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Ash whitefly, *Siphoninus phillyreae* (Haliday) (Homoptera: Aleyrodidae: Aleyrodinae)[1]

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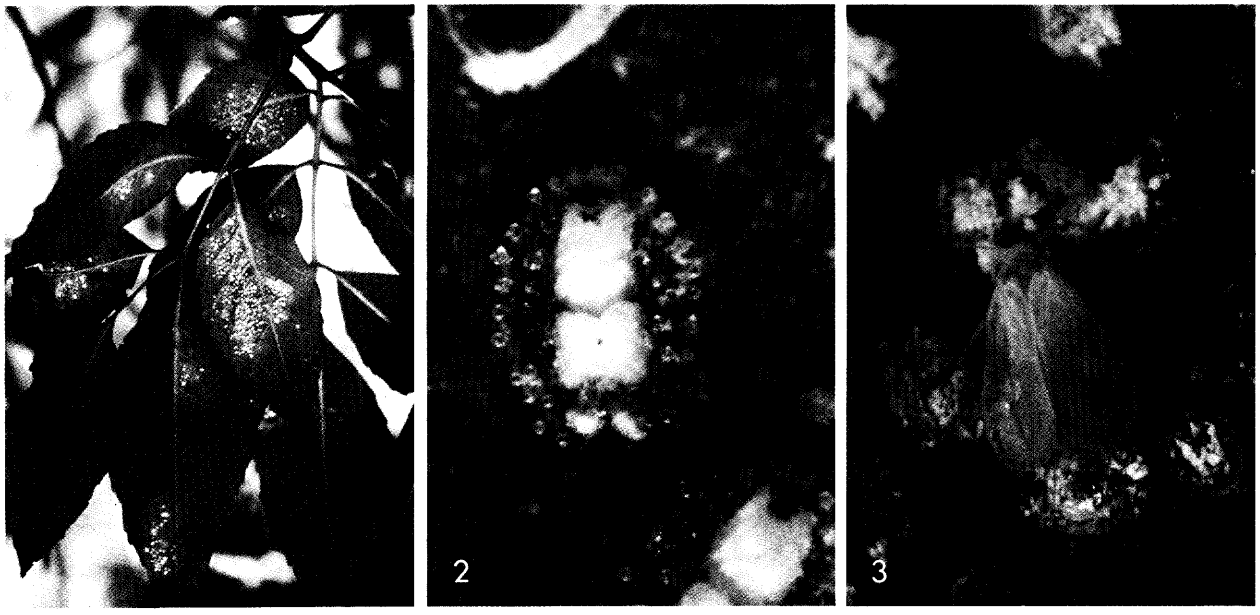
INTRODUCTION: Ash whitefly, *Siphoninus phillyreae*, was described as *Aleyrodes phillyreae* by Haliday (1835), on *Phillyrea latifolia* collected in Dublin, Ireland. It has several synonyms listed in Mound and Halsey (1978). In the United States, *S. phillyreae* was first collected in Los Angeles County, California in 1988, and has since spread to Kern, Orange, Riverside, Sacramento, San Bernardino, San Diego, Santa Barbara, Santa Clara, Stanislaus, Tulare and Ventura counties. Most ash whiteflies in California were found on pomegranate, ash tree, pear, apple, loquat and citrus. It causes severe damage to pear and apple in Europe. Heavy infestations caused leaf wilt, early leaf drop and smaller fruit (Bellows et al. 1990). If this whitefly is introduced into Florida we expect it would become a pest of ornamental plants and possibly other crops.

DESCRIPTION: On first observation the pupal case will appear similar to the white male armor of a snow scale (Fig. 1). Closer observation with a hand lens will reveal a whitefly pupal case with 2 longitudinal tufts of white wax. The vasiform orifice is surrounded by dark brown derm, with the anal area appearing as a dark brown spot. Lateral areas of the pupal case are light beige. Depending on the age, lesser or greater amounts of white wax will be present. The dorsal surface has 40-50 long glassy tubercles similar to the cornicles found on aphids. These tubercular structures produce a droplet of glassy wax and this gives the pupal case an unusual appearance (Fig. 2). The longitudinal white tufts of wax obscure some glassy tubercles (R.J. Gill, personal communication). The pupal case size is 0.8-1.0mm long by 0.55-0.7mm wide (Mound 1966). The adult appears much like a typical whitefly with a light dusting of white wax (Fig. 3).



Figures 1-3. Ash whitefly, *Siphoninus phillyreae* (Haliday). 1) Pupal cases and nymphs on host plant. 2) Pupal case with glassy wax droplets. 3) Adult. Photographs by C.H. Webb.

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DISTRIBUTION: *Siphoninus phillyreae*, a Palaearctic species, is found in several countries, including: Austria, Cameroon, Corsica, Czechoslovakia, Cypress, Egypt, England, Ethiopia, France, Germany, India, Iran, Hungary, Ireland, Israel, Italy, Libya, Morocco, Pakistan, Poland, Romania, Saudi Arabia, Spain, Sudan, Syria, Switzerland, Yugoslavia, and United States (Arizona and California and Navada). (Mound and Halsey 1978, Bellows et al. 1990, and Raymond Gill, personal communication, Chris Baptista, personal communication).

HOST PLANTS: *Siphoninus phillyreae* is a polyphagous species and found on several plant families, including:

FAMILIES & SPECIES	COMMON NAME
BIGNONIACEAE	
Catalpa X chilopsis	catalpa hybrid
LEGUMINOSAE	
Afzelia sp.	pod mahogany
Cercis occidentalis	western redbud
C. siliquastrum	Judas tree
LYTHRACEAE	
Lagerstroemia indica	crape myrtle
MAGNOLIACEAE	
Liriodendron tulipifera	tulip tree
Magnolia stellata	star magnolia
OLEACEAE	
Fraxinus excelsior	European ash
F. latifolia	Oregon ash
F. ornus	flowering ash
F. syriaca	Serian ash
F. uhdei	Shamel ash
F. uhdei 'Tomlinson'	Tomlinson ash
F. velutina 'Modesto'	Modesto ash
F. velutina var. *glabra*	Arizona ash
F. velutina var. *coriacea*	western ash
Ligustrum spp.	privets
Olea africana (=*Olea chrysophylla*)	wild olive
O. europaea	common olive
Phillyrea latifolia (=*Phillyrea media*)	a phillyrea
Syringa X hyacinthiflora	a common lilac
S. laciniata	cut-leaf lilac
S. vulgaris	common lilac
PUNICACEAE	
Punica granatum	pomegranate
RHAMNACEAE	
Rhamnus alaternus	buckthorn
Ziziphus spina-christi	crown of thorns
ROSACEAE	
Amelanchier denticulata	serviceberry
Chaenomeles X speciosa	flowering quince

Crataegus mollis	hawthorn
C. monogyna	English hawthorn
C. laevigata (=*C. oxyacantha*)	hawthorn
Cydonia oblonga	quince
Eriobotrya deflexa	golden loquat
Heteromeles arbutifolia	California Christmas berry
Malus domestica	apple
M. floribunda	Japanese flowering crab.
M. fusca	Oregon crabapple
Malus 'Hopa'	a crabapple
Malus 'Red Jade'	a crabapple
Malus X scheideckeri	Scheidecker crabapple
Mespilus sp.	mespilus
Prunus armeniaca	apricot
P. X blireiana	blue plum hybrid
P. persica	peach
P. salicina	Santa Rosa plum
P. virginiana var. *melanocarpa*	choke cherry
Pyracantha sp.	pyracantha
Pyrus calleryana	ornamental pear
P. communis (=*P. sativa*)	pear
P. kawakamii	flowering pear
P. pyrifolia	Japanese sand pear
RUBIACEAE	
Cephalanthus occidentalis var. *californicus*	buttonbush
RUTACEAE	
Citrus sp.	tangerine
C. limon	lemon
C. sinensis	navel orange
C. sinensis	Valencia orange
Fortunella sp.	kumquat

(Modified from Bellows et al. 1990)

NATURAL ENEMIES: Ash whitefly has the potential to become a serious pest in new environs; however, it has several natural enemies that can control its populations to under economic thresholds. These natural enemies include:

Predators:	*Clitostethus arcuatus* (Rossi), *Menochilus* sp., and *Scymnus pallidivestis* Mulsant.
Parasites:	*Coccophagus eleaphilus* Silvestri, *Encarsia gautieri* (Mercet), *Encarsia inaron* (Walker), *Encarisa partenopea* Masi, *Encarsia siphonini* Silvestri, *Encarsia pseudopartenopea* Viggiani and Mazzone; *Eretmocerus siphonini* Viggiani and Battaglia, and *Eretmocerus corni* Haldeman. (Mound and Halsey 1978, Bellows et al 1990, Viggiani and Mazzone 1980, Viggiani and Battaglea 1983).

The California Department of Food and Agriculture has imported *Encarsia* sp. from Israel and Italy, and the coccinellid beetle *Clitostethus arcuatus* for the control of ash whitefly in California. (Bellows, et al. 1990)

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