

ART. XXVI.—On *Aquacreptite*, a new mineral, and on *Corundophilite* of Chester; by CHARLES UPHAM SHEPARD.

1. *Aquacreptite*.—The substance here named *aquacreptite*, on account of the crackling sound it emits when thrown into water, was sent me last autumn by Mr. W. W. Jefferis, of West Chester, Pa., with the remark that it was found at that place in a narrow seam in serpentine. The specimens are in little polyhedral fragments of the size of hazel-nuts, with flat or concave surfaces, somewhat resembling in shape the mie-mite from Miemo in Tuscany. Whether the mineral is an original compound, or an oxydated hydration of another substance, and if so, of what species, it is difficult to say. At present, however, it is entirely homogeneous in aspect, and possessed of much uniformity of composition. It possesses the following characters:

Massive. H.=2.5. Gr.=2.08 (Shep.), 2.05 (Eaton). Color yellowish brown. Streak orange yellow. Dull. Brittle. Fracture small conchoidal. Adheres rather feebly to the tongue. Falls asunder in water with a crackling (decrepitating) noise. The decrepitation lasts only for a moment, and is more striking if the water is warm. It does not wholly fall to powder in water; but a portion of the mass still retains a feeble degree of cohesion.

Ignited in powder, it loses 23 p. c. without change of color. Previous to ignition it is taken up by aqua regia, with exception of the silica, which separates in flocks.

Three analyses were made; 1, by Prof. James H. Eaton of Beloit College, Wisconsin; 2, by Mr. Henry C. Humphrey, a student of Amherst College, and the third by myself.

	1.	2.	3.
Silica, -----	43.03	41.56	41.00
Magnesia, -----	19.58	(not determined)	17.60
Peroxyd iron, -----	12.30	12.45	13.30
Alumina, -----	5.56	6.71	4.00
Water, -----	17.40	16.00	23.00
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	97.87		98.90

1. *Corundophilite*.—As there had existed some perplexity in reference to this mineral as found at Chester, Mass., as the abundant associate of the emery and a constituent also of the talcose slates embracing the emery vein, I requested Prof. Eaton (then in charge of the Amherst College laboratory) to analyze the two leading varieties of the corundophilite, viz: (1) that in crystals accompanied by diaspore, rutile and sapphire

crystals, and (2) the more common variety which occurs in scales (slightly columnar), forming a narrow seam on two sides of a vein of finely granular indianite. The latter variety, as it runs for some distance in proximity to the eastern wall of the emery, has been called the "*fringe rock*" by the workmen.

Var. 1, is the same as that analyzed by Pisani, to whom also I furnished the specimens upon which he operated, and whose results I here introduce for comparison with those obtained by Eaton.

Gr. of crystallized variety as determined by Eaton = 2.83.

	1.		2.
	(Eaton.)	(Pisani.)	Eaton.
Silica, -----	24.77	24.0	24.69
Alumina, -----	25.52	25.9	28.52
Magnesia, -----	21.88	22.7	21.86
Protoxyd iron, -----	15.19	14.8	16.38
Water, -----	11.98	11.9 (not determined.)	
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	99.34	99.3	

It is very noticeable that wherever at this locality the corundophilite enters into the talcose or micaceous schist it presents characters easily distinguishing the compound from all the known varieties of chlorite slate, producing in fact a new rock, whose appropriate designation will be *corundophilite slate*.

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