

BIOTITE SERIES



A dark-colored member of the mica group intermediate between annite and phlogopite. Widely distributed as a rock-forming mineral in many igneous and metamorphic rocks. Good specimens of biotite are obtained primarily from pegmatites in which large crystals of the mineral commonly occur, particularly in Dickinson, Marquette, and Gogebic Counties (Poindexter et al., 1939). Because of its widespread distribution, only some of the more unusual or exceptional occurrences are recorded here. Northern Peninsula.

Houghton and Keweenaw Counties: 1. A rare primary mineral in some basalts of the Ashbed and Greenstone flows (Butler and Burbank, 1929). 2. A rare detrital accessory in the Jacobsville Sandstone (Denning, 1949).

Marquette County: 1. Republic area: In pegmatites in plates up to 15 cm across. a. Pegmatite knob; in pegmatites and in biotite-garnet orbicules (or xenoliths?) in the Republic Granite (Snelgrove et al., 1944). b. In SE $\frac{1}{4}$ NW $\frac{1}{4}$ section 21, T47N, R29W. Associates are quartz, feldspar, and beryl (Snelgrove et al., 1944). c. In SE $\frac{1}{4}$ SE $\frac{1}{4}$ section 23, T46N, R30W. d. Crockley pegmatite, section 22, T47N, R29W (Heinrich, 1962a). 2. In the Yellow Dog peridotite, sections 11 and 12, T50N, R29W, as subhedral laths with olivine (q.v.) euhedra and pyroxene (Klasner et al., 1979). 3. Champion mine: Coarse-grained biotite with muscovite, garnet, magnetite, tourmaline, and pyrite in a fine-grained chloritic matrix (Rominger, 1881). 4. Empire mine, Palmer (Morris, 1983).

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