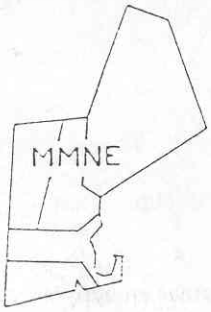

MICROMOUNTERS OF NEW ENGLAND NEWSLETTER

#210 November, 1998

The MMNE was organized on November 8, 1966, for the purpose of promoting the study of minerals that require a microscope.

PRESIDENT
Jim Warner
23 June Street
Auburn, MA 01501
(508) 752-8328

VICE-PRESIDENT
Jim Cahoon
31 Parker St.
Maynard, MA 01754
(978) 897-8221

SECRETARY
Patricia Barker
P.O. Box 810
Campton, NH 03223
(603) 536-2401

TREASURER
Janet Cares
18 Singletary Lane
Sudbury, MA 01776
(508) 443-9180

EDITOR
Johannes Swarts
PO Box 246
E. Randolph, VT 05041-0246
(802) 728-3336
email: johannes@gdt1.com
fax: (603) 643-6808

Dues are $7.00/year and due on January 1st, payable to the Treasurer.

News items for the *Newsletter* are welcome and should be submitted to the Editor.
The *Newsletter* may be quoted if credit is given.
The Club address is c/o Editor.

Upcoming Meetings
No meeting December,1998.
January 9th, 1999, 9:00 AM – Auburn, MA Public Library.

Next meeting

The next MMNE meeting will be held on Saturday, November 14th at the Burlington, MA Public Library. Doors open at 10 AM. MMNE member Scott Whittemore will give a presentation on mineral collecting in New Hampshire accompanied by slides of his many finds.

This will be the last meeting until January when dues of $7 will be due. Treasurer Janet Cares will accept the dues at this meeting. She and Steve will also welcome donations for the May symposium of items useful to the micromounter, such as mineral-related books and periodicals as well as tools and other. For the sales table we need mounted specimens labeled as to identity, locality, donor, and price. Please have specimens packaged as you yourself would like to see them. Material should be priced low enough to sell as all proceeds are used by MMNE to cover the speaker's expenses. Members benefit all year from the giveaway table and in May by bargain sale prices.

Minutes of the October Meeting - by Janet Cares, Secretary Pro Tem

A total of fourteen members of the MMNE braved the all-day rain on Saturday, October 10 for our annual gathering at the home of Forrest and Vera Fogg in Dunbarton, NH. There was no planned program as we like to relax after our potluck meal and enjoy our surroundings by gathering bittersweet or taking short walks to admire the mountain views at the height of the foliage season.

As the only officer present, Janet Cares called for a short business meeting at about 1:30 PM. The Secretary's report was not read as it had appeared in the Newsletter. The Treasurer reported a balance of $5039.95, from which it will be necessary to deduct approximately $200 for insurance and Federation dues, leaving a net of about $4800. She explained that rumors of her resignation had come about because she had asked for help to reduce her burden, which includes not only her duties as Treasurer, but a number of responsibilities which she has accumulated over the years when no other volunteers could be found. She will attempt to outline these for presentation at a later date in the hope that some assistance will be offered.

The proposed swap with the Southern California Micro-Mineralogists as outlined in Newsletters #207 and #209 was discussed. No vote was taken, but the general opinion seemed to be that before any swap could take place, we should first exchange representative specimens so that both clubs may obtain the approval of their members. Janet Cares pointed out that we have a number of mounted specimens that were not previously sold because we have saturated our market here, but might be appreciated by a new audience.

Following adjournment of the business meeting a copy of George Robinson's book, *Minerals*, was presented to the Foggs in appreciation of their many years of hosting our annual October meeting.

Respectfully submitted, Janet Cares

Michael Fleischer, Mineralogist, Dies at 90 – by J.A. Mandarino

It is my sad duty to inform members of the mineralogical community that Dr. Michael ("Mike") Fleischer died on 5 September 1998 at the age of 90. In addition to his long career as a geochemist with the U.S. Geological Survey, he published abstracts of new mineral descriptions and related nomenclature matters in the *American Mineralogist* for many decades. Mike served as Chairman of the Commission on New Minerals and Mineral Names of the I.M.A. for many years. He produced five editions of the "Glossary of Mineral Species" and was the senior author of the last two editions of that book with J.A. Mandarino. The next edition, by J.A. Mandarino, will appear in February 1999, and will be renamed "Fleischer's Glossary of Mineral Species". Mike is survived by his wife Helen, sons Walter and David, and his granddaughter Ilona.

(from the Bulletin of the New York Mineral Club, November, 1998)

Calendar of upcoming events

Nov. 14, Burlington MA. MMNE regular monthly meeting, Burlington Public Library, Burlington, MA. Doors open at 10 AM. Speaker: Scott Whittemore.

Nov. 14-15, Worcester, MA. Worcester Mineral Club 23rd Annual Jewelry, Gem, Mineral & Fossil Show . National Guard Armory, 701 Lincoln St. Hours: 10-5. Info: (508) 853-1325.

Nov. 21-22, Fairfield, CT. 6th Annual Mineral-Jewelry-Gem Show. Sacred Heart university Gym, 5151 Park Ave. (exit 47 off Merritt Parkway). Hours: 10-5.

Nov. 28, Burlington, Ontario. CMMA Micromount Fall Workshop "White Minerals". Venture Inn, 2020 Lakeshore Rd. Info: Mike Skebo – (905) 681-2073.

December – No MMNE meeting.

Dec. 5-6, Central Islip, Long Island, NY. 25th Annual Festival of Gems and Minerals. New York Institute of Technology, Carleton Ave., Central Islip. Hours: Sat 10-6, Sun 10-5.

Jan. 9, Auburn, MA. MMNE regular monthly meeting, Auburn Public Library, Auburn, MA. Doors open at 9 AM. Snow date Jan. 16.

Feb. 6, Westford, MA. MMNE regular monthly meeting, Fletcher Library, Westford, MA. Doors open at 10 AM.

March 6-7, 1999, New York City, NY. New York Mineralogical Club Gem & Mineral Show. Holiday Inn Manhattan, 440 West 57th St (between 9th & 10th Avenues). Hours: Sat 10-7, Sun 10-6. Info: (914) 739-1134.

March 13, Northboro, MA. MMNE regular monthly meeting, Northboro, MA Public Library. Doors open at 9:30 AM.

April 17, Sudbury, MA. MMNE regular monthly meeting, Fairbanks Senior Center, Sudbury, MA. Doors open at 9 AM.

Mounting tips

From Paula Piilonen of the Department of Geology, University of Ottowa, on the subject of mounting single crystals: "I have personally never done micromounting in the collecting sense, but when we do single crystal mounts for XRD work on glass filaments, nail polish seems to work best, above epoxy or other glues. We've found that the best nail polish to use is a hardener – it doesn't set as fast as normal nail polish and therefore gives you more time to set the crystal in the correct position. Also if you ever want to remove the crystal, placing the filament in acetone does the trick."

From Jack Nelson (editor of the *Mineral Mite*, newsletter of the Micromineralogists of the National Capital Area), on the subject of affixing "pointers" on your tiny matrix specimens: "We've all seen the tiny colored sharp-pointed paper wedges used to lead you to a desired micro-specimen under the microscope. Sometimes these paper "pointers" look a little ragged along the edges or bent out of shape while pressing them in place. One alternative is to use the sharp end of a porcupine quill. The quills, which range in color from a very dark brown to a very light tan, can be cut to an appropriate length and mounted in place under the microscope with tweezers after dipping the wide (cut) end of the quill in a little Elmer's Glue (or whatever your favorite adhesive is)."

(from Mineral Mite, newsletter of the Micromineralogists of the National Capital Area, Feb. 1998)

Cubic Garnets?

No, the term 'cubic' does not refer to the crystal class. In an article published in *Mineral News* (v. 14, no. 9, Sept, 1998), Jack Nelson (editor of *Mineral Mite*, newsletter of the Micromineralogists of the National Capital Area) describes finding cubic-shaped garnets in the heavy mineral concentrates of Rock Run, a small Montgomery County, Maryland stream. The typical form consists of a sharp cube with slightly convex faces exhibiting circular growth hillocks. Sizes range up to 1 mm, with most being < 0.25 mm. Color ranges from orange to orange-brown. Specimens forwarded to the late Eugene Foord by Vandall King in 1995 were analyzed and the findings included in a paper (*Cubic and Octahedral Garnets: Maryland, USA, Brazil, and Italy*) at the 23rd Rochester Mineralogical Symposium (RMS) in April, 1996:

> "Cubic reddish spessartine (RI, XRD, EDS, this study) crystals (1 mm) have been found as isolated crystals along with other detrital minerals (dodecahedral almandine, magnetite, limonite pseudomorphs after pyrite, epidote, gold, rutile, etc.) in sand from Rock Run, Montgomery County, Maryland. The Maryland cubic garnets are similar

in appearance to the Brazilian cubic almandines..." Foord described the Brazilian almandines as follows: "...The Brazilian cubic almandines are transparent, equidimensional crystals (1-2 mm) without matrix. The crystals have rounded slightly convex faces that have razor-sharp intersections. The convex faces are patterned with myriad tightly overlapping circular to elliptical growth mounds, some of which are smooth, but most of which are pitted or have growth hillocks..."

Also noted in the RMS feature "What's New in Minerals" by Vandall King, Steve Chamberlain, and Jeffrey Scovil:

"Jack Nelson has been panning gold from Rock Run, Montgomery County, Maryland. Being a micromounter, he examined some of the minerals in his heavy mineral concentrates...and found some cubic orange to orange-brown garnet crystals! The cubes (to 1 mm) are pure forms with no modifications, but do show rounding and orange-peel surface texture as is common with cubic garnets from other localities. Gene Foord chemically analyzed, X-rayed, and measured the refractive indices and showed that the cubes are ferroan spessartine. The cubic garnets are probably the first found in the USA."

Jack Nelson has since found cubic garnets in other streams in the Maryland-Virginia area, as well as in a graded garnet concentrate (used for sandblasting) from Carpenter Creek near Fernwood, Idaho. Streams in Virginia and Maryland drain a terrain underlain by schist and meta-graywacke, lower Paleozoic or Precambrian in age. Granitic pegmatites are not uncommon. *(For the sand collectors and gold panners among us, here's an opportunity to add to the micro collection as well! – ed.)*

(excerpted from the Mineral Mite, newsletter of the Micromineralogists of the National Capital Rear, Oct. 1998)

Mineral cleaning – the Waller solution

by John Betts, New York Mineralogical Club

This method of mineral cleaning was first introduced to me by Roland Franke as a simple method of cleaning iron stains from minerals. Further research reveals different methods of using the basic solution.

As originally described by Roland, the solution is made by dissolving in one liter of distilled water: 8.4 g sodium bicarbonate, 17.4 g sodium dithionite , 5.9 g sodium citrate (salt of citric acid).

Once mixed the minerals are immersed in the solution. The cleaning action can be accelerated by placing in an ultrasonic cleaner. This solution is not appropriate for indoor use because, once mixed, there is a strong odor of rotten eggs. Use only outdoors or in an area with proper exhaust venting. As usual, read all precautions on the individual component packages.

The solution is good for only about 24 hours and should be discarded after that. Since a liter of solution may be more than you need, the Geological Museum of Copenhagen (Hansen, 1984) suggests a variation – you can prepare a stock buffer solution of one liter water, 28 g sodium bicarbonate and 59 g sodium citrate. Then when ready place your specimens in a container, pour in buffer solution to cover the top, the carefully sprinkle on 1 g sodium dithionite for every 30 ml of buffer solution. After 5 minutes another 1 g of sodium dithionite is added in the same way. They also recommend sealing the container tightly with a lid and keeping at room temperature to avoid the formation of sulfides and sulfur.

If you have heavy iron stain, a specimen may require several treatments in succession as the solution becomes saturated and loses effectiveness. After your piece is clean, wash it in distilled water for an equal amount of time that the specimen was in the solution. Then rinse in running (or regularly changed) tap water.

Apparently the solution works by reducing Fe^{+3} to Fe^{+2} and dissolving Fe^{+2} in the citric acid. The sodium bicarbonate balances the pH to neutral. This last point means that theoretically you can clean any mineral in it without worrying about etching it. Practically though, caution should be taken by testing on samples prior to immersing your best piece.

In conclusion, I have stayed clear of the more hazardous hydrofluoric, sulfuric, and nitric acids and treatments for specialized uses such as cleaning native copper. If you are looking for more information, I highly recommend starting with John Sinkankis' books, *Field Collecting for Gemstones and Minerals* (originally published as *Gemstones and Minerals: How and Where to Find Them*) and *Gemstone and Mineral Data Book*, both published by Geoscience Press.

(from Mineral Matter, newsletter of the Northshore (MA) Rock & Mineral Club, Sept. 1998)

(I looked up 'sodium dithionite' in the Handbook of Chemistry and Physics, 56th ed. 1975-76. I found no listing for this chemical, although a 'sodium dithionate' ($Na_2S_2O6.2H_2O$) is listed. Perhaps some research on the part of the user is needed before attempting this recipe... ed.)