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A new tomato pest in Çukurova, Aculops lycopersici (Massee), (Acarina : Eriophyidae).

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Summary

Tomato russet mite, **Aculops lycopersici** (Massee), was first detected in 1979 on tomato plants grown in open fields. Its description, and the damage caused by **A. lycopersici** were given. Precautions to prevent **A. lycopersici** from spreading and control measures were discussed.

Introduction

Tomate russet mite, **Aculops lycopersici**(Massee), was described as **Phyllocoptes destructor** by Keifer (1940) from tomato plants in California. It was originally from Australia and was a serious pest of tomato plants during the summer and early fall (Keifer et al., 1982).

It was first detected in Çukurova in 1979 from the tomato plants grown in open fields at Balcalı, Adana. Infested plants-lower stem and leaves showed color changes from green to brown with final withering. Symptoms spread rapidly, the plants eventually withered and died. After its first detection, **A.lycopersici** has been found on tomato plants grown in commercial greenhouses in Adana and Içel provinces.

Description

Description given below is mainly taken from Jeppson et al. (1975) and Keifer et al. (1982). **A. lycopersici** (Figure 1) is a robust, spindle-shaped, whitish-to-yellowish mite. The broad and short anterior shield lobe is quite atypical for **Aculops** group. The peculiar structure of the dorsal shield and its design are characteristic features of this mite.

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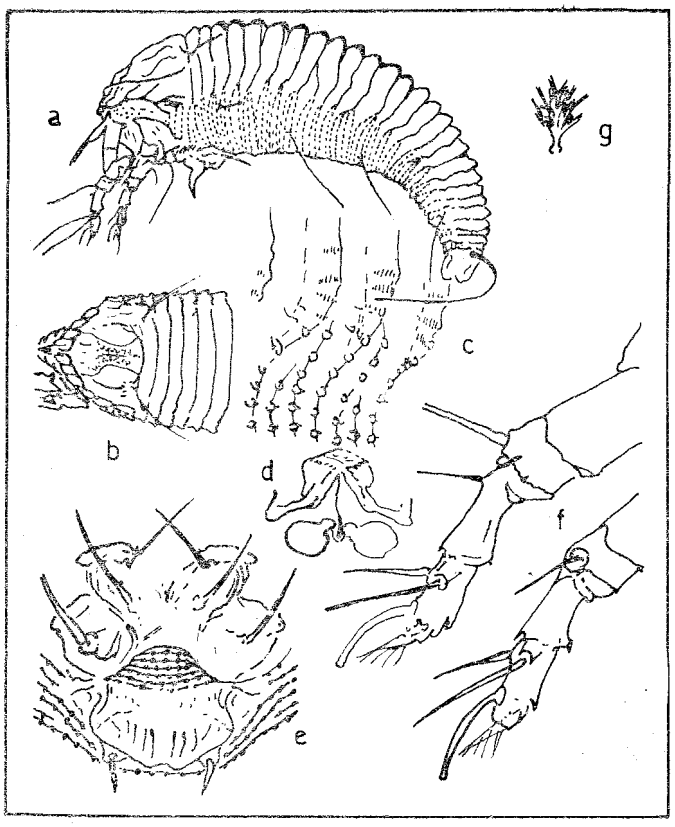

Fig. 1. **Aculops lycopersici** (Massee). a. adult, lateral view; b. propodosoma and anterior of hysterosoma; c. lateral microtubercles; d. internal female genitalia; e. female external genitalia and coxae; f. left legs; g. featherclaw. (from Keifer et al., 1982)

The microtubercles on the hysterosoma are pointed and confined centrally; and the cover flap of the female genitalia has 8-10 short, longitudinal ribs. The featherclaws are 4-rayed. The female measures 150-180 microns long and the male 140-150 microns.

Discussion

Although many members of the family Solanaceae have ben reported to serve as a host for **A. lycopersici** (Jeppson et al. 1975; Keifer et al., 1982), it was only found on tomato plants in Çukurova, even in fields where eggplants, and peppers were grown next to infested tomato plants. This warm weather species, with no dormant stage (Jeppson et al., 1975), developes rapidly in greenhouses during the late winter and spring months, and causes heavy damages in fall in open fields in Çukurova. The high temperature and low relative humidity are the most

favorable conditions for development of the russet mite (Jeppson et al., 1975). This may be the reason for heavy damages caused in fall since the relative humidity is much lower in fall as compared with summer in Çukurova; But it does not explain the developments of the russet mite in greenhouses where the relative humidity is always very high.

The russet mite is readily controlled by the application of specific acaricides, but early detection and correct timing of the application is required. Tomato plant injury by the russet mite usually starts at the base of the plant and spreads upward over the stems and leaves. The symptoms are usually mixed with the symptoms caused by some tomato diseases, but unlike the diseases the infested plants do not wilt down, the leaves turn brown and paperlike.

Another important point is to take the necessary precautions to prevent the russet mites from spreading from one plant to another in greenhouses. The russet mites spread rapidly at prunning and picking time, by being brushed off from workers' clothing. It is therefore necessary to examine the plants closely for the presence of the mites before any cultural practices. If the mites are present, control measures should be taken immediately, even local application of the acaricides at the infestation point might be helpful to prevent further spreading of the russet mite.

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Özet

Çukurova bölgesinde yeni bir domates zararlısı, **Aculops lycopersici** (Massee), (Acarina: Eriophyidae)

Aculops lycopersici (Massee), Çukurovada ilk olarak 1979 yılında açıkta yetiştirilen domateslerde saptanmıştır. **A. lycopersici**'nin tanımı ve zarar şekli verilmiş, yayılmasını önlemek için alınması gerekli önlemler ve kontrol şekli tartışılmıştır.

Literature Cited

Jeppson, L.R., H.H. Keifer and E.W. Baker, 1975. Mites Injurious to Economic Plants. xii + 614 pp. Univ. Calif. Press.

Keifer, H.H., 1940. Eriophyid Studies X. **Calif. Dept. Agr. Bul.** 29 (3) : 160-179.

Keifer, H.H., E.W. Baker, T. Kono, Delfinado, and W.E. Styer, 1982. An illustrated Guide to Plant Abnormalities Caused by Eriophyid Mites in North America. USDA, ARS, Agriculture Hanbook No. 573.