and smooth (Fig. 22); striae transverse on posterior third of idiosoma; setae *v*<sub>2</sub> situated posterior to bothridial sensilla (*S*) and setae *sc*<sub>1</sub> close to *S*.

Venter (Fig. 23). Podosoma with three setae (*1a*, *3a* and *4a*); progenital aperture T-shaped; genital setae absent, only 4 pairs of aggenital setae (*ag*<sub>1–4</sub>) present; one pair of anal setae (*ps*).

Gnathosoma. Infracapitulum as depicted in Fig. 24; setal formula of palpus, with solenidion in parentheses, are: 5(1)–1–2; terminal eupathidium bidentate terminally (Fig. 25).

Legs (Fig. 26–27). Number of setae and solenidia (in parentheses) on leg podomeres as follows: coxae 2–1–3–1; trochanters 1–1–1–0; femora 3–3–2–2; genua 3–3–2–1; tibiae 4(1)–2–2–2; tarsi 8(1)–7(1)–7–7; solenidion *W* on tarsus I long and slender extending past anterior margin of tarsus I (Fig. 26); seta *k* very short and close to solenidion  $\emptyset$ , distally on tibia I (Fig. 26); tarsus and tibia I of equal length; solenidion *W* on tarsus II short (Fig. 27); femur IV divided into a basi and telofemur, both bearing one seta.

Type data. Holotype female from *Pteronia paniculata* Thunb., Addo Elephant National Park (Cape Province), 7 March 1986 (M.K.P. Smith Meyer).

## Discussion

Mites collected in the Addo Elephant National Park comprise 16 phytophagous and 22 predacious species. Among the phytophagous species are five species of great economic importance to crops and ornamental plants. Of these *Tetranychus urticae* Koch is the most destructive and has the ability to build up resistance to pesticides within 3 to 5 seasons. However, this mite and other phytophagous mites are of little significance under conditions prevailing in the Park. The reason being that some parks such as the Addo Elephant National Park serve as important reserves for the conservation of predacious mite species. These predatory mites are usually eradicated in cultivated areas where pesticidal sprays are applied. As in the Mountain Zebra National Park the beneficial predacious species outnumber the phytophagous species and are probably able to keep the noxious species under control.

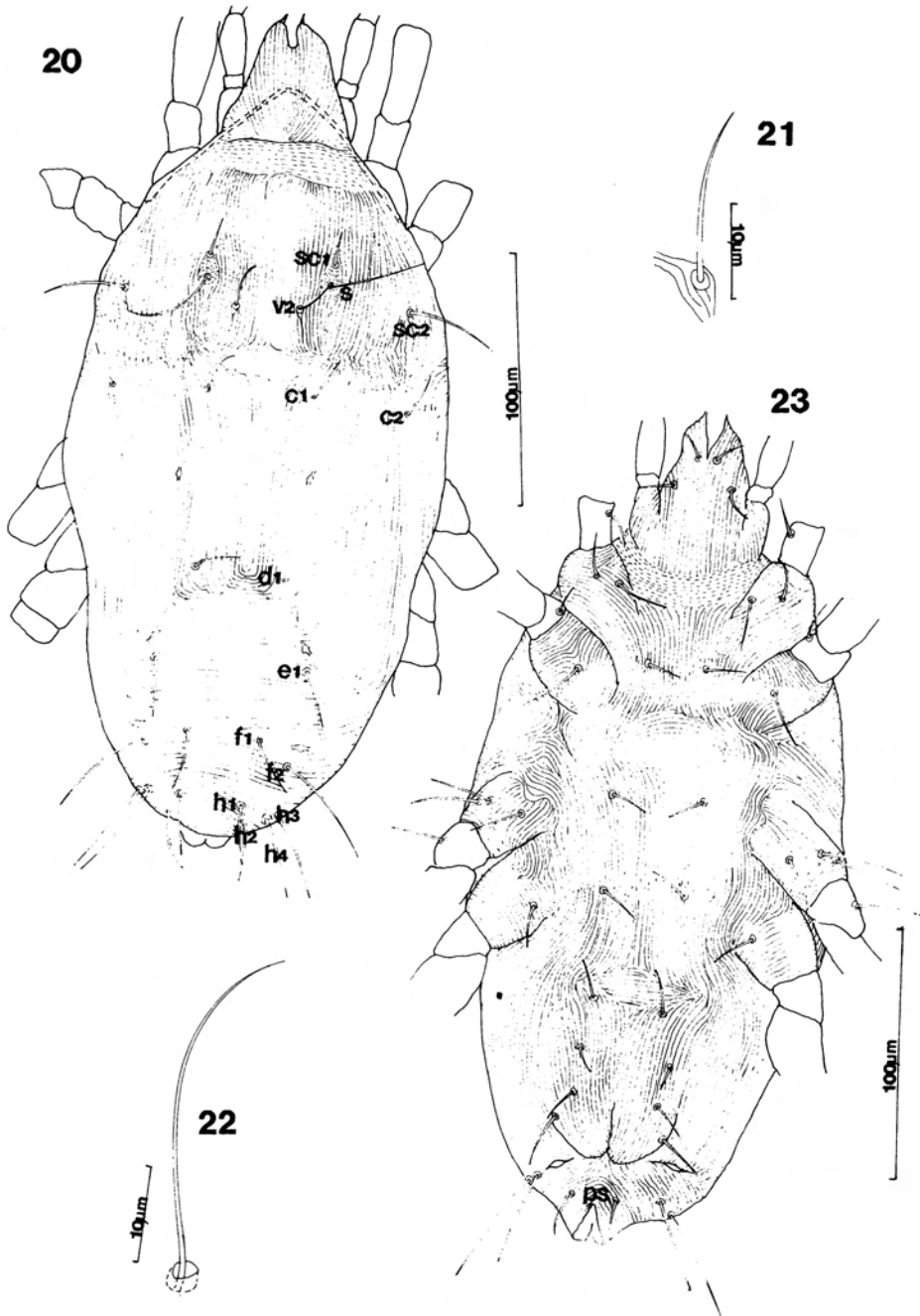


Fig. 20–27. *Pronematus pteroni* Ueckermann, *spec. nov.*, female

Fig. 20. Dorsal view

Fig. 22. Bothridial sensillum S

Fig. 24. Infracapitulum

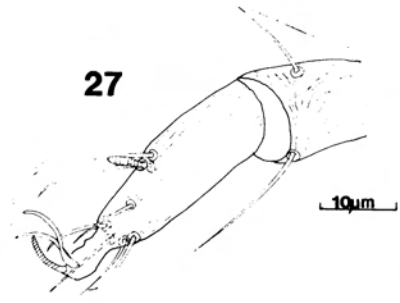
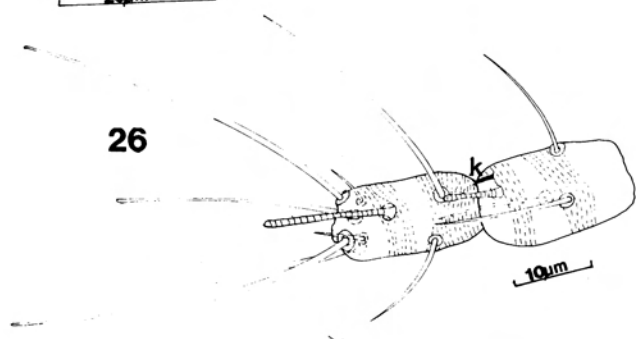
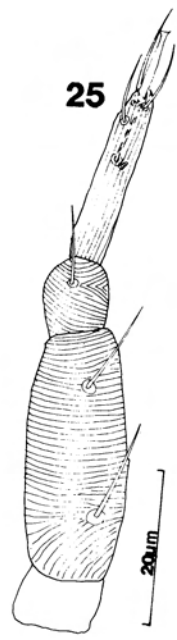
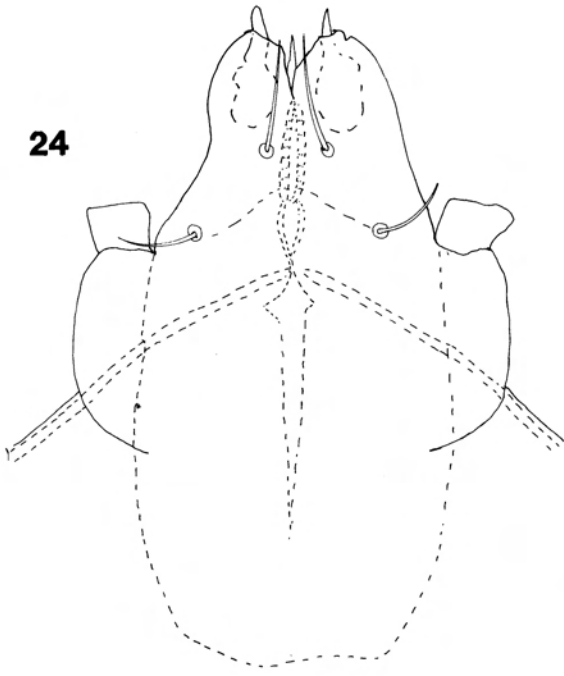
Fig. 26. Tibia and tarsus I

Fig. 21. Dorsal seta

Fig. 23. Ventral view

Fig. 25. Palpus

Fig. 27. Tibia and tarsus II



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