

JANUARY 17, 1882.

The President, Dr. LEIDY, in the chair.

Twenty-six persons present.

The following papers were presented for publication :

"New Crinoids from the Rocks of the Chemung Period of New York State," by Henry S. Williams, Ph. D.

"The Species of *Odontomyia* found in the United States," by Dr. L. T. Day.

"A New Station for *Corema Conradii*," by Aubrey H. Smith.

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JANUARY 24, 1882.

The President, Dr. LEIDY, in the chair.

Twenty-four persons present.

The death of M. Jules Putzeys, a correspondent, was announced.

The thanks of the Academy were ordered to be forwarded to Mrs. S. J. Haldeman Haly, for the gift of a portrait in oil of the late Prof. S. S. Haldeman, by Waugh.

*Notes on Monazite.*—Prof. GEORGE A. KÖNIG announced the identification of *Monazite* from the mica mine at Amelia Court House, Va. It has occurred in several large masses, from fifteen to twenty pounds in weight. One in the collection of Mr. C. S. Bement exhibits two crystals, monoclinic combinations of  $P\infty . \infty P . \infty P\infty$ , with sides over 5 inches in length. Such gigantic masses of this rare mineral have not heretofore been reported. It occurs together with equally huge crystals of microlite, fine crystals of columbite, of manganese tantalite, amazonite, albite, apatite, smoky quartz, and beryl; of the last mineral a crystal was found, 25 inches in diameter and over 12 feet long. This monazite was supposed to be microlite or scheelite. Two varieties have been identified by the speaker; one possessing an amber or brown color (transparent finely blood-red), and giving a straw-colored powder like microlite. The other variety is gray, with honey-yellow color in thin splinters, and yields a greenish gray powder; of the former the specific gravity is 5.402 and 5.345; of the latter it is 5.138.

When finely pulverized and mixed with two to three parts of

concentrated sulphuric acid, the mineral is decomposed very quickly as soon as the temperature is brought to the boiling point of sulphuric acid. The mass becomes a dry paste and dissolves in water. The solution is turbid from a quantity of basic phosphates, varying between two and eighteen per cent., according to the excess of acid present.

The acid solution may be boiled without the forming of a precipitate; thorium is therefore not contained in the mineral. Two determinations of the phosphoric acid gave 25.82 and 26.3 per cent., one being by phosphomolybdic acid; the other in the usual manner, after precipitating the bases first by oxalic acid, and the filtrate by ammoniac hydrate. Fluorine is not present.

The following is given as a preliminary result, pending the tedious separation of the oxides:

(Ce, La, Dy, Y) <sub>2</sub> O <sub>3</sub>	=	73.82
(Y, Fe, Ca) <sub>2</sub> O <sub>3</sub>	=	1.00
P <sub>2</sub> O <sub>5</sub>	=	26.05
Volatile by ignition	=	0.45
		<hr/>
		101.32

Supposing the oxides to be all cerous oxide, or in other words having the atomic weight of 92, the highest of the group, then the ratio obtains

$$P_2 O_5 : 3 Ce O = 1 : 3.75,$$

which is not reconcilable with a normal phosphate.

The speaker suggests, therefore, the possible presence in the group of a metal with a much higher atomic weight than cerium. He is engaged at work with a large enough quantity of the oxides to decide this question in time.

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JANUARY 31.

The President, Dr. LEIDY, in the chair.

Eighteen persons present.

Messrs. Wilson Mitchell, Chas. H. Hutchinson, Rev. W. G. Holland, Able F. Price, Alfred C. Harrison and Robt. B. Haines were elected members.

Dr. A. Baltzer, of Zurich, and Prof. Robt. Collett, of Christiania, were elected correspondents.

The following were ordered to be published:—



Koenig, George Augustus. 1882. "Notes on Monazite." *Proceedings of the Academy of Natural Sciences of Philadelphia* 34, 15–16.

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