FLUORITE

CaF_2

The only common fluoride mineral, with widely varying parageneses. It occurs as an accessory mineral in granites and pegmatites, in hydrothermal veins, and in vugs in limestones. Northern and Southern Peninsulas.

Bay County: Quarry just east of Bay City on M-25: Brown, 5 mm cubes in vugs in limestone.

Figure 78: Fluorite crystals in calcite on conglomerate from near Eagle River, Keweenaw County. Largest crystal is 1.5 cm across. A. E. Seaman Mineral Museum specimen No. DM 15702, Jeffrey Scovil photograph.

Delta County: Stonington Rock quarry, near Stonington: As dark purple coatings on fracture surfaces in dolostone (M. J. Elder, personal communication, 2003).

Dickinson County: Metronite quarry, 4 km east-northeast of Felch: Clusters of small flesh-colored cubes lining cavities in a granitic dike (Pratt, 1954; James et al., 1961).

Eaton County: Cheney limestone quarry, Bellevue: Dark brown glassy crystals with tiny white calcite crystals in vugs. Also as colorless to honey-colored cubic crystals to nearly 2 mm associated with calcite and pyrite (Slaughter, 1999).

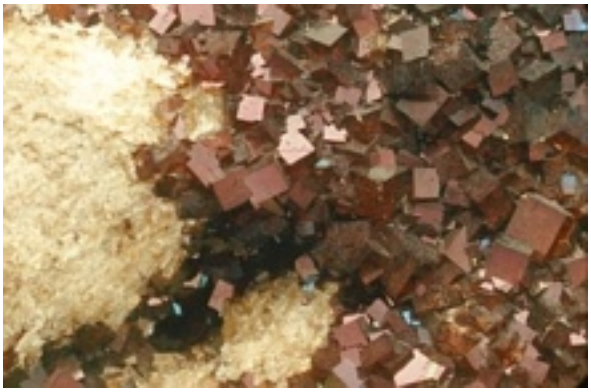

Figure 79: Iridescent brown fluorite crystals to 4 mm with calcite from the Thompson-McCully quarry, near Newport, Monroe County. A. E. Seaman Mineral Museum specimen No. DM 22651, Jeffrey Scovil photograph.

Gogebic County: In Archean biotite gneiss in sections 4 and 5, T45N, R40W, north of County Road 206 and west of U.S. 45 as a local rock accessory mineral along with apatite, allanite, magnetite, and zircon (Sims et al., 1984). Although fluorite is disseminated through the rock, it apparently is more abundant in recrystallized coarser-grained zones. Fluorite also occurs as an accessory species in very fine-grained biotite schist and cataclastic biotite gneiss.

Isabella County: 16 km north of Mount Pleasant: Clear crystals 0.5 to 5 cm square from a Detroit River Series dolomite core cut from 3,743 to 3,753 feet in the Mellon and Pollock Number 1 Crowley [well] in section 27 T16N, R4W (n.b., Geological and Land Management Division records show this well was completed in Dundee Limestone). Some crystals are brown, and one specimen was black owing to minute inclusions of hydrocarbon(?) or dolomite(?) (Fitzgerald and Thomas, 1931).

Kalkaska County: In core of Kalkaska 3-28 oil well, section 28, T27N, R8W: In voids with halite, anhydrite, dolomite, phosphate, and calcite (Cercone, 1984). In Niagaran A1 Evaporite.

Keweenaw County: **1.** Copper Harbor just east of Light House Point: Green, glassy in veins in Copper Harbor Conglomerate (Hore and Allen, 1915; K. Spiroff, personal communication). **2.** In upper Keweenawan sediments as a detrital mineral (Tyler et al., 1940). **3.** Along Lake Superior shore halfway *between Five Mile Point and Eagle River:* Bright green octahedral crystals in calcite vein

cutting conglomerate (figure 78). **4.** Silver Creek, NW ¼ section 26, T58N, R32W: Colorless, brown to deep purple crystals in calcite veins cutting Copper Harbor Conglomerate. The green variety is reported to contain minor Ni and Y (L. L. Babcock, personal communication).

Marquette County: **1.** Crockley pegmatite, section 22, T47N, R29W, (Heinrich, 1962a). **2.** NW corner section 35, T47N, R29W: In pegmatite (Snelgrove et al., 1944). **3.** Pegmatite Knob, near Republic: As a local accessory in schistose bands in porphyritic granite (Snelgrove et al., 1944). Radioactive (K. Spiroff, personal communication). **4.** "Fluorite specimens have been found in a pegmatite outcrop near the Ropes gold mine" (Maguire, 1986, page 121). **5.** Approximately 3.2 km south of Humboldt: As an accessory mineral in a rare metal-rich albite granite along with thorite, topaz, molybdenite, euxenite-(Y), cassiterite, and ferrocolumbite (Hoffman, 1987; Schulz et al., 1988). **6.** Purplish gray masses of fluorite occur in a pegmatite exposed in a roadcut in NE1/4 SE1/4 section 20, T47N, R29W: Britholite-(Y) (q.v.) and xenotime-(Y) (q.v.) occur as small inclusions in the fluorite (DeMark, 2000).

Monroe County: **1.** Woolmith quarry: Brown, crystal and granular form, with celestine, calcite, and sulfur. **2.** Abandoned quarry at Newport road and I-275: With calcite, celestine, pyrite, and quartz (Morris, 1983). **3.** *Holloway (Rockwood Stone) quarry* near Newport: Pale brown, transparent (some iridescent) cubic crystals to 9 cm with celestine in vugs in limestone. **4.** *Thompson - McCully quarry* near Newport: Lustrous, iridescent, brown cubic crystals to 1 cm in vugs in limestone.

Ontonagon County: **1.** Bergland quarry: Vug fillings in diabase (Leonardson, 1966). **2.** North of Lake Gogebic in drill cores of the Onondaga exploration: In fissures of quartz porphyry (Butler and Burbank, 1929). **3.** *Indiana mine*, near Mass City: Yellow, blue-green, and purple with calcite in bleached rhyolite (Hore and Allen, 1915; Morris, 1983; Rosemeyer, 2003c). Cubic crystals to 1 cm have been found. **4.** Purple fluorite with sphalerite, upper level, Porcupine mine, Porcupine Mountains (University of Michigan collection). **5.** Line between sections 11 and 12, T50N, R44W. A felsite body has small miarolitic cavities with quartz crystals and cubes of violet fluorite (Rominger, 1895). **6.** White Pine mine: Rare as small, pale yellow cubes with calcite.

Wayne County: **1.** Rockwood (Ottawa Silica Co.) quarry with calcite, celestine, quartz, and rare sulfur (Morris, 1983). **2.** Sibley quarry, Trenton: Similar association plus epsomite, sulfur, and gypsum (Morris, 1983).

Wexford County: In core of Ira Kaplan-State # 1-20 oil well, section 20, T24N, R12W: In Niagaran A1 Evaporite (Cercone, 1984).

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UPDATE

Charlevoix County: St. Mary's Cement Co. quarry at Charlevoix, Michigan, sections 28 and 33, T34N, R8W: As honey colored cubes up to 1 mm on a stromatoporoid fossil in the Devonian Gravel Point Formation (A. Blaske, personal communication, 2007).

Presque Isle County: Small light purple crystals of fluorite on dolomite occur in a breccia of Detroit River Group rocks at the Rogers City limestone quarry (Ehlers and Kesling, 1970).

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