



MONTEREY BAY AQUARIUM®

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Jellies: Living Art Press Kit

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MONTEREY BAY AQUARIUM

NEWS RELEASE

FOR IMMEDIATE RELEASE

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‘JELLIES: LIVING ART’ EXHIBIT DAZZLES VISITORS WITH GRACEFUL ANIMALS, FINE ART, POETRY, VIDEO

Visitors to the Monterey Bay Aquarium can groove to the beat and beauty of *Jellies: Living Art* for a few more years – the aquarium has extended its award-winning special exhibition for a third time due to popular demand. Visitors will now be able to enjoy this stunning special exhibition into 2008.

Jellies, which has been honored by the American Association of Museums as well as the American Zoo and Aquarium Association, has captivated millions of visitors since it opened in 2002 celebrating the beauty of living jellies.

Aquarium visitors praise the unique blend of stunning live exhibits and intriguing art, which includes a large installation by renowned glass artist Dale Chihuly. One highlight is a walk-through “tunnel” that surrounds visitors with hundreds of swarming moon jellies and hypnotic music.

Live animals include the rare flower hat jelly and blue jelly, as well as such other species as the upside-down jelly, spotted jelly and black sea nettle. A “display of the month” showcases a different local species each month, and on occasion other rare species are put on exhibit, such as the stunning spotted comb jelly.

Jellies celebrates the aesthetic experience of these ethereal animals in unprecedented style. Visitors encounter jellies never seen before in North America as they take a sensory-rich tour through galleries that explore the beauty and fascination of these delicate animals, and the ways in which jellies and sea life have inspired artistic imagination.

Living jellies are on display in a setting reminiscent more of a museum gallery than a traditional aquarium. Beside and around the large-scale live displays are art and installations by such renowned figures as Dale Chihuly, David Hockney, Ernst Haeckel, Roger Brown, Cork Marcheschi and others.

Recently added artwork includes *Rising Plume*, acrylic on canvas, by James Wille Faust, and *Batllo Series, La Luz V* and *Batllo Series, La Luz #1*, both pieces acrylic on canvas, by Dan Ramirez.

The walls are painted with poetry and quotes from figures as varied as Pablo Neruda, Jimi Hendrix and Rachel Carson. Videos explore the grace and symmetry of jellies’ bodies and movements

- more -

through images that range from paintings by Michelangelo, Mondrian and Van Gogh to scenes of whirling dervishes, ballet dancers and '60s-style kaleidoscopic effects.

Each of the four galleries in *Jellies* are themed—shape and size, rhythm and movement and color and pattern—and feature different artwork and stunning live displays. *Jellies* breaks from the aquarium's tradition of displaying animals in natural-looking habitats. Instead, the jellies are showcased in ways that emphasize their natural beauty, such as using colored glass beads, black backgrounds and dramatic lighting in the exhibits.

Jellies also raises awareness of jellies' important role in marine ecosystems, and the ways in which their fate is closely linked to the health of the oceans themselves.

“When people can see for themselves the beauty and diversity of ocean life, they come away with a better understanding of the importance of healthy oceans,” said aquarium Executive Director Julie Packard. “It's our hope that jellies will continue to inspire in our visitors a commitment to ocean conservation.”

The aquarium first introduced visitors to the beauty of jellies on a large scale with *Planet of the Jellies*, a special exhibition that ran from March 1992 to September 1993. It remains one of the most popular in aquarium history. Exhibit design innovations and new husbandry techniques developed for the exhibit launched the jellies exhibit boom in the United States. They also provided the basis for the aquarium's award-winning permanent jellies exhibits that opened in 1996 as part of the Outer Bay wing.

Ever since *Planet of the Jellies*, jellies have been one of visitors' favorite animals, challenging even sea otters and penguins for the top spot. Visitors' responses to the jellies—their descriptions of them as “glowing light,” “graceful” and “living art”—were the inspiration for the new exhibition.

Jellies: Living Art is included with aquarium admission of \$24.95 adult; \$22.95 senior (65+) and student (full-time college, with I.D.); and \$15.95 children 3-12 and the disabled. (**Rates effective January 1, 2007.**) Children under 3 are admitted free of charge. Discounted tickets for members of the military and their families can be purchased in advance at many California and Nevada installations.

Advance tickets are recommended during summer and holiday periods. They're available from the aquarium at 1-800-756-3737 (outside California call 831-648-4888) online at www.montereybayaquarium.org or through all Northern California Tickets.com outlets (408-998-2277; outside California call 1-800-225-2277).

The aquarium is open daily from 10 a.m. to 6 p.m. and from 9:30 a.m. to 6 p.m. during summer. It is closed Christmas Day. For more details, in English or Spanish, call (831) 648-4888, or visit www.montereybayaquarium.org.

The mission of the Monterey Bay Aquarium is to inspire conservation of the oceans.



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May 21, 2003

‘JELLIES: LIVING ART’ EXHIBIT, ‘SEAFOOD WATCH’ WEB SITE WIN MAJOR AWARDS AT AMERICAN ASSOCIATION OF MUSEUMS

Jellies: Living Art, an innovative exhibition that mingles living jellyfish displays with fine art installations to celebrate the aesthetic beauty of jellies, has won the highest exhibit award presented through the American Association of Museums (AAM).

The aquarium’s web site was also honored during the AAM annual conference in Portland, Ore., earning a silver award for “Seafood Watch Online,” which helps consumers make seafood choices that protect ocean wildlife. The awards were announced earlier this week.

Jellies: Living Art received the Excellence in Exhibition award presented by the AAM’s Curators Committee, Committee on Audience Research and Evaluation, and the National Association of Museum Exhibition. “Jellies” competed with 75 entries from the nation’s leading art, natural history, children’s, science and history museums. Nearly 3,000 museums are members of AAM.

The Children’s Discovery Museum of San Jose was also an award-winner for its “Alice’s Wonderland” exhibition, which uses the *Alice in Wonderland* stories to inspire exploration, curiosity and adventures involving animal adaptations, volume, scale and measurement, and the physics of motion.

Award guidelines note that, “each year there are a few exhibitions that achieve excellence by surpassing standards of practice in scholarship interpretation, and/or design, or by introducing innovations that stretch the boundaries of accepted practice. Such exhibitions are highly distinguished and serve as models of the capacity of museum exhibitions to provide transforming experiences visitors so often attribute to them.”

In the case of *Jellies: Living Art* the judges concluded that, “The integration of the experience is so complete, that it does everything we want an exhibition to do.”

In *Jellies: Living Art*, visitors encounter delicate living jellies never seen before in North America as they take a sensory-rich tour through galleries that explore the beauty and fascination of these gelatinous drifters and the ways in which sea life has inspired artistic imagination.

Living jellies—including the rare flower hat jelly and blue jelly—are on display in a setting reminiscent more of a museum gallery than a traditional aquarium. Beside and around the large-scale live

displays are art and installations by such figures as Dale Chihuly, David Hockney, Ernst Haeckel and Cork Marcheschi. The galleries include a walk-through swarm of living jellies, music, poetry and light.

The exhibit continues into 2008. Since *Jellies* opened, the aquarium has extended its run three times due to popular demand.

It was the second Excellence in Exhibition award for the Monterey Bay Aquarium. It also won in 1989 for *Mexico's Secret Sea*, a special exhibition of marine life from Mexico's Sea of Cortez. The exhibit linked the modern exhibit to the 1940s expedition John Steinbeck and Ed Ricketts made to collect marine specimens in the Sea of Cortez.

"Seafood Watch Online" (<http://www.mbayaq.org/cr/seafoodwatch.asp>) was honored by the AAM's Media and Technology committee with its silver Muse Award in the Science category. The judges commented that, "This was an awesome example of what a quality web page should look like, including instinctive navigation, well-written text and beautiful graphics.... A website you can actually USE – now, there's a wacky idea!"

The "Seafood Watch" pages include a pocket seafood guide that can be printed out and carried to the restaurant or market, background information on popular seafood species, and information on fishing practices and fisheries conservation issues.

More information about the Excellence in Exhibitions competition is available at <http://www.n-a-m-e.org/standards.html>. Information about the Muse award is available at http://www.mediaandtechnology.org/muse/2003muse_science.html. Background on *Jellies: Living Art* and "Seafood Watch" are available at www.montereybayaquarium.org.

The mission of the Monterey Bay Aquarium is to inspire conservation of the oceans.

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Editors: Digital images and B-roll of "Jellies: Living Art" are available, as is a screen capture of the "Seafood Watch Online" home page.

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March 7, 2003

AQUARISTS BLEND ART AND SCIENCE TO SOLVE THE CHALLENGES OF JELLY BREEDING, CARE

Aquarists working with the live species in *Jellies: Living Art* are responsible for everything from creating the perfect conditions in which jellies will reproduce to “wrangling” the delicate animals in and out of their displays.

They still manage to find new challenges, even with over a dozen years of jelly culture and display under their belts. In November 2002, they put on exhibit several spotted comb jellies (*Leucothea pulchra*) for the first time anywhere; aquarists also put these gorgeous jellies on exhibit again in 2005. While the aquarium has displayed comb jellies in the past, the spotted comb jelly is so fragile that the slightest touch can cause it to break apart.

They’ve also cultured another species (the cross jelly, *Mitrocoma cellularia*) for the first time in the world, and another (the blue jelly, *Catostylus mosaicus*) for the first time in North America. Aquarists also coaxed a third species (the flower hat jelly, *Olindias* sp.) to a reproductive stage never before achieved by an aquarium team.

“The biggest challenges we face are displaying animals we’ve never worked with,” said Senior Aquarist Bruce Upton.

With the spotted comb jellies, Upton’s team had some information to work with because they’d kept the jellies behind the scenes in the past. As with other species, divers collect spotted comb jellies using plastic bags to keep them suspended in water. After careful transport back to the aquarium, the jellies are placed in a slightly modified display where water direction and flow has been adjusted for the spotted comb jelly’s specific needs.

The daily care and feeding routines in *Jellies: Living Art* closely match those in the aquarium’s permanent jelly exhibits. Aquarists lightly scrub inside the displays every day to remove smudges and algae. Leftover food is removed with a siphon hose, which aquarists are careful to keep away from the fragile jellies. About every three weeks, aquarists drain some displays and disinfect them with a light bleach solution. Aquarists feed the jellies every day, including those behind the scenes. The staple diet for

most jellies—especially young ones not yet ready for display—is nauplii (enriched brine shrimp larvae). They also feed juvenile and adult jellies krill, fish and fish eggs.

“We feed them as varied a diet as possible,” Upton said. “It’s better nutritionally, and mimics likely food sources the jellies would find in the wild.”

Some species, such as the spotted jelly (*Mastigias papua*) and the upside down jelly (*Cassiopea xamachana*), host symbiotic algae, called zooxanthellae, in their tissues, which also provide some nutrition by producing food through photosynthesis.

The biggest challenge—and reward—of being an aquarist on the jelly team is getting a species to reproduce outside the wild. In the late 1980s and early 1990s, Monterey Bay Aquarium staff pioneered the cultivation and display of several Pacific jellies, including the sea nettle (*Chrysaora fuscescens*), crystal jelly (*Aequorea victoria*), purple-striped jelly (*Chrysaora colorata*) and moon jelly (*Aurelia aurita*).

Before that success—which was years in the making—creating large-scale exhibits of living jellies was thought impossible. By experimenting with different diets, lighting and display designs, aquarists solved the challenge of getting jellies to reproduce consistently. The process is complex because jellies metamorphose through several different body types during their lifetime.

Most jelly eggs are fertilized by chance. Males broadcast sperm into the water and females release eggs in the same manner, although the female moon jelly holds the fertilized eggs under her swimming bell. Jelly larvae, or planula, hatch out of the eggs and drift, searching for a solid surface to attach to. That can be more difficult than it sounds for species that live in the open ocean, miles from land or the sea floor.

Once attached to something solid, the larvae grow into polyps—small, anemone-like creatures that can clone themselves. When the polyps mature they begin a process called strobilation, in which the polyps generate many flat segments, sort of like a stack of pancakes. The segments eventually break free and swim away as ephyrae, or baby jellies, which grow into adults and start the whole cycle anew.

For the first time in the world, Aquarist Chad Widmer successfully cultured the cross jelly (*Mitrocoma cellularia*) after a year of trial and error. Finding appropriate water temperatures was critical for all stages of development, Widmer said. For example, the planula required a warmer temperature to settle, but the opposite was true for the jelly-producing polyps to form.

And in a first for an aquarium in the continental United States, Upton and his team have successfully cultured the blue jelly (*Catostylus mosaicus*) after Upton surmised that nutrition was a key factor. A gut-content analysis from a scientist in Australia led Upton to begin feeding blue jellies blended salmon and larger food particles, which they readily ate.

The new diet kept them alive longer than had previously been possible, and they grew into sexually mature adults. But it wasn’t until Upton tried dropping the water temperature on the planula that he succeeded in getting them to strobilate and pop off baby jellies. Today, all the blue jellies on display in *Jellies: Living Art* are cultured at the aquarium.

Most of the species in *Jellies: Living Art* are easily cultured, Upton said. But the reproductive secrets of one species in particular—the flower hat jelly (*Olindias* sp.)—remain elusive. Upton, who recently worked with colleagues at the Aquamarine Fukushima aquarium in Japan, has cultured flower hat jellies through the polyp stage—a first in the world. “No one has ever even seen this stage of this species before,” he said.

Upton is confident that he and the jelly team—especially by sharing information with their Japanese colleagues—will eventually be successful and, for the first time, culture the spectacular flower hat jelly.

“We are all working toward a common goal, which is using what we have learned at Monterey Bay Aquarium over the past 10 years to do new things,” he said. “It is a challenge, but to be able to see something no one has seen before is fascinating to me as a biologist.”

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October 20, 2001

AQUARIUM EXHIBIT STAFF FACES NEW CHALLENGES WITH ‘JELLIES: LIVING ART’

Do artwork and water mix? They do when they're part of *Jellies: Living Art*, a new special exhibition at Monterey Bay Aquarium. Integrating live displays of exotic and domestic jellies with works of art in a variety of media is a first for the aquarium. So are some of the challenges faced in creating an exhibit that serves the needs both of animals and art.

“Each special exhibition is distinctive,” said Exhibit Production Manager Jeff Doyle. “But this one has taken us to another level. It’s been very different—and very fun—to work on.”

One of the first challenges her team faced was working with the artists and their particular needs. Dale Chihuly’s installation is made of expensive and fragile glass. Cork Marcheschi’s installation is also made of glass, but each piece also contains neon, xenon, argon or krypton gas. Lanny Bergner’s metal and wire sculpture must be hung from the ceiling—but how?

Then there’s all that saltwater—nearly 9,000 gallons of it—in the live exhibits. The artwork, however, will be kept a comfortable distance from those exhibits, Doyle said. The closest the two elements get are with two oil paintings by Dan Ramirez, which will be hung outside the 5,000-gallon moon jelly swarm exhibit.

“There’s a thick wall between the display and the paintings,” Doyle said. “We don’t want to put artwork in any risky situation.”

The curatorial responsibility in *Jellies: Living Art* is a challenge as well. The artwork is in a variety of media—glass, oil, photographs, prints and lithographs. Some, like the scientific glass jelly models by Rudolf and Leopold Blaschka, are over a century old and quite fragile.

The aquarium has featured special exhibitions ever since it opened on October 20, 1984. The first 14 consisted of art and natural history displays, but no live animals. Topics included photos of aquarium construction and marine mammals and other marine life, mermaids, a Star Trek movie, and beach toys.

Special exhibitions with live animals, which now number 14 including “Jellies: Living Art,” began in 1988 with “Mexico’s Secret Sea.” Other topics over the years have included sharks, jellies,

deadly sea creatures, sustainable seafood and a behind-the-scenes look at what it takes to operate the aquarium.

In addition to *Jellies: Living Art*, the aquarium will open another special exhibition on March 31, 2007 called *Wild About Otters*, featuring freshwater otters and several live species of tropical freshwater fishes, reptiles and plants. *Wild About Otters* is the first special exhibition at the aquarium to feature mammals other than sea otters and the first to include large-scale live exhibits of freshwater species.

For more information about and images and video clips of species in *Jellies: Living Art*, visit www.montereybayaquarium.org.

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Jellies: Living Art **The Animals**

Jellies: Living Art features nine domestic and exotic species plus a changing “Display of the Month” exhibit. Up to 34 species may eventually be displayed—some for brief periods of time.

Shape and Size gallery

Northern sea nettle

Chrysaora melanster

This jelly periodically occurs in large numbers, causing damage to power plants and fishing nets. Scientists are unsure whether or not human activity, such as overfishing, contributes to these “blooms.” The bell of this species can reach up to 24 inches in diameter. It lives in coastal waters off Japan, Kamchatka, the Aleutian Islands and the Bering Sea, in the latter often in large numbers that might be the result of overfishing.

Alternate species

Black sea nettle

Chrysaora achlyos

Scientists only named this jelly in 1997, although pictures of this species were taken as early as 1926. Much about its behavior, distribution and life cycle remain unknown. It’s considered a giant jelly, since its fleshy, purple-to-black bell can reach over three feet in diameter and its lacy, pinkish oral arms can reach nearly 20 feet in length and its tentacles nearly 100 feet. It probably lives in deeper, calmer waters, but has appeared in large blooms in coastal areas off Southern California, most recently in 1999.

Rhythm and Movement gallery

Blue jelly

Catostylus mosaicus

This jelly—minus its tentacles and dried and salted—is considered a delicacy in Asian markets. It is found in off the east and north coasts of Australia, where researchers and policymakers are still studying the environmental impact of this relatively new commercial fishery. The bell of a blue jelly, which can reach a diameter of nearly 12 inches, pulses in staccato-like bursts.

Alternate species

Mediterranean jelly

Cotylorhiza tuberculata

This striking jelly has a bell that looks like a bull’s-eye and frilly oral arms with spots of showy violet. It is found along the Mediterranean coast, especially in the Adriatic Sea, during spring, summer and sometimes fall months, but disappears in the winter. Its bell can grow to about 13 inches in diameter. It is host to symbiotic algae that gives its bell a brownish-orange color, and some small fish find protection in its dense oral arms.

Alternate species

Lion’s mane jelly

Cyanea capillata

This colorful jelly has a very toxic sting, but reports of human fatalities are few. It is considered a giant jelly, as its bell can reach about eight feet in diameter and its tentacles over 100 feet long.

That's longer than a 90-foot blue whale (the largest mammal on Earth) but smaller than the 130 feet a giant siphonophore—a jelly relative—can reach in size. This jelly is found in the North Pacific Ocean, although warmer waters sometimes bring it as far south as California. The largest specimens are found in Arctic waters.

Box jelly

Tripedalia cystophora

This is a tiny species of box jelly—so named because of the square shape of its bell—that only grows to just over one-quarter of an inch long. Unlike most jellies, box jellies have very well-developed eyes. They are found in the tropical coastal mangrove forests of Central America. The survival of this species could be in jeopardy, however, as mangrove forests worldwide are threatened by development.

Moon jelly

Aurelia spp.

This jelly is named after its moon-like bell, which can grow up to 15 inches in diameter and is usually a translucent milky white, although it may be tinted pink or lavender. Instead of long, trailing tentacles, these jellies have a short, fine fringe that helps funnel food—often trapped by mucus on the bell—into the mouth and the four, clearly visible stomach pouches. Moon jellies are common in Monterey Bay and along the California coast, and in waters off the East Coast, Europe, Japan and in the Gulf of Mexico.

Rhythm and Movement—A Closer Look gallery

Upside down jelly

Cassiopea xamachana

In its infancy, this jelly flips upside down and moves to the bottom, where it spends most of its time. It has thick oral arms (or mouth arms) instead of tentacles. As with some anemones, upside down jellies host a type of microscopic algae, zooxanthellae, that gives them a brownish tint and produces food by photosynthesis. This species lives in shallow lagoons and mangrove forests—both threatened ecosystems—in the Indo-Pacific, the Caribbean and Hawaii.

Display of the Month

The species in this exhibit will change monthly, depending upon availability. Up to 16 species may eventually be featured over the course of the exhibition, including those listed below.

Comb jelly

Beroë spp.

Unlike their cousins, comb jellies lack nematocysts or stinging cells. Instead, most rely on oral lobes that capture prey—often other comb jellies. These jellies lack a definite bell, so they propel themselves horizontally using eight comb rows. Each comb contains several thousand hair-like cilia, and each row can have dozens of combs. When illuminated, this movement produces rainbow patterns. Comb jellies are common in Monterey Bay and along the West Coast as well as in most marine habitats around the world.

Cross jelly

Mitrocoma cellularia

This jelly is commonly seen in Monterey Bay during spring and summer, sometimes in large groups. It lives in Pacific nearshore waters from Alaska south to Central California. It is transparent except for four white canals on its bell that form an obvious “X” pattern. The lip of the bell, which can grow to just under four inches wide, is rimmed with hundreds of fine white

tentacles. Recent studies suggest that cross jellies can “smell” food by sensing chemicals in the water that indicate prey.

Giant bell jelly

Scrippsia pacifica

This jelly is so named because its transparent bell can grow to nearly four inches tall. Inside the large bell is a frilly, stalk-like structure containing tubular gonads. It has hundreds of white tentacles, with red ocelli, or eyespots, at the base of the smaller tentacles. It lives in deeper waters of the Pacific Ocean from Baja California to northern California.

Salp

Thalia democratica

This small jelly (about two inches long) is shaped and propels itself somewhat like a rocket ship. When small, they form long chains of up to a hundred individuals. But as they grow, wave action often breaks apart the chains; larger salps are found swimming individually. Swarms of these animals can cover hundreds of square miles. This species' body length can increase up to 20 percent per hour. It is abundant off central and southern California, and is found in waters throughout the world.

Narcomedusa

Solmaris sp.

This type of jelly is distinguished from other jellies by its 12-to-36 tentacles, which protrude from the upper surface of its thick, lens-shaped bell rather than trailing from the bottom of the animal. The clear bell is usually scalloped, and its stomach visible as more of a ring around the bell rather than a pouch inside. These are generally tiny jellies, with a bell diameter of less than an inch.

Color and Pattern gallery

Spotted jelly

Mastigias papua

This species is also known as a “lagoon jelly” because it lives in bays, harbors and lagoons in the South Pacific. Their sting is considered very mild. Spotted jellies travel upward during the day to absorb sunlight, then travel back down again at night. They have symbiotic algae, zooxanthellae, living within their tissue. This species has a high, rounded bell that can reach about six inches in diameter and is covered with white spots. They also have four frilly “mouth arms” and longer, club-shaped structures hanging beneath whose purpose is unknown.

Flower hat jelly

Olindias sp.

This rare jelly is found only in waters off southern Japan, Brazil and Argentina at certain times of the year. It has brilliant, multi-colored tentacles coming out of its translucent, pinstriped bell, which can grow to just under six inches in diameter in the Japanese species and just under four inches in diameter in the South American species. It also has other tentacles trailing under its bell that it can quickly coil and uncoil. It is semi-benthic (living at the bottom).

Alternate species

Northern sea nettle

Chrysaora melanster

This jelly periodically occurs in large numbers, causing damage to power plants and fishing nets. Scientists are unsure whether or not human activity, such as overfishing, contributes to these “blooms.” The bell of this species can reach up to 24 inches in diameter. It lives in coastal waters

off Japan, Kamchatka, the Aleutian Islands and the Bering Sea, in the latter often in large numbers that might be the result of overfishing.

Cross jelly

Mitrocoma cellularia

This jelly is commonly seen in Monterey Bay during spring and summer, sometimes in large groups. It lives in nearshore waters of the Pacific Ocean from Alaska south to Central California. It is transparent except for four white canals on its bell that form an obvious “X” pattern. The lip of the bell, which can grow to just under four inches wide, is rimmed with hundreds of fine white tentacles. Recent studies suggest that cross jellies can “smell” food by sensing chemicals in the water that indicate prey.

Alternate species

Bell Jelly

Polyorchis sp.

This jelly species has a translucent bell and a clapper-shaped mouth stalk. It also has 100 or more wispy tentacles, and red ocelli, or eyespots, which are sensitive to light. Its bell grows to just under two and a half inches in diameter. Bell jellies are found in the nearshore waters of bays and harbors all along the Pacific Coast. It spends about half its time near the seafloor, where it can feed on small benthic (bottom-dwelling) creatures. Its population is dwindling, possibly from the effects of dredging, pollution and collection for medical research in neurobiology.

Alternate species

Crystal jelly

Aequorea sp.

This jelly is one of the more popular species on display in aquariums throughout the world. Its transparent bell can reach nearly 10 inches in diameter, although those found in Monterey Bay rarely exceed three inches. The species *Aequorea victoria* produces green florescent proteins that scientists use to trace the effects of some drugs in the body without using surgery. This species is common in coastal areas of the Pacific Ocean, mostly in spring through fall.

Spotted comb jelly

Leucothea pulchra

This large comb jelly, usually covered in small brownish-orange spots, can reach nine and three-quarters inches long. It swims horizontally, its large oral lobes—which can be as long as its body—open to catch prey. This jelly can fold each lobe into a tube when it finds something to eat. The action brings the prey to the oral tentacles, then to the jelly’s mouth. It is found in the Pacific Ocean from California’s Central Coast south to the Sea of Cortez.

Alternate species

Comb jelly

Mnemiopsis sp.

The comb jelly gets its name from eight, comb-like structures along its body used for propulsion. When in motion, then hair-like cilia in the comb rows shimmer when illuminated. Comb jellies are found in both nearshore and open waters, often near the surface, from Florida to the West Indies. A ship’s ballast water introduced these jellies into the Black Sea about two decades ago. Now large comb jelly blooms eat the plankton that used to be food for anchovies; the fishery is in trouble as a result.

Jellies: Living Art **The Artists**

Jellies: Living Art is a departure from past special exhibitions at the Monterey Bay Aquarium. It interprets not only the natural history of marine life but will reflect on the aesthetic significance of the jellies it features. Artworks and installations inspired by jellies and the marine environment are an integral part of the exhibition.

Highlights of the artists and their works:

Installation inspired by the marine environment **Dale Chihuly**

Dale Chihuly occupies a unique place in the history of contemporary art. His work is immensely popular with the general public, and museum curators have acclaimed its brilliance, quality and inventiveness. He works in glass, a material more commonly associated with decorative arts or crafts. Chihuly is credited with taking glass from craft to art. He's found ways of creating huge environments and theatrical happenings by stretching this material in new and unique ways. For the past 30 years he's worked with teams of collaborators—artists and apprentice glass blowers—creating large-scale glass installations that stimulate and surprise. The result: installations that are enveloping, all encompassing and thoroughly engaging—a world of pure sensuous and optical delight.

Chihuly's large installations begin with a single glass form blown and manipulated with various tools until it conforms to the shape he has in mind. Then another is blown; gradually the undulating models build up—becoming the building blocks for immense assemblages of sinuous glass. The installation for *Jellies: Living Art* was made of many individual pieces. These pieces, layered together, fill a large case at the entrance to the exhibit—immediately immersing visitors and cueing them to the different or unexpected nature of this exhibit.

At the core of Chihuly's imagery are obvious references to nature and to natural processes in life. Marine scientist and explorer Sylvia Earle wrote of Chihuly's work: "The *Seaforms* and the beauty and spirit reflected in each glowing rendition inspire those who see them to value and care for the living sea."

Lithographic Water made of lines, crayon and two blue washes without green wash **Lithograph by David Hockney ©David Hockney/Tylergraphics Ltd.**

David Hockney, born July 9, 1937 in Bradford, Yorkshire, England, is a painter, draftsman, printmaker, photographer and stage designer. While still a student at the Royal College of Art, in London he gained instant, international success. He is an extraordinarily talented artist whose colorful lifestyle and vibrant personality contributed to his sudden and enormous fame.

He first visited the United States in 1961, and returned in 1964-67 to teach at the universities of Iowa, Colorado and California. In 1978 he settled permanently in Los Angeles. The popular mythology surrounding Southern California—an earthly paradise of sand, sea and sky—attracted him. The California swimming pool was always one of his favorite themes. That city's intense glaring light and sleek "California modern" aesthetic has had a pronounced influence on his work.

Hockney worked with master printer Ken Tyler in 1978-80 to produce a monumental series of prints and paper pulp pieces. *Lithographic Water made of lines, crayon and two blue washes without green wash* was created during that period of time.

Liquid Luminous Secrets

Cork Marcheschi, Jim Nowak and Reid Johnston

Dream with the Fishes

Cork Marcheschi

Cork Marcheschi works with metal, glass and light. The San Mateo, California native is both an artist and musician, having been a founder of the experimental electronic rock band Fifty Foot Hose. A Zen student, he has created large outdoor pieces in the United States and internationally. “I’ve always seen light as the best metaphor for dealing with issues of life and death,” says Marcheschi. “What I attempt to do is give light a palpable form.”

In one installation, glass discs 18 inches in diameter hang from the ceiling at the top of the stairs in the Outer Bay wing, foreshadowing the exhibit gallery that lies ahead. Halogen lights project flickering images on the surrounding walls.

Inside *Jellies: Living Art* is a plasma installation. Large, thick glass bowls, geometric forms and an eight-foot column, 10 to 15 figures in all, are filled with a variety of light-producing gases—neon, xenon, argon and krypton. Arranged in a darkened alcove, the pieces glow and change color as the different gases flow through them.

La Luz V and La Luz I, from the Majestad Batllo series

Dan Ramirez

Dan Ramirez is one of Chicago’s leading champions of abstract painting. Born and raised on the south side of the city, Ramirez worked briefly as a truck driver in the steel mills. At age 32, he changed the course of his life by enrolling in college to study art, eventually receiving his master’s degree from the University of Chicago. Ramirez’ inspiration derives from his passion for music and philosophy. In 2002, he spent the summer in Barcelona, Spain, and there, energized by his new environment, he created several suites of work, including the two pieces in *Jellies: Living Art*.

Three blown glass jellies

Leopold and Rudolf Blaschka

Leopold and Rudolf Blaschka—father and son—lived and worked in Dresden, Germany. Between 1863 and 1936, first father then son supplied museums and colleges all over the world with an elegant, glass marine menagerie of animals and plants. These glass models were so lifelike and accurate that they were used for teaching natural history to generations of students in Europe, the United States, India, Japan, Australia and New Zealand.

The marine animals were produced for H.A. Ward’s Natural Science Establishment in Rochester, New York, and sold for prices starting at 40 cents per model. They were also purchased for private, “drawing room” collections. So prolific was this father and son team that, at one point, the H.A. Ward’s catalogue listed more than 700 different marine species that could be acquired.

The culmination of the Blaschkas' career was the creation of the world-famous "glass flowers" at Harvard University. Today, the Blaschkas' models are prized, not only for their craftsmanship and meticulous attention to detail, but for their exquisite beauty. These rare works reside in museums and private collections all over the world. In *Jellies: Living Art*, three blown glass jellies are mounted in a niche to the side of the alcove where jellies' stinging and feeding are interpreted.

Cnidaria of the Mediterranean

Ilona Richter

From *Fauna e Flora del Golfo di Napoli*

Ilona Richter is a Hungarian artist who illustrated the *Fauna and Flora of the Bay of Naples*. She graduated from the Institute of Art at Budapest in 1952. Richter was an extremely versatile illustrator who continued to study art and produce a number of fine illustrations for publication. From 1975 to 1990 she worked for the Hungarian Academy producing many botanical illustrations. She retired in 1990 in Budapest.

Twelve prints made from transparencies of the lithographs from *Art Forms in Nature*

Ernst Haeckel

Ernst Haeckel was a biologist and an artist in Germany. He produced work during the latter half of the 19th century and the first part of the 20th century. He was an early proponent of Darwinism, before Darwinism was popularly accepted.

His passion and knowledge of art and science were melded in *Art Forms in Nature*, a beautiful series of lithographs that he published in 1904. Designed to interest the general public and stimulate their curiosity about the natural world, they featured Haeckel's own illustrations of animals, plants and microscopic organisms.

Haeckel felt that science and art represented the highest cultural achievements of humankind—two different, but complementary, ways of viewing the world.

Stupid Candy

Matt Gray

Matt Gray's six photographs depict jewel-like portraits of the everyday lollipop. But they're represented in such a way as to enhance the stature of this tasty morsel, making them seem more important. They glisten, glow and give off an internal light much the same way our jellies do. Born in 1969 in Baltimore, Maryland, Gray lives and works in New York City. He is a fine arts graduate of New Mexico State University and Goucher College in Baltimore. His photographs have been exhibited throughout the United States and Europe.

Rising Plume

James Wille Faust

James Wille Faust's paintings are stylistically modern in their hard-edged geometry, but the roots of his work lie in the simple naturalism of a rural landscape painter. He was born in the 1950s on a farm in Lapel, Indiana. Surrounded by crops and livestock, his childhood years were spent exploring the woods and fields under the magnificent, open, Midwestern sky. Young Faust's awe of nature inspired him to become an artist and formed the developmental basis of his art.

Faust was a natural with technical graphics. Early in his scholastic years, instructors pushed him toward a career as a mechanical designer—a more acceptable pursuit in the Midwestern agricultural economy. Instead, he pursued a fine arts degree at the University of Illinois. After experimenting with Zen, achromatic colors and surrealism, Faust's admiration for 1960s psychedelic art steered him on the path towards his current work.

His body of work is influenced by a psychedelic vision combined with geometrical abstraction fused with his innate love of nature. In 1992, Faust became fascinated with plumes, the subject of his work hanging in *Jellies: Living Art*. Plumes began appearing in his paintings after the oil well fires of the Gulf War. He sees the abstracted plumes in his paintings as symbolic of clouds of smoke, water plumes and even chemical plumes.

Where Have All the Fishes Gone?

Roger Brown

Chicago artist Roger Brown's distinctive paintings are typically characterized by images of people in silhouette, seen through windows inside haunting apartment buildings and grimly lit diners and restaurants. Often there's an atmosphere of mystery; highly symmetrical compositions and liberal use of bright colors.

Born on December 10, 1941, he was raised in Hamilton and Opelika, Alabama, where he grew especially close to his grand and great-grandparents on both sides of the family. Brown's interest in art emerged in grade school; he took art classes from second to ninth grade, and won first prize in a statewide poster competition in tenth grade.

He began his career at the The School of the Art Institute at Chicago. There, he became part of a circle of artists who later became known as the Chicago Imagists. The paintings of Brown and the others in his group differed from the works that then dominated the art world. Their paintings were representational—paintings of real things, as opposed to the geometric abstraction popular at the time.

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Jellies: Living Art **Gallery Tour**

Jellies: Living Art explores the aesthetic experience of jellies through live displays and works of art in a variety of media. This special exhibition takes visitors on a sensory-rich tour through four different galleries focusing on the beauty and fascination of jelly physiology.

Shape and Size

Visitors entering the exhibit walk by a large installation by American artist Dale Chihuly. Consisting of individual, layered, blown glass elements, the undulating colors and translucence of this piece sets the tone for the entire exhibit. A wall-size display of live sea nettles introduces visitors to the basic jelly structure, while a video display highlights the incredible variety of jelly species found worldwide and shares some images these graceful animals evoke.

Artwork

- Dale Chihuly, installation inspired by the marine environment. Blown glass. 5'3" x 30'.
- David Hockney, *Lithographic Water made of lines, crayon and two blue washes without green wash*. Lithograph, 29 ¾" x 34 ½". © David Hockney/Tylergraphics Ltd.

Rhythm and Movement

This gallery is a journey into the patterns of jelly propulsion as well as the mechanics of jelly movement. Live displays include the blue jelly, which swims with a staccato-like pulse; the cube-shaped box jelly; and a walk-through swarm of hundreds of moon jellies. A panel of 18 large lava lamps and a video display of images also suggest the drifting, bubbling, swirling movements of jellies.

Artwork

- Cork Marcheschi. *Liquid Luminous Secrets*. Neon, xenon, argon, and krypton gas enclosed in glass shapes. 6' x 15'.
- Dan Ramirez, *La Luz V* and *La Luz I*. Oil on canvas, 71" x 8" and 71" x 24", respectively.

Rhythm and Movement—A Closer Look

Here visitors get an intimate look at jellies and how they have adapted to survive in their watery environments. Interactive displays examine feeding and stinging behaviors, an interactive display demonstrates a moon jelly's life cycle, and audio stories tell tales of close encounters. Delicate glass jelly models from the early 1900s and more recent scientific illustrations show how scientists have long been fascinated with these amazing creatures. Live animals include the upside-down jelly and a variety of species—including comb jellies, cross jellies, and bell jellies—exhibited on a rotating basis in the "Display of the Month."

Artwork

- Leopold and Rudolf and Blaschka, glass models of *Porpita umbella*, *Tima flavilabris*, *Eirene viridula*, 5" to 9".

- Ilona Richter, *Cnidaria of the Mediterranean*, from *Fauna e Flora del Golfo di Napoli*, by Anita Brinckmann-Voss with color plates by Ilona Richter. Print made from a scientific illustration, 12" x 16 ¾".

Color and Pattern

Stripes, polka dots, rainbow rows, jewel-like hues—jellies come in a spectacular array of colors and patterns. Here visitors will see spotted jellies, bell jellies, comb jellies and—for the first time in North America—the stunning flower hat jelly. Artwork in this gallery ranges from detailed scientific drawings to vivid modern pieces rich in color and design.

Artwork

- Ernst Haeckel, 12-piece collection from *Art Forms in Nature*. Lithograph, 17" x 22".
- Matt Gray, *Stupid Candy*. Six color photographs, each 20" x 24".
- James Wille Faust, *Rising Plume*. Oil on canvas, 46" x 36".
- Roger Brown, *Where Have All the Fishes Gone?* Oil on canvas, 72" x 72" x 3".

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Jellies: Living Art Exhibit Facts

- What:** A special exhibition exploring the aesthetic experience of jellies through live animals, works of art in a variety of media, video and interactive displays and poetry.
- Where:** Monterey Bay Aquarium, 886 Cannery Row, Monterey, California.
- When:** April 8, 2002 into 2010; 10 a.m. to 6 p.m. daily (closed Christmas Day); 9:30 a.m. to 6 p.m. in summer (Memorial Day-Labor Day) and on major holidays.
- The exhibit:** A 4,650-square-foot gallery with live displays of domestic and exotic jellies and a collection of artwork in a variety of media. A sensory-rich tour through four different galleries focusing on the beauty and fascination of jelly physiology. Ten live displays, including blue jellies, box jellies, upside-down jellies, a walk-through swarm of moon jellies and—for the first time in North America—the spectacular flower hat jelly, in exhibits ranging from 100 to 5,000 gallons. Artwork by Dale Chihuly, David Hockney, Leopold and Rudolf Blaschka, Ilona Richter, Ernst Haeckel, Matt Gray, Roger Brown, , Cork Marcheschi. Dan Ramirez and James Wille Faust. Cost of the exhibition, including commissions for and loan of artwork, is \$2.85 million. Closes September 1, 2008.
- What's unique:** This exhibit – the most popular ever at the aquarium – represents the first time the aquarium has displayed both artwork and live species together. The aquarium also breaks with tradition of displaying animals in natural-looking habitats. Instead, the aquarium will showcase jellies in ways that emphasize their natural beauty, such as using colored glass beads, black backgrounds and dramatic lighting in the displays. Artwork and video displays evoke the look and movement of jellies.
- Admission:** Included with aquarium admission (**2007 rates**): \$24.95 adult; \$22.95 senior (over 65) and student (13-17 or college ID); \$15.95 child (3-12) and disabled. Children under 3 admitted free. Group rates available with advance booking for parties of 20 or more.
- Parking/shuttle service:** Parking in Cannery Row parking garage three blocks away. (Passenger drop-off in front of aquarium.) The free WAVE visitor shuttle links the aquarium with downtown Monterey waterfront destinations daily during peak summer season (Memorial Day to Labor Day).
- Information/advance tickets:** General information, (831) 648-4888, or online at www.montereybayaquarium.org. For advance tickets inside California, call the aquarium at 1-800-757-3737; outside California call (831) 648-4888. Order online at www.montereybayaquarium.org; at all Northern California Tickets.com outlets or by phone at 800-225-2277. Local hotels also sell advance tickets to their guests.

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Jellies: Living Art

Fun Facts

- Jellies have been on Earth for over 650 million years—before sharks and even dinosaurs. Scientists have found impressions of jellies embedded in stone millions of years old. So many were found from the Ediacaran Era (570 million years ago) that it's referred to as the “Age of Jellyfish.”
- Spotted comb jellies (*Leucothea pulchra*), considered one of the most beautiful and complex of all comb jellies, are so fragile that the slightest touch can cause them to shatter.
- Jellies have no head, heart, brain, bones, cartilage, or real eyes. Yet they're among the major predators in the ocean, the largest habitat on Earth. Their tentacles carry stinging cells that are among the most complicated found anywhere in the animal kingdom.
- A group of jellies is called a swarm or a smack.
- A colony of polyps—part of the jelly life cycle—can create thousands of baby jellies in just a few days.
- The sea wasp, a type of box jelly, is probably the deadliest animal in the ocean—more dangerous to humans than any shark. People have died within three minutes of being stung. To guard against a sea wasp's potent toxins, Australian lifeguards cover their bodies with pantyhose when rescuing swimmers.
- Some jellies are considered a gourmet treat in Asian countries. To make them edible, the stinging tentacles are removed and the jellies are dried and salted. Their texture is reportedly crispy, yet elastic. Maybe that's why a popular dish in China using dried jellies is called a “Rubber Band Salad.”
- Jellies belong to the phylum, or group of animals, known as Cnidaria (ny-daria), which means “stinging thread.” Scientists call the adult form of jellies “medusae” after the mythological Medusa, a dangerous snake-haired woman whose horrifying looks paralyzed humans on sight, changing them into stone.
- Using a fluorescent protein from the crystal jelly (*Aequorea victoria*), French scientists in 2000 created a rabbit named Alba that glowed green under ultraviolet light. The scientists modified the gene to double its glowing properties.
- Fluorescent jelly genes have also been used to tag certain genes or proteins. When the protein is active, scientists can detect its fluorescence under a black light. Scientists use this process to gauge the effectiveness of potential drugs on the body without using surgery.
- With its tentacles fully stretched, the Arctic lion's mane jelly is one of the longest animals on Earth. Its bell can grow to about eight feet in diameter, its tentacles over 100 feet long. That's longer than the 90-foot blue whale, but shorter than the 130 feet a giant siphonophore—a jelly relative—can reach in size.
- The Arctic lion's mane jelly also has a very toxic sting, although reports of human fatalities are few. This species is the killer in a Sherlock Holmes mystery in which a man is found dying, covered in horrible red lines as though he was flogged with an iron whip. His last

words are “the lion’s mane.” Holmes eventually solves the mystery when he sees a tawny-colored jelly in a tidepool and shouts, “Cyanea! Behold the Lion’s Mane!”

- Jellies are 95 percent water. Humans are 65 percent water.
- Nearly 2,500 moon jelly polyps and ephyrae—two early stages in the jelly life cycle—went into orbit aboard the space shuttle *Columbia* in May 1991. Scientists monitored the development of the jellies’ balance organs in a weightless environment to contribute to the knowledge of human calcium loss in space.
- The most infamous jelly is probably the Portuguese man-of-war, with its pink and blue gas-filled float and extended tentacles (up to 100 feet long), each with over 2,000 stinging cells per inch. It’s among the most dangerous jelly to humans. But loggerhead turtles seem to be immune to the stinging cells. They easily push the tentacles out of the way to feast on the floats, seemingly growing intoxicated as they do.
- A jelly swarm and a jelly bloom are two different things. A swarm occurs when strong winds or currents bring large groups of jellies together. Swarms of by-the-wind sailors (*Velella velella*) are sometimes so large and closely packed that they’ve been mistaken for oil spills. A bloom is the result of increased reproductive activity, possibly caused by plankton blooms that could indicate an ecosystem out of balance.
- Some jellies migrate long distances in search of food. Some travel up to 3,600 feet a day, which is the equivalent of a person walking 33 miles.
- A jelly can grow or shrink according to the available food supply. If the cupboard is bare, jellies can “de-grow,” shrinking in size so they need less food. They can re-grow again when food is more plentiful.
- Jellies are a main food source for sea turtles and ocean sunfish, and they’re also eaten by sea birds and many other fishes. Unfortunately, so are inedible jelly look-alikes—plastic bags and other plastic trash. Thousands of jelly eaters die each year when they swallow indigestible wads of plastic.

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What they're saying about "Jellies: Living Art"

"Between the jellies themselves—brilliant ruffles drifting through jewel-toned tanks—and the artworks assembled by an exuberant design team, *Jellies: Living Art* provides a psychedelic experience on the order of the best laser light show the '80s ever produced."

-- *Monterey County Weekly (Monterey County)*

"The entrance to the exhibit glows with a vivid blown glass installation by Dale Chihuly...To show off the jellies, exhibit developers have created new kinds of settings for them."

--*The Monterey County Herald*

"Is it an art show, an aquarium display or a flashback to the '60s? The new exhibit at the Monterey Bay Aquarium...is a little bit of all those things."

--*Los Angeles Times*

"Most of the species of jellies in the exhibit are new to the aquarium and displayed as if in an art gallery ...Warty Comb jellies, in the shape of *Star Wars* ships, drift through water in a black tank. Small hairs on their bodies diffract light into a line of rainbow colors. The framing and coloring produce the impression that they are floating through space, not liquid."

--*Wired News online*

"Special exhibits at the Monterey Bay Aquarium change as do the nearby ocean tides...Now comes a gossamer parade of motion and light."

--*The Salinas Californian*

"...the exhibit is brilliantly conceived, digressing from the aquarium's usual scientific approach to sea animals to focus entirely on the relationship between art and jellies; on the conversation found between dozens of works of art and the beauty, form and movement of 10 species of jellyfish found all over the world."

--*Preview magazine (The Oakland Tribune)*

"The integration of the experience is so complete, that it does everything we want an exhibition to do...Excellence in Exhibition award."

--*American Association of Museums*

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