



DETECTIVE DENDRO THE DIAGNOSTIC SLEUTH

By Morus Spillane

The Case of the Lost Laurels

We came in from the field early on that hot summer day. Cudit and Electra went into the office to “chill,” but I was too hot to go immediately inside to the artificially conditioned air. I sat on a wooden bench, under our natural air conditioners, and breathed deep. The listless chirping of the birds, the hushed rustling of the leaves, the insistent buzzing of the

insects all coalesced into an eerily calming cacophony. Doffing my fedora, I lowered my head onto my arm, just for a second.

I drifted back to 1991, when I met my first mentor, Michael O’Ryzie. He was playing defensive end for the semi-pro Roottip Ramblers, and I was the linebacker behind him. After practice one day, we went to the corner café for some much-needed food and drink. We both ordered onion omelets, and Mike pulled out a magazine I had never seen before.

“This is it, Dendro,” he said as he showed me the cover of the first *Arborist News*. “For a long time we’ve needed a magazine dedicated to arboriculture, and here it finally is.” As we flipped through the pages, we entered a world where the science of tree care had no borders.

The Ramblers were eliminated early in the play-offs, and I started working with Mike in his international tree consultancy. Our first job was to search for a variety of Chinese chestnut (*Castanea mollissima*) with an upright form. A blight nearly wiped out the American chestnut (*C. dentata*) early in the last century, so we hoped resistant genes from the shorter Chinese species could be combined with American chestnut trees while retaining canopy height.

We surveyed the Chinese chestnut through its natural range, from south China to its northern limits near Beijing. As we sipped our morning Laoying tea, made from the dried leaves of a type of a laurel tree, *Actinodaphne cupularis*, we read about a radical new treatment for soil compaction. It was being practiced right there in the capital, so we hustled downtown to Tiananmen Square where the work was being done.

What we saw did not fit my image of arboriculture. Men swung picks into the ground around a sick-looking tree, popping out chunks of rocklike soil. They dug trenches in a spokelike pattern around the trunk, avoiding the primary roots snaking through the earth.

Other workers cut off and cut up dead branches and tossed them into the trenches. They added sand, composted poultry waste,

and pulverized native soil. Others sprinkled in some rotting leaves they scraped from the ground under healthy trees of that species.

I observed the ingredients blending together as the soil settled while Mike asked our interpreter, Clai Minghai, about the motivation for their materials and methods. Clai motioned to the man in charge, took notes as the two spoke in Chinese, then turned to us.

“This is Ru Trundiep,” he introduced us, as Mike and I returned Ru’s deep bow.

“I told him of your names and your morning tea and your interest, and he told me that you already knew the answers to your questions. At least I think that’s what he said; he speaks a rare dialect.”

Ru stood silent, studying us with a slight smile.

“Well, Dendro, you heard the man,” Mike said, in his Socratic style. “What do you think?”

“Okay, I know that the sand is for drainage, and the poultry waste is for nutrients,” I began with the obvious. “The original soil is broken up to restore oxygen levels reduced by foot traffic, and the branches must be added for the organic matter that becomes available as they decompose. Maybe they use a spoke pattern because bicycles are so popular here,” I guessed as I watched the crowds whiz by on two wheels.

Clai spoke to Ru, who nodded several times, then held up two fingers and chuckled, uttering a brief reply.

“Ru tells me that you got the first two answers correct,” Clai told me. “The third and fourth were partially correct, and the fifth was way off. He repeats that the answers can be found by reading your tea leaves and calling your mentor.”

I turned red and started stammering. Ru Trundiep was going to rue the day he messed with me. Mike clapped me on the shoulder. “Easy does it, Dendro. The compaction was primarily done not by feet but by some heavy vehicles they had in the square a few summers ago. The genus of the tea plant is *Actinodaphne*, which includes the prefix meaning star-shaped or radial (actino-), referring to how the leaves of the plant radiate from the stems. A radial arrangement covers an area quickly, so leaves can harvest the maximum amount of sunlight, and roots can occupy the maximum amount of soil.”

Okay, fine, so the guy knows a little Greek, but what is wrong about branches supplying organic matter, and what do they have to do with your name?” I said, fists on hips. Mike broke out laughing, and Clai and Ru joined in.

“Remember the first marathon, Dendro. A little Greek can go a long way.” Mike reminded me with a wink. “Also, we know that

the dead branches, collected from this tree and others, have spores and strands of fungi on and in them. These fungi, along with those from the bioactive leaf litter, will colonize the soil. More than 5,000 fungal species are able to connect with the roots and form associations called . . .”

“Mycorrhizae!” I exclaimed. “Mike O’Ryzie, I get it now. The branches are inoculating the soil.”

Ru bowed again, and presented me with a small clod of soil before turning back to his work.

Shortly after we finished that job in China, I started my own business. Mike spread the word about radial trenching and the goodness in globalization, and went on to manage the landscape around a “high fee” toll road in the village of My Celium in Wales, UK.

My recollections were rent when a familiar voice rang out.

“Hey, Dendro, you got a long-, and I mean *long-*, distance call,” Electra said, handing me the receiver. I noticed that her hair’s natural wave had been restored by more cautious cosmeticians, after it grew out from the lopping it got in Europe.

“Detective Dendro here, how can we help?”

“Ah, Detective, at last we speak again.” The vaguely familiar voice had an unmistakably Chinese accent.

“I am Ru Trundiep. We met in Beijing seventeen years ago, when you apprenticed with the legendary Michael O’Ryzie. Mike is still busy in Wales, but he told me that you could help us. I am now working with the 2008 International Olympic Committee. We just received a shipment of laurel from Greece to make wreaths for the winners of the athletic events, but it



***Pisolithus tinctorius* may resemble dung, but it is very desirable. The white strands are hyphae (pronounced “high fee”) that form the mycelium, the web that connects these clumps of soil. Mycorrhizae defend the roots from pathogens and help them harvest water and nutrients.**



The leaves of the shipment of laurels were rolled up.

appears suspicious. My colleagues say there is no time to get another shipment, and we can trim out the bad parts from this one. Please come here right away; the first event is next week.”

As we flew over the Pacific, Codit and I reviewed all the information we could download about the Olympics and laurels and the family Lauraceae. Ru met us at the airport and whisked us to the cargo bay where the plane from Greece was being held. We were met by a nervous-looking group.

“This is the rest of the committee,” Ru said. “We want to know three things: whether we should accept this shipment, how we can make laurel wreaths in time if we reject it, and what precedent we can cite for such a substitution so that it will be sanctioned by the international committee.”

Codit appeared unnerved as he unshouldered our diagnostic kit, and it fell with a crash. Blushing beet-red, he picked it up and hustled into the plane so we could get to work. He examined the laurel leaves closely while I looked through information on the Lauraceae and Olympic history that we had stored in the laptop. We shut the airplane door so we could compare notes in peace. After a few minutes we reopened it, and I held up my hand to quiet the committee’s clamor of questions.

We have bad news, and good news, and better news,” I said.

What did Dendro mean? Did our team crack the case? Can the Olympics go on?

See page XX for the answer.

HOWARD H. LYON, INSECTS THAT FEED ON TREES AND SHRUBS.



WHAT'S THE DIAGNOSIS?

Ru held back the surging mob, anxious for answers.

"Detective Dendro," he pleaded. "Tell us what you have learned."

"First," I replied, "this laurel is infested with the bay-sucking psyllid, *Trioza alacris*. There's nothing silly about

psyllids—they are serious pests. A European psyllid attacks ash trees in Canada. One Australian psyllid is a pest on koa trees in Hawaii, and several others suck the life out of eucalypts in California.

"Conversely, a mesquite psyllid has been sent from Texas to Australia to control that invasive plant. The melaleuca psyllid in Florida and the broom psyllid in New Zealand are counterattacking those invasives. These small, sucking insects may escape our notice, but

they are powerful players in international arboriculture. We in the United

States have learned the hard way about accepting contaminated foreign shipments. Send this one back to where it came from."

As the interpreter finished, the committee members calmed down. Some started studying their shoes.

"The good news," I continued, "is you have a replacement nearby. Your native laurel, *Actinodaphne cupularis*, can be used for the wreaths, if some of the leaves are trimmed off. The

plant is plentiful in valleys nearby, so they can be harvested and processed in time for the Games. The substitution should be sanctioned, because olive wreaths of the family Oleaceae crowned the victors in the 2004 Games at Athens, but your laurels will truly be made of Lauraceae."

The committee cheered up as they heard this translated, nodding to each other. The tone of their voices went from anxiety to optimism. Ru stood in the center, gesturing from side to side as the committee reached a consensus.

"Detective Dendro," he announced, "the committee members agree to follow your



Cast "skins" of *Trioza alacris* nymphs on laurel leaf.

HOWARD H. LYON, INSECTS THAT FEED ON TREES AND SHRUBS

advice. As a token of our appreciation, please accept these free passes to the Games, and this housing voucher."

"Thanks, Ru," I replied. "My first visit will be to the square where we first met. There I will honor my memory of Mike, and to the Chinese who have given so much to history."

Codit and I rode our rented bikes to the tree that received the radial trenching treatment way back when. Cooled by its dense, healthy crown, I unwrapped the old clod of soil, still hard after all this time, and crumbled

it slowly. Redemptive recollections ran rampant through my mind. I started swaying as I studied the dust's descent.

"Hey, Dendro, what music are you movin' to?" Codit wondered.

"Ah, I don't know," I replied, shaking my head clear. "Hands across the Water", 'We Are the World', 'Redemption Song' . . . something like that. Let the Games begin!"

Morus Spillane studies the works of mystery writers like Mickey Spillane, Victor Hugo, and Alex Shigo, and the 99 previous issues of Arborist News. Detective Dendro fights for Truth, Justice, and the Arboricultural Way.

JUST FOR FUN

How Many ISA Conferences Do YOU Remember?

1992	Oakland, California
1993	Bismarck, North Dakota
1994	Halifax, Nova Scotia
1995	Hilton Head Island, South Carolina
1996	Cleveland, Ohio
1997	Salt Lake City, Utah
1998	Birmingham, England, UK
1999	Stamford, Connecticut
2000	Baltimore, Maryland
2001	Milwaukee, Wisconsin
2002	Seattle, Washington
2003	Montreal, Quebec
2004	Pittsburgh, Pennsylvania
2005	Nashville, Tennessee
2006	Minneapolis, Minnesota
2007	Honolulu, Hawaii