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Woolly whitefly, Aleurothrixus floccosus (Maskell)

(HOMOPTERA:ALEYRODIDAE:ALEYRODINAE)[1]

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SYNONYMY: Aleurodes floccosa Maskell 1895:432; Aleyrodes horridus Hempel 1899:394; Aleyrodes howardi Quaintance 1907:91; Aleurothrixus floccosus (Maskell), Quaintance and Baker 1914:103, Mound and Halsey 1978:62; Aleurothrixus howardi (Quaintance), Quaintance and Baker 1914:104.

INTRODUCTION: Woolly whitefly was described from Jamaica on lignumvitae (Maskell 1895). It was first reported in Florida under the synonym Aleyrodes howardi Quaintance on sea-grape in 1890 (Berger 1917). The first report on citrus was in 1909 (Berger 1917). Since that time numerous ornamental and horticultural plants have been reported as hosts in Florida.

DESCRIPTION: Pupal case yellowish brown to blackish, but usually obscured by a copious amount of secreted grayish white wax threads (fig. 1). These wax threads should not be confused with ribbon-like wax secreted by some other species of whiteflies. The pupal case is about 1.0 mm long by 0.5 mm wide. Dorsum (fig. 2a) of pupal case with metathoracic setae, 8th abdominal setae, and caudal setae stout. Vasiform orifice (fig. 2b) nearly circular, operculum nearly filling orifice, lingula not observable, and 6 to 8 branched setae connected by a membrane arising from the caudal margin. Depending on how the pupal case is mounted on the microscope slide, these branched setae may not be visible. The inability to see these branched setae led to taxonomic confusion between A. floccosus and A. howardi for a number of years. Wax pores (fig. 2c) occur at the base of the marginal teeth.

Fig. 1. Woolly whitefly, pupal cases, (X10), DPI#701359

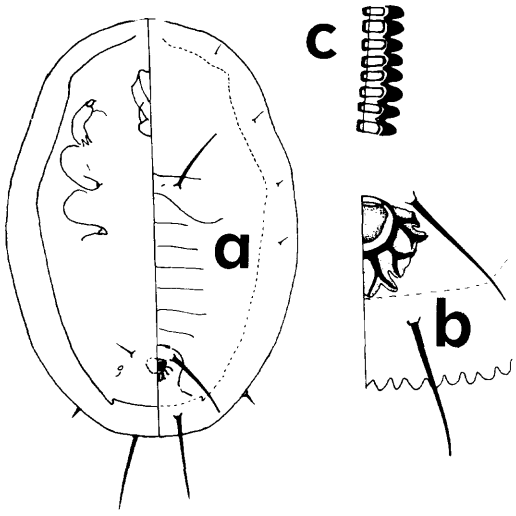

Fig. 2. Woolly whitefly. a) left, ventral; right, dorsal; b) vasiform orifice; c) margin, (X55) DPI#702376

Fig. 3. Woolly whitefly, eggs in circles, larvae, (X30) DPI# 701359

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Eggs are laid singly or in circles (fig. 3) on the undersides of leaves. The early larval instars are without the flocculence of wax threads, but do have a fringe of wax secreted by the marginal wax pores.

DISTRIBUTION: Angola, Argentina, Bahamas, Barbados, Brazil, Canary Islands, Chile, Cuba, Guyana, Haiti, Jamaica, Leeward Islands, Madeira, Mexico, Panama, Paraguay, Puerto Rico, Reunion Islands, Spain, Surinam, Trinidad, Zaire (Mound and Halsey 1978). In Florida, woolly whitefly is known from the following counties: Baker, Brevard, Broward, Charlotte, Citrus, Collier, Dade, DeSoto, Hardee, Hendry, Highlands, Hillsborough, Lake, Lee, Manatee, Marion, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, St. Lucie, Seminole, Sumter, and Volusia.

HOSTS: Reported hosts in Florida include the following: Avicennia germinans (L.) L., Calliandra haematocephala Hassk., Carex sp., X Citrofortunella mitis (Blanco) J. Ingram & H. E. Moore, Citrus sp. 'Honeybell', C. aurantiifolia (Christm.) Swingle, C. aurantium L., C. limon (L.) Burm., C. medica L., C. mitis Blanco, C. paradisi Macf., C. reticulata Blanco, C. sinensis Osbeck, Coccoloba diversifolia Jacq., C. uvifera L., Cyperus sp., C. exculentus L., C. globosus Aubl., C. ovularis (Michx.) Torrey, C. strigosus L., Dieffenbachia sp., D. maculata (Lodd.) G. Don, Eugenia uniflora L., Ficus sp., Fortunella sp., Khaya nyasica Stapf. ex Bak. f., Manilkara zapota (L.) Van Royen, Plumeria sp., Psidium sp., P. cattleianum Sabine, P. guajava L., Punica sp., Rhododendron indicum (L.) Sweet, Simaruba glauca DC, Vitis rotundifolia Michx.

ECONOMIC IMPORTANCE: Whiteflies are noted for their ability to remove large quantities of plant sap when populations are high and woolly whitefly is no exception. In addition, large amounts of honeydew are excreted with the resulting growth of sooty mold which interferes with the photosynthesis of leaves.

SURVEY AND DETECTION: Inspect the undersides of leaves for pupal cases covered by a large amount of grayish white wax threads. Eggs occur randomly scattered or in circles.

CONTROL: The Institute of Food and Agricultural Sciences, University of Florida, recommends the insecticides Cygon, malathion, diazinon, Metasystox-R, and Orthene. FOLLOW LABEL DIRECTIONS. The parasites Encarsia brasiliensis (Hempel) (Grissell 1979) and Eretmocerus haldemani Howard are common on woolly whitefly in Florida (Mound and Halsey 1978); hence the use of insecticides may not be necessary.

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