

THE ROCKET

May 2018

Club email: secretary.hrc@gmail.com
deadline for next issue June 15 Newsletter email: Edrocket18@gmail.com

Next Meeting: Friday – May 25th at 7PM
at Hastings Community Center

Social: Please bring a small snack to share at the meeting as there was no sign up



Programs:

At our April meeting Paul Pinsker brought samples from his recent trip and gave a talk about his rockhounding in New Zealand. If you missed his great talk see his article in this newsletter. Thanks Paul for sharing your rock finds of New Zealand with us.



Workshop Hours

Lapidary:	Monday	6:30pm – 9:30pm
	Wednesday	1:00pm – 4:00pm
	Thursday	6:30pm – 9:30pm
	Saturday	1:00pm – 4:00pm

Metalwork:	Monday	9am - 1pm
	Sunday	10am – 1pm

Silversmithing:	Wednesday	9:00am – 12:00 noon
	Saturday	9:00am – 12:00 noon

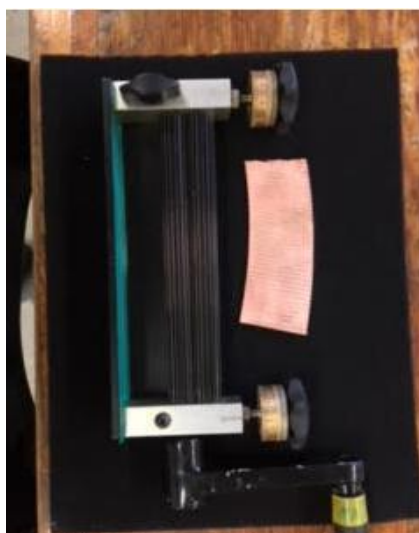
Soapstone Carving:	Tuesday	6:45 pm – 9:30 pm
	There is room for 10 people. Please contact Linda Foy before showing up for the first time.	

METALSMITHING

Here are some pics of the work we are doing in the Metalworks class. My newest play thing is to corrugate 30-34 Gauge copper sheet and play with using pliers and dapping tools altering patterns. After this has been done we then anneal the metal, pickle and clean and then roll the altered corrugated copper sheet through the rolling mill. This creates a varied enriched surface. If we then run the altered annealed (again?) corrugated flat sheet onto a silhouette die we can create more volume. Ideally we can create a rich surface using punch decorative stamps. Using the automatic spring loaded punch can act both as a stamp and chasing tool. We have gained a few more new members who have experience in fabric/ painting and show a desire to play with a great tool chest of metal works.

Cheers

guardian of the tools-GOTT - Mike Ma



Thanks Mike for the Photos

WE ARE CELEBRATING! Our Club is 60 this year.

We did a "pop-up" event at the Hastings Centre for the general public (anyone walking through) in early May. The editor heard it was well received.



PROJECTS

We thought you might like to see another of Crystal's projects. We featured her work in March's article on silversmithing.

Thank you Crystal for the photo

Upcoming Events of Interest: Shows:

June 2 & 3, 2018 Kokanee & Selkirk Rock Clubs Show, Castlegar, BC

June 9 & 10, 2018 Ripple Rock Gem & Mineral Club Show, Campbell River, BC

July 8, 2018, SURREY ROCKHOUND CLUB Tailgate Sale Surrey, BC

July 13, 14 & 15, 2018, The Okanagan Gem Show Winfield, BC

Recent News:

Due to the flooding situation in the south Okanagan, a closed bridge, the washed out road to the Rock Candy Mine and an evacuation alert, [Rendezvous](#) – planned for Rock Creek on May 18 – 21, had to be cancelled.

From Sandra of the Penticton Club : If you sent a cheque for Rock Candy and it was cashed, you will receive a refund from the Penticton Club.

If you sent a cheque payable to BCLS, it has not been cashed, and if you sent a cheque to the Penticton Club that hasn't been cashed – we will shred your cheque, unless you advise us otherwise.

We will think of our friends in the Penticton Club and Area as the conditions change. We wish them the best.

Scholarships:

[The following information was forwarded to all club members from our secretary Nickell. Please talk with her about forms.](#)

From: **BCLS Executive Secretary :** GMFS Scholarship information for your club members. Remember the BCLS Scholarship as well, forms and criteria for the 2018/2019 year will be posted on the BCLS website by the end of May.

(GMFS Scholarship information:) the \$500.00 scholarships available to students continuing on to Canadian universities, colleges and technical schools. This year we have funds for three (3) scholarships available. Eligibility requirements are shown on the form. Last year's winners were Jared Hamelin from Richmond Gem & Mineral Club, and Crystal Chow from Hastings Centre Rockhounds Club BC. There were a fair number of entries, perhaps we can do better this year.

Also enclosed / attached is the form for the Honourary Scholarship award of \$1000.00 to the university of choice by the winning nominee. Last year there were no entries. As per law we have to give out the \$1000 scholarship, the board selected the University of Victoria.

Please have anyone interested and eligible fill out the forms and return to me by the deadlines indicated.

2018 Summer Camp Information



We are pleased to announce that the 2018 Summer Camp will be taking place August 6 - August 11, 2018 at Takysie Lake, BC.

For those of you who have yet to experience it, Summer Camp is an opportunity for BCLS members from all over the province to gather, socialize and rockhound in a different area of the province. Generally, it is four days of organized field trips and five nights of social activities. The Lakes District Rock and Gem Club has again graciously agreed to co-host the event with the BCLS at Takysie Lake, about an hour south of Burns Lake, after last year's event was cancelled due to forest fires. A few members braved the smoke and closed highways last August to check out the area, and were very happy with the resort and the lapidary materials available in the area.

More information about this year's Summer Camp and facilities information can be found by viewing the two links below. Please pre-register with Phillip Crewe by phone or by email before-hand so we have an idea of numbers. Phillip can be reached at 604-526-3045, or by ... this email. (paukenmeister@gmail.com)

General Event Information:

https://gallery.mailchimp.com/dca3433691ff359f6a1513a59/files/117de701-1ac5-48fe-a641-a38828d4e7be/2018_summer_camp_information.pdf

Facilities Information:

https://gallery.mailchimp.com/dca3433691ff359f6a1513a59/files/c9556e4e-055a-4030-9689-689549b275ba/2018_summer_camp_facilities.pdf

Regards,

Phillip Crewe
Summer Camp Team

NEW ZEALAND – NO STONE UNTURNED by Paul Pinsker

Thank you Joyce and Paul for photos



A month back from Joyce's and my six-plus weeks in New Zealand, now I have digested the trip and can sum it up, particularly for those who missed my show-and-tell at our April general meeting. We drove all of it, North Island and South Island, save for a handful of boating excursions. The two major islands are large – each is four to five times the size of Vancouver Island – and the roads are thrilling, but dicey. The ground is shifty and the

weather, too, can alter plans. Repairs to key coastal links were still underway years after major earthquakes. Our arrival in Auckland was greeted with a Class 4 cyclone alert. The country was still recovering from one just prior which spangled the map with road reconstruction works. Fortunately, Cyclone Gita spared us, calming a bit and passing south of us, to where we would be in a couple weeks. Auckland itself is a tectonic town, built on some thirty volcanoes, which form much of the city's park network.

For us, the major places of North Island scenic and rockhound interest were the Coromandel Peninsula, White Island, and Rotorua. Coromandel has dramatically beautiful uplands and coastlines, fringed with rocky beaches and pretty stones, including agates of all sizes...one scooped up is the size of a human brain and at least twice as heavy! There are also superb natural features, such as Cathedral Cove, Gemstone Bay, and Hot Water Beach. The town of Thames is the centre of the gold mining industry. Thames has a mine and historic buildings to tour, including a museum (with many mineral specimens, photos and relics) and retail rock shop. En route to Whakatane we stopped in Waihi to peer into the giant pit of the Martha Gold Mine – inactive since a major slip a few years back.

We reserved well in advance in order to take the popular boat excursion from Whakatane to White Island, an awesome, continuously active volcano some 30 kilometres offshore. En route we were escorted and entertained by legions of bottlenose dolphins. The half-day tour, including over an hour walking to, from and amidst the sulphurous, steam-spewing fumaroles inside the volcano's crater, is thrilling and sometimes requires use of a filtering oxygen mask. The brilliant mounds of bright yellow sulphur are eye-popping. Though tempted, I did resist taking any samples, which was strictly forbidden.



Inland from Whakatane an hour's drive put us in Rotorua, ground zero for geothermal activity. While the features were interesting, if you have been to Yellowstone National Park before, you may not be very impressed. What impressed most were the Maori cultural sites and their artwork. I even had a chance to join in a performance of the Haka, their intimidating battle dance, at Whakarewarewa living village. The tour guides are exceptional, and are highly respected. After talking about rockhounding with local lapidarist Ralph, he gifted me a bag of *pounamu*, chalcedony, and argillite.



Once we had toured Wellington's worthwhile museums, with fortune smiling we ferried across a calm Cook Strait to the port of Picton, gateway to South Island. South Island is less populated and developed than North Island, and is encircled by many long sections of spectacular coast, much of which is protected in national parks. Stoppages for road works are extra opportunities to pull over and check out what the local shoreline rocks look like. The west coast of South Island is where those pure white "soap-bar" quartzites lie. Bruce Bay shone from sun reflected off its mica.

Hokitika was our number one destination. Beyond its opportunity to see elusive kiwi birds and feed giant eels, plus at twilight seeing the nation's best display of glowworms, it is where the most work on local *pounamu*, or "greenstone", is conducted. There are some 30 workshops and galleries offering carvings of native New Zealand ("NOT BC") greenstone and bone. We learned that nephrite jade, high-quality serpentine, and the rare bowenite qualify as greenstone, sacred to the Maori, who control the supply. Our holy grail, however, was near-mythical goodletite, otherwise known as "New Zealand Ruby Rock". The nation's only precious gemstone, goodletite is a combination of ruby, sapphire, and tourmaline in a bright green fuchsite (chrome mica) matrix. Its story makes for fascinating reading, and could fill an article or two by itself. I enquired at several greenstone galleries and finally a breakthrough – "Go to Bonz 'n Stonz". There I chatted with the former Vancouverite at the counter and boss Steve, and was given a tiny, thin wafer of the cherished goodletite! When Joyce arrived she could not resist a small doublet pendant of the rare gem. They threw in a large stick of nephrite for me to operate on. Kiwis are as generous as any people ever met.



Next it was onward to Punakaiki, the wild “Pancake Rocks” formation of wave and wind-eroded limestone – a must-see stop – before heading inland to Lord of the Rings territory around Lake Wanaka and Lake Wakatipu. There really is a Road to Paradise (a spectacular hour’s drive from Queenstown, past Glenorchy). Five days at Fiordland National Park included three cruises: On Lake Te Anau, to Glowworm Cave; on famous, but surprisingly short, Milford Sound (btw the only place bowenite is found, at Poison Bay and Anita Bay); and to Doubtful Sound where there was no doubt about seeing countless waterfalls, given the amount of rain falling.

The south coast of South Island counts several features of interest: Gemstone Beach, at Orepuki, has colourful, wave-smoothed rocks; at Invercargill the Southland Museum offers the best chance of seeing live, monster-like tuataras, including 120-year-old, local celebrity Henry, the grumpy reptile who finally fathered an offspring at age 111; Curio Bay allows visitors to walk along a shelf of petrified logs at low tide; and at Cathedral Caves one can walk into the cliff in one of the tall twins and emerge out the other.



Returning north along the east coast of South Island, we revelled with the locals amongst the Moeraki Boulders, giant septarian nodules that roll out of the cliff and onto the shore once the erosion reaches the right point. We found agates along the shore, too, just north of where the boulders lay. The east coast is indeed rich in agates, which tumble down the rivers from the Southern Alps ranges. The agate expert, Malcolm Luxton, a

regular contributor to Agate Collectors Worldwide, a Facebook Group, has built a private gallery, the “Agate Orphanage”, adjacent to his house in Ashburton, an hour south of Christchurch. It was a thrill to meet Malcolm, see his amazing collection, trade some of my North American offerings for some of his New Zealand pieces, and purchase an autographed copy of his definitive, coffee-table tome, *Agates of New Zealand*. He even threw in a generous piece of bowenite! Malcolm gave me advice on how to conduct

surgery on the Coromandel “brain”. I only wish I could have gone on a collecting outing with him.

Final notes: Get out on the trails or tramp the tracks to see the bounty of New Zealand nature, including the endemic birds such as the fantail, tui, weka, kea, saddleback, kaka, wood pigeon, or whio (blue duck). Likely you will need to visit a reserve or animal attraction to see the elusive kiwi, takahe, any of the penguin species, or the fearsome-looking tuatara lizard. The forests and parks treat with their canopy of rare trees, such as the kauri, huge and varied ferns, and undergrowth of mushrooms, lichens, and mosses. To witness the amazing sperm whales and their huge, dripping tails, include a visit to Kaikoura; you do not need to be terribly lucky to see numerous dolphins, likely the dungy but possibly hector’s as well. And if you are not quite satisfied with what you hounded yourself, you might want to wander into one of the South Island locations of Hetty’s Rock Shop to pick up some beautiful and/or interesting local stones such as piemontite, fossil crinoid, green jasper, meta-argillite, or green and purple atlantisite (aka tasmanite)...ok, that last one is from Australia.

New Zealanders detest possums, introduced from Europe, as they kill or eat the eggs of so many of the rare, local species such as kiwi birds. So, if you see one crossing the highway, it will be appreciated if you don’t swerve to miss the critter. Finally, you will see sheep, lots and lots; but, will you see them getting shorn? To make sure you do, plan your trip to arrive in Masterton, an hour or so north of Wellington, when the Golden Shears is on – normally the first week in March. These are the World Championships of Shearing, and you will not want to miss this quintessentially New Zealand event. Trust me.



If you’ve been out **Rockhounding or on a Field Trip** in the last couple of years and have something to show we’d like to hear about it. You don’t have to share your secret site but we’d like to know about your finds. If you do have a place you can tell us about we could have some great club sharing. If you know someone you’d like us to feature, tell me your suggestions and I’ll follow up with them. Thanks, Roz (Editor). Edrocket18@gmail.com

Across many cultures, **Emerald is the traditional birthstone for May**



Rough Emeralds, Muzo Mine,
Vasquez-Yacopí Mining District, Colombia
(Wikipedia)



polished Emerald,

<https://www.gia.edu/emerald>

It is also the traditional stone for a 20th and 35th anniversary. It is the alternate stone for a 55th Anniversary (Alexandrite is the traditional stone for a 55th Anniversary). It is also the stone for Cancer (June 21 to July 22. (Agate is the birthstone for Gemini.) Emerald is the stone for those born on Friday and as an alternate for those born on Tuesday. Some beliefs say emerald should be worn on Wednesdays and even other beliefs claim Thursday is when emeralds should be worn. It seems there are many excuses to wear emerald yet it is a stone that needs care .

Some say records show that the stone was sold in markets in Babylon as early as 4000 BC but that may be because of the way the name has evolved. The word smaragdus or smaragdus is either Ancient Persian or Greek that moved into Latin. It meant “green stone”. In non-standard Latin it became esmalodus or esmaralda. The Old French version was esmeraude and Middle English made it emeraude. Now you have the word “emerald,” but some of those ancient references may have been referring to any “green stone”.

Emeralds were mined in Egypt on Mount Smaragdus since 330 or maybe since 1500 BC. Rediscovered in the last 100 years, the ancient mines are considered “mined out” by many.

The ancient Egyptians believed the emerald stood for fertility and rebirth. Egyptian mummies were often buried with an emerald carved with the symbol of verdure—flourishing greenness—on their necks to symbolize eternal youth. During the time of Hippocrates emeralds were crushed into a powder and made into an eye lotion. The Aristotle wrote that owning an emerald increases the owner’s importance in presence and speech during business, gives victory in trials, helps settle litigation, and comforts and soothes eyesight. He wrote that an emerald in a pendant or ring will prevent epilepsy. At times Arab, Hindu and Spanish physicians used emeralds against poison, infection and dysentery. Emerald was believed to cut through illusions and spells, reveal the truth or falsity of a lover and even protect against possession by demons.

Pliny the Elder (AD23-79) described the use of emerald on the desk of early **lapidaries** who restored their eyes by looking at it. Its soft, green color would comfort and remove the weariness from working on other colored gems. In Ancient Rome, Nero supposedly watched gladiator fights through a large transparent emerald as he found the color to be calming. When the Spanish explorers invaded the New World the Incas had already been using emeralds for 500 years. The people in one city in Peru worshipped an emerald the size of an ostrich egg. When the Spaniards conquered the town they never found the carefully hidden emerald goddess. Perhaps their method of discovering true emeralds was the reason. The Conquistadors smashed many gems on an anvil to determine if they were real. They mistakenly believed true emeralds could withstand the test! Even diamonds at a hardness of 10 will shatter if hammered on an anvil. Hardness measures only the resistance to scratching.

Emerald is a variety of the mineral beryl ($\text{Be}_3\text{Al}_2(\text{SiO}_3)_6$) and is 7.5-8 on the Mohs hardness scale. Emerald's green can come from trace amounts of chromium or vanadium. Until the 1960's beryl coloured green by chromium was Emerald and all else was Green Beryl. In the 1960's, due to recent discoveries of large deposits in Brazil or Africa, the US jewellers accepted vanadium coloured green beryl as Emerald as long as it was darker green. Now, many gemmologists follow that system, but some still label Emerald as only beryl coloured by chromium. Iron will affect the colour too. Tones of emerald green can range from yellowish to bluish. More iron atoms increase the bluish tones.

Colombia produces 50-95% of the worlds emeralds depending on the year, Zambia is the second biggest producer. Many other countries produce emeralds. In the US, emeralds have been found in Connecticut, Montana, Nevada, North Carolina, and South Carolina. In Canada, in 1997 emeralds were discovered in the Yukon. The March issue of our Rocket newsletter has a map showing where emerald has been found in Western Canada.

According to gemsociety.org. "Emerald is considered a "Type III" gemstone, which means these gems are virtually always included to some degree. Because of this designation, a clarity grade of "very slightly included" is the normal range for emeralds. Well over 90% of the emeralds in commerce have been treated to minimize the appearance of the inclusions." "Emerald inclusions pose more than aesthetic considerations, however. (Emeralds)... are more fragile than other beryls. ...Their inclusions reduce their structural integrity. Emerald jewelry must be treated gently." Emeralds should only be cleaned with warm water, gentle liquid soap and a soft brush. Mechanical cleaning could boil out the oil used to treat inclusions or weaken the stone and cause breakage. All treatments should be declared when an emerald is sold. Oil treatment is traditional, but there are other treatments that are not as acceptable. Gems are graded on a four-step scale: none, minor, moderate and highly enhanced. The cost of emeralds and the prevalence of inclusions in natural emeralds there has led to interest and growth in synthetic emeralds since the 1960's.

Natural emeralds are a challenge to cut due to the inclusions. Faceters usually use an Emerald Cut to preserve more of the natural stone and reduce chances of breakage. Lapidaries might prefer the cabochon form. Some famous royal jewels have emeralds in cabochon form. Marlene Dietrich had a collection of jewellery with cabochon emeralds. Cleopatra also famously wore emeralds. Hers would have been cabochons.

Emerald is notorious for growing very large. Some famous Emeralds:

The "**Emerald Unguentarium**," a 2,860-carat (20.18 oz) emerald vase carved in 1641, is on display in the Imperial Treasury, Vienna, Austria. *This would be a chromium emerald.*

A 7,052-carat (3.1 lb.) **uncut emerald crystal from Colombia** is privately owned and considered priceless. *This would be a chromium emerald.*

The **Bahia Emerald** is an 840 lb. stone discovered in Bahia, Brazil, in 2001. This stone reportedly contains over 180,000 carats of emeralds (approximately 79.38 lb.), including the largest single shard of emerald ever found, described as "the size of a man's thigh". *This would be a vanadium emerald.*

Another famous, emerald is "**The Mogul Mughal**". Carved on both sides, one side has designs and flower shapes and on the other side is an inscription of a Shi'a invocations in naskh script, dated 1107. http://www.columbia.edu/itc/mealac/pritchett/00fwp/islam_course/carvedemerald.html

Pearl is the traditional gemstone for June.



It has been used as a birthstone since the early 20th century in western civilization and across many other cultures for even longer. Moonstone or Alexandrite are alternate modern birthstones for June. But from the 13th to 20th century June's birthstone was cat's eye, turquoise or agate. We'll need to look at those stones another time.



<https://www.gia.edu/pearl>

<https://www.gia.edu/pearl#buyers-guide>

Freshwater pearls are the alternate option for a 1st anniversary. Cultured pearls are the tradition for those celebrating a 3rd or 30th anniversary and as an alternate for those celebrating a 12th anniversary. None of the zodiac signs claim Pearl or any of the alternate June birthstones as their stone. Pearl is the birthstone for those born on a Monday. Another association between June and pearls is June brides. Pearls have been connected to weddings, fertility and love in India for more than 2 thousand years. In Europe, they symbolized modesty, chastity, and purity.

According to the Gem Institute of America, a Chinese historian first wrote about Pearls in 2206 BC. Others say Persian mythology called pearls "the tears of the gods" and some ancient Chinese mythology claimed pearls came from the tears of dragons from when they fought. Other Chinese beliefs claimed pearls could protect the wearer from fire or fire breathing dragons. Other legends claimed pearls were made by the moon who gave them its "celestial glow and mystery. Cleopatra once bet Marc Anthony over how much she could spend on a single meal. She won by crushing a pearl and putting it in her drink. Some say she dissolved the pearl in vinegar and drank the vinegar.

Thoughts of that vinegar lead us to how to care for a Pearl. They only have a Mohs hardness of 2.5-3.0 so do need some care even though they have been used in jewellery since jewellery was invented. Pearls should be stored in a cloth bag away from other gems. Always put pearls on last after perfumes and hairspray. Some people say to wear them preferably over clothing, not against skin though some styles of shorter necklaces are designed to be worn next to the skin. Pearls are sensitive to the acids in perspiration so, pearls should be wiped with a damp cloth after wearing, but never submerged or soaked in soapy water. Pearls are heat sensitive, so don't use steam or mechanical methods to clean them.

Pearls have been gathered since antiquity. There is evidence that saltwater pearls have been gathered from the Indian ocean for thousands of years. During the Han Dynasty the Chinese hunted for pearls in the South China Sea. Pliny the Elder (23–79AD) praised the pearl fishery of the Gulf of Mannar in Sri Lanka as most productive in the world. Spanish conquistadors observed many native people with clothing adorned with pearls. In 1550 La Peregrina was found in Panama and presented to the Spanish queen. It earned a slave his freedom and his owner the office of Alcalde. By the late 1800's, due to over-harvesting, natural pearls had almost disappeared from the market. They can still be found today, but they are rare and very valuable. Cultured pearl

production had been tried for many years, but around 1910 the Japanese were able to produce enough to create a cultured pearl market.

Pearls are an “organic” gem and the only one created within an animal. It is Calcium Carbonate (CaCO_3). A pearl is formed within a mollusk. Particular types are more prone to form pearls, especially the ones with a high luster. These are the ones that are farmed to create cultured pearls. When an irritant enters a mollusk naturally or is placed inside as in a cultured pearl, the mollusk coats the irritant with a secretion of calcium carbonate in the form of aragonite or a mixture of aragonite and calcite held together with an organic compound called conchiolin. This secretion is called nacre.

The value of a pearl is determined first by whether they are natural or cultured. Then their value is determined by a combination of their luster (how clearly it reflects- think of those cabochons you work on and your aim for a clear surface reflection), shape (especially symmetry, with round being the most sought after), color (which is impacted by the mollusk creating the pearl), quality of surface (few imperfections), orient (the iridescent play of colour seen when the pearl is turned) and size. Lustre and orient are impacted by the thickness of the nacre. Because a bead is inserted into a mollusk to create the cultured pearl the nacre will not be as thick as it is in a natural pearl of the same size so the lustre and orient of the natural pearl will be higher.

Gemmologists and jewelers can tell if a pearl is freshwater or saltwater and if it is cultured or natural by an x-ray exam.

Today, natural pearling for saltwater pearls is mostly in the seas off Bahrain. Also, Australia has one of the last fleets of pearl diving ships now used to dive for the south sea pearl oysters used in the cultured pearl industry. Significant numbers of natural pearls are found in these dives by gathering from the wild oysters.

Saltwater Cultured Pearls include Akoya from Japan and China; South Sea from the north west coast of Australia, the Philippines and Indonesia; and Tahitian (black) from Tahiti, the Cook Islands and Fiji.

Natural freshwater pearls have been found all over the world wherever river mollusks live. Some species produce more lustrous pearls than others and a natural pearl is still rare. Natural fresh water pearls were one reason Julius Caesar went to Britain. Now the river mollusks they came from are threatened and pearling was banned in 1998.

Cultured freshwater pearls have been tried in Tennessee, but the most successful commercial production is in Japan and China.

The largest saltwater pearls known are from giant clams. They are large, but lack the nacre and lustre that is so valued in gem pearls. The largest nacreous saltwater pearl is “*The Pearl of Asia*,” found in the Persian Gulf in the 17th century.

The largest known natural freshwater pearl is the pink colored Survival Pearl. This baroque pearl formed in the shape of a snail that entered a freshwater mollusk in Tennessee. The mollusk survived for 50 to 70 years after that entry, creating the unusual shape!