

AUSTRALIAN MUSEUM SCIENTIFIC PUBLICATIONS

Anderson, C. 1913. A catalogue and bibliography of Australian meteorites, with census and taxonomy. *Records of the Australian Museum* 10(5): 55–76. [Published 17 May 1913].

doi:10.3853/j.0067-1975.10.1913.898

ISSN 0067-1975 (print), ISSN 2201-4349 (online)

Published by the Australian Museum, Sydney

nature culture **discover**

Australian Museum science is freely accessible online

<http://dx.doi.org/10.3853/issn.2201-4349>

6 College Street, Sydney NSW 2010, Australia



A CATALOGUE AND BIBLIOGRAPHY OF
AUSTRALIAN METEORITES,

With Census and Taxonomy.

By C. ANDERSON, M.A., D.Sc. (Edin.), Mineralogist.

I.—Catalogue.

In 1897 Dr. T. Cooksey, at that time Mineralogist to the Australian Museum, published a Catalogue and Bibliography of Australian Meteorites.¹ Since that date the number of meteorite falls recorded from Australia has doubled and the literature has increased proportionately, therefore, the present occasion has been utilised to bring the record up to date. The general plan adopted by Cooksey has been followed in this revision, the chief departure being in the method of entering the references to published papers, which are numbered consecutively and referred to by number under each meteorite. An attempt has been made to indicate where the main mass of each fall is now deposited, but here great accuracy cannot be claimed as changes take place from time to time. Those who desire more detailed information regarding the distribution of Australian Meteorites in collections must consult the various published catalogues.²

¹ Cooksey—*Rec. Austr. Mus.*, iii., 1897-9, p. 51-62, 90, 130-1.

² Fletcher (British Museum)—*An Introduction to the Study of Meteorites. Brit. Mus. Guide*, 1908.

Klein (Berlin Museum)—*Sitz. Akad. Berlin*, 1904, p. 114-153.

Berwerth (Hofmuseum, Vienna)—*Ann. k.k. Naturhist. Hofmus. Wien.*, xviii., 1903, p. 1-90.

Cohen (Greifswald)—*Mitt. naturw. Ver. Neuvorpommern u. Rügen*, xxxvi., 1904, p. 1-34.

Farrington (Field Mus., Chicago)—*Field Mus. Publication*, 77, *Geol. Ser. ii.*, 1903, p. 79-124.

Ward (Ward-Coonley, Rochester)—*Catalogue*, Chicago, 1904.

Tassin (U.S. National Museum)—*Rep. U.S. Nat. Mus.*, 1902, pp. 671-698.

ABEL = CRANBOURNE NO. 2, *q.v.*

ARLTUNGA.

Type—Siderite.

Weight—40lbs.

Loc.—Two miles south of Government Cyanide Works, Arltunga (Lat. 23° 30'S, Long. 134° 40'E, about), South Australia.

Finder and date—Dan Pedler, about 1908.

Coll.—South Australian Museum, Adelaide.

Ref.—82.

BALLINOO.

Type—Siderite. Finest octahedrite, *Off.*

Weight—93lbs.

Loc.—Ten miles south of Ballinoo (Lat. 23° 30'S, Long. 116° 30'E), Murchison River, Western Australia.

Finder and date—George Denmack, 1892.

Coll.—Ward-Coonley, Rochester, U.S.A.

Ref.—10, p. 63, 11, pp. 221, 228, 242, Pl. v., fig. 44, 24, 26, p. 391, 28, p. 85, 59, 87, 88, pp. xi., 4, 101.

BARRABA.

Type—Siderite.

Weight—About 3lbs.

Loc.—Near Barraba (Lat. 30° 22'S, Long. 150° 36'E), New South Wales (exact locality unknown).

Finder and date—

Coll.—Mining and Geological Museum, Sydney; H. M. Porter, Torrington, New South Wales; Hofmuseum, Vienna.

Ref.—63.

BARRATTA NO. 1, or DENILQUIN.

Type—Aerolite. Brecciated grey chondrite, *Cyb* (Brezina); black chondrite, *Cs* (Klein); intermediate chondrite, *Ci* (Farrington).

Weight—145lbs.

Loc.—Barratta Station (Lat. 35° 5'S, Long. 144° 36'E), thirty-five miles north-west of Denilquin, New South Wales.

Finder and date—F. Gwyne, 1852.

Coll.—Australian Museum, Sydney.

Ref.—1a, 9, pp. 252, 301, 11, pp. 220, 225, 229, 232, 236, 28, pp. 81, 85, Pl. xxxi., 33, p. 264, 35, pp. 448-449, 47, p. 143, 49, 50, 55, pp. 207-217, 88, pp. ix., xi., 35, 99.

BARRATTA NO. 2.

Type—As No. 1.
Weight—31lbs.
Loc.—Near No. 1.
Finder and date—
Coll.—Australian Museum, Sydney.
Ref. **54, 57, 70.**

BARRATTA NO. 3.

Type—As No. 1.
Weight—48lbs.
Loc.—Near No. 1.
Finder and date—
Coll.—Australian Museum, Sydney.
Ref.—**54, 57, 70.**

BARRATTA NO. 4.

Type—As No. 1.
Weight—175lbs.
Loc.—Near No. 1.
Coll.—Ward-Coonley, Rochester, U.S.A.
Ref.—**88**, pp. ix., xi., 35, 99.

BEACONSFIELD.

Type—Siderite. Broad octahedrite, *Og* (Brezina); broadest octahedrite, *Ogg* (Klein).
Weight—75 kilos (= 165lbs. av.)
Loc.—About two miles east of Beaconsfield Station (Lat. 38° 31'S, Long. 145° 30'E), Co. Mornington, Victoria.
Finder and date— — Feltus.
Coll.—Krantz Mineralien-Contor, Bonn, Germany.
Ref.—**11**, p. 227, **22, 23**, pp. 485, 486. **25, 28**, p. 86, **32**, pp. 150-151, **152, 88**, p. 4, Pl. i., fig. 9.

BENDOCK.

Type—Siderolite.
Weight—Said to have weighed 60lbs originally.
Loc.—Seven miles from Bendock (Lat. 37° 11'S, Long. 148° 58'E), Co. Croajingolong, Victoria.
Finder and date—About 1899.
Coll.—
Ref.—**61, 62.**

BINDA.

Type—Aerolite. Achondrite (Eukrite, *Eu.*)

Weight—12lbs av.

Loc.—Binda (Lat. 34° 18'S, Long. 149° 25'E), near Crookwell, New South Wales.

Finder and date—Alick McCormack, June 5th, 1912.

Coll.—Australian Museum, and Technological Museum, Sydney.

Ref.—1.

BINGERA.

Type—Siderite. Granular Hexahedrite, *Ha.*

Weight—240.7 grams (= 8½oz. av.)

Loc.—Bingera (Lat. 29° 48'S, Long. 150° 33'E), New South Wales.

Finder and date—1880.

Coll.—Mining and Geological Museum, Sydney; Hofmuseum, Vienna.

Ref.—6, p. 43, 9, pp. 235, 294-295, 305, 14, 16, 23, pp. 482-484, 51, 55, pp. 218-220, 83, pp. 5, 103.

BLUE TIER.

Type—Siderite. Medium octahedrite, *Om.*

Weight—3lbs.

Loc.—Blue Tier (Lat. 41° 0'S, Long. 148 0'E about), Co. Dorset, north-east coast of Tasmania.

Finders and date—Party of miners, some years previous to 1893.

Coll.—Mrs. W. F. Petterd, Launceston, Tasmania.

Ref.—9, p. 307, 64, p. 40, 68, 88, p. 5.

BOOGALDI.

Type—Siderite. Fine octahedrite, *Of.*

Weight—2057 grams (= 4½lb av.)

Loc.—Two miles from Boogaldi Post Office, fifteen miles from Coonabarabran (Lat. 31° 18'S, Long. 149° 5'E), New South Wales.

Finder and date—Gould, Jan. 1900.

Coll.—Technological Museum, Sydney.

Ref.—3, 57, 88, p. 101.

BRUCE = CRANBOURNE NO. 1, *q.v.*

CADELL.

Type—Aerolite?

Weight—7 $\frac{1}{4}$ lbs.

Loc.—Three miles from Morgan (Lat. 34° S, Long. 139° 45' E), east side of River Murray, Hundred of Cadell, South Australia.

Finder and date—April 14th, 1910.

Coll.—South Australian Museum, Adelaide.

Ref.—Undescribed.

CASTRAY RIVER.

Type—Siderite.

Weight—51 gr.

Loc.—Bank of the Castray River, tributary of the Heazlewood River, North-West Tasmania.

Finder and date—A miner, 1899.

Coll.—Mrs. W. F. Petterd, Launceston, Tasmania.

Ref.—**65, 66, 68.**

COWRA.

Type—Siderite. Finest octahedrite, *Off.*

Weight—12 $\frac{1}{4}$ lbs.

Loc.—Summit of Battery Mountain, Junction of Burrowa and Lachlan Rivers, near Cowra, (Lat. 33° 52' S, Long. 148° 45' E), New South Wales.

Finder and date—John O'Shaughnessy, before 1888.

Coll.—Mining and Geological Museum, Sydney; Hofmuseum, Vienna.

Ref.—**9**, pp. 235, 267, 306, **14, 16, 63, 88**, pp. 9, 101, **89.**

CRANBOURNE NO. 1, or BRUCE.

Type—Siderite. Broad octahedrite, *Og.*

Weight—3,500 kilos (= 68.89 cwt.)

Loc.—Cranbourne (Lat. 38° 11' S, Long. 145° 20' E), Co. Mornington, Victoria.

Finder and date—Known 1854.

Coll.—British Museum (Nat. Hist.), London.

Ref.—**4, 5, 9**, pp. 273, 285, 302, **11**, p. 244, **13, 21**, pp. 144-148, **28**, p. 93, **32**, p. 152, **33**, pp. 552-553, **34, 35**, p. 59-65, **37, 41-45, 46**, p. 330, **78, 79, 80, 83, 85, 86**, pp. 267, 268, 271, 272, **88**, pp. 9, 102, Pl. iii., fig. 3, **92.**

CRANBOURNE NO. 2, or ABEL.

Type—As No. 1.

Weight—30cwt.

Loc.—Six miles north of No. 1 (Lat. 38° 8'S, Long. 145° 22'E).

Finder and date—Known 1854.

Coll.—National Museum, Melbourne.

Ref.—**34, 41-45, 86**, pp. 268, 271, 272.

DANDENONG = Cranbourne (? No. 2)—See **42**.

DENILQUIN = BARRATTA NO. 1, *q.v.*

ELI ELWAH, or HAY.

Type—Aerolite.

Weight—35½ lbs.

Loc.—Eli Elwah Station, fifteen miles west of Hay (Lat. 34° 30'S, Long. 144° 56'E), New South Wales.

Finder and date—? Known 1889 (**9**, p. 306).

Coll.—British Museum (Nat. Hist.), London.

Ref.—**9**, p. 306, **54, 57, 69**.

EMMAVILLE.

Type—Aerolite.

Weight—127.15 grams (= 4½ ozs. av.)

Loc.—Near Emmaville (Lat. 29° 14'S, Long. 151° 45'E), New South Wales.

Finder and date—About 1900.

Coll.—

Ref.—Undescribed.

GILGOIN NO. 1.

Type—Aerolite. Crystalline chondrite, *Ch* (Brezina); black chondrite, *Cs* (Klein).

Weight—67½ lbs.

Loc.—Gilgoin Station (Lat. 30° 35'S, Long. 147° 12'E), forty miles south-east of Brewarrina, New South Wales.

Finder and date—1888 or 1889.

Coll.—Australian Museum, Sydney.

Ref.—**28**, p. 97, **47**, p. 146, **54, 57, 70, 72, 73, 88**, pp. 44, 100.

GILGOIN NO. 2.

Type—As No. 1.*Weight*—74 $\frac{1}{4}$ lbs.*Loc.*—Two miles south of Gilgoin, No. 1.*Coll.*—Australian Museum, Sydney.*Ref.*—57, 72, 73.

GILGOIN NO. 3.

Weight—55 $\frac{1}{4}$ lbs.*Coll.*—Ward-Coonley, Rochester, U.S.A.

GILGOIN NO. 4.

Weight—37 lbs.*Coll.*—Ward-Coonley, Rochester, U.S.A.

GILGOIN NO. 5.

Coll.—Ward-Coonley, Rochester, U.S.A.

GILGOIN NO. 6.

Weight—16 lbs.*Coll.*—Mining and Geological Museum, Sydney.

HADDON.

Type—Aerolite (?)*Loc.*—Haddon, Grenville Co., Victoria.*Ref.*—35, p. 107-8.

Note—A Meteor was seen and immediately afterwards an eyewitness thought he saw something fall near him. Several pieces of melted matter of varying colour were found. Nothing more is known of this supposed meteorite and there is no reliable evidence that it was of meteoric nature.

HAMMERSLEY RANGE = ROEBOURNE, *q.v.*HAY = ELI ELWAH, *q.v.*

HAY, or PEVENSEY.

Type—Aerolite.*Weight*—9 $\frac{1}{2}$ lbs.*Loc.*—Pevensey Station, Old Man Plain, ten miles below Hay, (Lat. 34° 30'S, Long. 144° 56'E), in a paddock fifteen miles south of the Murrumbidgee River, New South Wales.

Finder and date—1868-1870.

Coll.— — Godfrey, Melbourne.

Ref.—**27**, p. 130.

Note.—It is unfortunate that two meteorites (which may, however, be parts of one and the same mass) have been referred to by the same name. Perhaps the second Hay would be preferably called Pevensey.

HERMITAGE PLAINS.

Type—Aerolite.

Weight—About 70lbs. originally.

Loc.—Hermitage Plains, twenty miles south-east of Canbelego (Lat. $31^{\circ} 28'S$, Long. $146^{\circ} 41'E$ about).

Finder and date—1909.

Coll.—Mining and Geological Museum, Sydney.

Ref.—**91**.

KULNINE.

Type—Siderolite (?).

Weight—122lbs.

Loc.—Kulnine Run, Victoria, near Wentworth (Lat. $34^{\circ} 8'S$, Long. $141^{\circ} 56'E$), New South Wales.

Finder and date—Known 1886; first seen by J. L. Thompson.

Coll.—South Australian Museum, Adelaide.

Ref.—Undescribed.

LAKE GILES = MOUNT DOOLING, *q.v.*

LANGWARRIN.

Type—Siderite.

Weight— $17\frac{1}{2}$ cwt.

Loc.—Langwarrin (Lat. $38^{\circ} 10'S$, Long. $145^{\circ} 10'E$), Co. Morangton, Victoria.

Finder and date—A. H. Padley, 1886.

Coll.—National Museum, Melbourne.

Ref.—**27**, p. 130, **86**, pp. 268, 271, 272.

Note.—Perhaps a part of the Cranbourne fall.

LEFROY.

Type—Siderite.

Weight—3.328 grains.

Loc.—Lefroy (Lat. $41^{\circ} 9'S$, Long. $146^{\circ} 58'E$), Co. Dorset, twenty-seven miles north-west of Launceston, Tasmania.

Finder and date—A prospector, 1904.

Coll.—Mrs. W. F. Petterd, Launceston, Tasmania.

Ref.—**67**, (a) pp. 78-79, (b) pp. 86-87, **68**.

LE GOULD.

Loc.—Two days march beyond the Isaacs River, the first branch of the MacKenzie River, Queensland.

Ref.—**48**.

Note.—An aerolite, ten inches in diameter, which had struck and broken a tree, was found.

MACQUARIE RIVER.

Type—Siderolite. Mesosiderite, *M*.

Weight—

Loc.—Macquarie River (Lat. 31° 30'S, Long. 152° 56'E), New South Wales.

Finder and date—1857.

Coll.—Ward-Coonley, Rochester, U.S.A.; Berlin Museum.

Ref.—**47**, p. 126, **88**, p. 31.

MOLONG.

Type—Siderolite. Pallasite.

Weight—Main mass 204lbs. and fragments weighing 28lbs.

Loc.—E. Farrell's Selection, Portion 218, Pa. Molong, Co. Ashburnham, New South Wales.

Finder and date—John Williams, August 1912.

Coll.—Mining and Geological Museum, Sydney.

Ref.—Undescribed.

MOONBI.

Type—Siderite. Fine octahedrite, *Of*.

Weight—29lbs.

Loc.—Moonbi Range, eighteen miles from Moonbi (Lat. 31° 9'S, Long. 151° 1'E), New South Wales.

Finder and date—Langston, 1892.

Coll.—Technological Museum, Sydney.

Ref.—**9**, pp. 235, 268, 272, 307, **14**, **16**, **60**, **88**, p. 101.

MOORANOPPIN.

Type—Siderite. Broadest octahedrite, *Ogy* (Brezina, Klein); broad octahedrite, *Og* (Farrington).

Weight—2½lbs.

Loc.—Mooranoppin, fifty miles west of Coolgardie (Lat. 32° 0'S, Long. 119° 25'E), Western Australia.

Finder and date—An aboriginal, in or before 1893.

Coll.—Ward-Coonley, Rochester, U.S.A.

Ref.—**10**, p. 63, **11**, p. 245, **28**, p. 108, **59**, **87**, **88**, pp. 17, 102.

MOUNT BROWNE.

Type—Aerolite. Spherulitic chondrite, *Cc*.

Weight—25½ lbs.

Loc.—Mount Browne (Lat. 29° 45'S, Long. 141° 46'E), Co. Evelyn, New South Wales.

Finder and date—W. Jordan; fell July 17, 1902.

Coll.—Mining and Geological Museum, Sydney.

Ref.—11, p. 238, 17, p. 218, 18, 88, pp. 55, 99, 90.

MOUNT DOOLING, or LAKE GILES.

Type—Siderite.

Weight—

Loc.—Mt. Dooling, north Yilgarn, Western Australia.

Finder and date—1910.

Coll.—Geological Survey Museum, Perth, Western Australia.

Ref.—77.

MOUNT DYRRING.

Type—Siderolite. Pallasite-Krasnojarsk group, *Pk*.

Weight—25 lbs. (in fragments).

Loc.—Mount Dyrring (32° 30'S, 151° 10'E), eight miles north of Bridgman, Singleton District, New South Wales.

Finder and date—An aboriginal, in 1903.

Coll.—Mining and Geological Museum, Sydney.

Ref.—11, p. 223, 17, p. 218, 63, 88, pp. 31, 101.

MOUNT STIRLING.

Type—Siderite. Broad octahedrite, *Og*.

Weight—200½ lbs.

Loc.—Twenty-five miles south-east of Mount Stirling (Lat. 31° 58'S, Long. 117° 55'E), one hundred and thirty miles east of Perth, Western Australia.

Finder and date—Known 1892.

Coll.—Australian Museum, Sydney.

Ref.—27, pp. 58, 131, 88, pp. 17, 102, Pl. i., fig. 6.

MUNGINDI NOS. 1 and 2.

Type—Siderite. Finest octahedrite, *Off* (Brezina, Klein); fine octahedrite, *Of* (Farrington).

Weight—No. 1, 51lbs.; No. 2, 62lbs.

Loc.—South Queensland, three miles north of Mungindi (Lat. $29^{\circ} 0'S$, Long. $149^{\circ} 0'E$), New South Wales.

Finder and date—Louis Troutman, early in 1897.

Coll.—Mining and Geological Museum, Sydney,

Ref.—**10**, p. 63, **11**, pp. 226, 242, **15**, pp. 121-122, **16**, **28**, p. 109, Pl. xxxviii., **87**, **88**, pp. 18, 101, Pl. ii., fig. 11.

MURNPEOWIE.

Type—Siderite.

Weight—2.520lbs.

Loc.—Beltana Pastoral Co.'s Murnpeowie Run (Lat. $29^{\circ} 35'S$, Long. $139^{\circ} 54'E$ about), South Australia.

Finders and date—A. Hamblin and others, Aug. 1909.

Coll.—School of Mines and Industries Museum, Adelaide.

Ref.—**36**, **81**, **82**.

NARRABURRA.

Type—Siderite. Finest octahedrite, *Off*.

Loc.—Narraburra or Yeo Yeo Creek, twelve miles east of Temora (Lat. $34^{\circ} 10'S$, Long. $147^{\circ} 43'E$), New South Wales.

Finder and date—O'Brien, 1855.

Coll.—Australian Museum, Sydney.

Ref.—**12**, **58**, **71**, **88**, pp. 18, 102.

NOCOLECHE.

Type—Siderite. Medium octahedrite, *Om*.

Weight—44.18lbs.

Loc.—Five miles south-west of Nocoleche Station, near Wanaaring (Lat. $29^{\circ} 35'S$, Long. $144^{\circ} 10'E$), forty miles north-west of Bourke, New South Wales.

Finder and date—Known 1895.

Coll.—Australian Museum, Sydney; Ward-Coonley, Rochester, U.S.A.

Ref.—**11**, pp. 244, **27**, **88**, pp. 19, 102, Pl. iii., fig. 5.

NULERI.

Type—Siderite. Octahedrite.

Weight—120.2 grams (= 4.24 oz. av.)

Loc.—Two hundred miles east of Mount Sir Samuel, Nuleri Land District, Western Australia.

Finder and date—A prospector, in or before 1902.

Coll.—Geological Survey Museum, Perth, Western Australia.

Ref.—74, 75.

PENKARRING ROCK = YOUNDEGIN NO. 1., *q.v.*

PEVENSEY = HAY, *q.v.*

PREMIER DOWNS (Two).

Type—

Weight—

Loc.—Premier Downs, Nullarbor Plains, Eucla Division, Western Australia.

Finder and date—1911.

Coll.—Geological Survey Museum, Perth, Western Australia.

Ref.—77.

QUEENSLAND.

Type—Siderite. Broad octahedrite, *Og.*

Weight—

Loc.—South Queensland (exact locality unknown).

Finder and date—

Coll.—Queensland Museum, Brisbane³; Ward-Coonley, Rochester, U.S.A.

Ref.—88, pp. 20, 102.

RHINE VILLA.

Type—Siderite. Medium octahedrite, *Om.* (Brezina); broad octahedrite, *Og.* (Klein).

Weight—7½ lbs.

Loc.—Rhine Villa, Hundred of Angas, about fifty miles north-east of Adelaide, South Australia.

Finder and date—H. W. Payne, before Nov., 1900.

Coll.—South Australian Museum, Adelaide; main mass was sent to Germany,

Ref.—38, 39, 88, pp. 21, 102.

³ Dr. R. Hamlyn-Harris, Director of the Queensland Museum, informs me (Oct. 24, 1912) that there is no such meteorite in the Queensland Museum at the present time.

ROEBOURNE, or HAMMERSLEY RANGE.

Type—Siderite. Medium octahedrite, *Om*.

Weight—191½ lbs.

Loc.—Two hundred miles south-east of Roebourne (Lat. 22° 20'S, Long. 118° 0'E), and eight miles from the Hammersley Range, Western Australia.

Finder and date—H. Reginald Hester, 1892.

Coll.—Ward - Coonley, Rochester, U.S.A.; Field Museum, Chicago.

Ref.—6, p. 43, 7, 10, p. 63, 11, pp. 221, 243, 59, 87, 88, pp. 21, 102, Pl. iii., fig. 4.

TEMORA.

Type—Siderite. Broadest octahedrite, *Ogg*.

Weight—

Loc.—Between Temora (Lat. 34° 12'S, Long. 147° 26'E) and Cootamundra, New South Wales.

Finders and date—Party of miners, 1890.

Coll.—Mining and Geological Museum, Sydney; Hofmuseum, Vienna; Ward-Coonley, Rochester, U.S.A.

Ref.—9, pp. 235, 288, 302, 14, 16.

THUNDA.

Type—Siderite. Medium octahedrite, *Om*.

Weight—137 lbs.

Loc.—Thunda, Windorah (Lat. 25° 25'S, Long. 142° 40'E), Diamantina District, Queensland.

Coll.—A. Liversidge.

Ref.—6, pp. 40, 43, 8, p. 7, 9, pp. 272, 283, 306, 11, pp. 226, 243, 26, pp. 381-382, 52, 53, 54, 55, p. 221, 88, pp. 25, 102, Pl. iii., fig. 9.

WARBRECCAN.

Type—Aerolite.

Weight—61,223 grams (three pieces).

Loc.—Windorah (Lat. 25° 25'S, Long. 142° 40'E). Diamantina District, Queensland.

Finder and date—

Coll.—British Museum (Nat. Hist.), London.

Ref.—31, p. 104.

YARDEA.

Type—Siderite. Medium octahedrite, *Om*.

Weight—7lbs 3 $\frac{1}{4}$ ozs.

Loc.—Four miles south of Yardea Station (Lat. 32° 20'S, Long. 136° 0'E), Gawler Range, South Australia.

Finder and date—James Martlew, November, 1875.

Coll.—South Australian Museum, Adelaide.

Ref.—**9**, p. 304, **19**, pp. 82-83, **20**, **88**, p. 28.

YOUNDEGIN NO. 1, or PENKARRING ROCK.

Type—Siderite. Broad octahedrite, *Og*.

Weight—Four fragments weighing respectively 25 $\frac{3}{4}$ lbs., 24lbs., 17 $\frac{1}{2}$ lbs., 6lbs., and broken pieces weighing 17lbs.

Loc.—Three-quarters of a mile north-west of Penkarring Rock (Lat. 31° 30'S, Long. 117° 30'E), Sub-district Youndegin, about seventy miles east of York, Western Australia.

Finder and date—Alfred Eaton, June 5, 1884.

Coll.—British Museum (Nat. Hist.), London; National Museum, Melbourne.

Ref.—**8**, p. 8, **9**, pp. 285, 286-287, 288, **11**, pp. 227, 244, **29**, **30**, **32**, **40**, **59**, **88**, pp. xi., 28, 102.

YOUNDEGIN NO. 2.

Type—As No. 1.

Weight—382 $\frac{1}{2}$ lbs.

Loc.—Youndegin, Western Australia.

Finder and date—Louis Knoop, 1891.

Coll.—J. R. Gregory, London; Ward-Coonley, Rochester, U.S.A.

Ref.—**28**, p. 120, Pl. xxxvii., **40**.

YOUNDEGIN NO. 3.

Type—As No. 1.

Weight—2044lbs.

Loc.—Youndegin, Western Australia.

Finder and date—Louis Knoop, 1892.

Coll.—Hofmuseum, Vienna.

Ref.—**2**.

II.—Bibliography.

All the papers descriptive of Australian Meteorites which have come under my notice are here collected and arranged alphabetically under authors' names. It is hoped that no important reference has been omitted, but no doubt some have been overlooked, and I shall be grateful if such omissions are pointed out to me. I have indexed Brezina's list of the Meteorites in the Hofmuseum, Vienna,⁴ and Ward's list of the Ward-Coonley Collection in Rochester⁵ rather fully, as these are the most comprehensive lists in German and English respectively, and contain much descriptive and systematic information. Where a meteorite fall consists of two or more portions, found, may be, at different times, as in the case of the Barratta and Youndegin Meteorites, one cannot always be certain which particular portion is dealt with in a given paper, but this is a point of no great importance.

It was originally intended to include in the Bibliography references to the enigmatical Obsidianites or Australites which are regarded by many authorities as being of meteoric origin, but Mr. E. J. Dunn, Director of the Geological Survey of Victoria, has recently published an exhaustive paper on these, with a Bibliography,⁶ which has rendered this unnecessary.

ANDERSON (C.) and MINGAYE (J.C.H.)

1. Description and Analysis of the Binda Meteorite.
These records, p.

ANON.

- 1a. [Barratta]. *Nature*, iv., 1871, p. 212.
2. [Youndegin, No. 3]. *Ibid.*, xlvii., 1893, p. 469-470.

BAKER (R.T.)

3. A New Meteorite from New South Wales. *Journ. Roy. Soc. N. S. Wales*, xxxiv., 1900, p. 81-83.

⁴ Brezina—Ann. k.k. Naturhist. Hofmus. Wien., x., 1895, p. 231-370.

⁵ Ward—Cat. Ward-Coonley Coll. of Meteorites (Chicago, 1904).

⁶ Dunn—Bull. Geol. Surv. Vict., 27, 1912.

BERTHELOT (M.)

4. Nouvelles Contributions à l'histoire du Carbon. *Comp. Rend.*, lxxiii., 1871, p. 494.
5. Nouvelles Contributions à l'histoire des Carbons, du Graphite et des Météorites. *Ann. Chimie et Physique*, xxx., 1873, p. 420.

BERWERTH (F.) and TAMMANN (G.)

6. Über die Natürliche und künstliche Brandzone der Meteoreisen, und das Verhalten der "Neumann'schen Linien" in erhitzten Kamacit. *Sitz. k.k. Akad. Wiss. Wien.*, cxx., abt. 1, 1911, p. 31-47.

BRAUNS (R.)

7. The Mineral Kingdom (trans. L. J. Spencer), Pl. xxxi., fig. 1. (Stuttgart, 1908).

BREZINA (A.)

8. Ueber neuere Meteorite. *Verh. ges. deuts. Naturforsch. Aerzte Nürnberg*, 1893, pp. 10.
9. Die Meteoritensammlung des k.k. Naturhistorisches Hofmuseums Wien am 1 Mai 1895. *Ann. k.k. Naturhist. Hofmus. Wien*, x., 1895, p. 231-370.
10. Neue Beobachtungen an Meteoriten. *Verh. k.k. Geol. Reichsanst.*, 1898, p. 62-63.
11. The Arrangement of Collections of Meteorites. *Proc. Amer. Phil. Soc.*, xliii., 1904, p. 211-247.
12. Über dodekaedrische Lamellen in Octaedriten. *Sitz. k.k. Akad. Wiss. Wien*, cxiii., abt. 1, 1904, p. 577-583.

BUCHNER (O.)

13. Die Meteoriten in Sammlungen, ihre Geschichte, mineralogische und chemische Beschaffenheit, p. 198 (Leipzig, 1863).

CARD (G. W.)

14. On the Occurrence and Classification of some New South Wales Meteorites. *Rec. Geol. Surv. N. S. Wales*, v., 1897, p., 49-53.

15. Mineralogical and Petrological Notes, No. 6. *Ibid.*, p. 121-123.
16. Handbook to the Mining and Geological Museum, Sydney, p. 161-162 (Sydney, 1902.)
17. Mineralogical Notes, No. 8. *Rec. Geol. Surv. N. S. Wales*, vii., 1903, p. 217-219.
18. A New South Wales Meteorite. *Nature*, lxxvii., 1903, p. 345.

CLOUD (T. C.)

19. A Catalogue of South Australian Minerals. *Trans. Roy. Soc. S. Australia*, vi., 1882-3 (1883), p. 72-93.
- 20 [Yardea]. *Rept. Austr. Assoc. Adv. Sci.*, ii., 1890, p. 225-226.

COHEN (E.) and Weinschenk (E.)

21. Meteoreisen-Studien. *Ann. k.k. Naturhist. Hofmus. Wien*, vi., 1891, p. 131-165.

COHEN (E.)

22. Ein neues Meteoreisen von Beaconsfield, Colonie Victoria, Australien. *Sitz. k. preuss. Akad. Wiss. Berlin*, 1897, p. 1035-1060.
23. Meteoreisen-Studien ix. *Ann. k.k. Naturhist. Hofmus. Wien*, xiii., 1898, p. 473-486.
24. Ein neues Meteoreisen von Ballinoo am Murchisonfluss, Australien. *Sitz. k. preuss. Akad. Wiss. Berlin*, 1898, p. 19.
25. Nachtrag zur Beschreibung des Meteoreisens von Beaconsfield. *Ibid.*, p. 306-307.
26. Meteoreisen-Studien xi. *Ann. k.k. Naturhist. Hofmus. Wien*, xv., 1900, p. 351-391.

COOKSEY (T.)

27. The Nocoleche Meteorite with Catalogue and Bibliography of Australian Meteorites. *Austr. Mus. Rec.*, iii., 1897-9, p. 51-62, 90, 130-131.

FARRINGTON (O. C.)

28. Catalogue of the Collection of Meteorites, May 1, 1903. *Field Columbian Mus. Pub.* 177, *Geol. Ser.*, ii., 1903, p. 79-124.

FLETCHER (L.)

29. On a Meteoric Iron found in 1884 in the Sub-district of Youndegin in Western Australia and containing Cliftonite, a cubic form of Graphitic Carbon. *Min. Mag.*, vii., 1887, p. 121-130.
30. On the Cliftonite and Tænite of the Meteoric Iron found in 1884 in the Sub-district of Youndegin, Western Australia. *Ibid.*, xii., 1899, p. 171-174.
31. An Introduction to the Study of Meteorites. *Brit. Mus. (Nat. Hist.) Guide*, 1908.
32. On the possible Existence of a Nickel-iron Constituent (Fe_5Ni_3) in both the Meteoric Iron of Youndegin and the Meteoric Stone of Zomba. *Min. Mag.*, xv., 1908, p. 147-152.

FLIGHT (W.)

33. A Chapter in the History of Meteorites. *Geol. Mag.*, (2), ii., 1875, pp. 264, 552-553.
34. Report of the Examination of the Meteorites of Cranbourne in Australia, of Rowton in Shropshire, and of Middlesborough in Yorkshire. *Proc. Roy. Soc.*, xxxiii., 1882, p. 343-347; *Phil. Trans.*, clxxiii., 1882 (1883), p. 885-899
35. Supplement to a Chapter in the History of Meteorites. *Geol. Mag.* (2), ix., 1882, p. 107-108, 448-449; *Ibid.*, x., 1883, p. 59-65.

G. B.

36. Meteoritenfund in Murnpeowie, Süd-Australien. *Prometheus*, xxii., 1910, p. 40, 160.

GIBBONS (S.)

37. Note on the Cranbourne Meteorite. *Trans. Roy. Soc. Vict.*, x., 1874, p. 130-131.

GOYDER (G. A.)

38. [Rhine Villa]. *Ann. Rept. School of Mines and Inds. S. Austr.*, 1900 (1901), p. 227-228.
39. A South Australian Meteorite. *Trans. Roy. Soc. S. Austr.*, xxv., 1901, p. 14.

GREGORY (J. R.)

40. A large Meteorite from Western Australia. *Nature*,
xlvii., 1892, p. 90-92.

HAIDINGER (W.)

41. Zwei Meteoreisenmassen in der Nähe von Melbourne in
Australien aufgefunden. *Sitz. k.k. Akad. Wiss. Wien*,
xliii., abt. 2, 1861, p. 583-584.
42. Die Dandenong Meteoreisenmasse in Melbourne. *Ibid.*,
xliv., abt. 2, 1861, p. 31.
43. Die zwei Cranbourne Meteoreisenblöcke in Victoria.
Ibid., p. 378-380.
44. Die Ersten Proben des Meteoreisens von Cranbourne in
Australien. *Ibid.*, p. 465-472.
45. Das Meteoreisen von Cranbourne in k.k. Hofmineralien
Cabinet, etc. *Ibid.*, xlv., abt. 2, 1862, p. 65-74.

HAUSHOFER (K.)

46. Mineralogische Notizen. *Journ. prakt. Chemie*, cvii.,
1869, p. 328-331.

KLEIN (C.)

47. Die Meteoritensammlung der königl. Friedrich-Wilhelms
Universität zu Berlin am 21 Januar 1904. *Sitz. k.*
preuss. Akad. Wiss. Berlin, 1904, p. 114-153.

LE GOULD (L.)

48. Discovery of an Aerolite and visit to a Petrified Forest
in Northern Queensland. *Geol. Mag.*, i., 1864, p. 142-
143.

LIVERSIDGE (A.)

49. The Deniliquin or Barratta Meteorite. *Trans. Roy. Soc.*
N. S. Wales, 1872 (1873), p. 97-103.
50. The Deniliquin or Barratta Meteorite (second notice).
Journ. Roy. Soc. N. S. Wales, xvi., 1882 (1883), p. 31-
33.
51. On the Bingera Meteorite, New South Wales. *Ibid.*, p.
35-37.
52. Metallic Meteorite, Queensland. *Ibid.*, xx., 1886 (1887),
p. 73.
53. [Thunda]. *Ibid.*, xxii., 1888 (1889), p. 341.

54. Australian Meteorites. *Rept. Austr. Assoc. Adv. Sci.*, ii., 1890, p. 387-388.
55. The Minerals of New South Wales (London 1888).
56. Meteoric Dusts. *Journ. Roy. Soc. N. S. Wales*, xxxvi., 1902, p. 241-255.
57. The Boogaldi, Barratta, Nos. 2 and 3, Gilgoin, Nos. 1 and 2, and Eli Elwah or Hay Meteorites, New South Wales. *Ibid.*, p. 341-359.
58. The Narraburra Meteorite. *Ibid.*, xxxviii., 1903, p. 234-242.

MATTLAND (A. G.)

59. The Mineral Wealth of Western Australia. *Bull. Geol. Surv. W. Austr.*, 4, 1900, p. 96-97.

MINGAYE (J. C. H.)

60. Notes and Analysis of a Metallic Meteorite from Moonbi, near Tamworth, New South Wales. *Journ. Roy. Soc. N. S. Wales*, xxvii., 1893, p. 82-83; *Ann. Rept. Dept. Mines N. S. Wales*, 1892 (1893), p. 58 (anal.).
61. [Meteoric Iron, Victorian border]. *Ann. Rept. Dept. Mines N. S. Wales*, 1898 (1899), p. 21.
62. Notes on Composition of Meteoric Iron from Bendock, Victoria. *Rept. Austr. Assoc. Adv. Sci.*, ix., 1902 (1903), p. 162-164.
63. Notes on and Analysis of the Mount Dyrning, Barraba, and Cowra Meteorites. *Rec. Geol. Surv. N. S. Wales*, vii., 1904, p. 305-311.
See ANDERSON (C.)

PETTERD (W. F.)

64. Catalogue of Minerals known to occur in Tasmania, with Notes on their Distribution. *Proc. Roy. Soc. Tas.*, 1893 (1894), p. 1-72; also separate copies (Hobart, 1893).
65. A Tasmanian Meteorite. *Austr. Mining Standard*, xx., 1901, p. 185.
66. On a Meteorite from the Castray River. *Proc. Roy. Soc. Tas.*, 1900-1901 (1902), p. 48-49; *Rept. Secy. Mines Tas.*, 1909-1901 (1901), p. 353-355.
67. Notes on some Additional Minerals recently determined, with New Localities for Species known to occur in Tasmania. (a) *Proc. Roy. Soc. Tas.*, 1903-1905 (1906), p. 75-82; (b) *Rept. Secy. Mines Tas.*, 1904 (1905), p. 83-90.

68. Catalogue of the Minerals of Tasmania, p. 98 (Hobart, 1910); also *Proc. Roy. Soc. Tas.*, 1910, p. 98.

RUSSELL (H. C.)

69. [Eli Elwah]. *Journ. Roy. Soc. N. S. Wales*, xxii., 1888 (1889), p. 341.
70. [Barratta and Gilgoin]. *Ibid.*, xxiii., 1889, p. 46-47.
71. [Narraburra]. *Ibid.*, xxiv., 1890, p. 81-82.
72. On Meteorite No. 2 from Gilgoin Station. *Ibid.*, xxvii., 1893, p. 361-362.
73. On a Meteorite from Gilgoin Station. *Nature*, xlix., 1894, p. 325.

SIMPSON (E. S.)

74. Note on a Meteorite from the Nuleri district of Western Australia. *Bull. Geol. Surv. W. Austr.*, No. 26, 1907, p. 24-26.
75. Miscellaneous Mineral Notes. *Ann. Prog. Rept. Geol. Surv. W. Austr.*, 1906 (1907), p. 28.
76. [Report by]. *Ibid.*, 1909 (1910), p. 9.
77. [Report by]. *Ibid.*, 1911 (1912), p. 10.

SMITH (J. L.)

78. Researches on the Solid Carbon Compounds in Meteorites. *Amer. Journ. Sci.* (3) xi., 1876, p. 388-395, 433-442.
79. On the Composition of the New Meteoric Mineral Daubréelite, and its frequent if not universal occurrence in Meteorites. *Ibid.*, (3), xvi., 1878, p. 272.
80. On the Peculiar Concretions occurring in Meteoric Irons. *Ibid.*, (3), xxv., 1883, p. 417-423.

SMITH (L. L.)

81. The Murnpeowie Meteorite. *Ann. Rept. School of Mines and Ind. S. Austr.*, 1909 (1910), p. 67-68; *Ibid.*, 1911 (1912), figd. opp. p. 58.
82. An Australian Meteorite. *Amer. Journ. Sci.* (4), xxx., 1910, p. 264-266.

SMYTH (R. B.)

83. The Gold Fields and Mineral Districts of Victoria, p. 423-426 (Melbourne, 1869).

TAMMANN (G.)—See BERWERTH (F).

ULRICH (G. H. F.)

84. Mineral Species of Victoria. *Internat. Exhib. Essays*, 1866-1867 (1867), No. 3, pp. 52 (pp. 184-235 of Official Record).

WADSWORTH (M. E.)

85. The Cranbourne Meteorite. *Science*, April 13th, 1883, p. 285-286.

WALCOTT (R. H.)

86. Additions and Corrections to the Census of Victorian Minerals. *Proc. Roy. Soc. Vict. (N.S.)*, xiii., 1900 (1901), p. 253-272.

WARD (H. A.)

87. Four new Australian Meteorites. *Amer. Journ. Sci.* (4), v., 1898, p. 135-140.
88. Catalogue of the Ward-Coonley Collection of Meteorites (Chicago, 1904).

WEINSCHENK (E.)—See COHEN (E.)

WILKINSON (C. S.)

89. [Cowra]. *Journ. Roy. Soc. N. S. Wales*, xxii., 1888 (1889), p. 341.

WHITE (H. P.)

90. Notes and Analysis of the Mount Browne Meteorite. *Rec. Geol. Surv. N. S. Wales*, vii., 1904, p. 312-314.
91. [Hermitage Plains (anal.)]. *Ann. Rept. Dept. Mines N. S. Wales*, 1910 (1911), p. 188.

ZIMMERMANN (K.)

92. [Cranbourne]. *Neues Jahrb. Min.*, 1861, p. 557.

III—Census and Taxonomy of Australian Meteorites.

Dr. Cooksey in his list enumerated twenty-three falls, including the doubtful Haddon and reckoning the several portions reasonably believed to belong to one and the same meteorite as a single fall. We have now a grand total of forty-six known meteorites contributed by Australia, a striking advance in fifteen years. If, as Berwerth says,⁷ the civilisation of a country can be gauged in a measure by the number of

⁷ Berwerth—Tscherm. min. petr. Mitt., xxii., 1903, p. 191.

meteorites recorded from it, then Australia is advancing by leaps and bounds ; moreover, it is certain that many meteorites yet wait to be discovered in some of the sparsely settled regions of Australia, where the dryness of the climate would make their disintegration a very slow process.

Following Brezina's Classification^s Australian Meteorites would be distributed as follows :—

A. Siderites.

1. Finest octahedrite, Off :—Ballinoo, Cowra, Mungindi, Narraburra.
2. Fine octahedrite, Of :—Boogaldi, Moonbi.
3. Medium octahedrite, Om :—Blue Tier, Nocolche, Rhine Villa, Roebourne, Thunda, Yardea.
4. Broad octahedrite, Og :—Beaconsfield, Cranbourne, Mount Stirling, Queensland, Youndegin.
5. Broadest octahedrite, Ogg :—Mooranoppin, Temora.
6. Octahedrite (unclassified) :—Barraba, Nuleri.
7. Granular hexahedrite, Ha :—Bingera.
8. Siderite (unclassified) :—Arltunga, Castray River, Langwarrin, [probably = Cranbourne], Lefroy, Murnpeowie, Mount Dooling.

B. Siderolites.

1. Mesosiderite, M :—Macquarie River.
2. Pallasite :—Molong, Mount Dyrning.
3. Siderolite (unclassified) :—Bendock.
4. Siderolite (?) :—Kulnine.

C. Aerolites.

1. Achondrite,
 - (a) Eukrite, Eu :—Binda.
2. Chondrites.
 - (a) Brecciated grey chondrite, Cgb :—Barratta.
 - (b) Spherulitic chondrite, Cc :—Mount Browne.
 - (c) Crystalline chondrite, Ck :—Gilgoin.
3. Unclassed :—Cadell, Eli Elwah, Emmaville, Hay, Hermitage Plains, Le Gould, Warbreccan.
4. Doubtful :—Haddon.

D. Unclassed Meteorite.

Premier Downs.

^s Ward—Cat. Ward-Coonley Coll. of Meteorites, p. 97-103, (Chicago 1904),

Distributing the falls according to the States we get the following Tabular Statement:—

	<i>SIDERITES</i>	<i>SIDER- OLITES</i>	<i>AEROLITES</i>	<i>UNCLASSED</i>
N. S. Wales 19.	Barraba Bingera Boogaldi Cowra Moonbi Narraburra Nocoleche Temora	Macquarie R. Molong Mt. Dyrring.	Barratta Binda Eli Elwah Emmaville Gilgoin Hay Hermitage Plains Mt. Browne	
	8	3	8	
Victoria 6.	Beaconsfield Cranbourne Langwarrin	Bendock (?) Kulaine	(Haddon)	
	3	2	1	
Queensland 5.	Mungindi Queensland Thunda		Le Gould Warbreccan	
	3		2	
S. Australia 5.	Arltunga Murnpeowie Rhine Villa Yardea		Cadell	
	4		1	
W. Australia 8.	Ballinoo Mooranoppin Mt. Dooling Mt. Stirling Nuleri Roebourne Youndegin			Premier Downs
	7			1
Tasmania 3.	Blue Tier Castray R. Lefroy			
	3			
Total 46.	28	5	12	1

In conclusion, I have pleasure in acknowledging my indebtedness to Messrs. W. R. Browne, B.Sc., Demonstrator in Geology, the University, Sydney, G. W. Card, A.R.S.M., Curator of the Mining and Geological Museum, Sydney, A. Gibb Maitland, Government Geologist, West Australia, R. H. Walcot, Mineralogist, National Museum, Melbourne, B. H. Woodward, Director of the Western Australian Museum, for cordial assistance in compiling the information contained in this paper.

CATALOGUE SLIP.

Anderson, C. and Mingaye, J. C. H.

Description and Analysis of the Binda Meteorite.

Anderson, C.

A Catalogue and Bibliography of Australian Meteorites.

Rec. Austr. Mus. x., 5, 1913.