

Contribution to the knowledge of the Acarina of Egypt:

V. Five new species of Tetranychidae

(with 55 Text-Figures)

by M. TAHER SAYED, 1946
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In the last few years the author undertook a survey of the family Tetranychidae. This paper deals with the description of five new species.

The author takes this opportunity to tender his grateful thanks to Professor H. Priesner, previously Director of the Entomological Section, Ministry of Agriculture, and to Mohamed Soliman El-Zoheiry Bey, the present Director, for the facilities they kindly made during this work. The writer wishes also to thank Mahmoud Ismail El Okby Effendi, technical assistant of the Acarina Sub-Section, and Boutros Assaad Effendi, for their kind co-operation in the production of the drawings.

Petrobia cepae nov. spec.

(Figures 1-9)

♀. — Length, 625 μ ; breadth, 447 μ .

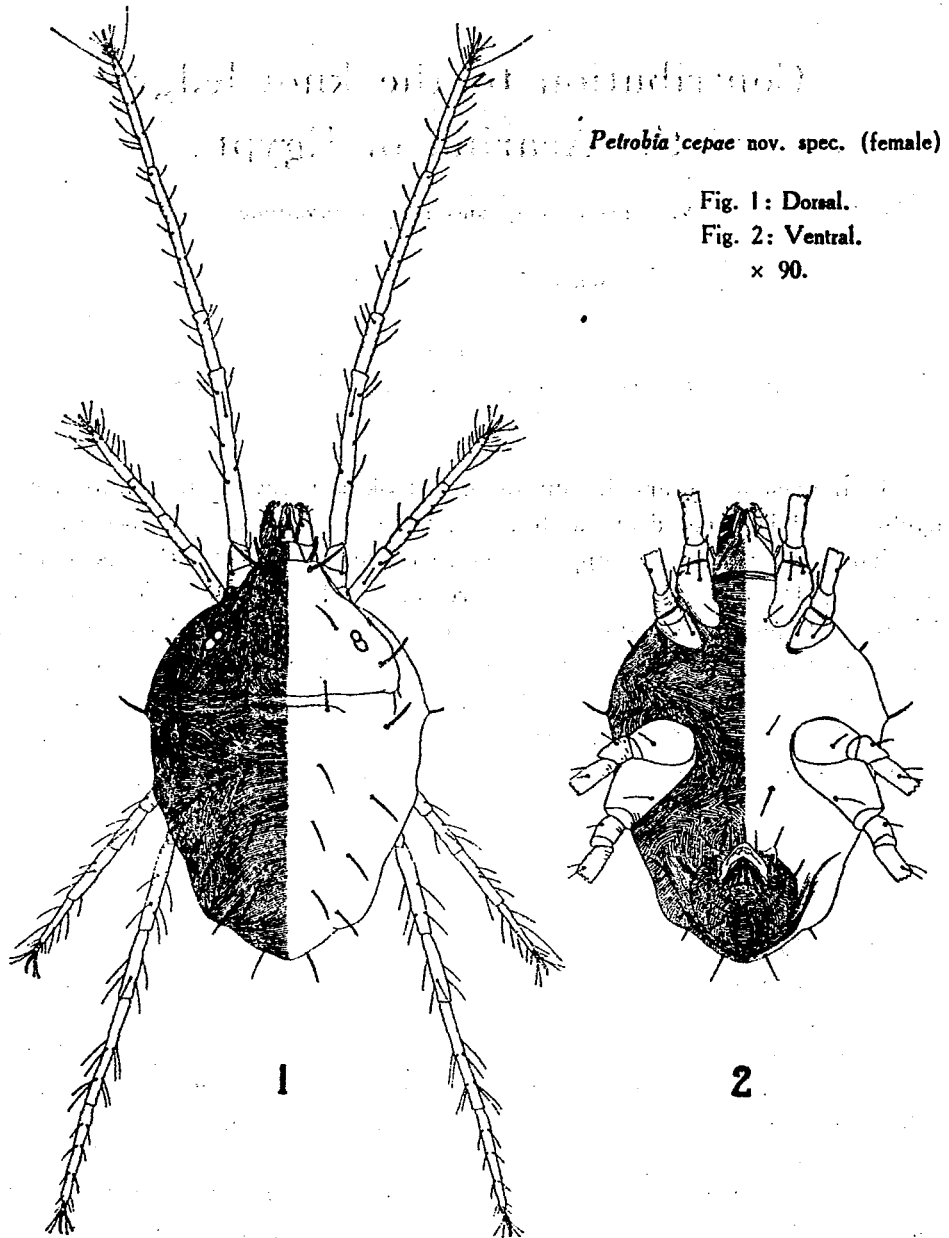
Body pitcher-like in shape and convex on dorsum; colour dark brown when alive.

Dorsal hairs, 13 pairs, short, nearly equal in length, and plumose; 3 pairs of which on propodosoma and 10 pairs on hysterosoma. The first pair lie near the anterior margin of the propodosoma and behind the protruding stigmal horns.

Dorsal transverse line between proterosoma and hysterosoma and about one third of the body anteriorly. It does not extend as far as the lateral margins as in *Petrobia lapidium* Oud. A short transverse line is often seen behind the previous one.

Eyes, two facets or corneas, the anterior one being smaller and rather round, the posterior is oval.

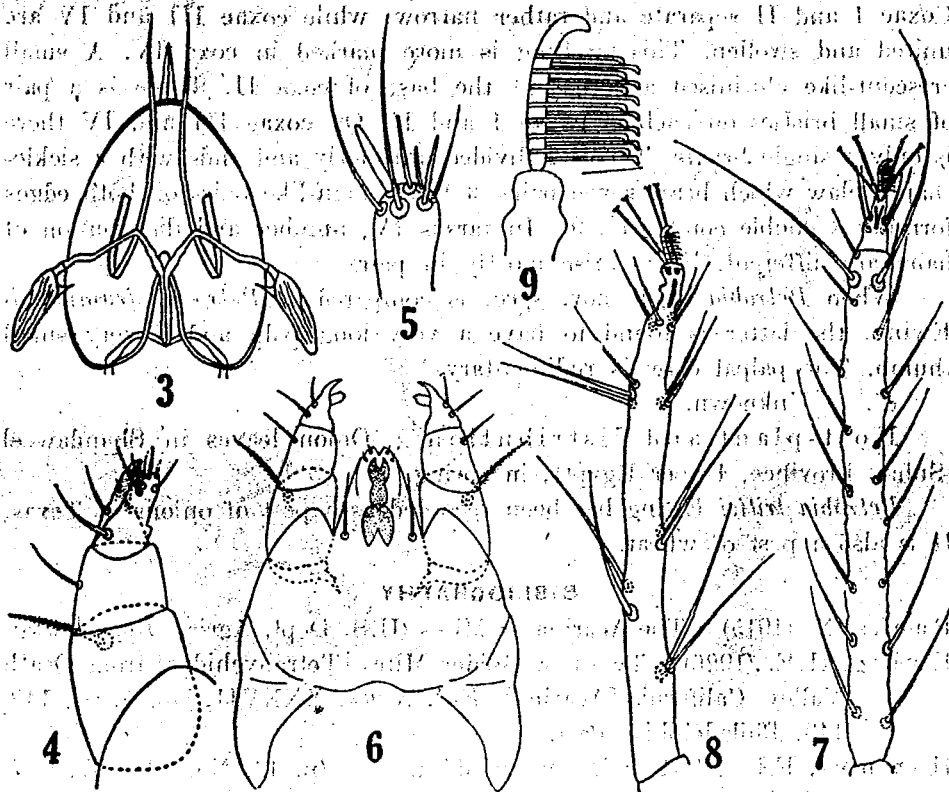
Dorsal striation is fine and differs from that of *Petrobia lapidium* Oud.



Collar trachea ends with a much swollen chamber forming the stigmal horn which is seen protruding at the base of gnathosoma (figs. 1 and 3).

Mandibular plate with thickened anterior margin and like that of other tetranychids in form.

Chelicera are styliform and can be much protruded. Palp ends distally with elongated thumb-like projection and a claw. On the thumb there are



Petrobia cepae nov. spec. (female)

Fig. 3: Collar trachea with stigmal horns, chelicera, and mandibular plate, $\times 135$. — Fig. 4: Palp (basal half not drawn), $\times 300$. — Fig. 5: Distal part of palpal thumb, much enlarged. — Fig. 6: Capitulum, $\times 135$. — Fig. 7: Tarsus I, $\times 225$. — Fig. 8: Tarsus IV, $\times 225$. — Fig. 9: Claw of tarsus, much enlarged.

4 bristles or hairs, 3 strong spines and a stout blunt one which might correspond to the dorsal sensory finger of other tetranychids (figs. 4 and 5).

According to Oudemans, the palpal thumb of *Petrobia lapidum* has only five appendages. Two bristles arise from the claw. Rostrum has two pairs of small anterior bristles and a pair of hairs posteriorly.

Ventrally, the skin striation is different when compared to the dorsal one.

Ventral hairs, 13 pairs, simple and rather small, of which 3 pairs are median, one pair posterior at the extreme end of the body and 9 pairs round genitalia and anus. The latter arise from different levels.

Leg I is the longest and longer than the body. Legs II and III nearly equal and comparatively short. Leg IV rather long but shorter than leg I. Coxae I and II separate and rather narrow, while coxae III and IV are united and swollen. This swelling is more marked in coxa IV. A small crescent-like chitinised area lies at the base of coxa II. There is a pair of small bristles on each of coxae I and II. On coxae III and IV there is only a single bristle. Tarsus I divided anteriorly and ends with a sickle-shaped claw which bears seven pairs of fine tenent-like hairs on both edges forming a double comb (fig. 9). In tarsus IV, number and distribution of hairs are different. Hairs arise mostly in pairs.

When *Petrobia cepae* nov. spec. is compared to *Petrobia drummondi* Ewing, the latter is found to have a very long palp and a very small thumb. The palpal claw is rudimentary.

♂. — Unknown.

Host-plant and distribution : Onion leaves in Shandaweel (Suhag Province, Upper Egypt), in spring.

Petrobia tritici Ewing has been recorded as a pest of onions in Texas. It is also a pest of wheat.

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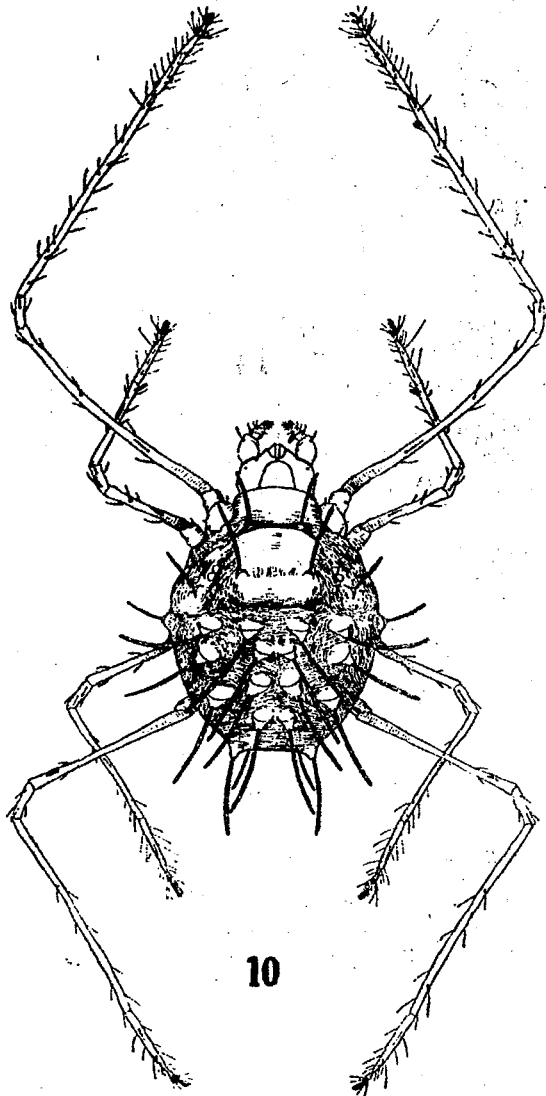
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Tetranychina agerati nov. spec.

(Figures 10-19)

♀. — Length, 519 μ ; breadth, 365 μ .

Shape rather round, widest equatorially; colour bright red or somewhat dark when alive.



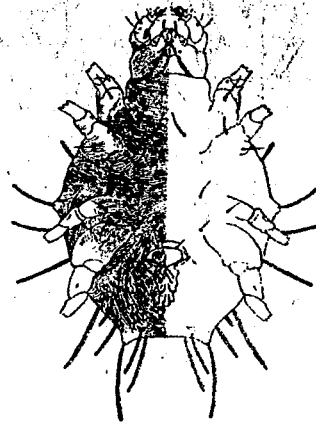
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Tetranychina agerati nov. spec.
(female)

Fig. 10: Dorsal.

Fig. 11: Ventral.

× 80.



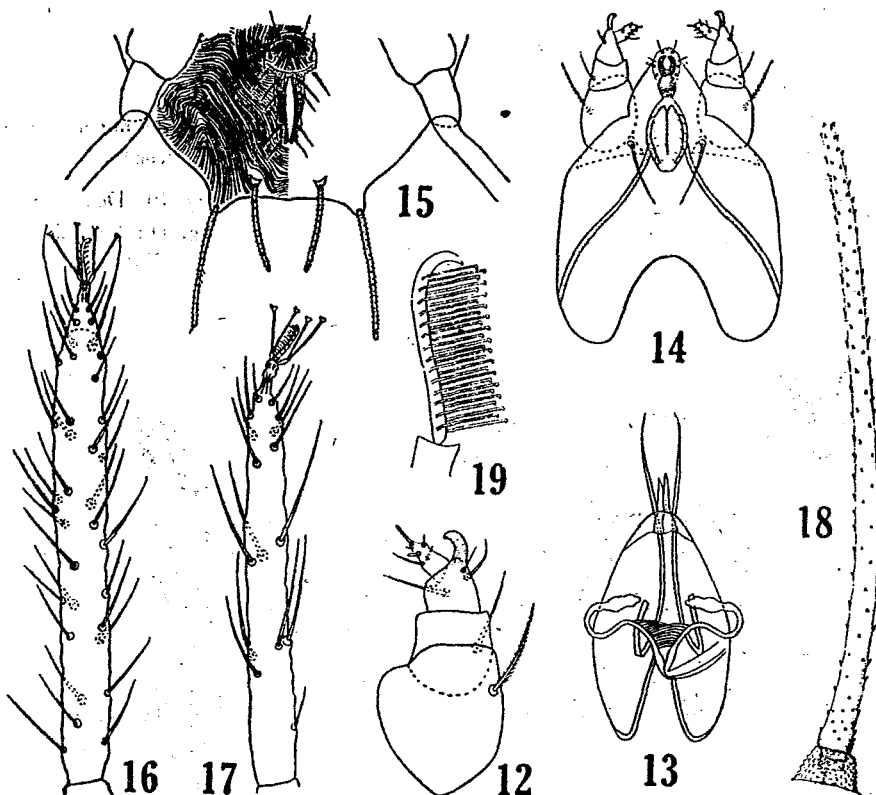
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On dorsum, 12 pairs of hairs, unequally long, arising from prominent tubercles. Hairs apparently, plumose but when examined, they are found spiny and serrate. Spines are more numerous and bigger in size towards the tip (fig. 18).

Eyes, two corneas on either side about equal in size and close to each other.

A short transverse median line lies between scapular and humeral bristles or hairs.

Collar trachea (fig. 13) long, irregularly swollen in the end and, without any divisions. Its ends form the tracheal or stigmal horns at the anterior



Tetranychina agerati nov. spec. (female)

Fig. 12: Palp, $\times 225$. — Fig. 13: Collar trachea, chelicera, and mandibular plate, $\times 135$. — Fig. 14: Capitulum, $\times 135$. — Fig. 15: End of abdomen, ventral, $\times 115$. — Fig. 16: Tarsus I, $\times 225$. — Fig. 17: Tarsus IV, $\times 225$. — Fig. 18: Dorsal hair, $\times 335$. — Fig. 19: Claw of tarsus, much enlarged.

margin of the cephalothorax. These do not protrude externally as in the case of *Petrobia cepae* nov. spec. above described.

Mandibular plate narrowed anteriorly where numerous papillae are found in this area.

The « *digiti fixi* » are not united. Chelicera styliform. Palp (fig. 12) rather stout, bearing in all 11 bristles and spines. Four unequal setae or

bristles and two stout spines rise from the palpal « thumb », five bristles on the rest of the palp. The longest is plumose and lies on the basal segment. Rostrum with four pairs of bristles and spines at the tip (fig. 14).

Ventral striation of the skin different from the dorsal one. Hairs or setae 11 pairs, small and of the ordinary type, except the last pair at the extreme end of the abdomen which is of the dorsal type. Genitalia and anus surrounded with seven pairs of small setae. Moreover, a pair of setae on each of coxae I and II, and a single seta on coxae III and IV.

Leg I is the longest and about twice as long as the body. Leg IV is the next in length, while leg II is the shortest. Tarsus I is longer than tarsus IV, and more clothed with hairs. It is divided anteriorly (fig. 16). Claw single, and forming a double-comb with 14 pairs of fine tenent-like hairs on both edges. A pair of the ordinary tenent hairs is found on either side of the claw.

♂. — Unknown.

Host-plants and distribution : On *Ageratum conyzoides* and *Petunia hybrida* in Dokki near Cairo.

Tetranychina (Petrobia) tritici Ewing has no setae (bearing tubercles dorsally). Moreover, it has a distinct groove separating cephalothorax from abdomen, the latter being broadest anteriorly. Tarsus and tibia of leg I about equal.

In *Tetranychina macdonoughi* Mc Gregor, the whole palp bears 8 bristles. *Tetranychina harti*'s palp with 6 bristles and in it the dorsal bristles or hairs acuminate to tip (according to Mc Gregor's comparison between *T. macdonoughi* and *T. harti*). In 1935, Ewing refers to *T. tritici* as *Petrobia tritici* which was first reported on wheat and lately on onion plantations in Texas.

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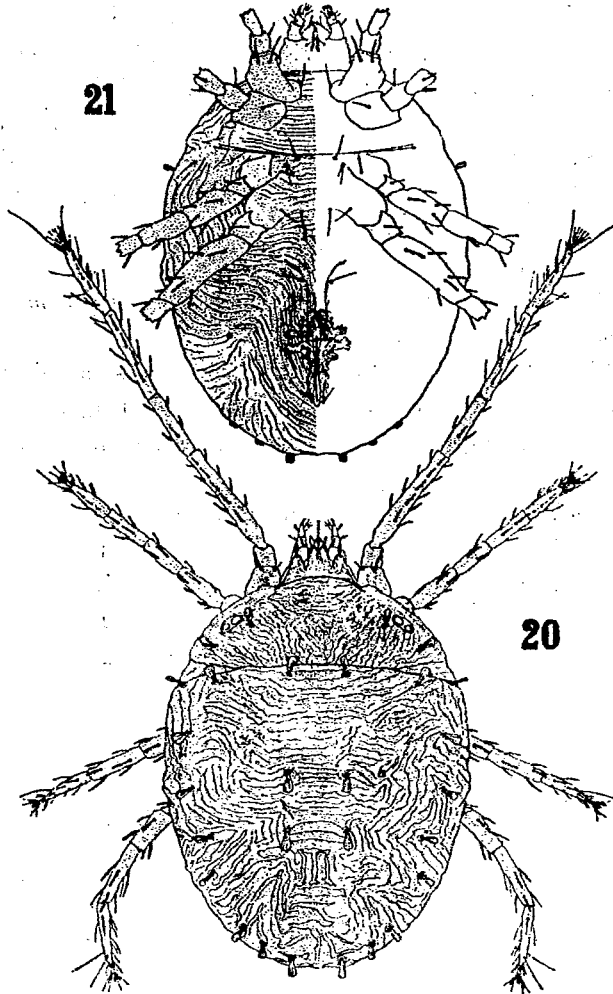
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Bryobia urticae nov. spec.

(Figures 20-30)

♀. — Length, 703 μ ; breadth, 536 μ .

Shape oval round; colour dark brown or dark red; body about three fourths as broad as long.

*Bryobia urticae* nov. spec. (female)Fig. 20: Dorsal, $\times 80$. — Fig. 21: Ventral, $\times 80$.

Eyes, two corneas on each side above leg II; anterior one bigger, both oval and separate.

On dorsum, 16 pairs of short fan-like hairs, two of which on the four anterior lobes, eleven lateral and three median, all about equal in length. In *B. Sarothamni* Geijskes, dorsal hairs in both sexes are spatulate.

A dorsal, transverse, constricting line lies nearly between proterosoma and histerosoma.

Collar trachea ends with a pair of stigmal horns. The trachea runs along the external, lateral side of the horn. In *B. Sarothamni* stigmal horns are bigger and rather lumpy. Mandibular plate conical with thickened anterior part; « *digiti fixi* » united at the base. Palp ends distally with a cylindrical, elongated thumb which carries seven bristles; claw prominent, longer than thumb and carries two bristles. In *B. borealis* Oudemans, palpal claw is divided.

Ventrally, there are eleven pairs of ordinary small bristles or hairs, of these seven small pairs round genitalia and anus. A ventral, transverse line is found nearly opposite the dorsal one; it does not extend as far as the lateral margins.

Leg I is the longest, as long as the body (shorter than body in *B. borealis*, but longer in *B. longicornis* Ewing). Legs II and IV nearly equal in length; leg III the shortest. Tarsus provided with two claws, each with a pair of tenent hairs arising near the base. The onychium or empodium between claws carries very fine knobbed filaments forming a double comb. Tarsus I in female is shorter than tarsus I in male. In *B. praetiosa* Koch, tarsus I has two claws, four tenent hairs and onychium with two hairs only. In other tarsi the onychium is much developed, as long as the claw and bears several hairs. Moreover, there are eight pairs of tenent hairs in each tarsus. In *B. brevicornis* Ewing tenent hairs are only found in tarsus I.

♂. — Length, 500 μ ; breadth, 326 μ .

Shape oval; colour dark red.

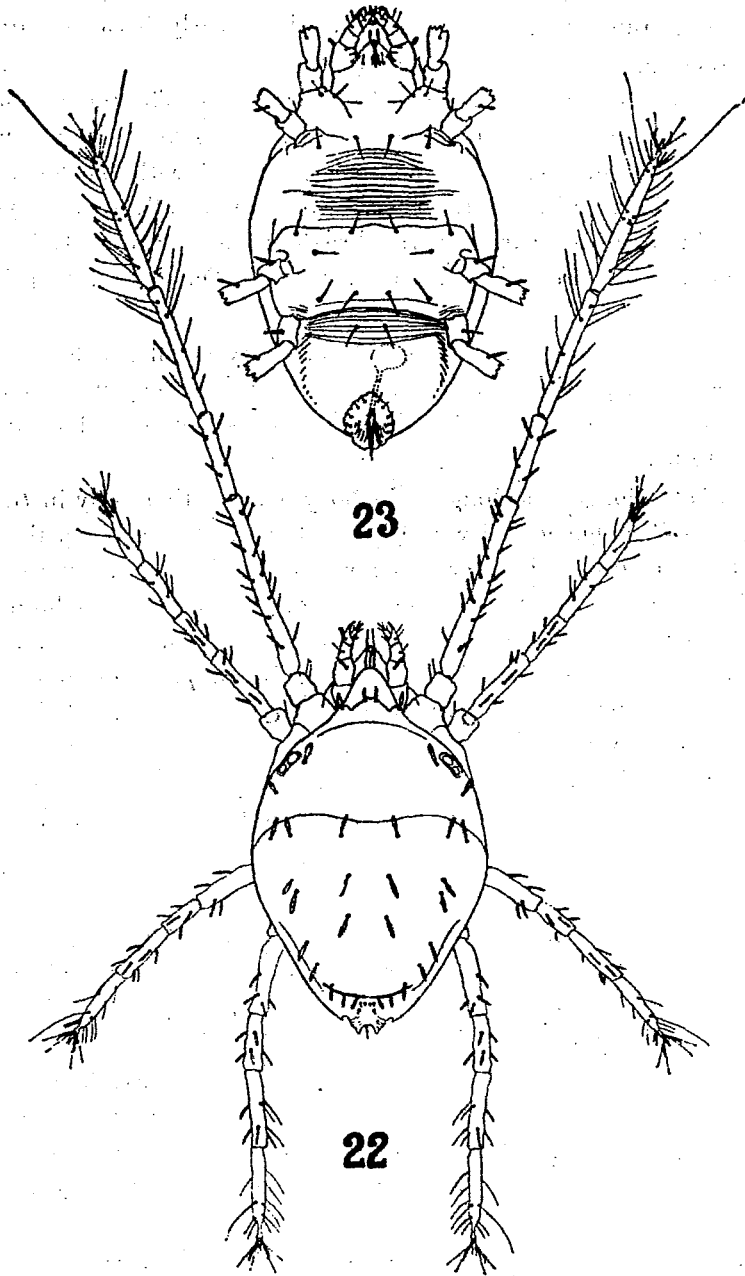
On dorsum, 16 pairs narrow spatulate hairs and three pairs small ordinary ones. The latter are found on the posterior part of the abdomen. The four anterior lobes are not so marked as in the female. There are three transverse but not horizontal lines; the first anterior in the cephalothoracic region but not always well defined, the second lies nearly between proterosoma and histerosoma and the third in the posterior part of the abdomen.

Ventrally, fifteen pairs of hairs including those on coxae, of which five small pairs round pinus and anus and four median ones. Transverse striation in limited areas and of parallel lines.

Leg I is much longer than the body, legs II and III about equal in length, but shorter than IV.

Penis long, pointed; ejaculatory duct joins its tip with the vesicula

seminalis. Penis in *B. Sarothamni* Geijskes is pointed in both shaft and inner lobe; basilar lobe protruding in between.



Bryobia urticae nov. spec. (male)

Fig. 22: Dorsal, $\times 120$. — Fig. 23: Ventral, $\times 120$.

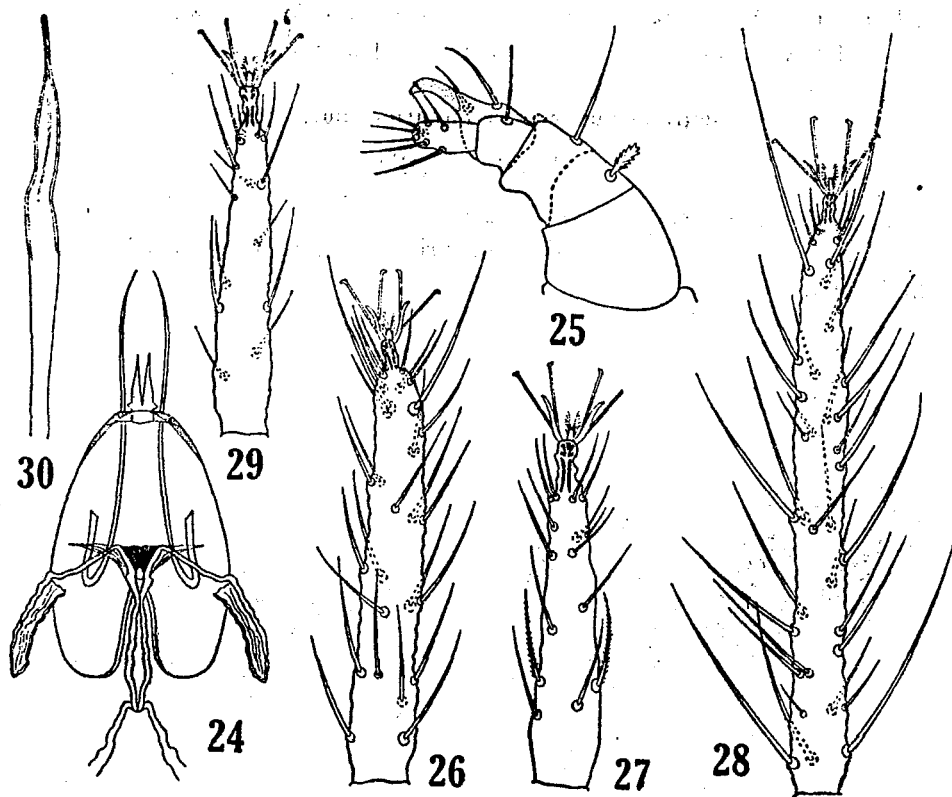
*Bryobia urticae* nov. spec.

Fig. 24: Collar trachea, chelicera, and mandibular plate, $\times 135$. — Fig. 25: Palp (enlarged). — Fig. 26: Tarsus I (female), $\times 225$. — Fig. 27: Tarsus III (female), $\times 225$. — Fig. 28: Tarsus I (male), $\times 225$. — Fig. 29: Tarsus IV (male), $\times 135$. — Fig. 30: Penis, $\times 300$.

Host-plants and distribution : *Urtica urens* L., *Ageratum conyzoides*, and other weeds; sometimes found under stones. Dokki near Cairo.

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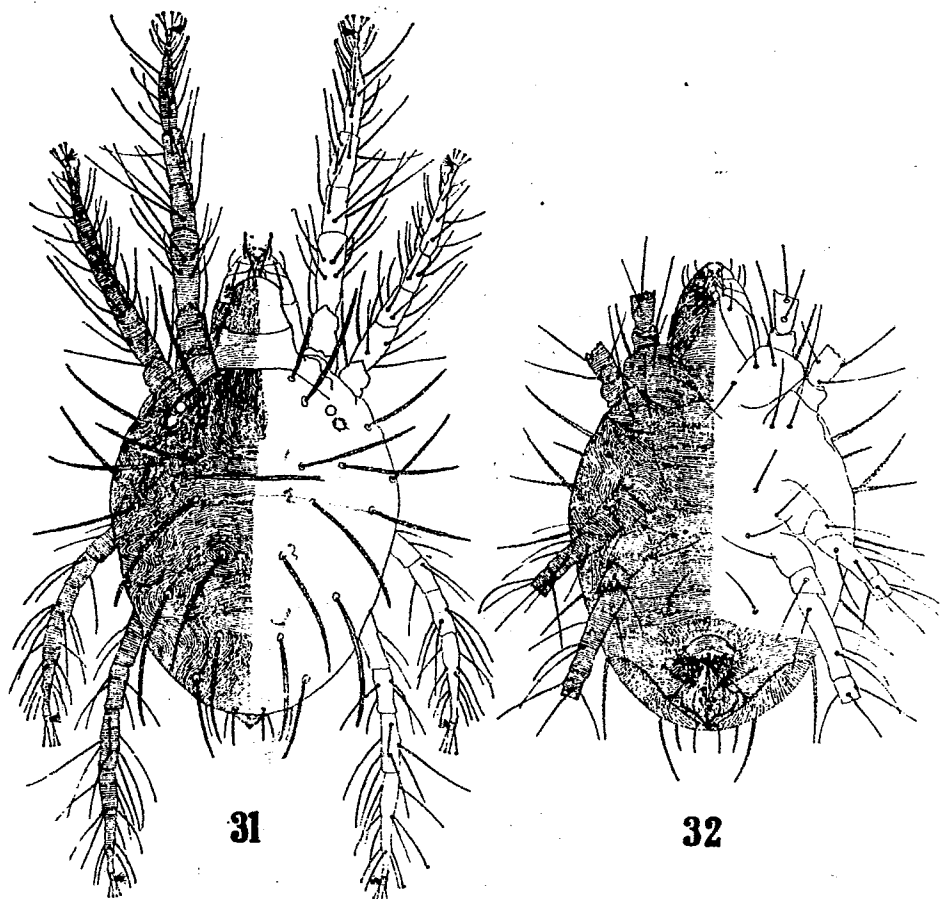
Eotetranychus cucurbitacearum nov. spec.

(Figures 31-42)

W. H. C.

♀. — Length, 466 μ ; breadth, 282 μ .

Shape oval round; colour dark or bright red, also greenish yellow or light brown.

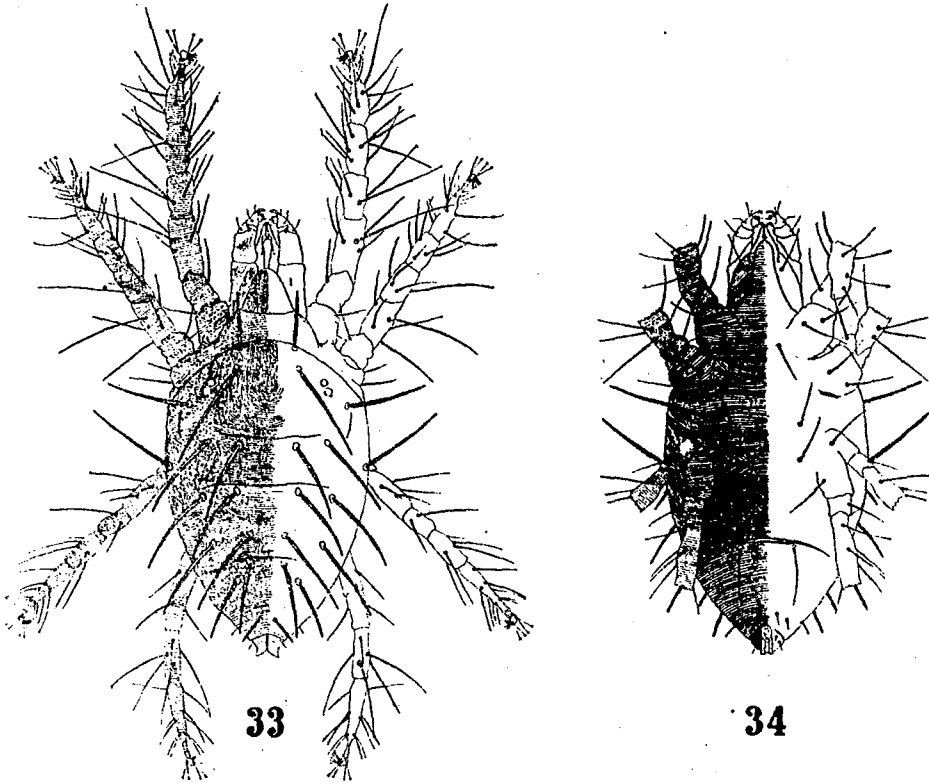


Eotetranychus cucurbitacearum nov. spec. (female)

Fig. 31: Dorsal, $\times 135$. — Fig. 32: Ventral, $\times 135$.

On dorsum, 13 pairs of hairs, rather long, plumose and with a basal ring. They are arranged in seven transverse rows as follows : 2, 4, 6, 4, 4, 4, 2. The first three rows lie in the propodosoma area, the rest in the hysterosoma.

A short, transverse, dorsal line, about one-half the breadth of the body lies between third and fourth rows of hairs in the anterior part of the hysterosoma. This line is missing in *Eo. telarius* L., *Eo. carpini* Oud., *Eo. neocaledonicus* André, and *Eo. inexpectatus* André. Another transverse line runs anteriorly between gnathosoma and propodosoma. It turns obliquely on both sides. The latter is not well defined. Dorsal striation differs from that of *Eo. telarius* as illustrated by Oudemans.



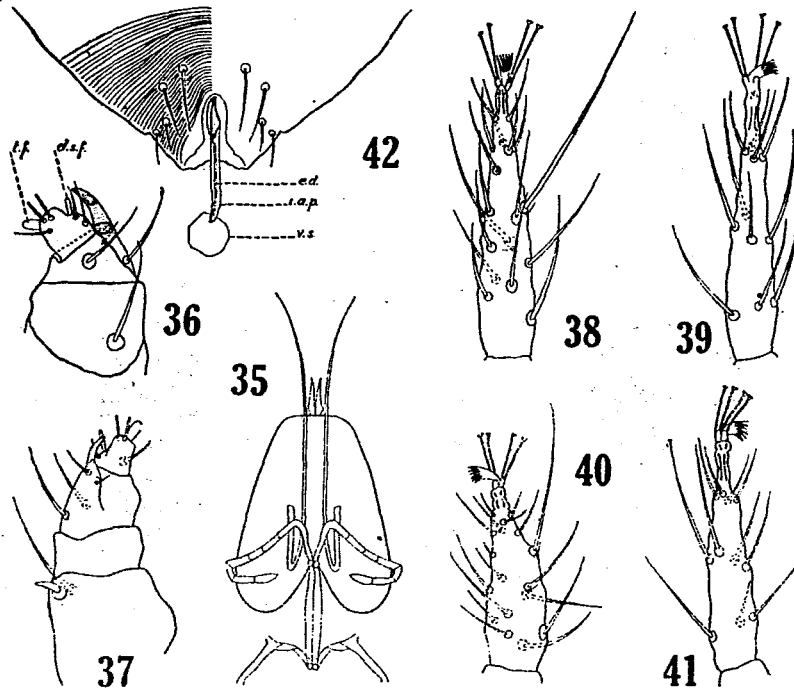
Eotetranychus cucurbitacearum nov. spec. (male)

Fig. 33: Dorsal, $\times 135$. — Fig. 34: Ventral, $\times 135$.

Eyes, two corneas, separate, anterior one rather round and somewhat smaller. In *Eo. neocaledonicus*, anterior cornea oval, much bigger than the posterior one which looks like a narrow slit. In *Eo. inexpectatus* corneas are semi-oval. They do not seem separate in *Eo. telarius*.

Collar trachea (fig. 35) rather long, arms bent backwardly, divided into six chambers, end chamber somewhat swollen. In some specimens only five are easily seen. Chambers are four in *Eo. telarius* and only two in *Eo. neocaledonicus*.

Mandibular plate conical and of the normal type; « *digiti fixi* » free anteriorly. Chelicera styliform and is much protruded. Palp with prominent claw and thumb. The terminal finger is longer than broad. Both the dorsal sensory finger and the terminal finger are well developed and between them lie two nail-like spines. In addition there are three ordinary bristles. Ventrally, 10 pairs of relatively small, entire bristles. Five pairs of these round genitalia and anus and one pair at posterior end of the body. Moreover,



Eotetranychus cucurbitacearum nov. spec.

Fig. 35: Collar trachea, chelicera, and mandibular plate (male), $\times 135$. — Fig. 36: Palp [*d.s.f.* = dorsal sensory finger; *t.f.* = terminal finger] (female), $\times 300$. — Fig. 37: Palp (male), $\times 300$. — Fig. 38: Tarsus I (female), $\times 225$. — Fig. 39: Tarsus IV (female), $\times 225$. — Fig. 40: Tarsus I (male), $\times 225$. — Fig. 41: Tarsus IV (male), $\times 225$. — Fig. 42: Posterior part of abdomen in male showing penis, ejaculatory duct and vesicula seminalis [*e.d.* = ejaculatory duct; *i.a.p.* = inner arm or lobe of penis; *v.s.* = vesicula seminalis], much enlarged.

there is a pair on each of coxa I and II and a single bristle on each of coxa III and IV.

Ventral striation is well illustrated in figure 32.

Tarsus I in both sexes ends with the ordinary four tenent hairs. The empodium or onychium is split into six needle-like appendages. The two small sensory hairs as illustrated by Oudemans in the case of *Eo. telarius* are represented here. Tarsus IV in both sexes slender and with less bristles.

♂. — Length, 368 μ ; breadth, 131 μ .

Shape, oval or like an inverted spindle; colour, bright brown when alive. Body much narrower than female and tapers posteriorly.

Dorsal hairs 13 pairs arranged as in female in seven transverse rows. Transverse, dorsal lines are three but none of them extend as far as the lateral margins. In some specimens only two of them are seen.

Ventrally, there are 8 pairs of bristles, 4 of which small and surround penis and anus. In addition there are three pairs on coxae. At the base of coxa II there is a small chitinised area.

A transverse, but not straight line, lies ventrally in the posterior part of the abdomen. This is missing in *Eo. pruni* Oud.

Palp with a nail-like spine in the external angle of the fourth basal segment (fig. 37).

Penis, shaft much chitinised, inner arm or lobe long. Ejaculatory duct joins vesicula seminalis with apex of penis.

Host-plants and distribution : It is the common red spider mite of Egypt and is prevalent all over the country. It infests several weeds, shrubs and trees and could be found all the year round as it does not hibernate. It is naturally more active in summer. Among host-plants of economic value are *Ficus carica*, *Citrullus vulgaris* and other cucurbits, *Arches hypogaea*, *Phaseolus vulgaris*, *Vicia faba*, *Gossypium barbadense*, *Trifolium alexandrinum*, *Solanum melongena*, etc.

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Mangrove (R & S)

Paratetranychus terminalis nov. spec.

(Figures 43-55)

♀. — Length, 387 μ ; breadth, 212 μ .

Shape oval round; colour dark red when alive.

On dorsum twelve pairs of hairs moderately long, plumose with a basal ring and arranged in six transverse rows 2, 4, 6, 4, 4, 4.

Eyes, two corneas in the anterior lateral part of the body and nearly above leg II. Anterior cornea round, smaller, and more distinct than posterior one. A transverse but incomplete line runs in the middle of the abdomen. Alive specimens show dorsal, transverse wrinkles. Body and legs striated dorsally as illustrated.

Collar trachea relatively long, undulating and swells irregularly at the end. Mandibular plate about one and half as long as broad with anterior emargination. « *Digiti fixi* » separate; chelicera styloform (fig. 47). Palp four-segmented, the distal segment being the smallest and known as the palpal « thumb ». Terminal finger more broad than long. Two unequal in length rod-like setae are found near the terminal finger, also three ordinary setae and a small slender dorsal sensory finger (fig. 48). Rostrum lies between palpi and has two short nail-like setae anteriorly.

Leg I the longest, the rest nearly all equal in length. Legs III and IV slender when compared to I and II. Tarsi I and II relatively stout and clothed with more hairs. All tarsi are divided near the tip. Tarsal claw single; at a point one-third its length from its base arises the onychium with 10 fine capitate or knobbed filaments. These are equally arranged on two edges.

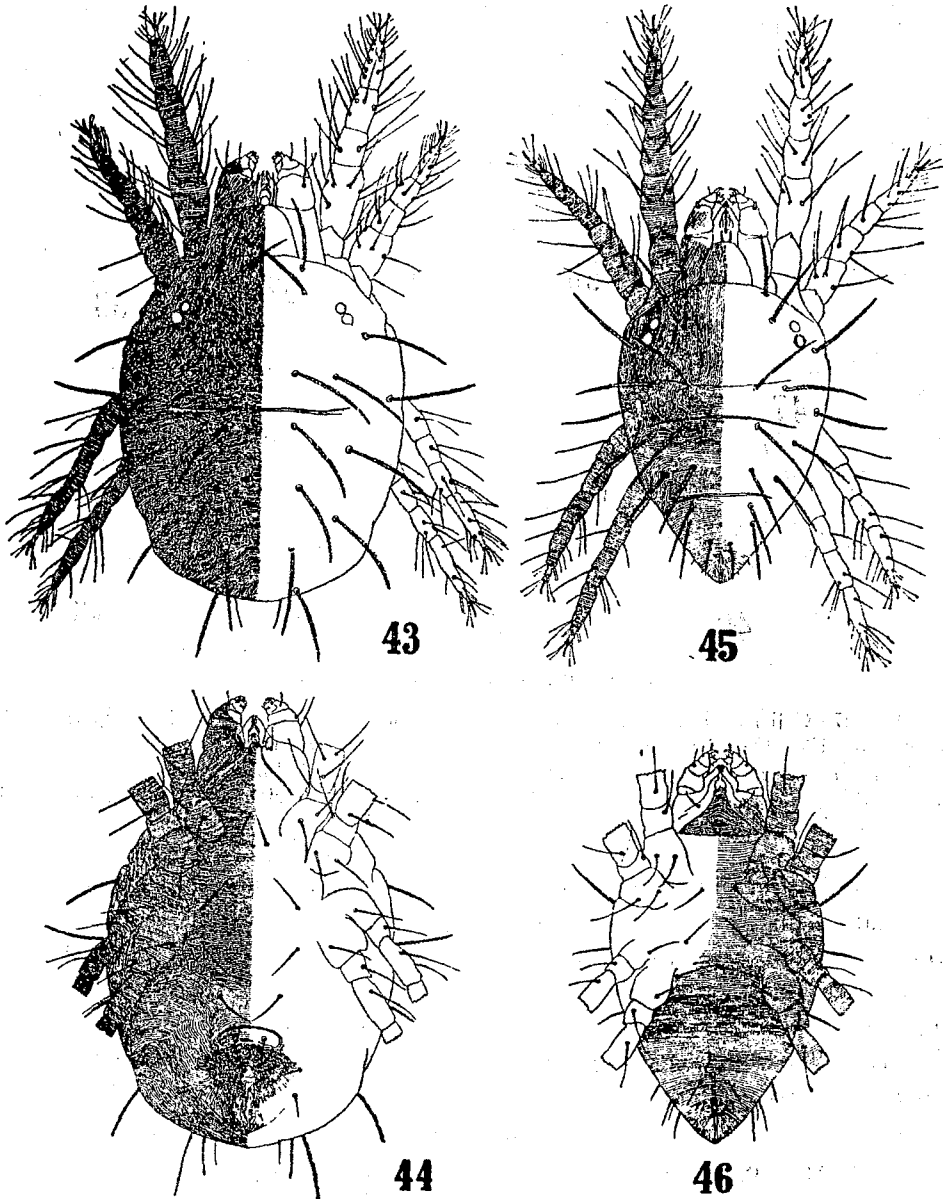
Ventral hairs, 10 pairs, rather short, entire and median in position. Three pairs lie between coxae I-III, and IV. One pair anterior to genitalia, another at extreme end of the abdomen and five pairs round genitalia and anus. Of the latter, two pairs round anus are comparatively small. Moreover, a pair of bristles on each of coxa I and III, a single bristle on coxa III and IV.

The ventral skin striation is different from the dorsal one.

♂. — Length, 337 μ ; breadth, 195 μ .

Triangular in shape and dark red when alive. On dorsum, 13 pairs of comparatively long plumose hairs arranged in seven transverse rows : 2, 4, 6, 4, 4, 4, 2. In *P. trinitatis* Hirst, which is found on grape vine in Trinidad, dorsal hairs in the male are 13 pairs not including the finer hairs near the anus. They are much smaller and less pectinated. Transverse lines are three, of which the anterior one is not distinct and none of them extend as far as the lateral margins.

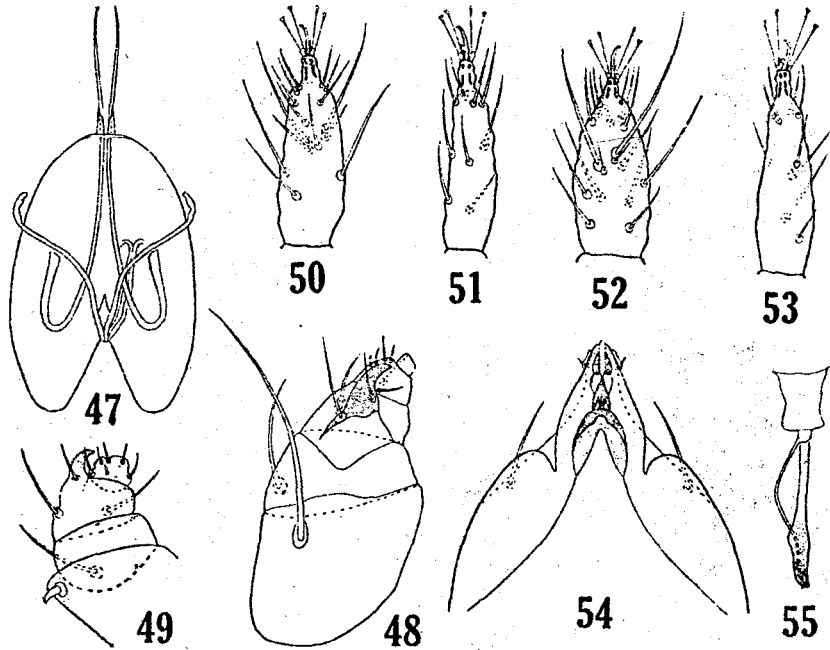
Eyes, two corneas, separate, the anterior smaller and both oval.
Palp differs from that of female in being smaller and in having a short



Paratetranychus terminalis nov. spec.

Fig. 43: Dorsal (female), $\times 150$. — Fig. 44: Ventral (female), $\times 150$. — Fig. 45: Dorsal (male), $\times 150$. — Fig. 46: Ventral (male), $\times 150$.

and thick spine on the anterior angle of the fourth basal segment and near the adjacent segment. The terminal finger is missing and the whole palp seems to be smaller than in female.



Paratetranychus terminalis nov. spec.

Fig. 47: Collar trachea, chelicera, and mandibular plate, $\times 225$. — Fig. 48: Palp (female), $\times 300$. — Fig. 49: Palp (male), $\times 300$. — Fig. 50: Tarsus I (female), $\times 225$. — Fig. 51: Tarsus IV (female), $\times 225$. — Fig. 52: Tarsus I (male), $\times 225$. — Fig. 53: Tarsus IV (male), $\times 225$. — Fig. 54: Rostrum (male), $\times 300$. — Fig. 55: Penis with ejaculatory duct and vesicula seminalis, $\times 300$.

Pennis (fig. 55) of moderate size, chitinised and curved at the tip. The ejaculatory duct joins the vesicula seminalis with the tip of the penis. Ventrally, striation is of nearly parallel, transverse lines. Ventral hairs 9 pairs (excluding those on coxae and gnathosoma), of these 5 pairs round penis and anus.

Host-plants : *Mangifera indica*, *Terminalia* spec., *Eugenia gambolana* and *Vitis vinifera*.

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coffee
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