Tiny Beetles Threaten Our Local Trees:

Is Your Community Ready?

Photo by G. Arakelian

▸▸▸*By Randall Oliver, Guest Author*

EVEN AS THE CITY OF LOS ANGELES strives to expand its urban forest, a tiny beetle threatens as many as one-third of existing urban trees, not just in the city but throughout the county and beyond. That includes many of the trees that line the streets and slopes in many HOA communities.

Native to Southeast Asia, invasive shot hole borers first appeared in California in 2003 at Whittier Narrows. At the time, it was thought to be a more benign beetle that it resembles, so reaction was muted. Seven years later, invasive shot hole borers were thought to be responsible for wiping out an entire street of box elders in Long Beach and not long after, the pest was found attacking a backyard avocado tree in South Gate. When fallen wood was moved to various sites after a huge windstorm in December 2011, it is believed the pest spread along with the wood, eventually infesting trees at the Rose Bowl, the Huntington Botanical Gardens and the Los Angeles County Arboretum & Botanic Garden. It is now considered to be well established in Los Angeles and adjacent counties.

Unlike many insect pests, these beetles do not just attack one type of tree or plant. Invasive shot hole borers affect a wide variety of tree species, including many common ornamentals, avocados and California natives. They are equally happy to attack trees in urban and suburban neighborhoods as well as parks and wildlands. Some of the most preferred and affected tree species include box elder, sycamores, cottonwoods, willows and valley oak. (You can find the complete list of host species at *www.ishb.org.*)

Although no bigger than a sesame seed, invasive shot hole borers pose a huge risk to the trees in our communities. They tunnel into trees, creating galleries where they introduce and "farm" a fungus to feed their larva. Over time, as the fungus spreads within the tree's inner layers, it disrupts movement of water in the tree. Deprived of water and nutrients, the tree suffers from branch dieback and breakage. When many of these trees eventually die, they are not only unsightly, but also pose a safety risk for residents and their homes due to falling limbs and potential fuel loading for fires.

Since most homeowners and associations are not aware of the problem, beetle infestations can cause extensive damage before they are identified. The beetles' small size and cryptic lifestyle make them hard to spot and harder to control. Invasive shot hole borers spend most of their lives inside their galleries, which makes it difficult to kill them with pesticide sprays. And when female beetles do emerge to find new host trees, they aren't attracted by pheromones, so the trap and kill technique isn't an effective control method.

The best way to battle these bugs is to stop them before they spread to new trees. That requires awareness both of the pest and symptoms of infestation, as well as a willingness by associations and their residents to inspect and monitor their trees regularly. While it is unlikely to find a beetle on a tree's bark, there are a number of signs and symptoms to confirm their presence. Shot hole borers leave small, round entry-holes—about the size of the tip of a medium ball-point pen. In addition, trees under attack can exhibit a variety of other signs of infestation that are explained and pictured at *www.ishb.org.*

While just a few years ago there were no effective treatments for invasive shot hole borers, the science surrounding these pests and understanding of best management practices is advancing rapidly. Heavily- infested trees may not be able to be saved and should be removed on a timely basis. For low to moderately-infested trees, removal of actively-infested branches and treatments with a combination of insecticide and fungicide have proven effective control measures (hence the importance of pinpointing infestations as early as possible). Treatment options include systemic pesticides that can be applied as a tree injection or as a soil drench and pesticide bark sprays (ideally timed in early spring and fall, when adult beetles are emerging).

These beetles can survive in down wood for up to several months, so movement of green waste and firewood can spread these dangerous pests

to other locations. Hence, correct disposal of infested plant material is of vital importance. Ideally, infested branches and wood from removed trees should be chipped and composted or solarized to ensure the beetles within them are killed.

A certified arborist should be familiar with best practices with respect to both maintaining trees and disposing of infested wood and green waste. HOA managers should consult with their contracted landscapers/gardeners to ensure that they understand and follow such practices.

The Los Angeles County Agricultural Commissioner's office recently received funding for both trapping the pest and tree removal but cannot address this issue on its own. Deputy Director Max Regis says its trapping will be focused in the northern part of the county, and its tree removal efforts will be managed in partnership with Caltrans, Southern California Edison and L.A. County Parks & Recreation. He also notes that HOAs could self-report suspected trees to his office, and that the office has both an entomologist and plant pathologist on board to answer homeowner questions.

HOAs and their managers can help further by using their existing homeowner communications to educate their residents about the threat posed by invasive shot hole borers and the fungus they carry. With coordinated action now, our communities can save their trees and avoid significant costs in the future.

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