**Minnesotaite**

Only 5 states are honored by having minerals named after them. These states are Colorado, Montana, Oregon, Iowa and, of course, Minnesota. Most state residents know about minerals such as thomsonite, hematite and Lake Superior agates, but few would recognize minnesotaite. It is mundane in appearance and is usually found as microscopic grains. It is dull, soft, inconspicuous and can occur in what the Encyclopedia of Minerals refers to as "compact confused aggregates". As a Wisconsinite, I can tease by saying these are good reasons to name the mineral after Minnesota.

Minnesotaite was named in 1944 by John W. Gruner of the University of Minnesota. Gruner, after whom the mineral grunerite is named, investigating the state's taconites under the auspices of the Iron Range Resources and Rehabilitation Commission. Gruner found the mineral in some abundance in parts of the iron formation of the Mesabi Iron Range exposed from Biwabik westerly through Virginia, Chisolm and Hibbing. Previous to Gruner's study, the mineral had been noted but misidentified as an amphibole. Gruner's thorough X-ray and chemical analyses established it as a new mineral. Gruner also found the mineral in the taconite of the Cuyuna Iron Range near Crosby. Gruner proposed the name minnesotaite because "it was discovered in Minnesota and is probably more abundant in the state than anywhere else".

The first part of Gruner's statement is certainly true, the second part may not be. Since 1944 minnesotaite has been found in a number of other localities, including the Kalahari manganese mines in the Cape Province of South Africa and at Hjulsjo, Sweden. It even occurs in Wisconsin, where it has been found at numerous localities in the Gogebic Iron Range in Iron and Ashland Counties. Minnesotaite is the most common of all the minerals named after states.

What does minnesotaite look like? It occurs as tiny greyish-green plates or needles which may be in tiny radiating clusters or sheaves. The crystals may form tiny nodules or even layers up to an inch thick. It is very soft, with a hardness of 1-2 on the Mohs scale. Its luster is greasy, waxy or dull and it has one perfect cleavage. It is commonly intergrown with other minerals including quartz, siderite, magnetite, stilpnomelane and greenalite. Its chemical composition is $(Fe,Mg)_3Si_4O_{10}(OH)_2$. Its structure is similar to talc's except that it has iron atoms in the positions usually occupied by magnesium in talc.

If they see this mineral, rockhounds are most likely to call it "chlorite" and dismiss it as nothing special. This is why the mineral was essentially overlooked until Gruner's study. It is one of the minerals that gives the quartz and other rocks of the iron ranges their greenish coloration. Other green minerals that grow with it are greenalite and stilpnomelane which are also minerals with which rockhounds are generally not familiar. Greenalite is a relative of serpentine and forms dark green to black dull aggregates. Stilpnomelane is a micaceous mineral commonly in flakes or velvety masses with a black, dark green or brown color. Most rockhounds who visit either the Mesabi or Cuyuna iron ranges have probably seen these minerals, but failed to recognize or collect them. I suspect that many of us have specimens of them around on our samples of quartz, goethite, "binghamite" and

"Minnesota silkstone". There is a good lesson here for the mineralogist. There are lots of rare and even undescribed minerals around, but they are overlooked because they are either unattractive or resemble and are mistaken for more common minerals.

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