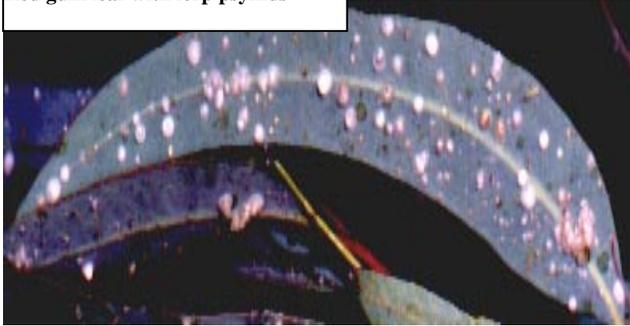


The Red Gum Lerp Psyllid, a new pest of Eucalyptus species in California

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Red gum leaf with lerp psyllids



The red gum lerp psyllid, a new pest on California's eucalyptus trees, was discovered in 1998 in Los Angeles County, and has currently spread throughout much of the state. The psyllids, small insects that suck sap from leaves, are, like the eucalyptus, native to Australia. They are causing leaf damage and drop, resulting in branch die back and death to suppressed trees. Psyllids also produce a sticky substance called honeydew, which drops to the ground on cars and sidewalks.

Adult psyllid



Background

The red gum lerp psyllid, *Glycaspis brimblecombei* (Homoptera: Psylloidea; Spondyliaspidae) is the first lerp psyllid to make its way from Australia to California. It is apparently a new North American record. It was discovered on red gum *Eucalyptus* in Los Angeles County in June of 1998 along a freeway in El Monte and several of the trees were heavily infested. Ray Gill of the Calif. Dept of Food and Agriculture identified the psyllid and the identification confirmed by Daniel Burckhardt, a Swiss psyllid specialist. It was found in Northern California on 24 July, 1998 at the Ardenwood Farm East Bay Regional Park, Fremont. Since that time it has also been found on the Stanford campus in Palo Alto and at many other locations in the around

the Bay Area.

As of 1 Sept., 2000 all counties in California have reported the psyllid's presence except for a few counties in the extreme northwest, north, and northeast of the state.

Some of the *Eucalyptus* species have been heavily attacked and this has resulted in heavy leaf drop. The large amount of honeydew produced results in blackened foliage due to sooty mold. These psyllids form a lerp, which is a secretory structure produced by the nymphs from honeydew as a protective cover. 'Lerp' is a term derived from an aboriginal Australian language describing this cover. There are eight host species of *Eucalyptus* known in Australia including *E. camaldulensis* (= *E. rostrata*) (river red gum), *E. blakelyi* (Blakely's red gum), *E. nitens* (shining gum or silver top), *E. tereticornis* (forest red gum), *E. dealbata* (tumbledown red gum), *E. bridgesiana* (apple box), *E. brassiana* (Cape York red gum), and *E. mannifera* (Brittle gum). However, the psyllid has been recorded on 27 species of *Eucalyptus* in California, including *E. camaldulensis* (= *E. rostrata*), *E. rudis*, *E. globulus*, *E. diversicolor*, and *E. sideroxylon*. Damage occurs to only a few species, with *E. camaldulensis* the worst.

The immediate response by communities has been to look for a chemical pesticide, but the efficacy of current products is in doubt and no one in the California has any long-term experience



Lerp, eggs, and nymph

with chemical control of this insect. Based on the number of infestations in many areas of the state this could result in the heavy use of chemicals in those urban areas where red gums are commonly used as ornamentals. The development first of a monitoring program and then a biological control program would reduce the pesticide load in the environment. Both of these activities are socially acceptable, and as we have found with the elm leaf beetle project, monitoring alone can reduce the use of pesticides. If

the program is as successful as the recent blue gum psyllid project, no pesticides will be necessary.

Pre-existing Natural Enemies

We have observed several lady bird beetles (Coccinellidae) feeding on the psyllid: the Asian lady beetle, two spotted lady beetle, and convergent lady beetle. Also we have observed minute pirate bugs (Anthocoridae), green lacewings (Chrysopidae), brown lacewings (Hemerobiidae), syrphid flies (Syrphidae), and spiders feeding on the psyllids. We have also observed several bird species, including chestnut-backed chickadees (*Poecile rufescens*) and bushtits (*Psaltriparus minimus*), feeding on infested trees.

Biological Control

In August 1999, Dahlsten explored in Australia for natural enemies of the lerp psyllid in three areas that are similar in climate to California coastal areas: Sydney, Melbourne, and Adelaide. Eight species of *Psyllaephagus* (encrytid parasitoid wasps) were reared from lerp psyllid mummies in our quarantine facility at UC Berkeley. One of these, *P. bliteus*, has proven to be specific to the lerp psyllid and is now approved for release as a biological control agent. It is now being reared at UC and CDFA facilities, and has been released at 8 sample sites throughout the state. Currently releases are being made in limited numbers as the rearing facilities gear up for mass production. Production is being expanded to a UC facility near Fresno.



Parasitoid wasp female and lerp

The tiny stingless *P. bliteus* wasp female lays an egg in a psyllid nymph. The egg hatches and the wasp larva consumes the psyllid nymph. After release We expect the wasps to spread readily throughout the area of psyllid infestation.

(All photos by Jack Kelly Clark)

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