COPIAPITE

$Fe^{2+}(Fe^{3+})_4(SO_4)_6(OH)_2 \bullet 20\ H_2O$

(see also coquimbite)

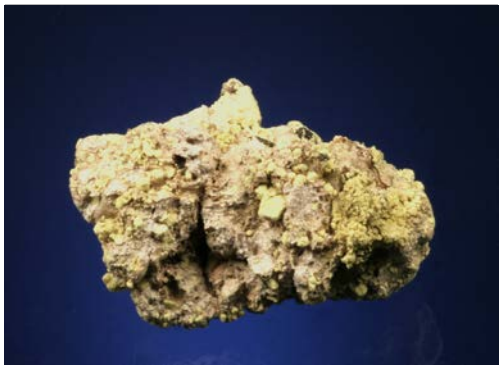
A supergene iron sulfate mineral. Northern Peninsula.

Dickinson County: Groveland mine: Abundant as an efflorescent post-mining oxidation product of primary iron sulfides. Identification confirmed by X-ray diffraction (Julie Selway, personal communication, 2000). One sample (pale yellow acicular crystals on hematite) gave an X-ray powder diffraction pattern consistent for an intermediate member of the copiapite-magnesiocopiapite-aluminocopiapite solid solution series, which has subsequently been confirmed by energy dispersion X-ray spectrometry. A second blue-green sample gave a pattern consistent for intermediate copiapite-aluminocopiapite, though its energy dispersion X-ray spectrum shows this sample also contains a significant amount of copper, suggesting it is probably in the copiapite-cuprocopiapite series.

FROM: Robinson, G.W., 2004 Mineralogy of Michigan by E.W. Heinrich updated and revised: published by A.E. Seaman Mineral Museum, Houghton, MI, 252p.

UPDATE

Baraga County: South Taylor (Detroit Graphite) mine north of Plumbago Creek in the S ½ SW ¼ SE ¼ section 9, T49N, R33W: As a powdery sulfur-yellow efflorescence on fibroferrite. Verified by X-ray diffraction.



A 2 x 3 cm aggregate of copiapite and coquimbite from the Groveland mine, Dickinson County; A. E. Seaman Mineral Museum specimen DM 30099, George Robinson photograph.

UPDATE FROM: Robinson, G.W., and Carlson, S.M., 2013, Mineralogy of Michigan Update: published online by A.E. Seaman Mineral Museum, Houghton, MI, 46p.