

OPTICAL PROPERTIES: Biaxial, +;  $\alpha=1.675$ ,  $\beta=1.682$ ,  $\gamma=1.704$ ,  $\gamma-\alpha=0.029$ ;  $2V=58^\circ 20'$ . Dispersion strong. The orientation shows the crystallization to be monoclinic, the maximum extinction angle  $c : \gamma$  being  $35^\circ$ .

OCCURRENCE: In contact metamorphic limestone, probably formed by the action of fluorine-bearing residual solutions from the magma. Many so-called coccolites are probably similar in origin, and may also contain fluorine or chlorine which have been overlooked. The mineral associates are: calcite, pargasite, prehnite, phlogopite, titanite, and apatite.

DISCUSSION: Whether this mineral deserves a species name is doubtful; the abstractor would prefer to call it *fluoriferous diopside*, until further data are obtained.

E. T. W.

#### REDEFINITION OF SPECIES

CLASS: SILICATES. DIVISION: ACID ZEOLITES

"Flokite" (Callisen, 1917) = **Mordenite** (How, 1864).

**Ptilolite** (Cross and Eakins, 1886) is distinct from **Mordenite**.

**Clinoptilolite**, new name for "crystallized mordenite."

O. B. BØGGILD: Re-examination of some zeolites. *Kgl. Danske Vidensk. Selsk., Math.-fys. Medd.*, 4, No. 8, 42 pp., 1922; these minerals, p. 19. T. L. WALKER and A. L. PARSONS: The zeolites of Nova Scotia. *Univ. Toronto Studies, Geol. Series*, No. 14, 13-73, 1922; these minerals (by T. L. W.), p. 61. W. T. SCHALLER: Ptilolite and related zeolites. Paper presented before Mineralogical Society of Washington, Feb. 23rd, 1923; (see page 93 of this journal).

DISCUSSION: Disregarding the inclined extinction and differences in composition, Bøggild considers "flokite" identical with ptilolite; Schaller finds it to agree in composition and optics with mordenite. Walker suggests that ptilolite is "probably identical with mordenite"; the new data cited by Schaller do not bear this out. Schaller shows clearly that on chemical and optical grounds three species are comprised in this group: Mordenite, ptilolite and clinoptilolite.

E. T. W.

#### ABSTRACTS: CRYSTALLOGRAPHY

ON THE OCCURRENCE OF PHENACITE AND SCHEELITE AT WHEAL COCK, ST. JUST, CORNWALL. ARTHUR RUSSELL. *Mineral. Mag.*, 19, [88], 19-22, 1920.

The phenacite crystals occur either attached to iron-stained quartz prisms or are embedded in a partially altered chlorite, associated with crystals of scheelite, cassiterite and orthoclase. The following forms were observed on the phenacite:  $(11\bar{2}0)$ ,  $(10\bar{1}0)$ ,  $(10\bar{1}1)$ ,  $(01\bar{1}2)$ ,  $(11\bar{2}3)$ ,  $(3\bar{1}21)$ ,  $(\bar{1}3\bar{2}2)$ . In an early British Mineralogy (J. Sowerby, 1809, Vol. 4, pp. 53-54) phenacite crystals from this locality were erroneously described as "white tourmaline." The crystals of scheelite occurring with the phenacite measure at times  $1\frac{1}{2}$  cm in length and are of the simple bipyramidal habit, consisting of but two forms,  $(101)$  and  $(001)$ .

W. F. H.

NEW CRYSTAL FORMS ON PYRITE, CALCITE, AND EPIDOTE. L. J. SPENCER. *Mineral. Mag.*, 19, [88] 1-9, 1920.

The identity of the dyakisdodecahedron,  $(641)$ , on pyrite, observed on only two previous occasions, is now firmly established by measurements on three addi-

tional crystals. In a table representing a crystallographic study of 424 specimens, 35 crystal forms are listed, together with the number of specimens on which each form was found. The scalenohedron (12.7.19.5) and the pyramid ( $\bar{1}34$ ) are new forms for calcite and epidote, respectively.

W. F. H.

A SUPPOSED TWIN OF COPPER SULFATE. O. HAAS. *Bull. soc. franc. min.*, 43, 228-232, 1920.

Haas shows that the supposed twins of  $\text{CuSO}_4 + 5\text{H}_2\text{O}$  described by Boeris in 1905, are parallel groupings on (010) with the relation of the face (001) of one individual to the face (100) of the other accidentally close to parallelism in Boeris' specimen.

E. F. H.

THE CRYSTALLOGRAPHIC CHARACTERS OF INOSITO-HEXAPHOSPHATE OF SODIUM. A. SABOT. *Bull. soc. franc. min.*, 43, 296-300, 1920.

Crystals are monoclinic, habit prismatic,  $\beta = 108^\circ 13'$ ,  $a:b:c = 0.630:1:0.639$ . Plane of opt. axes perpendicular to  $b$  (010);  $b\bar{x}_a$  approx. perpendicular to  $c$  (001); opt. ax. angle about  $90^\circ$ ; sign +; birefr. high.

E. F. H.

TWO GEOMETRICAL CONSTRUCTIONS FOR DRAWING STEREOGRAPHIC PROJECTIONS. A. DUFFOUR. *Bull. soc. franc. min.*, 43, 5-8, 1920.

Construction I. Having given the projection of two faces, to find, without tracing the zone of those two faces, the diameter common to the fundamental circle and to the zone of the two faces.

Construction II. Having given the projection of a zone, to find its intersection with a second zone, not traced, but defined by the projection of two faces.

C. B. S.

CONTRIBUTION TO THE GEOMETRIC STUDY OF TWINS. G. FREIDEL. *Bull. soc. franc. min.*, 43, 246-294, 1920.

A mathematical discussion of the structure and symmetry of twins, especially those producing pseudosymmetric forms.

E. F. H.

CONTRIBUTION TO THE STUDY OF THE OPTICAL PROPERTIES OF CERUSSITE. P. SÈVE. *Bull. soc. franc. min.*, 43, 9-22, 1920.

As determined from photographs of the interference figures of cerussite, the optic axial angle in air varies from  $16^\circ$  for light of  $360 \mu\mu$ , in the ultraviolet, through  $0^\circ$  for  $415 \mu\mu$ , to  $19^\circ$  for  $770 \mu\mu$  in a plane perpendicular to that of the optic axes for ultraviolet. Data on the variation of  $\gamma - \beta$  for various wave lengths is also given.

E. F. H.

ATOPITE FROM MIGUEL BURNIER, MINAS GERAES, BRAZIL. H. ROSE. *Centr. Min. Geol.*, 268-271, 1919.

Isometric crystals showing  $o$ ,  $d$ ,  $h$ , and  $i$  were measured. The value  $n_{\text{Na}}$  averaged 1.836 on three prisms.

E. F. H.

THE ELASTICITY CONSTANTS OF SYLVITE. K. FÖRSTERLING. *Z. Physik*, 2, 172-4, 1920.

New values are determined which agree well with the theoretical values, as determined from the molecular theory of crystals.

E. F. H.