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## **The Great Tasmanian Blue Gum by Jake Sigg**

During my many years as a professional gardener, I became smitten by the genus *Eucalyptus*. I traveled to Australia in 1977 to get to know these trees better, and spent several days in the field with the world's top eucalyptologists.

In the latter years of the 20th century I became personally concerned about the deterioration of the stands of eucalyptus trees on Mt Davidson and tried to raise public awareness about it. In 1990 I talked to the Miraloma Park Improvement Club, pointing out that the takeover of the understory by ivy and blackberry was not only destroying the diverse understory plants, but also imperiling the trees. English ivy was climbing 150 to 200 feet into tree crowns, blocking light and stressing the trees by its sheer weight and root competition. The rampant growth of ivy and Himalayan blackberry that occurs as a secondary effect of tree introduction prevents the gum trees from regenerating by seed. Then, as older trees topple or die from old age—which was happening then and is accelerating now—there is nothing to replace them except ivy and blackberry that smothers the understory. Thus, the Mt. Davidson eucalyptus groves are doomed unless they are managed. Untended, the area will eventually become a treeless biological wasteland, of no interest to humans or animals. Fortunately, in 2002 the SF Recreation and Parks Department drafted a management

plan to preserve this valuable tree stand.

The Tasmanian blue gum, *Eucalyptus globulus*, is one of the world's great trees, but in recent decades it has become the center of controversy. The debate has unfortunately obscured the merits of the eucalyptus and its proper use. In fact, the supposed detriments of the eucalyptus have little to do with the tree itself, but rather with improper siting—planting in inappropriate areas. An oddity of human nature impels us to blame the tree for its negative impacts, rather than the humans who planted it in the wrong place.

Of the approximately 700 species of eucalyptus, the Tasmanian blue gum (the type planted on Mt. Davidson and most places) is among the tallest, and one of the world's tallest hardwoods. It can reach 150 to 180 feet in favorable sites (250 feet in India), with bole diameters of 8 feet or more. Baron Ferdinand von Mueller, director of the Melbourne Botanical Garden, played a big role in blue gum's importation into California in the mid-19th century. He had moved from Germany to Australia for health reasons, and became a champion of the genus *Eucalyptus*. Von Mueller was correct in his assessment of the gum's suitability for the California climate and its advantage of rapid growth. Fast tree growth interested the timber hungry miners and railroad builders of the 1800s, and that accounts for its widespread planting here. However, it was discovered that the wood was useless for most building purposes, because it seasons poorly, warps and checks on drying, and rots quickly. The tree did grow very well here, but land speculators betting on profiting from its lumber

fared less well. Most of them went bankrupt, leaving over much of the California coastal region large eucalyptus stands as memorials to their commercial failure. The extensive grove on Highway 1 at the base of Mt. Tamalpais, climbing out of Mill Valley, is one; others include the University of California at Irvine campus and the East Bay Hills—which, after a disastrous firestorm in 1991, has become the object of heated debate.

Adolph Sutro, who in common with Eastern and European settlers considered the plains and grasslands “barren,” planted large tracts of trees on Mt Sutro, Mt Davidson, and the surrounding Westwood area. The Westwood trees were later cut down to make space for houses. In fact, the Tasmanian blue gum is one of the most widely planted trees on Earth, in part because its ability to consume water surpasses that of any other tree. Mussolini used the blue gum to dry the Pontine Marshes south of Rome, and it has been planted to drain wetlands around the world. However, now that wetlands and water have become scarce resources, many of these plantations are being removed. Water-hungry South Africa is busily ridding its riparian areas of blue gums, and habitat restoration is being accomplished by government funding as well as by volunteers.

For clarity I refer not to “forests” but to “plantations.” These large-scale eucalyptus plantings are not natural forests, which are complex systems that over time change little in overall appearance and function. The blue gum tracts are, rather, plantations installed by humans that lack the self-regulation of natural ecosystems. They are an

aggregation of plants from distant parts of the world that did not evolve in association with each other, and there are no “rules” for cohabiting, as there are in natural ecosystems. In artificial plantations, a few plants inevitably come to dominate: Himalayan blackberry, English ivy, poison oak. The multiplicity of plants and the complexity of their interrelations that occur in natural forests are absent in these planted areas. Expertise in forest management is of no help in this artificial situation; they present a gardening problem, and gardeners know this challenge well.

The blue gum’s detractors talk about its negative effects, notably its “rambunctiousness”: a facility for spreading quickly via seed and muscling out other plants by dropping copious litter that smothers them. Thus, blue gums eventually create a monoculture as well as a fire hazard. These are reasons for not wanting the tree to grow in particular areas, but not for hating the species. It is merely doing a good job at what nature so brilliantly designed it to do. The blue gum has its ardent defenders, including those who would not cut down a single tree or thin out trees unless they are dead or a danger, but it would help if these aficionados would inform themselves of the inescapable management problems associated with blue gum plantations, rather than insisting on no management at all, a course that will lead to their demise. Among the often unrealized problems of managing this eucalyptus in aggregate are: (1) The innate self-destructiveness of coastal blue gum groves. Because they drip copious amounts of fog condensation, they create the equivalent of year-round

rain. Weedy plants that otherwise would not survive in our dry summer climate do very well in this perennial moisture, forcing out tender and fragile species that create variety and pleasure for humans and food for wildlife. This uniformity makes blue gum groves monotonous and uninviting to humans and animals. (2) Sutro's plantation replaced a rich ecosystem that evolved with the landscape over eons and has now vanished forever. Because this ecosystem was self-sustaining, "just leave it alone" was a viable option, but leaving a plantation alone is not an option unless we want all the trees to die. Mt. Davidson will have to be managed by humans in perpetuity. Forestry management principles are of little or no value for plantations, which effectively require gardening methods: planting or allowing to grow those plants considered desirable, while controlling undesirable plants that tend to dominate.

Preventing the plantation's self-destruction requires thinning trees and clearing aggressive understory plants, thereby creating healthier conditions for the trees, and this action, proposed on Mt Davidson by the San Francisco Recreation and Parks Department, is both necessary and desirable. In 1990, my sole objective was to preserve the charms of the Mt. Davidson "forest." I loved it, especially on foggy or rainy days when it was most seductive, and I was asking only that the understory blackberry and ivy be removed so that a greater variety of understory plants could survive and the trees themselves could reproduce. Twenty-four years later, many of the plant varieties I would have liked to save have succumbed to invasive

plants, more trees have fallen or have been weakened by the ivy's sinister embrace, with nothing to replace them—and management has become much more expensive. Thus, the need for management planning and execution is far more urgent today, both for preservation of the groves and enhancement of understory support for wildlife. Variety is the spice and source of life, and now invasives have been given free rein to the extent that they have reduced the ecosystem to primarily three plants: blue gum trees, Himalayan blackberry, and English ivy.

From a biological point of view, the Mt. Davidson groves have become a wasteland, lacking the rich interactions of plants and animals that make up a natural ecosystem. Diversifying the understory of this plantation by proper gardening management, including thinning and removal of exotic invasives by hand and judicious use of herbicides, will pay huge dividends and ensure the trees' survival. While not technically a "natural area," the management of this "naturalistic area" has been assigned to the Natural Areas Program, and the City's approval of the Significant Natural Resource Areas Management Plan (SNRAMP) will allow the Mt. Davidson "forest" to thrive. We must act now or this forest, and the delight it affords to us all, will soon vanish, like the native ecosystem it replaced. For reasons not clear to me, dialogue between the SFRPD and the neighborhoods has broken down. The City's proposed management plan may well be the last chance to save the Mt. Davidson forest. Please don't let animosity, suspicion, and misunderstanding derail this program.

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