



Native Hawaiian Hāhā planted at Manoa Cliffs Restoration Site

Recently, the Lyon Arboretum Micropropagation Lab, Lyon Arboretum Seed Storage Lab, Pahole Rare Plant Facility, O'ahu Plant Extinction Prevention Program (OPEPP), and the State Department of Land and Natural Resources, Division of Forestry and Wildlife (DLNR DOFAW), and volunteers were able to re-introduce a Native Hawaiian Hāhā, *Cyanea grimesiana* subspecies *grimesiana*, to the State's Mānoa Cliff's Restoration Site within the Honolulu Watershed Forest Reserve.



This Hāhā is a member of the Bellflower family (Campanulaceae) and has only ever been known from a small number of individuals in the mesic forests of the leeward Southern Ko'olau Mountains of O'ahu where it was often found growing with koa (*Acacia koa*), kopiko (*Psychotria mariniana*), lama (*Diospyros sandwicensis*), and halapepe (*Pleomele halapepe*). These plants grow up to 2 meters tall and have highly divided leaves with small, slightly dull, prickles. The flowers are purple and white and curved to match the shape of a native Hawaiian Honeycreeper's beak. When the flowers are fully open a small amount of sweet nectar is produced, a reward for pollinating the flowers. Sister species occur in the Wai'anae Mountains of O'ahu and on Molo-

ka'i. All are extremely rare and highly threatened by feral ungulates, invasive weeds, and non-native slugs.

In 2004, OPEP was able to collect fruit from the last two individuals just before both plants died, leaving this species extinct in the wild. The fruit were taken to the Lyon Micropropagation lab and many individuals were



propagated and cloned to prevent this species from blinking out. Once secure in the lab, the Pahole Rare Plant Facility was able to grow several large plants to be returned to the wild. This reintroduction

marks an important step in preserving this uniquely Hawaiian species. This was truly a joint effort between several conservation partners who each play a significant role in preventing the extinction of rare plant species.

The Plant Extinction Prevention Program works to preserve the rarest of Hawaii's amazing plant species (www.pepphi.org). The Mānoa Cliff's Restoration Site is cared for by a dedicated volunteer group that meets weekly to care for the area (<http://manoacliffreforestation.wordpress.com/the-project/>).



From the Director's Desk

I hope each of you had a wonderful holiday season with friends and family, and that the coming year is a memorable one. The past year was certainly memorable in many ways, thanks in no small part to your continued support. And it was memorable, too, because of the dedicated staff who continue to amaze and to bring our programs to new heights. Our Education Program welcomed more than 10,000 school kids in 2013. This is a 15% increase from last year! Clearly, Jill Laughlin and her education staff



have developed programs that appeal broadly to the schools and that provide high quality experiences. The demand for our programs will not be abating; thus, we are actively seeking ways to subsidize school field trips and to hire at least one part-time education assistant.

For those who follow such things, the US Fish & Wildlife Service recently added more native Hawaiian plants to the endangered species list. The list now includes 400 Hawaiian plants. Nellie Sugii and her staff are constantly adding new species to tissue culture. During the

past year or so, the number of species they have safeguarded has increased from 160 to about 200. Total number of specimens is now about 16,000. As the number of listed species increases, we will endeavor to add them to our tissue culture collection. I'm reminded of the Red Queen in "Alice and Wonderland": The faster I go, the behinder I get.

Visitor numbers continue to climb steadily. One comment we get repeatedly is how wonderful the grounds look. All the grounds staff (Liloa Dunn and the gang) deserves our thanks. They are woefully understaffed, but take such pride in how the arboretum looks.

And one more thing: Our November plant sale set records for gross and net sales and for attendance. Attendance was close to 800, beating April's numbers by more than 200. Many thanks to Liz Huppman for organizing such a successful event.

There are other staff who deserve thanks, too. Their names are listed in each issue of the Kukui Leaf. Please take a moment to thank them, just as we do to thank you.

Aloha,

—Christopher Dunn



Volunteers needed for Arboretum facilities cleaning

It's a dirty job, but someone's got to do it!

I remember my mom making me clean up the house as an afternoon chore, and not particularly relishing it. Now, as one of my responsibilities as facilities manager, I have actually come to enjoy it. It is difficult, given my many other responsibilities, to completely clean all five buildings on a regular basis. Fortunately, many of the staff provide a helping hand, but at the expense of some of their projects.

As a result, I have decided to dedicate one Saturday afternoon each month to cleaning the main office. So you might see me working every third Saturday afternoon scrubbing

windows, cleaning walls and fans, vacuuming floors, and the many other jobs that need to be done to keep the arboretum facilities looking good for our visitors, staff, and volunteers.

I would like to invite you, our guests and volunteers, to join me. If you would also enjoy putting on a pair of rubber gloves, and making a difference at Lyon Arboretum by helping clean the facilities, please put **every third Saturday, from 1 to 3 pm** on your calendar. Cleaning supplies, and some light refreshments, will be provided. If you have any questions, or would like to RSVP or confirm, please feel free to call the arboretum office, or my office, at 988-2479. Of course, we will gladly accept walk-ins!

Friends News Update from Friends of Lyon Arboretum President

A warm Aloha to all of our friends and members of the Harold L. Lyon Arboretum. With humility and excitement, I begin my two-year term to serve as President of the most amazing place in Hawaii and around the world. We are well positioned to protect and enhance



the beauty of the Arboretum for many, many generations to come. Several projects have been completed and many more are in the planning phases continually making your experience more enjoyable. The Arboretum has never looked so beautiful, and positioned to attract more visitors both locally and internationally.

The Friends contribution to the Arboretum has ranged from small important projects support such as air conditioner replacements to larger more compli-

cated projects such as the support of the Garden of Remembrance and Ulu Urban Garden. Additionally, we are coordinating our Board talents with the Arboretum staff to explore grant opportunities promoting the cultural and educational aspects of the Arboretum.

I would like to briefly introduce the five new additions to our very established existing Board. More detailed bios are available on our website at www.FriendsofLyon.org. **Mark Anderson** works for the State of Hawaii in Budget & Finance, a Punahou and University of Washington graduate born and raised in Hawaii specifically growing up in Manoa. **Bridget Holthus** works for the UH Cancer Center and grew up in Manoa, attended both Hanalei and Punahou before earning her degree from UC

Berkeley and then law degree from UH. **Karen Huffman** was born in Michigan but has called Hawaii home for over 30 years contributing to our community through many organizations such as Butterfly Society of Hawaii, Hawaii Theatre Centre and Ronald McDonald House. **Joel Kurokawa** is the owner of Ki Concepts landscape architecture and was born and raised in Hawaii before attending the University of Oregon and traveling the world with his business. **Elizabeth Riegels** is a graduate of Punahou and active outdoor enthusiast from coaching soccer to actively participating in the Garden Club of Honolulu.

We thank you for your support and please keep in touch with us through Facebook at www.Facebook.com/FriendsofLyonArboretum where we announce current events.

– Paul Sibley

Friends of Lyon Arboretum Member Donations

Koa Level

\$500 and above

David McCauley
The Place, Mary Philpotts
Jerry & Alice Tucker

Ohī'a Level

\$250 - \$500

Stephen Haus
Myra Kong
Chloe & Anne Wurr

'Ilima Level – up to \$250

Elizabeth Boynton
Christel Collins
Karen & James Howell
Jackie Johnson
Martha Martin

Margaret Mortz
Melissa Mosher
Ann Sato
L.S. Tollerud
Randy Tucker & Mary Logan

FLA Board of Directors 2013 – 2014

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Jan – May 2014

Lyon Arboretum—University of Hawai`i at Mānoa

Lyon Classes

Visit www.hawaii.edu/lyonarboretum/education/classes2 for more class details and to download the registration form.

Better Pictures With Your Digital Device Instructor: Lenny Morris

Professional photographer Lenny Morris will share the principles of taking better photos with your phone or tablet device. Learn how to access and use apps to crop and edit photos to add saturation, contrast and more. Class will practice using still life set-ups and take photos outdoors in the gardens. (TGCH Stepping Stone Class)

Friday, January 10 9:30-11:30 am \$15

Yoga In The Garden Instructor: Amanda Painter

Come refresh the mind and body with a beautiful hike through Lyon Arboretum followed by a yoga class in our open-air classroom. Explore the Arboretum trails and indulge the senses in glorious green hues, earthy rainforest smells, and raucous calls of cockatoos! Then unwind in an all levels Hatha yoga class to explore in our bodies the shapes we see outside. Amanda Painter is a trained Lyon Arboretum guide and Yoga Instructor at Open Space Yo-ga and Yoga Hawai`i. Meet at 12:30 in the classroom, bring a yoga mat. Hike begins at 12:45. Class meets on the second Saturday of each month. Sign up for one class or all 4. Class size is limited, so sign up early.

All classes: \$20 preregistered (\$25 on Saturday, if space available)

Yoga 1: Saturday, January 11 12:30-2:45 pm

Yoga 2: Saturday, February 8 12:30-2:45 pm

Yoga 3: Saturday, March 8 12:30-2:45 pm

Yoga 4: Saturday, April 12 12:30-2:45 pm

Papa Lā`au Lapa`au – Hawaiian Medicine Class Instructors: Emmalani Makepa-Foley

Lā`au Lapa`au or Hawaiian Medicine is a traditional practice of healing, incorporating Hawaiian herbs, spirituality and aloha. In this introductory class we will be learning about traditional Hawaiian and hānai medicinal herbs, plant identification, methods of preparation, and application. This class offers a foundational piece of this unique art as well as contemporary and complimentary approaches to healing.

Section 1: Wednesdays – January 15, 22, 29, & February 12, 19, 26 9:30-11:30 am \$60

Section 2: Saturdays: March 1, 8, 15, 29 12-2pm \$40

Section 2: Saturdays: March 1, 8, 15, 29 9:30-11:30 am \$60

Papa `ōlelo Hawai`i – Hawaiian Language Class Instructor: Emmalani Makepa-Foley

Want to learn the language of your island home? E `ōlelo Hawai`i kākou! Let's speak Hawaiian! This introductory course in Hawaiian language is taught by Emmalani Makepa-Foley, a Hawaiian Language/Hawaiian Studies UH-M graduate and Lyon education programs staff. This class offers a hands-on approach to learning `ōlelo Hawai`i (Hawaiian Language) bringing in `ike Hawai`i (Hawaiian knowledge) as well as the beautiful and culturally rich surroundings of Mānoa valley at the Lyon Arboretum. You do not want to miss this opportunity! E hele mai !!!

Section 1: Wednesdays: Jan. 15, 22, 29 & Feb. 12, 19, 26 1-3 pm \$60

Session 2: Wednesdays: April 2, 9, 23 & May 7, 14, 28 1-3 pm \$60

Spiral & Keyhole Gardens for Water Management Instructor: Diane Moss

Diane Moss from the Halawa Xeriscape Garden will give a power point presentation and lecture on Spiral and Keyhole Garden design and construction for the management and conservation of water. Diane will discuss differences, benefits, placement and possibilities for both types of gardens. (TGCH Stepping Stone Class)

Friday, January 17 9:30-11:30 am \$15

Watercolor Painting Instructors: Rebecca Snow

Capture the beauty of nature with the stunning translucency of watercolor. Maximum 10 students per session. Sign up for one or both classes.

Beginning Watercolor This class includes a supply introduction to watercolor painting, studio demos and painting time so you can practice and learn. The class ends with a short critique and you will walk away with strong foundational techniques of watercolor. Water-color paper, watercolors, brushes, backing board, containers, and paper towels will be supplied.

Tuesday, Jan. 21 and 28 9:30-11:30 am \$60

Intermediate Watercolor The three step process will unfold as you paint with critiques throughout the class sessions. This class is best for those wanting to further their watercolor skills. Bring your own supplies (Please provide your email address when registering to receive the supply list)

Saturday, Feb. 15 & 22 9:30-11:30 \$55

GUIDES CLASS TRAINING CLASS Instructor: Jill Laughlin

Join our elite garden guides group at Lyon, and help share your Aloha with garden visitors. Learn about the Arboretum and its collections, history and mission. This series of 5 classes is for those committed to becoming a garden guide at Lyon Arboretum. Classes will include both indoor and outdoor sessions. Classes cover plant conservation, Hawaiian natural history, Hawaiian ethnobotany, and the Arboretum's special gardens and collections. All participants will be expected to guide garden tours at the Lyon Arboretum after completion of the classes.

5 Wednesdays: 1/22, 1/29, 2/12, 2/19, & 2/26 9:30-11:30 am \$25 + \$10 supply fee

Backyard Floral Arrangements Instructors: Lisa Cavanah

Lisa will demonstrate and lead a hands-on workshop for floral arrangements with locally-gathered material. Bring your own clippers and if you wish, additional cuttings from your own yard. (TGCH Stepping Stone Class)

Friday, February 21 9:30-11:30 am \$15 + \$10 supply fee

Orchid Repotting & Wellness Clinic Instructor: Peter Neifert

Peter Neifert of Olomana Orchids will demonstrate the basics of orchid re-potting and will lead students in this hands-on repotting class. Participants may bring "ailing" orchids from home for Peter's expert advice. (TGCH Stepping Stone Class)

Friday, March 14 9:30-11:30 am \$15 + \$15 supply fee

Spring Nosegay Hawai'i Style Instructor: Ann Kadowaki

In this hands-on class, Ann Kadowaki of The Garden Club of Honolulu will demonstrate and lead the class in how to make nosegays (mini bouquets) using native Hawaiian plants. (TGCH Stepping Stone Class)

Friday, March 28 9:30-11:30 am \$15 + \$15 supply fee

Tree Pruning: The Art & Science Simplified Instructor: Abner Undan

Abner says that "...trees are my passion" and a "...panacea to mankind." Trained long ago by Dr Alex Shigo, Abner has been a recipient of the Excellence in Agriculture Award since 1998 and has maintained many treasured trees in Hawai'i, including trees at the National Memorial of the Pacific. Abner will demonstrate how to prune properly and why proper pruning is so important. (TGCH Stepping Stone Class)

Friday, April 25 9:30-11:30 am \$15

Twisted and Folded Indigo Shibori Instructors: Akemi Cohn

Continue your affair with indigo dyeing and learn new Shibori, twisted and folded resist methods. Visiting artist Akemi Cohn will teach the Japa-nese Nejri and Tajime techniques. Students will manipulate cotton, silk and linen around a small PVC plastic pipe and learn how to control the twisting to make a variety of resist patterns. Prerequisite: Participation in Indigo dyeing classes at TEMARI or Lyon Arboretum. Supply List to be sent upon registration – please provide your email address.

In partnership with TEMARI the Center for Asian and Pacific Arts.

Tuesday, April 29 9 am-Noon \$50 plus \$15 supply fee

Rain Gardens for Home Landscapes Instructor: Jolie Wanger

Learn how to build a rain garden and contribute to the sustainability of our islands. By installing a simple rain garden in your own yard you can help prevent storm water runoff from harming our ocean ecosystems, re-charge our aquifer and make your landscape more attractive and functional at the same time. In this morning workshop, Jolie will describe the benefits of creating a rain garden system, the design and installation process and which plants are most effective. Class will include hands-on experience in the garden with site analysis, percolation testing and design consideration. Preregistration required.

Saturday, May 17 9:30-11:30 am \$20

Wahine Tree Climbing Workshop Instructor: Jamilee Kempton

Want to learn how to climb trees? This 4-hour class will introduce the basics of tree climbing in a fun filled, low-pressure atmosphere. This is a hands-on workshop where participants will engage in all aspects of tree climbing: rope installation, tying appropriate knots, and entering the tree. No tree climbing experience necessary. Recommended attire: hiking shoes, work pants, and a long sleeved t-shirt. Please note that tree climbing does require some upper body strength. If you are active and enjoy exercising, this is an awesome opportunity for you to climb some of the most beautiful trees on O`ahu. Limited to a maximum of 10 climbers. Continuing education units for this workshop are available for ISA Certified Arborists/Tree Workers).

Saturday, March 15 9 am - 1 pm \$75

Classes noted as a Stepping Stones Class are jointly sponsored by the Lyon Arboretum and The Garden Club of Honolulu.

Children's Classes

Papa 'Ike Hawai'i - Hawaiian Culture Instructor: Emmalani Makepa-Foley

Aloha mai kākou! This fun class will focus on aspects of Hawaiian culture while incorporating values, mele (songs and chants), Native Hawaiian plants, land tenure, crafts, games, and 'ōlelo Hawai'i (Hawaiian lan-guage). Children will learn about Native Hawaiian plants and their traditional uses including their cultural significance and medicinal uses. Hawaiian language and culture come to life in Mānoa valley. For keiki in (suggested) Gr 4-6. Choice of 2 series of 6 classes:

Session 1: Saturdays: January 18, 25, Feb. 1, 8, 15, 22 12 to 2 pm \$100.

Session 2: Saturdays: April 5, 12, 19, May 3, 24, 31 12 to 2 pm \$100.

Outside Art! In partnership with The Honolulu Museum of Art

Instructors: Allison Swett & Emmalani Makepa-Foley

Art and nature converge in this new class at Lyon Arboretum. Budding Andrew Goldsworthys can hike in the rainforest gardens, make art from natural materials, and learn about Hawaiian culture. Instruction emphasizes the observation and use of plants from the gardens, and contemporary art practices. Projects include landscape installations and art inspired by Hawaiian traditions. See supply list for proper attire and required liability waiver. Grades 4-6. 11 sessions.

Saturdays: Feb 1-Apr 19 (no class 3/22 or 4/26) 9-11 am \$185

Children's Drawing and Printmaking Workshop Instructor: Bob Grossman

Create a masterpiece of how YOU see Mānoa Valley. With generous funding from Mālama Mānoa, Lyon Arboretum and Afterschool Art have partnered to provide this workshop for young artists ages 9-17. This class will include instruction in sketching, drawing outdoors, and printmaking. Registration is required. Limit 8 students per class.

Wednesday, February 5 2-5 pm Free!

Ho`okele: Navigating the Forest

Instructors: Richard Sears, Emmalani Makepa-Foley & Jill Laughlin

Create a masterpiece of how YOU see Mānoa Valley. With generous funding from Mālama Mānoa, Lyon Arboretum and Afterschool Art have partnered to provide this workshop for young artists ages 9-17. This class will include instruction in sketching, drawing outdoors, and printmaking. Registration is required. Limit 8 students per class.

March 17 - 21 8:30 am-2:30 pm \$200

**Visit www.hawaii.edu/lyonarboretum/education/classes2
for more class details and to download the registration form.**

Lei Workshops for Children Instructors: Happy & Kats Tamanaha

These workshops are intended to share traditional Hawaiian lei-making techniques with children, and to encourage and inspire a new generation of lei makers. The classes are only for children currently in grade 3–12. Space is limited, so please register to assure your participation. CLASS SESSIONS LAST ONE HOUR, 2 SESSIONS PER DAY, sign up for one session per day. \$5. per family per session.

Keiki LEI KUI Workshop: The stringing method: bring colorful flowers you can use for stringing lei.

Saturday, March 1 9:30-10:30 OR 10:30-11:30 \$5

Keiki Lei (Multi Styles) Workshop: Participants may choose 2 of 5 different lei techniques offered: Kui, Haku, Humupapa, Kipu`u or Wili. Some materials will be provided, but please bring flowers or foliage from home if you have some to share and to make your own lei.

Saturday, March 29 9:30-10:30 OR 10:30-11:30 \$5

Mahalo for your support!

We acknowledge, with gratitude, the following donations: Dudley Hulbert with Trees of the Tropics and John Perry with Oahu Tree Works – mulch; Roberta Aoyama – Surinam cherries for jams & jellies; Susan Spangler – lilikoi for jams & jellies; Dr. Vernon Jim – plastic pots for greenhouse; Auntie Ming – snacks; Jessie Hashimoto – garden hoses; Meng Elliott – Snacks for staff & volunteers and umbrellas for visitor use.

Mahalo to Steve Connolly and John Perry for volunteering their time to trim back and remove Albizia tree's over our trails and to Dick Carlson for keeping our forest trails accessible and clearly marked.

Save the trees!

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

Sign up for the email newsletter by November 30 to be eligible for a \$10 gift certificate redeemable at the Arboretum gift shop.

Congratulations to Anju Warnock, our Fall/Winter 2013 drawing prize winner!

Good luck next time!



Wish List

School field trip subsidies (\$100 ea.), Rite-in-the-Rain ink-jet paper (\$86), keiki rain ponchos (\$5 ea.), HD laminator (\$250), laptop computer (\$1,000), Silky short hand saw (\$65), rain jackets (\$40 ea.), sickles (\$3 ea), two 8' fiberglass step ladders (\$140 ea.), fruit for Jams & Jellies: lilikoi, mulberry, calamondin, kumquat, surinam and strawberry guava; 50'x5/8" heavy duty garden hose; pruning saw & shears (\$70); tarp (\$10). Mahalo!

We appreciate your donation

Name: _____ Phone: () _____ — _____

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Payment method: _____ check (payable to Lyon Arboretum/UHF, Attn account #12043404)

Or Credit Card: _____ (Visa) _____ (Master Card) _____ (American Express)

Account #: _____ Exp date: _____/_____ Security code: _____

Signature: _____

Please send to: Lyon Arboretum / UHF, Appeal code: 09LY2, 3860 Mānoa Rd, Honolulu, HI 96822



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Arboretum Hours:

Monday-Friday, 8am-4pm
 Saturday, 9am-3pm Closed
 on Sundays & Holidays

\$10 Docent led tours available
 at 10am, Monday-Saturday.
 Please call 988-0461
 for reservations.

Arboretum Staff

Director:

Dr. Christopher Dunn

Administration: Destin Shigano,
 Derek Higashi

Education & Volunteer Programs:

Jill Laughlin, Richard Sears,
 Emmalani Makepa-Foley

Plant Collections & Grounds:

Hajime Fujisaki, Jamilee Kempton,
 Poco Compehos

Ethnobotany: Līloa Dunn

Micropropagation Lab: Nellie

Sugii, Cindy Yamamoto, Doug
 Okamoto, Peter Wiggin, Bernice
 Fielding

Seed Lab: Tim Kroessig

Horticulture: Liz Huppman,
 Carol Nakamura

Botanist: Karen Shigematsu

Facilities / Maintenance:

Ken Seamon, Clancy Ako



Haku Lei

Prices start at \$25.
 Call 988-0461 or
 stop by the gift
 shop to place an
 order.

November Holiday Plant & Craft Sale

Thanks to all who made our annual November Holiday Plant and Craft sale a great success! Thirteen different plant nurseries participated. A wide variety of native and ornamental plants were available for purchase as well as one of a kind holiday wreaths, and jams and jellies made by our dedicated volunteers. **Our next sale will be Saturday May 10, 2014 at the Arboretum from 9 am to 2 pm** and next year's Holiday Plant and Craft Sale will sale be November 22.