THREE NEW SPECIES OF TETRANYCHID MITES FROM SOUTH AFRICA

BY

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ABSTRACT.

Three new species, *Oligonychus neoplegas*, *O. intermedius* and *Eotetranychus edi*, are described and figured.

INTRODUCTION.

The family Tetranychidae is known to be of great economic importance. It has happened in the past that species from wild plants have gone over to cultivated plants and a thorough survey of the mites of wild plants is therefore necessary. These new species are the first which were collected in this survey. The types are deposited in the collection of the Acarology Section of the Plant Protection Research Institute.

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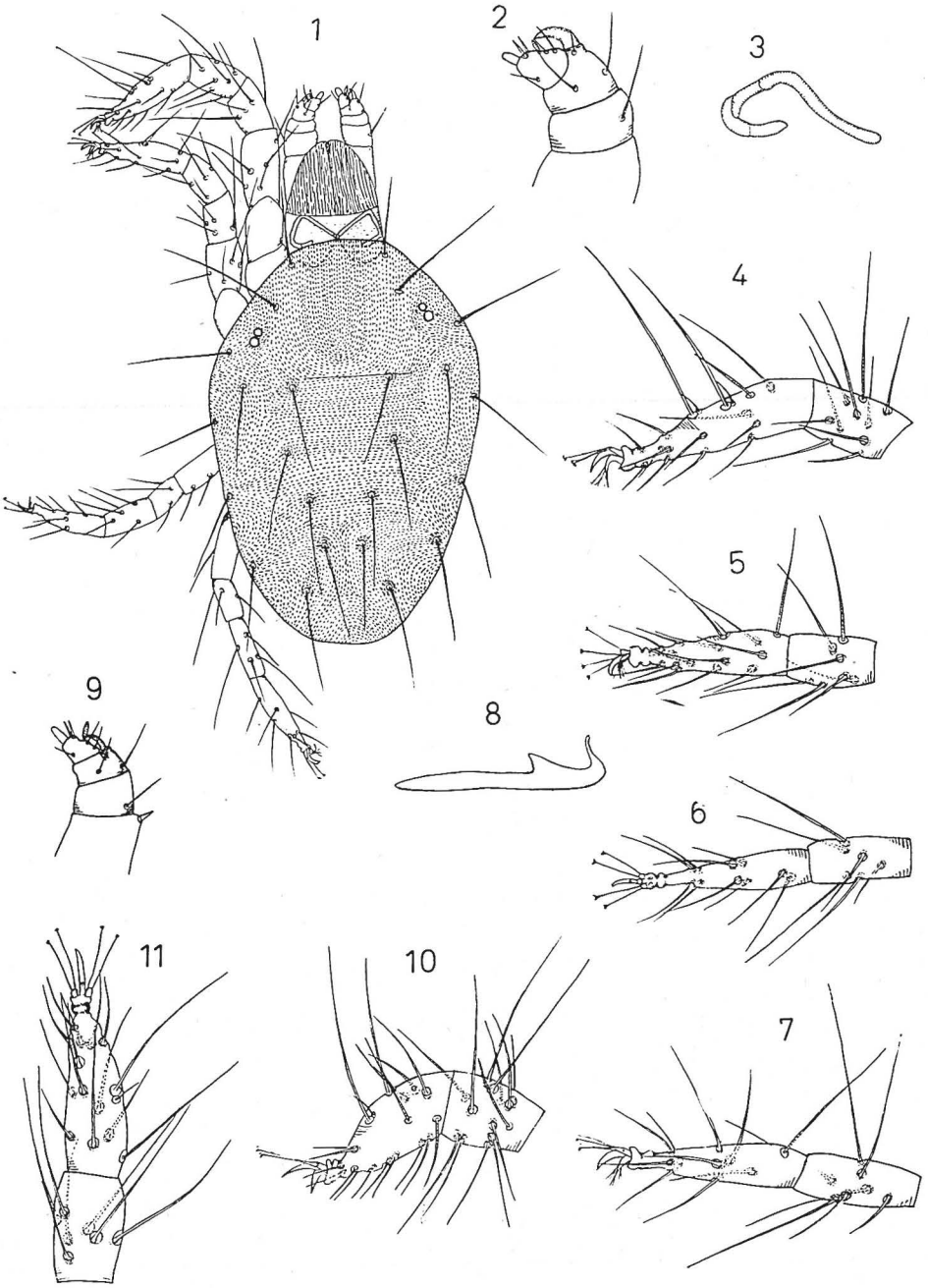
Oligonychus neoplegas n. sp.

(Figs. 1-11).

Oligonychus neoplegas can be separated from *O. plegas* Baker & Pritchard by the length of the distal bent portion of the aedeagus and the length of the terminal sensillum on the palpus.

Female. (Fig. 1).

Dimensions of the holotype (the measurements following in parentheses are the variations in the paratypes) : Length of body (incl. gnathosoma) 431 μ (422 —) ; length of body (excl. gnathosoma) 358 μ (338 —) ; breadth 215 μ (232 —) ; length



FIGS. 1-11. — *Oligonychus neoplegas*, n. sp.

Fig. 1, dorsum of female ; fig. 2, palp of female ; fig. 3, peritreme ; fig. 4, tibia and tarsus I of female ; fig. 5, tibia and tarsus II of female ; fig. 6, tibia and tarsus III of female ; fig. 7, tibia and tarsus IV of female ; fig. 8, aedeagus of male ; fig. 9, palp of male ; fig. 10, tibia and tarsus I of male ; fig. 11, tibia and tarsus II of male.

of leg I 296 μ (300 —) ; leg II 232 μ (211 —) ; leg III 211 μ (200 —) ; leg IV 253 μ 253 —).

Dorsum. The lobed striations on the hysterosoma of this oval-shaped mite are transverse except between the inner sacral setae, where the striations are longitudinal. The lobes on the striations are triangular with rounded apices. The twelve pairs of dorsal setae (217-109 μ) are much longer than the intervals between the bases of consecutive setae, and are finely setose. The perfect and imperfect eye corneae are situated more or less half-way between the second and third propodosomal setae.

Gnathosoma. The terminal sensillum on the palpus (fig. 2) is twice as long as broad. In this respect, it differs from *O. plegas* where the sensillum is slightly longer than broad. The usual five setae are present on the thumb. The mandibular plate is distinctly notched in front. The peritreme (fig. 3) is retrorse distally.

Legs. As in *O. plegas*, tibia I (fig. 4) is provided with nine tactile and one sensory setae ; tarsus I bears four tactile and one sensory setae proximal to the duplex setae. Tibia II (fig. 5) has seven tactile setae and tarsus II three tactile and one sensory setae proximal to the pair of duplex setae. Seven tactile setae are situated on tibia IV (fig. 7) and nine tactile and one sensory setae on tarsus IV.

Nympha. The nymphs are similar to the female but smaller in size.

Male. (Figs. 8-11).

Dimensions of allotype : Length of body (incl. gnathosoma) 296 μ (340 —) ; length (excl. gnathosoma) 245 μ (273 —) ; breadth 153 μ (190 —).

The body is smaller and narrower than that of the female. The dorsal body setae are long, slender and pubescent. According to BAKER and PRITCHARD (1960), the dorsally directed part of the aedeagus of *O. plegas* is about as long as the dorsal margin of the shaft. In the case of *O. neoplegas*, the dorsally directed part of the aedeagus (7 μ) is shorter than the dorsal margin of the shaft (10 μ). As in *O. plegas*, the bent portion of the aedeagus (fig. 8) is slightly sigmoid and slender.

In contrast to *O. plegas*, the terminal sensillum of the palpus (fig. 9) is about twice as long as broad. The peritreme is hooked distally. In this respect it differs from *O. plegas* where the peritreme ends in a simple bulb.

As in *O. plegas*, tibia I (fig. 10) is provided with nine tactile and three sensory setae. Tarsus I bears four tactile and three sensory setae proximal to the duplex setae. The proximo-ventral spurs on empodium I are shorter than the median claw, whereas in *O. plegas*, the spurs are longer than the median claw. Tibia II (fig. 11) bears seven tactile setae ; the proximo-ventral spurs of empodium II are relatively shorter than the median claw.

Habitat and locality. One holotype female, 14 paratype females, one morphotype nympha, five paratype nymphae, one allotype male and one paratype male

from *Panicum* sp., Nelspruit, December, 1959 (A. SCHWARTZ). Six females and four nymphae are stored in 75 % alcohol, while the rest of the specimens are mounted on eight slides in Hoyer's medium. Accession number AcY 60/5/1-8.

Oligonychus intermedius n. sp.

(Figs. 12-23).

Oligonychus intermedius is related to *O. biharensis* (Hirst) but can be differentiated from the latter by the tip of the aedeagus which bends upwards and the axis of the knob, which forms an angle of less than 45° with the dorsal margin of the shaft. It can be distinguished from *O. ilicinus* Baker and Pritchard by the dorsal margin of the knob which is curved but not sigmoid. The knob of the aedeagus is relatively smaller than that of *O. biharensis* but relatively bigger than that of *O. ilicinus*.

Female. (Fig. 12).

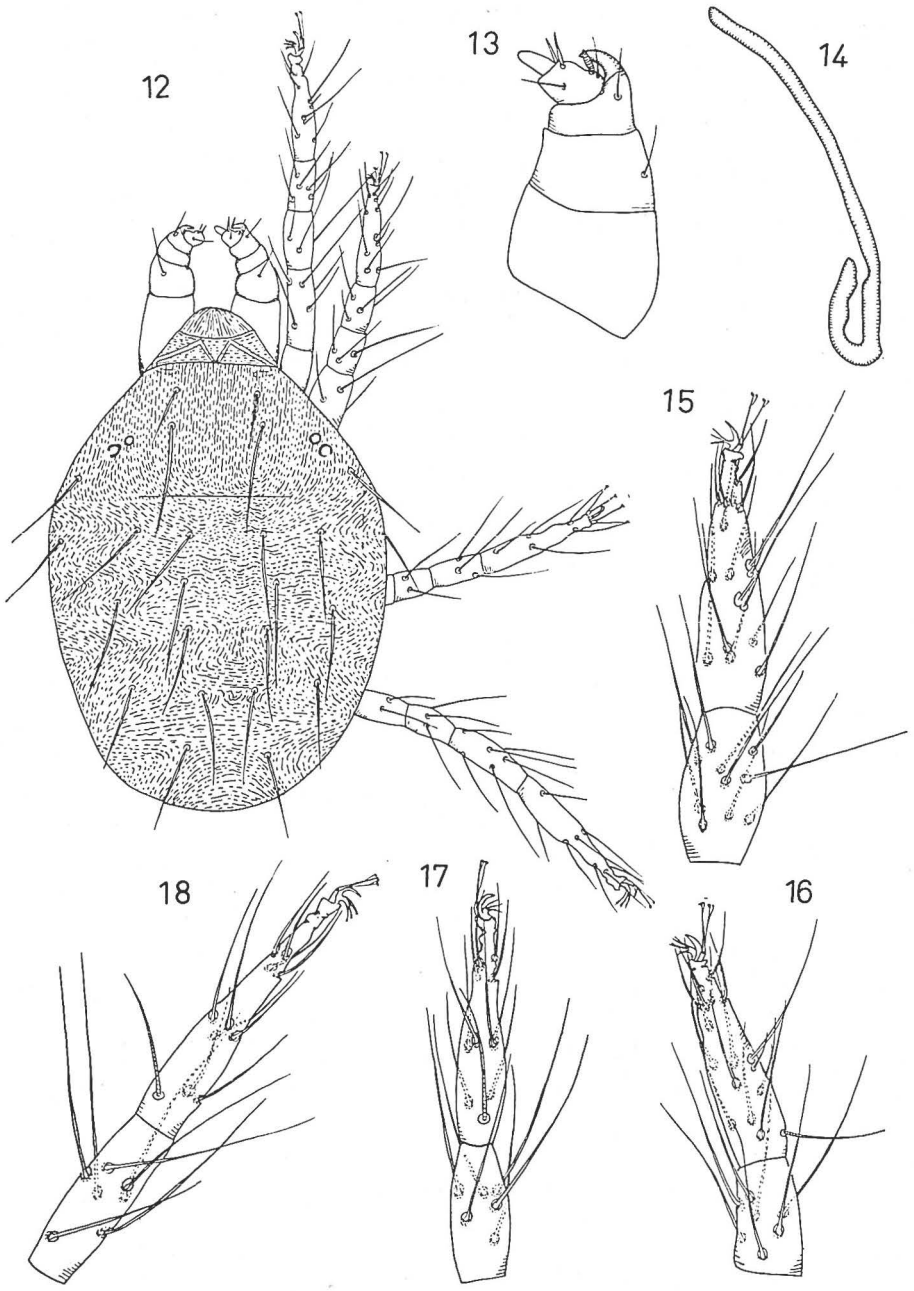
Dimensions of holotype : Length of body (incl. gnathosoma) 620 μ (647-333) ; length (excl. gnathosoma) 440 μ (567-240) ; breadth 306 μ (447-173) ; length of leg I 406 μ (433-200) ; leg II 300 (160 —) ; leg III 270 μ (173 —) leg IV 333 μ (193 —).

Dorsum. The dorsal striations bear semi-circular lobes and are mostly transverse, except for longitudinal striations between the third pair of dorso-central hysterosomals and the inner sacral setae. The twelve pairs of dorsal setae (228-58 μ) are longer than the distances between their bases and are finely setose. One perfect and one imperfect eye corneae are located on each side of the propodosoma.

Gnathosoma. The terminal sensillum on the palpus (fig. 13) is twice as long as broad, and shorter in the female than in the male. The spindle-shaped dorsal sensillum is about three-quarters the length of the terminal sensillum. The mandibular plate is rounded anteriorly. As in the females of *O. biharensis* and *O. ilicinus*, the peritreme (fig. 14) is hooked distally.

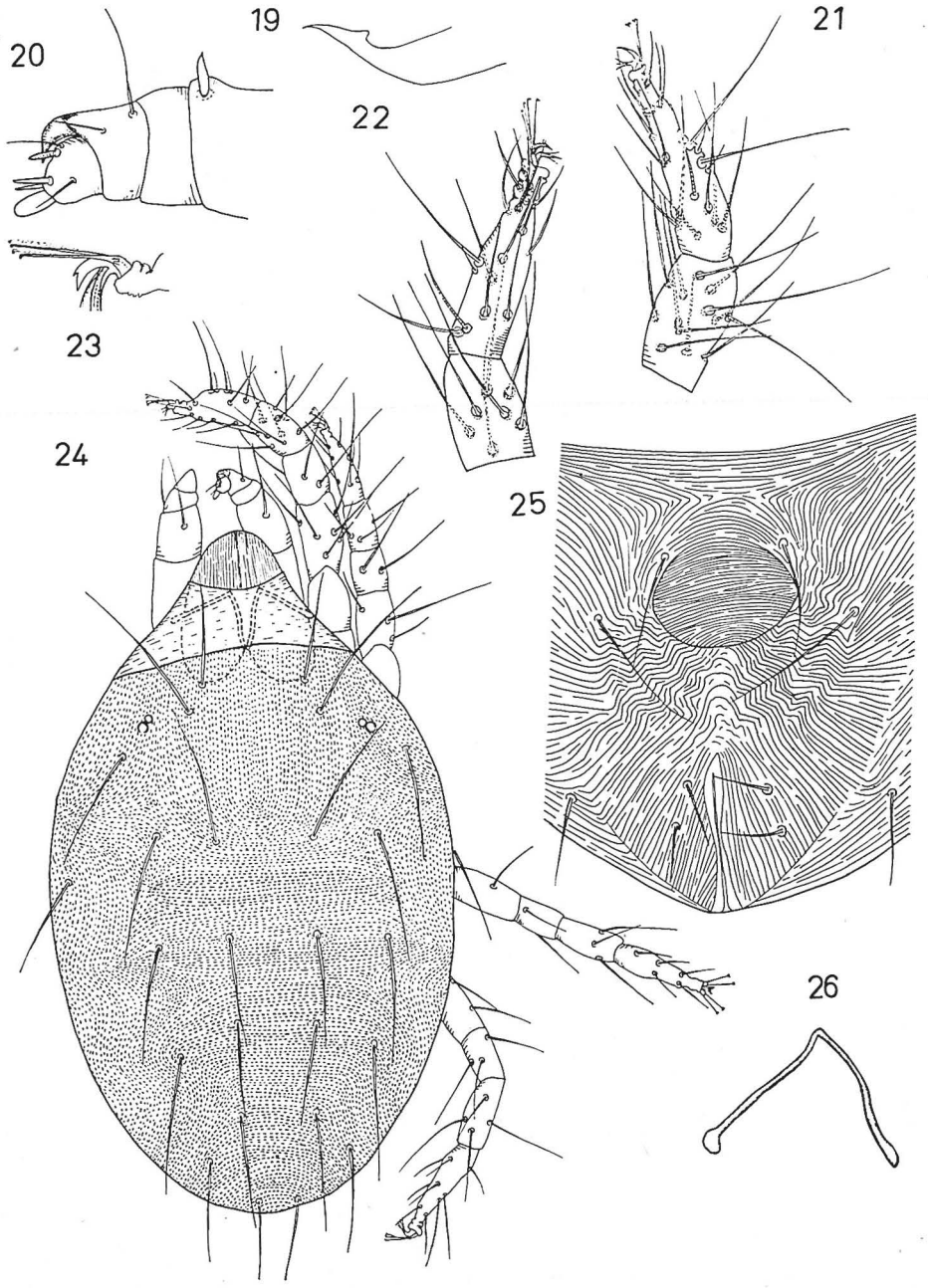
Legs. Tibia I (fig. 15) bears nine tactile and one sensory setae ; four tactile and one sensory setae are located proximal to the duplex setae on tarsus I. Tibia II (fig. 16) is provided with seven tactile setae and tarsus II with four tactile and one sensory setae proximal to the pair of duplex setae. Tibia III (fig. 17) bears six tactile setae and tarsus III ten tactile and one sensory setae. Tibia IV (fig. 18) is provided with seven tactile setae and tarsus IV with ten tactile and one sensory setae.

Developmental stages. The larvae and nymphae are similar to the female in so far as diagnostic characteristics are concerned. They vary in size, but are smaller than the female.



FIGS. 12-18. — *Oligonychus intermedius*, n. sp., female.

Fig. 12, dorsum ; fig. 13, palp ; fig. 14, peritreme ; fig. 15, tibia and tarsus I ; fig. 16, tibia and tarsus II ; fig. 17, tibia and tarsus III ; fig. 18, tibia and tarsus IV.



FIGS. 19-23. — *Oligonychus intermedius*, n. sp., male.
FIGS. 24-26. — *Eotetranychus edi*, n. sp., female.

Fig. 19, aedeagus ; fig. 20, palp ; fig. 21, tibia and tarsus I ; fig. 22, tibia and tarsus II ; fig. 23, empodium I. Fig. 24, dorsum ; fig. 25, opisthosomal venter ; fig. 26, peritreme.

Male. (Figs. 19-23).

Dimensions of the allotype : Length of body (incl. gnathosoma) 487 μ (480 —) ; length (excl. gnathosoma) 400 μ (353 —) ; breadth 213 μ ; leg I 300 μ ; leg II 199 μ ; leg III 215 μ leg IV 233 μ.

The body is smaller than that of the female and more or less triangular in outline. In contrast to *O. biharensis*, the axis of the knob of the aedeagus (fig. 19) is not parallel to the dorsal margin of the shaft but forms an angle of about 45° with the latter. In *O. intermedius*, the knob of the aedeagus bends upwards and not downwards as in *O. biharensis*. The dorsal margin of the knob is curved, but not sigmoid as in *O. ilicinus*. The aedeagus of *O. intermedius* is intermediate between those of *O. biharensis* and *O. ilicinus*. The terminal sensillum (fig. 20) is about three times as long as broad. Tibia I (fig. 31) is provided with nine tactile and four sensory setae and tarsus I with four tactile and three sensory setae. Tibia II (fig. 22) bears seven tactile setae and tarsus II four tactile and one sensory setae proximal to the duplex setae. Empodium I (fig. 23) has three pairs of proximo-ventral setae.

Habitat and locality. One holotype female, one paratype female, one allotype male and one paratype male from *Dombeya rotundifolia*, Rustenburg, May 1961 (M. K. P. MEYER) ; one morphotype nympha, three paratype nymphae, two paratype larvae, 18 paratype females and two paratype males from *Sterculia murex*, Nelspruit, May 1961 (C. J. CILLIERS) ; five paratype females (four of which are stored in 70 % alcohol), one paratype nympha and two paratype males from an unidentified wild tree, Rustenburg (J. BURGER). The specimens are mounted in a polyvinyl alcohol preparation (Turtox C.M.C.) on eleven slides. Accession numbers AcY 63/23/1-2 ; AcY 63/24/1-7 ; AcY 60/62/1-2.

Eotetranychus edi n. sp.

(Figs. 24-35).

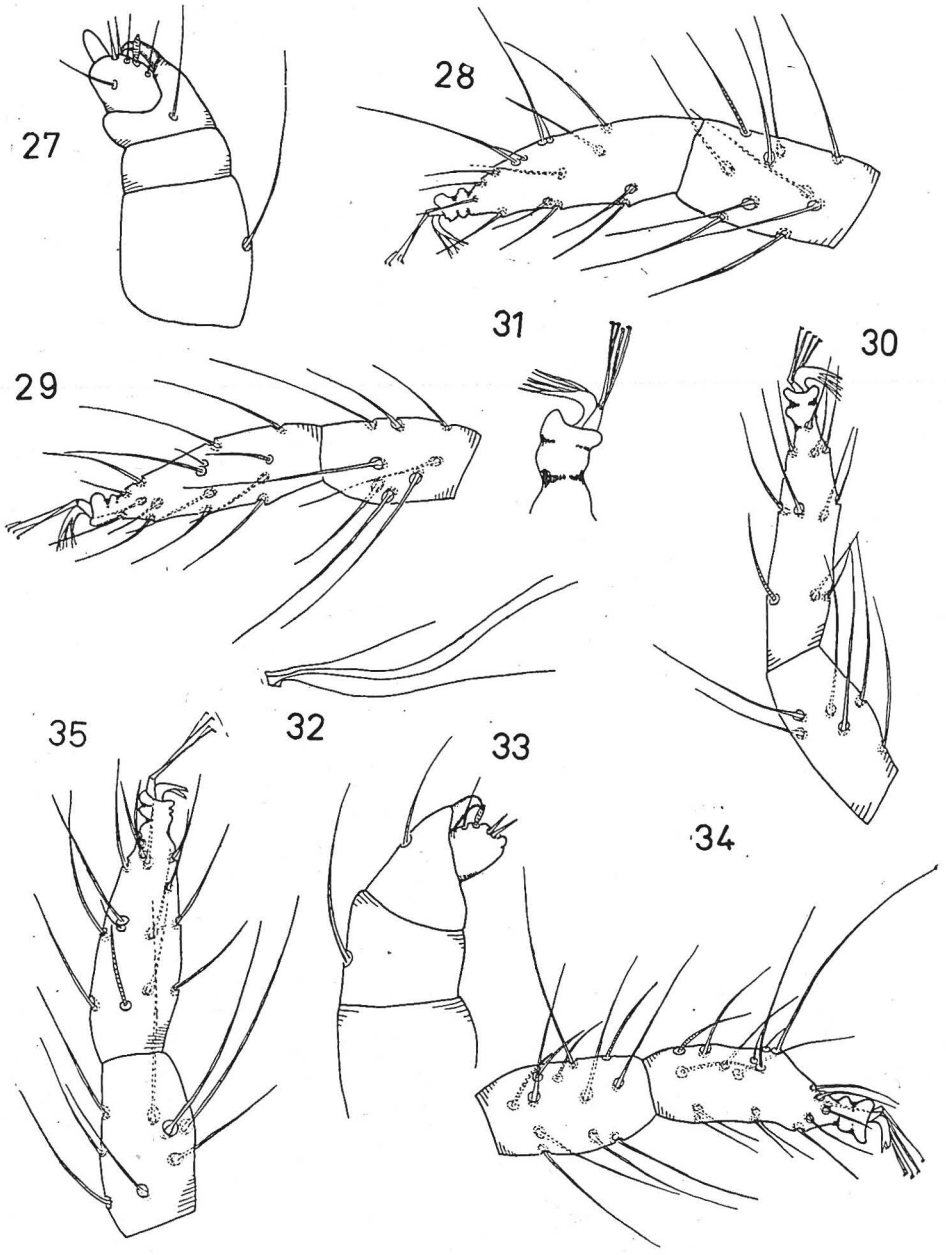
Eotetranychus perplexus. MEYER and RYKE 1959. *J. ent. Soc. S. Afr.* 22 (2) : 348-350. Misidentification.

The aedeagus of *Eotetranychus edi* resembles that of *E. perplexus* (McGregor) very closely. The distal knob of the aedeagus, however, is relatively smaller than that of *E. perplexus*. The peritreme ends in a simple bulb instead of being hooked as in *E. perplexus*.

Female. (Fig. 24).

Dimensions of holotype : Length of body (incl. gnathosoma) 431 μ (447-380) ; length (excl. gnathosoma) 329 μ (373-296) ; breadth 238 μ (267-190) ; length of leg I 215 μ (232-211) ; leg II 156 μ (169 —) ; leg III 184 μ (187-169) ; leg IV 202 μ (224 —). The body is oval-shaped.

Dorsum. The striations in the region of the dorso-central and sacral setae are transverse. The thirteen dorsal setae are longer than the distances between



FIGS. 27-35. — *Eotetranychus edi*, n. sp.

Fig. 27, palp of female ; fig. 28, tibia and tarsus I of female ; fig. 29, tibia and tarsus II of female ; fig. 30, tibia and tarsus III of female ; fig. 31, empodium of female ; fig. 32, aedeagus of male ; fig. 33, palp of male ; fig. 34, tibia and tarsus I of male ; fig. 35, tibia and tarsus II of male.

the bases of consecutive setae. The lobes on the striations are triangular in shape. The eyes are normal.

Venter. The striations on and anterior to the genital flap (fig. 25) are transverse. The anterior pair of genital setae is situated just anterior to the genital flap.

Gnathosoma. The mandibular plate is rounded anteriorly. The peritreme (fig. 26) terminates in a simple bulb. The terminal sensillum on the palpus (fig. 27) is about twice as long as broad. The dorsal sensillum is shorter than the terminal sensillum. The thumb bears five additional setae.

Legs. The legs are shorter than the body. Dorsoterminally, tarsus I (fig. 28) bears two sets of duplex setae which are adjacent, and is also provided with four tactile and one sensory setae proximal to the duplex setae ; tibia I bears nine tactile and one sensory setae. Tibia II (fig. 29) has eight tactile setae and tarsus II five tactile and one sensory setae proximal to the duplex setae. Tibia III (fig. 30) is provided with six tactile setae and tarsus III with ten tactile and one sensory setae. Tibia IV bears seven tactile setae and tarsus IV ten tactile and one sensory setae. The empodium (fig. 31) is provided with six proximoventral setae.

Male. (Figs. 32-35).

Dimensions of allotype : Length (inl. gnathosoma) 388 μ ; length (excl. gnathosoma) 296 μ ; breadth 169 μ ; length of leg I 211 μ ; leg II 148 μ ; leg III 177 μ ; leg IV 203 μ.

The body is more or less triangular in shape and provided with long setose setae. The shape of the aedeagus (fig. 32) resembles that of *E. perplexus*. The distal knob, however, is about one-eighth the length of the dorsal margin of the shaft, whereas in *E. perplexus* it is about one-third the length of the dorsal margin. The terminal sensillum on the palpus (fig. 33) is tiny and conical in shape. Tibia I (fig. 34) is provided with eight tactile and three sensory setae proximal to the duplex setae. Tibia II (fig. 35) bears eight tactile setae and tarsus II has five tactile and one sensory setae.

Habitat and locality. One holotype and seventeen paratype females (six paratype females stored in 70 % alcohol) and one allotype male from *Rhus. sp.*, Potgieterrus, May, 1963 ; four paratype females from *Musa sapientum*, Nelspruit, April, 1955 (P. A. J. Ryke) ; two paratype females from unidentified shrub, Stellenbosch, January, 1955 (P. A. J. Ryke). The specimens are mounted in Hoyer's medium on seven slides. Accession numbers AcY 63/130/1-5 ; AcY 63/131/1 ; AcY 63/132.

This species is named in honour of Dr. Edward W. Baker.

REFERENCES

Baker (Edward W.) and Pritchard (A. E.), 1960. — The Tetranychoid mites of Africa. *Hilgardia* 29 (11) : 455-574.