



DETECTIVE DENDRO THE DIAGNOSTIC SLEUTH

By James and Thea Komen

The Case of the Christmas Catastrophe

Codit and I were glad that work slowed down as we moved into December. My friend George had invited us to join him at his Christmas party. I knew that George got rather excited about Christmas every year, but I had never been to one of his parties before.

Pulling up to the curb in front of his home, I wasn't surprised at all by what I saw.

George's house was by far the most radiant home on the block. Thousands of electric bulbs buzzed and flashed on every public-facing surface of the building and yard. Atop the roof was a glowing, life-sized inflatable Santa, standing next to nine plastic reindeer adorned with white lights (and one red light for Rudolph). Lining the gutters and shrubs were blinking, multi-colored lights stretched along the entire frontage of the home.

In the front yard were wooden cutouts of Winnie the Pooh and friends, Peanuts characters, and Mickey and

Minnie Mouse, illuminated by spotlights. Among the display of animated characters was a large inflatable Frosty the Snowman balloon staked into the lawn, swaying as the chilly breeze buffeted it side to side.

Behind all the lawn decorations, a large, perfectly symmetrical Christmas tree was shining through the living room window, and dozens of happy folk were milling around inside.

Garlands draped over the white picket fence in front of his home led us up the front walk. Codit couldn't contain himself. "This place is amazing!" he practically yelled to me.

I chuckled at Codit's excitement over the decorations. Personally, I thought the inflatable figures were a bit...well...I kept my thoughts to myself. Instead, my interest was directed at a gorgeous sugar maple (*Acer saccharum*) growing in the back yard that was still hanging on to some of its brilliant orange late-fall color. The tree



Photograph courtesy of Daniel Schwen.

dwarfed the house, spreading at least 50 feet (15 meters) and overhanging the roof into the front yard. From the front yard, I could see that the tree was rigged with lights along its trunk and scaffold branches most of the way up. Lit from within, the maple tree was quite spectacular.

Codit and I approached the front porch, passing dioramas of snow-covered towns, miniature ice-skating figurines, and oversized foam candy canes. I pressed the doorbell which was adorned with a tiny gingerbread man sticker. George opened the door with a big smile. "Merry Christmas, Detective! Thanks for joining us."

The party was already underway, and it was not long before Codit and I were holding big, ceramic mugs of hot chocolate covered in piles of fresh whipped cream. The house was filled with George's friends and family chatting about holiday movies, school recitals, classic cars, and yoga studios.

Feeling a bit warm, I snuck out back to get some fresh air. There were party decorations on the patio in the back yard, but the evening air had gotten a bit chilly, so the party had moved inside the house, leaving the yard quiet.

I peered up at the massive sugar maple—it looked even more impressive close-up. The wooden patio had been built to encircle the tree at some point in the past, but the trunk had since grown response tissue over the edge of the wood that was in contact with its bark.

The trunk and scaffold branches were brightly glowing from the white Christmas lights encircling them.

From the base of the tree, up through the deck, to a height of about 10 feet (3 meters), an English Ivy (*Hedera helix*) vine had intertwined itself among the lights, scattering their glow into a pleasant golden-green halo over the patio.

I turned when I heard the patio door slide open. George came out carrying a box of decorations.

"More?" I asked.

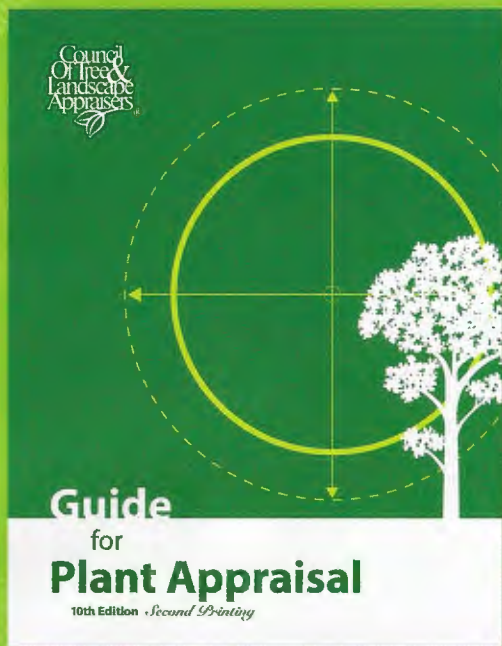
George smiled cheerfully, "You can never have too much Christmas spirit."

George proceeded to pull out several more miniature, snow-covered houses, glittery baubles, and green bubble lights and set them on a nearby patio table. He had to anchor a few of them down with wire as the wintery wind gusted a few times. Then George followed an aging extension cord from the maple tree trunk back to an outdoor electrical outlet. He brushed some dust and spider webs off the outer casing and proceeded jam a splitter into the partially rusted outlet. Satisfied that his splitter was in place, George proceeded to plug in the contents of his box of ornaments.

As he added to the decorations, he commented, "You may have guessed that we really like to celebrate the holidays."

"I hadn't noticed!" I teased.

"We would leave these up year-round if we could," George laughed as the frosty breeze picked up. "Come on inside, and I'll refill your hot cocoa."



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Later, Codit and I found ourselves comfortably seated on a couch in the living room. Just loud enough for others nearby to hear, I deviously asked Codit what kind of Christmas tree George had. Codit glanced over and quickly retorted, "Why that's noble fir, *Abies glauca*."

I winked at him. "It looks more like *Abies plastica* var. 'Costco.'" I held up some of the plastic needles.

Everyone nearby got a good-natured laugh at Codit's expense. And he laughed right along with us, merrily slurping down his hot chocolate.

But the merriment was suddenly interrupted by a... CRACK... followed shortly by a thud on the roof. The lights flickered.

Codit looked up, clutching his mug. "Santa?"

There was a pause as the party guests all listened for what would happen next. A slow crescendo of rumbling came from the roof. From above the living room window, down dropped...

The inflatable Santa!

Next rumbled off the other nine plastic, glowing reindeer, all tangled up in a 6-inch (15-cm) sugar maple branch. Santa's whole entourage of reindeer, sleigh, tree limb, and the man in red himself landed squarely on top of the inflatable Frosty the Snowman in the front yard. The fire in the fireplace quivered as another gust of wind whistled over the chimney.

George was aghast. "Is everyone alright?" he asked cautiously.

George inventoried the party guests. Nobody was outside when the branch fell. As far as he could tell, nothing had punctured the roof. The only casualties appeared to be some tree lights, Santa's sleigh, and poor Frosty.

Codit and I set down our cocoa mugs, pulled on our coats, and joined George outside in the yard to sort through the pile of tangled décor. It was too dark to see up into the tree where the branch came from, and the lights on the maple had gone out. I hadn't brought any of my tools to the party, so we had nothing more than a few cell phone flashlights at our immediate disposal.

I dug through the rubble, searching for the broken end of the branch. When I lifted aside a broken reindeer, I saw the end of the branch with a doughnut-shaped break pattern. Two-thirds of the diameter of the branch was splintered wood at the center, and it was surrounded by a relatively smooth and discolored outer one-third ring. I knew immediately what had happened.

I turned to George. "I hate to say it my friend, but I think your 'Christmas spirit' may have predisposed this limb to failure."

George looked baffled. "Excuse me, Detective?"

What does Detective Dendro mean?

Turn to page 60 to find out!

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WHAT'S THE SOLUTION? Continued from page 20



“George, I can see that you love the holidays, and that you put a lot of effort into setting up for the season over the past week. But I suspect that not all of these decorations were recently put up,” I began.

“I’ve been decorating all weekend, Detective! The only things I didn’t put up were...the lights in the tree.” Realization dawned on George.

I pointed to the end of the broken branch on the ground. A few inches back from the break was the torn end of a string of Christmas lights, frayed wires exposed. But that wire was sticking out from the *inside* of the branch.

I explained what he was looking at: “George, I believe you had your tree decorated with lights about eight years ago and haven’t taken them down since. When they were installed, they were wrapped spirally around the branch, so that when the branch grew, it became girdled. Over time, the branch was able to respond by depositing new

wood over the string of lights, but the defect remained in the branch.”

Another gust of cold air blew through, and Codit shivered. “That branch may have been predisposed to failure for a while now, but it just took the right gust of wind to catalyze the failure.”

“Oy,” George responded. “You’re completely right, Detective. It was so expensive to have the tree decorated professionally that we just left the lights in the tree. It’s been an amazing centerpiece to our back patio with the way the trunk and branches light up. We didn’t want to have to spend money over and over again, so we decided to just leave them up. And I guess we didn’t really think about what might happen to the tree as the years passed.”

It was too dark to see the branch stub on the tree, but I suspected the broken string of lights was the reason all of the tree lights had gone out after the branch failed. George mulled over the situation as he dragged a crumpled reindeer towards his trash bin.

I joined him in his cleanup efforts as I recapitulated. “I think the lesson for today is to avoid wrapping tree parts with lights for longer than the holiday season. If strings of lights will be left up for long periods of time, they should be rigged in a way that they won’t girdle the stem tissue. One way to do this is to string them vertically along the trunk or axially along the branches.”

“I suppose that means we’ll have to take down the rest of our lighting at the end of this holiday season,” George begrudgingly acknowledged as he slugged the deflated plastic canvas into his trash bin. “But what about the strings that have been completely swallowed up by the stem growth? Should we dig out the wires so they won’t girdle the branches anymore?”

“For wires that have been completely impounded into the stem and trunk tissue, just cut them flush to the bark and leave the impounded piece,” I advised. “New tissue will form around it over time. If you were to dig them out now, you might create an even larger problem than you already have. But I do strongly recommend you hire a Certified Arborist® sometime soon to make an aerial inspection of the tree to see if there are any other easily identifiable weak spots in the canopy. If the inspection reveals significant structural deficiencies like we found in the branch that failed tonight, you might consider pruning off the problematic branches.”

Some of the party guests had poked their heads out the window to see if everything was alright. George waved back at them with a tired smile. I was glad he was taking this all so well—he wouldn’t let a little hiccup like this dampen his spirits. After George, Codit, and I had cleaned up the broken decorations as best we could, we



When Christmas lights are left on a tree for a long period of time, they have the potential to girdle the stem. Photograph courtesy of James Komen.

all headed back inside to enjoy the rest of the party.

I looked over at Codit. "That was a lot of havoc to be caused by an *ornamental tree!*"

He nodded. "It's a good thing you were able to shine a light on the situation."

James Komen is a consulting arborist in California specializing in tree appraisal and risk assessment. His wife Thea Komen is an arborist trainee.



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If lights are attached lengthwise along the trunk as seen on these Aleppo Pines (*Pinus halepensis*), they won't girdle the stem as it grows. Photograph courtesy of James Komen.

Mistletoes

Broadleaf mistletoes infect a wide range of landscape trees, most of them deciduous species. Dwarf mistletoes infect conifers such as pines and firs. A healthy tree can tolerate a few mistletoe plants, but heavy infestations may stunt or kill trees.

- Broadleaf mistletoes form clusters of thick, green leaves and stems easily visible in deciduous trees in winter.
- Dwarf mistletoes form small, dense clusters of yellow-green stems in conifers, often in a "witch's broom"—an area of the tree canopy where the foliage is more dense than usual.
- Clusters of round, sticky berries form on broadleaf mistletoes from October to December.

What Do I Do?

- Control infestations in surrounding trees before you plant new trees.
- Prune out infected branches as soon as mistletoe appears. Cut at least 1 foot below the point of mistletoe attachment.
- If the infected branch cannot be removed, remove the mistletoe flush with the bark and wrap the branch in several layers of black polyethylene secured with weather-resistant tape. Removal of mistletoe plants without wrapping will prevent seed production and spread, but the mistletoe is likely to regrow.

PEST PROFILE



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