

ZELIHA DÜZGÜNES
Ziraat Fakültesi, Ankara

The variation in the peritreme of the genus *Eotetranychus* Oud.

The mites from the genus *Eotetranychus* have frequently been found in recent years on various host plants in Turkey and already become important pests of their host plants. Until 1963, two species, namely *E. pomi* Sepas. and *E. tiliarium* (Hermann), were reported (DÜZGÜNES, 1963). Now I like to report the third one, *E. populi* (Koch), which I found on *Populus* sp. in Ankara on July 29, 1965. The identifications were mainly based on the form of aedeagus and the host plant.

I then found mites on *Crataegus*, *Quercus*, *Acer* and *Platanus* with aedeagus very similar to that of *E. pomi*. In fact, this similarity is known to be present among most of the mites in the *tiliarium* group. Therefore, I tried to look for other traits which might be used to distinguish the mites with similar aedeagus. The termination of peritreme given as a supplementary trait by PRITCHARD and BAKER (1955) and REEVES (1963) were examined. More than one hundred slides from my material already diagnosed as *E. pomi* were studied, and a great variation was observed. The most typical terminations are shown in fig. 1 A.

It is not so difficult to see among them the terminations illustrated for *E. carpini* (Oudemans), *E. uncatus* Garman, *E. pallidus* (Garman), *E. coryli* (Reck) and *E. smithi*, PRITCHARD and BAKER by GEIKES (1939), PRITCHARD and BAKER (1955), SEPASGOSARIAN (1956), EHARA (1960), ROTA (1961-1962), and REEVES (1963). Following the personal suggestion of Prof. Dr. G. DOSSE, I reared three generations from the same female and male, and I observed the similar variation among the offspring in each generation as may be seen in fig. 1 B.

The variation in mites collected from *Crataegus* is shown in fig. 2 A, that from *Quercus* in fig. 3 A, and that from *Acer* in fig. 3 B. Again,

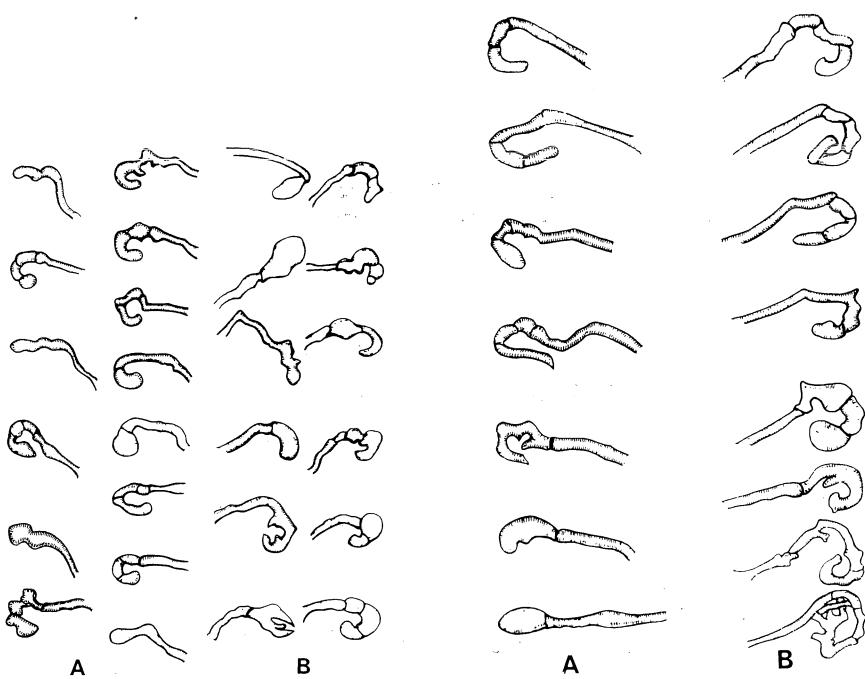


Fig. 1 - Variation of termination of peritreme in *E. pomi*. A) Collected material; B) Reared material from the same parents.

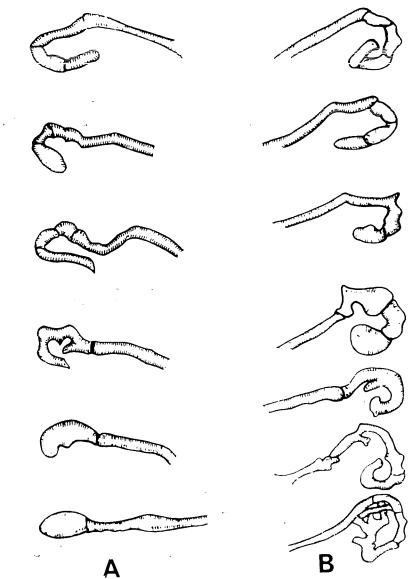


Fig. 2 - Variation of termination of peritreme in the Eotetranychid mites collected. A) from *Crataegus*; B) from the same *Populus* tree.

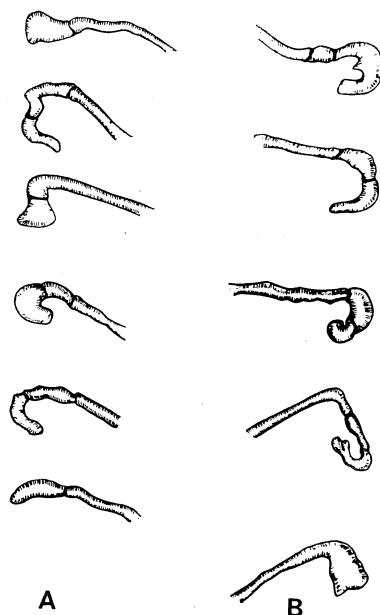


Fig. 3 - Variation in termination of peritreme in Eotetranychid mites collected. A) from *Quercus*; B) from *Acer*.

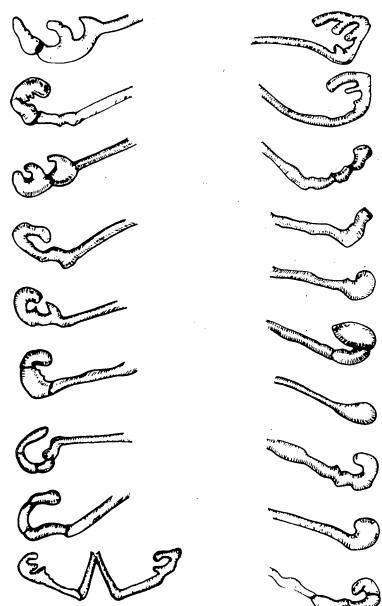


Fig. 4 - Variation of termination of peritreme in Eotetranychid mites reared from a single female taken from *Crataegus*.

each form given as to be characteristic to different species can be found among them. Even the characteristic form for *E. populi* according to REEVES (1963) is present in both figures for *Acer* and *Crataegus*. The following generations from a single female and male collected from *Crataegus* also show a great variation as in fig. 4. The same is true for the mites which I diagnosed as *E. populi*. Fig. 2 B includes the terminations of some individuals collected from the same *Populus* tree.

REEVES (1963) suggests that the specific host preferences of many of these mites can be used for identification in the field. However, I could easily reared my material of each species on the leaves of apple and *Crataegus* in the laboratory. Only the mites collected from *Populus* did not propagate as easily as other mites on apple leaves.

From all these observations it seems possible to conclude that neither the specificity of host nor the termination of peritreme can be used as reliable characteristics for the species of the genus *Eotetranychus*. We have to look for better ones.

S U M M A R Y

The mites from the genus *Eotetranychus* have frequently been found on various host plants in Turkey in recent years and have already become important pests of some plants like apple, *Populus* and *Crataegus*. Because of a high resemblance, it is difficult to distinguish the species. Upon the advice of Prof. Dr. G. Dosse, I tried to follow the information and the keys given by Reeves (1963). Contrary to his findings I found no specificity as to the host plants of the species. *Eotetranychus* mites collected from *Crataegus*, *Acer*, *Platanus* and *Pirus* could all live and reproduce normally on both apple and *Crataegus* in my laboratory. Only the mites collected from *Populus* did not propagate as easily as others on apple trees.

Besides, the individuals from the same host, even from the same leaf have shown a large variation in the form of peritreme as may be seen in the figures. To exclude the possibility that the collected material might represent a mixed population, three generations of offspring from several pairs of parents were separately reared. The same variation was observed in every generation. Thus, I do not think that neither the specificity of host nor the form of peritreme can be considered as useful taxonomic characteristics for the species of *Eotetranychus*. The biological characteristics may be of a higher value.

R I A S S U N T O

Gli acari appartenenti al gen. *Eotetranychus*, frequentemente reperiti in Turchia su varie piante ospiti, hanno assunto negli ultimi anni notevole importanza per i danni arrecati ad alcune piante, quali il Melo, il *Populus* e il *Crataegus*.

In contrasto con i reperti di altri studiosi, l'A. non ha rilevato alcuna specificità nei confronti delle piante ospiti da parte delle varie specie di acari. Tutti

gli *Eotetranychus* raccolti su *Crataegus*, su *Acer*, su *Platanus* e su *Pero* sono in grado di vivere e di riprodursi normalmente in laboratorio sia su *Melo* che su *Crataegus*. Difficoltà di propagazione trovano solo gli individui raccolti su *Populus*.

La forma del peritrema è notevolmente variabile in acari raccolti su un'unica pianta e perfino sulla stessa foglia.

Per accettare che il materiale raccolto non costituisse una popolazione mista, l'A. ha allevato separatamente per tre generazioni i discendenti di varie coppie e ad ogni generazione ha potuto rilevare identica variabilità.

Quali elementi tassonomici utili per il gen. *Eotetranychus*, l'A. ritiene debbano essere prese in considerazione le caratteristiche biologiche e non la specificità della pianta ospite né la forma del peritrema.

LITERATURE CITED

DÜZGÜNES Z., 1963 - Türkiyede yeni bulunan akarlar. *Bitki Koruma Bul.*, 3 (4), 234-241.

EHARA S., 1960 - On some Japanese Tetranychid mites of economic importance. *Jap. J. appl. Ent. Zool.*, 4 (4), 234-241.

GEIJSKES D.C., 1939 - Beiträge zur Kenntnis der europäischen Spinnmilben (Acaria, Tetranychidae) mit besonderer Berücksichtigung der niederländischen Arten. *Meded LandbHoogesch. Wageningen*, 42, 1-68.

PRITCHARD A. E., BAKER E. W., 1955 - Revision of the spider mite family Tetranychidae. *Pacific Coast Ent. Soc. Mem.*, ser. 2, 472 pp., 391 figg., 1 tab..

REEVES R. M., 1963 - Tetranychidae infesting woody plants in New York State, and a life history study of the Elm Spider mite *Eotetranychus matthissei* n. sp.. *Cornell Univ. Agr. Exp. Stn.*, Mem. 380, 23 plates, 1 tab..

ROTA P., 1961-1962 - Osservazioni sugli Acari Tetranychidi dannosi alle piante coltivate ed ornamentali in Italia. *Boll. Zool. agr. Bachic.*, Serie II, 4, 31-136, 35 figg., 5 tavv..

SEPASGOSARIAN H., 1956 - Morphologie und Biologie der gelben Apfelspinnmilbe *Eotetranychus pomi* n. sp. (Acar., Tetranychidae). *Z. angew. Zool.*, 17, 435-491. 22 figg., 15 tab..

DISCUSSION

UNTERSTENHÖFER: Have you tested the susceptibility of the different mites of the genus *Eotetranychus* against acaricides?

DÜZGÜNES: No, I have not, but it will be interesting to test some acaricides against this genus.

MATHYS: I think the study of Prof. Düzgünes is of highest interest since Pritchard and Baker's work refers in its keys for the identification of *Eotetranychus* species to the peritremata.

BOCZEK: Did you try to compare the appearance of peritremes with other characters like: aedeagus, cuticular foldes and so on. Peritremes usually differ quite a lot in Tetranychids.

DÜZGÜNES: Yes, I did try the other characters too, but here I like to show only the variation in the end of peritreme.