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Now that my garage is all set up I have room again to do jewelry. I know that I have mentioned it in passing, but in my youth I was a jeweler. I have done a few pieces each year for fun all my life. I am looking forward to doing a lot of jewelry in the future.

With meteorites my main focus it only makes sense to include meteorites in the pieces of jewelry. My philosophy has always been to use pieces of meteorite that would most likely be considered waste due to their size or quality. Pieces in other words that would not make a collection specimen.

The one thing about stone meteorites is that you are going to get mostly brown as a color. So I have been exploring the wonderful colors of gemstones I can mix with meteorite pieces. Below is a picture of some polished ruby crystals and some ruby cabs that I made. Ruby is a little harder, no pun intended, to work with. At 9 on the hardness scale it is one down from diamond. You have to use diamond pastes, pads, and disks to cut facets and polish ruby. A strange thing about the hardness scale is that the increments are not regularly spaced. It was sort of a pick 10 things that were gems or minerals and give them a number in increasing hardness. So corundum which is Sapphire and Ruby is nine. But, if the increments were spaced by more actual hardness the diamond would be something on the order of 40. It is that much harder than corundum. Stone meteorites have a host of minerals in them and all are fairly soft from a lapidary point of view. Except of course for the diamonds found in carbonaceous chondrites and urelites. But I can not imagine those types becoming jewelry pieces.
Several different colors and styles of cut ruby are seen here.

Some types of jewelry lend themselves to meteorite use more than others. Meteorites being what they are do not do well with washing and getting wet. So rings are really not great choices for utilizing stone meteorites. Unless they are worn occasionally for a special event. I have some rings that I will scatter pictures of through this article. Pendants and ear rings make good meteorite jewelry candidates. They are not in water and not handled much. Not used in work to be worn away like rings would.
The ring on the left has a large low dome cabochon of Sahara 99676 and on the right is a Moldavite cabochon.

I realize the entire subject of meteorites being used in jewelry is a topic of debate. But, after you cut a great amount of meteorite material you will get some pieces too small or too weathered for collection specimens. Both of these negatives for collecting can be positives for jewelry. Small pieces of something really common or inexpensive are never going to sell except in a jar as a bottle of small stone meteorite pieces. Weathered out meteorites are really low quality for the collector since no metal grains remain. That makes them nice for jewelry since there is little that can rust away in the future. They may be pretty stable. They also get harder and more homogenous in color when they are weathered. That sometimes makes possible a higher polish and a more resistant surface. So my view is that I am saving some pieces from the scrap container and offering them to a different demographic. They will be interesting and conversation starting.
NWA 869 is in the ring on the left, a cabochon of Gibeon iron is in the ring on the right.

Some of the equipment I use for cutting meteorites will certainly find use in the jewelry production. All rocks cut sort of the same. But, making cabochons is very different from making plain slices. So here is how its done for all the aspiring lapidary artists in our readership. This and a couple other articles coming in following months are intended to replace the book I wrote called Tools and Techniques for Meteorite Preparation. I will not be printing any more of those. The book went into more detail on some things and showed the tools and machines, but I will try to share all the “secrets” here.

Some types of jewelry are beyond the scope of this article such as this Sikhote Alin necklace below. It requires a torch and a lot of knowledge about how to do silver soldering. After about 15 years of use it is still looking quite good and has never shown any rusting. Though this pendant is outside the scope of most individual’s manufacture the making of cabochons is not so let us get right into it.
You begin with your small piece of meteorite. It may be a broken up endpiece or small slice or a wedged slice that you can not easily sell. You need to create a flat back side. If the setting is closed by metal then you may not want or need to polish the back. After you have the flat back you can take an aluminum scribe and draw the shape of the cabochon on the flat surface. I just sharpen a length of aluminum wire about six inches long to a point. The line may be a tracing around another stone you want to match or may be made using a template which is obtainable from lapidary supply stores. Normally, you would attach the rough stone to a dop stick at this point. This is a skill that must be developed with practice. Basically, you will take a dowel of wood or metal tube and with a candle or alcohol lamp melt dop wax onto the end of the stick. Once you have a blob on the end of the stick you have to attach it to the stone on the flat back. This is best done by warming the stone until it is too hot really to hold and hot enough to just melt the wax itself. I place the stone on a warming plate suspended over the flame. It is sort of a tripod deal that I can put my alcohol lamp under. But a candle works fine and holding the stone in twizzers works fine too. Just do not let the stone get sooted up or oily from the flame it will not stick properly. I usually heat the bar of dop wax over the flame until it melts and then drip a few drops or rub the melting wax onto the back of the stone. You will want to stay inside the aluminum scratch mark or you will not know where to grind. If you happen to cover it you can use your finger nail to push the wax back when it has cooled a little. Be careful you can burn your fingers on the hot stone or the hot wax. Once you have a little wax melted on the stone, reheat the wax on the dop stick and touch the dop stick to the wax on the back of the stone. They will weld together. After the wax has cooled a little but while it is still plastic, you need to adjust the position of the stone so that it is centered and square on the dopstick. You can mush around the wax to make it a better uniform shape if you need to.
The series of photos above shows the stages of cabochon grinding from small wedge unsellable slice to rough ground domed stone.

Now you grind the edge of the stone down close to your aluminum scratch line. If the setting is already made or the size is critical for matching, then you want to stop a little bigger at this rough grinding stage. You need to leave a small amount of material for fine grinding and final contouring of the bottom edge. The top of the stone may be way too thick and wildly shaped at this point. Your job now is grind it into the shape you want.

Here is where is gets artistic. You will have to visualize the height and curve of the dome that you wish to create. It may be a high dome. It may be a lower flatter dome. It may not be a cabochon. Perhaps you want to make a tablet shaped stone that is square with small facets. I made that type in the ruby ring shown below. To some extent it may be the amount of meteorite you are willing to grind off and how much you feel you wish to preserve of the material that determines the grinding you do. By rotating the dop stick in your fingers while pushing it against the grinding stone (or diamond disk) you will remove the unneeded material. With practice you will be able
to get the shape quickly down near to your line. The stone at this point will have sides perpendicular to the base which is attached to the dop stick. You can begin to shape the top and the curve of the cabochon. Tilt the position of the grinding so that you are grinding down the sides near the top instead of the side edge. While always spinning the dopstick between your fingers remove the material as uniformly around the entire stone as possible. If the top is very irregular, say thick in one area and thin in another that is ok. You can go ahead and level it down to a little more than the thickness you want on the finished domed stone. Remember, you need to leave some material here also for fine grinding, sanding, and polishing.

Gradually, you will remove the material from the stone, You are creating the curve by changing the angle that you use and the area where you grind. You can slowly work your way in from the edge toward the center of the top. Finally, the very middle of the top will no longer be a tiny flat circle or oval but part of the curve. At this point in rough grinding you will likely have a surface that is not smooth but a series of many steps of different angles. That is just fine, you are going to smooth those away with more control using a finer grit grinding wheel or diamond disk. Rough grinding can be done on most stones with a coarse wheel or a diamond disk of around a 150-250 grit. I do not use coarser disks then that on meteorites because meteorites are not that strong and coarser wheels and disks bang the stone too hard during beginning stages of shaping. For the fine grinding stage I jump to between 400-600 grit diamond disks or fine grinding wheels. Oh, important thing I forgot, despite meteorites not liking water you need to use water at all stages of grinding and distilled water is best for the stone. If you do not, you will be living in a cloud of dust that is bad for you and the stone will get very hot. It may break but for sure the dop wax will get soft and the stone will likely fly away. It may strike the bottom of your grinding enclosure and break or chip. Regardless, of what else happens you will be reattaching it to the dop stick.

In fine grinding your motion will change. You will be moving the stone on the wheel randomly and gentler. The idea now is to remove all the little peaks from the stages of coarse grinding and making a smoother real curve instead of a curve of flat steps. You will grind for a few seconds, then dry off the stone and check it by holding it up to a window or light. Spin the dop stick in your fingers and see if the stone has the shape you want and that it is not flat in spots or off center or wrongly sloped to one side. Once you are happy with the shape and smoothness you are ready to sand it really smooth.

Sanding is another skill that you will develop with practice. You can use a sanding disk or sanding drum they come in many sizes 6-10 inches. You will have a wide selection of grit papers, disks, and belts to use on them. Some are adhesive attached some are held by tension or centrifical force. I sometime use them still for many stones, but for meteorites I do it by hand. The minerals are not hard usually and my hand way is fast and easy. But, it will take some practice to get the method.

I take a sheet of sand paper, usually aluminum oxide, usually around 600 grit. I lay a portion of the paper the size of my hand across my palm. I fold slightly the paper between a valley created by my three middle fingers. I then run the stone still
attached to the dop stick up and down the sand paper valley. I spin and rock the dop stick while sanding so that every portion of the stone is sanded. This method works very quickly to smooths the stone to a semipolished surface with no remaining bumps or grooves.

Polishing is the last stage; if you have checked the size and it is correct for the setting. If it is not you can grind the edge slightly on the fine disk to trim it up. Make sure that this fine ground flat ring at the base of the stone will be concealed in the bezel or under the setting. If is is not going to be concealed you will need to sand and polish the edge. I often do not run the curve of the dome all the way to the base as a sharp corner. They chip easy when setting the stone and during handling. I often leave a thin band around the bottom that is square to the base. Or on thin low domed stones I will roll off the edge and make it not so thin right at the edge. Another thing that is often done is to smooth off the square bottom corner completely by sanding it into a rounded corner. Then this can be polished if you want. Stones that are rounded off on the bottom corner are much less likely to chip during setting.

The black gemstones on the left are made from Thailand splashform tektite, in the middle are two small moldavite cabochons and on the lower right is a high domed gemstone made of Sahara 99676.

Polishing can be done by hand the same way I just described using film polishing material cut from a roll. Or it can be done using polishing compound on a felt or leather disk or with polishing pads. I prefer cerium oxide as a polishing compound on
felt and leather. It is far less messy then red rough which is fine for polishing silver and gold but will stain the meteorite. Cerium oxide is also a quicker agent for most stones and gives a nice polish. It is among the least expensive of the polishing compounds. But polishing film is a no mess, no clean up at all, alternative. The rolls last a long time and they come in all grades of fineness. When it is finished being polished using the film the gemstone is done except for a wipe on a piece of cloth. If you use leather or felt on a machine you will have to remember to go slowly since the stone will get hot without water. You will probably have to use water at least enough to keep the cerium oxide on the leather a slurry. It is your choice. I just do not like the staining and clean up of the stones and use polishing films for meteorites. I do use leather with cerium oxide often for all tektites including Moldavite, for Libyan Desert Glass, and any other non-porous hard stone.

Once your stone is polished you are ready to remove the stone from the dop stick. You need to gently warm the stone once again and when the wax softens peel it from the back of the stone. If there is any residue it can be scraped off with a sharp single edge razor blade or lightly sanded away. Now you have to decide if you wish to polish the back of the cabochon. You could have polished it at the very beginning once you ground it flat and I often do. It prevents that fatal error right at the end like scratching the polished dome accidentally. But, it is easy to polish at the end as well. Since it is flat you can do it with sand paper and polishing material on a flat surface by hand. If you choose to use power polishing equipment you will probably need to redop it using the domed side as the one you attach to. This is fine and can easily be done, but hand polishing of soft materials like meteorite is faster and easier and less risky.

I am sure there is much more that I could say about this. It is something that becomes clearer once you have done it a few times. It is pretty easy with meteorites and the work moves along quickly. With harder stones it takes much more time. I can make a nice cabochon out of meteorite in about a half an hour start to finish. But, a ruby with all the disk changes and the diamond paste changes in polishing may take two to three hours. There is also the much more difficult work at the beginning deciding where within the larger crystal to take the ruby gemstone from. I may have three or more cuts on the saw to get to the rough piece. Since I am using meteorite material already cut small I will at the most have one cut to reduce it to size for cabbing. I think anyone with even some simple tools can make a cabochon. There are even hand cabbing kits available. With no equipment required at all they work well. They include boards you hand hold with all the grits attached. Other boards with polishing material attached are supplied. You do the grinding and polishing by hand. But, you can make a nice stone.

After you have your gemstone you can set it in whatever type of setting and piece of jewelry you chose. Stock casting can be obtained from numerous sources. You can remove the stone from an old piece of jewelry and replace it with yours. Or you can make your own silver or gold piece and learn a few more skills along the way.
Here are a matched pair of gold rings that I made years ago. Each has had several stones in them over that span of time. I was never happy with either ring before. I am now happy with the NWA869 in the one on the left. The ring on the right has a natural untreated ruby. I cut it with steep facets forming the sides so it can be bezel set. After all the stone changes the bezels are getting sort of messed up. I think this is the last change I can make before the bezel metal cracks.

Pieces of meteorite jewelry may begin appearing for sell on our website in the future as I get some made. I hope you will take a look and enjoy with me a part of my life I have come back to after many years of doing other work. If you decide to do some lapidary work I would be delighted to hear about it. If you run into problems I would be happy to give some answers if I can.

Until next month have fun, Jim
Meteorite Market Trends

by Michael Blood

This Month’s Meteorite Market Trends

by Michael Blood

Please Share and Enjoy:
To celebrate his life, Ron’s former co-workers at Mt. San Antonio College (Mt.SAC) helped his family organize a memorial that brought them together with his friends, former students and colleagues in astronomy and meteorite-related fields, to share recollections and join together in a celebration of his career and life.

This article follows a shorter announcement in the September issue of Meteorite-Times Magazine, as well as, a more personal tribute to my friend and colleague in the October issue of the same publication.

This article appears in the July 2012 issue of Meteorite-Times Magazine.

The memorial for Ron was held on March 29, 2012. It was held on a Thursday, so the reception started at 5:30PM in the lobby of the Randall Planetarium on the campus of Mt. San Antonio College (Mt.SAC) in Walnut, California.

By the time Monika Waiblinger and I arrived at the reception, we found the lobby full of invitees and everyone was engaged in conversation. With a quick glance around I was able to spot a few faces that I could recognize as being from the “meteorite community”, but it was clear that we were in the minority. We are greeted by John Kashuba, a fellow writer for Meteorite-Times Magazine. And in short order he introduces Moni and me to Dorothy Norton, which is only appropriate, because it was through Dorothy that I got my invitation. Moni had never met Dorothy, but no sooner had I finished introducing Moni, I was being pulled-over to another group of
people by Dorothy. She said, “I have here, someone that you will want to meet.” And she was right. Because in the middle of that introduction, I realized that I was shaking hands with Ron Oriti, the legendary classmate and colleague of Ron Hartman and Richard O. Norton, as well as, the co-finder with Ron of the Lucerne Valley Meteorites. I tried my best to explain to Mr. Oriti that it was through his exhibits at the (old) Griffith Observatory that I taught myself how to identify a meteorite. But in the end, I'm still not sure that he realized that I was the person responsible for having his Lucerne Valley Meteorites renamed to LV 002 (LL4) and LV 003 (H6). Luckily, I had several more conversations with Ron during the course of the evening. Each time they would start by Ron coming up to me and saying, “Have you heard the story about me and Ron and Richard...?” And each time I would wish that I had a tape recorder as Ron would recount another story that I had never heard before. But those stories will have to be the subject of another article.

As part of the reception everyone was served ice cream by the Mt.SAC staff. This refreshment was an intentional homage to Ron Hartman, who had a penchant for treating the department staff to ice cream at the local Baskin & Robbins. Many a staff meeting was conducted in the setting of an “ice cream social”.

I was glad that the reception lasted as long as it did, because it took me quite a while to make my way around and introduce myself to all of the family members, not to mention the Mt.SAC staff in attendance. After the reception, we all took a seat in the Planetarium and were treated to a special show.

The following images are photos that were taken at the reception by Dorothy Norton, John Kashubua, and this author.
Julie Bray-Ali, a colleague of Ron Hartman at Mt. San Antonio College, helped the family make arrangements for the reception to be held at the Planetarium. Photo by Dorothy Norton. (Click on image to enlarge.)
Dr. Larry Redinger, Dean of Natural Sciences at Mt. SAC, points to a plaque commemorating Ron’s 38-year teaching and planetarium career. Photo by Dorothy Norton. (Click on image to enlarge.)

Jeff Schroeder, a former student of Ron Hartman, pays his respects to Ron’s wife, Petrea, at the reception. Photo by Dorothy Norton (Click on image to enlarge.)
Moni Waiblinger and I, pay our respects to Ron’s wife, Petrea. (Click on image to enlarge.)
Ron Hartman’s son, Jim Hartman, with Susan Reeder at the memorial. Photo by John Kashuba. (Click on image to enlarge.)
John Kashuba, Dorothy Norton, and Ron Oriti. These are the first people that Moni and I met on entering the Reception. Photo probably taken by me, but definitely taken with Kashuba's camera. (Click on image to enlarge.)
Ron Oriti holds forth, while this author, Moni, and John Kashuba listen intently. I finally get to meet Ron Hartman’s and Richard Norton’s colleague and classmate from UCLA. Ron Oriti, is one of the original “3 Musketeers” and last remaining protégées of Frederick Leonard. Photo by Dorothy Norton. (Click on image to enlarge.)
Dorothy Norton (center), Ron Oriti (on left) and I at the Reception. Photo by Moni Waiblinger. (Click on image to enlarge.)
Bob Jackson, Moni Waiblinger and John Kashuba (left to right) at the reception.
(Click on image to enlarge.)
After the Reception, everyone entered the James and Eleanor Randall Planetarium for a “special show” presented as a live narration by Julie Bray-Ali. (Click on image to enlarge.)

After the Planetarium show, the lights were kept low and everyone remain seated as the next segment of the Memorial commenced. This portion was titled, “Messages from family and friends”. And as the title states, a variety of people came forward to speak about Ron, to include not only colleagues and co-workers at the College, but also friends and former students, as well as, close relatives.

I am glad that I was able to attend this Memorial for Ron Hartman, because I was able to learn a lot more about this man that I consider to be my mentor. I learned from his friends at the Memorial that, outside of his many duties at the College, he was also considered an expert on archeo-astronomy, to include having conducted fieldwork in Egypt. I learned from former students that Ron’s influence resulted in them having carriers as assistant planetarium directors and as planetary engineers with NASA. What I learned from his co-workers only confirmed what I had already known, that Ron had more than succeeded at carrying forward the torch that had been handed to him by his UCLA professor, Frederick Leonard.

And finally, what I learned from his family about Ron the man, as a brother, as a husband, and as a father, was even that more special to me. I very much appreciated seeing the “old” family photos of Ron, which were displayed by his brother, Chris Hartman.
I've tried to reproduce many of them in this article (see below).

The following images are from photos that were taken inside the Planetarium, after the show, by Dorothy Norton and this author:

![Image of the show](image.jpg)

After the show, “messages from family and friends” were presented. Jeff Schroeder gives his personal eulogy. Jeff was a former student and was greatly inspired by Ron Hartman. He was also the assistant at the planetarium for many years. Jeff now works at Jet Propulsion Laboratory (JPL). Photo by Dorothy Norton. (Click on image to enlarge.)
Ron’s son, Ricky, recounts family life in the Hartman household.
Ron’s younger brother, Chris Hartman, displays a poster of “old family photos” after the special planetarium show, and reminisces about Ron’s early days in astronomy. (Some of these photos are shown below) Photo by Dorothy Norton. (Click on image to enlarge.)

The following images are of photos that were brought to be shared with everyone at the Memorial by Chris Hartman and other family members:
Ron Hartman (probably 12 years old) on a family outing in the San Gabriel Mountains. (Click on image to enlarge.)
Ron Hartman (1948) looking pensive while reclining in the front-yard of the family residence. (Click on image to enlarge.)
Ron Hartman (1952) with his homemade telescope and spare parts. (Click on image to enlarge.)
Ron Hartman (1955) with his younger brother, Chris, while working on a telescope. (Click on image to enlarge.)
Ron Hartman (circa 1967) in his new Planetarium at Mt.SAC. (Click on image to enlarge.)
Meteorites (collected by Ron) on display in the lobby of the Planetarium at Mt.SAC (circa 1980's). Click on image to enlarge.
Ron Hartman (March 30, 1999) – very rare photos of him searching for meteorites at Lucerne Dry Lake. Photos by Jeff Schroeder. (Click on image to enlarge.)
Ron Hartman (June 1999) – in front of that same display case depicted in Chris Hartman’s earlier photo in the lobby of the Planetarium at Mt.SAC. (Image by Bob Verish.)
Ron Hartman (2003) with the “Spitz projector” – from a photo on the front page of a local newspaper. Eventually the Planetarium was refurbished through a generous donation from The Randall Foundation. (Click on image to enlarge.)
Ronald Neil Hartman  
7/23/1935 - 8/30/2011

Loving husband, Perfect father  
Inspiring Teacher, Great friend to all.

Each life is like a letter of the alphabet. Alone it can be meaningless. Or, like his beautiful years with us, it can have great meaning.

The following obituary appeared on the Meteoritical Society website “Newsletter“:


Ronald N. Hartman (July 23, 1935 – August 30, 2011)

Ronald N. Hartman passed away on August 30, 2011, after a brief illness. He was a Professor of Astronomy and Director of the Planetarium at Mt. San Antonio College in Walnut, California for 38 years and was well-known in the community of meteorite collectors and hunters. His passion for meteorites was kindled when he studied astronomy at the University of California, Los Angeles under the renowned meteoriticist Frederick C. Leonard, a founder of the Meteoritical Society. He worked at Griffith Observatory giving public lectures in the 1960s and began investigating California dry lakes for the presence of meteorites. He discovered the Lucerne Dry Lake strewn field in 1963 and returned to that site in 1999 to find more of the illusive little black rocks from space. Throughout his career he continued to hunt for meteorites, first at Meteor Crater, Arizona (when it was legal) and Odessa, Texas. He found, traded, bought, cut and sold meteorites as well as tektites and shatter cones and built up a large collection, part of which is displayed at the Mt. San
Ron was the oldest son of Albert and Evelyn Hartman. He was born in Milwaukee, Wisconsin on July 23, 1935, and moved to California at the age of 10. In 1965 he married Petrea Nelson of Reno, Nevada. He is survived by his wife and two sons, James and Rick Hartman, his brother Chris Hartman, a nephew Christopher Hartman and niece Laurel Meable.

More info here: More about Lucerne Valley Meteorites first found by Ron Hartman on Lucerne Dry Lake.

“Click here to go to the original “news-list”.

Dedicated to Ron Hartman, for a life well lived and carried forward in the hearts of those he touched.

Posted originally on 2012/07/07 | by Robert Verish

Please add your Comments below.

ACKNOWLEDGMENTS:
I would like to thank Dorothy Norton and John Kashuba, particularly for the use of their images, as well as to Nick Gessler, for their help with this article.
REFERENCES:


UPDATE:
Click here to go to “A Tribute to Ron Hartman” – an extension of this Bob’s Findings Article for September 2011 – to see an on-going compilation of links regarding the life and passing of Ron Hartman.

Bob’s Findings Article for October 2011 – in Meteorite Times Magazine: Ron Hartman and the Lucerne Valley Meteorites

Ronald N. Hartman Obituary: View Ronald Hartman’s Obituary by …
Ronald Hartman’s life story, offer tributes/condolences, send flowers or create … Walnut, California for 38 years and was well-known in the community of meteorite collectors and hunters …
http://www.legacy.com/obituaries/pasadenastarnews/obituary.aspx?n=ronald-n-hartman&pid=156439448

Ronald N. Hartman – Wikipedia, the free encyclopedia

Ronald N. Hartman (July 23, 1935 – August 30, 2011) was a professor of astronomy and the … Throughout his career he continued his search for meteorites at locations such as Meteor Crater, Arizona and Odessa Meteor Crater, Ector County, Texas …
en.wikipedia.org/wiki/Ronald_N._Hartman

Bernd Pauli pays his respects on the Meteorite-List website (Click on image to link to the original website.)
Ron and wife, Petrea

Ron Hartman’s “People” interview on the Meteorite-Times Magazine website (Click on image to link to the original website.)
Ron Hartman with one of his pet miniature goats on the IMCA website (Click on image to link to the original website.)
Ron Hartman on the IMCA website (Click on image to link to the original website.)
Ron Hartman relaxes after a meal from Michael Blood's website. (Click on image to link to the original website.)

Ron Hartman, as depicted on the Michael Blood website (Click on image to link to the original website.)
Ron Hartman with Doug Ross at the meteorite display case in the Mt.SAC Library (one of the last images taken of Ron).

Search results for internet references to Ron Hartman:
- IMCA co-founder
- Ron’s website
- Lucerne Valley Meteorite
- http://www.michaelbloodmeteorites.com/TektiteParty05.html

My previous articles can be found *HERE*

For more information, please contact me by email: Bolide*chaser
by Anne Black First of all our sincere thanks to Zelimir Gabelica who had a very serious health scare at the beginning of this year and managed to recover on time to organize this year's show. Thank you Zelimir, I don't know what the Confrerie, the town of Ensisheim, France or the Meteorite Community would do without you!

The first order of business on Friday was of course to announce and welcome the new Confreres de Saint Georges, Gardiens de la Meteorite de Ensisheim. The first announced was Dr. Arthur Ehmann, Professor Emeritus and Curator of the Monnig Collection, who was visiting Ensisheim for the very first time, and was very surprised since somehow no one had warned him.

Dr. A. Ehmann, a brand new Guardien
(Photo courtesy of H. Strufe)

Also recognized were Dr. Ludovic Ferriere, Curator of the Meteorite Collection of the Museum of Vienna, Madame Comette whose house was the impact site of the Draveil meteorite, Dima Sadilenko, Rob Wesel, and several others whose names I did not catch, very sorry.
All the new Guardians
(Photo courtesy of H. Strufe)

And this was followed by a welcoming speech by Zelimir and of course a glass of the local wine. Then everyone convened under the large white tent raised along the church for a nice dinner catered by the “Boeuf Rouge”, a great restaurant just a bit further on the square. And of course for a whole lot of talking.

Saturday morning the sun was shining bright for the first full day of the Show. As usual it occupied the whole upper floor of the Palais de la Regence, across the square from the church where the meteorite had been hanging in chains for hundreds of years. At the top of a long circular stone staircase, the show is divided
in several connecting rooms with high carved wood ceilings.

First Room
(Photo courtesy of O. Girard)

A lot more NWAs
(Photo courtesy of O. Girard)
A giant Sikhote-Alin shrapnel piece
(Photo courtesy of H. Strufe)

Then on to the Main Room with a lot more dealers, and meteorites.

The main room as you enter it
(Photo courtesy of O. Girard)
Different view of the Main Room
(Photo courtesy of O. Girard)

And a few highlights:

Some Tissints still available
(Photo courtesy of O. Girard)
A large choice of meteorite slices
(Photo courtesy of H. Strufe)

Laurent Jaworski and Madame Comette
(Photo courtesy of O. Girard)

Thank you Laurent! Your heart is in the right place!

See you all again next year. According to Hanno Strufe’s website, the Ensisheim 2013 show is only 340 days away, as I write this. Time to make your reservations for the annual pilgrimage to where it all began.
The Ensisheim meteorite in its historical case
(Photo courtesy of H. Strufe)

This article has been edited by Anne Black and Norbert Classen.
Coolidge C4 – ung

by John Kashuba

The namesake of the Coolidge grouplet of meteorites was found in 1937 and has been classified H4, CV4 and C3.8-ung. Studies distinguish Coolidge from CK chondrites (which contain type 4 examples) and from CV chondrites. Some chondrules are large and layered repeated accretion and heating in the solar nebula.

Skeletal crystals inside a chondrule. Coolidge C4 – ung.
A large, layered chondrule – the result of several episodes of accretion and heating. Chondrule diameter is 3.5 mm. Coolidge C4 – ung.
The round black spots are blebs of metal. Coolidge C4 – ung.
An aggregate of fine olivine grains 2 mm in diameter. Coolidge C4 – ung.
A chondrule with two intersecting sets of olivine bars. Are the sets crystallographic twins? Coolidge C4 – ung.
The same chondrule with the crossed polarizing filters rotated so that one set of bars is in extinction. Coolidge C4 – ung.
The other set of bars is in extinction while the other set is visible. Coolidge C4 – ung.
2.25mm long. Coolidge C4 – ung.
Most of the dark areas inside this feature are metal. Coolidge C4 – ung.
The same feature in incident light with the metal showing silver-gray. Coolidge C4 – ung.
A radial pyroxene chondrule with a slightly scalloped (and cratered?) edge. It is one half millimeter in diameter. Coolidge C4 – ung.
Here is a classic Anda tektite from northwestern Pangasinan Province, Republic of the Philippines. This specimen shows the trademark bowtie or flower ornamentation reminiscent of rodent chew marks common to this region. There are also Thailandites with Anda-like ornamentation (and they are often inappropriately offered on Ebay as “Anda tektites”; to merit the name genuine Andas must come from the Anda region!).
The peculiar ornamentation decorates both primary surfaces and, as seen in the second photo, old breaks and bubble interiors. The latter implies a terrestrial etching origin. I have noted differences in the average specific gravity of Anda and non-Anda Philippinites. The same contrast occurs in Anda-like Thailandites and their non-Anda-like counterparts, which hints at a possible compositional factor contributing to the ornamentation, the full explanation of which remains a mystery for me. (54.5 grams; author’s personal collection).
# Meteorite Calendar – July 2012

by Anne Black

Please click on the meteorite calendar to view a larger image.

## Calendar of Falls: **July**

*as of November 15, 2011*

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*Fell in July but exact dates unknown.*
Sutter’s Mill
by Editor

Our Meteorite of the Month is kindly provided by Tucson Meteorites who hosts The Meteorite Picture of the Day.
Contributed by K&D Meteorites, 21.47 gram individual

Submit Pictures to Meteorite Pictures of the Day
Well Preserved Bediasites

by Editor

Weight clockwise 27, 49, 30 and 25 grams from different locations
Please support Meteorite-Times by visiting our sponsors websites. Click the bottom of the banners to open their website in a new tab / window.
Once a few decades ago this opening was a framed window in the wall of H. H. Nininger's Home and Museum building. From this window he must have many times pondered the mysteries of Meteor Crater seen in the distance.

Photo by © 2010 James Tobin