



# DETECTIVE DENDRO THE DIAGNOSTIC SLEUTH

By Alex Julius

## The Case of the Frizzled Fronds

I couldn't wait to step outside after sitting on an airplane for six hours. I needed to stretch my legs and breathe some non-recirculated air. Codit and I were hopping from plane to plane a lot, attending conferences and workshops, trying to absorb as much new information as we could while also earning CEUs to keep current on our ISA credentials. After an extended stay, solving a confusing case in the crippling cold of Calgary, we were excited to learn that our next sojourn was in sunny southern California. It was the annual ASCA Consulting Academy in Newport Beach, and I wasn't going to miss it.

"I can't wait to show off my new swimming trunks at the hotel pool," Codit said. "I don't remember the last time my legs saw the sun."

My heart sank. I couldn't tell him that we weren't going to have time for swimming. I'd just received an e-mail from Lena Horne, the urban forester of a community close to where we were staying. In her message, she mentioned that she had several palms in a local park that were starting to wither and turn brown. The opportunity for Codit to hone his palm diagnostic skills was too good to pass up.

After gathering our luggage, we waited outside for my worldly friend, Winona, to give us a ride. The two of us met long ago in diagnostics school, before Codit was even born.

California greeted us with a warm sun and a soft breeze.

"Ooh, that feels so good," Codit sighed, lifting his nose into the air to face the sun.

Codit and I packed our coats and long underwear in our luggage, since we assumed it would be shorts and T-shirt weather the whole time.

We were so caught up in the warmth enveloping us, we hadn't even noticed Winona staring at us from her car. A loud honk broke our dream state.

"Are you getting in or what? You're letting all the heat out," Winona quipped.

We threw our luggage in the trunk and hopped in her car. Immediately, we were assaulted by the heater blowing in our faces. I looked to my left and saw Winona was

bundled in a turtleneck, wool trousers, and boots. I suppose it's all relative.

"Where to first?" she asked. She knew I always scheduled appointments with clients when I traveled.

"Let's make one stop before the hotel, Winona. I got an e-mail about some frizzled fronds in some fairly young palms."

"Well, let's go see what's up," Winona said.

In between the airport and the park, I could tell by Codit's whimpering that he was disappointed that his dip in the deep end would be delayed. I quickly shot an e-mail back to Lena letting her know we were headed over to see her palms.

"I wonder if she knows she shares the same name as one of my favorite jazz greats," I muttered to myself.

As we rode down the streets of Orange County, the sidewalks were lined with rows and rows of 70- to 80-foot (21–24 m) Mexican fan palms (*Washingtonia robusta*) as far as the eye could see. Dotting the landscape were some less common palms, like triangle palm (*Dypsis decaryi*), giant fishtail palm (*Caryota maxima*), and the traveler's palm (*Ravenala madagascariensis*).

Codit pointed to the traveler's palm as we passed it. "I love those things. How often do you see a real-life 2D plant? They're just wild-looking!"

Winona and I exchanged glances. We got over the excitement of the 2D plant years ago, but it was nice to see Codit have the same experience.

We pulled into a parking spot, and a woman greeted us right away. She must have identified us from the "Don't move firewood. It bugs me" bumper sticker on the back of Winona's car.

"Detective Dendro, thank you so much for making it out here on such short notice."

The woman was beautiful, or at least, from what I could see underneath her wintery wraps. A single tuft of brunette hair waved hello from the edge of her bomber hat. From the way she was dressed, you'd think she was headed to the Yukon Territory. She had coffee in one hand and a newspaper under her arm. She gestured with her spare hand.

“Please, come with me.”

As we walked around the park, she gave us some insight into the site.

“This park is one of the high-lights of our community. We recently added a skateboarding area and a couple of basketball courts. We’re waiting for some more funding to replace the sidewalks,” she said.

“You’re awfully committed to this park,” said Winona. “Is that how all the Orange County urban foresters are?”

“No, but I was born and raised here. I grew up playing in this park,” she said.

The four of us took a walk, and I could see for the most part that the trees loved the site.

“I don’t think I’ve ever seen a blue gum of that size,” Codit said. It was true. Though nothing in comparison to the ones I’ve seen in Australia, these blue gums (*Eucalyptus globulus*) must have been 70 feet tall, and just as wide—large by American standards. These trees were not only surviving. They were thriving.

As we approached the back of the park, I caught a glimpse of what I thought our problem might be. A whole section of palms appeared to be turning brown. Among them, I could see king palms (*Archontophoenix cunninghamiana*) and Mexican fan palms. Naturally, when we got close, Lena stopped us at the planting and pointed to the palms in peril. I turned to Codit.

“Alright, Codit, it’s all you.”

“Wh— what?”

“This is your moment to shine. I’ll be here to help you if you need it, but I want you to do all the investigating.”



DONALD R. HODEL

Withered and brown in a southern California town. What’s wrong with the king palms (*Archontophoenix cunninghamiana*)?

read, “Cold Front Hits O.C. in the Behind.” I supposed that even if I wasn’t cold, the palms might be.

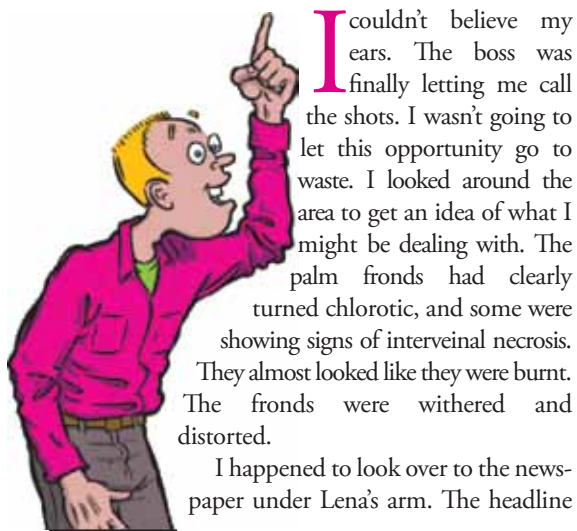
“Lena,” I asked, “how long has it been cold like this?”

“It’s been about a week now. The temperature has gotten as low as 37°F (2.8°C) this week.”

*That’s awfully low for a palm tree, I thought. And we’re kind of in a pocket here. Maybe it got colder than the rest of the park and the fronds froze?*

The browning of the fronds was certainly typical of cold damage. And even if this wasn’t cold for me, this part of the U.S. doesn’t generally experience this kind of weather. I was feeling fairly confident in my conclusion until I caught a glimpse of both Winona and Dendro staring at me, leaning on a bike rack, while biting into yellow onions. *That’s where he must have picked up the habit from. Who else eats onions like an apple?* I knew his eating an onion like that meant only one thing. Dendro was on the right path toward figuring out the solution. But how?

Turn to page 66 to find out the solution.



I couldn’t believe my ears. The boss was finally letting me call the shots. I wasn’t going to let this opportunity go to waste. I looked around the area to get an idea of what I might be dealing with. The palm fronds had clearly turned chlorotic, and some were showing signs of interveinal necrosis. They almost looked like they were burnt. The fronds were withered and distorted.

I happened to look over to the newspaper under Lena’s arm. The headline

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## WHAT'S THE SOLUTION?



I looked around the park with Winona and we noticed that similar palms in the rest of the park looked perfectly healthy. Back at the site, I examined the other plantings a little more closely. The palms were in a planting with some other park trees, including Hong Kong orchid trees (*Bauhinia blakeana*), Brisbane box (*Tristania conferta*), and some crapemyrtles (*Lagerstroemia indica*). Unfortunately, even though it was California, the crapemyrtles and orchid trees still lost their leaves in the winter.

"Lena, do you happen to recall how the trees looked this summer?" I asked.

"Well, the Brisbane has been fine, obviously, since it's still in full leaf. But now that you mention it, both the orchid trees and the crapemyrtles lost their leaves early this year. They turned yellow and then dropped."

Winona whispered in my ear. "Take a look at the grass."

I took her recommendation and noted the grass around the plantings looked healthy. That seemed odd. Only the Brisbane box and grass seemed to be healthy.

We took one more stroll around the park, passing the new courts and skateboard area. I took another bite of my onion and directed Winona back to where Codit was scratching his head.

"You got it?" I asked Winona. At this point, we were both chewing away on our onions.

"Elementary, my dear Watson," she joked. Winona was always a step ahead of me.

I looked over to Codit, who seemed about ready to break the case. "So what is it?"

"Frost damage," he concluded. "The fronds are brown and look burnt, almost like frostbite. According to Lena's newspaper, this is unusually cold weather for this area. I predict that this little pocket of the park gets even colder than the rest since it is so exposed."

Winona peered over at me and then at Codit. "Do you remember seeing those Mexican fan palms on our way here, Codit?"

"Yes," he replied.

"And how did they look?" she asked.

"Actually, come to think of it, they looked normal."

"You don't get much more exposed than a street tree," I interjected. I couldn't let Winona steal the show.

"Well, if it's not frost damage, what could it be?" Codit asked.

Winona took command. "Lena, you said that skateboard area is fairly new."

"That's correct. We thought it would attract some more members of the community and keep the kids out of trouble."

"And where did the cement workers wash out their trucks?" she asked.

"Oh no!" Lena remarked. She knew immediately where Winona was headed with her line of questioning.

"What?" Codit asked, disappointed that he was the only one without the answer.

I tried to regain control of the situation. I couldn't be shown up by Winona in front of Lena. "Codit, dig around a little and see if anything strikes you in that planting."

It only took him a few minutes of digging with the heel of his boot to find some chunks of concrete. Sure enough, this was the site of the concrete washout. Codit's eyes widened.

"I get it! When the skateboard area was built, the concrete workers cleaned out their trucks here. It was enough to raise the pH to make a more alkaline soil." Codit looked pleased with himself.

"And alkaline soil would mean what for palms?" I asked.

"Well, alkaline soils generally tie up manganese and iron, so. . ." Codit paused while in thought. "This must be manganese deficiency."

"And why that instead of zinc deficiency?" Winona prodded.

"I'm just guessing since manganese deficiency is more common in palms than zinc deficiency."

"That's right," said Winona. "Manganese deficiency is what gives the new fronds that frizzled look, which is why it's commonly referred to as frizzle top. Can you explain why the Brisbane box and grass still look so good?"

"Well, I'm assuming that they are more tolerant of alkaline soils, are they not?" Codit rolled his eyes, disappointed he hadn't solved the mystery himself.

"You've got it," I said.

Lena was a little discouraged. "I can't believe I didn't think of it before. I wasn't around for the entirety of the construction, but I should have realized there would be a problem with them washing out their equipment there. How could I miss that? Do you think the palms will make it?"

"Well, an acute trauma such as this is likely to be fatal, but it's always worth a shot trying to save them."

"Try a palm-specific fertilizer," Winona added, "One with at least 2% manganese in sulfate form. As for the rest of the planting, maybe the lowered pH from the fertilizer will help them too."

"Thank you so much for your help on this. All of you." Lena at last had a solution to her problem.

"Now, I need your help, Lena." I spoke with the most solicitous voice I could muster. "I've got reservations for two at the Onion Onyx, a little jazz club downtown. It's for tonight only, and I've got nobody to accompany me."

Winona nudged Codit's shoulder and whispered in a not-so-quiet voice, "Well, I guess it'll be you and me tonight, Codit."

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