

Gone Native

California's love-hate relationship with eucalyptus trees

by Jared Farmer

APRIL 1970. The Beatles announce their breakup. U.S. forces gather for the invasion of Cambodia. By most measures, the world had seen better days. Using a slogan modified from John and Yoko — “Give Earth a Chance” — students at some 1,500 American schools prepare for a nationwide Environmental Teach-In, better known as the first Earth Day.

In Ventura County, 50 tree-huggers from Moorpark College lie in front of bulldozers on Los Angeles Avenue near Simi Valley. Even here, far away from Berkeley, “ecology-minded students” (to use the words of the *Los Angeles Times*) could be found protesting the widening of a tree-lined road. The police arrest 10. On April 22, the defendants are arraigned in juvenile court. By the end of the week, the trees are gone.

What had been lost? Ancient redwoods? Historic oaks? Not quite. The trees in question were Australian eucalyptus.

Since the 1850s, Californians had assisted a continuous introduction of eucalypts punctuated by two frenzied periods — one in the 1870s, the other from 1907 to 1913. Planters believed variously that eucalypts would provide fuel, improve the weather, boost farm productivity, defeat malaria, preserve watersheds, and thwart a looming timber famine. First and foremost, however, Californians planted the trees to domesticate and beautify the landscape, to make it more green.

By the mid-20th century, the distinctive blue-green foliage of eucalyptus trees could be seen all over the state. The Australian genus was far more prevalent than the redwood, the official state tree, and scarcely less iconic. The immigrant plant had been naturalized in the

cultural sense: Californians adopted the genus as an honorary native. In certain areas of the state, meanwhile, the introduced plant became naturalized in the biological sense: the eucalyptus trees became self-reproducing forests. In time, these two versions of naturalization would come into conflict.

This arboreal story begins in San Francisco after the Gold Rush. The instant city — constructed with wood, fenced with wood, heated with wood — was located on a peninsular sand dune. Local supplies of the magnificent Coast Live Oak and even its scrawny cousin, the Coastal Scrub Oak, rapidly diminished. As early as 1860, a local commentator lamented the loss of trees from the coastal hills and mountains. The oak lands of Oakland had been “thinned and mutilated,” leaving the firewood supply “almost exhausted.”

Californians wanted more than replacement trees. From the beginning, the importation of non-native flora was driven as much by aesthetic desires as economic needs. Post-Gold Rush Californians were not satisfied with the existing landscape. It looked unfinished. A land blessed with so much sunshine, warmth, and fertility demanded more greenery, flowers, and shade. Where nature erred, settlers could repair.

Of the many trees tested by Golden State arborists, *Eucalyptus* became a clear favorite. In the lowland regions of California, the Australian genus benefited from ecological similarities and dissimilarities — a familiar two-season, fire-prone Mediterranean climate without all of the insects, birds, mammals, and diseases that fed on eucalypts Down Under. As a result, the trees grew unusually fast.

In the 19th century, Californians overwhelmingly grew just one of the roughly 800 *Eucalyptus* species, Tasmanian Blue Gum (*Eucalyptus globulus*). “Globulus” means “little button” and

refers to the shape of the blue gum’s flower cap (see drawing before page 1). Piles of detached caps can be found beneath any *E. globulus*, along with copious leaf litter. The thin, sickle-shaped mature leaves have distinctive coloring — somewhat green, almost blue, slightly gray. Their menthol smell is equally memorable. This evergreen — or ever-blue-green — species can also be identified by its bark, which in the summer and fall sheds in long ribbons. The magnificent blue gum is

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quite possibly the messiest tree on earth. More significantly, it is — with the possible exception of redwoods — the fastest sprouting tree on earth.

In the 19th century, *E. globulus* had another perceived virtue. The fast-growing tree was also a “fever-reducer.” According to medical assumptions of the time, malaria and other maladies resulted from so-called bad air — an infecting vapor that transpired from overgrown bottomlands. In multiple ways, eucalypts acted as a prophylaxis. By soaking up water, they reduced the size of miasmatic breeding grounds. More importantly, their pungent leaves and litter disinfected the soil and prevented unhealthful decomposition. As they “inhaled,” these trees absorbed the bad air and exchanged it with “balsamic exhalations.”

In California, enthusiasm for the “fever-tree” peaked in the early 1870s with backing from health experts and railroad managers. The sight of so many healthy-looking trees inevitably inspired dreams of profit. Soon the demand for

eucalyptus seeds had outpaced supply. Farmers in the interior valleys tried planting on their “wastelands” — the dry or hilly or alkaline spots where grain and vegetables would not grow. Any profit from telegraph poles, railroad ties, and firewood would be a bonus. By the late 1870s, the overlapping medical and commercial fads in blue gums had transformed the look of lowland California. In the words of one grower, eucalyptus had become the “tree of trees — its banners are waving around our state and over all our homes.”

E. globulus was not immune from criticism, however. In 1877, a San Francisco newspaper printed a satirical editorial:

In Australia, where this thing grows wild, the country is so healthy that people have to go to New Zealand to commit suicide....This absurd vegetable is now growing all over this State. One cannot get out of its sight. It asserts itself in long twin ranks, between which the traveler must run a sort of moral gauntlet, and crops up everywhere in independent ugliness. It defaces every landscape with blotches of blue, and embitters every breeze with suggestions of an old woman’s medicine chest. Let us have no more of it.

Disenchantment only grew through the mid-1880s. As eucalypts reached maturity, planters reevaluated the benefits and costs of these huge, messy, water-loving plants that could suck wells dry and strangle nearby stone-fruit trees with their aggressive roots. To make matters worse, the wood did not prove to be as enduring as advertised. Railroad ties cracked; poles rotted in the ground.

Yet even as farmers turned against the blue gum, urbanites — especially



Eucalyptus deanii from The Huntington's Australian Garden. Photo by Lisa Blackburn.

those in the Bay Area — embraced it more. San Francisco, which dreamed of becoming the Pacific equivalent of New York City, planted fast-growing seedlings (eucalypts as well as acacia, tamarisk, and Monterey Pine) to transform an expansive tract of shifting sand into Golden Gate Park.

In the sunny Southland, too, the cultural elite favored trees, especially Australian trees. Its colonies and ranchos offered country living for city people. The exemplar was Pasadena, where people created gardens *with* eucalypts rather than forests *of* eucalypts. Just three years after moving to Pasadena in 1877, Jeanne Carr had a collection of 120

tree species at her arboretum (now the site of the Norton Simon Museum). Carr favored *E. ficifolia*, an undersized tree with oversized red flowers.

A new phase in the history of California eucalypts began abruptly in 1907, when the U.S. Forest Service raised an alarm about an impending “hardwood famine.” Unless scientific foresters intervened, the nation possessed only “about a 15 years’ supply.” Oddly, this one statement in a seemingly obscure circular about the hardwood supply of the Appalachian Mountains had a singular and phenomenal influence on the California landscape. In the words of historian Stephen Pyne,

“The resulting bubble was perhaps rivaled only by the tulip mania that swept 17th-century Holland.”

The “boom” of 1907–13 was qualitatively different from the “craze” of the 1870s. Back then, horticulturists hoped to complement their small, diversified farms with beautifying and climate-changing windbreaks. Blue gums provided a nice side profit as fuel wood, but their reason for existence was essentially noncommercial. By contrast, the new blue gum prophets did not care about health or beauty or shade or essential oil or even firewood. Their sole concern was saleable lumber. Speculators, not farmers, led the way.

The promotional literature from the period makes for amusing reading today. Start-up companies lured investors with promises such as “Forests Grown While You Wait.” Investing in eucalypts was purportedly as solid as the Rock of Gibraltar. The Miracle Tree (or Wonder-Tree or Tree of Hope or Tree of Fulfillment) offered more potential wealth to California than the Gold Rush.

The end of the cult of the blue gum can be dated to 1913. In the fall, the industrial trade magazine *The Hardwood Record* published a devastating report written by H.D. Tiemann of the U.S. Department of Agriculture’s Forest Products Laboratory. Tiemann said flatly that the eucalyptus industry in California was based on fictions, delusions, and fallacies. Most California eucalypts “cannot be regarded as lumber in any true sense,” he wrote. He called it “near-lumber.” For commercial utilization, every kind of California-grown eucalypt was more or less bad, Tiemann said, but the worst of all was the species used most, *E. globulus*.

And so most of the millions of eucalypts planted in the state between 1907 and 1913 were never even cut. The tree farms were largely abandoned. Surprisingly, though, the end of the boom did not end large-scale euca-

lyptus planting in California. Citrus ranchers put in windbreaks to shield their perishable crops from Santa Ana winds. During the heyday of the Sunkist orange, thousands of linear miles of eucalyptus windbreaks could be seen in Southern California.

Gum trees also dominated the landscaping of the region's first two prominent urban parks: Balboa Park in San Diego and Elysian Park in Los Angeles. The region's two largest arboretums later added to the consensus about the appropriateness of the introduced trees. In the 1950s, the L.A. County Arboretum added a world-class Australian section to its collections. Nearby, The Huntington formally opened its Australian Garden in 1964.

By the mid-20th century, California's eucalyptic landscape stretched from Redding in the north to Yuma, Ariz., in the south. *Sunset* magazine publicized three sections of highways — two from the 101, one from the 99 — where an automobilist could drive an entire day without ever losing sight of a blue-green tree.

Throughout the state, the stands of gums that lined the entrances to towns became landmarks of home. Unfortunately, landmark trees often stood in the way of modern roads, which required extra width for shoulders, medians, and passing lanes. Thousands of tall eucalypts fell during the long process of turning the San Jose–Los Angeles section of El Camino Real into the four-lane US 101. Hoping to postpone this outcome, supervisors in Ventura County declared a section of blue gums along the 101 a “cultural landmark” in 1968.

In certain locations, notably the San Fernando Valley, suburban homeowners rallied to the defense of endangered gums. In the postwar period, the number of eucalypts in Los Angeles County and neighboring Orange County fell dramatically as subdivisions replaced

citrus orchards. The blue gum windbreaks could not — like individual orange trees — be incorporated into tiny house lots. They had to be bulldozed. Homeowners in Canoga Park staged a summer-long campaign in 1971 to save 142 old gums that added beauty and shade to a local park.

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In the 1970s, however, people's ideas about eucalypts began to change. The same ecological thinking that inspired Earth Day activists later caused environmentalists to reevaluate the place of non-native species. Native-plant enthusiasts enlarged their conception of “weed” to include shrubs and trees. By the 1990s, eucalypts had become ecological pariahs in the Bay Area. Here the former tree farms had naturalized in the biological sense — they

had become wild forests. Because these forests grew in and around densely populated areas, they presented a fire hazard. The hazard became all too real during the deadly Oakland–Berkeley Hills firestorm of 1991.

Almost simultaneously, a series of insect infestations caused massive die-offs of old eucalypts throughout the state. Ecologists and land managers seized the moment to advocate selective habitat restoration. They wanted to bring back pieces of the pre-settlement California landscape, a place marked by grasses more than trees, by browns more than greens — and absolutely not by blue-greens.

People who dare to defend California eucalypts with ecological support have one charismatic ally: the Monarch butterfly. While Monarchs are not endangered, the genetic pool of long-distance migrators faces an uncertain future because of habitat loss. Migrating Monarchs overwinter in just two areas: the eucalyptus belt of coastal California and the forested volcanic highlands of central Mexico. The mountain destination is highly concentrated, whereas the coastal habitat

Highway near El Toro, Orange County, California, ca. 1930. Photo by Hogg. Automobile Club of Southern California collection, Huntington Library.



consists of hundreds of scattered sites from Mendocino to Ensenada.

From the Monarch's point of view, the introduction of eucalypts was a wonderful boon. Unlike native pines, cypresses, and redwoods, eucalypts are flowering plants; better yet, they flower in the winter, when the travel-weary butterflies need nectar. Unlike the California Sycamore — the only native tree south of Big Sur that might have hosted colonies — gum trees keep their leaves year-round, providing better sites for attachment and protection.

In retrospect, introducing gums to the Golden State was a beautiful mistake. In certain nature preserves and in certain fire-prone neighborhoods it is worth the effort to remove them or to thin their numbers. But in other places — especially highways, parks, and campuses — the non-native trees have become vital elements of the California scene. This is the only place outside of Australia where eucalypts — like them or not — remind people of home. Their loss would be our loss. ♡

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Foot in Mouth

THE TOOTHPICK'S SURPRISING DEBT TO THE SHOE

by Henry Petroski



THE TOOTHPICK IS A SINGLE OBJECT made of a single material with, presumably, a single purpose. Anthropologists tell us they have found fossilized teeth with grooves that are inexplicable — unless we assume that people a couple million years ago used something like a toothpick. There have been examples of this found in Africa, Australia, North America, and just about every continent in the world. So tooth picking, according to the anthropologists, must be among the oldest habits known to man.

Tooth picking was also common in the ancient world. People in Asia, Greece, and Rome carried toothpicks that we would associate today with jewelry items — made of metal and worn around the neck on a chain so they could always be well at hand.

One of the most common natural materials used for toothpicks has been the goose quill. The feathers of geese and other birds had been more important for making writing quills, but with the advent of the steel pen, the quill was almost totally displaced by the 1860s. So people who raised lots of geese — especially in countries like France — had to look for possible new uses for their feathers.

Quill toothpick production became partially mechanized in the latter part of the 19th century. But how could you be sure you were getting a toothpick that was clean enough to put in your mouth? To ensure this, a lot of “hygienic” quill toothpicks came to be individually wrapped, as are many wooden toothpicks today. But even when wrapped, quill toothpicks didn't age well. They became brittle, rendering them virtually useless.

Then along came the wooden toothpick, sending the quill into certain obsolescence. Some of the oldest wooden toothpicks come from Portugal, principally from the Mondego Valley, where there is still a cottage industry of making them by hand from orangewood. The toothpick extended naturally to Brazil — once a Portuguese colony — especially to the state of Pernambuco, which had rich forest resources. It was here that the story of an American toothpick empire began.

Charles Forster (1826–1901) was born into a prominent family from the Boston area. As a young man he began working for an uncle who owned an import-export business dealing in trade between New England and Brazil. The younger Forster noticed that Brazilians carved toothpicks by hand, but he thought the product could be made more economically and efficiently by machine. His plan was to offer up a little competition: he would manufacture wooden toothpicks in New England and export them to Brazil. But Forster was not an