

THE UNSUNG ANCIENTS

*Very old trees aren't necessarily
as rare—or as big—as you think.*

By David W. Stahl

A priceless legacy was lost with the logging and clearing of America's virgin forests: massive, majestic trees growing on productive soil were cut nearly to oblivion. Not all were destroyed—a scattering of big timber survives. Many ancient forests whose trees are of more modest stature also survive, largely because they're at home on rocky, unproductive soil and are considered noncommercial by the lumber industry; some of the oldest trees ever found in North America endure in high, rocky solitude. They may not match our preconceptions of old-growth big timber, but tree-ring dating has proven their antiquity beyond all doubt.

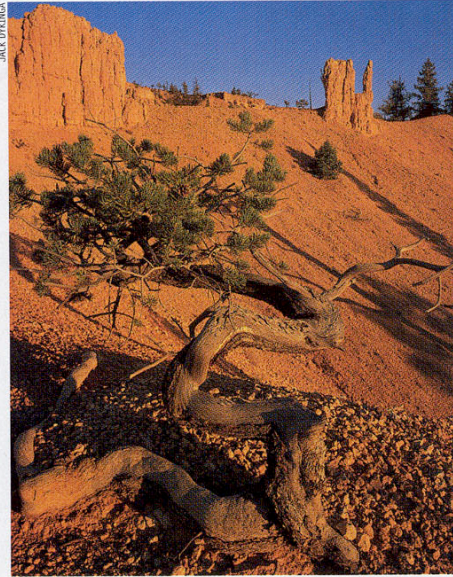
Ancient woodlands are so common that in some areas—such as the Cross Timbers of eastern Oklahoma, the piñon-juniper woodlands of the Southwest, and the blue oak woodlands of central California—they dominate the landscape. Trees in these and other similarly austere woodlands often reach

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An ancient juniper on the San Rafael Swell in central Utah is part of the world's largest drought-adapted coniferous woodland. This ecosystem, which covers terrain from Idaho to Mexico, is home to many stands of antique piñons and junipers, escapees from rapacious bulldozing and timber cutting that sacrificed millions of trees for pastureland and charcoal production.

PIÑON PINE

Size can be a poor indicator of tree age, as illustrated by the contorted, centuries-old dwarf *Pinus edulis* below (Dixie National Forest, Utah). The oldest piñon yet documented—973 years old—was found in northeastern Utah in 1955.



BOB D'AVANCA



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the oldest possible age for their tribe: oaks across the United States routinely live to more than 300 years, bald cypresses in the South to more than 1,000. Bristlecone pine trees more than 4,000 years old have been found in the Great Basin.

Biological superlatives like old giant sequoias are easy to recognize by their size alone. But size gives no hint of the extreme antiquity of the more diminutive survivors of virgin forests. All old trees, no matter their size, share certain unmistakable traits of great age. Heavy limbs, a contorted and leaning trunk or a trunk with a spiral twist, hollow voids, a spiky top, and a craggy silhouette are all giveaways, not unlike the silver hair and wrinkled skin of “overmature” humans. You can often predict where to find ancient woodlands in the modern landscape—usually at steep, rocky, remote sites, where only the thrifty could survive. A careful reading of commercial logging history can also help pinpoint

species and woodlands that have been left unmo-
lest. American beeches, for example, were not heavily exploited during twentieth-century hard-
wood and pine logging on the Ozark plateau; some of the upland Ozark’s finest moist forests, containing giant hardwoods, managed to survive because they are dominated by stands of ancient beeches.

The aesthetic appeal of very old woodlands is obvious. Less obvious is the environmental history embedded within them. Among the many fascinating tales told by the growth rings of old trees is one of an epic, thirty-year drought in the sixteenth century that extended from tropical Mexico to the boreal forests of Canada and from the Pacific to the Atlantic. Tree rings from ancient woodlands across North America indicate that this megadrought was even more severe and sustained than the Dust Bowl drought of the 1930s. It affected the British Lost Colony settlement of Roanoke Island and the Span-

For a map
of these
ancient trees,
go to
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POST OAK AND RED CEDAR

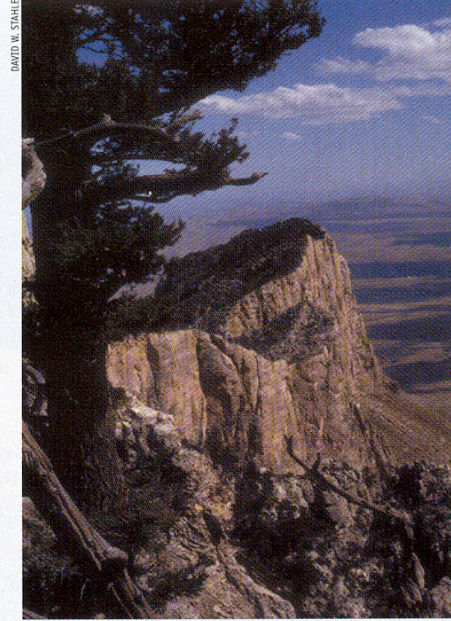
Specimens of post oak (Quercus stellata) up to 400 years old and red cedar (Juniperus virginiana) almost 900 years old survive on bluffs of the Ozark plateau and in the region known as Cross Timbers, which lies along the margins of the southern Great Plains. Above: Survivors on a rock bluff at Hemmed-in Hollow, Buffalo River, Arkansas.

ish Santa Elena colony of Parris Island, off South Carolina, as well as the Pueblo villages of New Mexico. The drought also aggravated Mexico's gruesome epidemics of hemorrhagic fever (*huey coliztli*—"great pestilence"—in Nahuatl) in 1545 and 1576, during which millions died.

Not all the low-value virgin woodlands of America have survived, not by a long shot. Millions of ancient noncommercial trees had enough utilitarian

value—or created enough of an obstacle to progress—to be sent to the guillotine. Vast areas of piñon-juniper woodlands were cut or bulldozed to make charcoal for the mining industry or to provide pasture for the cattle empire. Before the Great Depression, level tracts in Oklahoma's Cross Timbers region, dominated by centuries-old post oaks, were cleared for King Cotton—only for the cotton to be blown away in the Dust Bowl drought.

Of the smaller old-growth woodlands that have survived, most have gone unrecognized and unappreciated. Stands of ancient low-grade yellow cypresses—including the magnificent millennium-old bald cypresses at Black River, North Carolina, and along the Cache River and Bayou DeView in Arkansas—grow at incredibly slow rates in a few remnant stands throughout the South. Northern white cedars, some more than a thousand years old, have been found on the Niagara Escarpment.



ROCKY MOUNTAIN DOUGLAS FIR

Above: A 350-year-old Douglas fir faces El Capitan in Guadalupe Mountains National Park in southwestern Texas. Ancient Rocky Mountain Douglas firs (Pseudotsuga menziesii var glauca) range over the western cordillera from Oaxaca to British Columbia—the oldest found so far was dated at 1,275 years. Their intricate growth rings record the ebb and flow of drought and wetness throughout the West.



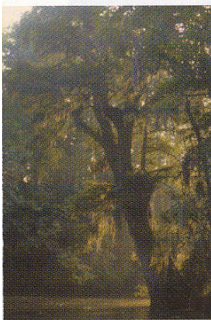
KEN TAYLOR: WILDLIFE IMAGES

BALD CYPRESS

Bald cypresses (*Taxodium distichum*) at Black River, North Carolina, above, are among the oldest known trees in eastern North America; some are probably 2,000 years old. The trees, which grow slowly in tannin-stained, nutrient-poor “blackwater,” escaped logging because of their low-quality timber. Below left: Ancient bald cypresses along southern bayous such as Devil’s Gut, North Carolina, were also unattractive to lumbermen.

BRISTLECONE PINE

The pioneering dendrochronologist Edmund Schulman, the first scientist to locate the most ancient bristlecone pines (*Pinus longaeva*), recognized that the oldest trees are often those growing under the most adverse conditions. Opposite page: Bristlecone pines as old as 4,700 years are found in the rain shadow of the Sierra Nevada range among California’s White Mountains (Inyo National Forest, California).



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Hemlock trees more than four centuries old still live on steep slopes from Alabama to Maine, although they are now facing destruction by the hemlock woolly adelgid, a pest introduced from Asia forty years ago. Pitch pines pushing five centuries survive on the Shawangunk Mountains, only a short drive from Manhattan; on the ski slopes of Wachusett Mountain (within view of the Boston skyline) stand 400-year-old northern red oaks. Down the famous Blue Ridge Parkway of Virginia and North Carolina, centuries-old weather-beaten chestnut oaks can be seen from the roadway. Bonsai-like Douglas firs and ponderosa pines animate

the petrified lava flows of El Malpais National Monument in New Mexico. And so on, across the arid West, culminating with the Great Basin’s bristlecone pines, the oldest-known continuously living organisms on earth.

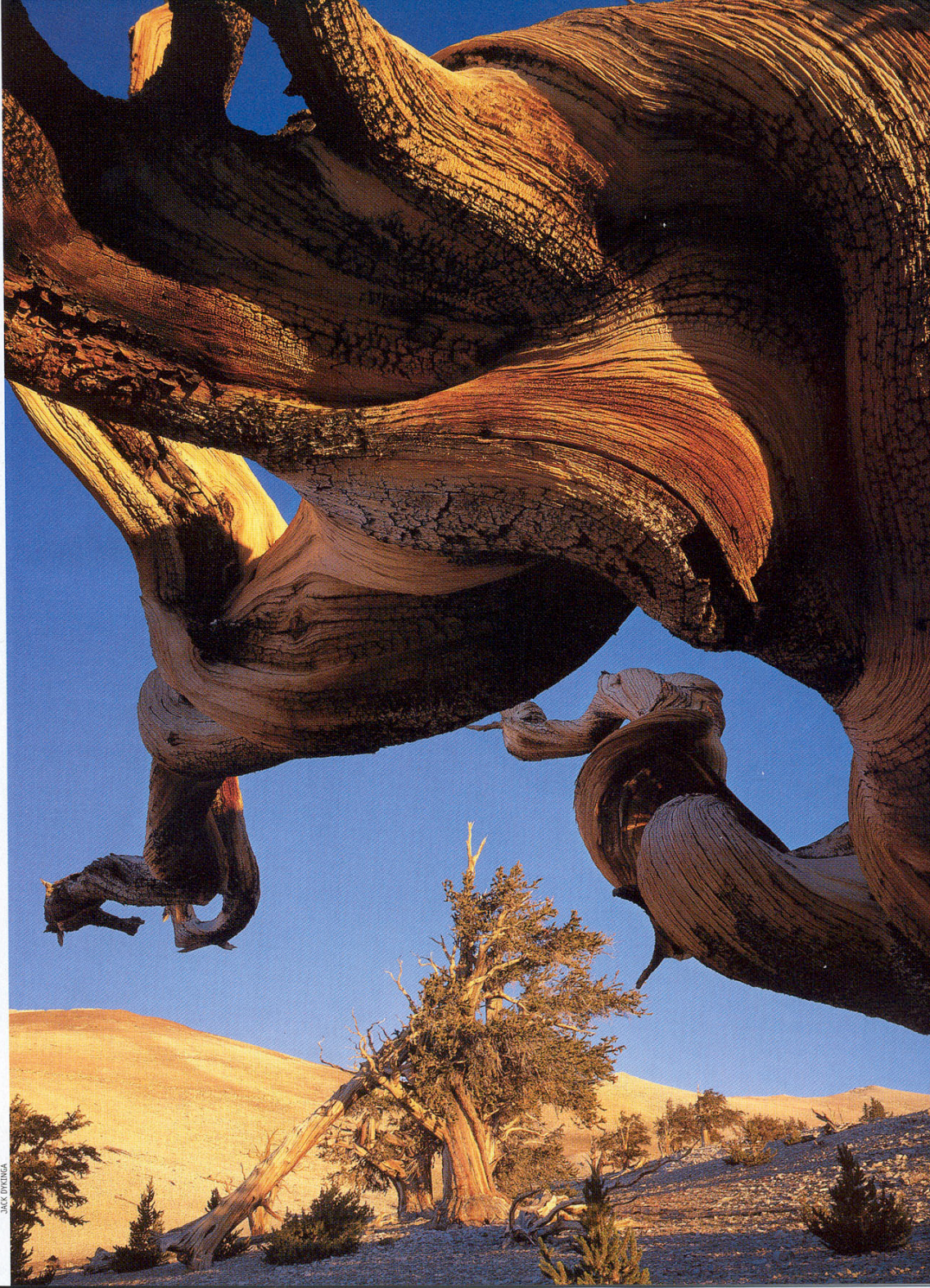
Although we’ve logged forests and cleared land prodigiously, we still retain a good part of our natural woodland endowment. Yet the significance of many modest-sized but venerable trees is too easily overlooked. Our misperception of their value and our continued disregard for their preservation may one day make them as rare as their big-tree cousins of the forest primeval. □

BLUE OAK

Right: A blue oak (*Quercus douglasii*) in Pacheco State Park, central California. Blue oaks are resilient: they live on land that has been heavily grazed and invaded by nonnative grasses, and specimens of 200 to 500 years old are common. Covering almost 3 million acres, blue oak woodlands are one of the most widespread ancient forest types remaining in the Golden State.



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JACK SPYRINGA

UP FRONT

Survivors

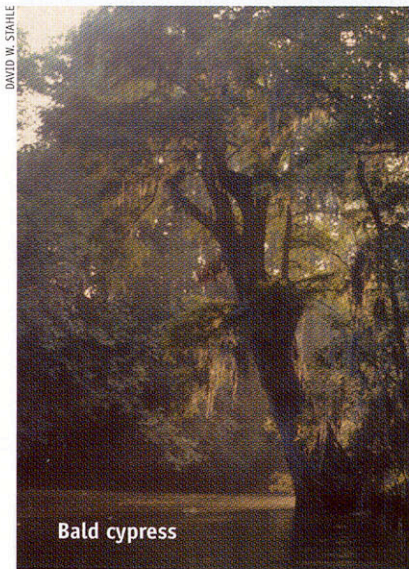
When I was a child, my family lived on the southeastern outskirts of Denver, then a relatively small city just beginning its sprawl onto the Great Plains. The land was flat and treeless except for the occasional streamside cottonwood. We planted an elm in our backyard. Rain was a rarity, so the elm had to be watered regularly. It grew tall and skinny above the sparse grass, and its narrow canopy of leaves provided little shade.

We moved back east to northern New Jersey when I was eleven, and I delighted in the change of vegetative scene. The woods near our home were thick with walnut, white oak, sweet birch, sassafras, hemlock, red maple, juniper, tulip trees, and many more species I couldn't name. In summer their branches were mantled in wild grape and honeysuckle and other, more mysterious vines. To my young eyes, this was a jungle. A forest primeval.

In college I learned that the woods I loved were not primeval at all but mostly second or third growth—a community of trees that had come up in land once cleared for farming or logging but later abandoned. Really old trees, I was told, were giants, found only in places like California, Washington, and Alaska.

But as David Stahle explains in “The Unsung Ancients” (page 48), stands of truly venerable trees can be seen all around the United States—if you know where to look. Some have been spared simply because their timber is

without commercial value; others because they thrive where farmers and loggers, charcoal makers and real estate developers couldn't or wouldn't go. In some places, writes Stahle, these unsung ancients—beeches in the Ozarks, bald cypresses in the Carolinas, hemlocks near the Canadian border—still dominate the local landscape. Many have survived all that has happened to the land since 1492, and as dendrochronologists like Stahle can attest by studying growth rings, a few were witnesses to much that came before.—*Ellen Goldensohn*



Bald cypress