

## NEW MINERALS

## FAMILY 6. SILICATES

## ORIENTITE

D. F. HEWETT AND E. V. SHANNON: Orientite, a new hydrous silicate of manganese and calcium from Cuba. *Am. J. Sci.*, [5], 1, 491-506, 1921. [Presented at the meeting of the Mineralogical Society of America, Dec. 29, 1920.]

NAME: From the locality, *Oriente* Province, Cuba.

## PHYSICAL PROPERTIES

Color brown; luster resinous; streak hair brown; cleavage (110) imperfect, (001) poor; H. 4.5 - 5; sp. gr. 3.05.

## OPTICAL PROPERTIES

Optic plane parallel to *c* (001); orientation  $X = a$ ,  $Y = c$ ,  $Z = b$ ; pleochroism marked, *X* red brown, *Y* yellow, *Z* brownish yellow;  $2V = 67^\circ$ ,  $2E = 156^\circ$  (calcd.); dispersion pronounced,  $\rho < \nu$ ;  $\alpha = 1.758$ ,  $\beta = 1.776$ ,  $\gamma = 1.795$ .

## CRYSTALLOGRAPHIC PROPERTIES

Orthorhombic.  $a : b : c = 0.6720 : 1 : 0.7916$ ;  $p_0 = 1.1780$ ,  $q_0 = 0.7916$ . Habit tabular parallel to *b*, prismatic; forms *b* (010), *c* (001), *m* (110), *e* (102), *y* (011), *z* (112); dominant, *b*, *c*, *m*; rare, *e*, *y*, *z*.

## CHEMICAL PROPERTIES

Yields neutral water upon heating and turns dark brown. Sol. in HCl, with evolution of Cl and separation of flocculent silica. Fuses readily with intumescence to a black blebby mass. Analysis (average of 3): SiO<sub>2</sub> 32.48, Al<sub>2</sub>O<sub>3</sub> 1.08, Fe<sub>2</sub>O<sub>3</sub> 1.56, MnO 29.92, O 3.27, CaO 22.47, MgO tr., H<sub>2</sub>O - 0.03, H<sub>2</sub>O + 7.93, sum 98.74%. This leads to the formula 4CaO.2Mn<sub>2</sub>O<sub>3</sub>.-5SiO<sub>2</sub>.4H<sub>2</sub>O. The mineral is thus one of the few silicates containing manganic manganese.

## OCCURRENCE

Occurs in the manganese ores of *Oriente* Province, Cuba, at a number of localities. It is associated with glauconite, psilomelane, manganite, barite, quartz, zeolites and calcite. Results from the action of hot manganese solutions upon volcanic tuffs. It is later than the glauconite, plumose manganite and psilomelane, but earlier than barite, prismatic manganite, quartz, zeolites and calcite.

## DISCUSSION

May belong to the kentrolite group, which it resembles crystallographically. It seems to differ from the minerals of the kentrolite group in ratio, but the ratios of these minerals are not very satisfactorily established [The mineral is definite and distinct, and can be classed as a well substantiated new species].

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