

NEW MINERALS

Merrillite

MERRILLITE, METEORITIC CALCIUM PHOSPHATE. Edgar T. Wherry, Washington, D. C.

In two recent papers¹ Dr. George P. Merrill, of the National Museum, has called attention to the existence of a calcium phosphate mineral in a number of stony meteorites. As the properties of this substance agree more or less closely with francolite it was provisionally referred to that species. It differs from francolite however, in several respects, as shown in the following table:

TABLE 1.

PROPERTY	FRANCOLITE	MERRILLITE
Crystallization	Pseudo-hexagonal, built up of six sectors.	Not built up of sectors.
Optical character	Often pseudo-uniaxial	Always biaxial
Optical sign	Negative	Positive
Composition	$10 \text{ CaO} \cdot \text{CaF}_2 \cdot 3\text{P}_2\text{O}_5 \cdot \text{CO}_2$.	$x\text{CaO} \cdot y\text{P}_2\text{O}_5$; apparently free from F and CO_2 .

These differences are sufficient, in the writer's opinion, to indicate the meteoritic phosphate to be a distinct species, and it seems appropriate that this species should be named after its discoverer.

¹ On the monticellite-like mineral in meteorites. . . *Proc. Nat. Acad. Sci.* 1, 302-308, 1915; On the calcium phosphate in meteoric stones. *Am. J. Sci.* [4], 43, (4), 322-324, 1917; abstract in *Am. Min.*, 2, (7), 96, 1917.

ABSTRACTS OF MINERALOGICAL LITERATURE.

A PECULIAR PROCESS OF SULFUR DEPOSITION. Y. OINOUE, Cornell University. *J. Geol.* 24, (8) 806-808, 1916.

A description of the formation of hollow spindle-shaped grains of sulfur in crater lakes by the decomposition of ascending sulfurous gases. E. T. W.

A DISCOVERY OF CELESTITE. W. MALLERY. *Mining Sci. Press*, 113 (27) 952, 1916.

Fibrous crystalline celestite of typical color occurs 4 miles northeast of Lavic, San Bernardino Co., Cal. It is believed to have been formed by replacement of limestone by hot solutions. E. T. W.

A NEW SCHEELITE DISCOVERY. W. H. STORMS. *Mining Sci. Press.*, 113 (22) 768, 1916.

A note on the occurrence in Kern Co., Cal., of scheelite in association with garnet in metamorphosed limestone. E. T. W.

RECENT WORK ON MONAZITE AND OTHER THORIUM MINERALS IN CEYLON. ANONYMOUS. *Bull. Imp. Inst.*, 14, 321-369, 1916.

Includes notes on the occurrences of monazite, thorianite, xenotime, zirkelite, and rhodolite garnet. E. T. W.

NOTES ON ALUNITE, PSILOMELANITE AND TITANITE. EDGAR T. WHERRY. *Proc. U. S. Nat. Mus.* 51, 81-88, 1916.

Analyses by J. E. Whitfield and W. K. Bailey of a phosphate-bearing alunite from Gonzales Co., Texas, and sodium-bearing alunites from the Funeral Range Mts., near Death Valley, Cal. are given, with descriptions of their physical and chemical properties. As advocated by the writer elsewhere, the group, as an isomorphous series, is assigned the name *alunite*, the K-end-member becomes *kaliaalunite*, and the Na-end-member *natroalunite*. The phosphoric oxide is assigned to a molecule with the HPO_3 replacing the SO_4 of alunite, $R_2O \cdot 8H_2O \cdot 3Al_2O_3 \cdot 2P_2O_5$, or $R_2H_4[Al(OH)_7]_6(PO_3)_4$, the same ratio of K:Na being used. Altho the K and Na salts of this radicle are only known as isomorphous replacements, the names *natrohitchcockite* and *kaliolithcockite* are given to them, as members of the "hitchcockite" group, containing *goyazite* (*hamlinite*), probably the strontium salt; *gorceixite*, a barium salt; *plumbogummite* (*hitchcockite*) a lead salt; and *florencite*, a cerium salt. It is also recommended that the names *goyazite* and *hamlinite* be discarded for *strontiohitchcockite*, that of *gorceixite* for *bariohitchcockite*, etc.

It is concluded from the analyses that the Texas mineral is an isomorphous mixture of *kaliaalunite*, *natroalunite*, *kaliolithcockite*, and *natrohitchcockite*, admixed with some clay (*cimolite*). The California mineral is essentially *natroalunite*, with a little *kaliaalunite*, and a large amount of impurities.

An analysis (by Whitfield) and description of impure manganese dioxide is given, found loose in the soil near the vicinity of the proposed Appalachian Park, Tennessee. It approaches the so-called "lithiophorite." No "mineral composition" is to be derived for *psilomelanite* (name written thus for uniformity), but it is to be regarded as composed essentially of the various oxides, Li_2O , Na_2O , K_2O , MnO , CoO , NiO , present as gels, united to the MnO_2 gel by adsorption.

Titanite from a trap quarry on the east side of the Delaware River, 2 miles north of Lambertville, is described, with analysis by Whitfield. The mineral occurs in yellowish-brown acicular crystals, imbedded in *datolite*, and is remarkable for its habit and its high Fe_2O_3 content. S. G. G.

PHILADELPHIA MINERALOGICAL SOCIETY
TWENTY-FIFTH ANNIVERSARY MEETING

October 11, 1917

Address The President
The Founders Mr. James Richardson
Reminiscences Mr. Howard R. Goodwin
Mineralogical Research Dr. Edgar T. Wherry

The meeting will be followed by an exhibition of local minerals and a smoker.

FIELD TRIPS

Sunday, September 16. Mineral Hill, Black Horse and vicinity. Meet at 69th St. Terminal at 8.45 A. M.

Sunday, September 30. Phoenixville. Meet at the Reading Terminal, 7.15 A. M.

Sunday, October 14. DeKalb Street Quarries, and Henderson. Meet at 69th Street Terminal, at 8.45 A. M.

SAMUEL G. GORDON, *Secretary*.

EXCHANGE NOTICES

John Holzmann, 182 Ridgewood Ave., Newark, N. J., offers some of the most recent finds in New Jersey, including *pectolite* (new find), *prehnite* (crystallized), *thaumasite*, *stevensite* (See. *Am. Min.* 1, (3), 44, 1916), *diabantite*, etc.