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When Mark Weathington isn't traveling the globe, looking for new plant species, he's often at the JC Raulston Arboretum. where he's worked for about 16 years.

TUCK ON A SIX-INCH-WIDE LEDGE, with a sheer cliff face rising to his left and a near-vertical drop to his right, Mark Weathington was more than a little worried. He'd been trying to reach a lily - and not just any old garden variety. This was a type of surprise lily with gold flowers, one that had never been scientifically collected before, growing in Taroko Gorge in a remote area of northern Taiwan. Weathington wanted a specimen to bring back to the JC Raulston Arboretum in Raleigh.

Weathington has been working for the arboretum since 2007 and has been the director since 2014. In line with North Carolina State Extension's mission, the arboretum works to educate the public on gardening and diversify the American landscape. Weathington maintains relationships with botanists around the globe, and when a new species, or a new variety of a known species, is discovered, he travels to its location and tries to collect a specimen to bring back to the arboretum. There, the plant is cultivated and then sent to plant breeders and nurseries to be propagated and eventually sold to the public.

That's how Weathington found himself on a narrow ledge in Taiwan. Most of the plants that he collects come from southeast Asia because the temperate climate there is similar to our own. And they usually come from remote areas - places that are so difficult to get to that farming, logging, and development have not disturbed the natural ecosystems, allowing many undiscovered species and unusual varieties to survive. Some of the species that Weathington collects are so rare that they are only found on one mountain peak. "That happens a lot in Asia," he says. "You go to the next mountain peak, and there are different species there."

Slowly, inch by inch, Weathington did manage to get off the ledge. But

it's not the only sticky situation he's found himself in while collecting. On the same trip to Taiwan, he spent the night in a car when downed trees from a surprise typhoon blocked the road in both directions. More than once, he's reached for a plant without realizing that a green viper was wrapped around a branch within striking distance. In China, he's encountered macaques - monkeys with "fangs like a wolf," he says. "They're terrifying."

Not all of Weathington's travel experiences are scary, though. He enjoys collaborating with colleagues from other countries, communicating through the shared language of botany. He likes experiencing other cultures, checking out local markets, eating foods that are foreign to him. He's been to places so remote that Westerners are a rarity for the locals, who sometimes line up to take photos with him and his colleagues. The walls of his office at the arboretum are decorated with souvenirs from his travels: wooden canoe paddles from Ecuador, ceramic roof tiles from China and Taiwan, maps from around the world.

Still, why go to all the trouble? It's not just to make our gardens prettier or more interesting. It's also to make the American landscape more resilient. "One of the biggest problems we have in our built landscapes, garden areas, and urban landscapes is that people tend to use the same plants,"



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Like Weathington. Dr. James Chester Raulston, the namesake of the Raleigh arboretum (above), was dedicated to diversifying the American landscape. Without plant diversity, diseases can decimate species like Knock Out roses (below).

Weathington says. "Every time you do that, you open yourself up for more possibility of pests and diseases."

Take rose rosette disease, which is transmitted by a mite that blows around in the wind. The host of the mite has long been the Cherokee rose, which grows sporadically on fence lines and along the edges of woods. A couple of decades ago, the Knock Out rose was introduced to the landscape industry. It's easy to grow in a nursery, it doesn't need to be pruned, and it flowers over a long period, so landscapers started planting it en masse. Suddenly, the mite had a new host, one that was all over the place — and rose rosette began decimating

roses. At one time, there must have been 10,000 Knock Out roses on the North Carolina State Fairgrounds, Weathington says. Now there are none. "It really affected the industry. If there had been more diversity, that mite wouldn't have been able to move like it did."

But with the wealth of plant diversity here in North Carolina, why travel to the far corners of the world? Because the arboretum's focus is on built landscapes, where the topsoil has been scraped away to build subdivisions or commercial structures.

Many of our native plants don't thrive in those conditions. For example, our native dogwood, Cornus florida, doesn't grow as well in urban or suburban areas as the Chinese species Cornus kousa does.

That doesn't mean that none of the plants that Weathington collects come from North Carolina. He's always got an eye out for rare plants, and when he's traveling around the state giving talks, he goes on hikes to look for specimens. Instead of gazing out at the views, he's looking around his feet or up in the trees, searching for anomalies — like a fern growing a foot taller than others of its species, or a flower with an unusual color.

Several years ago, a woman contacted the arboretum about a beech tree that she'd seen growing in the woods on a neighbor's property in Rockingham County. Unlike a typical tall beech, this plant was a dwarf, weeping variation. Weathington didn't believe it was really a beech tree until he drove out there and saw it for himself. Sure enough, it was a mutation unlike any he'd seen before. The property owner allowed the arboretum to dig it up and take it to Raleigh. After years of trying to figure out how to propagate it, and finally succeeding, the arboretum plans to send it to growers. Eventually, the "White Lightning" beech cultivar might start popping up in yards across the Eastern United States.

And that gold surprise lily? Weathington never did get a specimen. "That's the way it goes sometimes," he says. Never mind. There's always another new discovery, always another plant variety to bring back to North Carolina to diversify our gardens. Always another adventure.  $\mathbf{0}_{\mathbf{S}}$ 

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