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SILVERLEAF WHITEFLY

SCIENTIFIC NAME: *Bemisia tabaci* biotype B Bellows and Perring

CLASS: Insecta

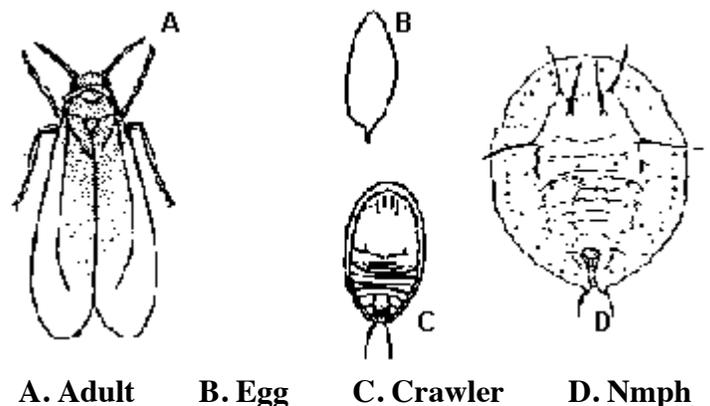
ORDER: Hemiptera

FAMILY: Alerodidae



Silverleaf Whiteflies

From: [Forestr Images](#)



A. Adult

B. Egg

C. Crawler

D. Nymph

Life Ccle

From: [NC E“tension](#)

DESCRIPTION

Adults: The silverleaf whitefl is slightl smaller (about 0.96 mm in the female and 0.82 mm in the male) and slightl ellower than most other whitefl pests of flowers. The head is broad at the antennae and narrow towards the mouth parts. The wings are held roof-like at about a 45◊ angle, whereas other whiteflies usuall hold the wings nearl flat over the bod. Hence, the silverleaf whitefl appears more slender than other common whiteflies.

Eggs: The eggs are inserted on end in the undersides of new leaves. The eggs are whitish to light beige with the ape“ tending to be slightl darker.

Nmphs: The nmphal stages appear glass to opaque ellowish and ma or ma not have dorsal spines, depending on leaf characteristics. The bod is flattened and scale-like with the margin relativel near the leaf surface. There is not a marginal palisade of wa“ spines.

Pupae: The pupa or fourth nmphal instar will be somewhat darker beigeish-ellow and opaque and 0.6 to 0.8 mm long. Pupae are relativel more plump compared to previous nmphal stages. The ape“ of anterior and caudal spiracular furrows have smalls amount of white wa“ deposits. The caudal setae are prominent, and the caudal end is somewhat acute. Dorsal spines are present when the host leaf is hair and absent when the host leaf is

smooth.

BIOLOGY

Distribution: Silverleaf whitefl probabl occurs around the world in tropical and subtropical areas and in greenhouses in temperate areas. It has been reported from California, Florida and it occurs in North Carolina.

Host Plants: Alfalfa, beans, broccoli, *Citrus*, *Ficus*, *Lantana*, lettuce, melons, cotton, grape, sweet potato, and poinsettia are definite hosts of the silverleaf whitefl. Gerbera daisies are probabl hosts.

Damage: Direct damage is caused b the removal of sap, and indirect damage as a disease vector. The silverleaf whitefl is a vector for several important virus diseases of lettuce and melons in the southwestern United States. Both the adult and nmphal stages contribute to direct damage. Chlorotic spots sometimes appear at the feeding sites on leaves, and heav infestations cause leaves of cucurbits and stems of poinsettias to blanch (“silver”) and wilt. The e“cretion of honedew and the subsequent development of soot mold fungi also reduces the appearance, photosynthesis, and other phsiological functions of the plant. Even though the silverleaf whitefl is considered an economic pest, economic thresholds have not been generated for this pest on ornamental plants.

Life Ccle: (The following information was observed with whiteflies that were undoubtedl silverleaf whiteflies although at the time the were thought to be sweetpotato whiteflies.) Developmental times from egg deposition to adult emergence appears to be primaril controlled b temperature, humidit, and host plant. These times will var from 16 to 38 das depending on these factors. The number of eggs laid b each female over her lifetime varies considerabl, but appears to be around 80 to 100. There have been reports (in Israel) that repeated applications of insecticides have produced a 9 highl fecund (300 eggs/females) strain of silverleaf whitefl. Apparentl, at temperatures above 36◊C eggs fail to hatch. “Crawlers” hatch from the eggs and crawl about until the insert threadlike mouthparts into the underside of the leaf to feed. The tuck their legs and antennae underneath and settle down closel to the leaf surface.

Crawlers molt into scale like nmphs that also suck out sap. Nmphs molt a second and third time. The fourth stage eventuall becomes a non-feeding pupa. The adult whitefl develops within the pupa. Adults emerge from the pupa through a T-shaped slit about a month from the time the egg was laid. Females live about two weeks.

CONTROL

Control of silverleaf whiteflies is difficult because the eggs and older immature forms are resistant to man aerosol and insecticide spras (in addition, the adults are e“tremel resistant to dr pesticide residue). For good control, the pesticide mi“ture must be directed to the lower leaf surface where all stages of the whiteflies naturall occur. One must make regular applications of pesticides to control crawlers and second stage nmphs until the last of a whole generation of immature whiteflies has hatched. However, some of the prethroid pesticides are somewhat more effective and need not be applied as often. Neem seed e“tract is not as acutel to“ic as some of the snthetic pesticides, but has the advantage of being to“ic to oung nmphs, inhibiting growth and development of older nmphs, and reducing oviposition b adults.

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