NOTES AND NEWS

PYROSTILPNITE FROM RANDSBURG, CALIFORNIA

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The rare mineral pyrostilpnite (Ag_3SbS_3) has been found recently in small amount among the silver minerals of the California Rand mine, in the Randsburg district, California. So far as the writer is aware, this is only the second known occurrence of this mineral in North America. The original discovery was of a single crystal associated with miargyrite in the silver ores of the De Lamar mining district, Idaho.[1] It has been reported from Chañarcillo, Chile, by Streng,[2] but according to Schrauf,[3] this mineral is probably rittingerite, as the angles correspond almost exactly with the latter. Streng[4] agrees that it may be rittingerite, but considers the whole question of these minerals as still unsolved.

The Randsburg material was found mainly on one small hand specimen, which according to the mine manager probably came from near the 700′ level, although this is not positive. Another specimen, from the 850′ level, collected by the writer, carries a very few minute crystals of the mineral. The richer specimen is composed largely of a vein of massive miargyrite, which presents a leached and vuggy appearance. The vugs are lined with a botryoidal coating of cervantite ranging from colorless to clear yellow and opaque white. There is also a considerable amount of this mineral here as a coating of microscopic crystalline grains, usually surmounting the amorphous crust. Partly on this coating, and partly enveloped by it, occur sparsely scattered grains and crystals of pyrostilpnite, and also a few crystals of pyrargyrite.

The pyrostilpnite was identified by its physical properties, and by microchemical tests for silver, antimony and sulphur. The presence of silver and antimony were confirmed by spectroscopic analysis. The extremely small amount of material available did not permit quantitative determinations. The mineral occurs both as single, flattened crystals and as sub-parallel or radiating clusters of blade or needle-like crystals. Even those crystals which seem to be single individuals are frequently modified by minute flake-like crystals in essentially parallel position.

[1] Lindgren, Waldemar, The gold and silver veins of Silver City, De Lamar, and other mining districts in Idaho: *U.S.G.S., 20th Ann. Rept.*, pt. 3, 169 (**1900**) [a note by Penfield].

[2] Streng, A., Mineralogische Mittheilungen über die Erze von Chañarcillo in Nordchile: *Neues Jahrb. Mineral., etc.*, 918 (**1878**).

[3] Schrauf, A., Feuerblende, Rittingerit von Chañarcillo: *Neues Jahrb. Mineral., etc.*, 144 (**1879**).

[4] Streng, A., Feuerblende und Rittingerit: *Neues Jahrb. Mineral., etc.*, 547 (**1879**).

The crystals are all very small, ranging in length from 0.5 to 0.1 mm. In shape they are usually elongated and lath-like, with the smaller dimensions from one-fourth to one-tenth of the length. Less commonly the crystals are nearly equidimensional prisms, or hair-like forms. In general, the color is the normal orange red, with strongly pearly luster on the broad side pinacoids, but some are partially blackened, at least on their surface, by some sort of alteration. Many of the crystals are fairly well terminated.

FIG. 1

Measurements on the goniometer are not particularly satisfactory, because of the presence of numerous striations on the faces, shown in the drawing of a typical crystal (Fig. 1), but in general they correspond reasonably well with those of Luedecke.[5] Microscopic examination of these crystals shows, as is apparently the case with all crystals which have been studied, that they are complexly twinned internally. Since this is the case, the interpretation of forms on a monoclinic basis is rendered very uncertain. Furthermore, optical study has suggested[6] that the mineral may well possess triclinic symmetry. In view of these complications, it has seemed desirable to withhold, for the present, the crystallographic data obtained from this material, in the hope that later work may solve the problem.

[5] Luedecke, Otto, Ueber Feuerblende von St. Andreasberg: *Zeits. Krist., Min., etc.*, **6,** 570 (1882).

[6] Dr. Harry Berman, private communication.

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MOLYBDENITE AT MAGNET COVE, ARKANSAS

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Magnet Cove, Arkansas, has long been famous for the wide variety of its mineral specimens and the writer wishes to add molybdenite to the list. As groups of people continue to visit the area and gradually wander farther from the more frequented stops, the list of minerals reported from that region should grow to some extent, but Williams' (1891) report will continue to be the authority.

On the annual spring field trip from the University of Arkansas in 1940, molybdenite was found near the north rim of the Cove on the northwest bank of Cove Creek in the southwest quarter, of the northeast quarter, of section 17, T. 3 S., R. 17 W., across the road from a yellow brick bungalow. The molybdenite is disseminated throughout two or three cubic feet of gray, siliceous material that is probably another occurrence of geyserite which is found at other localities within the Cove. Masses (up to four inches in diameter) of granular and crystalline pyrite are associated with the silica and small (1/32 to 1/8 inch) crystals of apatite occupy cavities. In one or two places the molybdenite is abundant enough to give a blue cast to the rock. Another specimen obtained shows a coating of molybdenite covering striated pyrite crystals. This coating is very thin and is easily removed leaving the crystal faces of the pyrite unchanged. It apparently does not penetrate the pyrite crystals except in preexisting cracks.

The bluish gray color of the molybdenite itself, its streak on paper, and the greenish color of the streak on glazed porcelain are characteristic. A chemical check was made by using the thiocyanate test.

In visiting Magnet Cove the writer has found it convenient to have a list of minerals occurring there, and the accompanying list has been compiled from the reports of Williams (1891), Landes (1931), and Landes, Parks, and Scheid (1932). Crystal fragments and an occasional good crystal of the minerals marked with an asterisk are abundant on the roadside bluffs at Cove Creek bridge, the Magnet cemetery, and at the Titanium Corporation strip pits.