



The Lyon Arboretum Welcomes Mashuri Waite

We are delighted to introduce a new key member of the Lyon Arboretum staff: Dr. Mashuri Waite. Mashuri, who joined us on May 2nd, will be the new head of the Plant Collections and Grounds Department. He earned his PhD in botany at UH Mānoa and has a deep knowledge of native and non-native plants. While he was pursuing his graduate studies, he spent considerable time at the Arboretum hiking, volunteering,

and assisting with invasive species issues. In addition, he has worked with large volunteer groups to re-establish native species in some areas along the Mānoa Cliffs Trail. Thus, he knows the landscape, the flora, and the staff extremely well and has



hit the ground running. We are thrilled to have Mashuri as part of the Arboretum 'ohana. Please take a moment to welcome him and to introduce yourself. And, if you are so inclined, I hear that he is always looking for some avid and energetic volunteers!

- Christopher Dunn

Endangered Species Day Photography Contest Winners



(Left) Adult 1st Prize, Norma Creps (O'ahu), Dwarf Naupaka; (lower left) Adult 2nd Prize, Norma Creps (O'ahu), Haleakala Silversword in the Afternoon Light; (below) Adult 3rd prize Lee Altenberg (Maui), Lichen to No Other.



(top) K-6th Grade, Gemma Hayden (O'ahu), Hello Sunshine!; (below) 7th-12th grade, Noa Gagner (Hawai'i Island), Sun Canopy.



Limited Edition note cards with Photography Contest images are now available in our Gift Shop!

Wish list: school field trip subsidies (\$100_{ea}), wheelchair (\$250), garden hoses (\$45_{ea}), Rite-in-the-Rain ink-jet paper (\$86), cash register (\$300), keiki rain ponchos (\$5_{ea}), HD laminator (\$250), laptop computer (\$1,000), Silky short hand saw (\$65), rain jackets (\$40_{ea}), fluorescent desk lamp (\$25), sickles (\$3_{ea}), two 8' fiberglass step ladders (\$140_{ea}), creeper (\$70)

Mahalo for your support!

We acknowledge, with gratitude, the following donors: Diane Murakami (\$50 donation), Raytan Vares (dustpan), Dick and Wanda Carlson (two fish bowls)

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From the Director's Desk



For those of us dedicated to restoring nature, it is becoming increasingly clear that

conservation programs must include explicit consideration of people and cultures as part of the process. An eminent British ecologist, Prof. William Sutherland, has shown that languages are as endangered, and in some cases more so, than plants, mammals, and birds. If you were to view a map of the world illustrating those areas where biodiversity is greatly threatened, it would show "hot spots" in much of the tropics, subtropics, and Mediterranean. Hawai'i is also such a hot spot.

UNESCO, the National Geographic Society, and others have also published maps showing areas of the world in which languages are endangered. It should be no surprise that these "language hot spots" coincide quite closely to biodiversity ones. Thus, as our natural heritage is eroding, so too are cultures and languages. We are losing elements of our flora and fauna, and losing elements of our human family and the knowledge that other cultures and languages represent. Some conservation organizations are now engaged in the conservation of "biocultural diversity." As we restore landscapes, we must explicitly consider restoration of their associated cultures and languages. The Lyon Arboretum, in recognition of this, has included language in our vi-

sion statement that refers to restoration of nature and culture. Furthermore, I am working diligently to establish a Center for Biocultural Studies at the University and to develop a memorandum of understanding between the University of Hawai'i and the University of Auckland in New Zealand. This MOU will allow for academic exchanges, focused on biocultural issues, between the two universities. With time, you will be seeing at the Arboretum more cultural programming tied in with our environmental and conservation efforts. I am very excited about these new initiatives and all they mean to our futures and to the Lyon Arboretum's place in the larger global conservation arena.

- Christopher Dunn

Lyon Featured in UH Museum Consortium Exhibit

Lyon Arboretum has been invited to participate in a fall exhibit at UH-Mānoa's Hamilton Library. The exhibit will feature museum collections from the members of the University of Hawai'i Museum Consortium. The exhibit runs from September 6th - December 16th at Hamilton Library.

- Jill Laughlin

Ola i ke ahe lau makani.

'Ōlelo no 'eau 2483
Mary Kawena Pukui

Said when a warm day is
relieved by a breeze.

Volunteer of the Quarter

Margaret Mortz can often be found leading visitor tours through our garden and rainforest trails with a smile on her face and a bundle of ti leaves in her hand. This quarter we recognize Margaret for her tireless involvement with Lyon, both as a volunteer and for serving on the Lyon Arboretum Association Board.

"Plants are my passion," Margaret says, "and Lyon has become one of my favorite places in the world. It is so peaceful and beautiful up there."

Margaret decided to take our docent training program back in 2006, but she was no stranger to the botanical

world. She is also an active member of both the O'ahu Master Gardeners and the Garden Club of Honolulu.

"I like interacting with people and passing on information about plants," says Margaret. "The Arboretum is such a gem that many people are unaware of. And it's only 20 minutes from Waikiki!"

Margaret is a member of our friends group, Lyon Arboretum Association,



and was asked to serve on the Board in 2009.

"The mission of the Association is to support the Arboretum," Margaret says, "I'm happy to be involved in that and I enjoy working on the Lyon in Summer fundraising event and seeing the profits made for the Arboretum."

We are thrilled to have Margaret on our team at Lyon. Please take a moment to let her know how much we value her time spent with us!

- James Krolkowski

Lyon Arboretum Association News



Planning for Lyon in Summer is well under way and we are looking forward to a gala event on July 16th.

On another note I would like to report that Lyon Arboretum's membership in the American Horticultural Society has recently been renewed. The Reciprocal Admissions Program of AHS offers LAA

members free admission and other discounts at more than 250 botanical gardens and other horticultural destinations throughout North America. If you are traveling this summer be sure to take your LAA membership card with you and you will be able to visit some of the most beautiful gardens in America free of admission, and may be granted a discount in the gift shops as well. A list of participating gardens can be found in the Membership area of www.ahs.org.

We would love to hear about your visits in other botanical gardens. Email a picture to us at laassoc@gmail.com or drop us a note through the mail. We hope to be able to share your adventure with our members.

The Lyon Arboretum Association Annual Meeting will be held on October 1, 2011 at the Arboretum. Mark your calendars and consider joining us as we begin another year of providing support to the Harold L. Lyon Arboretum.

-Trudie Taylor

Why we are involved with LAA...

I'm not much of a biologist, or even a gardener. Most of my past work, especially at the Smithsonian, focused on sustaining cultural diversity around the world - educating about and advocating for the crucial role diversity plays in developing a healthy society. But through this work I was constantly reminded that biological diversity is a foundation for sustaining cultural diversity. At Lyon I see important work being done to encourage this diversity, not only for a more beautiful, but also a more engaging world.
- Richard Kennedy

With our busy lives in the midst of a major US metropolis, it's easy to miss the beauty of nature that surrounds us. A visit to Lyon Arboretum, just minutes from the heart of town, brings all that back right away. - David McCauley

Pictures Speak Louder than Words

Pat Wassel, Lyon in Summer Committee member, asked LAA Board members to help her choose a flavor of jam to be used as table gifts for the event. The members were eager to help.



(Left) Lillian Ito, Association office manager; Ann Kadowaki, LIS chair; Pat Wassel, LIS committee; Manning Richards and Richard Kennedy, LAA board members, help with jam tasting and mailing of invitations.



(Right) A gorgeous display of prepped food items at the menu tasting provided by our caterer, Pacific Catering Corp, under the direction of Christopher, Moumen, and Holly El Hajji. The food we tasted was exquisite. We are looking forward to sharing the Hajjis' fabulous menu with our attendees.

We acknowledge with gratitude the following donors:

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Ethel Oda
Fay Taylor



The Keiki Leaflet

The Children's Garden was busy in early June with our **Summer Science Explorations** and **STREAM: Nature Discovery** keiki summer camps. Our day campers got to explore the natural wonders of the Arboretum through hiking and 'Aihualama Stream adventures, garden work, art projects, and even mini cooking classes with Kokua Market's Alyssa Moreau! Not even the rain slows us down at Lyon!



Richard Sears Receives Environmental Education Award

Richard Sears, Education Specialist at Lyon, recently received the Elizabeth Abernathy Hull Award for Early Environmental Education. This national award from the Garden Club of America is awarded to only 5 educators from across the US each year. The award recognizes "...the outstanding achievements of individuals furthering the early environmental education of children." Congratulations Richard!
Ho'omaika'i!

- Jill Laughlin



What Is Your Favorite Tree Found at Lyon and Why?

Visitor



Patrick Winkler, Honolulu

"The big Albizia trees, because they are dramatic and they caught my eye. They add a horizontal push to the vertical landscape found here."

Staff



Jill Laughlin, Mānoa
 Education Programs & Outreach Manager

"I have a love/hate relationship with Albizias! Though they are a safety hazard, they provide a great opportunity to explain the natural history of the Arboretum and how things change over time."

Volunteer



Mervin Oyafuso, Makiki

"I have to say the Albizia. I know they are invasive, but they provide such a nice canvas to the valley of Mānoa."

Though we understand people's appreciation of the form of the Albizia trees, the Lyon Arboretum recognizes that they are highly invasive and is committed to removing as many as possible, as time and resources allow.

The Ethnobotany of Traditional Hawaiian Structures

As we move into the final phases of our *Hale Hālāwai* project here at the Arboretum, I thought it might be interesting to write about some of the specific plants utilized in traditional house construction.



Artwork of Aaron Kawaiāea.

Most of us are familiar with the song "My Little Grass Shack in Kealakekua Hawai'i" written by Bill Cogswell, Tommy Harrison & Johnny Noble; but these structures were hardly shacks, and not always thatched with grass. Plants selected for construction depended on location, in terms of wet or dry climate, and the availability of plant material in the area. There were at least 32 types of pre-contact houses, often distinguished by their function and the type of wood used. Examples include: *hale moe/inoa* (sleeping house), *hale imu/umu/kāhumu* (cooking house), *hale mua* (men's eating house), and *hale lama* (house made of the *lama* tree) just to name a few. Constructing a house was a long and arduous process that included site selection, laying the foundation (*kahua*), gathering ma-

terials, framing, and thatching, all while observing strict religious protocol.

A variety of native hardwoods were used for the posts (*pou*), rafters (*o'ā*), ridgepoles (*kauhuhu*), and purlins/thatching poles (*'āho, 'āho pueo*). They included *'ōhi'ā lehua* (*Metrosideros polymorpha*), *māmane/mamani* (*Sophora chrysophylla*), *naio* (*Myoporum sandwicense*), and less frequently *'a'ali'i* (*Dodonaea viscosa*), *uhiuhi* (*Caesalpinia kavaiensis*), *hame/ha'ā* (*Antidesma platyphyllum*) and *olopua* (*Nestegis sandwicensis*). All of these native species were at one time abundant in surrounding forests. An important part of the framing process was lashing the wood together and there was a variety of material available to make this cordage. Plants used included *niu* (*Cocos nucifera*), *'ahu'awa* (*Cyperus javanicus*), *'uki'uki* (*Dianella sandwicensis*) and *'ie'ie* (*Freycinetia arborea*). The final stage of the house construction process was the thatching for the roof and side walls. Houses

thatched with the native *pili* (*Heteropogon contortus*) grass called *hale pili* were common in areas with drier climates. Other thatching material included *hala* (*Pandanus tectorius*) and the Polynesian introduced *lā'ī* (*Cordyline fruticosa*), *kō* (*Saccharum officinarum*) and *mai'a* (*Musa acuminata hybrids*). Hawaiian *hale* were characterized by having a very small doorway or *puka* with an arched piece (*hoaka*) above and framed by two posts on each side. The wood used to frame this *puka* included *'ahakea* (*Bohea elatior*) which had reddish hue to it, a sign of chiefly status. The yellowish wood from the *'ulu* (*Artocarpus altilis*) tree could also be used to frame this doorway. This is just a snap shot of what we know about the kinds of plants used in traditional *hale* construction. As native plant resources diminished and other ideas and materials became available, European-type habitations became more common and eventually the knowledge and skills used to construct traditional dwellings became more rare.

- Liloa Dunn

Relocation of Buddha

Visitors ask us many different questions everyday. One of the most frequent is, "Where is the Buddha statue?" Exactly! The Buddha is hidden in the dark shade of trees and barely visible from the trail.



Buddha in it's new location.

This magnificent bronze "Walking Buddha" came from Thailand and was donated by the Venerable Preecha Thaharn of

Buddhakaya Hawaii Temple in March of 1988.

A landscape designer placed the statue in a serene and lushly landscaped setting, under the Bodhi tree that is said to have sheltered the being in deep meditation who came to be known as Buddha.

Nearly 20 years later, a Thai monk paid a visit to the Arboretum and suggested the statue be moved. He explained that though the Buddha was



Hajime working on the new site.

placed under the Bodhi tree and facing east, it was disrespectful to leave him in a dark hidden place.

Now the Buddha stands in a highly visible area near the rain shelter walk way, about 20 feet from its original location and still under the canopy of the Bodhi tree. A new

platform was built before the Buddha was moved. This work was all done by hand with respect to the monk's recommendation.

We hope this change will bring good luck and more satisfied visitors to the Arboretum.

- Hajime Fujisaki

Endangered Species Day 2011: A Day of Education and Exploration

Thanks to major support from Hawaiian Electric Company, Lyon Arboretum's Endangered Species Days event was a great success. Our goal was to highlight and celebrate the conservation of rare plants and plant habitats, increase understanding of local and world-wide conservation efforts, and to inspire greater participation and support for conservation and preservation efforts.

We had 50 entries in our native Hawaiian plant photography contest, with some amazing images on display throughout the month of May. Contest winners names and images can be found on the front page of this publication. Congratulations to all the winners and contestants! The photos were beautiful, and helped to increase appreciation of our native plants.

Four of the images were used to create a series of beautiful note cards, now available in the Arboretum's gift shop. Proceeds from the sales of these cards and the event t-shirts will be used to help fund plant conservation programs at Lyon. **Call 988-0456 or stop by the shop to purchase these beautiful limited edition cards.**

Event activities included tours of the labs at Lyon, special guided tours of the rare plants in Lyon collections, self guided tours, a photo exhibit, an environmental film festival, a guided bird walk, educational displays of new curriculum materials, talks by local plant conservationists, a tree-planting, a native plant sale, keiki activities and an invasive weed removal volunteer work party.

Special signage was installed throughout the gardens and self-guided tour materials were developed to highlight rare plants in our collections that are on the IUCN Red List, the US Federal List, and the most inauspicious list: the Hawai'i PEP list (plants on the PEP list have less than 50 individuals left in the wild). If you missed the May event, you can still come up and take a walk through the gardens...you will be amazed at the stories behind some of these rare plants. Plant conservation is an on-going effort at Lyon; help celebrate and support the work of Lyon research staff and their many partners.

- Jill Laughlin



Visitors enjoy a keiki micropropagation activ-



(Left) A visitor shops for native plants. Lyon's greenhouse and micro-propagation lab had plants for sale, along with Hui Kū Maoli Ola plant nursery.



(Above) Keep an eye out for plants labeled with these signs next time you are visiting Lyon! Hawai'i PEP List, the US Federal List & the IUCN Red List.

Aloha James

Jamie Krolkowski (aka James or Auntie James) has been a key component of the Lyon Arboretum education staff for the last 5 years. James has contributed immensely to our school field trip programs, children's classes and other education outreach programs at Lyon.

James has helped to keep our school programs aligned with Hawaii's content and performance standards, and created fun and exciting learning activities for children to experience nature. She's kept the coffee strong and flowing at our plant sales and events, the education office organized and running smoothly (sometimes at warp speeds!), the newsletter informative and well edited, has recruited and welcomed new volunteers, and has worked tirelessly to create an effective and educational experience for our visitors.

We will miss her enthusiasm and her work ethic tremendously. We wish her great success on her journey back to the Northwest. *A hui hou* James...

- Jill Laughlin



We extend extreme gratitude to these donors for their support:

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*in honor of Ray Baker ** in memory of Christopher E. Gencarelli

Introducing our New Cell Phone & QR Code Tour at Lyon

Garden visitors with a cell phone can now access a new audio tour in the Beatrice Krauss Ethnobotany Garden by dialing (808) 450-3006. If you have a smart phone with a QR code reader, you can scan the QR code on plant signage to access tour text and images.

The project was a collaboration with the University of Hawai'i Museum Consortium, the UH Museums Studies Graduate Certificate Program, students Sheila Peterson and Rebecca Teser, Malia Mallchock (IT Specialist UH COE), Michael Thomas (Joseph F. Rock Herbarium, Botany Dept.), Karen Kosasa (Museum Studies, American Studies Dept.) and Richard Sears, Liloa Dunn and Jill Laughlin of the Lyon Arboretum. We plan to continue to add content to this new and exciting educational platform.

This new garden feature will be a great benefit for visitors who cannot participate in one of our guided tours, and should prove to be useful for anyone interested in learning about the cultural uses of Hawaiian plants...all very exciting stuff!

- Jill Laughlin

Cooking Class Announcement

Pacific Islands Cuisine with Alyssa Moreau
Tastes and techniques of the Pacific Region:
Saturday August 13th, 2011 \$25

Space is limited. Call 988-0456 to register.

Correction to Spring edition of Kukui Leaf: the art prints donated by Rick Palmer were original hand printed etchings, not giclée prints.

Save the trees!

If you'd like to receive future newsletters in pdf format via email, please contact higashiz@hawaii.edu



Raffle Prize

For those who sign up for the email newsletter by August 18th, you will be eligible for a \$10 gift certificate that will be redeemable at the Arboretum gift shop. Congratulations to Todd Shelly, our Summer 2011 raffle prize winner. Good luck!

For more information about donating to the Arboretum, please contact the UH Foundation (Emily Fay or Harriet Cintron at 956-8103 or manoa.development@uhf.hawaii.edu) or the Director of the Arboretum at 988-0457. Please send to: Lyon Arboretum / UHF, Appeal code: 09LY2, 3860 Mānoa Rd, Honolulu, HI 96822

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Lyon Arboretum Association presents

Lyon in Summer

Ulu a wehi: to grow and flourish

Saturday July 16th, 2011

4:30pm until 8:30pm

Come share the *aloha* and enjoy a
casual dinner, live entertainment by local
musicians, a silent auction featuring
unique Hawaiian handmade crafts, and
much more.

For more information,
please call 988-0464 or email
lyoninsummer3@gmail.com