BIOLOGICAL CONTROL FOR THE EUCALYPTUS LONGHORNED BORER AND OTHER INSECT PESTS OF EUCALYPTUS
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Eucalyptus species are one of the most prevalent trees in urban and rural landscapes throughout California. They have a number of desirable characteristics, such as fast growth, tolerance of poor soils, resistance to drought, and, until recently, virtually no insect pests. In the past few years, however, several Australian insect pests have been introduced into California. These include the Eucalyptus longhorned borer (ELB), the bluegum psyllid, and very recently, the Eucalyptus snout beetle (ESB).

Over the past three years, several parasite species have been imported for biological control of ELB, including 4 larval parasites and an egg parasite. In 1993, 54,000 parasites of two species were released. The egg parasite, *Avrianella longoi*, became established at a number of sites in southern and one site in central California last year, and populations have successfully overwintered and are spreading rapidly. Parasitism rates were high: in field surveys last summer, the parasites located 71% of the available ELB egg masses, with 89% parasitism within egg masses.

Efforts to establish ELB larval parasites are continuing in 1994, with 3,000 to 5,000 parasites per week being reared and released. Releases are restricted to 2 sites per species to provide the critical mass of insects required to obtain establishment. Larval parasites have been recovered from trap logs at sites, but they have not yet been recovered from naturally infested wood.

The Eucalyptus snout beetle was detected in California for the first time at a site in Ventura in March of this year. A highly specific and extremely effective egg parasite, *Anaphes nitens*, which has been used worldwide for control of this pest, has been imported to control snout beetle populations. Releases will begin as soon as release permits are obtained.