ON A METEORITE FROM THE CASTRAY RIVER.

By W. F. Petterd.

There is invariably considerable interest attached to the discovery and identification of meteoric substances. I therefore assume that a few remarks respecting the recent acquisition of a small but veritable meteroic stone, fully authenticated as having been unearthed in this State, may be of interest. The specimen in question makes the second* which has been discovered in this Island, and brings the total number recorded up to date as having been obtained in Australasia, to about 33 examples†. These vary in weight from 3 to 4 tons to that now described, which is the smallest hitherto obtained. It is beyond reasonable doubt that many have been, and are, overlooked, as to the average observer they are remarkably unattractive, and it is usually only when they fall into the hands of the mineralogist that their true nature is revealed. Specimens of over 250 independent occurrences in various parts of the world are preserved, often with detailed records (*vide* Dana's System of Mineralogy, 1898).

As is well-known to those interested, it has been found convenient to class these objects into three divisions, although they pass more or less gradually into each other, viz. :—

1. *Siderites*, or meteoric iron proper (consisting chiefly of nickeliferous iron, and enclosing schreibersite, troilite, graphite, &c.)
2. *Siderolites* (consisting chiefly of nickeliferous iron and silicates, both in large proportion.)

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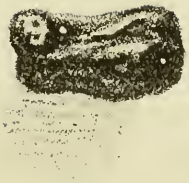
* The minerals of Tasmania, 1896, p. 53.

† Records of Australian Museum, 1897-8-9.



THE CASTRAY METEORITE.

3. *Aërolites*, or meteoric stones, (consisting generally of one or more silicates, interspersed with isolated particles of nickeliferous iron, troilite, &c.).*

It is estimated that about one-third of the known elements have been detected in the various forms of meteoric substances, many in their free state, but by far the greater number as homogeneous mineral species in the condition of alloys, oxides, sulphides, silicates, phosphides, and hydrocarbons.† Of the somewhat large number of compounds which have been recognised and described, about 12 species are unrepresented among the terrestrial minerals.

Of the meteorites recorded from Australia, 22 are classed as belonging to the first, or siderite section, seven to that termed siderolites, and one doubtfully belonging to the aërolites.

That already recorded from this State, as well as the one now described, belong to the siderite or nickeliferous-iron section.

A noted peculiarity of the metallic ingredients in thin section is the development of the "Widmanstatten" markings on a polished surface being exposed to the action of acids or bromine, owing to the inequality of action on the various alloys of nickel and iron.

Details of Specimen.

Castray Meteorite—

Type : Siderite.

Weight : 51 grs.

Size : Length, 18 millimetres ; greatest breadth, 10 millimetres.

Locality : Castray River, North-West Tasmania.

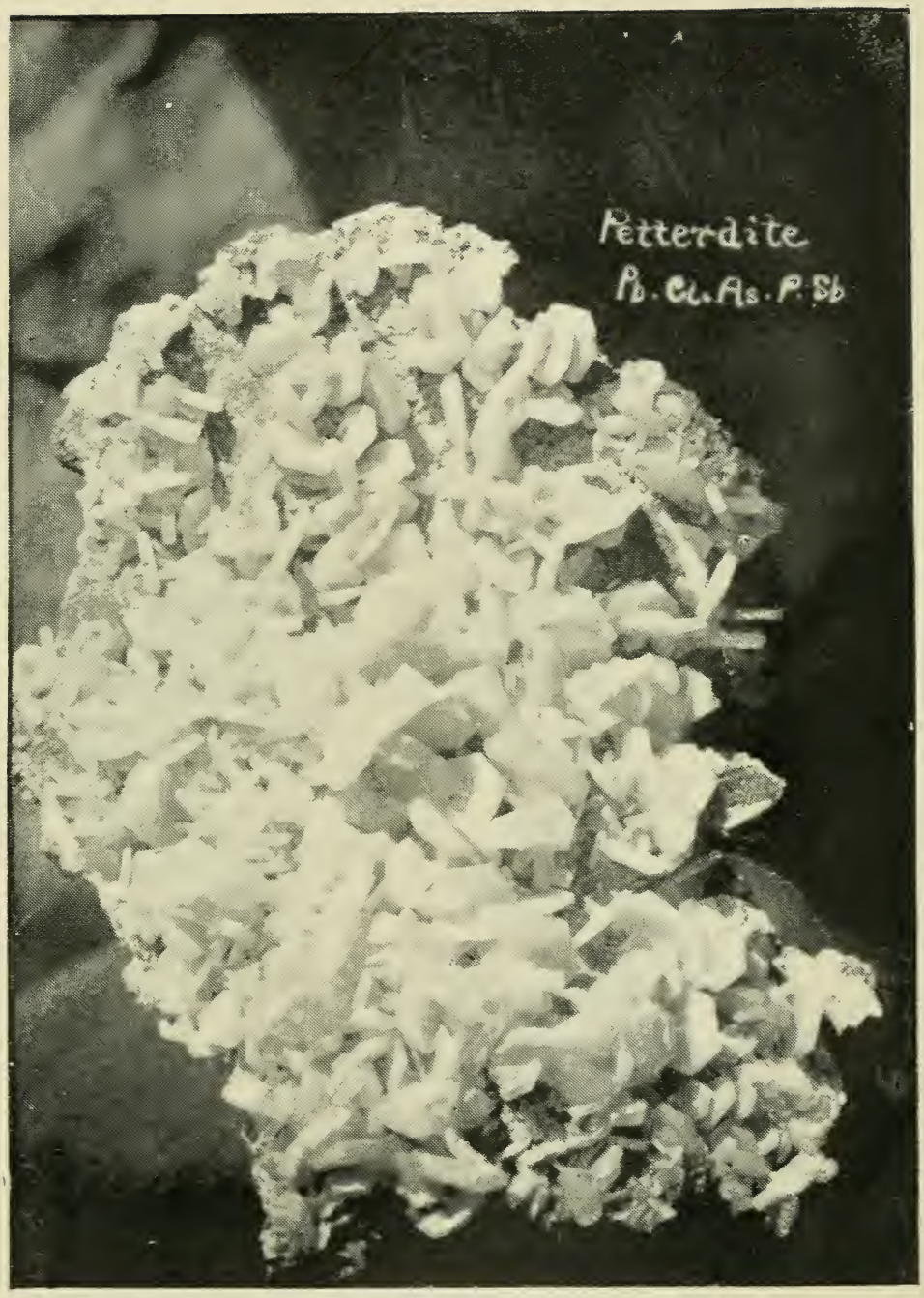
The specimen is dark, almost black, with the characteristic smooth, almost graphitic, surface glimmer common to this class of meteoric substances. In shape

* Introduction to the Study of Meteorites. (British Museum, 1896.)

† The discovery of undoubted diamonds in the numerous masses of meteoric iron found in the Canyon Diable, America, was announced in the American Journal of Science, July, 1891.

it is elongably quadrate, tapering, and abruptly angulated at one end; it is longitudinally furrowed, and has several irregular pittings or diminutive "thumb-marks" on the respective surfaces. It is strongly magnetic. It was originally obtained, with two others of like size and character, by a miner, in 1899, when ground-sluicing the auriferous drift on the banks of the Castray River, and afterwards, direct from the discoverer, came into the possession of Mr. T. Birkett, a well-known mine manager, by whom it was presented to the mineral collection of the writer.

I have to thank Mr. W. H. Twelvetrees, Government Geologist, for illustrating this interesting object.



PETTERDITE.