

Prehnite from the Lizard district, Cornwall.

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HITHERTO the mineral prehnite has been recorded from one locality only in Cornwall, namely, in the cliffs between Wheal Cock and the Crowns Rock, Botallack, St. Just.¹ It occurs there as pale-green, globular aggregates composed of indistinct, curved crystals, and forms veins traversing a narrow strip of greenstone which has intruded itself through the granite mass; associated minerals are stilbite and axinite.

In the summer of 1910 the writer collected several crystallized specimens of this mineral at Parc Bean Cove, Mullion, the locality from which Dr. J. S. Flett and Mr. W. F. P. McLintock obtained the fine crystallized specimens of datolite, recently described by the latter.² The prehnite occurs here in two distinct and somewhat unusual types of crystals—tabular and prismatic. In both cases the crystals form a crust on a dense, blackish-grey hornblende-schist. The specimens were obtained from a large block of the hornblende-schist at the base of the cliff, close to the spot yielding the datolite. For the identification of the forms of the crystals the writer is indebted to Mr. L. J. Spencer, who kindly undertook the necessary measurements.

The tabular crystals are flattened parallel to $c\{001\}$, and measure up to 4 mm. along the side; for the most part they are attached to the matrix with the faces o uppermost. They are of a dirty greenish-white colour and are somewhat corroded, probably from the action of the sea-water to which they were evidently at times exposed. The following forms are present: $c\{001\}$, $n\{302\}$, $o\{061\}$ (fig. 1). The cleavage parallel to c is distinct and shows a pearly lustre. The crystals are optically positive with strong double refraction, and the optic axial plane is parallel to (010). The specific gravity is 2.88, and the hardness

¹ Joseph Carne, 'On the mineral productions, and the geology of the parish of St. Just,' Trans. R. Geol. Soc. Cornwall, 1822, vol. ii, pp. 290-358 (Prehnite on p. 310). Compare A. Russell, *Mineralogical Magazine*, 1910, vol. xv, p. 379.

² W. F. P. McLintock, 'On datolite from the Lizard district, Cornwall,' *Mineralogical Magazine*, 1910, vol. xv, pp. 407-414.

about 6. A qualitative chemical examination revealed the presence of silica, alumina, calcium, and a little water.

The prismatic crystals, of which only one specimen was found, form a thin crust which is in part botryoidal. They are of a dirty white colour and measure about 1 mm. in length. They are elongated in the direction of the a -axis, and exhibit the forms $a\{100\}$, $c\{001\}$, $m\{110\}$, $o\{061\}$, $u\{301\}$ (fig. 2).¹ The faces of c and o are striated parallel to the mutual intersections. The physical, optical, and chemical properties are precisely similar to those of the tabular crystals.

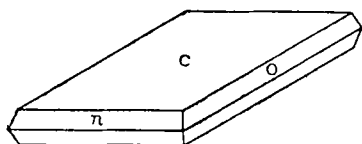


FIG. 1.

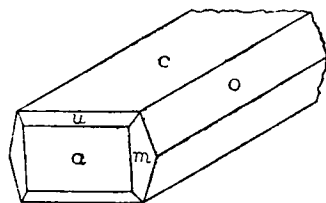


FIG. 2.

Crystals of Prehnite from Cornwall.

Specimens of a white mineral, forming a stalactitic and botryoidal crust on the hornblende-schist, were also obtained from the foot of the cliff above mentioned. This crust consists of a mass of minute, tabular crystals, rectangular in outline, of which, however, it was impossible to determine the exact form. Some of these crystals are opaque, whilst others are transparent at the edges and milky in the centre. On one specimen these same crystals are aggregated in the form of hollow rhombohedra, reaching $3\frac{1}{2}$ mm. across, the broken edges of which present a fibrous structure; these are probably pseudomorphous after calcite. The specific gravity is about 2.61, and the hardness $5\frac{1}{2}$. The mineral contains silica, alumina, calcium, and water, and therefore appears to be prehnite, although the specific gravity is unusually low for that mineral.

Natrolite occurs upon the surface of the mineral just described as bundles of colourless, prismatic crystals up to $1\frac{1}{4}$ mm. in length. These crystals are considerably etched and the forms therefore difficult to determine; they appear, however, to be similar to those occurring on the datolite as described by Mr. McLintock.

¹ The form $u\{301\}$ has hitherto been recorded only on crystals of prehnite from Josvas copper mine, Julianehaab district, Greenland.—O. B. Bøggild, 'Mineralogia Groenlandica,' 1905, p. 292.