

Ka‘Elele

The Messenger

The Journal of Bernice Pauahi
Bishop Museum | Fall 2016



UPCOMING EVENTS

November

17 | THURSDAY
Traditions of the Pacific Lecture:
Makahiki: Its Images and Protocol,
with Umi Kai, 6:00 - 7:30 p.m.
(Hawaiian Hall). General: \$10,
Members: FREE. Reservations
required (808) 847-8280 or
BishopMuseum.org/Special-Events

24 | THURSDAY
Thanksgiving Day
Bishop Museum closed.



On Exhibit



Journeys: The Heritage of the
Northwestern Hawaiian Islands
August 13, 2016 — January 29, 2017
J. M. Long Gallery

The Northwestern Hawaiian
Islands extend thousands of miles
west of the main Hawaiian Islands.
This part of the archipelago
provides a vital connection to
the cultural and natural history
of Hawai'i. Experience the stark
natural beauty and rich history
of the islands with multimedia
exhibits and hands-on interactives
including an interactive map, a
Battle of Midway flight simulator,
and a virtual reef dive, along with
dozens of rarely seen objects from
our Cultural and Natural History
collections.

December

8 | THURSDAY
Traditions of the Pacific Lecture:
Heiau of Moloka'i — The Maps of
John F. G. Stokes, with Dr. Mara
Mulrooney, 6:00 - 7:30 p.m.
(Atherton Hālau). FREE admission
(with RSVP) at BishopMuseum.org/
Special-Events

18 | SUNDAY
Princess Bernice Pauahi Bishop's
Birthday Observed, 12:00 noon
(Hawaiian Hall). Special program in
honor of our namesake. Kama'āina
and military with valid ID: FREE
admission all day. BishopMuseum.
org/Special-Events

19 | MONDAY
Princess Bernice Pauahi Bishop's
Birthday

25 | SUNDAY
Christmas Day
Bishop Museum closed.



Dora & Diego—Let's Explore!
October 8, 2016 — January 8, 2017
Castle Memorial Building

Get ready to explore with Dora
and Diego at this new exhibit. It
features the beloved characters
from Nickelodeon's hit preschool
series *Dora the Explorer* and *Go,
Diego, Go!*, along with their friends
Boots, Map, Backpack, Isa, Tico, and
of course Swiper. Produced by The
Children's Museum of Indianapolis
in cooperation with Nickelodeon, the
Dora & Diego—Let's Explore! exhibit is
presented by the WellPoint Affiliate
Foundation.

January 2017

25 | WEDNESDAY
Charles Reed Bishop's Birthday
29 | THURSDAY
Founder's Day, 11:00 a.m.
(Hawaiian Hall). Special program to
honor Charles Reed Bishop, who
founded the Museum in honor of
his beloved wife, Princess Bernice
Pauahi Bishop. BishopMuseum.org/
Special-Events

February 2017

19 | SATURDAY
Hulia 'Ano: Inspired Patterns
Opens (J. M. Long Gallery).



Hulia 'Ano: Inspired Patterns
February 19 — July 23, 2017
J. M. Long Gallery

This exhibit artistically presents
patterns, forms, and shapes found
in nature and echoed in Hawaiian
creative vision. View beautiful
cultural objects thought-provokingly
paired with items from our Natural
Science collections. See designs
drawn upon gourds, stamped
onto kapa, woven into mats,
pricked into skin, and fashioned
into featherwork. Create your own
designs on a gourd or learn to make
string figure shapes in interactive
audio-visual activities. And enjoy
contemporary
cultural art pieces inspired by Bishop
Museum collections and fashioned
by Native Hawaiian artists.

J. Watumull Planetarium

LASER LIGHT SHOWS
October 8, 2016 through
January 8, 2017



Daily Matinee: Legends of
the Night Sky: Perseus &
Andromeda
Daily, November 1-24, 2016
12:00 noon & 2:30 p.m.
Fee with Museum admission:
General (ages 4+): \$5
Members (ages 4+): \$3

Evening Laser Light Shows
(Various)
Fridays & Saturdays,
November 1-24, 2016:
• 7:00 p.m. Perseus & Andromeda
• 8:00 p.m. Laser Zeppelin
(no shows 11/5 & 11/19)
• 9:00 p.m. Pink Floyd Dark Side
of the Moon
General: \$10 | Ages 4-12: \$7
Members (ages 4+): \$5

STARS & GUITARS
EVENING SHOW
Explore Hawai'i's night sky while
listening to live classical guitar.
Saturdays at 8:00 p.m.
November 5 & 19
December 3 & 17
General: \$10 | Ages 4-12: \$7
Members (ages 4+): \$5

Planetarium lobby doors open
at 7:15 p.m. Please arrive by 7:45
p.m. No late seating. Show length
is one hour. Telescope viewing
offered after the program,
pending weather conditions.

Advance ticket purchases are
required due to limited space.

Purchase tickets online at
BishopMuseum.org/Planetarium

Dear Friends of Bishop Museum:



Linda Lee K. (Cissy) Farm

Aloha Kākou,
As the Museum's interim president and CEO, I'm
incredibly grateful and humbled to have the privilege of
serving the legacy of Charles Reed and Bernice Pauahi
Bishop. In recent months, I have discovered that Bishop
Museum is even more wonderful than I imagined from
my previous vantage point as a donor and member of
this institution. I have been particularly moved by the
tremendous amount of energy and affection that is
poured daily into our collections, research, and programs by our dedicated staff
and volunteers. And even more amazing, Bishop Museum's wealth of content,
knowledge, and sharing grows every single day.

It's been a whirlwind few months, punctuated by marvelous moments.
Foremost, I'd like to acknowledge and thank the many partners and donors who
joined together to so generously support the 18th Annual Bernice Pauahi Bishop
Dinner on August 13th, when over \$576,000 was raised in support of the collections.
In September, Bishop Museum's renowned research program was well represented
at the IUCN's World Conservation Congress by a presentation on the role of
museums in conservation by our malacologist, Dr. Norine Yeung. Dr. Richard Pyle's
discovery of two new species of fish in the Northwestern Hawaiian Islands appeared
in the news, and an exhibition about Hawaiian forest birds was featured in the J. M.
Long Gallery. Here at the Museum, our beloved Dr. Yosihiko Sinoto, Kenneth Pike
Emory Distinguished Chair Emeritus of Anthropology, was honored on his 92nd
birthday with a special dedication and surprise visit by a delegation of distinguished
guests representing Tahiti, including Mr. Edouard Fritch, the president of French
Polynesia. Finally, the summer season brought promising increases in visitation,
audience engagement, and admissions revenue. In fact, Bishop Museum was
recently ranked the number one thing to do on O'ahu by USA Today!

Because a museum's work is never done, this issue of *Ka 'Elele* offers a behind-
the-scenes look at some of the Museum's important projects. All of these projects—
cultural exhibits, new scientific discoveries, digitizing of collections, and our school
visit program—have one thing in common. They require your most generous
support at this very moment to thrive and grow. Please consider a tax-deductible gift
to the Annual Fund today. Your gift will be put to work immediately to sustain and
enliven vital collections and programs. Mahalo for your generosity and confidence
as we journey forward together.

Me ka ha'aha'a,
Linda Lee K. Farm
Linda Lee K. (Cissy) Farm
Interim President and Chief Executive Officer



ABOVE | Interim President and CEO
Cissy Farm with Board Chairman
Allison Holt Gendreau at the
opening of the *Journeys* exhibit.

BELOW | Hula dancers from Ka
Leo O Laka I Ka Hikina O Ka Lā
perform for dinner guests at the
18th Annual Bernice Pauahi Bishop
Museum Dinner.





nickelodeon

DORA & DIEGO

LET'S EXPLORE!

Get ready to explore at Bishop Museum in the new exhibit *Dora & Diego—Let's Explore!* The exhibit features beloved characters Dora and Diego from Nickelodeon's preschool television series *Dora the Explorer* and *Go, Diego, Go!* Dora and Diego are joined by their friends Boots the monkey, Map, Backpack, Isa the iguana, and Tico the squirrel. Of course, they'll also need to be on the lookout for Swiper the fox.

This interactive traveling exhibit, created by The Children's Museum of Indianapolis in partnership with Nickelodeon, will open on October 8, 2016.

Dora the Explorer follows the adventures of

seven-year-old Dora and her friends in an imaginative, tropical world. *Go, Diego, Go!* stars Dora's eight-year-old cousin Diego, an animal rescuer who protects animals and their environments. The exhibit based on the popular television shows gives children and their families an opportunity to venture into the worlds of Dora and Diego and engage in problem-solving through active play.

Young children play along as they join in adventures and learn how to solve problems, share, be a good friend, and care for animals and the environment.

OCTOBER 8, 2016
through
JANUARY 8, 2017
CASTLE MEMORIAL BUILDING



Favorite friends and places from episodes of *Dora the Explorer* and *Go, Diego, Go!* are incorporated into the exhibit including:

- The Purple Planet: A Purple Planet home invites young visitors to climb inside and slide down the surface of the Purple Planet.
- Rocket Ship: Aboard the Rocket Ship, preschoolers are encouraged to put on a spacesuit, pilot the ship, and test their memory with images of colorful planets as they help Dora and Boots take their friends from outerspace home.

• Constellations: Children and their families are asked to help identify the patterns made out of stars by inserting star shapes into a constellation wall, lighting up a particular constellation.

• Isa's Flowery Garden: Preschool visitors may tour Isa's Garden to pick flowers, interact with bird, butterfly, and insect puppets, and pretend-fly with toddler-sized bird and butterfly wings.

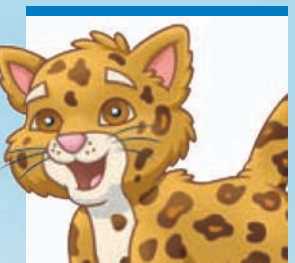
• Tico's Tree and Car: Dora is a good friend to Tico the squirrel and young visitors are invited to be a good friend to Tico, too. Tico needs help picking nuts from the tree for a family picnic.

• Pirate Ship: In the Pirate Ship, preschoolers can dress like a pirate and join the Pirate Piggies crew to pretend-play by sailing the ship and divvying up the treasure.

• Animal Rescue Center: Young children can practice helping and caring for rainforest animals in Diego's Animal Rescue Center.

• Rainforest Maze: Preschoolers can explore a rainforest to locate rainforest animals.

Be sure to bring your little explorer to play along with Dora, Diego, and their friends so they can say "We did it!" too.



PRESENTED BY

Anthem
Foundation

CHILDREN'S
MUSEUM
INDIANAPOLIS

SUPPORTED LOCALLY BY



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HULIA 'ANO

INSPIRED PATTERNS

FEBRUARY 19 THROUGH JULY 23, 2017
J. M. LONG GALLERY IN THE HAWAIIAN HALL COMPLEX

INSET | Gourd with a hā'uke'uke (helmet sea urchin) pattern.

FACING PAGE, TOP | Nicole dela Fuente, conservation assistant, and Kamalu du Preez, Ethnology assistant collection manager, drape a piece of kapa to evaluate how it will be displayed in the upcoming exhibit.

FACING PAGE, BOTTOM LEFT | Marques Marzan, collection resource specialist, measures a makaloa mat for display.

FACING PAGE, MIDDLE RIGHT | A close-up of the underside of a helmet sea urchin next to a hā'uke'uke motif.

FACING PAGE, BOTTOM RIGHT | A hat made of 'iwa'iwa (maidenhair fern) stems show a kike'eke'eke (zig-zag) pattern in the brim. This pattern is also seen stamped onto kapa, woven into makaloa mats, and printed on the surface of gourds. Photos by Kelli Soileau.

For Bishop Museum's exhibits and collections staff, the process of creating an in-house exhibit is both challenging and rewarding. Through each phase of design—from concept to curation, drafting to display—a new exhibit offers opportunities to engage with the Museum's rich and varied collections with fresh perspective.

Museum staff are currently involved in an ambitious exhibit design project inspired by the Museum's Ethnology collection and complemented by its Natural Science collections. Bishop Museum's upcoming original exhibit *Hulia 'Ano: Inspired Patterns*, now in the final design phase, will be an artistic presentation of objects from the Museum's collections that explores Hawaiian cultural patterns, forms, and shapes and their reflections in nature.

To present this story, the *Hulia 'Ano* exhibit team reviewed collections items and natural science specimens across every Museum department. The team ultimately selected a variety of objects to display, some with geometric pāwehe motifs, others with design elements inspired by the natural world. Items from the Ethnology collection include bold patterned kapa, fine makaloa sedge mats, printed gourds, a mahiole (royal feathered helmet), and 'ohe kāpala (bamboo stamps). Natural Sciences collections include herbarium specimens, land and sea shells, and examples from the zoological collection.

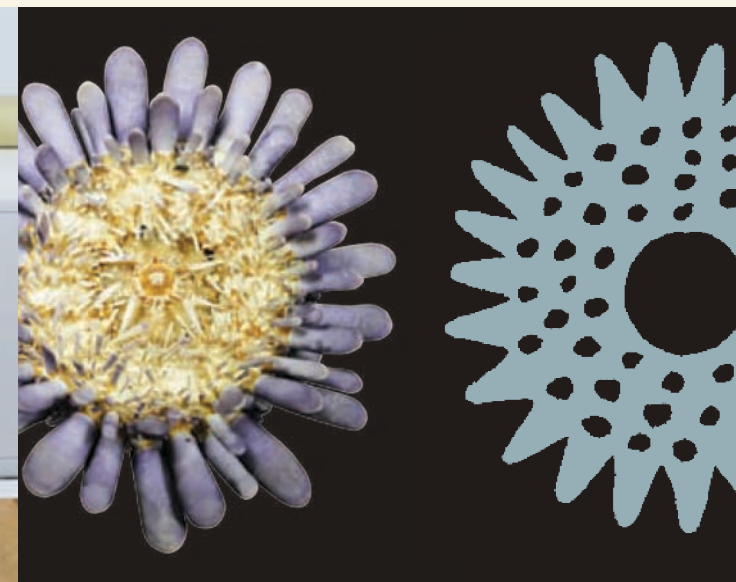
Each item alone is visually stunning. When



grouped together, the objects are intended to provoke contemplation and creative thought.

The exhibit will also feature new works by contemporary artists who continue to draw inspiration from Bishop Museum's collections. These include woven art by Lufi Luteru, knotted fashion by Taupori Tangaro, featherwork by Kawika Lum, kapa by Verna Takashima, and visual art by Matt and Roxanne Ortiz.

Inspired visitors will be able to create their own designs at interactive stations, while audiovisual stations extend pattern exploration into activities like printing on gourds or creating hei (Hawaiian string figures).





Igniting a Desire for Knowledge

by Sophia Rodriguez

HOMEFRONT HAWAII: PEARL HARBOR ATTACK 75TH ANNIVERSARY

DECEMBER 1, 2016 THROUGH MARCH 1, 2017
PORTICO HALL IN THE HAWAIIAN HALL COMPLEX

ABOVE LEFT | Barbed wire fronts the Royal Hawaiian Hotel while it was being used for R&R by the US Navy, 1945. The hotel was taken over soon after the attack, and wasn't returned to its owners until after the end of the war. National Archives photo.

ABOVE RIGHT | Honolulu civilians watch what they think is a make-believe air battle on December 7, 1941. Similar US military maneuvers had been going on for years by then; most people assumed this was more of the same. National Archives photo.

BELOW | The devastation at Pearl Harbor after the attack: the USS *Oglala* capsized on the right, with the USS *Shaw* and the USS *Maryland* burning in the background. Private collection photo.

In commemoration of the 75th anniversary of the bombing of Pearl Harbor, Bishop Museum is honored to exhibit rarely-seen images from our Archives as well as items loaned by private collectors. The *Homefront Hawaii* exhibit focuses on the dramatic effects on the citizens of Hawaii in the immediate aftermath of the attack on Pearl Harbor.

There were more than 100 civilian casualties during the attack on Pearl Harbor as many residents were going about their usual Sunday activities. Many initially watched, thinking it was a make-believe air battle. For the next three years, martial law was imposed on Hawaii, with citizens subjected to strict curfews—stricter still for those of Japanese ancestry—as the United States military either took over or influenced all territorial government functions.

In this exhibit, you will see the stark aftereffects of the war in photographs of explosion-damaged Honolulu streets, a fortified Waikiki beach crisscrossed with barbed wire, bomb shelters at 'Iolani Palace, and actual shrapnel from the attack.

Homefront Hawaii opens on Thursday, December 1, 2016, in conjunction with commemoration ceremonies taking place across the island, and will be on display through March 1, 2017.

This exhibit is generously supported by the Hawaii Visitors and Convention Bureau.



"Seeing children become passionate about learning is the most rewarding part of my job," says Hadley Anderson, senior science educator at Bishop Museum. School field trips are more than just a day away from class; they encourage students to put what they've learned to the test and provide learning opportunities beyond the classroom.

At Bishop Museum, the goal for Hadley and senior culture educator Lokomaika'i Lipscomb is to instill the keiki with an enriched learning experience, a sense of belonging, and true connection to Hawaii nei. "Our hopes are that Bishop Museum will leave a positive impact on students that makes them enthusiastic about museums and learning in general," says Lokomaika'i. "If they can also connect to and develop an appreciation for this incredibly special place that is Hawaii, then I think we've done our job."

Roughly 25,000 students walk through the doors of Hawaiian Hall each year and over the course of 40 years, Bishop Museum's education program has sought to be the spark that ignites a desire for knowledge for future generations. Education programs are geared to pre-kindergarten all the way up through twelfth grade. "We strongly believe we have a responsibility as educators to perpetuate a culture of learning for all ages," says Lokomaika'i. The Museum's education program also sees groups from the YMCA, Boys & Girls Club of Hawaii, church groups, Boy Scouts and Girl Scouts, Hawaiian language immersion schools, charter schools, Kamehameha Schools, and a good representation of the public schools.

The Museum offers a wide range of unique programs in science and culture, planetarium shows,

along with the Best of Honolulu award-winning Museum After Dark sleepover program. A fun night for keiki to engage in educational games, treasure hunts, planetarium shows, as well as guided tours through Hawaiian Hall.

Hitching a Ride to Paradise, a favorite program among third and fifth graders, teaches students how plants and animals populated the Hawaiian Islands by sea currents, wind, and birds. "Kids love that one—it's super interactive," says Hadley. "It's a mystery to a lot of kids and it allows them to do a hands-on experiment using the three Ws: wind, waves, and wings, and they get to test all the different ways in which living things arrived in the Hawaiian Islands."

Many of the programs offered are created to incorporate curriculum criteria and STEM (science, technology, engineering, and math) educational components. The Eyes on Island Earth program offers a visual lesson on the different environments of our planet. Seeing images of Earth taken from space via NASA satellites educates children about the various environmental systems of Earth.

Programs such as these deepen a child's understanding of and relationship with the rich culture, history, and environment of Hawaii, allowing them to engage the world and the future.

"Never underestimate a child's ability to learn," says Hadley. "To see that I can inspire and excite something in them, that is the most impactful part of being an educator and that's why we do what we do."

Sophia Rodriguez is member services coordinator at Bishop Museum.

ABOVE LEFT | Hadley Anderson, senior science educator, with Alby the albatross, who stars in the *Tales of Trash* program that teaches children about marine debris.

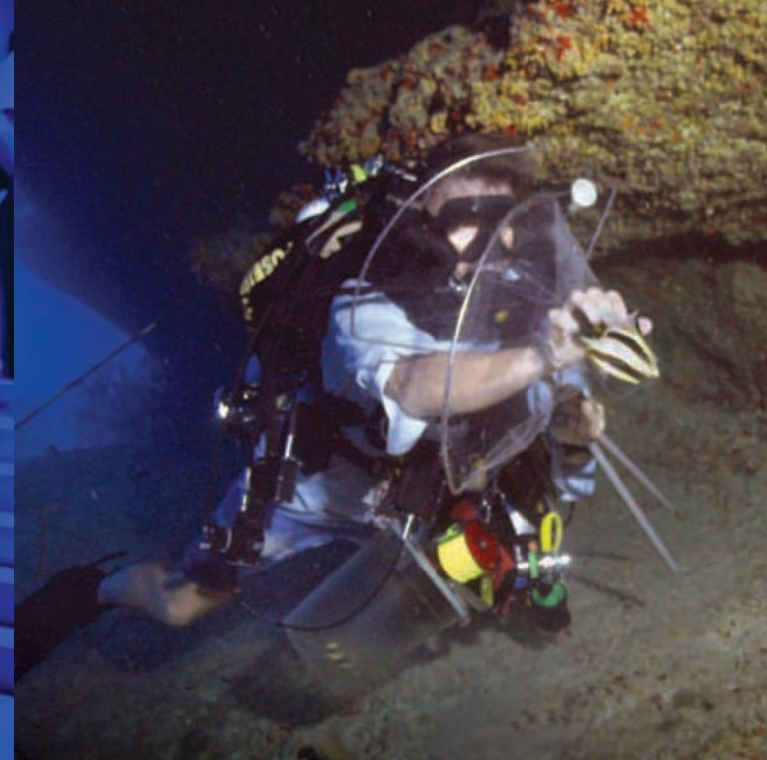
BELOW LEFT | Lokomaika'i Lipscomb, senior culture educator, greets students at the front of Hawaiian Hall before they start their education tour.

BELOW RIGHT | Kapalikū Maile, culture educator, talks to keiki about how creatures big and small travel in the ocean in the Holo Kai education program.

Teachers: utilize our educational online resources or book a school visit at BishopMuseum.org today!

Please make a donation and support Bishop Museum's educational programs at BishopMuseum.org





New Species of Hawaiian Butterflyfish Discovered

ABOVE LEFT | Pete Basabe's Butterflyfish (*Prognathodes basabei* Pyle and Kosaki 2016) at a depth of 180 feet off Pearl and Hermes Atoll, Northwestern Hawaiian Islands. Photo by Greg McFall / NOAA.

ABOVE RIGHT | Dr. Richard L. Pyle, Bishop Museum associate zoologist, and Dr. Randall Kosaki, NOAA deputy superintendent, Papahānaumokuākea Marine National Monument, hold an image of Pete Basabe's Butterflyfish next to the newly installed salt water tank in the Science Adventure Center. Photo by Kelli Soileau.

OPPOSITE LEFT | Bishop Museum researcher Dr. Richard L. Pyle captures the Holotype specimen of Pete Basabe's Butterflyfish, at a depth of 200 feet off Pearl and Hermes Atoll in the Northwestern Hawaiian Islands. Photo by Robert K. Whitton / Technical Innovations.

In the remote Northwestern Hawaiian Islands, scientists have found a new species of butterflyfish in the deep reefs of the Papahānaumokuākea Marine National Monument: *Prognathodes basabei*, Pete Basabe's Butterflyfish.

"Butterflyfish are the glamour fish of the coral reefs," said Dr. Richard Pyle, Bishop Museum associate zoologist and first author on the published description of the new species. "They are colorful, beautiful, and have been very well-studied worldwide. Thus, finding a new species of butterflyfish is a rare event."

Coral reefs at depths of 150 to 500 feet, also known as mesophotic coral ecosystems or "the coral-reef twilight zone," are among the least explored of all marine ecosystems. At depths deeper than most scuba divers can venture, and shallower than feasible for most submersible-based exploration, these reefs represent a new frontier for coral reef research. "Discoveries such as this underscore how poorly explored our deep coral reefs are," said Randall Kosaki, NOAA scientist and co-author of the study. "Virtually every deep dive we do is on a reef that no human being has ever laid eyes on."

This species was first seen in video taken from manned submersibles over twenty years ago, at depths as great as 600 feet. At the time, Pyle and University of Hawai'i marine biologist E. H. "Deetsie" Chave recognized this as a potential new species. However, because of the extreme depths, it was many years before technical divers using advanced electronic closed-circuit rebreathers were able to collect and preserve specimens in a way that would allow proper scientific documentation.

Recently, the new butterflyfish has been encountered regularly on deep exploratory dives down to 330 feet on NOAA expeditions to Papahānaumokuākea. The new fish is named after Peter Basabe, a veteran local diver from Kona who, over the years, has assisted with the collection of reef fishes for numerous scientific studies and educational displays. Basabe, an experienced deep diver himself, provided support for the dives that produced the first specimen of the fish that now bears his name.

In addition to the specimens used for the published study, live specimens of the new butterflyfish were collected on a NOAA expedition to Papahānaumokuākea in June of this year.

The live fish are now on public display at Bishop Museum in Honolulu and at the Mokupāpapa Discovery Center in Hilo. An additional specimen is on display in the *Deep Reef* exhibit at the Waikiki Aquarium.

"It's very unusual for a brand-new species to be on display in a public aquarium," said Pyle. "Scientific priority usually results in the first few specimens of a rare species going to museum research collections."

At the urging of the Native Hawaiian community and scientists and bolstered with a proposal submitted by US Senator Brian Schatz (D-Hawai'i), President Obama announced an expansion of the Northwestern Hawaiian Islands Marine National Monument, also known as Papahānaumokuākea, in August. At 582,578 square miles, Papahānaumokuākea is now the largest marine protected area on Earth.

"This new discovery illustrates the conservation value of very large marine protected areas," said Kosaki. "Not only do they protect the biodiversity that we already know about, they also protect the diversity we've yet to discover. And there's a lot left to discover."

Support Bishop Museum's research program, make a donation online at BishopMuseum.org.

Experience the underwater "Twilight Zone" through the ichthyology blog at BishopMuseum.org/blog/ichthyology.

A Monumental Fish

As a wonderful tie-in to the recent expansion of the Papahānaumokuākea Marine National Monument by President Barack H. Obama, we are excited to share the announcement of a new species of fish to be named later this year in his honor.

This new species (pictured above) was first discovered at a depth of 300 feet off Kure Atoll in June 2016, during a NOAA research cruise. Bishop Museum's Dr. Richard Pyle, along with Brian Greene, an affiliate of Bishop Museum, and chief scientist Dr. Randall Kosaki of NOAA, made the discovery. The fish is the first member of the genus *Tosanoides* found outside the western Pacific. The new species is known to live only within the Papahānaumokuākea Marine National Monument.

"Every other fish we've documented up there also occurs in the main Hawaiian Islands outside the Monument," Pyle says.

The male's distinctive dorsal fin coloration, a circular red spot ringed with blue, hastened the team's decision to honor President Obama.

"It's very reminiscent of Obama's campaign logo," Pyle says. "How appropriate that a fish we were thinking about naming after him anyway—just to say thank you for expanding the national monument—happens to have a feature that ties it to the president."

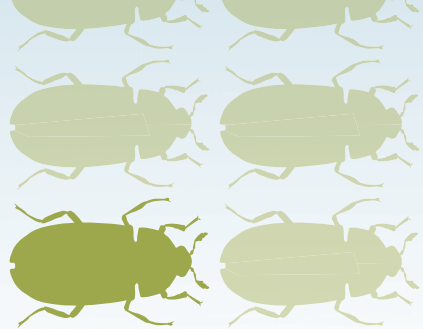
Later this year, Dr. Pyle and his colleagues will publish a formal description of this fish and assign it a scientific name in honor of President Obama.



PAPAHĀNAUMOKUĀKEA
Marine National Monument



CAN I BORROW THAT BEETLE?



by Jim Boone

ABOVE | Ground beetles of the Carabidae family, ready to be sorted and identified then cataloged as part of the Entomology collection.

ABOVE RIGHT | Jim Boone, lead collections manager, holding a drawer of nymphalid butterflies in the genus *Ideopsis*, sometimes known as Glassy Tiger Butterflies. These specimens were collected in Southeast Asia.

BELOW RIGHT | This rare shell lei in the Malacology collection is made up of several endemic Hawaiian land snails of the *Carelia* genus. These snails, only found on Kauai and Ni'ihau, are now extinct.

Just as a public library loans out books, Bishop Museum's Natural Sciences collections loan out biological specimens. Researchers from around the world use the Museum's comprehensive collections to study the ancestral relationships between different species and classify and name different specimens found primarily in the Pacific Basin, especially Hawai'i.

The results of these studies are used to monitor environmental changes and develop conservation and management plans that protect biodiversity, especially of our Hawaiian native species.

The Natural Sciences collections are accessible and actively used by Museum staff as well as external scientists, students, conservationists, and land managers worldwide through visitations and loans. Hundreds of researchers visit the Museum each year. As an alternative, others who do not have the time or means to travel to the Museum, borrow from the collections. Each individual collection department facilitates their own requests and loans.

The Entomology collection, for example, houses over 14 million specimens of insects and their relatives and loans out over 5,000 specimens each year to researchers around the world. When feasible, images are sent electronically instead of mailing fragile and historical specimens.

The Museum Entomology staff identifies collection specimens when possible. In many groups of insects, it is difficult to identify the species of specimens without the assistance of an outside specialist. For this reason, many borrowed

specimens are unidentified when they are shipped but return with proper scientific names. Some turn out to be new species in our collections, while others are identified as completely new to science.

We recently processed a loan return that included two dozen new species of ground beetles collected in Hawai'i. One of the specimens was collected from Lahaina in 1904 and had been stored safely in our collection for over 100 years before it was determined to be a brand-new species.

Stories like this are repeated every year throughout museums around the world. The average time between collection and identification is about 20 years, but in some cases is much longer because there are not enough experts to examine all the material preserved in the world's collections in a timely manner.

Dozens of new species are added to our various Natural Sciences collections each year and are cited in numerous scientific research articles.

Science continues to grow at Bishop Museum, due in large part to our reputation as an international research institution and to dedicated staff supporting researchers with access to our extensive collections of biological specimens. Who knows what we'll find next?

Jim Boone is lead collection manager and senior Entomology collection manager at Bishop Museum. Activities in Jim's office include research into current trends in collection management and advocating for the collections through digital, visual, and social media.



ABOVE | *Cyanea koolauensis*, known as Hāhā, occurs only in the Ko'olau mountain range on O'ahu. This native plant was federally listed as endangered in 1996. As of 2011, only an estimated 124 plants were known to be in the wild. Aside from borrowing a specimen, researchers can access the Global Plants Journal Storage (JSTOR) online database for information.

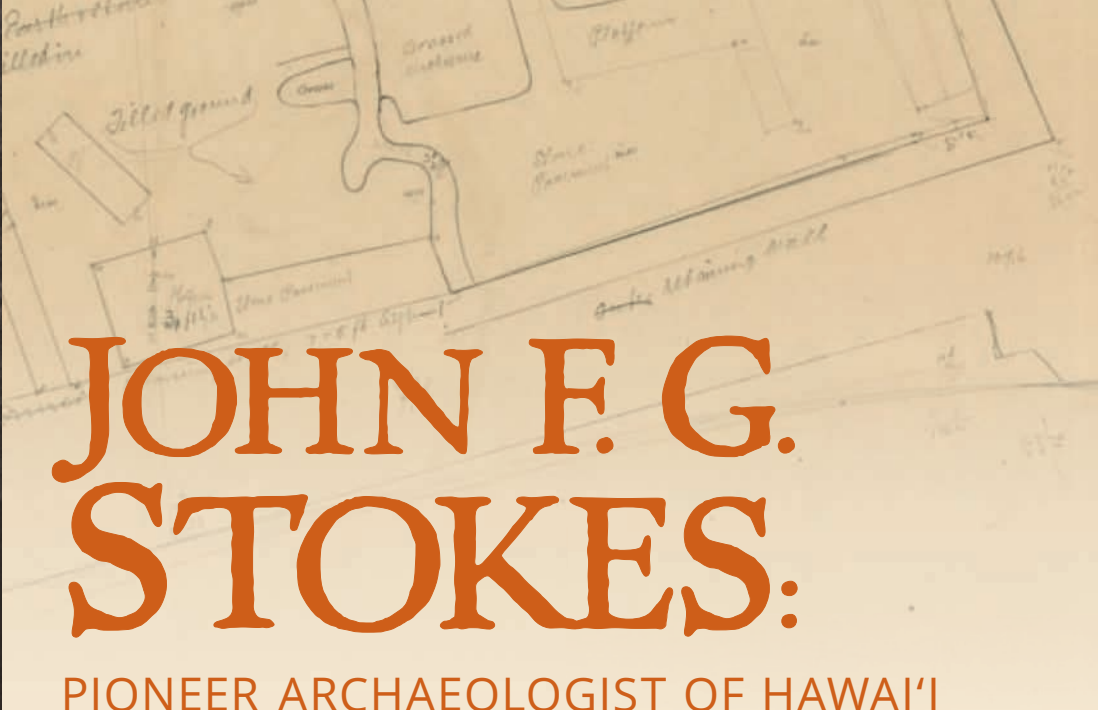


Book a Tour and Visit our Collections!

Learn about the diversity of plants and animals found in Hawai'i and the Pacific Islands directly from the Natural Sciences staff as they guide you through a rare look at the hidden treasures found in our collections. Choose the collection you want to tour. We have over 22 million specimens across six biological collections: Botany (plants), Entomology (insects), Ichthyology (fishes), Invertebrate Zoology (marine invertebrates), Malacology (mollusks), and Vertebrate Zoology (mammals, birds, amphibians, and reptiles).

Non-Member.....\$150 per person
Kama'āina.....\$99 per person
Member.....\$75 per person

Support the Natural Sciences Collection and make a gift contribution at BishopMuseum.org.



JOHN F. G. STOKES:

PIONEER ARCHAEOLOGIST OF HAWAI'I

by Patrick V. Kirch

ABOVE BACKGROUND | Map drawing of Pāku'i Heiau, Molokai by J. F. G. Stokes, 1909.

TOP OPPOSITE | Stokes described this image as "Heiau of Mana at Halawa, Molokai." Photo by J. F. G. Stokes, 1909.

BOTTOM OPPOSITE | Stokes described this image as "Heiau used as a pound at Ohia, Molokai." Photo by J. F. G. Stokes, 1909.

Traditions of the Pacific: Heiau of Moloka'i — The Maps of John F. G. Stokes with Dr. Mara Mulrooney, Thursday, December 8, from 6:00 - 7:30 p.m. in Atherton Hālau. Free with RSVP at BishopMuseum.org/Special-Events.

At the beginning of the twentieth century, the field of archaeology was just beginning to emerge from its antiquarian roots as a modern scientific discipline. In Egypt and Mesopotamia, pioneers such as Sir Flinders Petrie and James Henry Breasted were applying new methods of excavation, surveying, and photographic documentation to record the vestiges of those ancient civilizations. Halfway around the globe, at Honolulu's Bernice Pauahi Bishop Museum, another pioneer was at work documenting the archaeological record of ancient Hawai'i. John F. G. Stokes, Bishop Museum's curator of Ethnology, deserves credit as Hawai'i's first archaeologist.

An Australian, Stokes was hired in 1899 at the age of 24, by Bishop Museum's first director, William T. Brigham, to catalog the Museum's library and to help arrange the collections. During his first year, Brigham and Stokes camped out within the walled enclosure of Waha'ula Heiau in the Puna district of Hawai'i. This large luakini, or temple of human sacrifice dedicated to Kū, was said to have been built by Pā'ao, the great voyaging priest from Tahiti. Based on their careful measurements and notes, Stokes created the scale model of the temple that still stands in Bishop Museum's Hawaiian Hall.

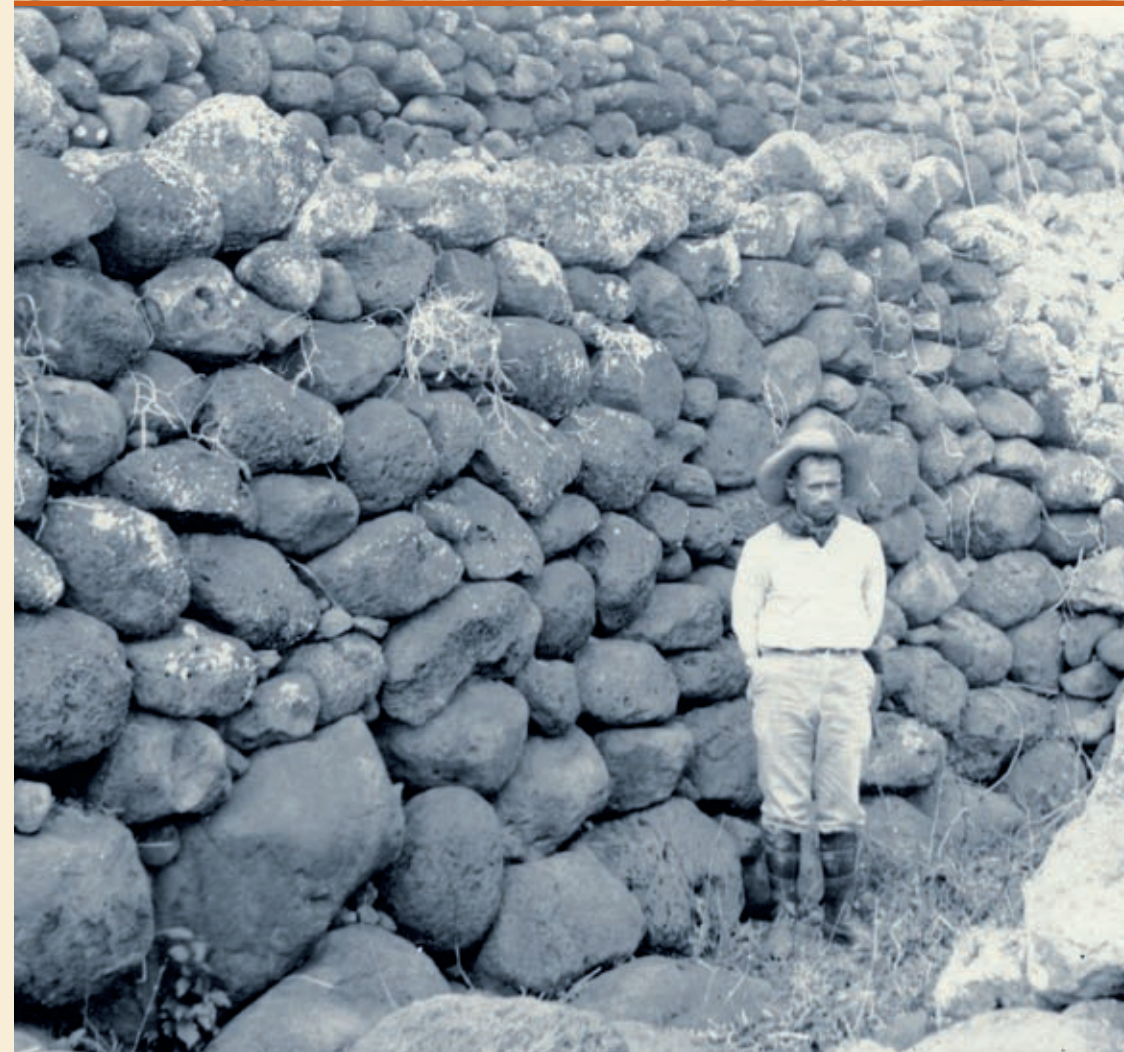
Brigham was convinced from his reading of Hawaiian mo'olelo or traditions that Pā'ao's introduction of Kū worship and human sacrifice had led to a radical change in the nature of Hawaiian heiau. He thought that prior to Pā'ao, the temples were open platforms but that these were later changed to walled enclosures, hiding the sacred rites from the prying eyes of the commoners. To test this theory, Brigham assigned Stokes the task of mapping all of the known heiau of Hawai'i Island.

From August 1906 to January 1907, Stokes, assisted by his wife Margaret, mapped more than 100 heiau. In 1909, he continued the work on Moloka'i, where every known heiau and fishing shrine were recorded in detail. Stokes' precise maps were accompanied by many photos taken with a large view camera using glass plate negatives.

Stokes' pioneering archaeological work extended beyond mapping heiau. In 1913, he made the first systematic excavation in Hawai'i, at the Kamōhio Bay fishing shrine on Kaho'olawe. Digging by stratigraphic layers, Stokes found bone fishhooks and coral files along with quantities of organic remains such as fishbones and even "awa chewings." Stokes was way ahead of his time, for not until the early 1950s did Kenneth Emory again start excavating Hawaiian sites. Stokes' research also extended to the Austral Islands of southeastern Polynesia, where he spent 1920 —1922 as a member of Bishop Museum's Bayard Dominick Expedition.

Unfortunately, Stokes was something of a perfectionist and slow to publish his results. Herbert Gregory, who succeeded Brigham as Bishop Museum's director, had little patience for what he regarded as procrastination, eventually relieving Stokes of his appointment at the end of 1929. Although much of his work was not published in his lifetime, Stokes' legacy of detailed maps, photographs, and field notes remains a priceless and irreplaceable source of information and insight into ancient Hawaiian history.

Dr. Patrick V. Kirch is Chancellor's Professor Emeritus, University of California, Berkeley. He is a Bishop Museum research affiliate in the Cultural Resources Division.



RESEARCH



ONLINE MAP DATABASE

With the generous support of the Hawai'i Council for the Humanities, the Library & Archives and Anthropology departments have been working on building a database of Stokes' unpublished maps of the heiau of Moloka'i. We will launch the publicly-accessible database on December 8, 2016, as part of a special Traditions of the Pacific lecture. The database features over two dozen maps, as well as information from associated field notes and photographs. These collections are the focus of ongoing collections-based research by research affiliate Patrick V. Kirch and colleagues at the Museum.

The Stokes Heiau of Moloka'i Map Database can be accessed at data.BishopMuseum.org/Stokes

Make a gift online in support of the Ho'omaka Hou Research Initiative at BishopMuseum.org.

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Dr. Yosihiko Sinoto, Kenneth Pike Emory Distinguished Chair Emeritus of Anthropology, with Edouard Fritch, president of French Polynesia at a celebration of his 92nd birthday. Photo by Sonny Lapenia.

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Dr. Mara Mulrooney, looking at the wish tags on the vintage glass floats in the Wish Tent at this year's Bernice Pauahi Bishop Dinner. Photo by Travis Okimoto.



Dr. Norine Yueng, malacology researcher talks to dinner guests about the malacology collection in the Deep Dive After Party at the 18th Annual Bernice Pauahi Bishop Dinner. Photo by Travis Okimoto.



Kumu Hula Kaleo Trinidad and dancers from Ka Leo O Laka I Ka Hikina O Ka Lā at the 18th Annual Bernice Pauahi Bishop Dinner. Photo by Travis Okimoto.

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Ka 'Elele is a publication of:
Bernice Pauahi Bishop Museum
1525 Bernice Street
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