



The Bulletin of the NYMC

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NYMC Welcomes 2023

As we enter our 136th anniversary year, we continue to provide a wide range of talented speakers and fascinating topics covering everything from Jim Hird's talk on the Michigan Copper Country Then & Now, Quintin Wight's Scientific Value of Micromounting, Scott Braley's Collecting Radioactive Specimens, to the far reaches of our universe touching down on earth in Derek Yoost's Chelyabinsk Meteorite lecture. And there is much more to come. But this wide array of speakers and topics could only have been offered to our club because they presented virtually as opposed to in-person. In 2023 we will continue to present virtually with speakers located across the US, Canada, and possibly from Europe as well (I'm working on it!). ❖❖❖❖❖

Special Speaker Highlight

I would like to take this opportunity to highlight the scheduled program on March 8, 2023 when Inna Lykova will give us a virtual tour of the mineral section of the Canadian Museum of Nature.

Without a doubt, we are extremely fortunate to have Inna Lykova, Research Scientist and Acting Curator of the Canadian Museum of Nature, Department of Mineralogy provide this amazing opportunity for us, here, to experience what would otherwise be highly desired, but unavailable without a great investment of time and expense.

Per the Museum's website ([Inna Lykova - Canadian Museum of Nature](#)), Inna's specialties include crystallography and crystal chemistry of minerals, general and genetic mineralogy, the constitution, structure and properties of new inorganic mineral-like materials. She received

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canadian museum of nature
nature
musée canadien de la nature

her Doctorate in Geology and Mineralogy from Moscow State University in 2016. In April 2019, she joined the Canadian Museum of Nature after working for six years as a research scientist at the Fersman Mineralogical Museum RAS, Moscow, Russia. She currently conducts research in the areas of crystallography and crystal chemistry of minerals; post-crystallization transformations in minerals; mineralogy of alkaline complexes, fumaroles, and granitic pegmatites; and constitution, structure and properties of new inorganic mineral-like materials.

I expect a large turnout for this meeting as I will also be inviting other clubs to join us as we avail ourselves of this amazing opportunity. ❖❖❖

At the November Show, the Club Does Something New

By Diane Beckman

So, what was new?

- \$1 Mystery Bags (Gift of Ann Pizzorusso)
- Vintage Mineral Collections on Display!
- Free gift for both New AND Renewing Members

Mystery Bags for only \$1. Donated by Ann Pizzorusso, these bags were hugely popular. We sold 59 of them! That means, we increased club - attendee interaction 59-fold! I know for a fact that some people initially stopped by the club table solely because they were curious about what was in those mystery bags. Watching the bags being opened was a delight and the recipients' reactions were priceless.

Vintage mineral collections made from old stationery boxes or recycled plastic containers were on display, bringing back fond memories for many experienced collectors. I brought them to the show to inspire young collectors, our future collectors, so they could see, in person, how to start small and modestly. Because of course the key is to start! You can put together rocks that have something in common, such as location, or mineral type or even 'the first rocks I found on our latest family trip.' If you pick up a rock, make a note of where, when, what and even why you picked it. Years later you will appreciate that you did.

Celebrating our members. Memberships matter. So at this show, for the first time, we gave a gift of the NYMC keyring to *all* who became a member *or* who renewed their membership *at the show*. Consider it a special show perk. We had 1 new Individual, 3 family renewals and 8 individual membership renewals. Total dues received amounted to \$330.

Merchandise sales totaled \$378. At this show we sold 1 club T-shirt, an edition of *Reading the Earth*, two of *The 100* and two *Tweeting DaVinci*. This was in addition to all the other books sold at the show, many by Renee Newman and Diamond Dan. A discerning group, indeed!



This show would not be possible without the support of club volunteers. Anna and I give a heartfelt thanks to Molly Dorozensky, Vera Junkers and Diane Cramer for giving of their time to help at the show.

We *all* thank Roland Scal for providing his lecture "I Know What I Saw" on both Saturday and Sunday. (Yes, that's right - we gave the same lecture on both days, and that way, everyone had a chance to hear it!) This lecture was perfect for those interested in learning more about lapidary work and polishing, types of equipment and properties of various minerals commonly used as ornaments or jewelry.

Mr. Mohamed Bary of BaryGems, Inc., offered hourly door prizes sourced from *his own inventory of beautiful jewelry*. In that way, the vendors could donate their 'door prize' item to the NYMC instead. You can view the details on page 3 of this bulletin. Our next show will be on March 11th & 12th. Save the date!



November 2022 Show Dealers' Donations

AMAZON IMPORTS: A pair of pink, faceted rubies, Thailand



A&S OPALS: Opalized clam

AURORA MINERALS: Crystal obelisk



AYS INTERNATIONAL: Garnet necklace



BILL GANGI, MULTISENSORY ARTS: ferruginous granite, Arizona



BOB'S 2ND ACT COLLECTIBLES: Calcite, Belgium & stilbite, India



CELINKA: Color-zoned quartz

CHINA & SOUTH SEAS, INC.: Nephrite necklace



CRYSTAL CIRCLE: Pink fluorite, Spain



CRYSTAL MINE BRAZIL: Aquamarine in matrix of pink feldspar and pegmatite



CRYSTAL PASSION: Agate, Brazil

ETHIOPIAN GEMS: Dark opal, Ethiopia



EXOTIC MINERALS OF RUSSIA: Synthetic quartz



GARY'S GEM GARDEN: Grossular garnet with gem diopside



GEMS ARTS STUDIO: Astrophyllite (4)



INDIGO GEMS: Black tourmaline in quartz



KHYBER GEMSTONE: Faden quartz (2)



LAND OF CRYSTALS: Galena



SINGULAR GEMS: Labradorite

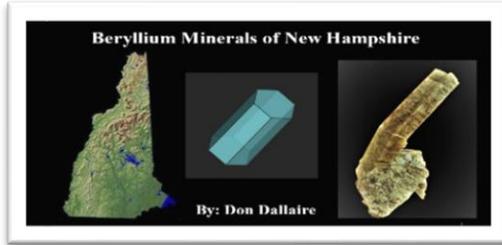
BARY'S GEMS: Show Producer and generous provider of space for the club table and all the door prizes! **THANK YOU!!!**



❖ Thank You To Our Members ❖

Ann Pizzorusso: Generously donated over 100 Mystery Bags to the club. She graciously brought them directly to the show venue where they were greeted with squeals of joy and delight by all. ❖

Vivien Gornitz: Made a large financial donation at the time of membership renewal. We are grateful for her financial assistance, her service as club secretary and the many articles she writes for our bulletin. ❖



“Beryllium Minerals of New Hampshire” Presented by Don Dallaire

📅 December 14, 2022 meeting minutes
by Vivien Gornitz, Secretary

Beryllium, the fourth element in the periodic table, is rare in the Earth’s crust, but occurs concentrated in various types of geologic deposits, particularly in silicic intrusive rocks such as the pegmatites of New Hampshire.

In addition to its beryl (emerald, aquamarine, morganite) and chrysoberyl (alexandrite, cat’s eye chrysoberyl) gemstones, beryllium’s physical properties, such as the combination of high flexural rigidity, thermal stability, thermal conductivity, fairly low density, relative transparency to X-rays and other radiation, make this metal desirable for aerospace applications, in X-ray equipment and particle detectors, and as an alloy in aluminum, copper, and other metals to strengthen or improve their physical properties.

Following a brief review of the geologic setting of New Hampshire, including its pegmatite deposits, Don presented a suite of lovely photos of NH beryllium minerals.

Bazzite can form attractive pale blue crystals. Bertrandite also appears in both small blue crystals, and also in a flat blocky habit. A gemmy 730 carat aquamarine from Groton, NH was fashioned into a small sculptural carving, while a smaller 22 carat aquamarine was crafted into a ring surrounded by garnets in a 20 gram gold casting. Beryllonite, rare in NH, forms small, odd cogwheel crystals. A former chrysoberyl site near Springfield once yielded large, bright, honey-yellow crystals.

Small octahedral, reddish-brown crystals of danalite were found in the Government Pit, near Albany. Phenakite on microcline was collected as several NH sites. Most of the rarer beryllium minerals only occur as tiny crystals that are best enjoyed as micromounts.

Some of the most notable NH beryllium minerals:

Bazzite $\text{Be}_3(\text{Sc},\text{Al})_2\text{Si}_6\text{O}_{18}$
 Bertrandite $\text{Be}_4\text{Si}_2\text{O}_7(\text{OH})_2$
 Beryl $\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{18}$
 Beryl, variety emerald $\text{Be}_3(\text{Al},\text{Cr},\text{V})_2\text{Si}_6\text{O}_{18}$
 Beryl, variety aquamarine $\text{Be}_3(\text{Fe},\text{Al})_2\text{Si}_6\text{O}_{18}$
 Beryllonite NaBePO_4
 Chrysoberyl BeAl_2O_4
 Danalite $\text{Fe}_4\text{Be}_3\text{Si}_3\text{O}_{12}\text{S}$
 Euclase $\text{BeAlSiO}_4(\text{OH})$
 Helvite $\text{Mn}_4\text{Be}_3\text{Si}_3\text{O}_{12}\text{S}$
 Hydroxlyherderite $\text{CaBePO}_4(\text{F},\text{OH})$
 Hurlbutite $\text{CaBe}_2(\text{PO}_4)_2$
 Hydroxherderite $\text{CaBePO}_4(\text{F},\text{OH})$
 Milarite $\text{K}(\text{H}_2\text{O},\text{Na})_2(\text{Ca},\text{Y},\text{REE})_2(\text{Be},\text{Al})_3\text{Si}_{12}\text{O}_{30}$
 Phenakite Be_2SiO_4



The club thanks Don for his well-organized and colorfully-illustrated presentation on New Hampshire beryllium minerals.

Don Dallaire resides in New Hampshire and is very familiar with the pegmatite localities that have yielded a large variety of rare beryllium minerals. Author and co-editor of several mineral-related publications including Rocks & Minerals Magazine, Lithography, Pegmatology, 2nd ed., he currently serves as an officer on the board of the Maine Mineral & Gem Museum. 📌◆◆◆📌



THE MUSEUM OF MINERALS AND CRYSTALS

By Robert L. Fox Jr.

All photos courtesy of Robert L. Fox Jr. foxbooks@att.net

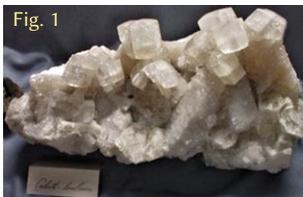
Robert Fox lives in Oshkosh, Wisconsin. For 35 years he owned a mail order book business that specialized in mineral and mining history books. He now collects rocks and minerals from Wisconsin and Michigan, also writing about their rich mining history. He is a member of the Oshkosh Earth Science Club.



What comes to your mind when you think of mineral museums? The U.S. National Museum of Natural History (Smithsonian Institution)? Harvard Mineralogical Museum? A.E. Seaman Mineral Museum? Just don't overlook the smaller, private, mineral museums. These museums are home to collections of local rocks and minerals. And some beautiful worldwide specimens, as well

In a modest looking brown color building located approximately four miles north of Dodgeville, Wisconsin on State Highway 23 you'll find The Museum of Minerals and Crystals. This amazing museum was founded in 1977 by David Johnson.

An enjoyable time was had speaking with Mr. Johnson about his museum, the specimens that are on display, as well as the lead and zinc mining that took place a short distance away in towns like Shullsburg, Mineral Point and Galena, Wisconsin.



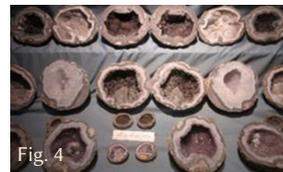
A large calcite specimen from the Shullsburg, Wisconsin area (figure 1) is one example, as well as the calcite on marcasite specimen shown in figure 2.

I particularly enjoyed viewing the large number of specimens on display from this Wisconsin - Illinois lead and zinc mining region.

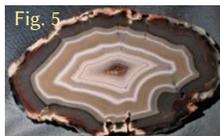


Check-out this beautiful 160-pound Illinois fluorite specimen (fig. 3) displayed in the popular fluorescent minerals exhibit.

As part of the large variety of worldwide minerals on display, there is a selection of Mexican geodes. (figure 4)



Other notable specimens include a single 90-pound quartz crystal from Brazil (not shown) along with numerous Brazilian agates and agate slabs. (figure 5)



If you are interested in amethyst, there are numerous specimens to see, including this Cathedral amethyst which was particularly impressive. (figure 6)



The "highlight" of the museum, for me, had to be the 'Man-O-War' Picture. (figure 7) This picture was made in 1954 by Joe Phetteplace who lived in Wauzeka, Wisconsin. Three thousand hours and 1,000 gemstone pieces combined to create this 24" x 36" masterpiece. Using diamond saws and grinding wheels, Mr. Phetteplace cut and polished pieces of jade, tiger-eye, sardonyx, agate, datolite, peristerite and malachite. Using the same techniques, he made portraits of Henry Ford and Herbert Hoover, also on display.



If your travels take you to Wisconsin's lead and zinc mining region, make sure to visit this museum as well as the many other historic and mining related attractions that are located in this historically significant mining area.

Members in the News

◆ **Ann Pizzorusso** published a small volume on "The Gems of Dante's Divine Comedy" in both English and Italian, excerpted from her original book "Tweeting da Vinci". This volume was cited as one of the top 4 gemological books published in Italian in 2022.

◆ Two of our multiple EFMLS & AFMS Bulletin contest award winners stopped by the club booth at the Show to pick up their awards. Pictured here are Barbara & Keith Noyes for their article "My Bathroom Rocks!" and Charles Snider (and his furry friend) for his article "Graves Mountain, Georgia". The Bulletin also received EFMLS and AFMS recognition in the Small Bulletin category.



◆ *Pseudo News* ◆

A Book Review – A Tease, Actually

I recently purchased a publication offered by Excalibur Mineral Corporation, Charlottesville, VA, as advertised in *Mineral News*. The booklet was intriguingly called *Pseudo News*. Since I am fond of pseudomorphs, I took the plunge and bought myself a copy.

It begins with: "*A brief history of The Pseudo News*" (an introduction written by Tony Nikischer). Needless to say, I was pleasantly surprised to discover that it had a "history" but saddened by the thought that it was something of the past. I shall repeat the balance of the introductory history here

and leave it up to you to decide whether to purchase the complete publication or not. I beg Tony Nikischer's forgiveness for the shameless plug given herein without his explicit permission and hope that many readers will be so curious about its contents as to contact him promptly to purchase what must be one of his few remaining copies.

And here, the brief history as told within, continues:

"In 1994, Dr. Phil Betancourt began publication of *The Pseudo News*, a short-lived but remarkably informative periodical devoted to pseudomorphs in the mineral kingdom. An avid collector, well-known archeologist, university professor and CEO of the Institute for Aegean Prehistory, Dr. Betancourt found time to produce quarterly issues of his publication for three years, ending its twelve-issue run in 1996.

During that time, he gathered information about remarkable occurrences of the past at famous mineral localities, presented up to the minute news of new finds, and provided solid information about the different types of pseudomorphs and how they formed. He frequently was the sole reporter, contributor and, of course, editor of the periodical. The demands of his career unfortunately caused the operation to cease publication after three years.

Dr. Betancourt has graciously permitted us to reproduce *The Pseudo News* in its entirety, including a comprehensive index that collectors will find extremely useful. Rarely seen today, this complete collection of the publication is dedicated to Dr. Betancourt's continuing interest in sharing the joy of the many facets of mineralogy."◆◆◆

⌘ Upcoming 2023 Meetings ⌘

Note: All meetings listed below are virtual, via Zoom, at 7pm ET

- ✚ Wednesday, January 11th **Dan Kile**: LAZARD CAHN AND HIS ZENTMEYER MICROSCOPE
- ✚ Wednesday, February 8th **Paul Brandes**: MINING IN THE ANCIENT WORLD
- ✚ Wednesday, March 8th **Inna Lykova**: A VIRTUAL TOUR OF THE CANADIAN MUSEUM OF NATURE
- ✚ Wednesday, April 19th **Francis Dudas**: DARK STAR MINE, MT, STRANGE RARE EARTH MINERALS
- ✚ Wednesday, May 10th **Pete Knudsen**: MINERALS FROM THE PC MINE, JEFFERSON COUNTY, MT
- ✚ Wednesday, June 14th **Eric Orlowski**: FIELD TRIP SAFETY & COLLECTING TIPS

You can look forward to another club get-together in August! Details to follow.



The World of Minerals

The *World of Minerals* is an ongoing series of articles written by Dr. Vivien Gornitz on timely and interesting topics related to geology, gemology, mineralogy, mineral history, etc.

The Romance of Emeralds (Part II)

(Reprinted with permission of Mineral News and Tony Nikischer)

The following concludes a two- part series on emerald. Part I discussed the geology, mineralogy, and major localities of this highly attractive green gemstone.

Emeralds in History

Emeralds have been known in Egypt since Pharaonic times. They were mined near Sikait (24°40'N 34°48'E) in the Egyptian desert, between the Nile River and Berenike, a Roman-era port city on the Red Sea. The emeralds were used as beads in their natural crystal form in earrings, and necklaces, together with gold, pearls, amethysts and other gemstones. Some were polished and shaped into cabochons and set into rings. Egyptian emeralds are not very gemmy by modern standards. They tend to be highly included, cloudy, and lack the vibrant green colors of fine Colombian, Zambian, or Brazilian stones. Nevertheless, Queen Cleopatra reportedly adored emeralds and adorned herself in emerald jewelry. She also gave emeralds as gifts to foreign dignitaries.

Although the lust for gold drove the Spanish conquest of the Incan empire, the conquistadores also appreciated fine Colombian emeralds. The green gems were fashioned into fine jewelry for royalty and the nobility, and also ornamented religious objects. One such object is the *Crown of the Andes* (or *Crown of the Virgin of the Immaculate Conception*, ca. 1660 diadem; ca.1770, arches), now at the Metropolitan Museum of Art, NYC), which originally decorated a statue of the Virgin Mary, in the cathedral of Popayan, Colombia.

The *Spanish Inquisition Necklace*, now in the National Museum of Natural History, Smithsonian Institution, Washington, D.C., has a complex history. This elaborate Colombian emerald and diamond necklace consists of 374 diamonds and 15 emeralds, the largest weighing ~45 ct. The necklace was originally made in India, later traded to Spanish and

French nobility, acquired in the early 20th century by an Indian maharaja, and sold to Harry Winston's in 1948. Mrs. Cora Hubbard Williams bought it in 1955 and subsequently bequeathed it to the Smithsonian in 1972. (The origin of the name is unclear, although its discovery and original use during the periods of the Spanish Inquisition may offer a clue).

An even larger emerald, [the 75.47 carat square-cut Hooker Emerald](#), also on display at the Smithsonian, was once the property of Abdul Hamid II, Sultan of the Ottoman Empire (1876-1909), and later acquired by Tiffany & Co. Mrs. Janet Annenberg Hooker purchased the gem in 1955 and set it into a diamond-laden brooch. She donated it to the Smithsonian in 1977. Another fine 37.8 carat Columbian emerald displayed at the Smithsonian is the [Chalk Emerald](#), set into a ring with diamonds. It was donated to the Smithsonian by Mr. and Mrs. O. Roy Chalk in 1972.

In the 16th and 17th centuries, following the Spanish conquest, Colombian emeralds were widely traded to India, Persia, and Turkey where these gems were highly revered because of the importance of green in Islamic tradition.

The Mughal rulers of India greatly appreciated fine gems. Among their favorites were diamonds, rubies, emeralds, spinel ("Balas rubies"), pearls, turquoise, and an off-white to pale celadon green nephrite carved into dagger hilts and gem and gold-encrusted bowls. Royal figures lavishly bedecked themselves with colorful gemstone-studded necklaces, pendants, rings, and turban ornaments. Dagger and sword hilts, small boxes, bowls and other objects were similarly decorated with floral, bird, paisley, and geometric

motifs. Gems were set using the [kundan](#) technique, a method unique to India. Taking advantage of the high malleability of pure gold, the goldsmith beats the metal into thin strips of foil until it becomes “tacky”. By applying pressure with a steel tool, the craftsman is able to press the foil around the stones and bond the foil to the underlying metal, thus avoiding the need for soldering.

The geographically varied sources of widely-used gemstones underscore the great wealth and vast economic reach of the Mughal empire. Large, clear diamonds were mined near the Golconda, Andhra Pradesh and Telangana states, India. Rubies came from Burma and India. The Balas rubies (spinel) originated in Badakhshan Province, Afghanistan. Turquoise was imported from Persia, and emeralds from the classic Muzo and Chivor mines, Colombia.

Famous Mughal Emeralds

Mughal¹ emeralds are frequently engraved with floral designs and inscribed verses. The 217.8 carat Mogul Mughal Emerald, one of the largest known (2.06 in × 1.56 in × 1.56 in (5.2 cm × 4.0 cm × 4.0 cm), dates to 1695-1696 and bears a Shiite inscription. It was sold in 2001 by Christies in London for £1,543,750 and now resides in the [Museum of Islamic Art, Doha, Qatar](#). One unusual object is a 16th-17th century, 252 carat hexagonal emerald cup retaining its crystal form, 41 mm high, with 38 mm wide faces, and inscribed with a Persian verse. It once belonged to the emperor Jahangir and is now part of the [al-Sabah Collection in Kuwait](#). A carved 83.08 carat emerald bead, mid to late 17th century, was sold by Christies for \$1,035,000 on June 19, 2019. [The Shah Jahan emerald](#), an oval inscribed 30.60 carat cabochon (4.90 x 21.98 x 7.41 mm, circa 1621-1622) went for \$555,000 at the same auction.

The [Topkapi Museum in Istanbul, Turkey](#) houses the famous [Topkapi Emerald Dagger](#), an 18th-century gem-studded dagger lavishly set with three large Colombian emeralds and diamonds, roughly 35 cm

(13.8 in) long. In 1739, Shah Nadir of Persia attacked and defeated the Mughal Emperor in India, ransacked the Imperial Treasury in Delhi and Agra, and removed valuables, including the fabled Shah Jahan Peacock Throne and the Koh-I-Noor and [Darya-ye Noor](#) diamonds. As part of a later planned peaceful diplomatic exchange between Persia and neighboring Ottoman Empire, Nadir sent valuable gifts, including a duplicate of the Throne, to Sultan Mahmoud of Turkey, who intended to gift Nadir the Topkapi dagger in exchange. But the plan was thwarted by Nadir’s assassination and the dagger was returned to Istanbul where it remains today on exhibit at the Topkapi Museum. The dagger was also featured in a 1964 heist film, *Topkapi*, starring [Melina Mercouri](#), [Maximilian Schell](#), [Peter Ustinov](#), and [Robert Morley](#). But the connection between emeralds and Hollywood extends beyond films like *Topkapi* or *Romancing the Stone*.

Actress Elizabeth Taylor loved precious jewelry. Emeralds were among her favorite gemstones. At her wedding with Richard Burton in March of 1964, she wore a large Bulgari emerald and diamond brooch on her wedding dress. Knowing her lavish taste in jewelry, Richard later treated her to a spectacular emerald and diamond necklace. Angelina Jolie is another Hollywood star with a passion for emeralds. Since 2009, when she wore a pair of large emerald earrings for the Oscars, emerald has become her favorite gemstone.

Emerald remains a popular gemstone today and is the official birthstone for May. The green color evokes the fresh, lush vegetation of spring. In many cultures, the color green is associated with rebirth, fertility, and abundance². While the finest quality emeralds remain quite rare and expensive, hence out of reach for the average person, many smaller, lesser-grade stones can be set into more affordable jewelry that is still quite attractive. ◆◆◆

¹ The Mughal empire, founded by Babur in 1526, lasted until 1858 when the British took full control of India.

² This color symbolism extends to green gems other than emerald, such as turquoise, amazonite, lapis lazuli or their faience or glass simulant in Ancient Egypt. It is reflected in

the jade cultures of China, Mesoamerica, and Maori New Zealand, as well as in the use of blue-green turquoise in the American Southwest, pre-Columbian Mexico, and Peru. In fact, many ancient peoples intermingled green and blues, seeing a close association between sky, water, and vegetation.

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<https://www.amfed.org>



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NYMC Membership Form

New _____ Renewal _____ (Check one)

Name: _____

Address: _____

Phone(s): _____, _____

Email (s): _____

Type of Membership (Select one): Individual (\$25) _____ Family (\$35) _____

If your child is 21 or older, then they are required to have their own individual membership at \$25.

Detail of Family members:

Spouse/Partner Name: _____

Email _____

Spouse/Partner Phone(s): _____

Children's Names and ages (You are considered a child if you are under the age of 21 and living at the same address as a parent listed above): If there are more than 3, please list on reverse side.

Name _____, Age _____

Name _____, Age _____

Name _____, Age _____

Mineral related interests and other skills you would like to share with the club:

**Make check payable to the New York Mineralogical Club
and mail to NYMC, PO Box 77, Planetarium Station, New York, NY 10024-0077**



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