# AN ERIOPHYID *TEGOLOPHUS PERSEAFLORAE* (ACARI:ERIOPHYIDAE) NEW TO FLORIDA AND THE USA

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Keifer (1969) described an eriophyid mite *Tegolophus perseaflorae* sent to him by C. W. Fletchman collected from *Persea gratissima* from Recife, Pernambuco, Brazil. Dr. Fletchman reported this mite caused flower damage and decreased fruit production. In 1977, Dr. R. Baranowski (UF/TREC, Homestead, FL) collected this mite in the bud of avocado, *Persea americana* Miller, at Irupana, Bolivia.

In May 1991, excessive flower drop and fruit deformation was observed in avocado trees in the vicinity of Homestead, Dade Co., Florida. In a preliminary survey, an avocado orchard was sampled in May of 1991. Sampling consisted of collections of ten floral clusters, fruitlets and buds from each of 10 trees. *Tegolophus perseaflorae* were collected from buds and fruits. The mites were observed feeding on buds, causing necrotic spots on apical leaves, and subcircular, irregular openings on mature leaves. Mites were also found in petioles, the underside of leaves and fruitlets (Fig. 1) The mite is also reported to feed on the peduncle, calyx and stylar area (Medina et al. 1978, Jeppson et al. 1975). Feeding by this mite on fruitlets may cause fruit deformation and discoloration.

A preliminary survey was initiated in June 1991 through May 1992 to determine the relative frequency of *T. perseaflorae* on fruits, leaves and flowers. Initially, ten fruits, buds, and flower clusters were collected twice a month from each orchard. They were placed in an ice chest (about 10°C) and transported to the laboratory where the mites were counted. Voucher specimens were identified by the junior author. A total of 508 *T. perseaflorae* were collected from leaf buds and fruitlets. A significant difference in frequency of mites was observed between buds and fruits [Chi-square 0.05 (1) = 3.84]. More mites were observed on the buds ($x \pm SE = 5.85 \pm 1.06$) than in fruits ($2.29 \pm 0.72$). Population peaks (18 - 35 mites per bud) were observed from March to May 1992. These warm dry months correspond with blooming and fruit formation on avocado in the area. No mites were observed on flowers, fruits or leaves from June through February. The above accounts would imply that warm weather is most favorable for this eriophyid and that the presence of developing avocado plant organs might influence its development.

*Description*. (See Figs. 2 - 7.) Adult females are 155-170 µ long, about 37 µ thick, abdominal thanosome with about 55-60 rings; rostrum 20 µ long, curved down, shield design not clear; forelegs 24 µ long; tibia 5 µ long, tarsus 4.5 µ, and claw 5.5 µ long; featherclaw 5-rayed; lateral sets 18 µ long on about 5-7 behind the shield; first ventral seta 38 µ long on ring 20, second ventral seta 31 µ long on ring 36. Telesome with 5-6 rings, the granules fine. Accessory seta 3 µ long. Female genitalia 19 µ wide, 12 µ long, covering flap with about 18 close-set longitudinal ribs; genital seta 13 µ long.

The presence of this mite in Florida represents another piece in the "puzzle" in the continuous appearance of neotropical pests in this state. Since, avocado grafting material is often transported by commerce, it may be that *T. perseaflorae* is an immigrant species that was introduced in Florida, unintentionally, by human transport.

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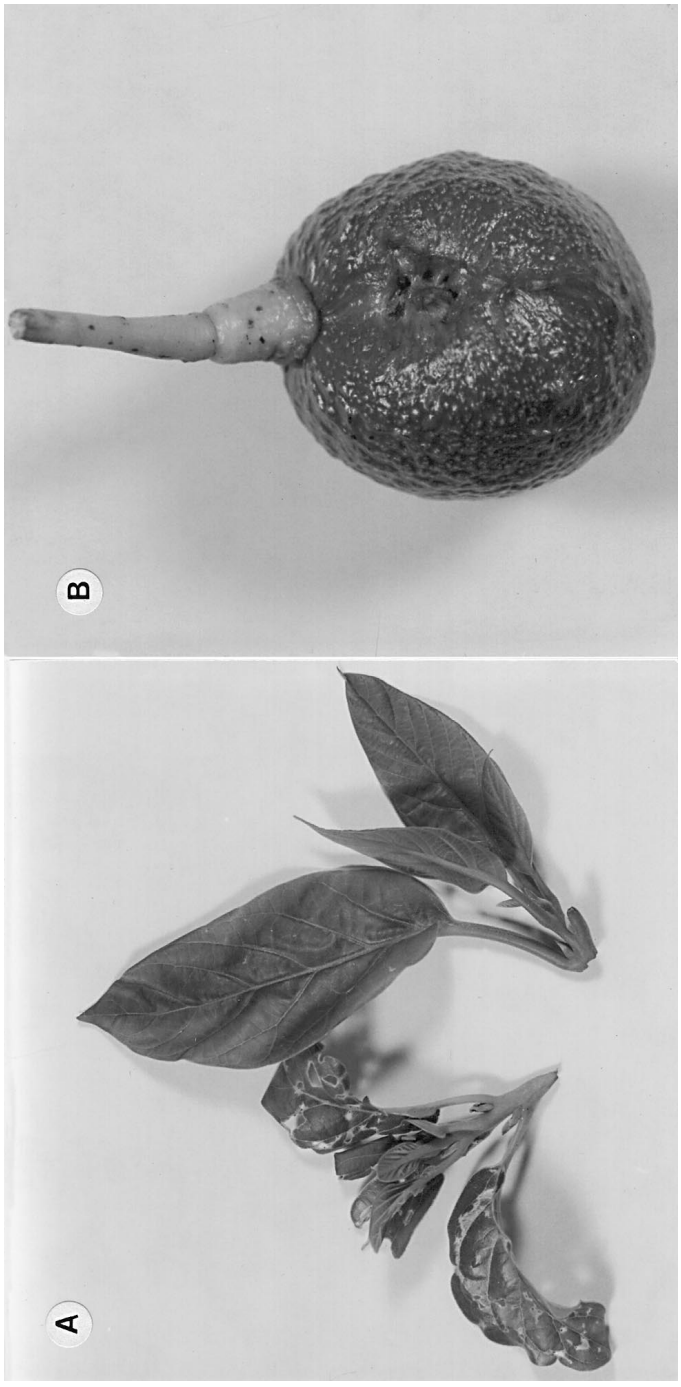
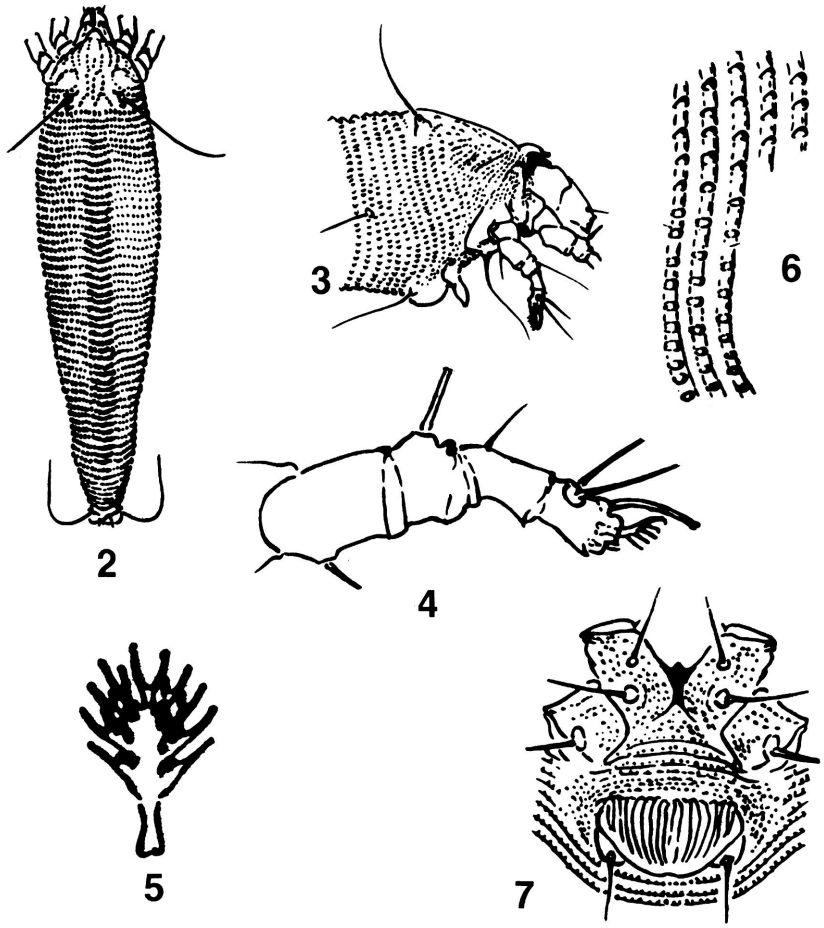



Figure 1. *Tegolophus perseaflorae* damage to buds (A) and fruit (B).




Figures 2 - 7. Adult female *Tegolophus perseaflorae* (2), side of anterior section(3), left foreleg (4), featherclaw (5), lateral rings and microtubercles on thanosome (6), female genital structures and coxae (7) (after Keiffer).

SUMMARY

The status, damage and description of *Tegolophus perseaflorae* Keifer, a newly introduced mite into southern Florida, are discussed.

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