

WEED OF THE WEEK
AUGUST 6 2008

FEATURED SPECIES: AUSTRALIAN TREE FERN
Sphaeropteris/Cyathea cooperi

One of the reasons that we decided to introduce the Weed of the Week program on KKCR's "Back to the Garden" show is because, as we have noted before, the majority of Hawai'i's invasive species have been brought in by the horticultural trade for people's gardens. This is not a local phenomenon. Around the world, people have planted flora from across the planet in their yards. These plants are chosen for a variety of reasons. They may be beautiful or are easy to grow and maintain, and with modern technology, are now easy to transport. But the problem that many regions are finding is that these plants don't always stay within the garden fence. "Jumping the fence" is the term for plants that escape cultivation and begin spreading into natural, wild areas. Beautiful plants can sometimes become beasts in the forest if they are without the checks and balances of their native habitat. And the very same attractive qualities for landscaping of fast growth and easy maintenance can often translate into invasive characteristics in the forest. Plus, with limited transport regulations, plants are being moved around the earth at rates never before experienced by the environment in its natural history. Like many of our actions on our planet home, from ocean pollution to clear-cutting, the transport of species is showing tremendous impacts to life on Earth, ours included.

But, there is always something we can do to change course and live more conscientiously of our actions. Individually, this means starting in your own backyard. Hawai'i is home to over 1300 native plant species and has the highest rate of plant endemism in the world, with over 90% of our species found nowhere else but here. These plants are rare beauties and by cultivating them in your garden, you can be a part of their preservation. Furthermore, because they have had a long-standing relationship with Kaua'i's environment and climate, they require less water. The Maui County Department of Water Supply teamed up with the Maui Watershed Partnerships and MISC to promote the planting of native plants as a way to conserve water. This is another case where native species, biodiversity, and sustainability are closely linked.

In addition to individual actions, communities and industries can also band together to prevent the spread of invasive species and protect their local biodiversity. In 2001, Missouri Botanical Gardens and the Royal Botanical Gardens gathered "experts from across the globe to explore and develop workable, voluntary approaches for reducing the introduction and spread of non-native invasive plants." One of the landmark results of this conference was the establishment of the Voluntary Codes of Conduct for professionals and participants in the horticultural trade. People are beginning to adopt this program from Florida to California, and in recent years, Hawai'i.

In the summer of 2005, the Kaua'i Landscaping Industry Council (KLIC) became the second professional nursery association to sign and endorse the voluntary codes of conduct. Last year, the National Tropical Botanical Gardens also signed on. The full codes can be found at http://www.lichawaii.com/invasive_species.htm. KLIC locally adapted the original template to address island-specific issues. One of the key elements of the Voluntary Codes of Conduct is to draft a list of species to phase out of the industry. Today's Weed of the Week was one of the top priority species on that list: Australian Tree Fern (ATF).

Before The Nature Conservancy starting doing aerial surveys of remote areas on Kaua'i still believed to be intact native forest, no one was aware of the magnitude of the Australian Tree Fern invasion. Landscapers and nurseries started using Australian Tree Fern because they and their customers liked how fast and easy it grew. Soon, the ferns were popping up all over the place in neighborhoods island-wide. But, with spores so small they are undetectable by the human eye and every plant producing between 15-18 billion of them, the ferns easily jumped the fence when the winds blew. With the help of hurricane Iniki, Australian Tree Ferns began to colonize north shore valleys to an extent not yet seen anywhere else in the state. It was a classic and tragic example of how our actions can have major effects, many times, unbeknownst to us.

When KLIC first signed the Codes of Conduct, many of the landscapers and nurserymen commented how in the past people just didn't know what kind of impacts invasive species could have on the environment, so no one thought twice about bringing in something new for ornamental purposes. But that is the story of humanity, ethics, and evolution; we change and adapt in response to our knowledge and awareness. Now, we have a better understanding about the risks of introducing new species to our unique island ecosystems. The Weed Risk Assessment can help us to make informed decisions. In regards to ocean safety, they say, "when in doubt, don't go out." For plants, we could say, "when in doubt, don't plant it out." It is always safe to plant native species, and there are many non-native and food plants that are not invasive that can make wonderful additions to your garden.

The easiest way to figure out if you have Australian Tree Fern in your yard is by looking at the base of the trunk. Sometimes it can be difficult to tell the difference between Australian Tree Fern and our native Hapu`u and `Ama`u, but if your tree fern has white scales on the trunk, you know you have the Australian kind. For more identification info and photos, check out the website.

The comparison between Australian Tree Fern and our native Hapu`u is a classic example of how invasive species out-compete our native species. ATF grow about 15 cm every year, Hapu`u grows less than 3 cm. ATF produces 2.7 new fronds every month, Hapu`u produces only 0.4. ATF maintains about 12-18 fronds at a time, making a huge footprint in the forest, Hapu`u has only about 3-6 fronds at any given time. And, it was mentioned how many spores ATF produce in a year (15-18 BILLION), in contrast to the 700 million to 2.8 billion spores of the Hapu`u. Also Hapu`u is a better team player supporting 15 different species of epiphytes in the forest, whereas ATF only supports one.

Many landowners across the state have taken a stand to protect the forest from their own backyard by removing Australian Tree Fern. You can replace your ATF with our beautiful and native Hapu`u or `Ama`u, or can even try something like a non-invasive cycad to showpiece. Learn more about Hapu`u from the College of Tropical Agriculture and Human Resources publication found at: <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/OF-16.pdf> Feel free to contact the Kaua'i Invasive Species Committee for help with identification or information on replacement possibilities.

Read about how the Kaua'i Landscaping Industry Council is taking action to stop the Australian tree fern at <http://www.kauaiworld.com/articles/2006/07/07/news/news01.txt> , and how businesses and individuals are learning about this invader: <http://the.honoluluadvertiser.com/article/2006/Aug/10/In/FP608100342.html>.