

ART. XLVI.—*Crocoite from Tasmania*; by CHARLES PALACHE.

THROUGH the kindness of Mr. Stephen A. Douglas of San Francisco, the writer came into possession some time since of specimens of crocoite from Tasmania representing, so far as his information extends, a new or undescribed locality for this mineral. Of the two specimens available for study one is now in the mineral cabinet of the University of California, the second in the writer's possession. They consist of masses of crocoite crystals clustered upon bases of lamellar limonite, each mass measuring several inches in diameter. The mineral occurs in a silver-bearing lead deposit known as the Adelaide mine on Mt. Dundas, west coast of Tasmania; but of the nearer geological relations unfortunately no information is at hand. It is said to occur in considerable abundance, a statement borne out by the appearance of these specimens and the many others in Mr. Douglas's possession. Besides the limonite there is no trace of gangue or wall rock nor are there any other lead minerals such as might be expected to accompany the crocoite.

The crystals are of a light hyacinth red color, quite translucent and with adamantine luster. They vary in size from minutest needles to prisms of 2^{cm} length and 3^{mm} diameter. The habit is prismatic and the crystals are never doubly terminated, being attached at one end to the limonite. The larger crystals are often cavernous, giving rise to hollow prismatic forms. As is usually the case with crocoite, the crystal planes are even and brilliant, giving good reflections on the goniometer. The faces of the prism zone are, however, strongly striated parallel to the prism edges and this renders the identification of some forms doubtful.

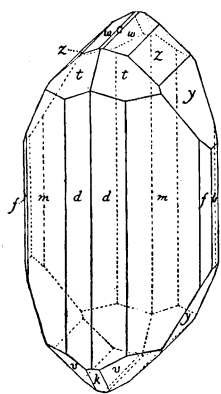
Four crystals were subjected to measurement and showed the following forms, most of which were present on each crystal. The letters used are those of Dana.

<i>m</i> (110)	I	<i>k</i> ($\bar{1}01$)	1- $\bar{2}$
<i>f</i> (120)	$i-\bar{2}$	<i>z</i> (011)	1- $\bar{2}$
<i>d</i> (210)	$i-\bar{2}$	<i>w</i> (012)	$\frac{1}{2}-\bar{2}$
*S (10·3·0)	$i-\frac{1}{2}\bar{2}$	<i>y</i> (021)	2- $\bar{2}$
*T (530)	$i-\frac{1}{2}\bar{2}$	<i>t</i> (111)	-1
<i>b</i> (010)	$i-\bar{2}$	<i>v</i> ($\bar{1}11$)	1
<i>c</i> (001)	<i>o</i>		

The following table shows some of the measurements and the angles calculated from Dauber's elements.

		Calculated.	Average measurement.	Number of times measured.	Limits.
$m \wedge m^3$	$110 \wedge \bar{1}\bar{1}0$	$86^\circ 19'$	$86^\circ 14'$	14	$85^\circ 59' - 86^\circ 31'$
$z \wedge z'$	$011 \wedge 0\bar{1}1$	$83 \quad 37$	$83 \quad 38$	1	
$w \wedge w'$	$012 \wedge 0\bar{1}2$	$48 \quad 11$	$48 \quad 12$	1	
$y \wedge y'$	$021 \wedge 0\bar{2}1$	$121 \quad 35$	$121 \quad 40$	1	
$k \wedge v$	$101 \wedge \bar{1}11$	$36 \quad 9$	$35 \quad 41$	1	
$T \wedge b$	$5\cdot3\cdot0 \wedge 010$	$60 \quad 38$	$59 \quad 55$	1	
$S \wedge b$	$10\cdot3\cdot0 \wedge 010$	$74 \quad 17$	$74 \quad 13$	3	$73^\circ - 75^\circ 15'$

The two prisms (10·3·0) and (5·3·0) were represented by exceedingly indistinct faces, reflections from which were only dimly visible with the δ ocular of the Fuess instrument. On this account they are considered doubtful and are not introduced into the figure. The first form S (10·3·0), is unrecorded; the second, T (5·3·0), is enumerated among doubtful forms by Dauber.



The remaining forms are shown in the figure in about an average development; but their proportions vary widely in various crystals with either t ($11\bar{1}$), v ($\bar{1}11$) or forms of the clinodome zone predominating. This combination of forms is exceedingly like that shown by Dauber* on a crystal of crocoite from Berezov in the Ural, which is somewhat surprising considering the widely different paragenesis of the mineral in the two localities.

Mineralogical Laboratory, Harvard University, January, 1896.

* Berichte Akad. Wien., xlii, fig. 93, Pl. II, 1860.