

‘The Journeys of Trees’ Review: Giants in Transit

Why the forest you hike in might be looking for a new home.

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—Ms. McAlpin reviews books regularly for the Journal, NPR.org, the Christian Science Monitor and the Los Angeles Times.

Trees, although they seem immutably rooted, are resourcefully shifty. Like all other living things, they are capable of movement from one place to another in search of better nourishment or safety. That’s the salient and perhaps surprising takeaway from science reporter Zach St. George’s “The Journeys of Trees,” a deeply researched book that is liable to change your perspective on the magnificent, tall, woody creatures that cover one-third of the Earth’s land.

Of course, trees are not exactly light on their feet. They move at an infinitesimal, glacial pace. “The migration of a forest is just many trees sprouting in the same direction,” Mr. St. George writes. Scientists call this sort of movement dispersal, and track the

progress of trees over eons through the study of fossils that ancient forests have left behind. They have learned, for example, that fast-growing metasequoias lived in the Arctic during the temperate mid-Miocene era about 10 million years ago, when Alaska was as warm as New Jersey. That changed in the Pliocene and Pleistocene eras, as vast sheets of ice covered large parts of the world. Asa Gray, a prominent 19th-century American botanist, conjectured that plants were pushed to lower latitudes as the cold advanced, and later pushed northward again as the ice retreated. Among the species that moved south were the sequoias, which put down roots in the Sierra Nevada range.

The hopeful message here is that the ability to relocate, which has enabled various tree species, including sequoias, to survive in the past, may help save them

now as our planet heats up at an unprecedented rate. But because of the rapidity of climate change due to carbon emissions, trees may not be able to move fast enough on their own to save themselves. This has led to questions about whether—and how—people should assist in their migration.

“The Journeys of Trees” focuses primarily on two kinds of trees that currently find themselves stuck in places that are very different from when each species sprouted: Florida torreya, which are beleaguered by fungi in Florida’s increasingly steamy climate, and the giant sequoias in the Sierra Nevada, which are increasingly parched and threatened by wildfires. In order to figure out what to do about such issues, biogeographers consider fundamental questions such as why specific species of trees “live where they do and not where they do not.” Even when it is determined that a species would be better off

moved to cooler zones, foresters' overarching concern is to proceed with caution, so that saving one species won't endanger others.

Mr. St. George modestly warns us that he is “just a writer, not a scientist or a forester or an activist.” What he brings to this book, his first, is a flair for gathering and distilling often esoteric scientific findings into lively, accessible explanations. He takes a good hard look at

both the forest and the trees—from above, below, afar, up close, within and without, as he explores their history and uncertain future.

An avid reporter, Mr. St. George interviews scores of scientific specialists on the frontlines of conservation—plant pathologists, invasion biologists, entomologists, forest ecologists, and even a limnologist (a scientist who studies lakes). He considers the pluses and minuses of periodic controlled fires, and discusses the sometimes inadvertent repercussions of introducing new species into new territories. He tracks down a woman so obsessed with her mission to save the Florida *torreya* and other conifers that she has eaten their seeds in order to better disperse them in digested form.

He also treks through forests in Florida, California, Michigan, Canada, New Zealand, and Alaska, where he grew up. He visits the entomology department of the Smithsonian Museum of Natural History in Washington, D.C., to learn more about invasive insects such as the emerald ash borer, a stowaway in shipping pallets from abroad that is decimating American ash trees. At a botanical garden in Georgia, he checks out an experimental thicket of transported

Florida torreyas. He speaks with forest managers in Quebec grappling with rising rates of wildfires, and visits a local tree nursery that grows seedlings to replace some of the losses. One of his more intrepid adventures involves learning how to climb giant sequoias and harvest their cones for seeds for the Sierra Pacific company's Giant Sequoia Genetic Conservation replanting project, which he hails as "a textbook example of assisted migration."

Through all this, Mr. St. George never loses sight of what trees mean to people. He reminds us that they provide fuel, building materials, fruit, shade, oxygen, paper, erosion control, and carbon storage. He also reminds us that they take years and years to mature. If not felled by loggers, razed by forest fires, or blighted by invasive insects or diseases, many live for centuries. Plant a tree, Mr. St. George writes movingly, "and you have extended a hand to the future."

"The Journeys of Trees" isn't always a joyride. Although only 200 pages, it is somewhat repetitious. Occasionally, there is simply more information than a general reader might wish to know. What will keep you reading is Mr. St. George's writing. He has a way with metaphors. He describes the spruce forests growing where sequoia once stood along Alaska's southern coast as "a scratchy sweater draped across the shoulders of the continent," and notes later that "this great boreal sweater had begun to unravel."

There are some wonderful stories tucked in among the book's branches. A chapter on invasive insects, amusingly titled, "Kiss Your Ash Good-Bye," begins with the tale of a Frenchman living in Medford, Mass., in the late 1860s who hoped to start an American silk industry. One of the caterpillars he was experimenting with

escaped. It was the European gypsy moth. Oops. Or, as Mr. St. George writes, “Merde.”

Another delightful bit of history involves a hapless 19th-century Scottish explorer and naturalist named David Douglas, who introduced hundreds of species to the British Isles. His misadventures on multiple plant-gathering expeditions to North America—braving extreme heat, cold, and numerous watery disasters—read like farce. No joke, though: At age 35, he was found dead at the bottom of a pit used to trap wild cattle near Mauna Kea. His posthumous consolation: Douglas firs were named in his honor.

If you can get past its plodding title, you’ll learn a lot from “The Journeys of Trees.” (Unfortunately, “The Overstory” was already taken by Richard Powers for his superb 2018 novel about trees.) One small example: Allergy sufferers may be dismayed to learn that “pollen is nearly indestructible.” But, recovered in plugs of ancient peat moss, this yellow fertilizing powder holds a key to the history of Holocene forests.

In a particularly lovely passage, Mr. St. George describes seeing, with the help of a dendrometer, trees breathe. “For me, this was a new view,” he writes. “I’d thought about trees in various ways: as features of the landscape; as systems of pipes and solar arrays and chemical converters; as records of years and even millennia past; as habitat for other species; as sources of raw materials . . . At that moment, though, looking at the pumping heart of a balsam fir, I could see that it was alive in a way unexpectedly similar to the way I was.”

All the more reason to help these beloved wonders of the plant world on their stately, inspiring journeys.

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