

## NEW MINERALS

## GAVITE

Emilio Reposs: I minerali della Valle della Gava nel "Gruppo di Voltri"; una nuova varietà di talco. (The minerals of the valley of Gava in the "Voltri group"; a new variety of talc.) *Atti Soc. Ital. Sci. Nat.*, **57**, 131-155, 1918.

NAME: From the locality.

## PHYSICAL PROPERTIES

Color: milk white, yellowish or greenish, sometimes the color of nickel salts; luster: in mass velvety, but on surfaces of individual blades pearly; structure, thin crusts with mamillary surface, made up of bunches of flakes.

## OPTICAL PROPERTIES

Shows aggregate polarization; elongation positive; extinction parallel; interference colors brilliant; refractive indices, by the immersion method, about 1.544 and 1.582, and double refraction thus 0.038. All of these properties are similar to those of talc.

## CHEMICAL PROPERTIES

Before the blowpipe infusible; gives tests for Mg and SiO<sub>2</sub>; rather readily soluble in HCl. Analysis gave: SiO<sub>2</sub> 59.20, MgO 28.57, Fe<sub>2</sub>O<sub>3</sub> 3.23, H<sub>2</sub>O at 110° 1.45, above 110° 6.61, sum 99.06 per cent. The water seems to come off in two definite stages in the quantities stated. On disregarding the water below 110° and recalculating, this gives: H<sub>4</sub> (Mg, Fe)<sub>4</sub> Si<sub>5</sub>O<sub>16</sub>. It is different from talc in the water content and solubility in acids.

## OCCURRENCE

Occurs as a coating on garnet, chlorite, titanite, etc., in crystalline schist.

E. T. W.

## ABSTRACTS OF MINERALOGIC LITERATURE

THE MINERALS OF THE VALLEY OF GAVA IN THE VOLTRI GROUP; A NEW VARIETY OF TALC. EMILIO REPOSSI. *Atti Soc. Ital. Sci. Nat.*, **57**, 131-155, 1918.

In addition to gavite, abstracted above, the following minerals are described: Garnet, in dodecahedrons modified by unusual forms, including the cube and the trisoctahedron (332); vesuvianite in small crystals; diopside, hornblende and chlorites, which are characterized optically; titanite in fine crystals of several habits, often rich in forms, with one new one, (1.1.11) which gives good reflections and is to be regarded as established; apatite in small tabular crystals rich in forms, including the rare prism (2130), with the axial ratio  $c = 0.7290$ , thus evidently a chlorapatite; pyrite, often altered to limonite; magnetite and ilmenite; and granular calcite.

E. T. W.

THE HALOGEN SALTS OF SILVER AT WONDER, NEVADA. J. A. BURGESS. *Econ. Geol.*, **12** (4), 589-593, 1917.

The haloids described are embolite, iodobromite and iodyrite. The odor of the minerals is strong, and quite characteristic of the group. S. G. G.

CONTRIBUTION TO THE MINERALOGY OF BORON, LITHIUM AND THALLIUM IN VOLCANIC EXHALATIONS. ALBERT BRUN. *Bull. soc. franc. min.*, **40**, 107-110, 1917; abstract reprinted by permission from *Chem. Abstr.*, **13** (8), 823-824, 1919.

The salts produced by the eruption of Vesuvius in 1906, consisting of  $\text{NH}_4$  (Cl, F), show the flame color and spectrum of boron. The leucite-tephrite rock of Vesuvius contains lithium, and this has also been obtained as LiCl on evaporating a water extract of the scoria of 1906. Thallium occurs in all fumarolic salts, arsenic sulfides, and red scorias of Vesuvius, and has also been detected in the ammonium compounds at Chinyero, Teneriffe, and in red scoria at the Spagnuolo crater, Etna. The thallium occurs in soluble and insoluble compounds, in sulfur, and in unknown compounds. The amounts of these elements are about 1 or 2/4,000. The compounds  $\text{Tl}_2\text{S}$  (and  $\text{TlCl}$ ) should be recognized as minerals of volcanic origin. E. T. W.

THE THIOARSENIDES OF THE BINNENTHAL. ALBERT BRUN. *Bull. soc. franc. min.*, **40**, 110-111, 1917; abstract reprinted by permission from *Chem. Abstr.*, **13** (8), 824, 1919.

Spectroscopic tests made on the thioarsenides from the Binnenthal have shown the presence of thallium in every case, altho no thallium-bearing mineral could be detected as an admixture. This occurrence is analogous to that at Vesuvius. E. T. W.

CRYSTAL DRAWING AND MODELING. JOHN M. BLAKE. *Am. J. Sci.* [4], **43**, 397-401, 1917.

A method of crystal drawing from projections on the author's plotting sphere, and a machine for making crystal models are described. S. G. G.

A MICROSCOPIC STUDY OF THE SILVER ORES AND THEIR ASSOCIATED MINERALS. F. N. GUILD. *Econ. Geol.*, **12** (4), 297-353, 1917.

Data are given of the paragenetic relationships of the silver minerals and their associations. Microchemical tests on fragments secured from the polished surfaces are considered more useful in identifying silver minerals than the etching or tarnishing methods. A table of useful tests is given. S. G. G.

MINERAL NOTES. D. MAWSON. *Trans. Proc. Royal Soc. S. Australia*, **40**, 262-266, 1917; abstract reprinted by permission from *Chem. Abstr.*, **13** (8), 824, 1919.

Monazite occurs associated with tourmaline, apatite, cordierite, autunite, torbernite, zeunerite, gummite, and carnotite in a corundum-mica schist between Mounts Pitt and Painter, in the Flinders range; it is apparently the result of the action of gaseous or liquid magmatic solutions on the surrounding rocks. Cordierite, sillimanite, and spinel also occur in the corundum-mica schist of the district. Titanite occurs in large crystals in a gabbro-pegmatite below Mount Gee. Australian occurrences of octahedrite, gypsum, lodestone, and davidite are noted. S. G. G.

CHEMICAL NOTES ON DAVIDITE. W. T. COOKE. *Trans. Proc. Royal Soc. S. Australia*, 40, 267, 1917.

A fair analysis of "davidite" is given. It contains many of the rare earths, tho no zirconium. On heating to redness, 100 grams of it yield 15 c.c. of helium. [The homogeneity of the material analyzed was not considered. Abstractor.] S. G. G.

A NOTEWORTHY OCCURRENCE OF BIOTITE MICA. EVAN R. STANLEY. *Trans. Proc. Royal Soc. S. Australia*, 40, 268-271, 1917.

The black biotite associated with "davidite" when exposed to the atmosphere for a few months becomes coated with carnotite. Analyses are given. S. G. G.

GENESIS OF THE ZINC ORES OF THE EDWARDS DISTRICT, ST. LAWRENCE CO., N. Y. C. H. SMYTH, JR. *N. Y. State Mus. Bull.*, 201, 40 pp., 1918.

A description of the geology, minerals, and probable genesis of these deposits. The ore is a compact granular aggregate of sulfides, pyrite, sphalerite, and sometimes a little galena, with varying amounts of calcite, diopside, tremolite, phlogopite, serpentine, talc, barite, and occasional films of secondary greenockite. A peculiar mineral occurs in small amount, with a vermicular habit, identical with leverrierite except in its pleochroism. The deposits are classed as of high temperature type, with the sequence: (1) diopside and tremolite, developed by contact metamorphism; (2) pyrite; (3) sphalerite; (4) galena; (5) talc; (6) serpentine. S. G. G.

THE ASSIGNMENT OF CRYSTALS TO SYMMETRY CLASSES. EDGAR T. WHERRY. *J. Wash. Acad. Sci.*, 8 (14), 480-487, 1918.

It is pointed out that evidence has been accumulated that certain substances are in a sense intermediate between crystal classes, simultaneously possessing some of the attributes of two of them, or showing what has been termed weak hemihedrism. Examples are diamond, sylvite, cuprite, pyrite, barium nitrate, rutile, sulfur, and manganite. It is shown that X-ray study has yielded a partial explanation of these relations, showing in some cases that while the structures as a whole may be of one symmetry class, the structure units may be of another. S. G. G.

X-RAY ANALYSIS AND THE ASSIGNMENT OF CRYSTALS TO SYMMETRY CLASSES. ALFRED E. H. TUTTON. *J. Wash. Acad. Sci.*, 9 (4), 94-99, 1919.

The paper above abstracted is criticized, the critic holding that only one symmetry can be possessed by a given structure, and that there are some errors in the interpretation of the relations under discussion. S. G. G.

REPLY TO DR. TUTTON'S DISCUSSION OF THE ASSIGNMENT OF CRYSTALS TO SYMMETRY CLASSES. EDGAR T. WHERRY. *J. Wash. Acad. Sci.*, 9 (4), 99-102, 1919.

In reply to the above described criticism, it is shown that in order to assign but one symmetry class to each of the substances discussed it is necessary to arbitrarily overlook certain definite observational facts. The writer therefore still feels that a revision of current ideas on this subject is necessary. [Reprints of all three articles may be obtained from this magazine, on request.] S. G. G.