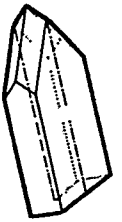
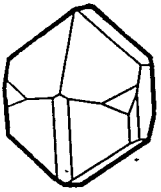
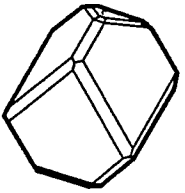
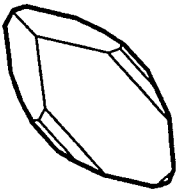
$1.50

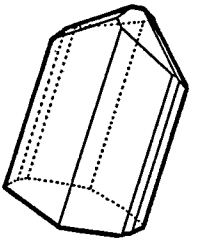
MICROMOUNTERS
OF NEW ENGLAND











NORTHEAST MEETING

May 19, 1984

Greenfield Community College
Greenfield, MA

PROGRAM

9:30	Registration
10:00	Informal Session
12:00	Lunch
1:00	Presentation:

IDENTIFICATION OF THE COMMON SILICATES IN NEW ENGLAND PEGMATITES

by
Vandall T. King

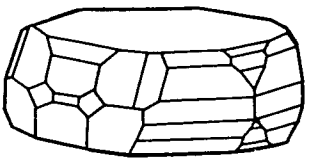
2:00	Informal Session
3:00	Drawing for Door Prizes
4:00	Departure

President - Norman Biggart	Vice President - Mrs. Patricia Barker
Secretary - Ralph Carr Jr.	Treasurer - Mrs. Janet Cares
Newsletter Editor — Mrs. Shelley Monaghan	

Additional Information ——
Mrs. Janet Cares, 18 Singletary Lane, Sudbury, MA 01776 • (617) 443-9180

GUEST SPEAKER: Vandall Thomas King
Box 90888
Rochester, NY 14609

Van is known to many of us from the days when he was a youth collecting and micromounting specimens from the Maine pegmatites. He has now earned a bachelor's degree in geology from the University of Maine and a Master's in geochemistry from the State University of New York. Professionally, he is Staff Minerlogist for Ward's Scientific Establishment, but may be more widely known to amateurs for his helpful column "World News on Mineral Occurences" in the magazine "Rocks and Minerals". He is active in teaching mineral courses at local colleges, night schools and minerals clubs. He and his wife, Carol Ann have a son, Nathan.



IMPORTANT MICROMOUNTING LITERATURE

Norman B. Biggart

A complete bibliography is planned, but it's a long term project. For those who need information today, two areas are presented here for your perusal:(1) a chronological listing with commentary of significant or comprehensive publications that have come to this writer's attention, and (2) a list of columnists on micromounts in mineral magazines.

A listing of miscellaneous papers appearing in regularly published magazines as well as publications of clubs or organizations largely or totally devoted to micromounting has been started, but it is too lengthy for inclusion here. It is, moreover, incomplete, and your contributions may help to insure more on this subject later.

The following persons have been extremely helpful: Janet Cares, Ralph Carr, Herb Corbett, Ray Denicourt, Bill Kelly, Edna Lerer, Marcelle Weber, Ann Sabina and Pat Barker.

Significant or Comprehensive Publications

"The Preparation of Micromounts" (Dec., 1931) L. C. Wills, M.D., 5-1/4 x 8-3/4, "Rocks and Minerals", pp 149-171. Reprinted by the Baltimore Mineral Society (1957) with additions and comments. Fiss and Rakestraw have their photos in this article. The fine typestyle makes it a bit hard to read. Subjects include sources of micro material, obtaining, selecting, trimming tools, preparation for mounting, cleaning, cork base for mounts, blackening, cements, mounting, dissolving calcite, removing iron stains, boxes, labelling, instruments for mounting, storing, care in handling, microscopes (many no longer available), box orienting attachment, illumination, mounting cabinet and revolving table. Although this publication may seem antiquated, many of the techniques are as valid today as when written. Out of print.

"The Complete Guide to Micromounts" (1965) Milton R. Speckels, Gembooks, Mentone, CA, 97pp, 5-1/4 x 8-1/4. Eighteen sections plus an appendix and an excellent bibliography. In his preface, the author notes that he served two years as Chairman of Micromount Activities for the California Federation of Mineralogical Societies. He started a column entitled "Micro News" that initiated his interest in publishing this book. A brief history of micromounting notes some of the outstanding micro collections still to be seen today. Sources of specimens, tools, microscopes, boxes, bases, selection of specimens, trimming, cleaning, adhesives, mounting, labelling, storing, displaying, viewing, sources of information, identification, dealers and suppliers, and tips on shipping are all well explained and shown by photos and sketches throughout the book. Available through the publisher or at some mineral shops.

"Micromounting for Everyone" (1963) Toni Galgano, West Essex Mineral Club, Verona, NJ, 25 pp, 8-1/2 x 11. Published in Vol. II nos. 7 and 8 of the club journal "Geogram". History, field trips, exchanging and trading, dealers, preparation, cleaning, mounting (cork, wood, plastics, adhesives), special mountings, the drying

rack, the micromount box, cleaning the box, positioning the specimen, identification, labelling, cataloging, storing, viewing, the microscope (prices out of date), lamps and lighting. Out of print.

"Der Micromounter" (1972) Alex Kipfer, Ott Verlag, Switzerland (in German). 212 pp, 9 x 6 hardbound, about 50 photos, 14 color plates, charts and figures. History of micromounting, hobby aspects, forming collections, finding, buying and exchanging specimens, tools, cleaning, shaping, mounting, identifying and labelling, conservation, magnifiers and microscopes are discussed.

"Miracles with Minerals - The Pleasures of Micromounting" (1981) Russell P. McFall, "Lapidary Journal", San Diego, CA. A four-part series:
Part I (v. 34 no. 11, pp 2310-2318). Introduction to micromounting, value of micromounting. The art of finding, collecting, selecting, preserving by proper storage, and display is introduced. Names of those who have done it, are doing it, and are writing about it. Photos of specimens, storage containers, and a group working on the hobby.
Part II (v. 34 no. 12, pp 2552-2559). Nine photos showing tools, cleaning, preserving, preparing, examining, cutting, sawing, boxing, and labelling are in this section, plus a procedure to follow to achieve the best end-product.
Part III (v. 35 no. 1, pp 194-200) Thirteen photos starting with a group at work with their microscopes, a photomicrograph of a crystal group, photos of different types of microscopes with descriptions of their use, benefits, options and prices. Two photos show fibre optic light sources that give the benefit of close-up high power, cold light on the specimen.
Part IV (v. 35 no. 2, pp 492-501) Seven photos: a large specimen box of twin crystals, a storage case, drawer cases, field collecting, plus a photo of wooden crystal shapes. A discussion of specialization by type, color, area or species is followed by a list of well known micro collections, mounting, storing, care and display. Labelling is enlarged upon along with card indexing, also the problem of material dumped at mines from other localities. Collecting is discussed and advice given on exchanging, including packing and shipping. There are several paragraphs on identification, followed by a final listing of micromount groups, dealers, suppliers, books and magazines.

Columns Devoted to Micromounts

Periodical/Author	Title and Duration
Earth Science	
Ben Chromy	The Wee Crystals J/F 1970 - N/D 1974
Gems and Minerals	
Milton L. Speckels	Micro News, Jan 1961 - May 1965
Mineralien Magazin	
Alex Kipfer	Micromount News 198? (In German)
Mineralogical Record	
Neal Yedlin	Yedlin on Micromounting J/F '70-J/F '77
Violet Anderson	Microminerals N/D 1977 - M/A 1982
Al Falster (guest)	Microminerals S/O 1978
Bill Henderson	Microminerals J/A 1979 - present

The Mineralogist	
Katy Trapnell	Thru the Microscope Oct '60 - June '62
John Mihelcic	Thru the Microscope Aug '62 - Aug '64
Monde & Mineraux	
Violet Anderson	Le Monde Fascinant des Micromounts J/F 1983 - present (in French)
Rocks and Minerals	
Neal Yedlin	The Micromounter June '48 - March '68
Ted Agos	Micromounter's Notebook Jan 1970 - Feb 1971
Pete J. Dunn	The Micromounter's Corner J/A 1972
Betty Lynch Williams	The Micromounter's Corner Sept 1978 - Jan 1973

Norm is now completing his term as President of MMNE. His special interests are in mineral literature, metallic and radioactive minerals and field collecting.

BUILDING A MICROMOUNT COLLECTION

John Anderson

Those micromounters who visited Francon, St. Hilaire or Acushnet found it relatively easy to add to their collections. Now that these localities are closed, it is necessary to find another means of acquiring specimens or other places to collect. It is the non-field method of collecting we will investigate.

Those who attend our own club meetings can expand their collections via the give-away material on hand. However, I have found that one of the best sources of new material is by exchange. Recently, I have swapped with other collectors in the United States and Europe. My exchanges are limited to the amount of free time available, rather than lack of contacts. The "Directory of Micromounters" (published on even numbered years by the Baltimore Mineral Society, 2909 Woodvalley Drive, Baltimore, MD 21208) gives unlimited names of collectors, most of whom swap by mail. Also, a careful eye on the authors of articles in magazines is another good starting point. Once you have made initial contact, the micros will soon follow. You may not realize the amount of good exchange material you have until someone half way around the world tells you of their satisfaction. Another source of material is the larger, less expensive specimens which are damaged or too small for the average collector, but will afford some material for both your collection and exchange.

Recent exchanges with an Italian collector have provided me with new species such as peretaite, willhendersonite, klebelsbergite, fersmite, indialite and vigezzite. The January-February issue of the "Mineralogical Record" features articles on two Italian localities from which many of the crystals originated.

Along with the mounts came articles on these collecting areas. Unfortunately, they are written in Italian. The Pereta Mine, which was first worked over 2000 years ago, is the type locality for the mineral peretaite, a flat tabular crystal found first in 1979. Klebelsbergite has been found at the Cetine and Pereta mines in Italy and a few other places worldwide. It is a very attractive species, forming transparent, flattened crystals that are well terminated and striated parallel to the elongation, looking not unlike a spray of dawsonite from Francon. It is found in vugs in stibnite and may not be as rare as it was first thought to be. Before these recent exchanges, I knew little about Italian micros, but have since become quite interested in the species, beauty and associations.

Beauty in minerals is customary when you have a suite of micros from Arizona. It seems the brilliance of the countryside has been captured in these little vugs from dark places deep in the ground. Recent articles in the "Mineralogical Record" and the "Mineralogy of Arizona" by Anthony, Williams and Bideaux vividly depict Arizona's micros and minerals. Along with endless localities for many secondary copper minerals are the different associations and crystal habits found among common species. The Great Southern Mine in Yavapai county has produced uncommon, acicular crystals of wulfenite. The dioptase and wulfenite combinations, with other rare crystals on occasion, are unsurpassed in beauty. Recently, large quantities of colorless micro apophyllite with intense blue kinoite, were found at the Christmas Mine in Gila county. The Horseshoe Dam area north of Phoenix provides about 12 zeolites and associated minerals found in basalt boulders near the road. Abundant micros from the 79 Mine also make desirable swap material. Many of the Arizona micromounters were originally from the East, so they have an interest in keeping their collections of eastern minerals as up to date as possible. Collectors trying to get the same species from as many locations as possible will find this easy to accomplish with many Arizona minerals.

Babingtonite is a mineral most New England micromounters have collected and can obtain from a number of localities. A recent trade with a North Carolina collector brought me a babingtonite from Lenoir, NC. It is associated with prehnite in vugs in a rotten pink feldspar, quite similar to material from Reading, MA. Also included were very attractive, transparent, honey-colored fluorapatites with delicate, filiform pyrite inclusions from the LCA Mine in Bessemer City, NC.

We here in the Northeast have been able to collect a variety of species over the years. Most all of this material is very desirable to micromounters from other places, so it is not difficult to build your worldwide collection by exchange of the material you already have.

John was our capable Newsletter editor for over six years and is a Past President. Along with New England, Francon and St. Hilaire minerals, he is interested in zeolites, anatase and phosphates.

THE WEEKS (HAM) MINE, WAKEFIELD, NH

or

"Micromounts are where you find them"

Gene T. Bearss

Like many others interested in micromounting, my prime interest is in self-collected material. In fact, I became interested in micromounting because many of the self-collected specimens I was finding were best appreciated with the aid of magnification. Unfortunately, as I became more sophisticated (spoiled?), I found that that finding the same old things in the same old locales was becoming mundane, almost boring. It as at this juncture in my self-collecting that I decided to try a new approach. I would try to locate minerals suitable for micromounts in quarries/mines not noted for micromounts and also try to add to the known minerals listed as occuring at a particular locale. The Weeks Mine was one of my first test locations for this new (for me) approach.

The Weeks Mine is popular with many New England collectors, especially those interested in obtaining lapidary material, the mineral most sought after being a powder blue, opaque beryl used for making cabachons or similar items. In addition to beryl, Morrill[1] lists chrysoberyl, columbite/tantalite, garnet, molybdenite, pyrolusite, samarskite and vesuvianite as being found at the Weeks Mine. In the "Mineral Guide to New England" Morrill[2] leaves out vesuvianite (I know of no New England pegmatite that has produced vesuvianite). In a more recent publication(1983) Morong[3] adds gummite (not a mineral but a mixture of secondary uranium minerals), pink feldspar (albite) and mica (muscovite) to those listed by Morrill.

The Mine was studied, mined and mapped in the 1940's by the U.S. Bureau of Mines, as described in "U.S. Geological Survey Professional Paper 255"[4].This paper should be read by anyone wanting a fairly detailed description of the geology and mineralogy of the Mine. It lists the same minerals as Morrill and Morong, minus vesuvianite, as occuring at the Weeks Mine. Chayes[5], in an article published in 1944, gives a fairly detailed description of the chrysoberyl occurence at the Weeks Mine, but adds only blue tourmaline to the list of materials found there.Thus, what we have described, with the exception of the minerals chrysoberyl and samarskite, is a simple New Hampshire pegmatite that probably could typify any of a hundred mines or quarries.

My first few collecting trips to the Mine found me collecting what the literature said I should be finding, with the exception of vesuvianite and blue tourmaline, but with two surprises. The first surprise was several fist-size chunks of apatite which fluoresced the best yellow of any apatite I have from New England. It was easy to see why this mineral had been overlooked. It had a grayish-blue color, a hexagonal outline and could easily be mistaken for beryl. The second surprise was a few pieces of corroded fluorite in vugs in feldspar. Fine! Two minerals not listed in the literature as occuring at the Weeks, but no micromounts.

My first find suitable as a micromount was no surprise, but it was a welcome addition to my collection. Chrysoberyl occurs at the Weeks as platelets bordered by beryl and wedge muscovite.

After much diligent searching, I found one small, terminated chrysoberyl crystal. To date this is still my only micro-chrysoberyl from the Weeks. My next two minerals suitable for micromounting, while not being listed as occuring at the Weeks, were not truly surprises. I found pyrite in typical (for New England pegmatites) crusts which showed a few cubic faces and a lot of hard to discern other forms. I also found cyrtolite (a variety of zircon). Neither was a surprise, since I have found both in most New Hampshire and Maine pegmatites where I have collected.

For the next two years I didn't bother collecting at the Weeks, but did return in the Fall of 1982. What prompted my renewed interest in the Weeks Mine was that, in the Fall of 1982, the water table was extremely low. As previously mentioned, in the 1940's the U.S. Bureau of Mines had worked the Weeks for beryl, these workings being a westward extension of the main pit. In all the previous years I had collected at the Weeks, this area had been under 2 to 3 feet of water. But in the Fall of 1982, the water level was a good five feet lower. Thus, there was a whole new area to be dug through and explored. My first day of collecting brought the usual beryl crystals. However, several of these looked like they had been corroded, as if partially dissolved by hydrothermal fluids during the final moments of core consolidation. These pieces I put in the bucket with high hopes of finding bertrandite. Upon getting these pieces home and after cleaning them with my ultrasonic cleaner, I put them under the scope. No bertrandite, but some beautiful phenakite crystals, mica crystals and some beautiful beryl crystals! Not primary beryl, but secondary beryl which must have formed at the time of hydrothermal attack on the parent beryl. The micro beryl crystals were an especially welcome addition to my collection, since they are rarely found in New England.

The phenakite was of the prismatic habit, typical of the phenakite from Lord Hill, Stoneham, Maine, but with a better luster than any that I have from Lord Hill. The mica I first mistook for cookeite, due to its worm-like form. However, a fusibility test showed it to be mica, probably muscovite. The only other find of any interest that I made that day was a piece of feldspar which contained some etched fluorite in several vugs, a mineral I had previously found, but not a suitable micromount. I was about to chuck it. However, upon examining it under the microscope, I noted a single brown to tannish crystal embedded in the fluorite. I definitely had a micro, probably a new mineral for the Weeks, but only one crystal. I decided to set the piece aside.

Next week I was back collecting at the Weeks in the same area. Once again I found a piece of corroded beryl and, in an area someone else had recently collected in - an area washed clean by rain - I found a piece of feldspar shot through with brown blotches. No visible cavities, but what the heck...I whacked the piece in half, flung one piece back on the dump and threw the other piece in my pail. That was my last trip to the Weeks Mine that Fall due to the onset of winter.

That winter I was going through my rat-holed extras that had been collected in warmer times and then set aside for something to do in the winter. I came across that pail full of material

I had collected on my last trip to the Weeks. I quickly ran through most of the material (mostly leaverite) and finally was left with that piece of feldspar with the brown blotches. Under the microscope the brown blotches showed up as tapered hexagonal crystals. Not great crystals, but crystals... brown, resinous crystals that were familiar in appearance. But from where and what were they? Then it dawned on me. They were look-alikes for the parasite crystals found at Grants Mill, Rhode Island. Breaking a few of the crystals free from their matrix, I commenced running a few tests to either prove or disprove my tentative identification. First, a crystal fragment in HCl - nothing - a little heat from the propane torch. Great! Bubbles of CO_2. It was definitely a carbonate. Next, I turned to the Clerici's solution which many of us purchased through MMNE. Since I knew the specific gravity of parasite to be 4.36, I went directly to the vial containing the undiluted solution. The crystal fragment sank, thus proving the S.G. to be greater than 4.0. Hardness and fusibility tests both fit parasite. Thus, on the basis of the tests I had performed and on the basis of color, luster and habit, I decided that that I, indeed, had found parasite.

Next, my mind returned to that brown crystal embedded in fuorite I had previously set aside. Deciding that I needed to see more of my unknown, I carefully broke free some of the surrounding fluorite. A slight shift of the piece in my hand and the hexagonal outline became clearly evident. Same color, luster a little glassy. It was parasite, but as a good eühedral crystal. A quick check of all my available references found no mention of parasite occurring in New Hampshire. Thus, not only had I found s mineral new to the Weeks Mine, but if my identification is correct, I had found a mineral new to New Hampshire!

Thus, by concentrating my efforts on one mine and thinking small, I had found several interesting and welcome additions to my micromount collection...these in a typical New England pegmatite not known for its micromount potential. If you have a favorite pegmatite that is not known for its micromount potential, but one that does have enough macro material to sustain your collecting effort, give it a try for micros. You may be surprised at what you find.

Oh, yes, as most of you know, 1983 was not a dry year. Several checks during the year found my collecting area once again under 2 to 3 feet of water.

As a postscript I would like to add that, while I am aware that certain individuals have always gained some kind of a perverse thrill out of planting minerals in a mine or quarry that came from other locales, I do not feel that such was the case with any of the material I have described. This is not based on wishful thinking, but on the location of finds, the number of finds, the associated minerals, the matrix material and the size of the pieces.

References - next page

REFERENCES:

[1]Philip Morrill, "New Hampshire Mines and Mineral Localities" (Hanover: Dartmouth College Museum, 1960) page 38.

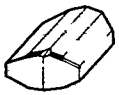
[2]Philip Morrill, "Mineral Guide to New England" (Winthrop: Winthrop Mineral Shop 1963) page 25

[3]Dana Morong, "New Hampshire Mineral Collecting Localities" (Durham: Private printing, 1983) page 14.

[4]"Pegmatite Investigations, 1942-45, New England" U.S. Geological Survey Professional Paper 255. (Washington: Government Printing Office, 1954) page 107.

[5]Felix Chayes, "Occurrence of Chrysoberyl at Wakefield, Carroll County, New Hampshire", American Mineralogist, Vol 29, pp 320-322.

Gene is an avid field collector of Maine and New Hampshire pegmatite minerals. In addition to phosphates, he specializes in Franklin, NJ minerals and is one of the few who applies various testing methods to confirm his identifications.



MINERALS OF MAINE — A CHECKLIST

Our speaker, Van King, has compiled a list of validated Maine mineral occurrences in preparation for a book on the mineralogy of that state. Collectors who believe they may add to the list are urged to contact Van with documentation and/or specimens for him to work on. (See "Rocks and Minerals", Jan/Feb 1982, pages 31 to 34 for localities and possible additional species.

acanthite	ankerite	aurichalcite	beta-uranophane
acmite	annite	azurite	birnessite
aenigmatite	anorthite		bismuth
albite	anthophyllite	barite	bismuthinite
allanite	antigorite	bavenite	bismutite
almandine	aragonite	bementite	bornite
analcime	arfvedsonite	beraunite	braunite
anatase	arsenopyrite	bermanite	brookite
andalusite	astrophyllite	bertrandite	brazilianite
andradite	autunite	beryl	brochantite
anglesite	augelite	beryllonite	

calcite
cancrinite
cassiterite
cerussite
chabazite
chalcocite
chalcopyrite
chromite
chrysoberyl
chrysocolla
clarkeite
clinochlore
clinochrysotile
clinozoisite
columbite
cookeite
copper
cordierite
covellite
cubanite
cummingtonite
cuprite

datolite
diadochite
dickinsonite
diopside
dioptase
dolomite
dravite
dumortierite

elbaite
enstatite
eosphorite
epidote

fairfieldite
favalite
ferberite
ferrimolybdite
ferristilpnomelane
ferroazinite
fluorapatite
fluorapophyllite
fluorite
forsterite
fourmarierite

gahnite
gainesite
galena
garnierite
gedrite
gersdorfite
goethite
gold
govazite
graftonite
graphite
greenockite
grossular
gypsum

halloysite
hematite
hemimorphite
herderite
heterosite
huebnerite
hureaulite
hydroxylapatite
hydroxylherderite
hydrozincite

iridium
ilmenite

jahnsite

kaolinite
kyanite

landesite
laueite
laumontite
lepidolite
linarite
linnaeite
lithiophyllite
loellingite
ludlamite

mackinawite
magnesite
magnetite
malachite
manganocolumbite
manganotantalite
marcasite
margarite
meionite
microcline
microlite
millerite
mimetite
mitridatite
molybdenite
monazite
montebrasite
montmorillonite
moraesite
muscovite

natrolite
neotocite
nepheline
niccoline
niggliite
nsutite

opal
offretite

penninite
pentlandite
perhamite
petalite
phenakite
phillipsite
phlogopite
phosphosiderite
phosphuranylite
platinum
pollucite
powellite
prehnite
proustite
pumpellyite
purpurite
pyragyrite
pyrite
pyrochlore
pyrolusite
pyromorphite
pyrophanite
pyrrhotite

quartz

rammelsbergite
reddingite
rhodochrosite
rhodonite
riebeckite
rockbridgeite
romanechite
roscherite
rutherfordine
rutile

saponite
scheelite
schorl
scorzalite
siderite
sillimanite
silver
samarskite
sodalite
sperrylite
spessartine
sphalerite
spinel
spodumene
staurolite
stephanite
stewartite
stibiocolumbite
stibiotantalite
stibnite
stilbite
stilpnomelane
stromeyerite
strunzite
switzerite
sylvanite

talc
tantalite
tapiolite
tennantite
tetradymite
tetrahedrite
thomsonite
titanite
todorokite
torbernite
topaz
tremolite
triphylite
triplite

ulvospinel
uralolite
uraninite
uranophane
uvarovite

vaesite
vandendriesscheite
violarite
vivianite

wardite
whitlockite
whitmoreite
wollastonite
wolsendorfite
wurtzite
wulfenite

xanthoxenite

zircon
zoisite

MINERAL COLLECTING IN FLORIDA

Raymond F. Denicourt

Yes, there is a variety of minerals in Florida, especially micro-size minerals.

Shortly after my arrival in Florida, I joined the Friends of Mineralogy (FM). This is a group similar to The Micromounters of New England. Most of its members are interested in collecting micro-minerals as well as in other aspects of mineral and fossil collecting. The group's only officer, Bernie Murowchich, is also the Chief Mineralogist for the International Minerals and Chemical Corp. (IMC), a leading phosphate producer in Florida. As a result of Bernie's assistance, we have been able to visit several mines in search of minerals. As you may be aware, many fossils can be found in the phosphate mines. However, mineral specimens, even micros, are difficult to find unless someone like Bernie keeps track of what is being found in these huge mines. What is there today may be gone or covered over tomorrow. It should be noted that these mines cover large areas, from 10 to 40 square miles. The mining is done with huge drag lines which remove 5000 to 10,000 tons of material per day. As a result, it would be very difficult to find the limited amount of micro crystals available without some direction from someone who's interested.

When applying for permission to collect, which is necessary in order to enter any of these mines, request a map which shows the location of a number of phosphate mines, most within easy driving distance of Bartow.

Personally, I have only found some crandallite, wavellite and vivianite in crystal form. The crandallites and wavellites were both of micro size. The crandallite is difficult to see or notice. It appears as minute points or whiskers ranging in color from near colorless to white and gray. The rock matrix is of a similar color. The wavellite forms small spheres of micro crystals on phosphate rock. These micro crystals range in color from near colorless to white, brown and gray. The most showy hand specimens consist of sparkling butterscotch-colored spheres coating milky white phosphate rock. Other interesting specimens consist of similarly colored crystals decorating worm-like tubes and fissures in fossil manatee bones and in the whorls of fossil gastropods. The vivianites are small bladed, deep green crystals in a brownish matrix. The latter probably contain considerable goethite. These are not particularly showy. Others have found some spectacular vivianites, however. The best consist of sparkling green crystals from 1 to 2 inches long in milky white phosphate rock. Many, but not all the vivianites darken and become dark blue and opaque in time.

One member of the Friends of Mineralogy, a geologist at IMC, has written a paper on the minerals found at the Clear Springs Mine in Bartow, Florida. He has described the following 24 minerals as occuring at Clear Springs: apatite, sulfur, jarosite, pyrite, marcasite, hematite, goethite, wad, calcite, siderite, dolomite, vivianite, meta-vivianite, ferrian-variscite, strengite, crandallite, rockbridgeite, millisite, cyrilovite, beraunite,

wavellite, cacoxenite, quartz and cristobalite. This paper may eventually be published in one of the mineral magazines. Needless to say, the average collector with only a microscope at his disposal would have great difficulty in identifying all of these minerals, many of which are not found in recognizable crystal form.

In areas other than the phosphate mining locations good calcite crystals have been found, and the Tampa Bay area still produces agatized coral from time to time. The Miami Mineral Club has a micromounting group, but I am not aware of its various activities. Roberto Kurcbart, another former member of the Micromounters of New England, was and probably still is a member of the Miami group.

In summary, micro-mineral collecting in Florida is not a total loss. A number of people are interested in this field and several are willing and able to assist in identifying the more elusive specimens with sophisticated equipment.

Ray's term as President of the Micromounters of New England was cut short by his move to Florida in 1981. He has a special interest in the minerals of Morocco, where he resided for a time.

ARMCHAIR FIELD TRIP

Holmes Wilson

D	I	O	P	T	A	S	E	G	Y	P	S	U	M
R	A	L	L	A	N	I	T	E	F	U	B	M	D
A	M	T	A	N	T	A	L	I	T	E	A	F	G
V	U	S	O	A	G	O	L	D	B	E	R	Y	L
I	S	G	R	L	E	P	I	D	O	L	I	T	E
T	C	A	L	C	I	T	E	J	P	B	T	O	A
E	O	L	S	I	M	T	A	E	A	A	E	G	U
A	V	E	I	M	A	R	E	L	L	I	B	U	L
N	I	N	L	E	Z	O	P	L	C	T	L	E	A
A	T	A	V	R	U	T	I	L	E	E	N	H	U
T	E	L	E	K	R	S	D	X	V	I	B	U	E
A	W	E	R	T	I	C	O	P	P	E	R	O	I
S	Q	U	A	R	T	Z	T	S	H	A	L	E	T
E	P	I	D	O	E	V	E	P	Y	R	I	T	E

You're off to collect at this unusual Maine mineral site where more than two dozen different kinds occur! Each one is in the List on pages 10 and 11. Search horizontally, vertically and diagonally. Many letters are common to more than one mineral name.

As on any field trip, some species are easy to find, some difficult. An average collector should locate at least 18. The experienced field tripper can find 24. If you're really sharp you should discover all 26 and, along the way, trip over a well known Maine rock, maybe with time left over to catch a large inhabitant of Maine waters.

If you need help, see page 18.

Good hunting!

pseudomorphs. Some crystals, lighter in color, also hollow, are apparently the same species, but although hexagonal, display triangular faces on the prisms. These crystals were identified by Dr. Chao as berthierine, a member of the kaolinite-serpentine group. There is some question as to just which species they are replacing, but they sometimes replace the core of the biotite crystals and also appear as an apparent epitaxial overgrowth on the biotite crystals. Interestingly, the associated rhodochrosite also appears as a pseudomorph after the biotite. The clearer end caps are the purest form of the berthierine. Associated minerals are ancylite, natrolite, pyrochlore, catapleiite and pyrite.

During the mid-September 1980 visit to the quarry, most of the diligent collecting was in the trench where the petarasite was being collected. Nearby, Basil Breen of Toronto and a fellow collector were digging analcime crystals from the floor (the kind of crystals where four was a handful). They were discarding chunks of matrix which consisted of albite, siderite, calcite, rutile, sphalerite and gray-green balls of bastnaesite, some of which were pseudomorphs after a prismatic, hexagonal mineral. This material was ours for the taking. A close scrutiny disclosed spherical aggregates of bladed crystals, colorless, very pale yellow or very pale pink. The inner sphere is opaque and chalky. Dr. Chao identified the entire sphere, including the white core and individual colorless blades elsewhere on the matrix, as behoite (pers, comm. May 6, 1982), and the hexagonal, prismatic crystals as bastnaesite-like. In 1982, the ROM acquired some of the analcime crystals with much behoite. Dr. Robert I. Gait described these, as follows: "Spheres of behoite up to 1.5mm in diameter occur in association with large, white analcime crystals. The behoite spheres consist of minute, radiating, transparent crystals: The aggregates are usually white to cream and more rarely very pale pink. (Single crystals) rarely reach 0.5mm in length and are quite different from the 'pseudo-octahedral' habit of the type crystals from Texas. (These) are flattened, spear-shaped, striated parallel to their length and most faces are slightly curved and frosted. All the specimens of the radiating spherulites of behoite are associated with sharp, white analcime crystals and crystal groups. Individual crystals are up to 4cm in diameter, and the common forms are trapezohedron and dodecahedron."

The associated rutile occurs in rosettes in two types. In one case, there are a number of small crystals which, in aggregate, form an hexagonal tabular shape. Several together form a rough rosette. These appear to be pseudomorphs, probably after ilmenite. The other type is of black, ragged hexagonal plates, dull, but forming rather fine rosettes. These were identified by Dr. Chao.

Moving back in time, we have some information on older material. During the 1973 "serandite summer", analcime pseudomorphs after an unknown mineral were collected. These were not micro; one measures 4cm high by 2.5cm in diameter. There appear to be twelve prism faces so that the crystal looks almost round in cross section. The three terminal faces look like analcime. During a conversation in Tuscon with Dr. George Robinson, Curator of the National Museum, Ottawa, we were told that Dr. Chao now

WHAT'S NEW FROM MONT ST-HILAIRE

Marcelle H. Weber

What's new at Mt. St-Hilaire might well include a number of bits of "news"...what has been newly collected, in spite of the fact that it is a "closed" locality; what new information is available; or information which is old, but not previously disclosed. Rounding up information for all these categories means drawing upon data from a number of collectors and researchers through personal communications, oral or written.

There is also a "what's new" regarding terminology. It has been brought to our attention that hyphens are used on the map of Quebec in some of the names, rather than periods. The official name is Mont St-Hilaire, or St-Hilaire, and this form is recommended for labelling.

Les and Elsa Horvath have reported a number of interesting minerals from the Poudrette Quarry. Carletonite was found in excellent blue crystals. One crystal, measured across the cleavage, is roughly 18mm by 18mm by 13mm high. Another crystal, in an aggregate of crystals, measures 5mm by 3mm. They also describe lemon-yellow, transparent, bladed crystals of 10-15mm embedded in sodalite (hackmanite) and nepheline syenite on the fourth level of the Poudrette Quarry. The mineral was identified as vuonnemite by work at the National Museum of Canada, Mineral Sciences Division. The mineral is further described as cleaved, although some crystals show striations on what appears to be a prism face. Associated minerals are sodalite (hackmanite), villiaumite, eudialyte, aegerine, serandite, "amphiboles", nepheline (dark green crystals), natrolite, unknown dark red glassy blobs and colorless prisms (possibly epididymite).

The Horvaths also have some very striking miserite in lilac to reddish-purple sunbursts of columnar to fibrous crystals and short blocky crystals in the marble. From some source (could it be the similar appearance?), we had understood that miserite and UK36 were the same mineral. From conversations recently in Tuscon with Canadian Mt. St-Hilaire collectors, we learned that they are not the same mineral. UK36 is purplish-red prismatic, bladed crystals and radiating, fibroid aggregates, associated with pectolite, calcite, fluorite, wollastonite and eudialyte in a marble xenolith and is also triclinic. However, a comparison of the data for the two minerals will disclose differences.

Another Horvath find is götzenite, also from Poudrette. The 1973 publication of the Worcester Mineral Club on this locality lists the mineral as colorless, eight-sided prismatic crystals with a rough hexagonal outline, found only in hornfels xenoliths. The new material is pale tan, rather straw-like or creamy opaque, in prismatic crystals associated with pectolite and apophyllite.

Yellow sprays of tundrite were collected on our last scheduled field trip to DeMix Quarry, May 1981. In a discussion with Les Horvath in May 1983, we learned that tiny, orangy, tetrahedral crystals of helvite had been found in the analcime matrix of the tundrite. These could be confused with sphalerite. One of the

associated minerals occurred as aggregates of gray spear points which were identified as titanite at the Royal Ontario Museum, Toronto, courtesy of Dr. Joseph A. Mandarino. Other associated minerals are feldspar, platy rhodochrosite and spahlerite.

Les Horvath also found superb crystals of sabanaite at Poudrette, and villiaumite made a reappearance.

Hydrogrossular (hibschite) has been on the list of Mt. St-Hilaire minerals for a number of years, but has proved to be elusive. The earlier described crystals, colorless octahedrons on pectolite, when found, invariably proved to be apophyllite when examined. In October 1976, we collected an off-white mineral occurring with vesuvianite, pectolite, a chlorite, and calcite which was identified in 1979 by Dr. George Y. Chao, Carleton University, Ottawa, as "a garnet". Les and Elsa reported in May 1983 that Dr. Chao had identified tiny yellow, octahedral crystals as possibly hydrogrossular. Les thought our garnets looked similar. These are white to off-white, sometimes with a yellow core, appear dehydrated and show additional faces on each octahedral face. Dr. Chao (pers. comm. February 21, 1984) wrote that the identification of the hydrogrossular was based on several microprobe analyses which showed a deficiency of 9 to 10% and, if this deficiency is assumed to be water, the analyses would calculate well as hydrogrossular. He is 99% sure of the identification. The material he is working on is associated with datolite, UK39 and some pectolite. Our garnet is now slated for more work.

In April 1981 there was a great deal of marble available, providing a number of different minerals. With granular fluorite, calcite, amphiboles and biotite (?), there were small, sword-shaped crystals, colorless to pale lavendar, in fans, sprays and bowties. They were reported to be calcioancylite. The report questioned this and clarification is needed. Dr. Chao noted in his February letter that our specimen in question "is calcioancylite according to a qualitative probe analysis." Since he has very little material and wants to save it for single crystal X-ray work, quantitative analysis was not attempted. Steve and Janet Cares found monteregianite in the marble assemblage, as well. The tiny, clear, colorless crystals form stellate groups which fluoresce a bright green under SW UV. Sepiolite in acicular sprays may also occur in this material.

Bill Henderson came up with willemite (identified by Dr. Mandarino at the ROM), associated with coated octahedrons of pyrochlore and epididymite groups with analcime. The willemite occurs in short, prismatic, hexagonal crystals, pinkish-ivory, somewhat glassy under the dull exterior. The c faces show pronounced etching (?). Only the glassy core fluoresces green SW.

During the early May 1981 field trip, Ron Waddell of Syracuse found tan hexagonal crystals in a boulder predominantly of aegerine and biotite crystals. These resembled cordylite, being simple hexagonal crystals showing striae parallel to the c faces, like a stack of hexagonal, tabular crystals. Sometimes the opaque crystals have a clear cap on each end. Most of the broken crystals are at least partially hollow, so the crystals are apparently

believes these crystals are analcime pseudomorphs after cancrinite (?), as he found residual cancrinite in some of them.

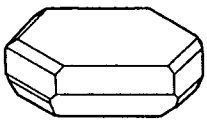
In October 1970 we collected some sulphides in Poudrette. These are sphalerite, arsenopyrite and galena. Associates include aegerine and catapleite. The matrix for this mix is natrolite. A few brilliant, clear crystals appear to be cerussite, but this has been a visual identification only. Several tiny apple-green crystals appear rhombohedral. Dr. Mandarino was able to remove one of these, which was identified at the ROM as anglesite.

Among the "golden oldies" are the donnayite crystals which Dave Richerson (Tempe, Arizona) acquired from Ted Agos. The largest crystal is approximately 15mm long, of the ice cream cone type. Part of it is coated with another mineral. It is possible there is an intergrowth of ewaldite or mckelveyite too. There is also a honeycomb group of crystals approximately 25mm square. In 1982, Quintin Wight (Ottawa, Canada) reported his find of eudidymite collected in July 1972. The eudidymite was found with elongated analcime crystals, aegerine, catapleite in thick single plates, zircon, pyrochlore, pyrophanite, calcite, astrophyllite and microcline. The mineral itself was pinkish-white and looked like albite at first glance.

Looking forward, Dr. Chao reports that one of his students did work on UK27 as a part of her thesis, and the project is coming along fine. From previously published data, UK27 consists of small white to colorless irregular grains embedded in a poorly crystalline, white, earthy material, associated with yofortierite and analcime, which fluoresces green in short wave UV.

Very limited field trips have been permitted to the DeMix Quarry and, hopefully, others will be permitted. But, in the meantime, there is still much to be found in previously collected material.

Marcelle is well known as an enthusiastic and knowledgeable collector of St-Hilaire minerals. She appears to have a "hot line" to Canada which supplies her with the latest developments at her favorite locality.



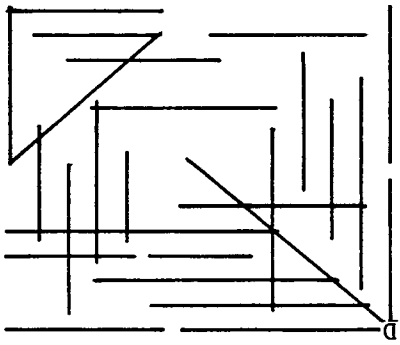
BERYLLIUM-CONTAINING MINERALS

Janet Cares

The mineral beryl is probably present in every collection, as it is usually well crystallized and occurs in a variety of colors. The element beryllium, which is one of its principal constituents, is rare, however, and occurs in a limited number of species.

The following is a list of known beryllium-containing mineral species, including several only recently described:

aminoffite
asbecasite
babefphite
barylite
bavenite
bazzite
bearsite
behoite
berborite
bertrandite
beryl
beryllite
beryllonite
bityite
bromellite
chiavennite
chkalovite
chrysoberyl
danalite
ehrleite
epididymite
euclase
eudidymite
faheyite
fransoletite
gadolinite
gsdolinite-(Ce)
gainesite
genthelvite
glucine
hambergite
harstigite
helvite
herderite
hingganite-(Y)
hingganite-(Yb)
hsianghualite
hurlbutite
hydroxylherderite
joesmithite
leifite
leucophanite
liberite
lovdarite
meliphanite
milarite
moraesite
musgravite
pehrmanite
phenakite
rhodizite
roscherite
semenovite
sorensenite
surinamite
swedenborgite
taafeite
tiptopite
trimerite
tugtupite
uralolite
vayrynenite
welshite



ARMCHAIR FIELD TRIP

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Janet Cares - Program Book Editor

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