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.

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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 Saturday, November 14th, at the Auburn Public Library.

OCTOBER 1987 NEWSLETTER #119

There will be two meetings of the Micromounters of New England in October. The first meeting will take place at the home of Forrest and Vera Fogg, in Goffstown, New Hampshire, on Saturday, October 10, 1987.

The second meeting will take place at the Rhode Island Mineral Hunters' show in Warwick, Rhode Island, on Saturday, October 24, 1987. Show hours are 10 a.m. to 6 p.m.

Maps for both locations are below.

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As our club increases its membership, it is becoming increasingly difficult to hold meetings (with a few exceptions) at individual member's homes. We have been relying on meeting rooms available at public libraries and mineral shows, but our range of selected sites is decreasing each year. We need your assistance in hunting down some other meeting sites. Perhaps your local library has a meeting room available on a no-fee (or low $) basis. However a few particulars must be met for a site to be considered suitable: there must be enough outlets to accomodate our electrical needs; there must be tables and chairs for about 25-35 people; suitable parking must be available; kitchen facilities (although not a must) are helpful for those who must bring refreshments; access to major roadways for members traveling from a distance should also be considered.

If you learn of meeting places which meet these requirements, please pass the information along to our President.

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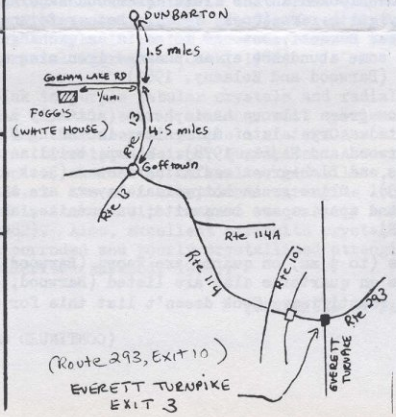
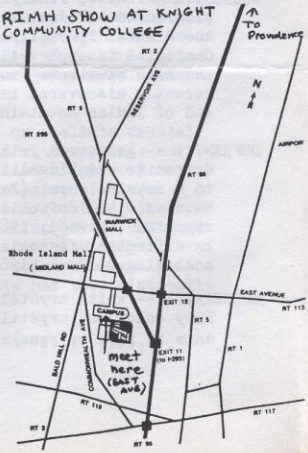
DIRECTIONS TO THE FOGG'S



RIMH SHOW AT KNIGHT COMMUNITY COLLEGE



AN INTRODUCTION TO THE MINERALS OF INDIAN MT., ALABAMA

The rocks in the northeast are mainly Paleozoic age--some Mississippian and Pennsylvanian Period formations are rather predominant. See the map in Bulletin 120, "Mineralogy of Alabama". Areas of interest (see Cook, 1982) include "Residual brown iron ore, Cherokee County: strengite, beraunite, rockbridgeite, dufrenite, kidwellite, churchite, cacoxenite, variscite, wavellite, phosphosiderite, leucophosphite." Just south of the Mississippi--Pennsylvania area, as one enters Cherokee County, there is an area of Cambrian rocks, including the mineral locality, Indian Mt. Barwood (1974) indicates Rock Run, Bluffton, and Tecumseh Furnace, Alabama and Etna and Cedartown, Georgia are other names which are applied to this vicinity. There are also other localities at Rock Run (also called Wolfden Mt.) and Cedartown.

Part of Indian Mt. extends into Georgia - this is said to be Devonian Frog Mountain sandstone. The main part, in Cherokee County, Alabama, is currently being revised from an older report indicating the area was Cambrian or Pre-Cambrian. The iron ores, mainly goethite with iron and manganese oxides, are in sandstone or quartzite formations exhibiting brecciation and replacement.

MINERALS FROM INDIAN MT.

ALUMINIAN STRENGITE -- globular, radially fibrous white aggregates form Indian Mt. previously identified as Wavellite (Barwood and Zelazny, 1982). See wavellite; strengite.

BERAUNITE -- bright red to red orange prismatic crystals up to 10 mm uncommonly occur as eleonorite, the oxidized variety. Associated with cacoxenite, dufrenite kidwellite, and strengite. (Barwood, 1974; Barwood, 1983). Exceptionally well-crystallized beraunite occurs with other phosphate minerals in iron oxide ores of Indian Mountain as vein fillings and isolated pockets of bright to brick red crystals and crystal aggregates. Terminated crystals up to 1 cm. Associated with cacoxenite, kidwellite, and strengite (Cook, 1982).

CACOXENITE -- bright yellow to dark gold fibers and radiating fibrous masses with fibers to 8 mm. Very rarely the crystals are short prismatic and exhibit terminations (Barwood, 1974; Barwood, 1983). Cacoxenite is unusually abundant; color zoning is characteristic of radial aggregates (Cook, 1982).

CHURCHITE -- white, finely fibrous mineral occurring as minute (0.3 mm) tufts on altered rockbridgeite and dufrenite. Only a few specimens were recovered and the mineral is easily overlooked in the field (Barwood and Hajek, 1978). Churchite is apparently quite rare (Cook, 1982). Both references illustrate the same specimen. Roger Barnett sent one to me in an exchange. Churchite was recently discovered in some abundance at an unnamed iron mine near the south end of Indian Mountain (Barwood and Zelazny, 1982).

DUFRENITE -- green and yellow-green fibrous hemispheres (actually zoned mixtures of dufrenite and kidwellite). Crystals of dufrenite, including "bow tie" crystals to 6 mm also occur (Barwood and Hajek, 1978). Sharp, brilliant crystals on massive black dufrenite and blue-green radiating masses (Rock Run Station) are reported (Barwood, 1983). Olive green botryoidal layers are also thought to be dufrenite. Associated species are beraunite, cacoxenite, and strengite according to Cook (1982).

GORCEIXITE -- white crystals (to ½ mm) on quartz are known (Barwood and Zelazny, 1982). Tiny colorless crystals on quartzite also are listed (Barwood, 1983). Apparently, this is rare or rarely identified. Cook doesn't list this for Cherokee County.

(CONTINUED ON PAGE 3.....)

(MINERALS OF INDIAN MT., CONT.)

LAUBMANNITE -- locally abundant light green radially fibrous crusts and spheres to 10 mm intimately associated with beraunite and occasionally strengite (Barwood, 1974) were later determined to be an intimate mixture of finely fibrous dufrenite and kidwellite. Almost all of the green and yellow-green fibous hemispheres are zoned dufrenite and kidwellite (Barwood and Hajek, 1978). Cook (1982) and Barwood (1983) do not list laubmannite. It is included here to help prevent errors in identification.

LEUCOPHOSPHITE -- distinct, clear green crystals occur sporadically with phosphosiderite, sooty cryptomelane, and glassy red amorphous iron oxide. Both leucophosphite and phosphosiderite were found with corroded strengite and kidwellite (Barwood and Zelazny, 1982). Excellent yellow-green transparent crystals on and with beraunite, kidwellite, and phosphosiderite are found at Indian Mt. (Barwood, 1983). Minute, light green crystals occur; plate 19 shows a 2 mm crystal (Cook, 1982).

PHOSPHOSIDERITE -- bright reddish pink mineral resembling strengite in isolated groups and individuals grown with extreme regularity on the faces of strengite crystals. They are often twinned so they resemble strengite. Distinguish them from strengite by twin striations and the rose-pink color somewhat distinctive from the purplish pink of strengite. Associated minerals are beraunite, cryptomelane, kidwellite, leucophosphite, and strengite. The most abundant phosphosiderite was found in a porous iron rock which contained a great deal of glassy-red, amorphous, hydrated iron oxide and sooty masses of cryptomelane (Barwood and Zelazny, 1982). Large, deep rose-colored crystals occur at Indian Mt.; figure 6 shows a 5 mm twin (Barwood, 1983). Small, pink v-shaped twins with other phosphates occur. Plates 23 and 24 show 1 and 1.7 mm crystals (Cook, 1982).

PYROLUSITE -- tiny steel-gray crystals (to 1 cm) in crystalline masses of manganese oxide replacing quartzite at Rock Run Station (Barwood and Hajek, 1978). Pyrolusite associated with other manganese oxide minerals as pulverent material, hard nodular masses, and small euhedral crystals in massive ore is listed also (Cook, 1982).

ROCKBRIDGEITE -- occurs abundantly as brown to black radially fibrous crusts and spheres and rarely as distinct simple prismatic crystals. The crusts are up to 12 mm thick and the spheres sometime reach 3 cm in diameter. Rockbridgeite is the earliest phosphate formed; common alteration products are "laubmannite", beraunite, strengite, and cacoxenite in that order (Barwood, 1974). Dark brown to black radially fibrous hemispheres are weathered mixtures of rockbridgeite and goethite. Black crystals to 1.2 mm occur(Barwood and Hajek, 1978). Plate 27 shows a 4 mm crystal aggregate (Cook, 1982).

STRENGITE -- bright pink to purple tabular crystals and radial or stellate crystal aggregates; single crystals over 1 cm long; most specimens with crystals no more than 4 or 5 mm. The deepest purple tints are associated with sooty manganese oxides in brecciated Weisner Quartzite. Associated species are beraunite, cacoxenite, churchite, dufrenite, kidwellite, and rockbridgeite. Further, Indian Mt. is the most exceptional strengite location in the U.S. and the most prolific in Alabama with respect to quantity and distribution of samples (Cook, 1982). Also, excellent strengite crystals occur abundantly at Indian Mt. Much corroded and poorly crystallized strengite has been misidentified as phosphosiderite (Barwood, 1974).

(CONTINUED ON PAGE 4.....)

(MINERALS OF INDIAN MT., CONT)

VARISCITE -- one specimen of colorless variscite (also described as white) was identified on a small sample with no other minerals associated. Colorless strengite is very common; possibly large amounts of this are variscite. X-ray powder diffraction indicate the material is aluminian strengite or variscite (Barwood and Zelazny, 1982; Barwood, 1983). Minute quantities of micro-crystalline light blue variscite has been recently identified by x-ray diffraction analysis. Associated minerals include beraunite, cacoxenite, kidwellite, and strengite (Cook, 1982).

WAVELLITE -- abundant small patches (Wolfden Mt.) and a small amount of white, radially fibrous wavellite (Rock Run Station) are known (Barwood and Hajek, 1978). Some material previously identified as wavellite is actually aluminian strengite. Globular, radially fibrous, white aggregates from Cedartown, Georgia and from Indian Mt. and Rock Run, Alabama were identified as aluminian enriched strengite (Barwood an Zelazny, 1982). Barwood (1883) refers to wavellite and quotes the 1978 article. Cook (1982) refers to two localities in the 1978 article. While there is no reason to assume wavellite is not present at Indian Mt., the conflicting data regarding aluminian strengite should indicate the questionable status of this species.

Rather less interesting, turgite (an irridescent variety of goethite) and hyalite opal have also been recorded from this area. Quartz crystals also occur here as well. It is clear that this area is very important mineralogically and exceptionally interesting to collectors. While it will be somewhat confusing and difficult to identify every piece you may come across, it seems to be a worthy effort for the serious individual.

TABLE 1. PLATES IN COOK, 1982, FOR INDIAN MT., ALABAMA

BERAUNITE
CACOXENITE
CHURCHITE
DUFRENITE--KIDWELLITE
KIDWELLITE
LEUCOPHOSPHITE
PHOSPHOSIDERITE
ROCKBRIDGEITE
STRENGITE

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Article by William Shelton. Taken from THE DANBURITE, September 1987