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.

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 next meeting of the MMNE will be an informal meeting at the Capital Mineral Club's Show, August 27-28 at Mt. Sunapee State Park, Newbury, NH

SUMMER 1988 Newsletter #125

The next meeting of the Micromounters of New England will be our special, if informal, meeting at the home of John Reiner on Saturday, July 16th. This has always been a favorite event for the Micromounters, and we hope that most of you plan to attend. Marilyn Dodge has graciously offered to bring a variety of sandwich materials (cold cuts, tunafish, rolls, pockets, etc.), chips and pickles. As this meeting is always a team effort, however, we hope that members will contribute items such as salads, desserts and cold beverages. Phyllis Leighton and Mary Briggs will handle the coffee situation. Don't forget to bring tables, chairs, extension cords and whatever else you might require in addition to your regular equipment.

Pat Barker spoke to fellow member Bob Whitmore about a trip to Palermo on Sunday the 17th. This would be a great opportunity for those of you who have not yet seen the underground workings. It may also be the last opportunity for most of us as Bob has decided to suspend pumping the mine. As it has remained so dry for the month of June, the underground workings will still be available to us for this meeting (barring any torrential rains between now and the meeting).

PLEASE NOTE THE FOLLOWING ADDRESS CHANGES AND/OR ADDITIONS:

NEW ADDRESS:
Palmer & Betty Sevrens
P.O. Box 397
Plymouth, NH 02364
ADD:
Robert Senay
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So. Paris, ME 04281

ADD:
Julia Samuda
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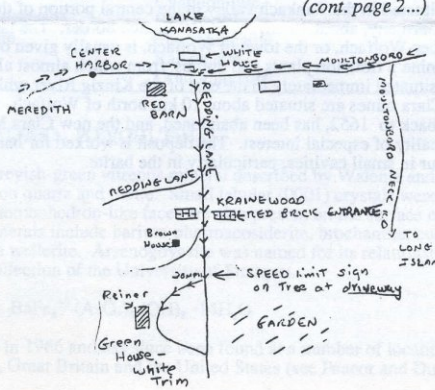
Hazlet, NJ 02364
NEW PHONE:
Dennis Coskren
(617) 592-7126

(cont. page 2...)



TO SUMMARIZE

ROUTE 25 TO REDDING LANE --KEEP STRAIGHT TO KRAINEWOOD DRIVE-- 2nd HOUSE ON RIGHT

TEL 603-253-4489

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PLEASE ADD THE FOLLOWING NEW MEMBERS (CONT. FROM PAGE 1):

Paul Hoffman
10176 Sudberry Drive
Wexford, PA 15090
(412) 935-6517

Linda Jensen
19 Highland Avenue
Westfield, MA 01085
(413) 568-1043

Janet Cares sends us the following notice:

As most of you know, Forrest Fogg underwent major heart surgery just prior to the Northeast Meeting in May. He's home now and doing well, but will be convalescing for some time. As anyone knows whose activities are limited, a card, phone call, or visit helps to brighten the day. His phone number is (603) 774-6450. If you plan to visit, it would be well to call ahead. We hope you all read the very nice biography of Forrest which Vi Robinson wrote for the Northeast Meeting Program Book. We all wish him a speedy recovery.

During surgery, Forrest required several units of blood, and the Mass. General Blood Bank would appreciate any offers of replacement. This blood bank is voluntary, and separate from that of the Red Cross. It is located in the Grey Lobby and no appointment is needed. Hours are 8:30-7:30 Monday through Thursday, but they close at 4:30 PM on Friday, and 4 PM on Saturday. Early morning or late afternoon and evening are least crowded. Be sure to eat beforehand to fortify yourself and try to bring a companion. If you are over 65, you must have your doctor's OK in handwriting. They will validate your parking ticket so that you may park free up to two hours. If you have further questions call (617) 726-3620.

A REVIEW OF THE MINERALS FOR WHICH THE CLARA MINE, WEST GERMANY, IS THE TYPE LOCALITY.

By Hugh Heron, taken from "MICRO NEWS AND VIEWS", Vol. 14, No. 2.

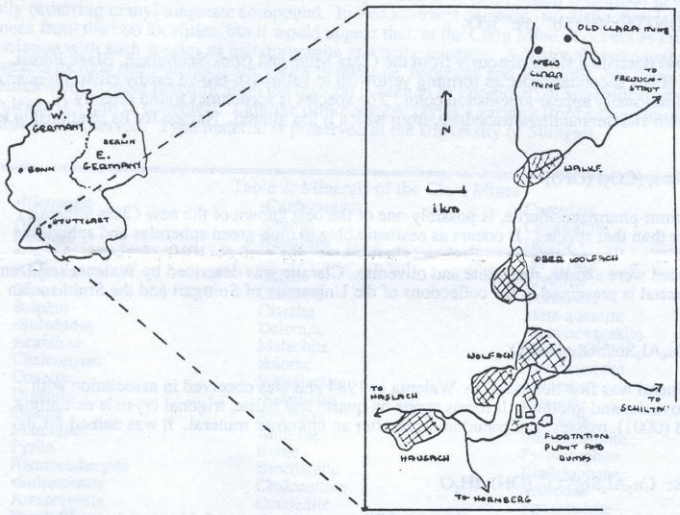
INTRODUCTION

The Schwarzwald (Black Forest) region of West Germany has yielded a great number of aesthetically crystallized uncommon and rare minerals which, because of their size, have been of especial interest to micromounters and systematic collector-mineralogists. In recent years, the wealth of fine specimens from the Clara Mine has attracted attention, and this has resulted in a dramatic increase in the number of species known from the locality (Table 2) and the description of new minerals.

THE CLARA MINE

The Clara Mine is situated in the Rankach valley in the central portion of the Black Forest, Baden-Württemberg, SW Germany, about 40 km east if the French border. The nearest village is Walke, but the largest village of Ober-Wolfach, or the town of Wolfach, is usually given on the mineral labels, particularly the latter since the mine's flotation plants and dumps, from which almost all the specimens in circulation were collected, are situated immediately to the east of the Kinzig River which flows through the town. As the crow flies, the Clara mines are situated about 10 km north of Wolfach. There are two mines--the old Clara Mine, dating back to 1652, has been abandoned, and the new Clara Mine, situated about 1 km to the southwest, is the locality of especial interest. The deposit is worked for barite and fluorite and the rare minerals of interest occur in small cavities, particularly in the barite.

Figure 1: Sketch maps showing West Germany and the Clara Mines. Detailed map taken from Segeler & Molon, 1981, page 234.



THE MINERALS FOR WHICH THE CLARA MINE IS THE TYPE LOCALITY.
Thus far, some ten new species have been described and published from the Clara Mines (Table 1) and these are briefly described below.

Table 1: Clara Type Locality Minerals

Arsenogoyazite	Cyanophillite
Barium-pharmacosiderite	Phosphofibrite
Bismutostibiconite	Phyllotungstite
Claraite	Rankachite
Cualstibite	Uranotungstite

ARSENOGOYAZITE (Sr, Ca, Ba) $Al_3(AsO_4, PO_4)(OH)_5 F{\cdot}H_2O$

A white to yellowish, pale green and greyish-green vitreous mineral described by Walenta and Dunn in 1984 and occurring as reniform crusts on quartz and barite. Small tabular (0001) crystals were also observed. Careful study reveals that rhombohedron-like faces are also present on the surface of the crusts but these are indistinct. Associated minerals include barium-pharmacosiderite, brochantite, cualstibite, malachite, olivenite and a sulphate-free weilerite. Arsenogoyazite was named for its relationship to goyazite and type material is preserved in the collection of the University of Stuttgart.

BARIUM-PHARMACOSIDERITE: $BaFe_8^{+3}(AsO_4)_6(OH)_8 \cdot 14H_2O$

The mineral was described by Walenta in 1966 and has since been found at a number of localities in such countries as Australia, Czechoslovakia, Great Britain and the United States (see Peacor and Dunn, 1985).

At the Clara Mine it occurs as yellowish-brown pseudocubic crystals to 1 mm on edge in association with barite, scorodite, limonite and other species. On occasions, bipyramidal crystals have been observed. This is perhaps, one of the best known of the new Clara minerals and fine micro specimens have been widely distributed.

BISMUTOSTIBICONITE: $Bi\,(Sb^{+5}, Fe^{+3})_2\,O_7$

Bismutostibiconite was described simultaneously from the Clara Mine and from Neubulach, Black Forest, by Walenta in 1983. It is a secondary species forming yellowish to yellowish-brown earthy crusts on quartz and barite. It may occasionally appear greenish in color. The species is sometimes found directly associated with bismuth-rich tennantite-tetrahedrite, from which it has altered. Named for its relationship to stibiconite.

CLARAITE: $(Cu, Zn)_3\,(CO_3)\,(OH)_4$

This species, like barium-pharmacosiderite, is possibly one of the best known of the new Clara minerals although it is far rarer than that species. Ir occurs as aesthetic blue to clue-green spherules and spherulitic aggregates with a radiating fibrous structure. Broken spherules reveal a perfect (1010) cleavage. Associated minerals reported were azurite, malachite and olivenite. Claraite was described by Walenta and Dunn in 1982 and type material is preserved in the collections of the University of Stuttgart and the Smithsonian Institution.

CUALSTIBITE: $Cu_6Al_3Sb_3{}^{+5}O_{18}{\bullet}16H_2O$

This bluish-green mineral was first described by Walenta in 1984 and was observed in association with cornwallite, arsenogoyazite and goethite. It forms crusts on quartz and barite, trigonal crystals exhibiting the forms (1010) and (0001), masses, and pseudomorphs after an unknown mineral. It was named for its composition.

CYANOPHILLITE: $Cu_5Al_2Sb_3{}^{+3}O_{12}\,(OH){\bullet}2H_2O$

Like cualstibite to which it is chemically related, cyanophillite occurs as greenish-blue pearly to silky coatings on quartz and barite. It also forms spherulitic crusts composed of minute tabular crystals with perfect (001) cleavage. The associated species reported were brochantite, chalcophyllite, chrysocolla and tripuhyite. Cyanophillite was named by Walenta for its color and platy habit, and type material is preserved in the collection of the University of Stuttgart.

PHOSPHOFIBRITE: $KCuFe_{15}{}^{+3}\,(PO_4)_{12}\,(OH)_{12}{\bullet}12H_2O$

This new mineral, described by Walenta and Dunn in 1984, occurs as yellow to yellowish-green radially fibrous crystal aggregates to 1/2 mm together with barium-pharmacosiderite, beraunite and strengite on quartz. Phosphofibrite is structurally related to kidwellite.

PHYLLOTUNGSTITE: $CaFe_3{}^{+3}H(WO_4)_6{\bullet}10H_2O$

Phyllotungstite, described by Walenta in 1984, occurs as crusts composed of scaly, in part radial, aggregates and tabular orthorhombic crystals. The crystals, to .25 mm, exhibit the forms (100), (010) and (110) and are flattened along (001). They sometimes exhibit twinning. The mineral is of a translucent yellow color and occurs on quartz in association with scheelite, pyrite and ferritungstite. It was named for its crystal habit and the University of Stuttgart houses the type material.

RANKACHITE: $CaFe^{+2}V_4{}^{+5}W_8{}^{+6}O_{36}{\bullet}6H_2O$

A dark brown to yellowish-brown secondary mineral described from specimens collected at the mill dump near Wolfach. Rankachite, named after the valley in which the Clara Mine is situated, forms radiating to rosette-like acicular crystal aggregates, as well as crusts, on quartz in association with marcasite, pyrite and scheelite/ It was described by Walenta and Dunn in 1984.

URANOTUNGSTITE: $(Ba, Pb, Fe^{+2})(UO_2)_2(WO_4)(OH)_4 \cdot 12\ H_2O$

Both the Clara Mine and the uranium deposit at Menzenschwand in the southern Black Forest region are the type localities for this new mineral, first described by Walenta in 1985, which is claimed to be the first naturally occurring uranyl tungstate compound. In two abstracts consulted no distinction is drawn between specimens from the two localities, but it would appear that, at the Clara Mine, it occurs as crusts on quartz in association with such species as metatorbernite and metazeunerite. Additional associated species listed in the abstracts include meta-uranocircite, metra-heinrichite, bergenite and schoepite, but these may be for Menzenschwand. Under magnification the mineral is seen to be composed of spherulitic aggregates (spherules to 0.3 mm in diameter). Lathlike orthorhombic crystals varying from yellow to orange to brown have also been observed. Type material is preserved in the University of Stuttgart.

Table 2: Minerals of the Clara Mines

•Elements
Arsenic
Bismuth
Copper
Graphite
Silver
Sulphur

•Sulphides
Acanthite
Chalcopyrite
Covelite
Digenite
Galena
Marcasite
Pyrite
Rammelsbergite

•Sulphosalts
Arsenopyrite
Emplectite
Enargite
Geocronite
Luzonite
Pearceite
Proustite
Pyrargyrite
Tennantite
Tetrahedrite

•Oxides
Cervantite
Cryptomelane
Cuprite
Delafossite
Goethite
Hematite
Lepidocrocite
Manganite
Meymacite
Pyrolusite
Todorokite
Uraninite

•Halides
Chukhrovite
Fluorite
Sellaite

•Carbonates
Azurite
Bastnäsite - (Ce)
Bismutite
Calcite
Cerussite
Claraite
Dolomite
Malachite
Siderite
Strontianite

•Sulphates
Anglesite
Antlerite
Barite
Brochantite
Chalcanthite
Connellite
Copiapite
Cyanotrichite
Ettringite
Gypsum
Halotrichite
Jarosite
Langite
Linarite
Siderotil
Szomolnokite

•Arsenates/Phosphates
Adamite
Agardite - (Y)
Annabergite
Arsenbrackebuschite
Arsenosiderite
Arsenogoyazite
Arthurite
Autunite
Barium-Pharmacosiderite
Bayldonite
Beraunite
Beudantite
Chalcophyllite
Chenevixite
Clinoclase
Cornubite
Cornwallite
Duftite
Dussertite
Erythrite
Gorceixite
Meta-autunite
Meta-novacekite
Metatorbernite
Metazeunerite
Mimetite
Olivenite
Parnauite
Phosphofibrite
Pyromorphite
Rhabdophane
Scorodite
Strashimirite
Strengite
Torbernite

•Antimonates
Bindheimite
Bismutostibiconite
Cualstibite
Cyanophillite
Romeite
Tripuhyite

•Tungstates
Cuprotungstite
Ferberite
Ferritungstite
Hübnerite
Phyllotungstite
Rankachite
Scheelite
Stolzite
Uranotungstite

•Silicates
Chrysocolla
Halloysite
Kaolin
Orthoclase
Quartz
Uranophane

In addition, the unpublished species agardite-(Ce) has been reported, as has amorphous Fe)(OH), referred to as "siderogel"

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TRIBUTE TO KURT WALENTA

Dr. Kurt Walenta of the Institute for Mineralogy and Crystal Chemistry, University of Stuttgart, has been responsible for a host of papers dealing with the minerals and mineral deposits of the Black Forest region, and, as can be seen above, was the author or senior author for all of the new species described from the Clara Mine. For readers interested in details of the mineralogy of the Clara Mine, two of his papers cited in the references (below) are recommended (both written in German). In recognition of his contributions to mineralogy, Dunn, et.al. (1984) named a new mineral from the White Elephant Mine, near Pringle, in Custer County, South Dakota, in his honor. Walentaite is an arsenate-phosphate of iron and calcium which forms bright yellow vitreous rosette-like aggregates of thin bladed crystals in association with tridymite, quartz, rockbridgeite, frondelite, and other species.

REFERENCES

1. Fleischer, M. (1987). Glossary of Mineral Species (5th Edition). Tucson, Mineralogical Record, Inc.

2. Fleischer, et.al. "New Mineral Names" (abstracts of new species) in the American Mineralogist:

Vol. 52, p. 1585	(1967)	(barium-pharmacosiderite)
Vol. 66, p. 1274	(1981)	(cyanophillite)
Vol. 68, p. 471	(1983)	(claraite)
Vol. 69, p. 1190	(1984)	(bismutostibiconite)
Vol. 69, p. 1192	(1984)	(phosphofibrite)
Vol. 69, p. 1193	(1984)	(walentaite)
Vol. 70, p. 876	(1985)	(rankachite)
Vol. 71, pp. 845-846	(1986)	(arsenogoyazite)
Vol. 71, p. 846	(1986)	(phyllotungstite)
Vol. 71, p. 1547	(1986)	(uranotungstite)

3. Peacor, D.R. & Dunn, P.J. (1985). Sodium-pharmacosiderite, a new analog of pharmacosiderite from Australia and new occurrences of barium-pharmacosiderite. Mineralogical Record, Vol. 16 (2), pp. 121-124.

4. Mineralogical Abstracts:

Vol. 56, p. 92	(1985)	(caulstibite)

5. Segeler, C.G. & Molon, J. (1981). Minerals of the Clara Mines, Oberwolfach, Baden, West Germany Rocks and Minerals, Vol. 56 (6), pp. 233-239.

6. Walenta, K. (1979). (Secondary Minerals of the barite veins of the Clara Mine at Ober-Wolfach in the Middle Black Forest) (In German). Der Aufschluss Vol. 25, pp. 369-411.

7. Walenta, K. (1979). (The Clara Mine and its minerals) (In German). Mineralien Magazin, p. 423.

NEWS FROM CAMBRIDGE

Monteregian Treasures

The Minerals of Mont Saint-Hilaire, Quebec

Joseph A. Mandarino

Curator of Mineralogy, Department of Mineralogy,
Royal Ontario Museum

Violet Anderson

Research Associate, Department of Mineralogy,
Royal Ontario Museum

Mont Saint-Hilaire, Quebec is one of the most important sources of rare and beautiful minerals in the world. The location is extraordinary for the uniqueness of its minerals and the number of its mineral species. Over 200 mineral species have been identified at Mont Saint-Hilaire, including some found nowhere else in the world or located only in remote areas of the earth. It is the type locality for 15 mineral species and many of the specimens found there are among the finest of their kind.

This book is the first to bring together all of the known data on this classic mineral locality. The numerous mineral species found at Mont Saint- Hilaire are described in detail and handsomely illustrated by over 160 color and black-and-white photomicrographs, sketches, and crystal drawings. The main body of the text consists of mineral descriptions (e.g. chemical composition, physical characteristics, crystal structure, and distinguishing features) and addresses the interests of amateur and professional mineralogists alike. Information on the geological environments in which the species occur, written at a level accessible to anyone with a passing knowledge of geology and mineralogy, is included for the interested collector. In addition, five appendixes present specialized technical data on unit cell parameters, X-ray powder diffraction data, occurrence, mineral classification, and chemical analyses for the professional. The book will be a valuable aid to the reader in identifying and collecting minerals. Its usefulness is matched by its handsome and colorful appearance. It should be an indispensable addition to the bookshelf or library of all amateur mineral collectors and professional mineralogists, geologists, and petrologists.

Dr. Mandarino is a mineralogist and curator at one of the finest museums in North America, which houses many of the minerals described in this book.

Mrs. Anderson is an amateur mineral collector, who specializes in microminerals. She produced all of the beautiful color and black and white photographs that illustrate this book.

ISBN 0-521-32632-X c. 350 pages 90 color photographs/31 black and white photographs/44 line drawings

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