MICROMOUNTERS OF NEW ENGLAND

The MMNE was organized on November 5, 1966 for the purpose of promoting the study of minerals that require a microscope.

JULY-AUGUST 1987 NEWSLETTER #117

Our next meeting of the Micromounters of New England will be our informal but very special "Reiners' meeting", which has proved to be a favorite occasion for many of our members. This year, we will be meeting at a "new" location, the Reiners' home at Krainewood Drive in Center Harbor, New Hampshire (See map below). Don't forget to bring the usual sorts of things --tables, chairs, mikes, cords, give-aways and some food to share.

AS THIS is the only bulletin that will be produced over the next few months, I have expanded the issue a bit in order to feature a special topic--Mont Saint-Hilaire. Inside is a list of the species that have been described as well as information about new and newly named, and in some cases, discredited minerals.

WELCOME NEW MEMBER:

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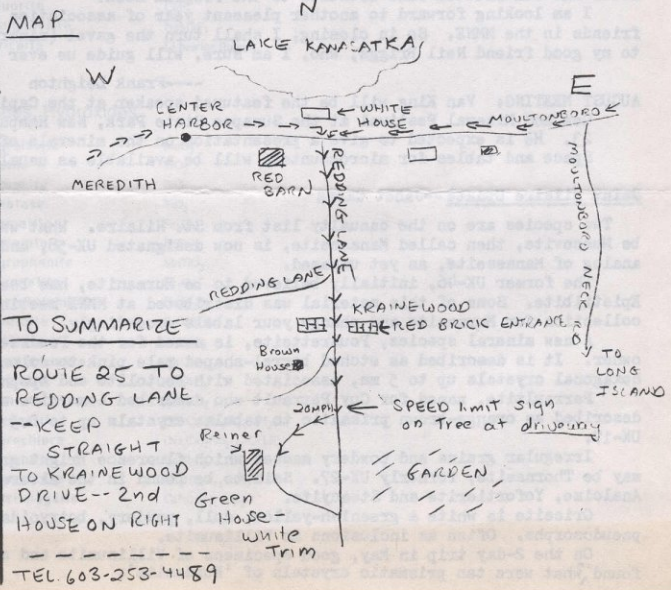
MAP



Dues are $4.00 per year and are due on January 1st, payable to the Treasurer.

Contributions of news items for the Bulletin are welcome and should be sent to the Editor.

→ NEXT MONTH

the MMNE will meet informally on Aug. 22 and 23 at the Gem & Mineral Festival in Sunapee, NH.

A MESSAGE FROM OUR FORMER PRESIDENT:

Well, my year's stint as your "Fearless Leader" is now over. I have had a very good and interesting year as President. We have a fine, dedicated group of very interested and interesting members who give added pleasure to this pursuit, or hobby, if you will, to this facet of mineral collecting.

Many, many thanks must be paid to those fine persons who arranged our meetings (which were always entertaining), Vera and Forrest Fogg for having us in their lovely home, Ed Piela for arranging a new place for us at Elms College, to John Stewart for B.U., even if we did get wiped out in that blizzard! And to all of those who made arrangements for other fine places, thanks. Last, but far from least, I must thank the Reiners, Martha and John, for a last visit to (as Pat says), Golden Pond. Our kind friends have moved to a new home in Center Harbor, but the same pleasant invitation awaits us this year as always.

The May meeting was again a splendid success, thanks to everyone. Our thanks to Dr. Mandarino for a fine talk on Mont Saint Hilaire and for bringing us up to date on his much-awaited book, also on Mont Saint Hilaire. My thanks to Vi Robinson for again doing the registrations, which is quite a chore in itself. To Mary Briggs for her patience at the raffle table; to Janet Cares for arranging our meeting place; to Holmes Wilson for his ever good job on the Program Booklet; to Edna Lerer for another great job on the Sales Table; to Betty Sevrens, my wife, Phyllis, and especially to Pat Barker for setting up the snack table and feeding this hungry horde---thanks.

To Steve Cares for his ever unselfish and dedicated labor over the give-aways--a big thanks. And speaking of give-aways, I want to thank the following kind people for their contributions to the give-away table: Pat Barker, Gene Bearss, Norm Biggart, Steve and Janet Cares, Ralph Carr, Larry Cross, Marilyn Dodge, Bill and Audry Henderson, Ed Hooghkirk, Edna Lerer, Bob and Shelley Monaghan, Palmer Sevrens, Elaine Solé, John and Margaret Stewart, Mike Swanson, and all others whom I might have inadvertently missed.

My thanks also to John Ebner, Jim Grandy, Dana Morong, and Charlie and Marcelle Weber who contributed fine articles to the Program Book.

I am looking forward to another pleasant year of association with all of my friends in the MMNE. So in closing, I shall turn the gavel (mineral hammer!) over to my good friend Neil Briggs, who, I am sure, will guide us ever upward and onward!

----Frank Leighton

AUGUST MEETING: Van King will be the featured speaker at the Capital Mineral Club's Gem and Mineral Festival at the Sunapee State Park, New Hampshire, August 22 and 23. He is expected to give a presentation on the minerals of the Palermo Mine. Space and tables for micromounters will be available as usual.

Saint Hilaire Update--Janet Cares

Two species are on the casualty list from St. Hilaire. What was first thought to be Muscovite, then called Manasseite, is now designated UK-58, and is apparently an an analog of Manasseite, as yet unnamed.

The former UK-46, initially believed to be Murmanite, has been identified as Epistilbite. Some of this material was distributed at MMNE meetings, so check your collection for Murmanite and change your labels accordingly.

A new mineral species, Poudretteite, is named for the Poudrette Quarry and its owner. It is described as etched barrel-shaped pale pink to colorless, roughly hexagonal crystals up to 5 mm, associated with Pectolite and Apophyllite.

Perraultite, named for Guy Perrault who described Lemoynite and Steacyite, is described as orange-brown prismatic to tabular crystals up to 0.5 mm. It was formerly UK-17.

Irregular grains and powdery masses which fluoresce bright green under short wave may be Thornasite, formerly UK-27. Said to be found in the altered pegmatite with Analcime, Yofortierite and Steacyite.

Griceite is white & greenish-yellow, dull, powdery, botryoidal masses, and as pseudomorphs. Often as inclusions in Villiaumite.

On the 2-day trip in May, good specimens of Villiaumite and small Eudialyte were found, what were tan prismatic crystals of 'Murmanite'.

Minerals of Mont St.-Hilaire

Native Elements

Bismuth	Bi
Graphite	C

Arsenides, Sulfides, Sulfosalts

Löllingite	$FeAs_2$
Arsenopyrite	FeAsS
Galena	PbS
Sphalerite	ZnS
Wurtzite	ZnS
Chalcopyrite	$CuFeS_2$
Pyrrhotite	$Fe_{1-x}S$
Pyrite	FeS_2
Marcasite	FeS_2
Molybdenite	MoS_2
Greigite	Fe_3S_4
Thalcusite	$Tl_2(Cu,Fe)_4S_4$
Tetrahedrite	$Cu_{10}Fe_2Sb_4S_{13}$

Halides

Villiaumite	NaF
Fluorite	CaF_2
Neighborite	$NaMgF_3$
Griceite	Li-bearing fluoride

Oxides, Hydroxides

Pyrolusite	MnO_2
Rutile	TiO_2
Brookite	TiO_2
Anatase	TiO_2
Hematite	Fe_2O_3
Ilmenite	$FeTiO_3$
Pyrophanite	$MnTiO_3$
Magnetite	Fe_3O_4
Ferrocolumbite	$FeNb_2O_6$
Goethite	FeO(OH)
Gibbsite	$Al(OH)_3$
Nordstrandite	$Al(OH)_3$
Doyleite	$Al(OH)_3$
Behoite	$Be(OH)_2$
Birnessite	$(Na,Ca)Mn_7O_{14}\cdot 3H_2O$
Pyrochlore	$(Na,Ca)_2Nb_2O_6(OH,F)$
Lueshite	$NaNbO_3$
Franconite	$Na_2Nb_4O_{11}\cdot nH_2O$
Hochelagaite	$CaNb_4O_{11}\cdot nH_2O$

Carbonates

Aragonite	$CaCO_3$
Strontianite	$SrCO_3$
Cerussite	$PbCO_3$
Calcite	$CaCO_3$
Siderite	$FeCO_3$
Rhodochrosite	$MnCO_3$
Dolomite	$CaMg(CO_3)_2$
Ankerite	$Ca(Fe,Mg)(CO_3)_2$
Kutnohorite	$CaMn(CO_3)_2$
Ancylite	$SrCe[(CO_3)_2/OH] \cdot H_2O$
Calcioancylite	$(Ca,Sr)Ce[(CO_3)_2/OH] \cdot H_2O$
Bastnaesite	$(Ce,La)[(CO_3)/F]$
Parisite	$Ca(Ce,La)_2[(CO_3)_3/F_2]$
Synchisite	$Ca(Ce,La)[(CO_3)_2/F]$
Cordylite	$Ba(Ce,La)_2[(CO_3)_3/F_2]$
Burbankite	$(Na,Ca)_3(Sr,Ba,Ce)_3(CO_3)_5$
Donnayite	$Sr_3NaCaY(CO_3)_6 \cdot 3H_2O$
McKelveyite	$Ba_3NaCaY(CO_3)_6 \cdot 3H_2O$
Ewaldite	$Ba(Ca,Y,Na,K)(CO_3)_2$
Thermonatrite	$Na_2CO_3 \cdot H_2O$
Trona	$Na_3H(CO_3)_2 \cdot 2H_2O$
Malachite	$Cu_2[CO_3/(OH)_2]$
Hydrozincite	$Zn_5[(CO_3)_2/(OH)_6]$
Dawsonite	$NaAl[CO_3/(OH)_2]$
Sabinaite	$Na_4Zr_2Ti[O_4/(CO_3)_4]$
Hydrotalcite	$Mg_6Al_2[CO_3/(OH)_{16}] \cdot 4H_2O$
"Manasseite"	$Mg_6Al_2[CO_3/(OH)_{16}] \cdot 4H_2O$?

Sulfates

Barite	$BaSO_4$
Celestite	$SrSO_4$
Anglesite	$PbSO_4$
Gypsum	$CaSO_4 \cdot 2H_2O$
Szomolnokite	$FeSO_4 \cdot H_2O$

Molybdates, Tungstates

Wulfenite	$PbMoO_4$
Scheelite	$CaWO_4$

Phosphates

Xenotime	YPO_4
Monazite	$CePO_4$
Rhabdophane	$(Ce,La)PO_4 \cdot H_2O$
Brockite	$(Th,Ca,Ce)PO_4 \cdot H_2O$
Nahpoite	Na_2HPO_4
Dorfmanite	$Na_2HPO_4 \cdot 2H_2O$
Natrophosphate	$Na_7[(PO_4)_2/F]$
Fluorapatite	$Ca_5[(PO_4)_3/F]$
Carbonate-apatite	$Ca_5[(PO_4,CO_3)_3/(F,OH)]$
Britholite	$(Ce,Ca)_5[(SiO_4,PO_4)_3/(OH,F)]$

Silicates

Isolated single tetrahedra

Zircon	$ZrSiO_4$
Thorogummite	$Th[(SiO_4)_x(OH)_{4x}]$
Almandine	$Fe_3Al_2[SiO_4]_3$
Spessartine	$Mn_3Al_2[SiO_4]_3$
Andradite	$Ca_3Fe_2[SiO_4]_3$
Grossular	$Ca_3Al_2[SiO_4]_3$
Hydrogrossular	$Ca_3Al_2[(SiO_4)_{3-x}(OH)_{4x}]$
Titanite	$CaTi[SiO_4/O]$
Lamprophyllite	$Na_2(Sr,Ba)_2Ti_3[(SiO_4)_4/(OH,F)_2]$
Vuonnemite	$Na_4TiNb_2[(SiO_4)_4/O]\cdot 2Na_3PO_4$
Epistolite	$Na_2(Nb,Ti)_2[(SiO_4)_2/O]\cdot nH_2O$
Vinogradovite	$(Na,Ca,K)_4Ti_4AlH[SiO_4]_6\cdot 2H_2O$
Tundrite	$Na_3(Ce,La)_4(Ti,Nb)_2[(SiO_4)_2/(CO_3)_3/O_4/OH]\cdot 2H_2O$

Isolated double tetrahedra

Parakeldyshite	$Na_2Zr[Si_2O_7]$
Mosandrite	$(Na,Ca,Ce)_3Ti[(Si_2O_7)/(F,OH,O)_2]$
Götzenite	$(Ca,Na)_3(Ti,Al)[Si_2O_7/(F,OH)_2]$
Låvenite	$(Na,Ca)_3Zr[Si_2O_7/(O,OH,F)_2]$
Hiortdahlite	$(Ca,Na)_3Zr[Si_2O_7/(O,OH,F)_2]$
Wöhlerite	$Na_2Ca_4ZrNb[(Si_2O_7)_2/O_4/F]$
Epidote	$Ca_2Al_2(Fe^{'''},Al,Ce,Th)[Si_2O_7/SiO_4/O/OH]$
Idocrase	$Ca_{10}Mg_2Al_4[(Si_2O_7)_2/(SiO_4)_5/(OH)_4]$

Ring (3-fold, 4-fold, etc.)

Catapleiite	$Na_2Zr[Si_3O_9]\cdot 2H_2O$
Kainosite	$Ca_2(Y,Ce)_2[Si_4O_{12}/CO_3]\cdot H_2O$
Labuntsovite	$(K,Ba,Na)_2(Ti,Nb)_2[Si_4O_{12}/(O,OH)_2]\cdot 4H_2O$
Nenadkevichite	$(Na,Ca,K)_2(Nb,Ti)_2[Si_4O_{12}/(O,OH)_2]\cdot 4H_2O$
Joaquinite	$Ba_2NaCe_2Fe(Ti,Nb)_2[(Si_4O_{12})_2O_2/(OH,F)]\cdot H_2O$
Lovozerite	$Na_2Ca(Zr,Ti)[Si_6(O,OH)_{18}]$
Petarasite	$Na_5Zr_2Si_6O_{18}/(Cl,OH)]\cdot 2H_2O$
Eudialyte	$Na_8(Ca,Ce,Fe)_4Zr_2[Si_9O_{27}/Si_3O_9/(OH,Cl)]$
Steacyite	$(Na,Ca)_2K_{1-x}Th[Si_8O_{20}]$

Chain--

Single chain (1-repeat, 2-repeat, etc.)

Diopside	$Ca(Mg,Fe)[Si_2O_6]$
Hedenbergite	$CaFe[Si_2O_6]$
Aegirine	$NaFe'''[Si_2O_6]$
Augite	$(Ca,Na)(Mg,Fe,Al,Ti)[(Si,Al)_2O_6]$
Lorenzenite	$Na_2Ti_2[Si_2O_6/O_3]$
Wollastonite	$Ca_3[Si_3O_9]$
Pectolite	$NaCa_2H[Si_3O_9]$
Serandite	$Na(Mn,Ca)_2H[Si_3O_9]$
Paraumbite	$K_2Zr_2H(Si_3O_9)_2\cdot nH_2O$
Hilairite	$Na_2Zr[Si_3O_9]\cdot 3H_2O$
Gaidonnayite	$Na_4Zr_2[Si_6O_{18}]\cdot 4H_2O$
Steenstrupine	$Na_{14}(Ce,La)_6MnMn'''Fe'''_2Zr[(Si_6O_{18})_2/(PO_4)_7/(OH)_3]\cdot 3H_2O$

Double chain (1-repeat, 2-repeat, etc.)

Grunerite	$(Fe,Mg)_7[Si_8O_{22}/(OH)_2]$
Tremolite	$Ca_2Mg_5[Si_8O_{22}/(OH)_2]$
Actinolite	$Ca_2(Mg,Fe)_5[Si_8O_{22}/(OH)_2]$
Hornblende	$Ca_2(Mg,Fe)_4Al[AlSi_7O_{22}/(OH)_2]$
Richterite	$Na_2Ca(Mg,Fe)_5[Si_8O_{22}/(OH)_2]$
Arfvedsonite	$Na_3(Fe,Mg)_4Fe'''[Si_8O_{22}/(OH)_2]$
Magnesioarfvedsonite	$Na_3(Mg,Fe)_4Fe'''[Si_8O_{22}/(OH)_2]$
Kaersutite	$(Na,Ca)_2(Mg,Fe,Ti)_5[(Si,Al)_8O_{22}/(OH)_2]$
Riebeckite	$Na_2(Fe,Mg)_3Fe'''_2[Si_8O_{22}/(OH)_2]$

Complex

Ashcroftine	$KNaCaY_2[Si_6O_{12}(OH)_{10}]$
Elpidite	$Na_2Zr[Si_6O_{15}]\cdot 3H_2O$
Neptunite	$KNa_2Li(Fe,Mn)_2Ti_2[Si_8O_{22}/O_2]$
Mangan-neptunite	$KNa_2Li(Mn,Fe)_2Ti_2[Si_8O_{22}/O_2]$
Narsarsukite	$Na_2Ti[Si_4O_{10}/O]$
Raite	$Na_4Mn_3[Si_8(O,OH)_{24}]\cdot 9H_2O$
Miserite	$K(Ca,Ce)_5[Si_6O_{15}/Si_2O_7/OH/F]$
Perraultite	$Na_2KBaMn_8(Ti,Nb)_4[Si_8O_{32}/(OH,F,H_2O)_7]\cdot 2H_2O$
Astrophyllite	$(K,Na)_3(Fe,Mn)_7Ti_2[(Si_4O_{12})_2/(O,OH)_7]$
Kupletskite	$(K,Na)_3(Mn,Fe)_7Ti_2[(Si_4O_{12})_2/(O,OH)_7]$
Tadzhikite	$Ca_3(Ce,Y)_2(Ti,Al,Fe''')[B_4Si_4O_{22}]$

Sheet--

Hexagonal

Muscovite	$KAl_2[AlSi_3O_{10}/(OH)_2]$
Phlogopite	$KMg_3[AlSi_3O_{10}/(OH)_2]$
Biotite	$K(Mg,Fe)_3[AlSi_3O_{10}/(OH)_2]$
Polylithionite	$KLi_2Al[Si_4O_{10}/(OH)_2]$
Taeniolite	$KLiMg_2[Si_4O_{10}/(OH)_2]$
Montmorillonite	$(Na,Ca)_{0.33}(Al,Mg)_2[Si_4O_{10}/(OH)_2]\cdot nH_2O$
Swinefordite	$(Li,Na,Ca)_{0.33}(Al,Li,Mg)_2[(Si,Al)_4O_{10}/(OH)_2]\cdot nH_2O$
Kaolinite	$Al_2[Si_2O_5/OH/(OH)_3]$
Berthierine	$(Fe,Fe''',Mg)_{2-3}[(Si,Al)_2O_5/OH/(OH)_3]$
Antigorite	$Mg_3[Si_2O_5/OH/(OH)_3]$
Clinochlore	$(Mg,Fe)_3[Si_4O_{10}/(OH)_2]\cdot(Mg,Fe)_3(OH)_6$
Ganophyllite	$(Na,K)(Mn,Fe,Al)_5[(Si,Al)_6O_{15}]\cdot 2H_2O$
Datolite	$Ca[BSiO_4(OH)]$
Sepiolite	$Mg_4[Si_6O_{15}/(OH)_2]\cdot 6H_2O$
Yofortierite	$(Mn,Mg)_5[Si_8O_{20}/(OH)_2]\cdot 8\text{-}9H_2O$
Stillwellite	$(Ce,La,Ca)[BSiO_5]$
Prehnite	$Ca_2Al[AlSi_3O_{10}/(OH)_2]$

Other

Fluoroapophyllite	$KCa_4[Si_8O_{20}/(F,OH)]\cdot 8H_2O$
Hydroxyapophyllite	$KCa_4[Si_8O_{20}/(OH,F)]\cdot 8H_2O$
Carletonite	$KNa_4Ca_4[Si_8O_{18}/(CO_3)_4/(OH,F)]\cdot H_2O$
Monteregianite	$Na_4K_2Y_2[Si_{16}O_{38}]\cdot 10H_2O$
Leucosphenite	$BaNa_4Ti_2[B_2Si_{10}O_{30}]$
Lemoynite	$(Na,K)_2CaZr_2[Si_{10}O_{26}]\cdot 5\text{-}6H_2O$
Zeophyllite	$Ca_4[Si_3O_8/(OH,F)_2]\cdot 2H_2O$

Framework

Quartz	SiO_2
Microcline	$K[AlSi_3O_8]$
Orthoclase	$K[AlSi_3O_8]$
Sanidine	$K[AlSi_3O_8]$
Albite	$Na[AlSi_3O_8]$
Nepheline	$KNa_3[Al_4Si_4O_{16}]$
Sodalite	$Na_4[Al_3Si_3O_{12}/Cl]$
Helvite	$Mn_4[Be_3Si_3O_{12}/S]$
Genthelvite	$Zn_4[Be_3Si_3O_{12}/S]$
Cancrinite	$Na_3Ca[Al_3Si_3O_{12}/CO_3]$
Analcime	$Na_2[Al_2Si_3O_{10}]\cdot 2H_2O$
Gmelinite	$Ca[Al_2Si_4O_{12}]\cdot 6H_2O$
Chabazite	$Ca[Al_2Si_4O_{12}]\cdot 6H_2O$
Natrolite	$Na_2[Al_2Si_3O_{10}]\cdot 2H_2O$
Tetranatrolite	$Na_2[Al_2Si_3O_{10}]\cdot 2H_2O$
Paranatrolite	$Na_2[Al_2Si_3O_{10}]\cdot 3H_2O$
Thomsonite	$NaCa_2[Al_5Si_5O_{20}]\cdot 6H_2O$
Phillipsite	$(K,Na,Ca)_{1-2}[(Si,Al)_8O_{16}]\cdot 6H_2O$
Harmotome	$Ba[Al_2Si_6O_{16}]\cdot 6H_2O$
Garronite	$Na_2Ca_5[Al_{12}Si_{20}O_{64}]\cdot 27H_2O$
Gismondine	$Ca[Al_2Si_2O_8]\cdot 2H_2O$
Beryl	$Al_2[Be_3Si_6O_{18}]$
Barylite	$Ba[Be_2Si_2O_7]$
Epididymite	$Na[BeSi_3O_7(OH)]$
Eudidymite	$Na[BeSi_3O_7(OH)]$
Hemimorphite	$Zn_4Si_2O_7(OH)_2$
Leifite	$Na_2[(Si,Al,Be)_7(O,OH,F)_{14}]$
Bavenite	$Ca_4[Be_2Al_2Si_9O_{26}(OH)_2]$
Willemite	Zn_2SiO_4
Leucophanite	$(Na,Ca)_2[BeSi_2(O,OH,F)_7]$
Ussingite	$Na_2[AlSi_3O_8(OH)]$
Thornasite	$(Na,K)Th[Si_{11}(O,OH,Cl,H_2O)_{33}]$

Other

Thaumasite	$Ca_3[Si(OH)_6/CO_3/SO_4]\cdot 12H_2O$

--submitted by Dennis Coskren