NOTES ON SOME RECENTLY DISCOVERED AND OTHER MINERALS OCCURRING IN TASMANIA.

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1. *Aikenite* (Sulphatiobismuthite of lead and copper).

Occurs in small acicular crystals which are longitudinally lined, also massive. It is commonly tarnished copper tints. Rare in siderite with bismuthinite. Block 291, North-East Dundas.

2. *Analcite* (Hydrated silicate of aluminium and sodium).

Small crystals are somewhat abundant in vesicular basalt at the Penguin River.

3. *Bismuthinite* (Sulphide of bismuth).

Common in acicular crystals associated with tetrahedrite from the Curtin-Davis group of mines, North-East Dundas. The tetrahedrite also contains bismuth, which possibly replaces portion of the antimony of that mineral. The associated minerals are mainly chalcopyrite and siderite. At the East Hercules Mine it occurs in chloritic schist with pyrite and chalcopyrite. At the South Mount Black P.A. it has been obtained from tourmaline and quartz in schist rock.

4. *Boulangerite* (?) (Sulphantimonite of lead).

A mineral resembling this, but of which no quantitative analysis has been made, comes from Block 291 mine, North-East Dundas. It is evidently a sulphantimonite of lead, with bismuth, iron, and copper, the first-mentioned constituent giving strong reactions. It is largely mixed with chalcopyrite, arsenopyrite, and pyrite, and is rich in silver. (R. H. Walcott).

5. *Chalcotrichite* (Fibrous cuprite).

Found by Mr. R. Williams at the Colebrook Mine. It occurred in capillary tufts, of a beautiful crimson colour, surrounded by a thin coating of native copper in the limurite rock.

6. *Datolite* (Basic orthosilicate of calcium and boron).

Mr. R. Williams, mine manager of the Colebrook mine-North-East Dundas, has kindly forwarded me some fine specimens of this recent addition to the already long list of minerals known to occur in this island. They were obtained at that mine in sinking a shallow shaft in the western portion of the limurite outcrop. This mineral occurs in irregular crystalline masses, with a glassy lustre, and of a pale green colour. Mr. R. H. Walcott writes me regarding some samples which have been sent to him, that "one specimen shows a rough crystal outline of what might be the ortho and clinodomes, each of which is built up of a number of incomplete monoclinic crystals. It gives at once a strong boric acid reaction on introduction into the blowpipe flame, and fuses readily." It is supposed to be the first discovery of this mineral in Australasia.

7. *Fayalite* (Iron olivine).

Abundant in microscopic crystals of a bright red colour in fayalite-basalt from the Alexandra Battery, near Hobart.

8. *Idocrase* (A basic silicate of calcium, aluminium, and iron).

I am indebted to Mr. W. R. Bell for some extremely fine specimens of this mineral, which he informs me occurs in considerable masses at the Hampshire Hills. It is commonly in well-developed imbedded crystals of a rich brown colour, with the facets highly polished. In some rare instances the crystals are fully one inch in diameter, and often show peculiar modification. The massive portions sometimes contain patches of highly coloured amethyst, with occasional groups of black ilvaite, and then form very attractive specimens for the cabinet.

9. *Ilvaite* (A basic orthosilicate of iron and calcium).

Obtained associated with idocrase from the Hampshire Hills. It occurs as imbedded crystals, occasionally measuring up to half-an-inch in diameter.

10. *Palagonite* (Hydrous silicate of iron, etc.).

This substance has been obtained near Perth, in the usual amorphous masses of a yellowish brown colour.

11. *Pyroclore* (Columbate and titanate of calcium, lanthanum ceruim, etc.).

This rare mineral, or a species closely allied thereto, has been discovered on the property of the Shekelton Mining Syndicate near Table Cape. It occurs in a granular condition of a brown colour in alluvial drift, with zircon, sapphire, and quartz. *The Australian Mining Standard* of October, 1896, states that an analysis by Dr. W. H. Craze gave the following result, niobate of uranium and chromium, a variety of pyroclore :—

Ur.	...	5	%	to	0·5	%
Cb.	...	10 5	,,	,,	12·5	,,
Ti.	...	12	,,	,,	13	,,
Ni.	...	4·5	,,	,,	2·5	,,
Fe.	...	25·5	,,	,,	27·7	,,
Al.	...	7·3	,,	,,	6·2	,,
Ca.	...	2·6	,,	,,	1·5	,,
Si.	...	15	,,	,,	12	,,
Di.	...	7·5	,,	,,	0·5	,,
La.	...	6·2	,,	,,	2·2	,,
Th.	...	1·0	,,	,,	traces	
Yt.	...	1·5	,,	,,	traces	

12. *Prosopite* (Hydrous fluoride of aluminium and calcuim).

Abundant as a white powdery substance at the "White Face" at Mount Bischoff, apparently derived from the decomposition of the topaz porphyry characteristic of the locality.

13. *Pyrrhotite* (Sulphide of iron).

At the Colebrook Mine, North-East Dundas, this mineral occurs in enormous quantity in the limurite rock ; with it arsenopyrite and chalcopyrite are intermixed. It has, when freshly broken, a shining bronze lustre, but on exposure readily tarnishes, then often showing blue and red coppery reflections.

14. *Sillimanite* (A basic ortho-silicate of aluminium).

In the "Catalogue of the Minerals of Tasmania," 1896, this is mentioned in error as occurring at Mount Bischoff. More recently it has been discovered by Mr. W. H. Twelvetrees and myself as occurring as sillimanite-schist at the Lucy River, a tributary of the Pieman, and at Mount Stewart, Heazlewood district.

15. *Tethrahedrite* (Sulphantimonite of copper).

Mr. R. H. Walcott, curator of the Industrial and Technological Museum of Melbourne, has kindly furnished me with the following note regarding this mineral:—"Occurs disseminated through the ore of the Tasmania gold mining company, Beaconsfield, associated with chalcopyrite, arsenopyrite, and pyrite. The gangue from this mine at times contains a large amount of magnesian, lime, and iron carbonates, probably as dolomite and siderite, but also perhaps in minerals containing all three. Calcite appears to be present in small quantity. The tetrahedrite contains little or no silver, as far as can be ascertained." At the Hercules mine, Mt. Read, some remarkably fine bunches and druses of small but well-developed crystals of this mineral have recently been obtained, associated with diallogite and barite.

16. *Uralite* (A pseudomorphous hornblende with the external form of augite).

This secondary mineral has been optically detected in petrographical work, and in the limurite of the Colebrook its presence is very pronounced. It is in all instances derived from the alteration of augite, which, in this rock, occasionally shows a more advanced alteration to actinolite.

17. *Vanadinite* (An orthovanadate of lead with chloride of lead).

Occurs in groups of closely compact hexagonal prisms and incrusting on sulphate of lead, of a deep rich reddish brown to almost crimson colour with a resinous lustre. Magnet silver mine, near Waratah.

18. *Zinkenite* (Sulphantimoniate of lead).

At Block 291 mine, North-East Dundas, some beautifully developed crystals of this mineral have been obtained, some few reaching nearly an inch in length. They belong to the orthorhombic system, and commonly have the lateral faces longitudinally striated with a low pyramidal termination. In habit they are often grouped together, and mackles are common. The specific gravity of the Dundas specimen is 5·16. Colour and streak, light steel grey. They occur attached to siderite, with pyrite, tetrahedrite, and more rarely crystals of argentite.

19. *Zinnwaldite* (Lithia muscovite).

Occurs in granite, and thus forms the common white mica of the stanniferous rocks of the East Coast.