

# Kia‘i i Nā Moku o Maui Nui

“Guarding the Islands of Maui County”



Spring 2012

Newsletter of the Maui Invasive Species Committee

## MOEANA’S MESSAGE—WHAT TAHITI CAN TEACH US ABOUT LITTLE FIRE ANTS

By Lissa Fox Strohecker  
MISC Outreach and Education



Moeana Besa and her family live in a part of Tahiti plagued by little fire ants.

that public awareness of the problem would lead to greater support for prevention and control of little fire ants, both in Hawai‘i and throughout the Pacific.

Our film crew consisted of two videographers, two invasive species specialists, and a Tahitian-born pastry chef who translated and helped us navigate the island and the culture. His family hosted us, overwhelming us with hospitality, which included a generous invitation to a community church service. We coordinated our trip with economist Donna Lee and ant specialist Dr. Cas Vanderwoude, who were investigating the economic impacts of little fire ants. Our official guide was Maryline Simon, the only full-time government employee addressing the problem ant, or *la petite fourmis de feu*, as it's known in Tahiti. She had spent weeks prior to our arrival setting up meetings for us with people impacted by little fire ants—everyone from farmers and hotel managers to the head of the Ministry of the Environment.

We spent our days jumping in and out of people's lives, filming as they told their stories. Little fire ants wreaked havoc in so many areas. A farmer told us that the ants and the insects associated with them stress his crops. His harvests have shrunk, despite costly applications of pesticide. Scientists talked about declines in biodiversity elsewhere in the Pacific once the ants moved in. An environmental consultant

Following Ruta into the church, I felt all eyes on us. Tahiti's morning heat was taking a toll on the congregation. Tahitian men in suits and sandals rested their heads in their hands as if in prayer, their wives, in elaborate lace-bodiced dresses, fanned themselves, and children squirmed—taking advantage of the distraction we caused to escape out the door. Ruta, our generous and open-hearted host that morning, pointed to several empty chairs at the front, facing the congregation. Obediently, we sat. I felt the pull of this community welcoming us, though not without curiosity: first asking why we were here, and then, if we had any answers.

**“THIS PLACE USED TO BE PARADISE.”**

We had come to create a film about little fire ants (LFA), which had just been detected on Maui. Unfortunately, these devastating pests are spreading on the island of Tahiti. We wanted to document Tahiti's plight with the hope

described how construction inadvertently spreads the ants, and I understood how fast and far they could travel. When a town planner

See “Moeana” on page 4

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## MESSAGE FROM THE MANAGER



By Teya Penniman  
MISC Manager

### *I BELIEVE THAT TOGETHER WE CAN REFUSE TO ALLOW LITTLE FIRE ANTS TO TRANSFORM OUR ISLANDS.*

**B**e afraid. Be very afraid. Invasive species work requires a lot of persuasion. Funding agencies have to understand there is a serious problem and a realistic solution to justify spending taxpayer dollars. Residents must be willing to sacrifice their sense of privacy for the greater good to allow strangers to walk across their property or haul off an attractive ornamental they purchased, planted and nurtured. In making our case, we often find ourselves telling the story of what will happen if no action is taken. It's not particularly fun--being responsible for creating more fear in a world already fraught with plenty of stress inducers. But I'm going to do it anyway.

In the nine years I have worked with MISC, I have come to believe ever more deeply in the value of what we do. I have gained a much greater knowledge and appreciation for the spectacular diversity of our lands, for the scarlet 'i'iwi and feather-crested 'ākohekohe, for the sea turtle hatchlings making their first trek to the ocean, and for the Hawaiian culture, which includes a sense of *kuleana*. We're blessed to live here and we have a responsibility to protect what we have.

That's why I'm scared. When I learned little fire ants (LFA) had been detected on Maui, my heart sank. I first heard about LFA from a visiting colleague from New Caledonia, who told us about abandoned farms, blinded livestock and pets, and transformed forests. All from a tiny ant. I've learned more since then. I've spoken with a woman in Tahiti whose extended family left the ancestral property—they couldn't live with the

ant infestation anymore. I've heard of a baby on the Big Island who didn't learn to crawl because her mother wouldn't leave her on the ground long enough. Too many stinging ants.

I'm scared because little fire ants are spreading uncontrolled on the Big Island and an entire reproducible colony can fit in the shell of macadamia nut, or in a car bumper, or in the axil of a plant leaf. Little fire ants have been detected in shipments of plants and produce moving between the Big Island and O'ahu. It's crazy-making to know that every day the likelihood of their arrival on Maui, Moloka'i, and Lāna'i is increasing, despite the heroic efforts of our understaffed Hawai'i Department of Agriculture (HDOA) inspectors.

There is one very bright spot, exemplified by HDOA's rapid response

to the only known infestation on Maui. The innovative techniques being developed by Dr. Cas Vanderwoude, covered elsewhere in this newsletter, give us cause for hope.

MISC is committed to surveying for little fire ants on our islands, in perpetuity, if that's what it takes to keep the ant from establishing here. But the most effective way to detect new infestations is through public awareness and reporting. I believe that the people of Maui County will come through, as they have in the past. I believe that together we can refuse to allow little fire ants to transform our islands.


Please become informed. Be afraid, but take steps to stop the ant. Inspect your property. Test your plants. Buy local. Spread the word. This is important. Mahalo nui. 



Photo by Masako Cordray

*Look closely. Little fire ants (life-size at 1/16") are barely noticeable until you are stung.*



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"Guarding the Islands of Maui County" is the official newsletter of the Maui Invasive Species Committee. To join our mailing list please call 573-6472 or email [miscpr@hawaii.edu](mailto:miscpr@hawaii.edu).



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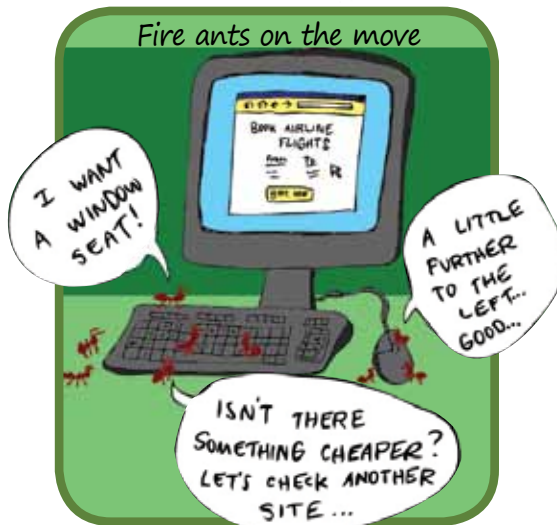
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The Maui Invasive Species Committee is a partnership of government, non-profit, and private organizations working to protect Maui County from the most harmful invasive plants and animals.

**MISC**COMMUNICATIONS  
BY BROOKE MAHNKEN

### Fire ants on the move



## FIRE AT THE FARM

By Elizabeth Anderson  
MISC Program Specialist



Photo by Eli Sarnat

Back in September of 2009, Christina Chang was preparing bananas for delivery when she dropped her sunglasses. She retrieved her glasses and she says, "Within seconds I was stung on my eye. It was a severe response with extreme pain." As her eye turned red and swollen, she searched for an ice pack; several hours passed before she could function. Thus began a yearlong odyssey for Chang and her 'ohana.

The unpleasant little creature that temporarily blinded Chang was a little fire ant (LFA). Her experience resulted in the first—and to date only—discovery of this destructive invasive species on Maui. The incident occurred in Waihe'e at Lokelani 'Ohana Farm, which serves people with developmental disabilities. "The

farm offers a peaceful, rejuvenating environment based in organic principles with an ambience of respect for the 'āina and for each other," says Chang. "A lot of life skills are developed through farming." Each week, kids with special needs come to weed and harvest and leave with bags of vegetables and flowers. The farm also sells organic produce to local stores and restaurants.

Prior to the sunglasses incident, Chang had noticed farm workers and

**"WE KNEW THAT THE TREATMENT WOULD BE MORE EFFECTIVE IF WE WERE REALLY ON TASK IN THE VERY BEGINNING."**

guests suffering from stings on their feet—beyond what they normally experienced with ants. An employee brought in a brochure her son had received in

school; it described the little fire ant threat and gave a phone number. After Chang was stung, she called to report a possible infestation.

A state entomologist investigated and confirmed that the tiny stingers were, in fact, LFA. Eliminating the pests wouldn't be easy. "[The ants] had gotten into everything," says Chang. "Our potted plants, our banana trees, the bark on our star fruit." To effectively eradicate fire ants from the farm—and Maui—state entomologists scheduled monthly insecticide treatments and extensive follow-up surveys.

Lokelani 'Ohana staff worried



Photo by Masako Cordray

Christina Chang discovered little fire ants on her Waihe'e farm.

See "Farm" on page 11





All photos by Masako Cordray

*Blind cats occur more often in areas infested by little fire ants.*



### "Moeana" continued from page 1

explained his struggle to find uninfested land for much-needed housing, I realized how a tiny ant could stifle a community's growth. An animal lover teared up as he introduced us to his cats, blinded by the little fire ants now carpeting his property.

Then we met with Moeana, in what would become the most memorable and haunting experience of our trip.

Moeana lives at the end of a dirt road, far up a lush valley. "This place used to be paradise," she said. The bridge to her house washed away in a flood years ago and so, like Moeana and her family, we waded across the river. Before, she depended on the land for her livelihood;

she grew food for her family and flowers to sell in town. Her extended family lived in the area, gathering for parties and family celebrations. Her children climbed the mango tree to grab fruit.

Then the little fire ants showed up. She thinks they arrived in 1994, ten years earlier than officially recognized. Since then, celebrations at Moeana's home have stopped.

Now, she shakes ants from her sheets each night before going to bed. LEA infest her pineapples and her taro, rendering them inedible. Many of her fruit trees and coconuts have died. She buys all her food now, makes and sells fabric flowers, and lets lantana grow around the mango so her children won't climb it. Relatives outside of her immediate family abandoned the land. The animals are gone. Wild pigs that once roamed the valley disappeared and even rats are rare. When the wind blows, ants rain down from the trees into her yard and onto her house. She tries to control them with pesticide, but any relief is temporary. She doesn't let her youngest child play in the yard because of the stinging ants.

Moeana almost refused to see us. She had granted interviews to local television stations, but she was frustrated. None of it had helped; she was left alone to deal with the ants. She



*A Tahitian farmer struggling to raise crops amidst little fire ants.*



Hawai'i, only with the advantage of time.

Before traveling to Tahiti, I knew little fire ants were definitely a pest—a big problem for farmers and the environment—but I was unprepared for the severity of the situation. Lives were completely altered by this tiny pest. I thought about the life I love in Hawai'i. I want to keep gardening, growing food, raising chickens and ducks, and hiking without stinging ants raining down on me. Some day, when I have children, I want them to crawl in the grass and climb trees without being stung. Now I will vigilantly quarantine and test any plants I bring home, and hope my neighbors will as well.

I hope the stories we filmed convey the reality of trying to live with the ant and inspire local efforts to stop it from spreading in Hawai'i. I hope our efforts here can help our neighbors throughout the Pacific.



*Ruta from Tahiti*



# ON THE JOB

By Teya Penniman  
MISC Manager

**D**on't be fooled by its no-fuss name: the Hawai'i Department of Agriculture (HDOA) is anything but dull. Behind those crisp blue shirts are some of the most creative, energetic, and dedicated state workers you will find. Try out these descriptors to get a sense of what the agency does: snake handler, exploratory entomologist, educator, advocate, law enforcer, pesticide applicator examiner, irrigation specialist, and ant wrangler.

The department's plant quarantine and plant pest control branches provide examples of just how challenging and crucial their work is.

According to Anna Mae Shishido, who retired in 2011 after many years of managing Maui's plant quarantine operations, inspection work is extremely dynamic. The freighters come in at night, so inspectors shift their schedule to adjust to what's happening. Shishido said, "We try to meet every flight at night, sometimes running from plane to plane to baggage claim to freight." The

**BEHIND THOSE CRISP BLUE SHIRTS  
ARE SOME OF THE MOST CREATIVE,  
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STATE WORKERS YOU WILL FIND.**

maritime staff checks produce from the mainland, heavy equipment, and private vehicles.

Commercial shipments aren't the only way pests move: little fire ants were detected in transit to Maui on ti leaves brought over by an individual passenger. According to Shishido, "You always have to be on your toes. You have to sense when something isn't right. You have to remember all the pests and know what's not normal. You have to be suspicious."

Despite the hard and late-night work of the inspectors, some pests make it through. That's when the Plant Pest Control Branch (PPC) jumps into action. Neil Reimer, PPC branch manager, explained that his division is responsible for plant pests, weeds, and pathogens, as



## PARTNERS PULLING TOGETHER



*Hawai'i Department of Agriculture inspectors Kyle Yagi and Catherine Davenport search produce to prevent new pests from reaching Hawai'i.*

well as for finding, testing, and releasing new "natural predators" to control widespread pest species. It's no small order, especially given a reduction in staff since the 1990s.


On Maui, HDOA staff has often been the first to detect a new harmful species, such as banana bunchy top virus or the wiliwili gall wasp.

The Plant Pest Control Branch often uses traditional mechanical and chemical control methods, but it's no stranger to innovation. When Christina Chang discovered the little fire ant in Waihe'e (see story, page 3), she knew she needed help, but she didn't know her knight in shining armor would be packing a forced-air, funnel-shaped spackler loaded with a peanut butter-based slurry. Dr. Cas Vanderwoude, the ant specialist working with the PPC Branch,

says about little fire ants, "A cookie-cutter approach won't work. You need to have local solutions to address differences between islands and habitat differences."

The Maui Invasive Species Committee benefits greatly from the Department of Agriculture's expertise on a variety of fronts, not only with little fire ants. For example, MISC staff receives pesticide applicator certification from HDOA. Department entomologists help identify unusual insects reported to MISC. HDOA staff participates in veiled chameleon surveys and takes possession of all illegal reptiles and amphibians. Our collaborative outreach activities (with live snakes and lizards) have allowed MISC to reach a broader audience. How important is the Department of

Agriculture's work? Hawai'i imports more than ninety percent of its food from the mainland and foreign countries. HDOA receives less than one-half percent of the total state budget—and is responsible for making sure that what we grow and import is safe to eat and won't damage our native forests, economy, or lifestyle. And while they're at it, they actively promote local agriculture. Fewer imported fruits and vegetables mean fewer pest species hitchhiking a ride to Hawai'i.

We owe the Hawai'i Department of Agriculture a huge mahalo for the successful (and unprecedented) eradication of little fire ants from Maui—and also for their unrelenting efforts at our ports and harbors, nurseries, farms, and ranches. We're honored to work with you! 



*HDOA inspector Marshall Loope holds a brown tree snake. The brown tree snake is one of many species HDOA is on the look-out for.*



*By Cas Vanderwoude, Ph.D.  
State Ant Specialist*

Little fire ants (LFA) are much harder to control than other pest ant species. Why? Because nearly all good ant baits are made from granules, which can be easily spread over the ground. But LFA also live in trees—up to fifty feet high in the crowns of coconut palms, for example—and it is these colonies that cause the most problems.

Granular baits are reasonably effective against LFA colonies on the ground, but do not affect the arboreal component. After the ground-dwellers are controlled, the tree-dwellers simply expand their territories...and so the cycle continues. To date, the only option available has been to drench every tree with residual insecticides from trunk to crown. Use of such large amounts of insecticide is not a good practice and often will impact other living organisms in the environment.

In response to this issue, scientists at the Hawai'i Department of Agriculture (HDOA) Plant Pest Control Branch, and University of Hawai'i-Pacific Cooperative Studies Unit (PCSU) developed the tools to control tree colonies, including a new bait. It's not a granule but a paste—about the consistency of mayonnaise, so it will stick to foliage. The chemical company Dupont collaborated with folks in Hawai'i to develop this new bait and, in the best local style, we worked out a way of applying it to the crowns of trees without having to climb each tree.

The staff at PCSU and HDOA teamed up with Brian Nadeau, an ingenious retired industrial



## SPOT THE ANT STOP THE ANT

***Stop little fire ants! Search your property for LFA by following these simple steps:***

1. Smear a thin coat of peanut butter on one end of some wooden chopsticks.
2. Place the sticks around your property, in the shade and at the base of trees.
3. Check sticks after an hour. Carefully pick up the sticks with ants and place them in a sealable plastic bag. Examine them.
  - Are they red-orange?
  - Are they smaller than 1/8th inch?
  - Do they fall off the chopstick easily?
4. If yes, you may have found the little fire ant. Write your name and phone number on the bag. Place it in the freezer overnight. Mail to: MISC, PO BOX 983 Makawao, HI 96768. MISC will let you know if you have LFA.

# TINY ANT, HUGE NUISANCE

*By Shannon Wianecki  
MISC Editor and Curriculum Writer*

**L**ittle fire ants (LFA) may be tiny, but they pack a powerful punch. Native to South and Central America, these speck-sized invaders have hitchhiked across the Pacific, leaving a trail of welts in their path. Much smaller than the average ant scuttling across your countertop, LFA are about as long as a penny is thick. Their powerful stings can cause intense burning, itching, and welts that last for weeks.

"It's difficult to comprehend how one, small ant species could impact agriculture, society, and the environment," says Hawai'i ant expert, Dr. Cas Vanderwoude. "Little fire ants are one of the worst invasive species imaginable on Pacific Islands." They invade houses, gardens, forests, and beaches—pretty much everywhere. The ants are also arboreal; they swarm up plants and trees. When disturbed, they drop off, falling onto hair, clothing, or pet's fur. Unsuspecting victims are then peppered with painful stings.

The invasive ants are wreaking havoc in Tahiti, New Caledonia, the Solomon Islands, and, more recently, in Hawai'i. They add an intolerable burden to farming operations. They blind pets. They attack turtle hatchlings and nesting birds. Children can't play in yards infested with ants; sunbathers can't enjoy a day at the beach where LFA freely roam. Hikers seeking a refreshing dip in forest streams are stung by ants floating by on leaf rafts.

LFA are tramps: they rely on others for transportation to new areas. The ants move slowly on their own, but readily hitch rides on cargo. Since an entire nest fits into a macadamia shell, traveling unnoticed is easy. Once they've arrived, they dominate, driving other insect species out. Separate LFA colonies don't fight one another; instead, they form super-colonies blanketing the ground and foliage.

Since arriving in Hawai'i, the wee ants have become a huge nuisance.



Photo by Cas Vanderwoude

*LFA stings leave unusually itchy welts that last for days.*






Photo by Masako Cordray

*LFA are at home in banana trees. Infestations of LFA make it nearly impossible to harvest tree-growing fruit.*

First detected in 1999, on the Island of Hawai'i, they traveled via the plant trade to new locations on that island and also to Kaua'i. Fruit and flower pickers at infested orchards have quit their jobs to escape the torment of constant stings. Owners of ant-riddled properties must disclose this information to prospective buyers.

On Maui, a single infestation was discovered at a farm in Waihe'e (see "Fire on the Farm," page 3). In this best-case scenario, the ants covered less than half an acre and were promptly routed out before they could spread elsewhere. Thanks to the cooperative efforts of the farm owners and state workers, Maui dodged a bullet. However, trace-back efforts were unable to determine where the ants had initially come from. Because of the difficulty in detecting the minuscule invaders, it's likely that other, undiscovered colonies exist.

Finding little fire ants before they've had time to spread is critical. Heavily infested East Hawai'i no longer has the option of eradicating the pest, but Maui County stands a good chance of remaining LFA-free. Hawai'i Department of Agriculture staff and Maui and Moloka'i invasive species committee field crews log many hours in the field searching for LFA. They've been assisted by school children on Maui, Moloka'i, and Lāna'i, who conduct surveys as part of a real-life lesson in science.

Little fire ants could seriously alter the carefree lifestyle we enjoy in the Islands; it's up to each of us to stop them in their tracks. Learn more at [www.lfa-hawaii.org](http://www.lfa-hawaii.org) 



MISC file photo

*This Hawai'i Island cat lives on a property infested with LFA.*



*Cas prepares for a field day*

painter from Hāmākua. Brian is a bit of a backyard inventor and we put our heads together. We modified some painting equipment, combined it with technology used for paint-ball guns, got compressed air from B&B Scuba in Kihei, and the "Spackler of Death" was born.

The new delivery tool involves an intriguing variety of parts. At its heart, it's a texture gun—a special paint sprayer used by contractors to apply textured paint. Usually these sprayers are driven by air compressors—way too bulky to use over large areas. So the team built a portable version, using a pressurized tank from a paintball gun and an adapter that allowed the output pressure to be adjusted. The air tank is refilled with a scuba tank (again, with a special adapter).

The result: a strange-looking contraption with a bright red hopper. While the spackler might look poised to spray-paint garden plants, it actually shoots sticky little blobs of ant bait about 15 feet up into the trees.

The team tested the concept on the newly discovered outbreak on Maui. Treatment started in October 2009 and continued until September 2010. No little fire ants have been detected on the site since February 2010; it appears that they have been eradicated. Scientists will continue to monitor the site for several years to ensure that no ants remain.

If you want to see the Spackler of Death in action, Chris Reickert from Makawao took some great video footage. Check out the video link on [mauiinvasive.org](http://mauiinvasive.org) under "Invasive Animals."

*Dr. Cas Vanderwoude is the State Ant Specialist with the Pacific Cooperative Studies Unit, University of Hawai'i. He works closely with the Hawai'i Department of Agriculture, Plant Pest Control Branch, and is based at the HDOA office in Hilo. He can be contacted at [casperv@hawaii.edu](mailto:casperv@hawaii.edu) or through [littlefireants.com](http://littlefireants.com)*

Editors note: Cas' innovation allowed the eradication of the only LFA outbreak known from Maui.



## MISCELLANEOUS FILES



Hey Doc,  
I keep hearing about these fire ants. You know, they've been here long time already. I have 'em at my house and I see 'em at the beach. They swarm my feet and those buggahs sting. You wanna get rid of 'em? Start at my house.

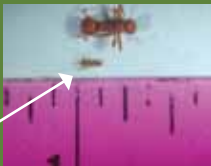


-Inflamed about Fire Ants

Good points, Inflamed.

The pests you've encountered are probably tropical fire ants. They have been here a long time—but they aren't as bad as the little fire ants just starting to invade Hawai'i. We're also on the lookout for the red imported fire ant, which is devastating the Southwestern United States but hasn't made to Hawai'i—yet. Check the table below to learn how to tell them apart.

Mahalo!

Dr. MISCellaneous

	Little fire ants (LFA) ( <i>Wasmannia auropunctata</i> ) <b>REPORT IMMEDIATELY</b>	Red imported fire ants (RIFA) ( <i>Solenopsis invicta</i> ) <b>REPORT IMMEDIATELY</b>	Tropical fire ants (TFA) ( <i>Solenopsis geminata</i> ) <b>Do not report</b>
Presence in Hawai'i:	Widespread in Hilo area, small infestation on Kaua'i	intercepted twice in shipments bound for Hawai'i	common
Size & Body Color:	hard to see: 1/16" long, size of a pencil tip; reddish-orange	easy to see: 1/8 to 1/4" long, width of pencil eraser; red & black; heads NEVER wider than body	easy to see: 1/8 to 1/4" long, width of pencil eraser; red & black; heads can be wider than body
Nest:	in trees and under leaf litter, no mounds	large mounds in lawns and dry, open spaces	small mounds on lawns and other dry, open spaces
Behavior & Sting:	not aggressive; sting people's neck and arms after dropping from foliage and being trapped	extremely aggressive; sting people's feet and legs in defense of nests	aggressive; sting people's feet and legs in defense of nests
Impact:	public health, agriculture, and environment	public health, agriculture, and environment	painful annoyance, but less devastating
Life-size Photo:	 LFA  LFA (below) do not build mounds and are much smaller than TFA (above).	  RIFA have red & black bodies, build large mounds, and their heads are never wider than their bodies.	  TFA have red & black bodies, build small mounds, and their heads are sometimes wider than their bodies.

To learn more, visit [www.lfa-hawaii.org](http://www.lfa-hawaii.org). On Maui, immediately report any suspicious ants to MISC: 573-6472.

MISCOMMUNICATIONS

BY BROOKE MAHNKEN



MAHALO TO THE FOLLOWING FOR  
SUPPORTING WORK ON LITTLE  
FIRE ANTS IN MAUI COUNTY:

Alexander & Baldwin Foundation  
County of Maui  
Hawai'i Biodiversity Information Network  
Hawai'i Community Foundation  
Hawai'i Department of Agriculture  
Hawaiian Electric  
Tri-Isle RC&D  
UH—Pacific Cooperative Studies Unit  
US Fish & Wildlife Service



## EDUCATION SAVES THE DAY—HOW A CLASS VISIT LED TO THE DETECTION OF THE LITTLE FIRE ANT ON MAUI

By Lissa Fox Strohecker  
Outreach and Education Specialist

*Students at Aka'ula School on Moloka'i learn how to identify little fire ants during a classroom visit based on a lesson from the Hō'ike o Haleakalā Curriculum.*

MISC file photo

In 2005, the Maui Invasive Species Committee (MISC) was working to get Hō'ike o Haleakalā off the bookshelves and into the hands of teachers. The Hawai'i-based high school science curriculum, developed by local scientists and educators, engages students in real-life lessons drawn from

### THE PROBLEM: HOW DO YOU FIND A SPECK-SIZED ANT ON THE 727-SQUARE-MILE ISLAND OF MAUI?

the unique native ecosystems of Hawai'i.

Serendipitously, University of Hawai'i entomology graduate student Will Haines adopted a Hō'ike activity—little fire ant surveys—as the basis for

his scholarship work. He worked with Seabury Hall science teacher Sherri Reed teaching students to survey for and identify ants. The savvy entomologist developed an online dichotomous key to assist students with identification. The lesson proved so successful that Reed expanded it the following year; she wrote a grant to do more intensive surveys and purchase global positioning systems (GPS) for her students to collect and record their data.



Meanwhile, MISC educators were visiting classrooms all over Maui, engaging them in island-wide surveys for little fire ants. For homework, students collected ants from their yards with peanut butter-baited chopsticks. In class, they peered into microscopes to identify the six-legged creatures. MISC delivered

any suspicious specimens to the Hawai'i Department of Agriculture.

All these little fire ant surveys turned out

to be more than a classroom exercise.

In 2006, Joy Gorman sat in on her son's science class at Kalama Intermediate School while students worked on the Hō'ike little fire ant activity. Three years later, she and farmer Christina Chang were stung by tiny red ants while hanging laundry on the line. Gorman thought back to that classroom visit. She went home and dug out the brochure to show Chang. A few weeks later Chang was stung again, this time near her eye. She called to report what turned out to be Maui's first little fire ant infestation.

Because the ants were detected before they had a chance to spread, the Hawai'i Department of Agriculture was able to

completely eradicate them. Thanks, in part, to the school's involvement, the rapid response effort was a total success!

The threat of little fire ants continues, and so will the school visits and surveys. Since 2006, nearly 1,500 students throughout Maui County have learned to survey for little fire ants.

Contact our public relations team at [miscpr@hawaii.edu](mailto:miscpr@hawaii.edu) to schedule a classroom visit or training for your group or organization. Learn more about little fire ants at [www.lfa-hawaii.org](http://www.lfa-hawaii.org). The entire Hō'ike o Haleakalā Curriculum is online at [www.hoikecurriculum.org](http://www.hoikecurriculum.org).



### MISC COMMUNICATIONS

BY BROOKE MAHNKEN







By Adam Radford  
MISC Operations Manager



MISC file photo

Growing up in the rural east Maui community of Keānae, Darrell Aquino learned early that hard work, helping your neighbor, and living a *pono* life was “just what you did, just how it is.” Years later, Aquino continues to exemplify the attributes that were ingrained in him during his small kid days.

The son of *kalo* farmers, Aquino couldn’t wait to leave the backbreaking work behind and see the world—and that’s what

he did. He joined the Air Force as an equipment operator in an engineering unit and spent twenty years working on the mainland, in Europe, the Middle East, Asia, and the Pacific. Aquino returned to Maui in 1993 to retire from his military career. He reminisces, “At that time I thought I would come back home and start growing taro again on a small scale.” Bob Hobdy, an old friend at the Department of Land and Natural Resources (DLNR), had other plans for Aquino.

“I saw Bob one day, a couple of years after I got back, and he told me I should help out with the miconia project. We argued back and forth for awhile about it

and eventually he just said he’d see me at work on Monday morning. I don’t even remember agreeing to take the job, but I showed up on Monday and have been with the project ever since. That was over fifteen years ago!”

Management of the miconia project has since changed hands, and Aquino transitioned from DLNR to the Maui Invasive Species Committee (MISC). He has served as the field crew leader for the miconia project in Hāna and now leads the Pīholo-

based vertebrate crew. He’s become one of most highly trained members in the MISC *ohana*.

His diverse skills include everything from welding to designing pumps and building PR displays. His hunting prowess is legendary. When a former MISC employee bet Darrell that he couldn’t catch a fish in less than five minutes during high tide, Darrell upped the bet by stating that he could catch a fish in less than one minute during low tide – which he did. Double or nothing consisted of Darrell using his net to capture his co-worker who tried to outrun the net. They stopped betting after that.

**“I DON’T EVEN REMEMBER AGREEING TO TAKE THE JOB, BUT I SHOWED UP ON MONDAY AND HAVE BEEN WITH THE PROJECT EVER SINCE.”**

In typical Aquino fashion, he was quick to seize the opportunity for three weeks of brown tree snake rapid response training in Guam. “It was a pretty good trip,” says Aquino. “We handled lots of snakes and it reminded me of the Philippines.” Should the serpent ever surface on Maui, Aquino is prepared. “I’m just glad that there are no snakes in Hawai’i though...one tried to jump on me! I’m fine hunting pigs and deer for now, but if I ever need to, I know how to hunt snakes.”

“Aquino is the ideal snake hunter,” explains Elizabeth Anderson, MISC’s Program Specialist. “He is exceptionally good at finding all of our target species and he can be counted on to respond at a moment’s notice if needed. I’m sure he would even respond after retirement if we asked him to.”

He probably would. One of Aquino’s greatest attributes is that he really cares about Maui. If you ask him about conservation projects that have been less than successful, he becomes visibly upset. “You know, all that work goes into something, and you know you can make a difference...and then the plan changes or the money runs out. That’s what gets me. Fortunately, MISC is on the right track.”

Aquino cares about more than Maui’s natural environment; he also cares about its community. Aquino and his wife Evelyn have been caregivers for elderly and disabled persons at their home, some for several years. Five *hānai* children grew up alongside their two children. His generous spirit shines through in many ways. If you ask Aquino to help out with a party, he offers to cook all the food and shows up early to assist.

When asked why Aquino still works full-time with all of these other demands—and that postponed retirement plan—he says, “Every day is a challenge. You constantly have to overcome new obstacles and adapt to changing circumstances. I like the challenge. All that other stuff in my life is just what you do, how it is.”

It must be true that what you learn as a kid stays with you forever.





## "Farm" continued from page 3



that treatments might threaten their farm's organic status—a hard won designation where the land must be chemical-free for at least two years. They chose to move forward anyway, and cooperate fully with the eradication plan.

"We didn't want to jeopardize anyone else," says Chang. "We knew that the treatment would be more effective if we were really on task in the very beginning."

Once a month for a year, those living at the farm were required to leave the property for twenty-four hours during treatment. Three different insecticides were used to treat cropping areas, non-crop areas, and thick vegetation.

"I don't know what it would have

cost for us to treat the farm," says Chang. "I don't know if we would have been in a position to actually pay for it."

The state covered the control work, but the farm incurred the cost of motel rooms and lost revenue. Chang's plants were infested, so she couldn't sell products from the farm. The programs for kids suffered as well; some visits had to be delayed due to the treatment schedule. And since wearing slippers was too risky amidst stinging swarms, Chang purchased boots for the kids.

The sacrifices paid off. Treatments concluded in September 2010; fire ants haven't been found since. The property will be monitored periodically for another two years. For now, Maui is little fire ant-free.

Chang says the experience sharpened her awareness of invasive species issues


and the importance of education and early detection. "We decided to do whatever we could to help prevent the little fire ant from establishing on Maui," says Chang. "I really trust all of the agencies that worked with us. "They supported us with a lot of compassion and also education. We gave them a green light." 



Photo by Masako Cordray  
Cas Vanderwoude and Christina Chang at Lokelani 'Ohana farm.

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