



Vanessa Yun Yang



Megan Cochran



Jennifer DeMoro



The History of Pearls in the Gulf of California, Mexico

This this issue

The History of Pearls in the Gulf of California, Mexico. By Douglas McLaurin-Moreno.

Bench Tips from Robert Ackermann: Malletology 201 and much more.



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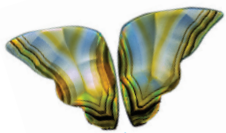
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WJA San Diego

Winter 2020 / Spring 2021



Thank you to our holiday party auction donors and sponsors for your generosity!



Our 2020 Holiday Auction was a success! Your generosity is greatly appreciated and every penny raised will go back to our local members.

Thank you to our donors, bidders, and WJA San Diego board for making this happen.

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Gem Surprise Box

Jennifer DeMoro Jewelry

Hello WJA San Diego



WJA San Diego Chapter President
Christine Lopez

Hello and Happy New Year! I hope you have all had a positive start to 2021 and wish you all success in this new year. The year 2021 is all about resilience and the ability to not only continually recover, but also about the belief in our individual tenacity. Be flexible, invest in yourself, set your priorities, nurture your creative spirit, keep up with your connections, and do not fear improvising or trying something new. Most of all, be kind to yourself and stay open to opportunity.

Please join me in congratulating our 2020 Shining Star, Sara Rey! Sara is a professional jewelry photographer based in San Diego. She has been active in WJA since 2014, and currently serves on the board of the San Diego chapter as the Vice President of Communications. She is a true joy to work with, both professionally and as a fellow board member, and incredibly deserving of this recognition. Congratulations, Sara!

Thank you to everyone who attended our annual Holiday Party on December 20th. I personally had a blast opening our Holiday Boxes with you and look forward to more themed box events this year. Although we could not clink our glasses to make toasts or give hugs, we were together in spirit and closer than ever. We found ways to adapt to our current world and successfully hosted our first ever online Holiday Party Auction on Instagram. I am proud to share that our chapter raised nearly \$1500 and that all proceeds will go towards additional Member Grants for our local WJA San Diego Members. We will have a total of four \$500 grants to award this year because of our generous auction sponsors and bidders.

Thank you to our Holiday Party Auction donors & sponsors: Pala International, Pheap Lorn-Canossi, Judy Colbert, Renée Newman, GIA's Richard T. Liddicoat Gemological Library, New Era Gems, Megan Cochran, Joseph Charles, Facet Force Academy, Gem Surprise Box, and Jennifer DeMoro Jewelry.

It's that time of year again—time to apply for WJA Grants and Scholarships! The applications for our \$500 Member Grants and the Carelle Grant in Honor of Brooke Tivol McGrath are now open. Our Veteran Grant, sponsored by Jewelers Mutual, and our student scholarship applications will open in March. We were proud to have local member and veteran, Latoya Boyd, win the Veteran's Grant last year. We have a history of having winners selected from our chapter.

I look forward to seeing you at our upcoming online events and hope that we may have the opportunity to celebrate in person someday in the future.

Sending warm wishes,

Christine Lopez G.G.

P.S. If you are interested in getting more involved with WJA San Diego we do have several openings on our board that we are looking to fill. Please reach out to me if interested in joining the board or if you have any questions about WJA, our chapter, or member benefits at ChristineCorundum@gmail.com.



Our member Jennifer DeMoro

Jennifer DeMoro Jewelry is a fine jewelry line designed and based in Southern California since 2017. With a penchant for conversational and unexpected fine jewelry, Jennifer's designs are filled with fun loving color and personality. Her designs speak to the woman of today who is self-assured, strong, world traveled, and understands style.

The Jennifer DeMoro collection exemplifies the 'California Cool' aesthetic by blending the classic West Coast style with a touch of elevated bohemian glamour. The result is a collection full of clean lines, shapes and vibrant color. All of Jennifer's jewelry reflects the relaxed coastal vibe that Californian style is known for.

Her main inspiration comes from the the cultural nuances of California in the '70s: the arresting artwork, the laid back fashion sensibility, and cool beach lifestyle. Jennifer is able to capture these nostalgic feelings with colored stones that are vibrant and saturated, and reflect her California sunsets.

The beauty and lifestyle of Southern California attracted Jennifer early on in her life when she attended college in San Diego. Today she calls San Clemente home where she is making new memories in the sunset with her husband and young son. Jennifer's jewelry can be found on her websites www.jenniferdemoro.com [Instagram @jenniferdemorjewelry](https://www.instagram.com/jenniferdemorjewelry)

Images from left: Sundown Swing Earrings, Solara Open Pendant, Two Horizon Ring and Sunna Huggies. Visit Jennifer's website for more details. Photographer: Sara Rey. www.sararey.com

The History of Pearls in the Gulf of California, Mexico

By Douglas McLaurin-Moreno

Since unrecorded time, man has obtained many bounties from the world's oceans: food, shells, corals, sponges, seaweeds, and the most desirable of all of these were the beautiful mother-of-pearl shells and their valuable treasure, pearls.

Mexico has four species of pearl oysters inhabiting its coasts, two -the larger sized- on the Pacific side: the Panamic Black Lip oyster (*Pinctada mazatlanica*) and the Rainbow Lip oyster (*Pteria sterna*). On the Gulf of Mexico and Caribbean Sea we can find the smaller Mother-of-pearl oyster (*Pinctada imbricata*) and Atlantic Winged oyster (*Pteria colymbus*). There are many other pearls occurring in Mexico, such as conch pearls (*Lobatus* [*Strombus*] *gigas*), pen shell pearls (several species of the *Pinna* and *Atrina* genus), scallops (genus *Nodipecten* and *Spondylus*) and Abalone (several species of *Haliotis*), as well as from many more species of clams and gastropods, but pearl oysters of the *Pteriidae* family will be the sole focus of this document.

Pre-Columbian Period

In Mexico, the native pearl fisheries can be dated as far back as 500 to 1400 C.E. Fishing was practiced by many native tribes of the States that surround the Gulf of California and Mexico's Pacific coast such as the Seri (or Kuum Kaak), Yoheme (Yaqui and Mayo) and Pericú Indian Nations. These ancient pearl fisheries were undertaken out of hunger, fortunate byproducts being the recovery of shells and pearls.

Excavations completed inside Tenochtitlan's (today, Mexico City) Main Temple (Templo Mayor) of the Mexica or Aztec empire revealed the high appreciation that this culture had for the mother of pearl shells from the Pacific Ocean. These shells were used either as a whole or as pectorals, or in carved zoomorphic figurines that the Aztecs used in their religious rituals.

The Mayas from the Yucatán Peninsula also employed pearls and nacreous shells for the same purposes, one



Drawing of a "helmet diver" (*Escaphandra Denayrouze*) drawn by Carlos Goethe and printed in the late 1880s.

of the most distinguished items that we can find from their culture is the funeral mask of King Pakal the Great (603–683 C.E.), an elaborate mask made out of 340 pieces of jade, with the eyes made out of mother-of-pearl and obsidian discs, the earlobes adorned with two massive baroque pearls.

But perhaps the greatest wealth of pearls ever discovered in Mexico was that found inside "tomb 7" of the archaeological complex of Monte Albán in the Southern State of Oaxaca, where the Zapotec culture had its moment of greatness from between 500 and 800 B.C.E. The luxuriant treasure -sometimes referred to as the equivalent of Egypt's treasure of Tutankhamun- contained elaborate goldwork and jewelry and abundant baroque pearls fished from the Pacific.

The arrival of the Iberian Conquerors

The Native Nations had no real interest in establishing a commercial venture in pearl fishing and we understand little to nothing of the way they fished for pearls, since most of the information was either lost or destroyed during the conquest of Mexico. The rich plunder of the Conquistadores was sent to Spain and later dispersed all over Europe. The most significant information we have on the subject comes from the period of colonization of northwestern Mexico in the late 1600s.



Queen Isabel de Valois and Borbón, 3rd wife of King Phillip the 2nd of Spain, wearing abundant pearls from the Gulf of California, México, including the famous "La Peregrina" pearl (hanging from the bonnet on her head, notice near her ear), at the time it was the largest and most perfect pearl in the world. Image Source: Wikipedia "Élisabeth de Valois", by Juan Pantoja de la Cruz, (also attributed to Sofonisba Anguissola).

When the Spaniards arrived at the Northwestern region (comprised today of the Lower California peninsula and the States of Sonora and Sinaloa), they already had an idea of the bounties they would find, all due to stories and legends told by others. Instead, what these Europeans found and faced were fierce warrior tribes, living in a vast desert land. The area today is a haven for mining operations, but in those times, it was impossible to fathom this and the most valuable gem available was the pearl.

These new lands offered little in the way of ready-to-use resources. There was no established agriculture, and the natives were nomadic (unlike those in Central Mexico). Also, fresh water was scarce. In all, the initial reason to colonize these lands was the lure of pearls. And this was a fact, for in the first 50 years after the conquest of Mexico, the most valuable export product was the pearl. The yearly value of pearls exported to Spain more than doubled that of all other exports including gold, silver, spices etc.

The local natives were put to work, either by force or under promise of payment, as divers in the pearling armadas of the



"Coronado sets out to the north", depicting the Expedition of the Conquistador Francisco Vázquez de Coronado, and the beginning of the northward expansion of the Spanish conquest of Northern Mexico and the Southern part of the United States of America. Oil painting by Frederic Remington (circa 1890s). Image Source: Wikipedia.

Spanish Crown. Later, introduced diseases decimated the populations of native Californians, thus Yaqui Indians from Sonora were forcefully introduced into Lower California. The Yaqui immigrants proved to be hardier and better suited to this perilous activity. Yaqui pearl divers were capable of diving to depths of 20 to 25 fathoms, equipped only with a loincloth, a knife, and a catch-bag as their diving gear. Diver mortality was high due to both exhaustion and shark attacks.

Pearling armadas consisted of a sailboat (the 'flagship') that could pull several smaller boats or canoes. Each canoe had two or three occupants, consisting of a sailor and two divers. The activities of the divers started early in the morning when they would plunge repeatedly into the waters until noon. They would then rest for three hours and start diving again for another three or four hours. Hoisted bags of oysters were transported to the 'flagship' for harvest of the shell, their inspection for pearls, and the cleaning of pearl shell. This activity continued -for the most part- unchanged for several centuries.

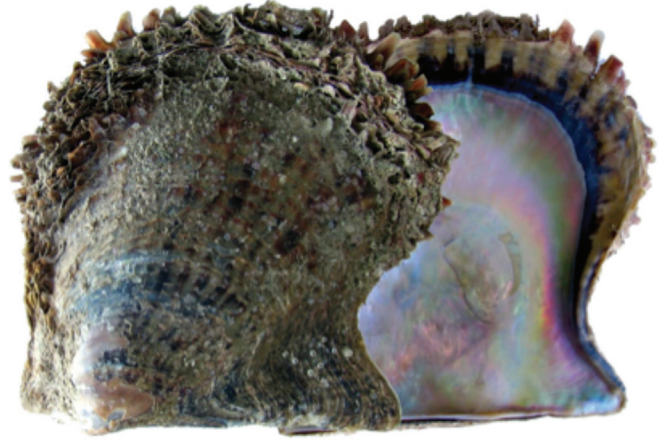
During the establishment of the Mission system in the region, the Jesuit priests tried to curtail the unofficial slave trade of natives

by the Iberian pearling armadas, while still taking advantage of the natural ability of the natives and the available resources. As with the "King's Fifth", the Jesuits gave the natives a Madonna, a Patron Saint to protect them whilst diving and to whom one-tenth of the pearls should be given: the Virgin of Loreto, in the Mission of our Lady of Loreto (1742) Some of the pearls the figure was bestowed were placed on her long veil and it is said it was covered in its entirety with pearls. Unfortunately, this was common knowledge, and her robe was stolen several times in the coming centuries.

One of the Spanish soldiers -by the name of Manuel de Osio- in charge of the Mission's security saw the natives coming in with pearls and decided to leave his station and become a Pearling Entrepreneur. His first tactics involved changing the established fishing patterns: most fishermen would dive for the larger black-lips, found in shallow waters and De Osio and his men would instead dive into deeper waters for the smaller, yet highly productive, rainbow lip oysters. He would have his divers go down to locate "macollos", which were large conglomerations of these mollusks, attached to each other by means of their byssus. These groupings could have from a few hundred to thousands of pearl oysters.



The "Panamic Black Lip pearl oyster" (*Pinctada mazatlanica*), the main species utilized in Mexico for pearl production and pearl fisheries during the Pre-Columbian, Colonial and Pre-Revolutionary periods of Mexico. This species can attain a maximum diameter of 20 cm.



The "Rainbow Lip pearl oyster" (*Pteria sterna*), the main species utilized in Mexico for cultured pearl production and in the very successful pearl fisheries of the Colonial period of Lower California, Mexico. This species can attain a maximum diameter of 14 cm.

Once located, other divers would go down equipped with hooks on lines, which they would position in a way that, once aboard the boat, they could pull on the ropes and hoist a huge load of pearl oysters. The catch was sometimes so large that they could not inspect every oyster and would allow many to simply rot on the beach, until they could come back to inspect or wash the meat away to reveal the pearls. It was reported by Clavijero, that in the year 1774 De Osio reported fishing 275 pounds of pearls, and the same source reports that De Osio sent a present to the Queen of Spain: a pearl necklace made entirely of "balas": roundish pearls the size of musket balls.

Manuel de Osio's methods were so efficient that he became the first millionaire in the Baja California territory, and attracted many others that wanted to attain his same degree of fortune. Most could not equal his skills, but the nascent industry attracted other entrepreneurs, as well as bandits. De Osio was killed by a band of robbers, but they had to leave almost empty handed, since it is said

he had hidden his pearls underground, inside jars. In the 1990s I heard of people that were still looking for this hidden pearl treasure.

An average estimate used throughout the world affirms that "only one oyster out of every 10,000 will produce a fine pearl". But, the Gulf of California seemed to defy this estimate, since many localities were able to produce anywhere between 4-14 pearls out of every 100 opened oysters. Mother-of-Pearl (MOP) shell was another valuable commodity at that time, as MOP was used throughout the world for the decoration of jewelry, inlays, and other ornaments. From 1827 to 1874 some 500 metric tons of pearl shell was exported from Mexico to Europe every two years.

In 1874 a technological breakthrough was introduced: the diving helmet and diving suit. This improvement allowed divers to fish for longer periods and at depths of up to 20 meters. Thus, the richer pearl beds – the ones barely touched by the previous diving efforts – soon suffered from overfishing as well.

These pearl fisheries were regulated in law, but not under control nor scrutiny by authorities despite many attempts to regulate them. These attempts at control - initially by the Spanish Crown and later by the new independent Mexican State - were defeated by the impossibility of maintaining reliable inspectors on site. Under this a "industry regulated" regime, the commercial pearl fishery gradually came to a standstill by the end of the 19th century.

Douglas McLaurin-Moreno, M.Sc.
Pearl Culture Specialist
Instructor for the CPAA's "Pearls as One"
& "Pearls as One en Español" courses. Mexico.

For more information about Douglas McLaurin-Moreno or this article. Please contact us at owdesign1@mac.com



Photo of a small section of a "macollo" or "pearl oyster carpet", made entirely of Rainbow lip oysters (*Pteria sterna*). This photo was taken in 2011 by Federal Fisheries Biologists in the State of Sonora, near Guaymas. The length of the pearl bed was estimated at 21 Km, with millions of pearl oysters. Photo courtesy of Dr. Jorge Torre of CoBi.



Our member Vanessa Yun Yang

Vanessa is an experienced graduate gemologist who works extensively in the gem and jewelry industry. She specializes in fine jewelry authentication, computer-aided design (CAD), and hand rendering.

Vanessa started her career in the jewelry industry working at Tiffany & Co. in La Jolla while she was a student in the Graduate Gemologist program at GIA in Carlsbad. After graduation, she was hired as a diamond grader at GIA. She was scouted by The RealReal in Century City as a Fine Jewelry Specialist. Within 3 months, she exceeded expectations and was promoted to the lead position. Vanessa's curiosity and love of gems led her to continue her education with GEM-A, London, which offers a long distance course while she was working for The RealReal.

In 2019, Vanessa was offered the opportunity to visit Chanthaburi and the cutting center in Thailand, where she had the experience of bargaining with local gem miners at the wooden table in Si Chan Road, the center of Chanthaburi gem market.

After her trip to Thailand, Vanessa returned to Carlsbad with a full scholarship



Please visit Vanessa website to learn more about all of her illustrations.

for the Jewelry Design and Technology program at GIA to further her career. Vanessa has always been fascinated with the art of fine jewelry hand rendering. With zero art background, every day after class, she immersed herself in every book available on hand rendering and jewelry illustration in the GIA Library, the world's largest gem and jewelry library. With time and patience, Vanessa taught herself the skills of hand rendering and has developed a technique outside of traditional gouache in which she uses a combination of oil, ink, markers, acrylic, watercolor & gouache in her jewelry illustration.

"The most important influence in my personal and career development is believing YOU CAN and YOU WILL achieve the goals you want in life. The most important lesson I have learned is being resilient and believing in your own ability. There will be naysayers from time to time saying, 'you can't,' or 'you need a family background to be successful in the jewelry business.' Both statements are not true. Use those opinions as the fuel to work towards your goal, one step at a time. With hard work, time and patience, I believe anything is possible."

There is a quote that Vanessa lives by and would like to share with you, "*A dream written down with a date becomes a goal. A goal broken down into steps becomes a plan. A plan backed by action makes your dreams come true.*" - Greg S. Reid.

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Our member

Megan Cochran

As owner of **Megan Cochran Jewelry Design**, I provide creative services including design direction, 3D CAD modeling, product development, renderings and visualizations to fine jewelry brands, manufacturers and jewelers. In addition to supporting businesses and clients, I also create fine jewelry pieces for private customers.

I love the process of my work. Sourcing beautiful materials, resolving creative and technical questions, collaborating with other talented professionals, making intentional objects- it's all really rewarding.

I seek inspiration from a variety of places- graphic design, independent art and film, children's books, architecture, science fiction, vintage and estate jewelry, textiles, the beauty of Southern California. The design process works best for me when I practice spontaneity through the ideation phase. Internal and external influences settle and emerge when we allow ourselves to play.

website - www.megancochran.com

instagram - [@mcjewelrydesign](https://www.instagram.com/mcjewelrydesign)

email - hi@megancochran.com

Images above: please visit Megan Cochran's website for more details on the images above. Photographer: Sara Rey. www.sararey.com

Malletology 201

Bench Tips



From
Robert Ackermann

Robert Ackermann is an award-winning goldsmith, gemologist, jewelry designer, jewelry educator and the owner of www.learnjewelrydesign.org, an educational site for jewelry creators. See his YouTube channel, “Tricks and Tips for Goldsmiths” for more tech advice.

Left 1: Chasing hammers require as flat a face as possible. They are quickly textured by sanding on glass sheet in a circular motion. Right 2: The textured face of a freshly sanded chasing hammer. Note how the circular motion during sanding does not leave directionality that could make it more slippery at certain angles.



Fall 2020 issue



Please visit our website

www.womensjewelryassociation.com/sandiego to download our fall 2020 issue and read all about Robert Ackermann’s “Malletology 101”.

In the previous newsletter we discussed the controlled drop technique professional goldsmiths and silversmiths use instead of striking their work piece with a hammer. In this sequel I’d like to address the shape of the hammer’s face and peen.

Hammers used to drive punches perform best when their face is flat or near-flat. A rounded or domed face merely makes them more “slippery”, meaning the punch is more likely to “squirt” out from under the hammer if it’s not dropped dead on target. Chasing hammers are a point in case: they’re usually shipped with a near-flat face you don’t want to polish. There’s no point in making the effort since hardened steel punches leave marks. A rough, non-directional sandpaper texture provides greater friction when striking the punch and reduces the likelihood of the punch squirting out from under the hammer.

To optimize the shape of a forging hammer on the other hand, it helps to understand what exactly happens during the process. It’s a typical case of a rock and a hard place — well, more like a piece of steel and an anvil. The work piece, being the softest of the three is made to adapt its shape to the harder steels between which it is sandwiched, according to its plasticity and the force of the impact.

Since forging doesn’t remove metal, the volume of the work piece remains the same. It’s the compression between hammer and anvil that causes a reduction in thickness which is compensated by the work piece stretching outward from the compression.



3: The polished face of a performance forging hammer at left has a uniform curvature all around that increases toward the side and has no edge that might leave a deep mark should you accidentally land a blow at a bad angle. The pean forms a cylindrical surface with rounded ends.

Provided a hammer drops with the same force, a face or pean that is more curved will make a deeper impression and stretch the metal, moving significant amounts of metal. A hammer with such a pronounced curvature is also the tool of preference to apply a hammered texture with.

Hammers that are less curved spread the force of impact across a greater area, reducing the depth of the hammer marks. They lend themselves to smoothing out a forged surface prior to filing the work piece.

The flatter the face of a hammer, the more you want to think of its curvature not being so much an arc than more of half of an oval: the curvature increases progressively from the center as it approaches the sides. There's no distinguishable edge between the face and the side of the head that might leave a deep mark should you accidentally land a blow at a bad angle.

With the gold price being what it is, it's only economical to have hammers of various sizes (i.e. weights) and curvatures of both face and pean on hand. It saves both time and reduces filings to a minimum.



4: Fewer layers of paper, as seen at left, favors sanding flatter hammer faces because there's less spring. The thick catalogue at right has more layers of paper to sand hammer faces with a greater curvature.



5: The center of the face and the pean are shaped and finished so they're dead center when the handle is horizontal.

So what's a good way to prepare face and pean?

Create the desired shape and curvature with an old file. Both face and pean should be parallel to the handle and the apex of their curvatures should be dead center when holding the hammer horizontally. That optimizes a hammer for vertical impacts when the handle is in a horizontal position and when gravity and control are greatest.

Next, sand the filed surfaces down in preparation for polishing. A highly effective method is to place the sandpaper on a springy pile of newspapers, a catalog or an old phone book and sand the face in a rotary motion. Keep the handle horizontal, except when reaching for the side of the head to eliminate those dangerous, sharp edges.

The greater the curvature, the more layers of paper you'll need for sanding and vice versa. Peans are best sanded on glass sheets as described in our article from May of last year, with a rolling motion to follow the curvature.

Gradually step down the grit ladder to where you're ready for polishing. Once done, you'll be the owner of an absolutely professional high-performing hammer.

[Read more of Robert Ackermann's bench tips in our next issue.](#)