

ERIOPHYES MANGIFERAE (SAYED) A PEST OF MANGO  
(ACARINA:ERIOPHYIDAE)<sup>1</sup>

Harold A. Denmark<sup>2</sup>

**INTRODUCTION:** Eriophyes mangiferae was originally described as Aceria mangiferae by Sayed (1946) from Egypt. It appeared to cause malformations of the mango inflorescence resulting in crop reduction in Egypt (Hassan, 1944; Sayed, 1946; Attiah, 1955). Vegetative and flowering buds are affected (figs. 1A and 1B). A second eriophyid, Metaculus mangiferae (Attiah), was found to prefer the lower surface of young leaves and occasionally buds but did not cause malformation of the inflorescence (Zaher and Osman, 1970) and russeting of terminal buds and inflorescences (Abou-awad, 1981). Kauser (1959) considered the problem was caused by a virus. Summanwar et al. (1966) and Varma et al. (1972) isolated Fusarium moniliforme var. subglutinans Wollenw. and Rg. from malformed tissue. Varma et al. (1974) isolated this fungus from more than 300 different samples collected from different parts of India. They were successful in reproducing the malformation by inoculating healthy shoots with moniliforme. Bhatnagar and Beniwal (1977) reported that Fusarium oxysporum Schlecht was involved in causing malformation of mango panicles. The fungus was systemically present in parenchymatous cells of the pith region of malformed tissues. They were able to produce bunchy top by inoculating the fungus through the soil. Attiah (1959) found the mango bud mite, Eriophyes mangiferae, at Homestead, Florida in malformed inflorescences. Since that time further surveys have shown this problem to occur in south Florida and to be associated with mango bud mite. It is possible that this mite is an efficient vector of pathogens that cause malformed inflorescence in mango; however, this has not been proven to date.

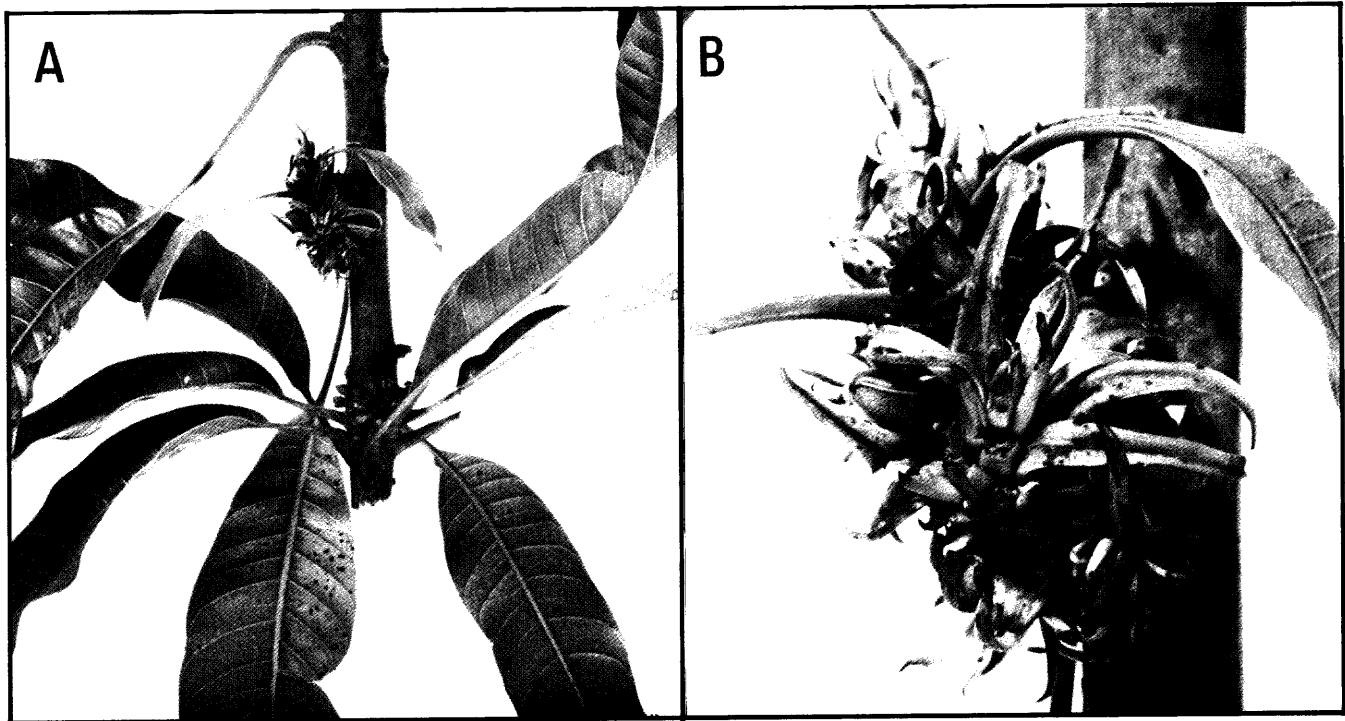


Fig. 1. Mangifera indica L. A) Infested with Eriophyes mangiferae (Sayed) causing bunchy top. B) Close-up of bunchy top. (DPI Photo #701522)

<sup>1</sup>Contribution No. 568, Bureau of Entomology.

<sup>2</sup>Chief, Bureau of Entomology, P. O. Box 1269, Gainesville, FL 32602.

DISTRIBUTION: Egypt, India, Israel, Pakistan, and south Florida are the reported areas of distribution of the malady. It may occur wherever mango is grown.

ECONOMIC IMPORTANCE: This problem is economically important in India and Egypt on some varieties of mango. Although the problem occurs in south Florida, it is not considered important at this time.

SURVEY AND DETECTION: Look for malformed growth on mango trees. The presence of the mango bud mite should also be checked.

DESCRIPTION: All measurements are micrometers. Female 225-250 long (including rostrum). Rostrum about 20 long, down curved. Dorsal setae about 113 long; dorsal tubercles 24 apart. First leg from trochanter base 29 long; tibia 5 long; tarsus 5 long; claw 8 long; featherclaw 6-rayed. Hindleg from trochanter base 25 long; tibia 5 long; tarsus 4 long; claw 11 long.

Abdominal thanosome with about 58 rings; lateral seta 24 long located on ring; first ventral seta 32 long on ring 21.

Abdominal telosome with 6 rings. Telosome seta 41 long. Accessory seta 10 long. Female genitalia 20 wide and 13 long; female genital cover flap with 7-9 longitudinal ribs; genital seta 13.

CONTROLS: Pruning of infested branches and spraying with oil, plus Kelthane, reduced the mite population and increased the fruit yield in Egypt (Wafa et al., 1970).

LITERATURE CITED:

- Abou-awad, B. A. 1981. Bionomics of the mango rust mite Metaculus mangiferae (Attiah) with description of the immature stages (Eriophyoidea:Eriophyidae). *Acarologia* 22(2):151-155.
- Attiah, H. H. 1955. A new eriophyid mite on mango from Egypt. *Bull. Soc. Entomol. Egypte* 39:379-383.
- \_\_\_\_\_. 1959. On the discovery of two economic species of eriophyid mites on mango and citrus trees in Florida. *Fla. Entomol.* 42(4):189-190.
- Bhatnagar, S. S. and S.P.S. Beniwal. 1977. Involvement of Fusarium oxysporum in causation of mango malformation. *Plant Dis. Reprtr.* 61(10):894-898.
- Hassan, A. S. 1944. Notes on Eriophyes mangiferae sp. n. *Bull. Soc. Entomol. Egypte* 28:179-180.
- Kausar, A. G. 1959. Malformation of inflorescence in mango. *Punjab Fruit J.* 22:19-21.
- Sayed, M. T. 1946. Aceri mangiferae nov. sp. *Bull. Soc. Entomol. Egypte* 30:7-10.
- Summanwar, A. S., S. P. Raychaudhuri, and S. C. Phatak. 1966. Association of the fungus, Fusarium moniliforme Sheld. with the malformation in mango (Mangifera indica L.). *Indian Pathopathol.* 19:227-228.
- Varma, A., S. P. Raychaudhuri, V. C. Lele, and A. Ram. 1972. Towards the understanding of the problem of mango malformation. *Acta Hortic.* 24:237.
- \_\_\_\_\_, V. C. Lele, S. P. Raychaudhuri, A. Ram, and A. Sang. 1974. Mango malformation: a fungal disease. *Phytopathol. Z.* 79:254-257.
- Wafa, A. K., M. A. Zaher, and A. A. Osman. 1970. Control of phytophagous mites on mango trees in U.A.R. *Bull. Entomol. Soc. Egypte Ser.* 4:219-225.
- Zaher, M. A. and A. A. Osmar. 1970. Population studies on mites associated with mango trees in Egypt. *Bull. Soc. Entomol. Egypte.* 54:141-148.