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*Catalogue of the Meteorites in The American Museum of  
Natural History*

*As of October 1, 1936.*

BY CHESTER A. REEDS, PH.D.

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**Article VI.—CATALOGUE  
OF THE  
METEORITES  
IN**

**THE AMERICAN MUSEUM OF NATURAL HISTORY  
AS OF OCTOBER 1, 1935**

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FIGURE 1

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INTRODUCTION

This catalogue deals with the meteorites in The American Museum of Natural History. It has been prepared to give the reader not only a brief history of the Museum's collection, but also a systematic arrangement of the collection according to three primary groupings, namely: (1) by name, (2) by kind and (3) geographically by countries. When classified according to kind meteorites are generally divided into three groups, namely: (a) Aerolites or stony meteorites; (b) Siderolites, or stony-iron meteorites and (c) Siderites or nickel-iron meteorites. For a more technical subdivision of these groups the Rose-Tschermak-Brezina system of meteorite classification is appended at the end.

Of the three alphabetically arranged lists, the name list is the most complete, for it has been prepared to serve not only as a catalogue of the meteorites that were acquired and exchanged by the Museum during the sixty-three years, 1872-1935, but it also provides a record of the specimens that were transferred by executive order from the Depart-

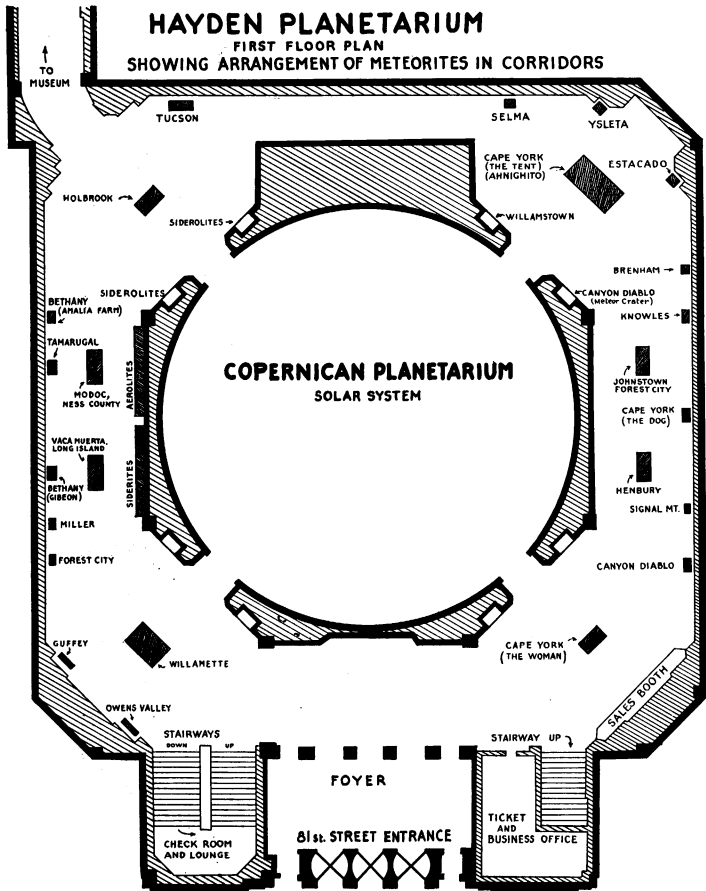


Fig. 1.

ment of Geology to the Department of Astronomy as of October 1, 1935.

During the years prior to 1935, the larger meteorites were exhibited in Memorial Hall on the first floor of the main Museum building. The study collection of meteorites, which included numerous small specimens, many slices, fragments, and casts, was displayed in the geological exhibition halls of the main building.

During the period 1933-1935, the Hayden Planetarium was projected and erected as a separate building in the northeast quadrangle of the Museum grounds. This new building was opened to the public

on October 3, 1935. In it, provisions were made for housing the Department of Astronomy, the Copernican Planetarium, the Zeiss Projection Planetarium and all of the meteorites. The present disposition of the meteorites on the first floor of the Hayden Planetarium is shown in plan on an accompanying sketch, page 518.

#### ACKNOWLEDGMENTS

In the preparation of this catalogue acknowledgments are due to various individuals and organizations. In the first place, credit should be given to the successive curators and assistants in the Department of Geology, who from 1876 to 1936 kept the records concerning meteorites and other geological specimens received by the Museum. Without these records it would have been impossible to prepare the section: "A Brief History of the American Museum Collection of Meteorites," and complete the catalogue of the meteoritic specimens.

Robert Parr Whitfield, the first curator of the Department of Geology and Invertebrate Paleontology, was head of the Department from March, 1876, to December 31, 1909. Although he was primarily an invertebrate paleontologist, he was also a great systematist and an able museum curator, and much of the work of identifying and cataloguing specimens of various kinds was done by him or under his direction.

Associated with Prof. Whitfield was Louis Pope Gratacap, A.M., Ph.B., who came to the Museum, October 4, 1876, and remained until his death, December 19, 1917. As Assistant Curator from 1881 to 1900, he made many of the entries in the various catalogues, particularly those having to do with Recent shells, minerals and meteorites. In 1901, the Department of Mineralogy was organized and Mr. Gratacap was made its first curator. In 1910, the meteorite catalogues, which had been kept by him, and the specimens of meteorites which had been received in the Bement and other newly acquired mineral collections, were transferred to the Department of Geology.

On January 1, 1894, Edmund Otis Hovey, Ph.D., was appointed Assistant Curator in the Department of Geology and Invertebrate Paleontology. He was Assistant Curator from 1894-1900, Associate Curator, 1901-1909; Curator, 1910 to September 24, 1924, when he died. For many years he was associated with R. P. Whitfield and L. P. Gratacap in the work of the Department. He early became interested in meteorites and prepared 'A Catalogue of Meteorites in the Collection of the American Museum of Natural History to July 1, 1896.'

He also prepared descriptions of the following meteoritic falls: Cape York, 1905; Willamette, 1906; Selma, 1907; Guffey, 1909; Kingston, 1912; Rose City, 1922, and Johnstown, 1924.

During Dr. Hovey's curatorship a considerable number of meteorites were added to the Museum's collection. Due, however, to the pressure of other interests he found little time to devote to the cataloguing of the specimens and at the time of his death only a part of the collection had been catalogued.

On August 1, 1912, Chester A. Reeds, Ph.D., became associated with the Museum. He was Assistant Curator of Geology and Invertebrate Paleontology from 1912-1917; Associate Curator, 1917-1927; Curator, 1927-. For many years he was engaged in reorganizing the collections in the Geology exhibition hall. In 1912, however, Curator Hovey asked him to identify, label and catalogue the meteorites in the S. C. H. Bailey collection. This was a large and fully labeled collection, but the labels and specimens had become thoroughly disassociated during their transit to the Museum. Some three months' time were consumed in straightening out this collection. As Acting Curator, in 1916-1917, Dr. Reeds secured many meteorites for the Museum. During the period 1924-1935, he was instrumental in adding a large number of specimens to the meteorite collection and in bringing the catalogue of meteorites up-to-date.

In 1914, Mr. Adam Brückner, Assistant in the Department, started the present system of meteorite reference cards. He prepared two cards for each specimen, one of which was arranged in an alphabetical list, the other in order of catalogue number.

During Mr. Joseph Tyson's assistantship, July 8, 1918-February 28, 1925, the present system of applying individual numbers to meteorite specimens was adopted and started. This was an improvement over the previously used system consisting of combined numbers and letters.

During the assistantship of Mr. George Pinkley, December 4, 1928, to May 15, 1932, all of the smaller specimens in the meteorite collection were re-weighed and the weights in grams noted.

In connection with the transfer of the meteorites from the Department of Geology to the Department of Astronomy, October 1, 1935, Curator Reeds had the able assistance of Messrs. P. B. Hill and B. Zellner, assistants. At that time the smaller specimens were arranged in wall and aisle cases while the larger meteorites were set on prepared bases about the First Floor corridor of the Hayden Planetarium building.

In the preparation of this Handbook, in checking the meteorite specimens with the entries in the catalogue volumes and various card files, in cataloguing the uncatalogued material and in revising the nomenclature and synonymy, the author desires to express his appreciation of the kindly aid rendered by assistants Mr. B. Zellner, Miss Edith G. Marks and Mr. P. B. Hill of the Department of Geology.

In meteoritic collections it is not uncommon for a fall of meteorites to be known by several names. Only one name is recognized, however, the others being placed in synonymy. The nomenclature used in the accompanying lists is the one set forth by Dr. G. T. Prior in his 1923 catalogue of the meteorites in the British Museum of Natural History. Prior's catalogue has also afforded a source for many of the statements appearing under remarks in the annotated list of specimens in this catalogue.

Finally, the author wishes to express his appreciation to the authorities of The American Museum of Natural History for the opportunity to prepare this Catalogue, and in providing funds for its publication.

CHESTER A. REEDS.

American Museum of Natural History  
New York, N. Y.  
May 5, 1936.

## A BRIEF HISTORY OF THE AMERICAN MUSEUM COLLECTION OF METEORITES

The first meteorite presented to The American Museum of Natural History was the forty-six gram specimen of the Searsmont aerolite. It was received by the Department of Geology sixty-three years ago, after having been donated to the Museum by G. M. Brainerd, of Rockland, Maine, February 15, 1872.

The mineralogical collection of S. C. H. Bailey, which was purchased in 1874, contained specimens representing eight meteoritic falls. In 1883, Mrs. Robert L. Stuart presented a meteorite from the desert of Atacama, Chile. A specimen of the Estherville, Iowa, fall was secured in 1885. In 1891, twenty-one new falls were obtained with the purchase of the Norman Spang collection of minerals. In 1896, the late Curator E. O. Hovey prepared and published the first catalogue of the meteorites in the Museum. The collection then consisted of forty-five slabs, fragments and complete specimens, representing twenty-six falls and finds.

It was not until the immense Bement collection of minerals, was presented to the Museum, in 1900, through the generosity of the late J. Pierpont Morgan, that the mineral and meteorite collections could be considered prominent ones. This gift of Mr. Morgan's contained 580 specimens of meteorites, representing nearly 500 falls and finds. Since the mineral specimens of the Bement collection were unusually fine, and about 12,000 in number, a special department, the Department of Mineralogy, was organized in 1901 to take charge of the various mineral collections of the Museum, which, heretofore, had been in the care of the Department of Geology.

In 1904, another very notable addition was made to the Museum's collection of meteorites, in the form of the Cape York irons, which the late Admiral Robert E. Peary brought back to New York from Cape York, Greenland, and deposited with the Museum. There are three of these specimens, known as "The Tent" or Ahnighito, "The Woman" and "The Dog." The largest specimen, "The Tent," has an estimated weight of thirty-six and one-half tons.<sup>1</sup> This great mass is 10 feet 11 inches long, 6 feet 9 inches high and 5 feet 2 inches thick. At the time it was received, it was the largest known meteorite and still is the largest in any museum. The acquisition of the Cape York irons was made possible through the generosity of the late Mrs. Morris K. Jesup in 1909.

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<sup>1</sup> See Chapter XXI, "The Cape York Meteorites" by J. D. Figgins, in 'Our Stone Pelted Planet' by H. H. Nininger, Houghton Mifflin Company, 1933.



In addition to "The Tent," the Cape York meteorites consist of "The Woman," weight three tons, "The Dog," weight 960 pounds, and "The Savik," weight 3401.7 kg. To the Eskimos these iron meteorites were known as the "Savikuse" or "The Great Irons" and each had its own name suggested by its shape. Of the two heavier masses the "Savik" was found on a peninsula, "The Tent," on a nearby island, "The Woman" and "The Dog" were found near together on a second island, all of which appear on the north coast of Melville Bay, some thirty-five miles east of Cape York, Greenland.

From the time of the Ross Expedition, 1818, to that of Peary, 1894, these meteorites were frequently sought after under the designation "Iron Mountain." Captain Ross noted that the Eskimos near Cape York possessed rude knives and harpoon points set with cutting edges of iron. His imperfect communications with these people led to the inference that the iron had been obtained from an "Iron Mountain" on the northern shore of Melville Bay. Subsequently, the iron was analyzed and the presence of nickel indicated that it was meteoritic in origin.

In the 1840's the King of Denmark sent out an expedition to determine the character of the "Mountain." The English Arctic Expedition of 1875-1876 went into the field to clear up the question of its location and character. In 1883, Baron Nordenskjöld also went into the region with the express purpose of discovering the site, but all of these expeditions were unsuccessful. As soon as Peary had gained the confidence of the entire Smith Sound Eskimos, Telli Kotinah, one of the hunters, guided him to the site of the "Iron Mountain," which was an icy fastness some thirty-five miles east of Cape York just inside of Bushnan Island. Here Peary found in May, 1894, no "Iron Mountain," but instead three iron-nickel meteorite masses. "The Dog" and "The Woman" were lying loosely upon the gneissos rocks which cover the ground; some six miles away to the south on another island he found the larger specimen "The Tent," nearly buried in the rocks and soil. About "The Woman" many battered stones indicated that they had been used by the Eskimos in freeing bits of the tenaceous iron for use as knife blades and harpoon points.

In 1895, Peary, after much difficulty, loaded "The Woman" and "The Dog" on board his ship and brought them to New York. In the same year Peary also visited the site of "The Tent." This largest specimen was formally christened by the daughter of the explorer with her own name, "Ahnighito." Peary, however, could do little toward its re-

moval in 1895. The next year he made another voyage for the purpose of getting the great iron, but was able to move it only as far as the shore. In 1897, he was successful in setting the meteorite on board his ship, the "Hope," and in bringing it back to New York. The three great irons secured by Peary are in the American Museum, while the fourth, the "Savik," which was obtained by the Danes in 1925, is in the Royal Museum at Copenhagen, Denmark.

In 1905, the meteorite collection of the late Dr. George F. Kunz was purchased and presented to the Museum by the late Mr. J. Pierpont Morgan. This gift augmented the Museum collection by 186 specimens among which were several new falls and finds.

In 1906, Mrs. William E. Dodge presented the famous Willamette meteorite to the Museum. This iron, which weighs fifteen and a half tons, is the largest ever found in the United States and ranks fourth in size among those of the world. It was found in 1902 on wooded slopes drained by the Willamette River. Early letters indicate three different places near Oregon City, Oregon, as the site of the find. In a communication dated September 19, 1935, Mr. C. R. Strohmeyer, Assistant County Engineer of Clackamas County, states: "The place at which this meteorite was found is at a point 500 feet south and 600 feet east of the N.W. corner of the N.W. 1/4 of the S.E. 1/4 of Section 27, Township 2 South, Range 1 East of the Willamette meridian, in Clackamas County, Oregon." This would place the site three miles northwest of Oregon City.

One of the striking features of the Willamette meteorite is the deeply pitted surface. These pits have been explained as the result of weathering and decay which developed slowly throughout the long period of years that the specimen lay on the ground before it was discovered. The opposite side of the specimen shows a well-developed "nose" or "brustseite," a pointed surface with shallow fluted grooves, which faced downward toward the earth during the flight of the meteor. The "nose" and its peculiar markings were developed at the time of its flight. They are the "battle scars" which the monster retained from "his" fight with resistant air particles as it moved swiftly through the earth's atmosphere to its landing place in Oregon.

In 1906, the Selma aerolite, one of the largest stony meteorites known, was acquired by purchase. Its weight, when recovered, was 310 pounds. It is believed to have fallen about 9 P.M., July 20, 1898, but was not discovered until March, 1906. It was found at a place about two miles north-northwest of Selma, Alabama, near the road to Summerfield,

and it takes its name from the nearest town as is the rule with meteoritic falls. The meteor of July, 1898, is reported to have given forth a heavy rumbling noise and a "trail of fire ten or twelve feet long." The exterior of this stony meteorite is dark in color, much cracked and weathered. A cut and polished fragment shows the unaltered stone to have a dark brownish-gray color and to consist of small spheroidal chondrules firmly imbedded in a matrix of similar matter. Chondrules are characteristic of many stony meteorites.

A specimen of the Russel Gulch, Colorado, meteorite, weight 11 pounds 3 ounces, was also presented in 1906 by Prof. C. H. Chandler.

The meteorites received during 1908 consisted of four Ness County, Kansas, aerolites and one complete section of Bethany (Gibeon) South Africa, iron.

In 1909, there was added to the Museum collection a twenty pound piece of the Modoc stone shower from Scott County, Kansas, the 682 pound mass of the Guffey iron from Freemont County, Colorado, and the second largest fragment known of the Brenham siderolite from Kiowa County, Kansas.

The meteorites received during 1910 consisted of one slice of the Tamarugal (El Inca) siderite from Chile, one large piece of the Brenham siderolite from Kansas, and the entire mass of the Knowles iron from Oklahoma. Fifty-one falls and finds were also received from the Department of Mineralogy.

In 1912, through the generosity of Mr. J. Pierpont Morgan, Jr., the Museum acquired the large meteorite collection of the late Prof. S. C. H. Bailey. This collection added many important falls, and provided a large number of specimens for exchange. A considerable number of specimens from other sources were also secured, the more noteworthy of which were the greater part of the famous Tomhannock Creek, aerolite, from New York, weighing 3.5 pounds, the 665 pound mass of the Bethany (Amalia Farm) iron, the Shrewsbury, Pennsylvania, siderite, 563.3 grams, and the series of 2129 specimens of the Holbrook, Arizona, aerolite, which varied in weight from 1/10 gram to 6650 grams. An entire mass of the Cruz del Aire, Mexico, iron, weighing 15,010 grams, was also secured.

The additions to the meteorite collection in 1913 consisted of thirty-two specimens. Twenty-four of these were new to the collection, and they were obtained partly through purchase and in part by exchange. The chief of these were a 16.5 pound end piece of the Mungindi iron from Australia; a 6125 gram piece of the Arispe iron from Mexico;

a 3503 gram piece of the Santa Rosa (Zipaquira) iron from Colombia, South America; a 3149 gram piece of the Santa Rosa (Tocavita) siderite also from Colombia, and a 3026 gram piece of the Gilgoi aerolite from New South Wales. The most interesting, from a scientific point of view, was a 761.5 gram piece of the Saint-Michel, France, aerolite belonging to the rare rodite subdivision of the classification.

Early in 1913, the six cases containing the study collection of meteorites were removed from the Foyer and installed at the south end of the Geology Hall. The entire collection of irons was polished and re-etched, greatly improving the appearance of the specimens and tending toward their preservation from rust.

In 1914, the Howell collection of meteorites was presented by Mr. J. Pierpont Morgan. It consisted of slices, fragments and entire masses representing fifty-four falls and finds. It included the Ainsworth and Williamstown irons which were new to the Museum collection, a series of fifteen bolides of the Modoc aerolite shower and a 479.2 gram mass of the rare Cowra iron.

Through the generosity of Mr. Arthur Curtis James, there was also secured the entire mass of the Ysleta siderite, 310 lbs., from Ysleta, Texas, and a 14 lb. 1/2 oz. Culbertson aerolite from Nebraska.

Among other specimens secured either by exchange or purchase, special mention may be made of an 8750 gram entire section of the Mt. Edith siderite, a 788.2 gram slice of Klondike (Big Skookum), a siderite which was found at a depth of sixty-five feet below the surface of glacial gravels in the Yukon River valley, and a 4538 gram mass of the Imilac siderolite from Atacama, Chile.

During 1914, the Department of Geology also received, on loan from Princeton University, the D. M. Barringer collection from Meteor Crater, Arizona. This exhibit consisted of meteorites, shale balls, lechatelierite, photographs, etc., and illustrated the famous bowl-shaped depression of Meteor Crater (4150 feet in diameter and 570 feet deep) which is considered by many scientists to have been caused by the impact of the Canyon Diablo meteorite.

In 1915 an additional specimen of the Ness County aerolite was obtained.

The most important accession during 1916 was the complete fall (six specimens) of the Burkette siderite from Coleman County, Texas. Other interesting finds included a 453.8 gram piece of the Molong, Australia, siderolite; two Ness County aerolites; a 225.2 gram piece

of "Okano" from Tamba Province, Japan, and a 30.6 gram piece of "La Bécasse," France.

In 1917, the meteorite accessions included a 1559.1 gram piece of the siderite "Akpohon" from the east coast of Ellesmere Land, three pieces of the Plainview, Texas, aerolite, 140.3 grams of the Scott City, Kansas, aerolite and a 293.5 gram piece of the Cookeville, Tennessee, siderite.

In 1919, there was secured the Richardton, North Dakota, aerolite, weight 18 lbs., 5.5 oz., a 766.1 gram piece of the El Perdido stone from Argentina, a 467 gram piece of the Cumberland Falls, Kentucky, aerolite and a 127.5 pound piece of Signal Mountain, a siderite from Lower California.

In 1920, six meteoritic specimens were secured by exchange, namely: Canyon City, California, iron, 813.1 grams; Mt. Stirling, Western Australia, iron, 1464 grams; Murphy, North Carolina, iron, 559.2 grams; Nejed, Central Arabia, iron, 1818.1 grams; Youndegin, Western Australia, iron, 3227 grams; and a piece of the Colby, Wisconsin, stone, 24.6 grams. The purchases included 20 bolides of the Modoc, Kansas, aerolite; an 820 gram piece of the Colby, Wisconsin, aerolite; a 96 gram piece of Chinautla, Guatemala, iron; and 855.5 grams of the San Cristobal siderite from Antofagasta, Chile.

The five meteorites accessioned during 1921 consisted of 236.2 grams of the Mount Ayliff, South Africa, iron; 76.7 grams of the Rodeo, Durango, Mexico, iron; 8.8 grams of the Alessandria, Piedmont, Italy, aerolite; 332.3 grams of the Vigarano, Ferrara, Italy, stone, and 93.2 grams of the Warialda iron from New South Wales, Australia.

The meteorites received during 1922 consisted of four specimens, namely: 46.7 grams of Pitts, Wilcox County, Georgia, iron; 26 grams (5 fragments) of the Dungannon, Virginia, iron; 12 pounds of the Glasgow, Kentucky, siderite and 1054.4 grams of the Bur-Gheluai aerolite from Italian Somaliland, Africa.

Among the meteorites received during 1923 the following were purchased: 30.3 grams of the Magura siderite from Czechoslovakia; 177.3 grams of the Stålldalen aerolite from Sweden, and the complete fall of the Norfolk, Virginia, siderite weighing 22,934.7 grams.

In 1924, the following meteorites were received: 1920 grams of the Four Corners, New Mexico, siderite; 6 pounds 2 ounces of the Ness County, Kansas, aerolite; 88 grams of the Garraf aerolite from the Barcelona district, Spain, and 52 pounds (4 pieces) of the Johnstown, Colorado, aerolite.

In 1925, a 292.8 gram slice of Ollague, Bolivia, siderolite was secured.

The meteorites received during 1926 consisted of 215.6 grams of the Newtown, Connecticut, siderite, and a 267.8 gram slice of Bingera No. 2, iron, from Australia.

In 1928, two meteorites were secured by exchange, namely: 73.4 grams of the Ballinger, Texas, siderite and 245.3 grams of the Duchesne, Utah, iron.

The 1929 meteorite accessions included 1025.4 grams (8 specimens) of Brenham, Kansas, meteorodes, and the 1430.8 gram mass of the Zaffra, Oklahoma, siderite.

In the 1930 accessions the following meteoritic falls were represented: 3188 grams of the Weekeroo, Mannahill, South Australia, siderite; 16,100 grams of the Gladstone, Queensland, Australia, iron; 36.4 grams of the Rancho de la Presa, aerolite, from Michoacan, Mexico;

1510.7 gram slice of the Ashfork, Arizona, siderite. Gift of Mr. Sydney Bevan.

129.9 grams (4 pieces) of the Valley Wells, San Bernardino County, California, aerolite, gift of Dr. Barnum Brown, the entire fall of the Miller, Cleburne County, Arkansas, aerolite, weight 16,633.4 grams; a 1724 gram mass of the Dexter, Cooke County, Texas, siderite, and 17.2 grams (2 pieces) of the Hoba West siderite from near Grootfontein, Southwest Africa, said to be the largest single mass known with an estimated weight of 60 metric tons.

In 1931, two meteorites were secured by exchange, namely: 3885 gram slice of Nativitas, Tlaxcala, Mexico, siderite, and an end piece 75 pounds, (32,630 grams) of the Owens Valley, California, iron, which was found by Lincoln Ellsworth in 1913. A plaster cast of the entire mass of the Owens Valley siderite was presented by the United States National Museum. A 2785.6 gram slice of the Tlacotepec, Pueblo, Mexico, iron was received as a gift of Mr. Lincoln Ellsworth.

In 1932 and 1933, thirty-seven specimens of the Henbury siderite from the meteor craters, Central Australia, a 570 gram piece of the Springwater, Saskatchewan, Canada, siderolite, and an iron cast of the entire mass of the Owens Valley siderite, were received.

In 1934 and 1935, meteorite accessions consisted of a 608 gram piece of the Melrose aerolite from Curry County, New Mexico, and four specimens (876.5 grams) of the Lake Labyrinth, aerolite, from South Australia. Mr. Lincoln Ellsworth provided funds for the purchase of these specimens.

As now constituted, the American Museum's meteorite collection is one of the largest in the world. It has been built up slowly during a period of sixty-three years, 1872-1935, by the successive curators of the Department of Geology. On October 1, 1935, the date of transfer of the collection from the Department of Geology to the Department of Astronomy, there were 3744 catalogued specimens, 246 of which had been exchanged. The collection as now catalogued contains 548 falls and finds, two of which have been exchanged.

ANNOTATED ALPHABETICAL LIST OF METEORITES  
IN  
THE AMERICAN MUSEUM OF NATURAL HISTORY  
AS OF OCTOBER 1, 1935

(Symbols, Om., Eu., Pr. and the like, refer to the Rose-Tschermak-Brezina system of meteorite classification. The numbers in parentheses, (201), (393), and the like, are the Museum's catalogue numbers. Specimens marked with an asterisk (\*) indicate exchanges)

**Abert Iron**, locality unknown, probably Toluca, Mexico

Found: 1887

Siderite: Medium octahedrite, Om.

Specimen: (201) 10.8 gms.

Remarks: In Bailey Collection, Museum Accession 15,943, February, 1912.  
See Toluca.

**Adalia**, Konia, Turkey

Known: 1883

Aerolite: Eucrite, Eu.

Specimen: (393) 4.3 gms.

Remarks: Mentioned by S. Meunier (1884), *Météorites*, Paris (pp. 295, 298).

**Adargas**, Sierra de las Adargas, Chihuahua, Mexico

Known for centuries

Synonym: Hacienda Conception

Siderite: Medium octahedrite, Om.

Specimens: (128) 32.7 gms.; (716) 40.8 gms.

Remarks: The main mass is said to have been transported from Sierra de las Adargas, latitude  $26^{\circ} 6' N.$ , longitude  $105^{\circ} 14' W.$ , to Conception in 1780; about 1889 it was moved to Mexico City (School of Mines); weight 3325 kg. (7315 lbs.).—Farrington, 1915.

**Admire**, Lyon County, Kansas, U. S. A.

Found: 1881

Siderolite: Brecciated pallasite, Pr.

Specimen: (322) 530.1 gms.

Remarks: A mass of 15 pounds was ploughed up in 1881, and five other masses later, making a total weight of about 66 lbs.—Prior, 1923.

**Agen**, Lot-et-Garonne, France

Fell: 1814, September 5, noon

Aerolite: Veined intermediate chondrite, Cia.

Specimens: (394) 78 gms.; \*(1046) 19.7 gms.

Remarks: A shower of stones, of total weight of about 30 kg., the largest weighing about 9 kg., fell, after appearance of cloud and detonations.—Prior, 1923.



*Agram*, see Hraschina

**Agricultural College, Moscow, U. S. S. R.**

Found: ?

Siderite: Granular hexahedrite, Hb.

Specimen: (202) 180.1 gms.

Remarks: In collection: History not known. Compare, Tennant Iron. A roughly triangular slice, 107 mm. long  $\times$  60 mm. wide and 6–10 mm. thick with a polished and etched surface showing a small coarse grained lenticular area grading rapidly into the remaining portion which has a fine granular texture, with dark troilite nodules on one margin. Original exterior surface of meteorite shown on the edges. The back surface has been sawed unevenly, two distinct wheel marked surfaces pitched at different angles being shown. At the junction of the two surfaces, a groove appears 10 mm. deep  $\times$  3 mm. wide indicating thickness of wheel. No Widmanstätten figures, a few coarse to many fine granules, troilite nodules present.

*Ahnighito*, see Cape York

**Ahumada, Chihuahua, Mexico**

Found: 1909

Siderolite: Pallasite, Pr.

Specimen: (323) 3405.2 gms.; (Size: 10  $\times$  12  $\times$  8 cm.)

Remarks: "A mass weighing 116 lbs. was found 60 miles east of Ahumada."  
—Farrington, 1914.

*Ainsa*, see Tucson

**Ainsworth, Brown County, Nebraska, U. S. A.**

Found: 1907

Siderite: Coarsest octahedrite, Ogg.

Specimens: (269) 422.4 gms.; (850) 3508 gms.; (851) 269.7 gms.; \*(852) 36.3 gms.; (853) 28.3 gms.; (854) 13.7 gms.; (855) 7 gms.; \*(856) 11.2 gms.; (857) 6.6 gms.; (2489) 3.3 gms.; (2490) 0.9 gms.; (2491) 0.4 gm.; (2492) 1.5 gms.; (3740) plaster cast, colored; (3741) plaster cast, colored; (3742) plaster cast, colored.

Remarks: A mass of 23.5 lbs. was found. Described by E. E. Howell, 1908.

**Akphoh, Eskimopolis, Knud Peninsula, Ellesmereland, Canada**

Known: 1915

Siderite: Coarse octahedrite, Og.

Specimen: (289) 1659.1 gms.; \*(2706) plaster cast, colored; (2721) plaster cast, colored; (2725) plaster cast, colored.

Remarks: Specimen presented by W. E. Ekblaw of Crockerland Expedition, 1914–1917, who received it from an Eskimo. This meteoric iron was found near the old Eskimo ruins at Eskimopolis (so-called

by Sverdrup's party) at the eastern end of Knud Peninsula, 1914. The specimen is oval in shape and has dimensions 9.8 cm.  $\times$  9.7 cm.  $\times$  4.6 cm. The battered edges on the margin of the specimen show that it has been used as a hammer stone. A polished and etched surface shows coarse Widmanstätten figures, with bands 1–2 mm. in thickness. The specimen has been briefly described and figured: Clark Wissler, "Archaeology of the Polar Eskimo," *Anthropological Papers, Amer. Mus. Nat. Hist.*, Vol. XXII, p. 166, 1918.

**Alais, Gard, France**

Fell: 1806, March 15, 5 P.M.

Aerolite: Carbonaceous chondrite, K

Specimen: (395) 0.63 gms.

Remarks: Two stones, of about 4 and 2 kg., respectively, fell after detonations, one at Saint Etienne de Lolm and the other at Valence.

*Albacher Mühle*, see Bitburg

**Albareto, Modena, Italy**

Fell: 1766, middle of July, 5 P.M.

Aerolite: Spherical hypersthene-chondrite, Cc.

Specimens: \*(396) 2 gms.; \*(1047) 2 gms.

Remarks: A large stone of about 12 kg. fell, after detonations.

**Aldsworth, Cirencester, Gloucestershire, England**

Fell: 1835, August 4, 4:30 P.M.

Aerolite: Veined gray chondrite, Cga.

Specimen: (397) 1.6 gms.

Remarks: One stone of 1.5 lbs. and a shower of smaller stones fell 1/2 mile from Aldsworth, after detonations (and appearance of fire-ball at Cirencester).

**Aleppo, Syria**

Fell: about 1873

Aerolite: Brecciated white chondrite, Cwb.

Specimen: (398) 165.9 gms.

Remarks: A stone of about 7 lbs. fell about 1873.

**Alessandria, Piedmont, Italy**

Fell: 1860, February 2, 11:45 A.M.

Aerolite: Veined gray chondrite, Cga.

Specimens: (2224) 8.8 gms.; (2225) 0.3 gms.

Remarks: Several stones (about seven), weighing from 300 grams to 1 kg. each, fell, after detonations, at San Giuliano Vecchio.

**Alexander County, North Carolina, U. S. A.**

Found: 1867

Siderite: Coarse octahedrite, Og.

Specimen: (77) 60.4 gms.

Remarks: Entered in American Museum of Natural History Meteorite Catalogue by L. P. Gratacap: Size of: "Cut block, 1 1/4"  $\times$

1 1/8" × 1/2"; exterior surface on sloping sides and back." No date, no history; Catalogue entry and pasted original label, of date earlier than receipt of S. C. H. Bailey Collection, 1912. Meteorite described by Bailey, 1891.

*Alexinatz*, see Soko-Banja

**Alfanello**, Brescia, Italy

Fell: 1883, February 16, 3 P.M.

Aerolite: Intermediate hypersthene-chondrite, Ci.

Specimens: (399) 1362.2 gms.; (638) 5.6 gms.; \*(1048) 273 gms.; (2543) 0.88 gm.

Remarks: A stone of about 228 kg. fell, after detonations, 1883.

**Allegan**, Allegan County, Michigan, U. S. A.

Fell: 1899, July 10, 8 A.M.

Aerolite: Spherical bronzite-chondrite, Cco.

Specimen: (371) 97.4 gms.

Remarks: A stone of about 70 lbs. fell, after detonations, on Thomas Hill on the Saugatuck Road.

*Alten*, see Finmarken

*Amalia Farm*, see Bethany

**Ambapur Nagla**, Aligarh district, United Provinces, India

Fell: 1895, May 27, 1 A.M.

Aerolite: Crystalline spherical chondrite, Cck.

Specimen: (401) 87.3 gms.

Remarks: After the appearance of a luminous meteor moving from E. to W., a stone of about 14 lbs., broken into two pieces, was found.

**Angers**, Maine-et Loire, France

Fell: 1822, June 3, 8:15 P.M.

Aerolite: Veined white chondrite, Cwa.

Specimens: (402) 1.1 gms.; (1049) 18.9 gms.

Remarks: After appearance of luminous meteor, and detonations, a stone of about 1 kg. was seen to fall.

**Apoala**, Oaxaca, Mexico

Found: 1889

Siderite: Fine octahedrite, Of.

Specimen: (129) 96.1 gms.

Remarks: A mass of about 85 kg. was found.

**Apt**, Saurette, Vaucluse, France

Fell: 1803, October 8, 10:30 A.M.

Aerolite: Veined gray chondrite, Cga.

Specimen: (403) 1.3 gms.

Remarks: A stone of about 3.25 kg. fell, after detonations.

**Arispe, Sonora, Mexico**

Found: 1896

Synonym: Noon

Siderite: Coarsest octahedrite, Ogg.

Specimens: (214) 98.3 gms.; (236) 6125 gms.; (778) 15.3 gms.

Remarks: A mass of about 272 lbs. was found in 1898 about 15 miles N.W. of Arispe, and two other masses of 116 lbs. and 20 lbs. had been found in 1896 about 25 miles N.W. of Arispe.

**Arlington, Sibley County, Minnesota, U. S. A.**

Found: 1894

Siderite: Medium octahedrite, Om.

Specimen: (61) 996 gms.

Remarks: A mass of about 19.75 lbs. was found 2.5 miles N.E. of Arlington.

**Asco, Corsica, France**

Fell: 1805, November

Aerolite: Veined white chondrite, Cwa.

Specimen: (606) 2 gms.

Remarks: Original weight not known. Described by P. Partsch, 1843; 42 grams known, 1923.

**Ashfork, Yavapai County, Arizona, U. S. A.**

Found: 1901

Siderite: Coarse octahedrite, Og.

Specimens: (2619) 1471.3 gms.; (2687) 39.4 gms.

Remarks: Mass of about 60 lbs. found by Mr. Charles Quitzow in 1901, about 25 miles S.S.W. of Ashfork, Arizona, in territory known as Cedar Glade. This locality is some 60 miles west of Meteor Crater, Arizona. Sawed slab presented by Mr. Sydney Bevan of New York, May 21, 1930. Chemical analysis by J. Edward Whitfield: Ni 5.48; Co 0.16; Cu none; P 0.246; Cl 0.111; S 0.067; Mn none; Fe 77.566; oxides 16.38. Total 100.010%.

**Assam, India**

Found: 1846

Aerolite: Brecciated gray chondrite, Cgb.

Specimen: (595) 1.3 gms.

Remarks: Three pieces, weighing together about 6 lbs., were found at Calcutta in the "Coal and Iron Committee's" collection, and were probably obtained from Assam.

**Assisi, Perugia, Italy**

Fell: 1886, May 24, 7 A.M.

Aerolite: Spherulitic chondrite, Cc.

Specimen: (405) 4.6 gms.

Remarks: A stone of about 2 kg. fell.

*Atemajac*, see Tomatlan

**Auburn**, Lee (formerly Macon) County, Alabama, U. S. A.

Found: 1867

Siderite: Hexahedrite, H.

Specimen: (3) 99 gms.

Remarks: A mass of about 8 lbs. was ploughed up near East Alabama College.

**Augustinovka**, Ekaterinoslav, Ukraine, U. S. S. R.

Found: 1890

Siderite: Fine octahedrite, Of.

Specimens: (193) 289 gms.; \*(758) 20 gms.; (2535) 1.2 gms.; (2536) 1.7 gms.; (2537) 13.1 gms.

Remarks: A mass of about 400 kg. was found in loess.

**Aumale**, Algeria, Africa

Fell: 1865, August 25, between 11 A.M., and 12 noon

Synonym: Senhadja

Aerolite: Veined white chondrite, Cwa.

Specimen: (407) 99.9 gms.

Remarks: Two stones, each of about 25 kg., fell, about 3 miles apart, one in "tribe" of Senhadja, the other in "tribe" of Ouled Sidi Salem.

**Aumieres**, Lozère, France

Fell: 1842, June 3, 9 P.M.

Aerolite: Veined white chondrite, Cwa.

Specimen: (652) 61 gms.

Remarks: A single stone of about 2 kg. fell after appearance of a luminous meteor.

**Aussun**, Haute Garonne, France

Fell: 1858, December 9, 7:30 A.M.

Aerolite: Spherical chondrite, Cc.

Specimens: (408) 271.3 gms.; \*(1050) 58 gms.; (1051) 215.6 gms.

Remarks: Two stones, weighing respectively about 9 and 41 kg., fell, the first near Aussun and the other near Clarac, about 3 miles distant.

**Australia**, locality unknown

Found: 1880

Siderolite: Pallasite

Specimen: (439) 21 gms.

Remarks: Specimen, a conoid mass with triangular faces  $38 \times 30 \times 25$  mm. in size; very much weathered. History unknown. 90 grams in Harvard College, labeled as above by J. L. Smith (O. W. Huntington, Proc. Amer. Acad. Arts and Sci., Boston, 1888, Vol. 23, p. 99).

**Avilez**, Cuencamé, Durango, Mexico

Fell: 1855, June

Aerolite: Spherulitic chondrite, Cc.

Specimen: (603) 1.1 gms.

Remarks: Several stones are said to have fallen, but only fragments including a piece of 146 grams, were preserved.

**Babb's Mill**, Greene County, Tennessee, U. S. A.

Found: 1842

Synonym: Blake's Iron

Siderite: Nickel-rich ataxite, Db.

Specimens: (98) 61.4 gms.; \*(695) 34.8 gms.

Remarks: Two masses were ploughed up 10 miles north of Greenville, one (Troost's Iron) of 14 lbs. in 1842, and the other (Blake's Iron) of about 300 lbs. in 1876. Described by G. Troost, Amer. Jour. Sci. Ser. 1, Vol. 49, p. 342, 1845. From Bailey-Bement Collection.

**Bachmut**, Ekaterinoslav, Ukraine, U. S. S. R.

Fell: 1814, February 15, noon

Aerolite: White hypersthene-chondrite, Cw.

Specimen: (409) 24.8 gms.

Remarks: A stone of 18 kg. fell, after detonations. A piece of about 8 kg. was sent to Kharkov, and two pieces of 4 kg. to Ekaterinoslav; 1.6 kg. in Vienna.

**Bacubirito**, Sinaloa, Mexico

Found: 1863

Synonym: Ranchito

Siderite: Finest octahedrite, Off.

Specimens: (139) 26.3 gms.; \*(723) 11 gms.

Remarks: A huge mass, 12 ft. long and estimated to weigh 27 tons, was found on the farm El Ranchito 7 miles south of Bacubirito.

**Ballinger**, Runnels County, Texas, U. S. A.

Found: 1926

Siderite: Granular hexahedrite, Hb.

Specimen: (2613) 73.4 gms.

Remarks: A 1250 gram mass of meteoric iron with variously oriented granules and Neumann lines was described in 1929 by H. H. Nininger. No history of the mass is given.

**Ballinoo**, Murchison River, Western Australia

Found: 1893

Siderite: Finest octahedrite, Off.

Specimen: (157) 3320 gms.

Remarks: A mass of 93 lbs. was found 10 miles south of Ballinoo.

**Bandong**, Preanger, Java

Fell: 1871, December 10, 1:30 P.M.

Aerolite: Rodite, Ro.

Specimen: (410) 28 gms.

Remarks: Six stones, of total weight of about 11.5 kg. fell, after detonations.

**Barbotan, Landes, France**

Fell: 1790, July 24, 9 P.M.

Aerolite: Veined gray chondrite, Cga.

Specimen: (411) 42.2 gms.

Remarks: A shower of stones, the largest of 9 kg., fell after detonations, and appearance of fire-ball traveling from S. to N.

**Barranca Blanca, Atacama, Chile, S. A.**

Found: 1855

Synonym: San Francisco Pass

Siderite: Brecciated octahedrite, Obz.

Specimen: (147) 72.9 gms.

Remarks: A mass of about 12 kg. was found between Copiapo and Catamarca.

**Barratta, Deniliquin, New South Wales, Australia**

Found: 1845

Aerolite: Black chondrite, Cgb.

Specimens: (412) 1.3 gms.; (614) 2106.6 gms.; \*(2183) 460 gms.

Remarks: Four stones, weighing respectively 145, 31, 48 and 175 lbs., were found in 1845, 1889, 1899 and 1902, respectively.

**Bath, Brown County, South Dakota, U. S. A.**

Fell: 1892, August 29, 4 P.M.

Aerolite: Brecciated spherical chondrite, Ccb.

Specimen: (387) 2816 gms.

Remarks: One stone of about 46.75 lbs. fell, after detonations.

**Bath Furnace, Bath County, Kentucky, U. S. A.**

Fell: 1902, November 15, 6:45 P.M.

Aerolite: Intermediate chondrite, Cia.

Specimen: (616) 51 gms.

Remarks: A stone of about 13 lbs. was seen to fall, after detonations and appearance of luminous meteor. Two other stones, of about 1/2 lb. and 177 lbs. respectively, were found later. The smallest stone was described by O. C. Farrington, and the largest by H. A. Ward.

*Beaconsfield*, See Cranbourne

**Bear Creek, Jefferson County, Colorado, U. S. A.**

Found: 1866

Siderite: Fine octahedrite, Of.

Specimen: (32) 116.2 gms.

Remarks: A mass of about 500 lbs. was found.

**Beaver Creek**, West Kootenay, British Columbia, Canada

Fell: 1893, May 26, 3:30 P.M.

Aerolite: Crystalline spherical bronzite-chondrite, Cck.

Specimens: (413) 2772 gms.; (637) 0.95 gm.; (2204) 1.05 gms.; (2205) 5.1 gms.; (2206) 4.3 gms.; (2207) 1.6 gms.

Remarks: One stone of about 31 lbs. fell.

**Bella Roca**, Sierra de San Francisco, Durango, Mexico

Found: 1888

Synonym: La Bella Roca

Siderite: Fine octahedrite, Of.

Specimens: (135) 2000 gms.; (266) 193.8 gms.

Remarks: A mass of about 73 lbs. was found.

*Bellevue*, see Lucky Hill**Benares**, United Provinces, India

Fell: 1798, December 19, 8 P.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (415) 7.8 gms.

Remarks: Many stones, one of about 2 lbs., through the roof of a hut, fell at Krakhut, about 14 miles from Benares, after appearance of a luminous meteor and detonations.

**Bendegó**, Bahia, Brazil, S. A.

Found: 1784

Siderite: Coarse octahedrite, Og.

Specimens: (145) 826.4 gms.; \*(268) 120.5 gms.

Remarks: A large mass of about 5 tons was found near the rivulet called the Bendego. It was removed to Rio de Janeiro in 1888, and was described and analyzed by O. A. Derby.

**Berlanguillas**, Burgos, Spain

Fell: 1811, July 8, 8 P.M.

Aerolite: Veined intermediate chondrite, Cia.

Specimen (416) 2.2 gms.

Remarks: Three stones, one of about 2.75 kg., fell.

**Bethany**, Great Namaqualand, South Africa

Known before 1836

Synonyms: Amalia Farm, Gibeon, Great Fish River, Great Namaqualand, Lion River

Siderite: Finest octahedrite, Off.

Specimens: Amalia Farm (210) 2614 gms.; (285) 665 lbs.;

Bethany (775) 7800 gms.; (2601) 10.8 gms.;

Gibeon (777) 10.8 kgs.;

Great Fish River (172) 12.6 gms.; (177) 7.2 gms.; (752) 5.3 gms.;

Great Namaqualand (173) 126.5 gms.;

Lion River (175) 72.7 gms.;



Gibeon (2732) plaster cast, colored;

Gibeon (2733) plaster cast, colored.

Remarks: Large masses (2 feet square) were reported by J. E. Alexander near east bank of Great Fish River and three days' journey N.E. from Bethany. A mass of 178 lbs., found near Lion River, was described by C. U. Shepard. A fragment of 9 grams was found with label "Springbock River" among Dr. H. J. Burkart's minerals after his death in 1874. A mass Great Namaqualand of about 510 lbs., long known to the missionaries of Bethany, thence carried to Orange River, and finally brought to Cape Town and lodged in the South African Museum by J. Wild about 1857. Four large masses of about 392, 400, 653, and 1107 lbs. found in 1899 at Mukerop, Gibeon, were described by A. Brezina and E. Cohen. Three further masses of about 933, 682 and 561 lbs. from Gibeon were found in 1903. A mass of about 890 lbs. found on the farm Goamus, near Gibeon, was described by F. Rinne in 1910. The percentage of Ni found in Lion River, Bethany and Muerop is about 8%.—G. T. Prior. Structure of Mukerop described by F. Berwerth. The main mass of "Bethany" in Cape Town (South African Museum), 138 kg. of Mukerop in Stuttgart, 61 kg. of Mukerop in Vienna, 45 kg. of Mukerop and 9 kg. of "Amalia" in Chicago.

**Bethlehem**, Albany County, New York, U. S. A.

Fell: 1859, August 11, 7:30 A.M.

Aerolite: Crystalline spherical chondrite, Cck.

Specimens: \*(378) 0.5 gms.; (1031) 2.7 gms.

Remarks: After appearance of luminous meteor, and detonations a small stone about the size of a pigeon's egg was seen to fall. 8 grams in Albany (New York) Museum.

*Bhurtpur*, see *Moti-ka-nagla*

**Bielokrynitschie**, Volhynia, Ukraine, U. S. S. R.

Fell: 1887, January 1, 6 P.M.

Aerolite: Veined spherical chondrite, Cib.

Specimen: (417) 30.1 gms.

Remarks: After appearance of fire-ball moving from S.W. to N.E., and detonations, several stones were seen to fall of which eight were found, the largest weighing about 2 kg.

*Big Skookum*, see *Klondike*

**Billings**, Christian County, Missouri, U. S. A.

Found: 1903

Siderite: Coarse octahedrite, Og.

Specimen: (240) 2203.3 gms.

Remarks: A mass of about 54 lbs., resembling an ax was found about 4 miles east of Billings.

**Bingera**, County Murchison, New South Wales, Australia

Found: 1880

Siderite: Nickel-poor ataxite

Specimen: (2609) 267.8 gms; (2723) plaster cast, colored

Remarks: A pear-shaped mass of about 1/2 lb. found. Probably identical with Barraba and Warialda.

In 1924 another mass of 6.4 kg. (14 lbs.) was found about 9 miles north of Bingera.

**Bischtübe**, Turgai, Siberia, U. S. S. R.

Found: 1888

Siderite: Coarse octahedrite, Og.

Specimens: (194) 425.8 gms.; \*(759) 19 gms.

Remarks: Three masses of about 32, 16 and 1/4 kg., respectively, were ploughed up.

**Bishopville**, Sumter County, South Carolina, U. S. A.

Fell: 1843, March 25

Aerolite: Aubrite (enstatite-achondrite), Chla.

Specimen: (386) 29.1 gms.

Remarks: A stone of about 13 lbs. fell, after detonations.

**Bishunpur**, Mirzapur district, United Provinces, India

Fell: 1895, April 26, 3 P.M.

Aerolite: Black chondrite, Cs.

Specimens: (418) 4.9 gms.; (532) 1 gm.

Remarks: Four stones fell, after detonations, but only two were recovered, viz.: one of 942 grams at Bishunpur, and the other of 97 grams at Parjabatpur a mile distant.

**Bitburg**, Trier, Rhenish Prussia, Germany

Known before 1805

Synonyms: Albacher Mühle; Eifel; Trier

Siderolite: Pallasite, Pa.

Specimens: (321) 80 gms.; \*(898) 54.5 gms.

Remarks: A mass of about 1.5 tons most of which had been smelted in a furnace was seen in 1805. Only a little of the unaltered material has been preserved.

**Bjurböle**, Borga, Nyland, Finland

Fell: 1899, March 12, 10:30 P.M.

Aerolite: Spherical hypersthene-chondrite, Cca.

Specimen: (598) 235.8 gms.

Remarks: One stone fell through the sea-ice and broke into fragments, the largest of which weighed 80 kg., the total weight being about 330 kg. The largest piece is in Helsingfors and the next largest in Stockholm.

**Black Mountain**, Ashville, Buncombe County, North Carolina, U. S. A.

Found: 1839

Siderite: Coarse octahedrite, Og.

Specimens: (78) 2.5 gms.; (687) 51.7 gms.

Remarks: A piece of about 21 oz. was described by C. U. Shepard.

*Blake's Iron*, see Babb's Mill

**Blansko**, Moravia, Czechoslovakia

Fell: 1833, November 25, 6:30 P.M.

Aerolite: Veined gray bronzite-chondrite, Cga.

Specimen: (419) 2.5 gms.

Remarks: A shower of stones fell, after appearance of fire-ball and detonations, and eight, weighing altogether 350 grams, were found some days later. Another stone of about 120 grams was found in 1866.

**Blithfield**, Renfrew County, Ontario, Canada

Found: 1910

Aerolite: Non-ferriferous estantite, Cek.

Specimen: (646) 180.1 gms.

Remarks: A stone of 1830 grams (about 1.9 kg.) was found. It consists of insoluble silicates 75.16, troilite 11.04, daubreelite 0.64, graphite 0.16, schreibersite 0.20, metal 12.80%. The silicate is mainly a nearly pure non-ferriferous enstatite.

**Bluff**, Fayette County, Texas, U. S. A.

Found: about 1878

Aerolite: Brecciated crystalline hypersthene-chondrite, Ckb.

Specimens: (392) 1108.3 gms.; \*(621) 415 gms.; \*(1038) 347 gms.; (1039) 12,318 gms.; (1040) 48.8 gms.; (1041) 3176 gms.; (1042) 194.7 gms.; (1043) 121.3 gms.; (1044) 80.6 gms.; (1045) 18.3 gms.

Remarks: A stone of about 320 lbs. was found 3 miles S.W. of La Grange.

**Bohumilitz**, Prachin, Bohemia, Czechoslovakia

Found: 1829

Synonym: Vimperk

Siderite: Coarse octahedrite, Og.

Specimen: (180) 249 gms.

Remarks: A mass of about 57 kg., was found near Castle Bohumilitz.

**Borgo San Donnino**, Parma, Italy

Fell: 1808, April 19, noon

Aerolite: Gray chondrite (howarditic chondrite of Brezina) Cho.

Specimen: (420) 0.9 gm.

Remarks: Several stones fell, after detonations, the largest weighing about 1 kg.

**Bori**, Badnur, United Provinces, India

Fell: 1894, May 9, 4 P.M.

Aerolite: Veined intermediate chondrite, Cia.

Specimens: (421) 351 gms.; \*(1053) 125 gms.

Remarks: A stone of about 19 lbs. fell.

**Borkut**, Marmaros, Ruthenia, Czechoslovakia

Fell: 1852, October 13, 3 P.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (414) 36.5 gms.

Remarks: A stone of about 7 kg. fell, after detonations.

*Borne*, see Kendall County

**Brahin**, Rechitza district, Minsk, U. S. S. R.

Found: 1810

Siderolite: Pallasite, Pr.

Specimen: (318) 76.5 gms.

Remarks: Two masses of about 80 kg. respectively were found in 1810; 183 kg. mass was found at Kruki village, 1890-1892; 25 kg. mass was found, 1898-1900 at "Kutzovka" near Koporenski village and since lost; 60 kg. mass was found 1907-1908 at "Kutzovka." Masses of 45 and 32 kg. were found at Kolyban village between rivers Dnepr and Pripyat. Other masses are reported from that region: 500 kg. from Zamoshe; 280 kg. found 40-50 versts from Mozyr; 250 kg. found in 1911 at Kruki; 90 kg., 120 kg. and 8 kg. at Posudov; 30 kg. at "Starina" and 200 kg. (15 masses) at Chikalovichi. Mineral Abstracts 4—pp. 420-421, 1929-1931.

**Braunau**, Trutnov, Bohemia, Czechoslovakia

Fell: 1847, July 14, 3:45 A.M.

Synonyms: Hauptmannsdorf, Trutnov

Siderite: Hexahedrite, H.

Specimen: (181) 224.2 gms.

Remarks: Two masses, of about 22 kg. and 17 kg. fell at Hauptmannsdorf after detonations and appearance of luminous cloud. The smaller mass in 1897 was intact in the abbey of Braunau, the larger has been distributed.

*Breitenbach*, see Steinbach

**Bremervörde**, Hanover, Germany

Fell: 1855, May 13, 5 P.M.

Aerolite: Brecciated spherical bronzite-chondrite, Ccb.

Specimen: (422) 247.5 gms.

Remarks: Several stones (five at least) fell, after detonations, near the village of Gnarrenburg; the total weight was about 7.25 kg. and the largest stone weighed about 2.75 kg.

**Brenham**, Kiowa County, Kansas, U. S. A.

Found: 1885

Synonym: Haviland

Siderolite: Pallasite, Pk.

Specimens: \*(301) 148 gms.; (460) 474.7 gms.; (647) 467.6 gms.; \*(783) 167.2 gms.; \*(785) 505 gms.; \*(878) 515 gms.; (879) 1325.6 gms.; (880) 1647.5 gms.; (881) 1226.8 gms.; \*(882) 23,814 gms.; (883) 34,020 gms.; (884) 33,600 gms.; (885) 411.1 gms.; (987) 138.6 gms.; (988) 113.5 gms.; (989) 119.3 gms.; (990) 67.5 gms.; (991) 62.8 gms.; (992) 28.8 gms.; (993) 8.7 gms.; (994) 21.1 gms.; (1052) 7.5 gms.; (2460) 98,112 gms.; (2531) 7.5 gms.; (2532) 2.7 gms.; (2533) 2.8 gms.; (2534) 7.1 gms.; Haviland (56) 721.5 gms.; (219) 583.5 gms.; (782) 829.5 gms.; (784) 2371.2 gm.; (2697) 14.8 gms. (drill shavings from No. 2460)  
 Meteorodes: (2698) 439 gms.; (2699) 149.5 gms.; (2700) 17.8 gms.; (2701) 33.5 gms.; (2702) 197.1 gms.; (2703) 49 gms.; (2704) 139 gms.; (2705) 0.5 gm. (Olivine sand from meteorodes).

Remarks: About twenty masses were found, weighing together about 2000 lbs., and varying in weight from 1 oz. to 466 lbs. Many other small masses, weighing mostly less than 1 lb., were found in 1892.

**Bridgewater**, Burke County, North Carolina, U. S. A.

Found: 1890

Siderite: Fine octahedrite, Of.

Specimen: (79) 155.7 gms.

Remarks: A mass of 30 lbs., was found by a ploughman 2 miles from Bridgewater Station.

*Bunzlau*, see Ploschkowitz

**Bur-Gheluai**, Bur-Hagaba district, Italian Somaliland, Africa

Fell: 1919, October 16, 8 A.M.

Aerolite: Gray chondrite, Cq.

Specimens: (2258) 1054.4 gms.; (2259) 54.1 gms.

Remarks: After detonations and appearance of a fire-ball many stones fell. Of the 121 stones found, the largest weighed 15.4 kg., total weight about 120 kg. A. Neviani, 1921.

**Burkett**, Coleman County, Texas, U. S. A.

Found: 1913, October

Siderite: Coarse octahedrite, Og.

Specimens: (284) 3071 gms.; (859) 2773 gms.; (860) 833 gms.; \*(861) 826 gms.; \*(862) 324 gms.; \*(863) 182 gms.; (2709-2717) plaster casts, uncolored; (2729-2731) plaster casts, colored.

Remarks: A mass of about 8.4 kg., was found about 3.5 miles south of Burkett, and was later cut into six pieces. Main masses in New York (Am. Mus. Nat. Hist.).

**Burlington**, Otsego County, New York, U. S. A.

Found: About 1819

Siderite: Medium octahedrite, Om.

Specimen: (73) 99.1 gms.

Remarks: A mass of about 150 lbs. was ploughed up, but only about 12 lbs. have been preserved.

**Buschhof, Zemgale, Latvia**

Fell: 1863, June 23, 7:30 A.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (423) 191.3 gms.

Remarks: A stone of about 5 kg. fell, after detonations.

**Bustee, Oudh, United Provinces, India**

Fell: 1852, December 2, 10 A.M.

Aerolite: Aubrite (enstatite-achondrite), Bu.

Specimen: (424) 1.4 gms.

Remarks: A stone of about 3-4 lbs., fell, after detonations. The stone is brecciated and has a large nodule rich in oldhamite and diopside and containing osbornite.

*Butcher Iron*, see Coahuila

**Butler, Bates County, Missouri, U. S. A.**

Found: Before 1874

Siderite: Finest octahedrite, Off.

Specimens: (63) 335.4 gms.; \*(677) 438 gms.

Remarks: A mass of about 90 lbs. was ploughed up 8 miles S.W. of Butler.

**Butsura, Champaran, Bihar, India**

Fell: 1861, May 12, about noon

Aerolite: Intermediate chondrite, Ci.

Specimen: (425) 53 gms.

Remarks: Five stones fell, after detonations, two of 5 and 7 oz., respectively, at Bulloah, one of 11 lbs. at Piprassi, one of 28.5 lbs. at Qutahar Bazar, and one of 8.75 lbs. at Chireya; all could be fitted together showing that they formed part of one mass.

**Cabeza de Mayo, Murcia, Spain**

Fell: 1870, August 18, 6:15 A.M.

Aerolite: White chondrite, Cw.

Specimen: (426) 7.2 gms.

Remarks: A stone of about 25 kg. fell, after detonations.

**Cambria, Niagara County, New York, U. S. A.**

Found: 1818

Siderite: Fine octahedrite, Of.

Specimen: (74) 209.8 gms.

Remarks: A mass of 36 lbs. was turned up by the plough.

*Campo del Cielo*, see Otumpa

**Cangas de Onis, (Asturias), Oviedo, Spain**

Fell: 1866, December 6, 11 A.M.

Aerolite: Brecciated gray chondrite, Cgb.

Specimen: (427) 3.4 gms.

Remarks: A shower of stones fell, after detonations, the largest stone weighing about 11 kg.

**Canton, Cherokee County, Georgia, U. S. A.**

Found: 1894

Siderite: Medium to coarsest octahedrite, Og.

Specimen: (275) 36.2 gms.

Remarks: A mass of 5.5 lbs. was ploughed up about 5 miles southwest of Canton. The etched figure is that of a medium and not a coarsest octahedrite, but differs from that of Losttown in showing less plessite (G. T. Prior).

**Canyon City, Trinity County, California, U. S. A.**

Found: 1875

Synonym: Trinity County

Siderite: Medium octahedrite, Om.

Specimens: (25) 3.3 gms.; \*(235) 321 gms.; (292) 813.1 gms.

Remarks: A mass of about 19 lbs. was found 3 miles northeast of Canyon City.

**Canyon Diablo, Coconino County, Arizona, U. S. A.**

Found: 1891

Siderite: Coarse octahedrite, Og.

Specimens: (9) 8406 gms.; (10) 1347 gms.; \*(11) 496.2 gms.; (12) 142 gms.; (13) 2284 gms.; (14) 831.7 gms.; (15) 204.5 gms.; (16) 373.3 gms.; (17) 70.9 gms.; (18) 14.7 gms.; (19) 65,772 gms.; (22) 1623.5 gms.; (206) 653.7 gms.; (207) 354.5 gms.; \*(215) 440.5 gms.; \*(262) 0.77 gm.; \*(779) 136.7 gms.; \*(823) 1205 gms.; \*(824) 350 gms.; (825) 245.5 gms.; \*(826) 129 gms.; \*(827) 18.2 gms.; \*(828) 284 gms.; \*(829) 170 gms.; (830) 181.4 gms.; (831) 73 gms.; \*(832) 137 gms.; \*(833) 74 gms.; \*(834) 94 gms.; \*(835) 36 gms.; \*(836) 43 gms.; \*(837) 32 gms.; \*(838) 25 gms.; \*(839) 36 gms.; \*(840) 24 gms.; (841) 155.5 gms.; (842) 43 gms.; \*(843) 158 gms.; \*(844) 137 gms.; \*(845) 228 gms.; (2235) 1087 lbs. (493.1 kg.); (2602) 29.6 gms.; (2639) 332.6 gms.

Remarks: Numerous masses, of a total weight of over 5 tons and ranging from minute fragments to pieces of over 1000 lbs. have been found in the neighborhood of a crater-like elevation known as Coon Butte, "Crater Mountain," or "Meteor Crater," 10 miles southeast of Canyon Diablo. "Meteor Crater" is supposed to be the result of the impact of the meteorite.

**Cape Girardeau, Cape Girardeau County, Missouri, U. S. A.**

Fell: 1846, August 14, 3 P.M.

Aerolite: Spherical bronzite-chondrite, Cc.

Specimen: (374) 46.5 gms.

Remarks: A stone of about 5 lbs. fell with a loud report 7.5 miles south of Cape Girardeau. Main mass in Yale University, New Haven.

**Cape of Good Hope, Cape Province, South Africa**

Found: 1793

Siderite: Nickel-rich ataxite, Dc.

Specimens: (171) 132.3 gms.; \*(751) 12.2 gms.

Remarks: A mass of about 300 lbs. was found between Sunday River and Bushman River (west of Great Fish River).

**Cape York, West Greenland**

Found: 1894

Siderite: Medium octahedrite, Om.

Specimens: Cape York (47) 44.5 gms.; (673) 46.8 gms.;

Ahnighto (867) 36.5 tons (108.5 gms. used for analyses); (2634) 72.7 gms. (cut from No. 867); (2688) 345.5 gms. (cut from No. 867); (2690) 177.5 gms. (part of specimen No. 2688—originally cut from No. 867); (2692) 10.4 gms. (broken off No. 867—weathered section of crust); (2693) 186 gms. (shavings from No. 867);

Dog (869) 896.5 lbs. (128.6 gms. used for analyses); (2691) 380 gms. (cut from No. 869); (2694) 76.3 gms. (shavings from No. 869);

Woman (868) 3 tons (96.9 gms. used for analyses); (2631) 180.2 gms. (cut from No. 868); (2632) 15.1 gms. (cut from No. 868); (2633) 173.3 gms. (shavings and saw dust from No. 868); (2698) 553.5 gms. (cut from No. 868).

Remarks: Knives of iron with bone handles were given to Captain John Ross in 1818 by the Eskimos of Prince Regent's Bay. Three large masses, weighing respectively 36.5 tons, 3 tons and 898 lbs., and named "The Tent" or Ahnighto, "The Woman" and "The Dog," respectively, were shown in 1894 to Lieut. R. E. Peary, by whom later they were transported to New York and placed in The American Museum of Natural History. A fourth mass of meteoric iron, weight 3401.7 kg., was found by the natives in 1913 on the Savik peninsula, 9 and 13 km. from the places where the other masses were found. The Savik mass was transported to Copenhagen in 1925. It is a medium octahedrite and has the same composition as the three masses in New York.

*Caryfort*, see Smithville

**Carlton, Hamilton County, Texas, U. S. A.**

Found: 1887

Siderite: Fine octahedrite, Of.

Specimens: (112) 654.5 gms.; <sup>1</sup>(116) 4256.9 gms.; (264) 52.3 gms.;

<sup>1</sup> Note: (116) original weight 15,834 gms. cut in three sections:

Section No. 1 = (116) 4256.9 gms.

Section No. 2 = (708) 3853 gms. exchanged

Section No. 3 = (709) 5570 gms.

2154.1 gms. lost in sectioning.



\* (706) 19.8 gms.; \*(708) 3853 gms.; (709) 5570 gms.; (2558) 4.5 gms.; (2559) 9.5 gms.

Remarks: A mass of 179 lbs. was ploughed up.

**Carthage**, Smith County, Tennessee, U. S. A.

Found: 1840

Siderite: Medium octahedrite, Om.

Specimen: (102) 35.2 gms.

Remarks: A mass of about 280 lbs. was found.

*Casale*, see Cereseto

**Casas Grandes**, Chihuahua, Mexico

Prehistoric, described 1867

Siderite: Medium octahedrite, Om.

Specimens: (211) 813.3 gms.; (260) 4.7 gms.; (317) 1.7 gms.

Remarks: A mass of 3407 lbs. was found in an ancient tomb.

**Casey County**, Kentucky, U. S. A.

Known: 1877

Siderite: Coarse octahedrite, Og.

Specimens: (36) 21.8 gms.; \*(670) 16 gms.

Remarks: Original weight unknown.

**Castalia**, Nash County, North Carolina, U. S. A.

Fell: 1874, May 14, 2:30 P.M.

Aerolite: Brecciated gray bronzite-chondrite, Cgb.

Specimen: (382) 133.3 gms.

Remarks: After detonations, "a dozen or more" stones fell over an area of 10 × 3 miles; only three, of 1 kg., 800 grams and 5.5 kg., were found.

**Castine**, Hancock County, Maine, U. S. A.

Fell: 1848, May 20, 4 A.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (589) 1 gm.

Remarks: A stone of about 3 oz. was seen to fall after appearance of fire-ball and detonations.

**Central Missouri**, Missouri, U. S. A.

Found: About 1855

Siderite: Coarsest octahedrite, Ogg.

Specimen: (67) 1055 gms.

Remarks: A mass of about 55 lbs. was found.

**Cereseto**, Ottiglio, Piedmont, Italy

Fell: 1840, July 17, 7:30 A.M.

Synonym: *Casale*

Aerolite: Brecciated spherical chondrite, Ccb.

Specimen: (429) 0.83 gm.

Remarks: A stone of about 5 kg. fell, after detonation and appearance of fire-ball.

**Chandakapur**, Berar, Central Provinces, India

Fell: 1838, June 6, noon

Aerolite: Brecciated intermediate hypersthene-chondrite, Cib.

Specimen: (430) 24.4 gms.

Remarks: Three stones, weighing respectively about 11, 7.5 and 1 lb., fell, after detonations, at the villages Chandakapur, Denulgaon and Burguon.

**Chantonnay**, Vendée, France

Fell: 1812, August 5, 2 A.M.

Aerolite: Brecciated gray hypersthene-chondrite, Cgb.

Specimens: (431) 352.6 gms.; \*(1054) 42 gms.; (1055) 160.3 gms.

Remarks: A stone of 31.5 kg. fell, after appearance of a fire-ball and detonations.

**Charcas**, San Luis Potosi, Mexico

Known: 1804

Siderite: Medium octahedrite, Om.

Specimen: (130) 320.2 gms.

Remarks: A mass of over 780 kg. was mentioned by F. T. Sonnenschmid as standing at the corner of the churchyard at Charcas, and was said to have been brought from San José del Sitio, 12 leagues distant: In 1866 it was removed to Paris.

**Charlotte**, Dickson County, Tennessee, U. S. A.

Fell: 1835, July 31 or August 1, 2-3 P.M.

Siderite: Fine octahedrite, Of.

Specimen: (99) 58.6 gms.

Remarks: A "drop-shaped" mass of about 9.5 lbs. fell, after detonation and vivid light.

**Charsonville**, Meung, Loiret, France

Fell: 1810, November 23, 1:30 P.M.

Synonym: Meung-sur-Loire

Aerolite: Veined gray chondrite, Cga.

Specimens: \*(432) 24 gms.; (1056) 325.6 gms.

Remarks: Three stones fell, after detonations, but only two were found, one of 18 kg. and the other of 9 kg.

**Charwallas**, Sirsa, Hissar district, Punjab, India

Fell: 1834, June 12, 8 A.M.

Aerolite: Intermediate chondrite, Ci.

Specimen: (433) 0.14 gms.

Remarks: A stone of about 26.5 lbs. fell, after detonations.

**Chassigny**, Haute Marne, France

Fell: 1815, October 3, 8 A.M.

Aerolite: Chassignite, Cha.

Specimen: (434) 2.4 gms.

Remarks: A stone (or perhaps several), the fragments of which weighed about 4 kg., fell, after detonations.

**Chateau-Renard**, Montargis, Loiret, France

Found: 1841, June 12, 1:30 P.M.

Aerolite: Veined intermediate hypersthene-chondrite, Cia.

Specimen: (435) 101.9 gms.

Remarks: A stone of about 30 kg. fell, after detonations and appearance of fire-ball.

**Chesterville**, Chester County, South Carolina, U. S. A.

Found: Before 1849

Siderite: Nickel-poor ataxite, Ds.

Specimens: (94) 91.9 gms.; (694) 29.1 gms.

Remarks: A mass of 16.33 kg. was ploughed up a few years before 1849.

*Chilcat*, see Chilkoot

**Chilkoot**, Chilkoot Inlet, Portage Bay, Alaska.

Known: 1881

Synonym: Chilcat

Siderite: Medium octahedrite, Om.

Specimen: (8) 25.7 gms.

Remarks: A mass of 43 kg. was obtained in 1881 from Indians who said it had been seen to fall about 100 years ago.

**Chinaulta**, Guatemala, Central America

Found: 1902

Siderite: Medium octahedrite, Om.

Specimen: (2230) 96.7 gms.

Remarks: A mass of 5.72 kg. was found.

**Chulafinnee**, Cleburne County, Alabama, U. S. A.

Found: 1873

Siderite: Medium octahedrite, Om.

Specimen: (5) 84.3 gms.

Remarks: A mass of about 35.75 lbs. was ploughed up.

**Chupaderos**, Jimenez, Chihuahua, Mexico

Known: For centuries; first mentioned in 1852

Siderite: Fine octahedrite, Of.

Specimen: (132) 119 gms.

Remarks: Two large masses of 14,114 and 6767 kg. (about 14 and 6.5 tons), respectively, were found about 16 miles from Jimenez (formerly Huejuquilla). The two masses were in 1891 removed to the School of Mines, City of Mexico.

**Cincinnati**, Hamilton County, Ohio, U. S. A.

Found: 1870

Siderite: Nickel-poor ataxite, Ds.

Specimen: (89) 106.2 gms.

Remarks: A piece of 28 grams is in the Munich Institute. The iron was found in 1870 (not 1898) and was acquired by Mr. Hoseus after

whose death two small slices came into the possession of Dr. Engelmann and later to the Basel Museum.

**Cleveland, Bradley County, Tennessee, U. S. A.**

Found: 1860

Synonym: Tennessee

Siderite: Medium octahedrite, Om.

Specimens: (100) 301 gms.; (109) 316.6 gms.

Remarks: A mass of 254 lbs. was found.

**Coahuila, Mexico**

Known: 1837

Synonyms: Fort Duncan; Smithsonian Iron?; Couch Iron; Butcher Iron; Sancha Estate

Siderite: Hexahedrite, H.

Specimens: Butcher Iron (717) 247 gms.; (720) 2141.5 gms.;  
Coahuila \*(261) 71 gms.; (721) 4070 gms.; (2253) 170 gms.;  
Fort Duncan (115) 291 gms.;  
Sancha Estate (131) 53.2 gms.; (216) 1313.1 gms.; (718)  
554.5 gms.; (719) 869.8 gms.; (780) 1.2 gms.;  
Smithsonian Iron (781) 5.7 gms.

Remarks: Fourteen masses (Bonanza Iron), some said to be of 2000 to 3000 lbs., were seen about 1866. Eight pieces (Butcher Iron) varying in weight from 290 lbs. to 654 lbs., and totaling 4000 lbs. were removed to the United States in 1868. Another mass of Butcher Iron of 192 lbs., was seen in 1879 at Santa Rosa. The Sancha (Sanchez) Estate mass of 252 lbs., was found in use as an anvil at Saltillo in 1853. A mass of 97 lbs. was found at Fort Duncan, Maverick County, Texas, in 1882.

**Colby, Clark County, Wisconsin, U. S. A.**

Fell: 1917, July 4, 6:20 p.m.

Aerolite: Veined intermediate chondrite, Cia.

Specimens: (666) 24.6 gms.; (999) 810 gms.

Remarks: After appearance of luminous meteor with trail of black smoke, moving from N.W. to S.E., and detonations, two stones, of about 150 lbs. and 80 lbs., respectively, fell about 1/2 mile apart. The larger mass split into pieces by impact with granite, the smaller was dug from the earth.

**Cold Bokkeveld, Tulbagh, Cape Province, South Africa**

Fell: 1838, October 13, 9 a.m.

Aerolite: Carbonaceous chondrite, K.

Specimens: (436) 5.3 gms.; \*(634) dust; \*(1057) 4 gms.

Remarks: Many stones, the largest of about 4.5 lbs. fell after appearance of fire-ball and detonations.

**Colfax, Rutherford County, North Carolina, U. S. A.**

Found: 1880

Siderite: Medium octahedrite, Om.

Specimen: (80) 237 gms.

Remarks: A mass of about 5 lbs. was ploughed up.

**Collescipoli, Terni, Umbria, Italy**

Fell: 1890, February 3, 1:30 P.M.

Aerolite: Spherical bronzite-chondrite, Cc.

Specimen: (404) 193.1 gms.

Remarks: After appearance of fire-ball followed by detonations, a stone of about 5 kg. fell.

**Constantinople, Turkey**

Fell: 1805, June

Aerolite: Eucrite, Eu.

Specimens: (438) 0.15 gm.; (1058) 1 gm.

Remarks: Several stones are said to have fallen on the shambles in Constantinople. The fragment of 6 grams acquired by the Vienna Museum in 1832 probably belongs to Stannern.

**Cookeville, Putman County, Tennessee, U. S. A.**

Found: About 1913

Siderite: Coarse octahedrite, Og.

Specimen: (281) 293.5 gms.

Remarks: A mass of about 5 lbs. was found.

**Coopertown, Robertson County, Tennessee, U. S. A.**

Known: 1860

Siderite: Medium octahedrite, Om.

Specimens: (101) 608.3 gms.; (225) 73.2 gms.

Remarks: A mass of 37 lbs. was sent to J. L. Smith in 1860 and was analyzed by him. Ni = 9.12% (n = 10). 2 kg. in Harvard University, 960 gms. in Washington (U. S. Nat. Mus.).

**Copiapo, Atacama, Chile, S. A.**

Found: 1863

Synonym; Sierra de Deesa

Siderite: Brecciated octahedrite with silicate inclusions, Obc.

Specimen: (148) 75.2 gms.

Remarks: Numerous masses were brought to Copiapo since 1863; some, owing to interchange of labels by G. A. Daubrée, have been supposed to come from the Sierra de Deesa. About 23 kg. are known in collections, and Daubrée had a mass of 7 kg.

**Cosby's Creek, Cocke County, Tennessee, U. S. A.**

Known: Before 1837

Siderite: Coarse octahedrite, Og.

Specimens: (103) 265.3 gms.; (107) 464.5 gms.; \*(263) 71.7 gms.; \*(696) 12.5 gms.

Remarks: Two masses, one said to have weighed 2000 lbs. and the other 112 lbs. were known before 1837.

**Cosina**, Dolores Hidalgo, Guanajuato, Mexico

Fell: 1844, January, 11 A.M.

Aerolite: Crystalline chondrite, Ck.

Specimen: (596) 4.9 gms.

Remarks: A stone of about 1.2 kg. was seen to fall, after detonation and appearance of fire-ball.

**Costilla Peak**, Taos County, New Mexico

Found: 1881

Siderite: Medium octahedrite, Om.

Specimen: (31) 3645 gms.

Remarks: A mass of about 78 lbs. was found.

*Couch Iron*, see Coahuila**Cowra**, Bathurst County, New South Wales, Australia

Found: 1888

Siderite: Finest octahedrite, Off.

Specimens: (158) 199.1 gms.; (259) 479.2 gms.

Remarks: A mass of 12.25 lbs. was found at the top of Battery Mountain.

**Crab Orchard** Mountains, Rockwood, Cumberland County, Tennessee, U. S. A.

Found: 1887

Siderolite: Mesosiderite, M.

Specimens: (304) 1285.3 gms.; \*(888) 99 gms.; \*(889) 700 gms.; (902) 1310.2 gms.; \*(903) 35 gms.; \*(904) 19 gms.

Remarks: About 5 masses, of total weight about 107 lbs., the largest weighing 85 lbs., were found 8.5 miles west of Rockwood Furnace.

**Cranberry Plains**, Poplar Hill, Giles County, Virginia, U. S. A.

Found: 1852

Siderite: Fine octahedrite, Of.

Specimen: (226) 8.4 gms.

Remarks: Little or nothing is known of its history. Described by Meunier 1884, Brezina, 1885, Huntington, 1886, Meunier, 1893, Wulfing, 1897, Cohen, 1905, Farrington, 1915 as Poplar Hill.

**Cranbourne**, near Melbourne, Victoria, Australia

Found: 1854

Synonym: Beaconsfield: Melbourne

Siderite: Coarse octahedrite, Og.

Specimens: Beaconsfield (205) 637.7 gms.;

Cranbourne \*(766) 123.7 gms.; (767) 5.3 gms.;

Melbourne (159) 438.2 gms.; (746) 672 gms.; \*(747) 34 gms.

Remarks: Two large masses, one of 3.5 tons and the other (Abel mass) of about 1.5 tons, were found nearly four miles apart, and later a mass of about 75 kg. was found at Beaconsfield, six

miles from Cranbourne. Another mass of 18 cwt. was found in 1886 about 5 miles S.E. of Langwarrin railway station. The mass of 1.5 tons said to have been found at Dandenong is probably identical with the Abel mass. The large mass of 3.5 tons was described and analyzed. Fragments found in Abel's Collection of Minerals with the label "Yarra Yarra River—date 1858," probably came from one of the Cranbourne masses.

**Cross Roads**, Wilson County, North Carolina, U. S. A.

Fell: 1892, May 24, 5 A.M.

Aerolite: Gray chondrite, Cg.

Specimens: (383) 66.6 gms.; \*(636) 6.5 gms.  
(2718) plaster cast, colored.

Remarks: A stone of about 5 oz. (167 grams) was seen to fall, after detonations.

*Cross Timbers*, see Red River

**Cruz del Aire**, Sabinas Hidalgo, Nuevo Leon, Mexico

Found: 1911, December 24

Siderite: Fine octahedrite, Of.

Specimen: (279) 15,010 gms.

Remarks: A meteoric mass of about 33 lbs. was found December 24, 1911, near the "Cruz del Aire" mine, State of Nuevo Leon, Mexico. It is about 12 inches long, the longest diameter, and quite irregular in shape, with fairly deep pittings over the entire surface. Received, American Museum, June 27, 1912. Listed by L. W. MacNaughton, Amer. Mus. Novitates, No. 207, 1926. A second mass of 7815 grams was found in 1930 in Cerro Chico de Santa Clara, close to Sabinas Hidalgo. Described by R. E. S. Heineman, Amer. Jour. Sci., 1932, Ser. 5, Vol. 24, pp. 465-470, 5 figs. The structure of the two masses is the same.

**Cuernavaca**, Morelos, Mexico

Found: 1889

Siderite: Fine octahedrite, Of.

Specimen: (237) 297.7 gms.

Remarks: A mass of about 35 kg. was found on the road from Mexico City to Cuernavaca.

**Culbertson**, Hitchcock County, Nebraska, U. S. A.

Found: 1913, May 12

Aerolite: Gray chondrite, Cq. (surface weathered)

Specimens: (645) 14 lbs. 1/2 oz.; (2560) 34.1 gms.

Remarks: A mass of about 14 lbs. was found at depth of 18 in., May 12, 1913. Mr. S. L. Fitzgibbons turned it up with the subsoiler on a lister while planting corn. Received at the American Museum, May 26, 1913, in pieces, recemented, mass almost entire.

**Cullison**, Pratt County, Kansas, U. S. A.

Found: 1911

Aerolite: Spherical bronzite-chondrite, Cc.

Specimen: (593) 455.8 gms.

Remarks: A stone of about 10 kg. was found in 1911, but is said to have fallen December 22, 1902.

**Cumberland Falls**, Whitley County, Kentucky, U. S. A.

Fell: 1919, April 9, noon

Aerolite: Whitleyite, breccia fragments of white aubrite and black enstatite-chondrite

Specimens: (664) 2452.8 gms.; (667) 3.1 gms.; (2222) 467 gms.; (2544) 3.3 gms.

Remarks: Several stones, the largest (which broke into fragments) estimated at 31 lbs. in weight, fell, after appearance of fire-ball and detonations.

**Cynthiana**, Harrison County, Kentucky, U. S. A.

Fell: 1877, January 23, 4 P.M.

Aerolite: Gray hypersthene-chondrite, Cg.

Specimen: (369) 423.5 gms.

Remarks: After appearance of fire-ball and detonations, a stone of about 6 kg. fell nine miles from Cynthiana.

*Dakota*, see Ponca Creek**Dalton**, Whitfield County, Georgia, U. S. A.

Found: 1877

Siderite: Medium octahedrite, Om.

Specimens: (44) 73 gms.; (244) 3.3 gms.

Remarks: A mass of 13 lbs. was found in 1877 on a farm 20 miles N.E. of Dalton, Whitfield County. In 1879 another mass of 117 lbs. was ploughed up 14 miles N.E. of Dalton, the identity of which with the 13 lb. Whitfield County mass has been considered doubtful.

**Dandapur**, Gorakhpur, Oudh, United Provinces, India

Fell: 1878, September 5, 5 P.M.

Synonym: Goruckpur

Aerolite: Veined intermediate hypersthene-chondrite, Cia.

Specimen: (440) 260 gms.

Remarks: Two stones, of about 6.5 lbs. and 5 lbs. 14 oz., respectively, fell 300 paces apart, after appearance of moving wedge-shaped cloud and detonations.

**Daniel's Kuil**, Griqualand West, South Africa

Fell: 1868, March 20

Aerolite: Crystalline enstatite-chondrite, Ck.

Specimen: (441) 2.1 gms.

Remarks: A stone of 2 lbs. 5 oz., was seen to fall by a native.



**Danville, Morgan County, Alabama, U. S. A.**

Fell: 1868, November 27, 5 P.M.

Aerolite: Veined gray hypersthene-chondrite, Cga.

Specimen: (350) 5.1 gms.

Remarks: Several stones appear to have fallen after detonations, but only one, of about 4.5 lbs., was recovered.

**Darmstadt, Hesse, Germany**

Fell: Before 1804

Aerolite: Veined gray chondrite, Cga.

Specimen: (601) 1.5 gms.

Remarks: A stone of about 100 grams fell, after detonations.

**Davis Mountains, Jeff Davis County, Texas, U. S. A.**

Found: 1903

Siderite: Medium octahedrite, Om.

Specimen: (276) 27.5 gms.

Remarks: A mass of 1520 lbs. was found.

**Deal, Monmouth County, New Jersey, U. S. A.**

Fell: 1829, August 15, 12:30 A.M.

Aerolite: Intermediate chondrite, Ci.

Specimen: (377) 0.16 gms.

Remarks: Several stones appear to have fallen after appearance of fire-ball and detonations, but only one, about 3 in. in length, was found, on a farm five miles S.W. of Long Branch.

**De Cewsville, Haldimand County, Ontario, Canada.**

Fell: 1887, January 21, 2 P.M.

Aerolite: White chondrite, Cw.

Specimen: (442) 0.9 gm.

Remarks: A stone of 340 grams was seen to fall in Talbot Road in the village of De Cewsville.

**Deep Springs, Rockingham County, North Carolina, U. S. A.**

Found: (Said to have fallen) 1846

Siderite: Nickel-rich ataxite, Db.

Specimens: (81) 191.2 gms.; \*(688) 81.5 gms.; \*(689) 351.5 gms.; (690) 290.3 gms.; (691) 259.1 gms.

Remarks: A mass of 11.5 kg. found at Deep Springs farm, was said by a negro to have been seen to fall.

**Delegate, County Wellesley, New South Wales, Australia**

Found: About 1904

Siderite: Medium to coarse octahedrite, Om. to Og.

Specimen: (2471) 130.3 gms.

Remarks: A mass of 61 lbs. of boomerang shape was found on the S.E. side of Sawpit Creek.

**Denton County, Texas, U. S. A.**

Known: Since 1856

**Siderite:** Medium octahedrite, Om.

**Specimen:** (114) 13 gms.

**Remarks:** The original mass was said to have been of about 40 lbs., but only about 12 lbs. were found by G. G. Shumard in the possession of a blacksmith at McKinney, Collin County, in 1860.

**Descubridora**, Catorce, San Luis Potosi, Mexico

**Known:** Since 1780-1783

**Siderite:** Medium octahedrite, Om.

**Specimens:** (133) 2424.5 gms.; \*(258) 388 gms.; (722) 84.3 gms.

**Remarks:** A mass of 576 kg. was found between 1780 and 1783. In 1885 another mass of 41.5 kg. was found near Catorce. Possibly identical with Charcas.

**Dexter**, Cooke County, Texas, U. S. A.

**Found:** 1889

**Siderite:** Coarse octahedrite, Og.

**Specimen:** (2626) 1724 gms.

**Remarks:** A meteoric mass of 1724 grams was found near Dexter, in Cooke County, Texas, in the year 1889. About a year before the specimen was found, a meteor in this vicinity made everything as light as day; it seemed to have fallen in the neighborhood where the specimen was found. American Museum received entire mass from M. E. Oxley of Trousdale, Oklahoma, October 27, 1930.

**Dhurmsala**, Kangra, Punjab, India

**Fell:** 1860, July 14, 2:15, P.M.

**Aerolite:** Intermediate hypersthene-chondrite, Ci.

**Specimen:** (443) 585.2 gms.

**Remarks:** Several stones, the largest estimated at about 329 lbs., fell, after detonations and appearance of fire-ball.

**Djati-Pengilon**, Ngawi district, Java

**Fell:** 1884, March 19, 4:30 A.M.

**Aerolite:** Crystalline bronzite-chondrite, Ck.

**Specimen:** (444) 159.2 gms.

**Remarks:** A stone of about 166 kg., fell, after detonation and appearance of fire-ball.

*Doña Inez*, see *Vaca Muerta*

*Dores dos Campos Formosos*, see *Uberaba*

**Drake Creek**, Nashville, Sumner County, Tennessee, U. S. A.

**Fell:** 1827, May 9, 4 P.M.

**Aerolite:** Veined white hypersthene-chondrite, Cwa.

**Specimen:** (389) 28.5 gms.

**Remarks:** Five stones, the largest of 11.5 lbs., were seen to fall, after appearance of cloud and detonations.

**Duchesne**, Red Creek, Duchesne County, Utah, U. S. A.

Found: About 1907

Siderite: Fine octahedrite, Of.

Specimen: (2612) 245.3 gms.

Remarks: A 50 lb. mass of meteoric iron showing well-marked Widmanstätten figures was described, 1929, by H. H. Nininger, in the *Journal of Geology*, Vol. 37, without giving its history.**Duel Hill**, Madison County, North Carolina, U. S. A.

Found: 1873

Synonym: Jewell Hill

Siderite: Coarse octahedrite, Og.

Specimens: (82) 1493.4 gms.; (83) 74.8 gms.

Remarks: A mass of about 25 lbs. was found on a hill-side.

**Dungannon**, Nickelsville, Scott County, Virginia, U. S. A.

Found: 1922

Siderite: Medium octahedrite, Om.

Specimens: (2260) 532.6 gms.; (2262) 18.3 gms.; (2263) 7.9 gms.

Remarks: A much oxidized mass of about 13 kg., broken into two pieces of 5 and 23 lbs., by a plough, was found on "Copper Ridge," three miles southeast of Dungannon. A fine granulation throughout the mass is suggestive of pre-terrestrial heating. In the kamacite bands numerous oval areas of dull black carbon enclose bits of metal.—Merrill.

**Durala**, Ambala, Punjab, India

Fell: 1815, February 18, noon

Aerolite: Veined intermediate hypersthene-chondrite, Cia.

Specimen: (445) 36.4 gms.

Remarks: A stone of about 29 lbs. fell, after detonations.

**Duruma**, near Mombasa, Kenya Colony, East Africa

Fell: 1853, March 6

Aerolite: Veined intermediate chondrite, Cia.

Specimen: (446) 1 gm.

Remarks: A stone of 577 grams was seen to fall, after detonations.

**Eagle Station**, Carroll County, Kentucky, U. S. A.

Found: 1880

Siderolite: Pallasite, Pr.

Specimen: (302) 177.4 gms.

Remarks: A mass of about 80 lbs. was found about 3/4 mile from Eagle Station.

**Eichstadt**, Middle Franconia, Bavaria, Germany

Fell: 1785, February 19, 12:15 P.M.

Synonym: Witness

Aerolite: Spherical bronzite-chondrite, Cc.

Specimen: (447) 1.7 gms.

Remarks: A stone of about 3 kg. was seen to fall, after detonations, in the district of Wittmess, 5 miles from Eichstädt.

*Eifel*, see Bitburg

**Elbogen**, Bohemia, Czechoslovakia

Fell: 1400 (?), mentioned 1785, recognized 1811

Siderite: Medium octahedrite, Om.

Specimen: (182) 36.3 gms.

Remarks: A mass of about 107 kg. was preserved for centuries at the Rathhaus of Elbogen and was known as "the bewitched burgrave"; mentioned in 1785; recognized as meteoric in 1811.

**El Capitan Range**, Lincoln County, New Mexico, U. S. A.

Found: 1893

Siderite: Medium octahedrite, Om.

Specimens: (69) 1771.8 gms.; (257) 1079 gms.; \*(678) 455 gms.; \*(679) 539 gms.; (815) 578 gms.; (816) 809 gms.; \*(817) 110 gms.; (818) 605 gms.; (819) 1147.2 gms.; (820) 964.5 gms.; (821) 831 gms.; (822) 10.3 gms.

Remarks: A mass of 61 lbs. was found in 1893, and may have fallen in July, 1882, as a fire-ball was then seen to fall behind the El Capitan Range.

*El Inca*, see Tamarugal

**Elm Creek**, Admire, Lyon County, Kansas, U. S. A.

Found: 1906, about May 10

Aerolite: Spherical hypersthene-chondrite, Cco.

Specimens: (617) 12 gms.; (642) 247.9 gms.

Remarks: A mass of 7 kg. was ploughed up 3 miles N.N.E. of Admire.

**El Perdido**, Bahia Blanca, Argentina

Found: 1905

Aerolite: Crystalline chondrite, Ck.

Specimen: (663) 766.1 gms.

Remarks: A stone of about 30.25 kg. was ploughed up.

*Elsass*, see Ensisheim

**Emmitsburg**, Frederick County, Maryland, U. S. A.

Found: 1854

Siderite: Medium octahedrite, Om.

Specimens: (58) 31.3 gms.; \*(674) 18 gms.

Remarks: A mass of about 1 lb. was found, and passed into the possession of Dr. J. R. Chilton of New York, from whom S. C. H. Bailey obtained specimens.

**Ensisheim**, Alsace, France

Fell: 1492, November 16, 11:30 P.M.

Synonym: *Elsass*

**Aerolite:** Crystalline hypersthene-chondrite, Ckb.

**Specimen:** (448) 128.5 gms.

**Remarks:** A stone of about 127 kg. fell, after detonations, and was preserved for a long time in the parish church of Ensisheim. 54.75 kg. in Ensisheim Rathhaus.

**Ergheo, Brava, Italian Somaliland, East Africa**

**Fell:** 1889, July

**Aerolite:** Crystalline hypersthene-chondrite, Ckb.

**Specimen:** (579) 192.7 gms.

**Remarks:** A stone of about 20 kg. was seen to fall, but was left for five years lying in the ground.

**Erleben, Magdeburg, Prussia, Germany**

**Fell:** 1812, April 15, 4 P.M.

**Aerolite:** Crystalline bronzite-chondrite, Ck.

**Specimen:** (449) 6.3 gms.

**Remarks:** A stone of about 2.25 kg. fell, after detonations, between Magdeburg and Helmstedt.

**Espiritu Santo, Michoacan, Mexico**

**Found (?)**

**Siderite:** Fine octahedrite, Of.

**Specimen:** (134) 35.4 gms.

**Remarks:** 54 grams in Chicago (Field Mus. Nat. Hist.) (O. C. Farrington, Cat. Coll. Meteorites, Field Mus. Nat. Hist., Chicago, 1916, p. 259).

**Estacado, Hale County, Texas, U. S. A.**

**Found:** 1883

**Aerolite:** Crystalline bronzite-chondrite, Cka.

**Specimens:** (587) 419.6 gms.; (660) 270 lbs.; (2176) 148.2 gms.

**Remarks:** A stone of 290 kg. was found in 1883, twelve miles south of Hale Center.

**Estherville, Emmet County, Iowa, U. S. A.**

**Fell:** 1879, May 10, 5 P.M.

**Siderolite:** Mesosiderite, M.

**Specimens:** \*(300) 253 gms.; \*(306) 9.5 gms.; \*(325) 274 gms.; \*(326) 261 gms.; (327) 2582.6 gms.; (328) 15.65 gms.; (329) 19.1 gms.; (330) 9.7 gms.; (331) 14.8 gms.; (332) 22.55 gms.; (333) 20.1 gms.; (334) 26.25 gms.; (335) 8.85 gms.; (336) 4.3 gms.; (337) 5.6 gms.; (338) 5.8 gms.; (339) 7 gms.; (340) 1.8 gms.; (341) 1.6 gms.; (342) 3 gms.; (343) 1.65 gms.; (344) 6.5 gms.; (345) 6.4 gms.; (346) 5.3 gms.; (347) 5.1 gms.; (348) 11.85 gms.; \*(349) 10 gms.; \*(976) 5 gms.

**Remarks:** Several large masses, of total weight of over 700 lbs. the two largest weighing about 437 lbs., and 151 lbs., respectively, and hundreds of small fragments of nickel-iron fell, after detonations and appearance of brilliant fire-ball.

**Farmington, Washington County, Kansas, U. S. A.**

Fell: 1890, June 25, 1 P.M.

Aerolite: Black hypersthene-chondrite, Csa.

Specimens: (368) 318.3 gms.; (1027) 6066 gms.

Remarks: After appearance of fire-ball and detonations, a stone of 188 lbs. was seen to fall, and another of 9 lbs. was found.

*Fellin*, see Pillistfer

**Finmarken, Arctic Norway**

Found: 1902

Synonym: Alten

Siderolite: Pallasite, Pr.

Specimens: (619) 4.45 gms.; (996) 53.5 gms.; (2185) 4.15 gms.

Remarks: A mass of about 77.5 kg. was found.

**Fisher, Polk County, Minnesota, U. S. A.**

Fell: 1894, April 9, 4 P.M.

Aerolite: Veined intermediate hypersthene-chondrite, Cia.

Specimens: (373) 1767.8 gms.; \*(1029) 28 gms.; \*(1030) 1850 gms.

Remarks: In April detonations were heard and in June were found two stones, one of 9.25 lbs. and a larger one which was broken up and mostly lost; later in 1895 were found two other small pieces, and in 1898 another stone of about 3 lbs.

**Forest City, Winnebago County, Iowa, U. S. A.**

Fell: 1890, May 2, 5:15 P.M.

Synonym: Winnebago County

Aerolite: Brecciated spherical bronzite-chondrite, Ccb.

Specimens: (361) 48.1 gms.; \*(576) 1814 gms.; \*(622) 177 gms.; (655) 75 lbs.; (1006) 196.8 gms.; (1007) 105.2 gms.; (1008) 580.4 gms.; (1009) 677.7 gms.; (1010) 866.7 gms.; (1011) 1282.1 gms.; (1012) 1402.3 gms.; (1013) 4455 gms.; (1121) 1280.4 gms.; (2402) 388.8 gms.; (2403) 277.5 gms.; (2404) 93.9 gms.; (2405) 94.7 gms.; (2406) 74 gms.; (2407) 88.1 gms.; (2408) 77.8 gms.; (2409) 324.5 gms.; (2410) 735.3 gms.; (2411) 216.4 gms.; (2412) 268.3 gms.; (2413) 61.5 gms.; (2414) 80.4 gms.; (2415) 57.9 gms.; <sup>1</sup>(2416) 60.9 gms.; (2417) 27.7 gms.; (2418) 38.4 gms.; (2419) 20.3 gms.; (2420) 72.2 gms.; (2421) 1644.5 gms.; (2422) 73.6 gms.; (2423) 21.1 gms.; (2424) 80.7 gms.; (2425) 28.7 gms.; (2426) 50.4 gms.; (2427) 10.5 gms.; (2428) 10.8 gms.; (2429) 6.4 gms.; (2430) 4.2 gms.; (2431) 3 gms.; (2432) 1.4 gms.; (2433) 4.2 gms.; (2434) 1.4 gms.; (2435) 6.3 gms.

Remarks: After appearance of brilliant fire-ball (moving from W. to E. and leaving a trail of smoke), and detonations, a shower of stones fell over an area of 2 miles by 1 mile; the shower comprised five large stones of 80, 66, 10, 5 and 4 lbs., and over 500 small ones; the total weight preserved is about 122 kg.

<sup>1</sup> Used in analyses.

**Forsyth, Monroe County, Georgia, U. S. A.**

Found: 1829, May 8, 3:30 P.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (354) 95.5 gms.

Remarks: A stone of 36 lbs., fell, after detonations. Repository of main mass unknown.

**Forsyth County, North Carolina, U. S. A.**

Found: 1891

Siderite: Nickel-poor ataxite, Dn.

Specimen: (39) 1510 gms.

Remarks: A mass of about 50 lbs. was ploughed up "about three years" before 1895. Repository of main mass unknown.

*Fort Duncan, see Coahuila*

**Fort Pierre, Stanley County, South Dakota, U. S. A.**

Found: 1856

Siderite: Medium octahedrite, Om.

Specimen: (68) 1829 gms.

Remarks: A mass of 35 lbs. was found about 20 miles N.W. of Fort Pierre, between Council Bluff and Fort Union.

**Four Corners, San Juan County, New Mexico, U. S. A.**

Described in 1924

Siderite: Brecciated octahedrite, Obc.

Specimen: (2486) 1917.3 gms.; (3736) plaster cast, colored.

Remarks: A mass of meteoric iron of about 25 kg. and measuring 16.5 × 26.5 × 26.5 cm. was found 15 miles southeast from the common corner of Colorado, New Mexico, Arizona and Utah.

**Franceville, El Paso County, Colorado, U. S. A.**

Found: 1890

Siderite: Medium octahedrite, Om.

Specimen: (233) 656.2 gms.

Remarks: A mass of 41 lbs. 6.5 oz. was found.

**Frankfort, Franklin County, Alabama, U. S. A.**

Fell: 1868, December 5, 3 P.M.

Aerolite: Howardite, Ho.

Specimens: (351) 19.3 gms.; \*(1000) 1.1 gms.

Remarks: A stone of about 650 grams was seen to fall, after detonations, 4 miles south of Frankfort.

**Futtehpur, United Provinces, India**

Fell: 1822, November 30, 6 P.M.

Aerolite: Veined white chondrite, Cwa.

Specimen: (400) 4 gms.

Remarks: After appearance of fire-ball and detonations, several stones, weighing from 1 to 4 lbs. each, fell at Futtehpur and Bithur, about 70 miles N.W. of Allahabad.

**Gambat**, Khairpur State, Sindh, Bombay, India

Fell: 1897, September 15

Aerolite: Veined intermediate chondrite, Cia.

Specimen: (450) 52.6 gms.

Remarks: A stone of about 14 lbs. fell.

*Gargantillo*, see Tomatlin**Garraf**, Barcelona, Catalonia, Spain

Found: 1905

Aerolite: White chondrite, Cw.

Specimen: (2487) 88.9 gms.

Remarks: A stone of about 8.8 kg. was found.

*Gibeon*, see Bethany**Gilgoin**, Gilgoin Station, Clyde County, New South Wales, Australia

Found: 1889

Aerolite: Crystalline bronzite-chondrite, Ck.

Specimen: (613) 3026 gms.

Remarks: Seven stones weighing, respectively, about 67.5, 74.25, 55.25, 37, 26.5, 16 and 21.75, lbs. were found scattered over an area of about 4 square miles about 40 miles S.E. of Brewarrina.

**Girgenti**, Sicily, Italy

Fell: 1853, February 10, 1 P.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (451) 8.9 gms.

Remarks: Several stones, one of about 7 lbs., fell.

**Gladstone**, Port Curtis, Queensland, Australia

Found: 1926

Siderite: Coarsest octahedrite, Ogg.

Specimen: (2621) 16,100 gms.

Remarks: A mass of meteoric iron, measuring 33 × 12 × 9 inches and weighing 14.5 cwt., was found in 1914 near Gladstone, Port Curtis.

**Glasgow**, Barren County, Kentucky, U. S. A.

Found: 1922

Siderite: Coarse octahedrite, Og.

Specimen: (2261) 3672 gms.

Remarks: Two much-oxidized masses of 20 and 25 lbs. were ploughed up 3 miles S.W. of Glasgow.

**Glorieta Mountain**, Santa Fé County, New Mexico, U. S. A.

Found: 1884

Synonym: Rio Arriba County

Siderite: Medium octahedrite, Om.

Specimens: (70) 773.2 gms.; (272) 416.7 gms.; (680) 24,040 gms.; (681) 240.5 gms.; (682) 966.5 gms.; \*(683) 340 gms.; (684) 3790 gms.; \*(685) 543 gms.



Remarks: Several masses, of a total weight of about 320 lbs., and the largest of 148.5 lbs., were found.

**Gnadenfrei**, Silesia, Prussia, Germany

Fell: 1879, May 17, 4 P.M.

Aerolite: Spherical bronzite-chondrite, Cc.

Specimen: (452) 68.9 gms.

Remarks: Two stones of about 1 and 3/4 kg. fell, after detonations.

**Goalpara**, Assam, India

Found: 1868

Aerolite: Ureilite, U.

Specimens: (453) 10.2 gms.; (2236) 2.6 gms.

Remarks: A stone of about 6 lbs. was found among other specimens sent by the Rajah of Goalpara to the Calcutta Museum.

*Goruckpur*, see Dandapur

**Grand Rapids**, Kent County, Michigan, U. S. A.

Found: 1883

Siderite: Fine octahedrite, Of.

Specimens: (60) 8375 gms.; \*(676) 1012 gms.

Remarks: A mass of 114 lbs. was found.

*Great Fish River*, see Bethany

*Great Namaqualand*, see Bethany

*Greene County*, see Babb's Mill

**Grosnaja**, Terek, Caucasus Mts., Chechen, U. S. S. R.

Fell: 1861, June 28, 7 P.M.

Aerolite: Black chondrite, Cs.

Specimen: (455) 47.7 gms.

Remarks: A shower of stones fell, after detonations, but only one of about 3.5 kg. was recovered, as the rest fell into the river Terek.

**Grossliebenthal**, 12 miles S.S.W. of Odessa, Kherson, Ukraine, U. S. S. R.

Fell: 1881, November 19, 6:30 A.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (454) 61.4 gms.

Remarks: After appearance of a fire-ball, a stone of about 8 kg. was found; another stone fell at "Sitschawska" and was broken up and lost.

**Grüneberg**, Silesia, Prussia, Germany

Fell: 1841, March 22, 3:30 P.M.

Aerolite: Veined gray chondrite, Cga.

Specimens: (456) 0.27 gms.; (1059) 1.1 gms.

Remarks: A stone of about 1 kg. fell near Heinrichau, after detonations.

*Guernsey County*, see New Concord

*Guerrero*, see Huizopa

**Guffey**, Park County, Colorado, U. S. A.

Found: 1907, November

Synonym: Park County

Siderite: Ataxite

Specimens: (213) 309,320 gms.; (776) 18.6 gms.

Remarks: A pear-shaped mass of 682 lbs. was found on Currant Creek, 22 miles S.W. of Cripple Creek, Colo.

**Guilford County**, North Carolina, U. S. A.

Known: Before 1822

Siderite: Medium octahedrite, Om.

Specimen: (217) 5.5 gms.

Remarks: Two pieces of iron, one of about 2 lbs. from Randolph County, and the other weighing 7 oz. from Guilford County (10 to 15 miles distant), were found in a collection of North Carolina minerals and rocks formed by Prof. Denison Olmsted, 1822; the smaller piece is said to have come from a mass weighing 28 lbs. some of which was worked by a blacksmith into horse-shoe nails.

*Gyulatelke*, see Mocs*Hacienda Conception*, see Adargas**Hainholz**, Minden, Westphalia, Germany

Found: 1856

Siderolite: Mesosiderite, M.

Specimen: (316) 321.9 gms.

Remarks: A mass of 16.5 kg. was found.

**Hammond Township**, St. Croix County, Wisconsin, U. S. A.

Found: 1884

Siderite: Hammond octahedrite, Oh.

Specimens: (125) 842 gms.; \*(715) 298 gms.

Remarks: A mass of over 53 lbs. was ploughed up.

**Harrison County**, Indiana, U. S. A.

Fell: 1859, March 28, 4 P.M.

Aerolite: Spherical hypersthene-chondrite, Cho.

Specimens: (358) 1.4 gms.; \*(1002) 4.5 gms.; (1003) 4.5 gms.

Remarks: A shower of stones fell, after detonations, within an area of four square miles, but only four stones, of total weight about 1.5 lbs., were found.

*Hartford*, see Marion*Hauptmannsdorf*, see Braunau*Haviland*, see Brenham**Hayden Creek**, Lemhi County, Idaho, U. S. A.

Found: 1895

Siderite: Medium octahedrite, Om.

Specimen: (277) 15.2 gms.

Remarks: A mass of 9.5 oz. (270 grams) was found by a gold-pro prospector at the bottom of a twelve-foot shaft.

**Henbury, Central Australia.** (Lat. 24° 34' S., Long. 133° 10' E.)

Known: 1922

Siderite: Medium octahedrite, Om.

Specimens: (2643) 858 gms.; (2644) 669 gms.; (2645) 560 gms.; (2646) 1010 gms.; (2647) 1368 gms.; (2648) 616 gms.; (2649) 582.7 gms.; (2650) 4541 gms.; (2651) 1238.3 gms.; (2652) 507 gms.; (2653) 4991 gms.; (2654) 2285.7 gms.; (2655) 1374 gms.; (2656) 1963.3 gms.; (2657) 4599 gms.; (2658) 452.9 gms.; (2659) 6257 gms.; (2660) 70 gms.; (2661) 21 gms.; (2662) 8.1 gms.; (2663) 47 gms.; (2664) 167.7 gms.; (2665) 81.5 gms.; (2666) 171.7 gms.; (2667) 2193.5 gms.; (2668) 126 gms. (iron shale); (2669) 63.1 gms. (bomb); (2670) 17.2 gms. (bomb); (2671) 20.8 gms. (bomb); (2672) 45.2 gms. (bomb); (2673) 8.6 gms. (bomb); (2674) 16.5 gms. (shale ball); (2675) 189.5 gms. (shale ball); (2676) 172.4 gms. (shale ball); (2677) 21.4 gms. (shale ball); (2678) 17.8 gms. (black glass); (2679) 6.5 gms. (black glass); (2680) 5.5 gms. (black glass).

Remarks: Fragments of meteoric iron surrounding several (12) crater-like depressions near Henbury cattle station in Central Australia were reported to Prof. Kerr Grant of Adelaide University by Mr. B. Bowman of Temple Downs and Mr. J. M. Mitchell of Oodnadatta in 1931. Adelaide University party, May, 1931, collected 800 pieces, Kyancutta Museum party, June, 1931, collected 550 pieces. 542 pieces of the latter sent to the British Museum, weighed 321 lbs. (146 kg.). The largest piece weighed 11,445 grams. See *Mineralogical Magazine*, London, Vol. 23, 1934, pp. 19-32. American Museum specimens from the Kyancutta Museum.

**Hendersonville, Henderson County, North Carolina, U. S. A.**

Found: 1901

Aerolite: Spherical hypersthene-chondrite, Cc.

Specimen: (620) 179.4 gms.

Remarks: A mass of about 13 lbs. was found about 3 miles N.W. of Hendersonville, and it possibly fell in 1876 when a meteor passed over the town.

*Henry County, see Hopper*

**Heredia, San José, Costa Rica, Central America**

Fell: 1857, April 1, night

Aerolite: Brecciated spherical chondrite, Ccb.

Specimen: (457) 8.5 gms.; \*(1060) 1.94 gms.

Remarks: After appearance of fire-ball and detonations, many stones were found, the largest of about 1 kg.

**Hermitage Plains, Canbelego County, New South Wales, Australia**

Found: 1909

Aerolite: Gray chondrite, Cg.

Specimen: (581) 519 gms.

Remarks: A mass of about 70 lbs. was found 20 miles S.E. of Canbelego.

**Hessle, Upsala, Sweden**

Fell: 1869, January 1, 12:30 P.M.

Aerolite: Spherical bronzite-chondrite, Cc.

Specimens: <sup>1</sup>(458) 246.5 gms.; \*(1061) 30.5 gms.; (1062) 122.3 gms., \*(2603) 40 gms.Remarks: After detonations, a shower of stones, weighing from about 1.8 kg. to a few grains each, fell over an area of about  $3 \times 9$  miles; some fell upon ice a few inches thick without breaking it, and powdery carbonaceous matter was found in association with the stones.**Hex River Mountains, Cape Province, South Africa**

Found: 1882

Siderite: Hexahedrite, H.

Specimens: <sup>2</sup>(174) 197.7 gms.; (753) 2514.5 gms.; \*(870) 154 gms.

Remarks: A mass of about 60 kg. was found.

**Hoba West, 12 miles west of Grootfontein, Southwest Africa. Position—Lat.**

19° 35' S., Long. 17° 56' E.

Known: Before 1921

Siderite: Nickel-rich ataxite

Specimens: \*(2627) 124.7 gms. Returned to Dr. Luyten; (2628) 9.6 gms.; (2629) 7.6 gms.; (2681) 352 gms.

Remarks: A large mass of meteoric iron estimated at not less than 50 tons appears to have been known locally since 1909 on the farm Hoba Wes (Hoba West) near the railway siding Otjihaenene, 12 miles west of Grootfontein, Southwest Africa. It is a rectangular block  $10 \times 9$  feet with a thickness of 2.5 to nearly 4 feet. The large flat surface is horizontal. A pit has been dug around it.—W. J. Luyten, 1929. This is the largest known authentic meteorite; estimated weight 60 metric tons. L. J. Spencer, *Mineralogical Magazine*, Vol. 23, pp. 1-18, 1932.**Holbrook, Navajo County, Arizona, U. S. A.**

Fell: 1912, July 19, 7:15 P.M.

Aerolite: Crystalline spherical hypersthene-chondrite, Cck.

Specimens: (586) 2316 gms.; (1125) 814 gms.; (1126) 449.7 gms.; (1127) 184.9 gms.; (1128) 272.1 gms.; (1129) 48 gms.; (1130) 8.2 gms.; (1131) 48.5 gms.; (1132) 11.8 gms.; (1133) 8.5 gms.; (1134) 7.25 gms.; (1135) 21.8 gms.; (1136) 10.8 gms.; (1137)

<sup>1</sup> Note: Original weight 286 grams; 40 grams (Cat. No. 2603) cut from this specimen for exchange.<sup>2</sup> Note: Original weight 356.5 grams—cut in two sections (5 grams lost in cutting). Museum specimen weighs 197.7 gms., 154 grams exchanged, (870).

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Specimens: 112.7 gms.; (1138) 215.3 gms.; (1139) 23.6 gms.; (1140) 66 gms.; (1141) 28.5 gms.; (1142) 17.7 gms.; (1143) 14.7 gms.; (1144) 8 gms.; (1145) 8.65 gms.; (1146) 13.95 gms.; (1147) 18.8 gms.; (1148) 10.1 gms.; (1149) 15.8 gms.; (1150) 37.6 gms.; (1151) 80.2 gms.; (1152) 16.2 gms.; (1153) 69.6 gms.; (1154) 89.3 gms.; <sup>1</sup>(1155) 252.5 gms.; (1156) 882.5 gms.; \*(1157) 168 gms.; (1158) 13.2 gms.; (1159) 40.8 gms.; (1160) 93.5 gms.; (1161) 26.9 gms.; (1162) 49.8 gms.; (1163) 138.2 gms.; (1164) 141.1 gms.; (1165) 19.5 gms.; (1166) 60.6 gms.; (1167) 15.5 gms.; (1168) 37.4 gms.; (1169) 15.2 gms.; (1170) 30.4 gms.; (1171) 14.3 gms.; (1172) 61 gms.; (1173) 407.5 gms.; (1174) 97.8 gms.; (1175) 77.6 gms.; (1176) 21.5 gms.; (1177) 43 gms.; (1178) 36.7 gms.; (1179) 68.2 gms.; (1180) 632.5 gms.; (1181) 66.8 gms.; (1182) 18.7 gms.; (1183) 13.35 gms.; (1184) 8 gms.; (1185) 7.2 gms.; (1186) 57.7 gms.; (1187) 11.8 gms.; (1188) 7.2 gms.; (1189) 4.9 gms.; (1190) 7.85 gms.; (1191) 16.8 gms.; (1192) 9.8 gms.; (1193) 9.4 gms.; (1194) 14.3 gms.; (1195) 6.4 gms.; (1196) 32.4 gms.; (1197) 18.6 gms.; (1198) 12.8 gms.; (1199) 11.1 gms.; (1200) 45.8 gms.; (1201) 11.3 gms.; (1202) 15 gms.; (1203) 8.5 gms.; (1204) 15.4 gms.; (1205) 12.7 gms.; (1206) 13 gms.; (1207) 7.8 gms.; (1208) 14.5 gms.; (1209) 12.05 gms.; (1210) 11.9 gms.; (1211) 12.5 gms.; (1212) 11.1 gms.; (1213) 15.6 gms.; (1214) 7.4 gms.; (1215) 8 gms.; (1216) 10.5 gms.; (1217) 6696 gms.; (1218) 674 gms.; (1219) 1362 gms.; (1220) 1773 gms.; (1221) 1106 gms.; (1222) 46.05 gms.; (1223) 18.95 gms.; (1224) 12.7 gms.; (1225) 11.35 gms.; (1226) 1120 gms.; (1227) 7.6 gms.; (1228) 5.2 gms.; (1229) 6 gms.; (1230) 3.6 gms.; (1231) 3.1 gms.; (1232) 4.5 gms.; (1233) 2.9 gms.; (1234) 3.6 gms.; (1235) 6.3 gms.; (1236) 6.6 gms.; (1237) 4 gms.; (1238) 4.3 gms.; (1239) 3.3 gms.; (1240) 3.4 gms.; (1241) 2.1 gms.; (1242) 3.9 gms.; (1243) 3.2 gms.; (1244) 2 gms.; (1245) 2 gms.; (1246) 9.2 gms.; (1247) 6.5 gms.; (1248) 7.3 gms.; (1249) 8 gms.; (1250) 4.6 gms.; (1251) 10.1 gms.; (1252) 7.6 gms.; (1253) 3.5 gms.; (1254) 2.6 gms.; (1255) 4.1 gms.; (1256) 4.4 gms.; (1257) 2.9 gms.; (1258) 3 gms.; (1259) 5.2 gms.; (1260) 5.1 gms.; (1261) 7.2 gms.; (1262) 7.1 gms.; (1263) 4.7 gms.; (1264) 4.2 gms.; (1265) 3.2 gms.; (1266) 4.1 gms.; (1267) 4.2 gms.; (1268) 3 gms.; (1269) 2.3 gms.; (1270) 2.7 gms.; (1271) 3.9 gms.; (1272) 6.4 gms.; (1273) 3.4 gms.; (1274) 2.2 gms.; (1275) 2.2 gms.; (1276) 4 gms.; (1277) 4.7 gms.; (1278) 4.3 gms.; (1279) 2.3 gms.; (1280) 2.6 gms.; (1281) 7.6 gms.; (1282) 8.6 gms.; (1283) 4.5 gms.; (1284) 2.4 gms.; (1285) 5.3 gms.; (1286) 4.1 gms.; (1287) 4.9 gms.; (1288) 3.7 gms.; (1289) 2.8 gms.; (1290)

<sup>1</sup> Used in analyses.

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Specimens: 2.3 gms.; (1291) 3.4 gms.; (1292) 2.5 gms.; (1293) 5 gms.; (1294) 2.9 gms.; (1295) 3.7 gms.; (1296) 3.7 gms.; (1297) 0.2 gms.; (1298) 2.4 gms.; (1299) 2.3 gms.; (1300) 3.1 gms.; (1301) 2.5 gms.; (1302) 6.2 gms.; (1303) 2.8 gms.; (1304) 7.3 gms.; (1305) 4.2 gms.; (1306) 2.7 gms.; (1307) 4.2 gms.; (1308) 3.8 gms.; (1309) 5 gms.; (1310) 4.1 gms.; (1311) 4.9 gms.; (1312) 3.5 gms.; (1313) 4.4 gms.; (1314) 2.9 gms.; (1315) 4.1 gms.; (1316) 2.4 gms.; (1317) 6.3 gms.; (1318) 6 gms.; (1319) 8.1 gms.; (1320) 9.4 gms.; (1321) 6 gms.; (1322) 6.3 gms.; (1323) 2.9 gms.; (1324) 2.2 gms.; (1325) 2.2 gms.; (1326) 4.1 gms.; (1327) 4 gms.; (1328) 4.7 gms.; (1329) 6.8 gms.; (1330) 2.5 gms.; (1331) 5 gms.; (1332) 3.1 gms.; (1333) 5.7 gms.; (1334) 4 gms.; (1335) 3.6 gms.; (1336) 3.9 gms.; (1337) 2.9 gms.; (1338) 2.5 gms.; (1339) 2.7 gms.; (1340) 3.3 gms.; (1341) 2.8 gms.; (1342) 6.1 gms.; (1343) 2.3 gms.; (1344) 4.3 gms.; (1345) 3.4 gms.; (1346) 1.4 gms.; (1347) 3.3 gms.; (1348) 3.3 gms.; (1349) 6.9 gms.; (1350) 8.1 gms.; (1351) 3.9 gms.; (1352) 22.7 gms.; (1353) 3 gms.; (1354) 7.4 gms.; (1355) 4.9 gms.; (1356) 5 gms.; (1357) 5.7 gms.; (1358) 6.9 gms.; (1359) 6.8 gms.; (1360) 3.7 gms.; (1361) 3.5 gms.; (1362) 7.6 gms.; (1363) 3.3 gms.; (1364) 9.7 gms.; (1365) 3.1 gms.; (1366) 4.8 gms.; (1367) 4.6 gms.; (1368) 4 gms.; (1369) 1.8 gms.; (1370) 6.6 gms.; (1371) 2.8 gms.; (1372) 13.2 gms.; (1373) 6.9 gms.; (1374) 7.4 gms.; (1375) 6 gms.; (1376) 3.7 gms.; (1377) 3.1 gms.; (1378) 8.3 gms.; (1379) 6 gms.; (1380) 6.5 gms.; (1381) 8.3 gms.; (1382) 5.5 gms.; (1383) 4.2 gms.; (1384) 6.6 gms.; (1385) 3.4 gms.; (1386) 3.5 gms.; (1387) 4.2 gms.; (1388) 8.8 gms.; (1389) 2.8 gms.; (1390) 4.9 gms.; (1391) 4.5 gms.; (1392) 3.7 gms.; (1393) 5 gms.; (1394) 2.2 gms.; (1395) 8.8 gms.; (1396) 4.5 gms.; (1397) 4.9 gms.; (1398) 3 gms.; (1399) 7.2 gms.; (1400) 4.8 gms.; (1401) 9.5 gms.; (1402) 4.1 gms.; (1403) 5.6 gms.; (1404) 2 gms.; (1405) 1.5 gms.; (1406) 5.4 gms.; (1407) 1.4 gms.; (1408) 7 gms.; (1409) 4.7 gms.; (1410) 4 gms.; (1411) 2 gms.; (1412) 1.9 gms.; (1413) 2.6 gms.; (1414) 2.6 gms.; (1415) 3.5 gms.; (1416) 3.2 gms.; (1417) 2.2 gms.; (1418) 4.9 gms.; (1419) 1.6 gms.; (1420) 1.7 gms.; (1421) 1.8 gms.; (1422) 1.9 gms.; (1423) 3 gms.; (1424) 2.2 gms.; (1425) 5.6 gms.; (1426) 7.3 gms.; (1427) 3.7 gms.; (1428) 1.4 gms.; (1429) 1.3 gms.; (1430) 1.7 gms.; (1431) 3.9 gms.; (1432) 1.1 gms.; (1433) 2 gms.; (1434) 4.3 gms.; (1435) 1.1 gms.; (1436) 1.9 gms.; (1437) 1.3 gms.; (1438) 2.8 gms.; (1439) 2.5 gms.; (1440) 4 gms.; (1441) 2.7 gms.; (1442) 4.3 gms.; (1443) 4.6 gms.; (1444) 2.4 gms.; (1445) 2 gms.; (1446) 3.9 gms.; (1447) 2 gms.; (1448) 4.7 gms.; (1449) 2.2 gms.; (1450) 2.5 gms.; (1451) 1.1 gms.; (1452) 2.3 gms.; (1453) 6.8 gms.; (1454) 2.2 gms.; (1455) 4 gms.; (1456) 7.9 gms.;

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Specimens: (1457) 2 gms.; (1458) 2.8 gms.; (1459) 5.1 gms.; (1460) 3.1 gms.; (1461) 5 gms.; (1462) 7.2 gms.; (1463) 5.8 gms.; (1464) 5.9 gms.; (1465) 4.6 gms.; (1466) 2 gms.; (1467) 3.4 gms.; (1468) 3.3 gms.; (1469) 4.4 gms.; (1470) 2.3 gms.; (1471) 1.5 gms.; (1472) 4.6 gms.; (1473) 4.7 gms.; (1474) 1.9 gms.; (1475) 1.5 gms.; (1476) 2 gms.; (1477) 5.7 gms.; (1478) 2.5 gms.; (1479) 3.7 gms.; (1480) 5.8 gms.; (1481) 9.8 gms.; (1482) 4.7 gms.; (1483) 6.4 gms.; (1484) 3.9 gms.; (1485) 4 gms.; (1486) 2.2 gms.; (1487) 4 gms.; (1488) 1.4 gms.; (1489) 2.4 gms.; (1490) 3.5 gms.; (1491) 2.7 gms.; (1492) 1.2 gms.; (1493) 3.8 gms.; (1494) 5.2 gms.; (1495) 5.7 gms.; (1496) 1.4 gms.; (1497) 5.5 gms.; (1498) 1.2 gms.; (1499) 2.2 gms.; (1500) 5.2 gms.; (1501) 546.9 gms.; (1502) 5.6 gms.; (1503) 6.7 gms.; (1504) 3.4 gms.; (1505) 8.2 gms.; (1506) 4.2 gms.; (1507) 2.1 gms.; (1508) 5.3 gms.; (1509) 8.8 gms.; (1510) 2.4 gms.; (1511) 2.9 gms.; (1512) 2.6 gms.; (1513) 1.4 gms.; (1514) 6.5 gms.; (1515) 4.1 gms.; (1516) 8.6 gms.; (1517) 4.4 gms.; (1518) 6.9 gms.; (1519) 9.8 gms.; (1520) 4.9 gms.; (1521) 3.5 gms.; (1522) 3 gms.; (1523) 1.5 gms.; (1524) 3.1 gms.; (1525) 7 gms.; (1526) 4.1 gms.; (1527) 5.8 gms.; (1528) 7.7 gms.; (1529) 2.7 gms.; (1530) 3.5 gms.; (1531) 5.6 gms.; (1532) 3 gms.; (1533) 3.3 gms.; (1534) 4.5 gms.; (1535) 3.5 gms.; (1536) 3.3 gms.; (1537) 4 gms.; (1538) 3.4 gms.; (1539) 3.6 gms.; (1540) 3 gms.; (1541) 1.8 gms.; (1542) 3.5 gms.; (1543) 2.4 gms.; (1544) 18 gms.; (1545) 1.9 gms.; (1546) 6.6 gms.; (1547) 2.7 gms.; (1548) 3.3 gms.; (1549) 2.9 gms.; (1550) 8.3 gms.; (1551) 8.4 gms.; (1552) 5 gms.; (1553) 2.3 gms.; (1554) 2.1 gms.; (1555) 1 gm.; (1556) 1.2 gms.; (1557) 3.5 gms.; (1558) 4.8 gms.; (1559) 2.9 gms.; (1560) 3.2 gms.; (1561) 4.3 gms.; (1562) 1.3 gms.; (1563) 2.6 gms.; (1564) 2.4 gms.; (1565) 4 gms.; (1566) 15.7 gms.; (1567) 11.3 gms.; (1568) 4.8 gms.; (1569) 2.5 gms.; (1570) 4.2 gms.; (1571) 2.6 gms.; (1572) 3.5 gms.; (1573) 3 gms.; (1574) 5.4 gms.; (1575) 2.2 gms.; (1576) 3.3 gms.; (1577) 2.9 gms.; (1578) 4.8 gms.; (1579) 3.7 gms.; (1580) 3.7 gms.; (1581) 1.8 gms.; (1582) 2.8 gms.; (1583) 3.3 gms.; (1584) 1.8 gms.; (1585) 1.9 gms.; (1586) 3.6 gms.; (1587) 2.5 gms.; (1588) 2.1 gms.; (1589) 1.8 gms.; (1590) 2.5 gms.; (1591) 6.9 gms.; (1592) 2.3 gms.; (1593) 1.8 gms.; (1594) 4.1 gms.; (1595) 4.8 gms.; (1596) 3.7 gms.; (1597) 1.3 gms.; (1598) 6.1 gms.; (1599) 2.1 gms.; (1600) 7 gms.; (1601) 4.5 gms.; (1602) 2 gms.; (1603) 2.1 gms.; (1604) 2.1 gms.; (1605) 2.7 gms.; (1606) 1.6 gms.; (1607) 1.8 gms.; (1608) 1.3 gms.; (1609) 1.2 gms.; (1610) 6.3 gms.; (1611) 1.8 gms.; (1612) 6 gms.; (1613) 2.2 gms.; (1614) 3.8 gms.; (1615) 3.7 gms.; (1616) 2.4 gms.; (1617) 3.5 gms.; (1618) 1.7 gms.; (1619) 2.1 gms.; (1620) 4.2 gms.; (1621) 2.9 gms.; (1622) 1.6 gms.; (1623) 3.5 gms.; (1624) 2.5

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Specimens: gms.; (1625) 3.6 gms.; (1626) 1.8 gms.; (1627) 3.1 gms.; (1628) 2.8 gms.; (1629) 3.3 gms.; (1630) 2.3 gms.; (1631) 1.5 gms.; (1632) 0.8 gm.; (1633) 1.2 gms.; (1634) 1.2 gms.; (1635) 3.5 gms.; (1636) 3.6 gms.; (1637) 2.1 gms.; (1638) 0.9 gm.; (1639) 2.5 gms.; (1640) 4.1 gms.; (1641) 1.8 gms.; (1642) 1.1 gms.; (1643) 1.7 gms.; (1644) 3.4 gms.; (1645) 3.4 gms.; (1646) 3.8 gms.; (1647) 3.7 gms.; (1648) 3.2 gms.; (1649) 1.4 gms.; (1650) 2.4 gms.; (1651) 1.2 gms.; (1652) 1.2 gms.; (1653) 2 gms.; (1654) 2 gms.; (1655) 1.4 gms.; (1656) 1.8 gms.; (1657) 3.3 gms.; (1658) 3.6 gms.; (1659) 2.7 gms.; (1660) 4.5 gms.; (1661) 1.4 gms.; (1662) 2.9 gms.; (1663) 2.8 gms.; (1664) 2 gms.; (1665) 4.5 gms.; (1666) 1.1 gms.; (1667) 3.5 gms.; (1668) 0.9 gm.; (1669) 1.8 gms.; (1670) 1.8 gms.; (1671) 1.7 gms.; (1672) 1.9 gms.; (1673) 1.5 gms.; (1674) 3.8 gms.; (1675) 1.4 gms.; (1676) 3.7 gms.; (1677) 1.4 gms.; (1678) 3.2 gms.; (1679) 2.4 gms.; (1680) 2.6 gms.; (1681) 3 gms.; (1682) 2.8 gms.; (1683) 1.7 gms.; (1684) 2.6 gms.; (1685) 3.6 gms.; (1686) 1 gm.; (1687) 1 gm.; (1688) 1.4 gms.; (1689) 3.5 gms.; (1690) 2.9 gms.; (1691) 1.4 gms.; (1692) 2 gms.; (1693) 1.5 gms.; (1694) 1.3 gms.; (1695) 1.5 gms.; (1696) 1.5 gms.; (1697) 8.2 gms.; (1698) 3.6 gms.; (1699) 12.5 gms.; (1700) 1.7 gms.; (1701) 0.8 gm.; (1702) 2.4 gms.; (1703) 1.4 gms.; (1704) 4.5 gms.; (1705) 2.1 gms.; (1706) 2.1 gms.; (1707) 2.3 gms.; (1708) 1.3 gms.; (1709) 4.2 gms.; (1710) 3.5 gms.; (1711) 4.5 gms.; (1712) 5.9 gms.; (1713) 1.7 gms.; (1714) 2.3 gms.; (1715) 10 gms.; (1716) 3.5 gms.; (1717) 3 gms.; (1718) 1.8 gms.; (1719) 2.7 gms.; (1720) 1.4 gms.; (1721) 1.9 gms.; (1722) 1.4 gms.; (1723) 2.1 gms.; (1724) 0.7 gm.; (1725) 2.5 gms.; (1726) 0.5 gm.; (1727) 2.1 gms.; (1728) 0.8 gm.; (1729) 2.1 gms.; (1730) 1.7 gms.; (1731) 1.5 gms.; (1732) 3.3 gms.; (1733) 2.9 gms.; (1734) 1.9 gms.; (1735) 2 gms.; (1736) 1.5 gms.; (1737) 1.5 gms.; (1738) 1.6 gms.; (1739) 3.8 gms.; (1740) 1.3 gms.; (1741) 4.2 gms.; (1742) 1.6 gms.; (1743) 3.4 gms.; (1744) 4.2 gms.; (1745) 2.7 gms.; (1746) 1.1 gms.; (1747) 1.2 gms.; (1748) 2.4 gms.; (1749) 1.5 gms.; (1750) 3.2 gms.; (1751) 0.9 gm.; (1752) 1.6 gms.; (1753) 1.1 gms.; (1754) 1.9 gms.; (1755) 2.7 gms.; (1756) 2.5 gms.; (1757) 3.5 gms.; (1758) 1.1 gms.; (1759) 5.5 gms.; (1760) 0.8 gm.; (1761) 3.4 gms.; (1762) 3.2 gms.; (1763) 4.2 gms.; (1764) 1.9 gms.; (1765) 3.8 gms.; (1766) 2.3 gms.; (1767) 1.8 gms.; (1768) 3.3 gms.; (1769) 2.8 gms.; (1770) 2.3 gms.; (1771) 2.5 gms.; (1772) 3 gms.; (1773) 6.8 gms.; (1774) 0.7 gm.; (1775) 1.8 gms.; (1776) 4 gms.; (1777) 2.4 gms.; (1778) 1.4 gms.; (1779) 3.6 gms.; (1780) 7.4 gms.; (1781) 3 gms.; (1782) 2.8 gms.; (1783) 2.1 gms.; (1784) 2.3 gms.; (1785) 1.3 gms.; (1786) 1.3 gms.; (1787) 2.3 gms.; (1788)



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Specimens: 2.7 gms.; (1789) 4 gms.; (1790) 9.7 gms.; (1791) 5.1 gms.; (1792) 5.5 gms.; (1793) 4.6 gms.; (1794) 3.1 gms.; (1795) 4.1 gms.; (1796) 3.8 gms.; (1797) 4.3 gms.; (1798) 3.9 gms.; (1799) 4.3 gms.; (1800) 2.6 gms.; (1801) 3.9 gms.; (1802) 1.9 gms.; (1803) 1.3 gms.; (1804) 1.5 gms.; (1805) 4.6 gms.; (1806) 3.2 gms.; (1807) 1.7 gms.; (1808) 1.9 gms.; (1809) 3 gms.; (1810) 1.5 gms.; (1811) 1.3 gms.; (1812) 3.2 gms.; (1813) 1.3 gms.; (1814) 1.6 gms.; (1815) 2.3 gms.; (1816) 1.9 gms.; (1817) 1.2 gms.; (1818) 2.9 gms.; (1819) 3.1 gms.; (1820) 2.7 gms.; (1821) 2.5 gms.; (1822) 1.4 gms.; (1823) 1.6 gms.; (1824) 1.2 gms.; (1825) 1.5 gms.; (1826) 2.3 gms.; (1827) 1.5 gms.; (1828) 2.3 gms.; (1829) 1.4 gms.; (1830) 4.3 gms.; (1831) 1.8 gms.; (1832) 1.3 gms.; (1833) 2.7 gms.; (1834) 2.5 gms.; (1835) 1.4 gms.; (1836) 1.8 gms.; (1837) 1.6 gms.; (1838) 1.9 gms.; (1839) 1.6 gms.; (1840) 2.5 gms.; (1841) 3.3 gms.; (1842) 1.9 gms.; (1843) 2.8 gms.; (1844) 2.2 gms.; (1845) 2.9 gms.; (1846) 1.6 gms.; (1847) 3.3 gms.; (1848) 2.9 gms.; (1849) 3.1 gms.; (1850) 0.7 gm.; (1851) 3.8 gms.; (1852) 1.4 gms.; (1853) 1.3 gms.; (1854) 1.3 gms.; (1855) 1.4 gms.; (1856) 1.5 gms.; (1857) 3.7 gms.; (1858) 1.3 gms.; (1859) 2.3 gms.; (1860) 0.9 gm.; (1861) 1.9 gms.; (1862) 1.2 gms.; (1863) 1.6 gms.; (1864) 1.8 gms.; (1865) 1.3 gms.; (1866) 1.9 gms.; (1867) 2 gms.; (1868) 2.3 gms.; (1869) 1 gm.; (1870) 1.6 gms.; (1871) 3.3 gms.; (1872) 3.2 gms.; (1873) 1.9 gms.; (1874) 2.1 gms.; (1875) 3 gms.; (1876) 1.5 gms.; (1877) 0.9 gm.; (1878) 3.1 gms.; (1879) 2.4 gms.; (1880) 1 gm.; (1881) 2.5 gms.; (1882) 2.1 gms.; (1883) 2.2 gms.; (1884) 1.2 gms.; (1885) 2 gms.; (1886) 3.3 gms.; (1887) 1.5 gms.; (1888) 2.7 gms.; (1889) 1 gm.; (1890) 2.3 gms.; (1891) 2.7 gms.; (1892) 1.7 gms.; (1893) 3.3 gms.; (1894) 3.2 gms.; (1895) 2.5 gms.; (1896) 1.6 gms.; (1897) 1.6 gms.; (1898) 2.9 gms.; (1899) 2.3 gms.; (1900) 2.8 gms.; (1901) 1.7 gms.; (1902) 3.5 gms.; (1903) 2.3 gms.; (1904) 1.2 gms.; (1905) 2.7 gms.; (1906) 1.7 gms.; (1907) 1.6 gms.; (1908) 1.2 gms.; (1909) 2 gms.; (1910) 1.3 gms.; (1911) 2 gms.; (1912) 1.6 gms.; (1913) 1.9 gms.; (1914) 1.5 gms.; (1915) 2.4 gms.; (1916) 2.1 gms.; (1917) 1.7 gms.; (1918) 1.2 gms.; (1919) 1.2 gms.; (1920) 1.6 gms.; (1921) 2.4 gms.; (1922) 2.3 gms.; (1923) 2.4 gms.; (1924) 2.8 gms.; (1925) 1.6 gms.; (1926) 1.9 gms.; (1927) 1.3 gms.; (1928) 2.4 gms.; (1929) 1.6 gms.; (1930) 1.6 gms.; (1931) 1.9 gms.; (1932) 2.5 gms.; (1933) 2.5 gms.; (1934) 1.3 gms.; (1935) 2.5 gms.; (1936) 2.4 gms.; (1937) 3.3 gms.; (1938) 2.8 gms.; (1939) 2.3 gms.; (1940) 1.7 gms.; (1941) 2.3 gms.; (1942) 3.7 gms.; (1943) 1.4 gms.; (1944) 1.1 gms.; (1945) 1.2 gms.; (1946) 2 gms.; (1947) 1.4 gms.; (1948) 1.7 gms.; (1949) 1.2 gms.; (1950) 2 gms.; (1951) 1.3 gms.; (1952) 2.7 gms.; (1953) 1.7 gms.;

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Specimens: (1954) 1.7 gms.; (1955) 1.3 gms.; (1956) 1.6 gms.; (1957) 1.8 gms.; (1958) 1.1 gms.; (1959) 1.2 gms.; (1960) 2.2 gms.; (1961) 2.3 gms.; (1962) 2.7 gms.; (1963) 2.7 gms.; (1964) 3.3 gms.; (1965) 1.8 gms.; (1966) 1.9 gms.; (1967) 2.3 gms.; (1968) 2.5 gms.; (1969) 3.5 gms.; (1970) 1.2 gms.; (1971) 2.8 gms.; (1972) 2.6 gms.; (1973) 4 gms.; (1974) 1.5 gms.; (1975) 2 gms.; (1976) 2.5 gms.; (1977) 1 gm.; (1978) 3.8 gms.; (1979) 3.4 gms.; (1980) 1.7 gms.; (1981) 3.8 gms.; (1982) 1.5 gms.; (1983) 4 gms.; (1984) 1.6 gms.; (1985) 2 gms.; (1986) 2.8 gms.; (1987) 1.1 gms.; (1988) 1.9 gms.; (1989) 3.2 gms.; (1990) 5.5 gms.; (1991) 2.1 gms.; (1992) 5.1 gms.; (1993) 4.2 gms.; (1994) 3 gms.; (1995) 2 gms.; (1996) 2.5 gms.; (1997) 4 gms.; (1998) 2.4 gms.; (1999) 4.3 gms.; (2000) 6.1 gms.; (2001) 1.3 gms.; (2002) 2.2 gms.; (2003) 1.8 gms.; (2004) 3.4 gms.; (2005) 2.2 gms.; (2006) 2.7 gms.; (2007) 2.7 gms.; (2008) 2.6 gms.; (2009) 2.7 gms.; (2010) 2.5 gms.; (2011) 2.1 gms.; (2012) 1.9 gms.; (2013) 2.8 gms.; (2014) 2.7 gms.; (2015) 1.8 gms.; (2016) 1.6 gms.; (2017) 2 gms.; (2018) 2.2 gms.; (2019) 1.5 gms.; (2020) 2.8 gms.; (2021) 2 gms.; (2022) 2.7 gms.; (2023) 2.8 gms.; (2024) 1.1 gms.; (2025) 1.3 gms.; (2026) 1.9 gms.; (2027) 5 gms.; (2028) 3 gms.; (2029) 2.5 gms.; (2030) 1.5 gms.; (2031) 2.4 gms.; (2032) 1.5 gms.; (2033) 2.2 gms.; (2034) 1.8 gms.; (2035) 1.7 gms.; (2036) 3.2 gms.; (2037) 1.7 gms.; (2038) 2.2 gms.; (2039) 3 gms.; (2040) 1.8 gms.; (2041) 1.5 gms.; (2042) 1 gm.; (2043) 2.2 gms.; (2044) 2.7 gms.; (2045) 1.6 gms.; (2046) 2.6 gms.; (2047) 1.5 gms.; (2048) 1.3 gms.; (2049) 1.6 gms.; (2050) 1.7 gms.; (2051) 2.7 gms.; (2052) 2.4 gms.; (2053) 1.2 gms.; (2054) 1.8 gms.; (2055) 2.3 gms.; (2056) 2.8 gms.; (2057) 2.2 gms.; (2058) 2.2 gms.; (2059) 1.6 gms.; (2060) 1.1 gms.; (2061) 1.6 gms.; (2062) 3.2 gms.; (2063) 2.1 gms.; (2064) 1.2 gms.; (2065) 2.1 gms.; (2066) 0.8 gm.; (2067) 2.5 gms.; (2068) 2.3 gms.; (2069) 1.5 gms.; (2070) 1.9 gms.; (2071) 1.6 gms.; (2072) 2.3 gms.; (2073) 1.5 gms.; (2074) 1.3 gms.; (2075) 2.2 gms.; (2076) 3.3 gms.; (2077) 2.1 gms.; (2078) 1.1 gms.; (2079) 2.5 gms.; (2080) 2.1 gms.; (2081) 1.4 gms.; (2082) 1.1 gms.; (2083) 2.1 gms.; (2084) 2.2 gms.; (2085) 2.1 gms.; (2086) 2.3 gms.; (2087) 2.3 gms.; (2088) 1.2 gms.; (2089) 1.4 gms.; (2090) 2.1 gms.; (2091) 1.4 gms.; (2092) 2.6 gms.; (2093) 1.3 gms.; (2094) 2.5 gms.; (2095) 2.2 gms.; (2096) 2 gms.; (2097) 1.7 gms.; (2098) 2.2 gms.; (2099) 1.4 gms.; (2100) 2.9 gms.; (2101) 1.2 gms.; (2102) 0.9 gm.; (2103) 1.1 gms.; (2104) 2.3 gms.; (2105) 1.4 gms.; (2106) 1.5 gms.; (2107) 2 gms.; (2108) 1 gm.; (2109) 1.5 gms.; (2110) 1.7 gms.; (2111) 1.1 gms.; (2112) 1.6 gms.; (2113) 2 gms.; (2114) 1.8 gms.; (2115) 2 gms.; (2116) 1 gm.; (2117) 1.6 gms.; (2118) 1.7 gms.; (2119)

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Specimens: 1.5 gms.; (2120) 1.7 gms.; (2121) 1.2 gms.; (2122) 2.6 gms.; (2123) 1 gm.; (2124) 0.9 gm.; (2125) 0.7 gm.; (2126) 2.6 gms.; (2127) 1.6 gms.; (2128) 2.4 gms.; (2129) 2.6 gms.; (2130) 1.9 gms.; (2131) 1.1 gms.; (2132) 1.9 gms.; (2133) 1.4 gms.; (2134) 1.1 gms.; (2135) 1.4 gms.; (2136) 1.2 gms.; (2137) 1.6 gms.; (2138) 1.9 gms.; (2139) 1.1 gms.; (2140) 1.5 gms.; (2141) 1.2 gms.; (2142) 2.1 gms.; (2143) 1.5 gms.; (2144) 1.4 gms.; (2145) 1.3 gms.; (2146) 1.5 gms.; (2147) 1.5 gms.; (2148) 1.1 gms.; (2149) 1.3 gms.; (2150) 1.2 gms.; (2151) 1.3 gms.; (2152) 1 gm.; (2153) 2.2 gms.; (2154) 1.1 gms.; (2155) 1.6 gms.; (2156) 1 gm.; (2157) 1.7 gms.; (2158) 1 gm.; (2159) 1.3 gms.; (2160) 0.9 gm.; (2161) 0.7 gm.; (2162) 0.5 gm.; (2163) 1.7 gms.; (2164) 1 gm.; (2165) 0.9 gm.; (2166) 1.3 gms.; (2167) 1.7 gms.; (2168) 0.9 gm.; (2169) 1 gm.; (2170) 1.8 gms.; (2171) 1.1 gms.; (2172) 1 gm.; (2173) 1.8 gms.; (2174) 1.2 gms.; (2175) 1.6 gms.; (2735) 0.8 gm.; (2736) 1.4 gms.; (2737) 0.9 gm.; (2738) 0.5 gm.; (2739) 1.6 gms.; (2740) 1.9 gms.; (2741) 1.4 gms.; (2742) 1.2 gms.; (2743) 1.7 gms.; (2744) 0.5 gm.; (2745) 1.1 gms.; (2746) 0.6 gm.; (2747) 1.4 gms.; (2748) 1.5 gms.; (2749) 1.7 gms.; (2750) 1.8 gms.; (2751) 0.5 gm.; (2752) 2.1 gms.; (2753) 1.3 gms.; (2754) 1.3 gms.; (2755) 1.9 gms.; (2756) 1 gm.; (2757) 2.1 gms.; (2758) 0.9 gm.; (2759) 2.2 gms.; (2760) 1.1 gms.; (2761) 1.3 gms.; (2762) 0.8 gm.; (2763) 0.8 gm.; (2764) 1 gm.; (2765) 0.5 gm.; (2766) 1.3 gms.; (2767) 1.8 gms.; (2768) 0.9 gm.; (2769) 1.6 gms.; (2770) 0.9 gm.; (2771) 1.2 gms.; (2772) 1.4 gms.; (2773) 1.2 gms.; (2774) 1.5 gms.; (2775) 1.2 gms.; (2776) 1.9 gms.; (2777) 1.9 gms.; (2778) 1.6 gms.; (2779) 0.9 gm.; (2780) 1.1 gms.; (2781) 1.1 gms.; (2782) 1.4 gms.; (2783) 1.2 gms.; (2784) 0.8 gm.; (2785) 1.4 gms.; (2786) 0.9 gm.; (2787) 1.2 gms.; (2788) 1 gm.; (2789) 0.9 gm.; (2790) 1.8 gms.; (2791) 0.6 gm.; (2792) 1.5 gms.; (2793) 1.3 gms.; (2794) 1.3 gms.; (2795) 1.4 gms.; (2796) 0.8 gm.; (2797) 1.7 gms.; (2798) 0.7 gm.; (2799) 1.8 gms.; (2800) 0.8 gm.; (2801) 1 gm.; (2802) 0.9 gm.; (2803) 1.2 gms.; (2804) 1.4 gms.; (2805) 2.1 gms.; (2806) 0.7 gm.; (2807) 1.4 gms.; (2808) 1 gm.; (2809) 2.1 gms.; (2810) 1 gm.; (2811) 1.1 gms.; (2812) 1.5 gms.; (2813) 1.4 gms.; (2814) 1.4 gms.; (2815) 1.1 gms.; (2816) 1.3 gms.; (2817) 1.3 gms.; (2818) 1.2 gms.; (2819) 0.8 gm.; (2820) 0.7 gm.; (2821) 1.9 gms.; (2822) 0.7 gm.; (2823) 1.5 gms.; (2824) 1.3 gms.; (2825) 0.8 gm.; (2826) 1.6 gms.; (2827) 1.2 gms.; (2828) 1.1 gms.; (2829) 1.5 gms.; (2830) 0.9 gm.; (2831) 0.9 gm.; (2832) 1.4 gms.; (2833) 0.4 gm.; (2834) 0.6 gm.; (2835) 0.4 gm.; (2836) 1 gm.; (2837) 0.9 gm.; (2838) 0.7 gm.; (2839) 0.6 gm.; (2840) 2 gms.; (2841) 1.4 gms.; (2842) 1.8 gms.; (2843) 0.7 gm.;

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Specimens: (2844) 0.6 gm.; (2845) 0.9 gm.; (2846) 2.3 gms.; (2847) 1.6 gms.; (2848) 0.7 gm.; (2849) 0.9 gm.; (2850) 0.6 gm.; (2851) 1 gm.; (2852) 0.6 gm.; (2853) 1 gm.; (2854) 0.8 gm.; (2855) 0.7 gm.; (2856) 1.3 gms.; (2857) 1.2 gms.; (2858) 0.7 gm.; (2859) 0.8 gm.; (2860) 0.6 gm.; (2861) 0.9 gm.; (2862) 0.8 gm.; (2863) 1.5 gms.; (2864) 0.6 gm.; (2865) 1.5 gms.; (2866) 1.3 gms.; (2867) 1.4 gms.; (2868) 1.1 gms.; (2869) 0.6 gm.; (2870) 1.6 gms.; (2871) 1.2 gms.; (2872) 0.5 gm.; (2873) 0.9 gm.; (2874) 1.8 gms.; (2875) 1.6 gms.; (2876) 1.2 gms.; (2877) 1 gm.; (2878) 0.7 gm.; (2879) 1.2 gms.; (2880) 0.7 gm.; (2881) 0.7 gm.; (2882) 0.8 gm.; (2883) 0.7 gm.; (2884) 0.9 gm.; (2885) 1 gm.; (2886) 1 gm.; (2887) 1.8 gms.; (2888) 0.8 gm.; (2889) 1.3 gms.; (2890) 1.1 gms.; (2891) 1.1 gms.; (2892) 1.1 gms.; (2893) 0.6 gm.; (2894) 1.1 gms.; (2895) 0.9 gm.; (2896) 1 gm.; (2897) 1 gm.; (2898) 1 gm.; (2899) 0.6 gm.; (2900) 1.1 gms.; (2901) 0.8 gm.; (2902) 0.7 gm.; (2903) 1.4 gms.; (2904) 0.8 gm.; (2905) 1.3 gms.; (2906) 1 gm.; (2907) 0.5 gm.; (2908) 0.7 gm.; (2909) 0.6 gm.; (2910) 0.6 gm.; (2911) 0.8 gm.; (2912) 0.7 gm.; (2913) 1 gm.; (2914) 0.8 gm.; (2915) 1 gm.; (2916) 0.5 gm.; (2917) 0.6 gm.; (2918) 0.8 gm.; (2919) 0.6 gm.; (2920) 0.6 gm.; (2921) 1.3 gms.; (2922) 0.5 gm.; (2923) 0.6 gm.; (2924) 0.9 gm.; (2925) 0.5 gm.; (2926) 0.6 gm.; (2927) 1 gm.; (2928) 1 gm.; (2929) 0.8 gm.; (2930) 0.5 gm.; (2931) 0.9 gm.; (2932) 0.6 gm.; (2933) 0.4 gm.; (2934) 1.4 gms.; (2935) 0.5 gm.; (2936) 0.6 gm.; (2937) 1.3 gms.; (2938) 0.8 gm.; (2939) 0.4 gm.; (2940) 0.7 gm.; (2941) 0.9 gm.; (2942) 1.1 gms.; (2943) 1.3 gms.; (2944) 0.9 gm.; (2945) 0.5 gm.; (2946) 0.6 gm.; (2947) 0.6 gm.; (2948) 1.5 gms.; (2949) 0.9 gm.; (2950) 0.6 gm.; (2951) 0.6 gm.; (2952) 1.2 gms.; (2953) 1.2 gms.; (2954) 0.6 gm.; (2955) 0.5 gm.; (2956) 1 gm.; (2957) 0.5 gm.; (2958) 0.8 gm.; (2959) 0.5 gm.; (2960) 0.9 gm.; (2961) 0.6 gm.; (2962) 0.3 gm.; (2963) 0.7 gm.; (2964) 0.8 gm.; (2965) 1 gm.; (2966) 0.7 gm.; (2967) 0.8 gm.; (2968) 0.7 gm.; (2969) 1.2 gms.; (2970) 0.2 gm.; (2971) 0.5 gm.; (2972) 0.8 gm.; (2973) 1.1 gms.; (2974) 0.5 gm.; (2975) 0.8 gm.; (2976) 1.2 gms.; (2977) 0.5 gm.; (2978) 0.7 gm.; (2979) 0.9 gm.; (2980) 0.7 gm.; (2981) 0.8 gm.; (2982) 0.4 gm.; (2983) 0.6 gm.; (2984) 0.7 gm.; (2985) 0.7 gm.; (2986) 1.3 gms.; (2987) 1.3 gms.; (2988) 1 gm.; (2989) 1.5 gms.; (2990) 1.3 gms.; (2991) 0.8 gm.; (2992) 1.4 gms.; (2993) 1.5 gms.; (2994) 1.3 gms.; (2995) 2 gms.; (2996) 1.5 gms.; (2997) 1.4 gms.; (2998) 1.1 gms.; (2999) 1.2 gms.; (3000) 2 gms.; (3001) 0.8 gm.; (3002) 2 gms.; (3003) 1.3 gms.; (3004) 1.9 gms.; (3005) 1.2 gms.; (3006) 1.2 gms.; (3007) 1.2 gms.; (3008) 1.7 gms.; (3009) 1.5 gms.; (3010) 1.2 gms.; (3011) 1 gm.; (3012) 1 gm.; (3013) 0.9 gm.; (3014) 1.6 gms.; (3015) 0.8 gm.; (3016)

**Holbrook**

Specimens: 1.5 gms.; (3017) 1 gm.; (3018) 1.1 gms.; (3019) 1.2 gms.; (3020) 1.3 gms.; (3021) 0.8 gm.; (3022) 2.4 gms.; (3023) 1.5 gms.; (3024) 1.4 gms.; (3025) 1.2 gms.; (3026) 0.9 gm.; (3027) 0.6 gm.; (3028) 0.8 gm.; (3029) 0.7 gm.; (3030) 0.9 gm.; (3031) 1.2 gms.; (3032) 1.6 gms.; (3033) 0.8 gm.; (3034) 1.7 gms.; (3035) 1 gm.; (3036) 1.5 gms.; (3037) 1.3 gms.; (3038) 1.5 gms.; (3039) 0.9 gm.; (3040) 1.2 gms.; (3041) 1.2 gms.; (3042) 0.8 gm.; (3043) 0.8 gm.; (3044) 1.2 gms.; (3045) 0.9 gm.; (3046) 1.4 gms.; (3047) 0.6 gm.; (3048) 1.2 gms.; (3049) 2.1 gms.; (3050) 1 gm.; (3051) 0.6 gm.; (3052) 1 gm.; (3053) 1.6 gms.; (3054) 1 gm.; (3055) 1 gm.; (3056) 0.9 gm.; (3057) 0.7 gm.; (3058) 1.2 gms.; (3059) 1 gm.; (3060) 1.4 gms.; (3061) 1.5 gms.; (3062) 0.9 gm.; (3063) 1 gm.; (3064) 1 gm.; (3065) 1.8 gms.; (3066) 2.1 gms.; (3067) 1.5 gms.; (3068) 1.5 gms.; (3069) 0.7 gm.; (3070) 1.1 gms.; (3071) 0.9 gm.; (3072) 0.8 gm.; (3073) 0.9 gm.; (3074) 1.2 gms.; (3075) 1.4 gms.; (3076) 1.3 gms.; (3077) 0.7 gm.; (3078) 1.1 gms.; (3079) 1.1 gms.; (3080) 1.3 gms.; (3081) 1 gm.; (3082) 0.7 gm.; (3083) 1.2 gms.; (3084) 1.1 gms.; (3085) 1.2 gms.; (3086) 0.9 gm.; (3087) 0.7 gm.; (3088) 1.6 gms.; (3089) 0.9 gm.; (3090) 0.7 gm.; (3091) 0.9 gm.; (3092) 0.9 gm.; (3093) 1.1 gms.; (3094) 1.4 gms.; (3095) 1 gm.; (3096) 1.9 gms.; (3097) 1.1 gms.; (3098) 1.4 gms.; (3099) 0.7 gm.; (3100) 0.6 gm.; (3101) 0.7 gm.; (3102) 1 gm.; (3103) 0.7 gm.; (3104) 0.9 gm.; (3105) 1.5 gms.; (3106) 0.7 gm.; (3107) 1 gm.; (3108) 0.9 gm.; (3109) 1.3 gms.; (3110) 0.8 gm.; (3111) 1.3 gms.; (3112) 0.8 gm.; (3113) 1.3 gms.; (3114) 1 gm.; (3115) 1 gm.; (3116) 1.1 gms.; (3117) 0.7 gm.; (3118) 0.9 gm.; (3119) 0.9 gm.; (3120) 1.2 gms.; (3121) 1.7 gms.; (3122) 1.8 gms.; (3123) 1.4 gms.; (3124) 1.3 gms.; (3125) 0.4 gm.; (3126) 0.9 gm.; (3127) 0.7 gm.; (3128) 0.8 gm.; (3129) 1.9 gms.; (3130) 0.8 gm.; (3131) 1 gm.; (3132) 1.5 gms.; (3133) 0.9 gm.; (3134) 1.2 gms.; (3135) 2.1 gms.; (3136) 1.1 gms.; (3137) 1.4 gms.; (3138) 1.3 gms.; (3139) 1 gm.; (3140) 1.1 gms.; (3141) 0.8 gm.; (3142) 1.2 gms.; (3143) 1.1 gms.; (3144) 0.7 gm.; (3145) 1.3 gms.; (3146) 0.8 gm.; (3147) 1.7 gms.; (3148) 1.2 gms.; (3149) 0.5 gm.; (3150) 0.8 gm.; (3151) 1 gm.; (3152) 1.2 gms.; (3153) 0.8 gm.; (3154) 1.6 gms.; (3155) 0.9 gm.; (3156) 1.1 gms.; (3157) 1.5 gms.; (3158) 0.9 gms.; (3159) 1.4 gms.; (3160) 1.1 gms.; (3161) 0.6 gm.; (3162) 1.3 gms.; (3163) 0.8 gm.; (3164) 1.1 gms.; (3165) 1.6 gms.; (3166) 0.8 gm.; (3167) 1.2 gms.; (3168) 0.7 gm.; (3169) 1 gm.; (3170) 0.9 gm.; (3171) 1 gm.; (3172) 1.1 gms.; (3173) 1.3 gms.; (3174) 1.5 gms.; (3175) 1 gm.; (3176) 1 gm.; (3177) 0.9 gm.; (3178) 0.7 gm.; (3179) 1.6 gms.; (3180) 0.7 gm.; (3181) 1.1 gms.; (3182) 0.4 gm.; (3183) 1.1 gms.; (3184) 0.6 gm.; (3185) 1.1

**Holbrook**

Specimens: gms.; (3186) 1.2 gms.; (3187) 0.7 gm.; (3188) 0.8 gm.; (3189) 1.1 gms.; (3190) 0.9 gm.; (3191) 0.6 gm.; (3192) 1 gm.; (3193) 0.6 gm.; (3194) 0.9 gm.; (3195) 0.8 gm.; (3196) 1 gm.; (3197) 0.8 gm.; (3198) 0.7 gm.; (3199) 1.2 gms.; (3200) 0.5 gm.; (3201) 0.8 gm.; (3202) 0.6 gm.; (3203) 0.5 gm.; (3204) 1.3 gms.; (3205) 1.1 gms.; (3206) 0.9 gm.; (3207) 0.7 gm.; (3208) 0.9 gm.; (3209) 0.6 gm.; (3210) 0.6 gm.; (3211) 1 gm. (3212) 0.8 gm.; (3213) 0.8 gm.; (3214) 1 gm.; (3215) 1 gm.; (3216) 1.2 gms.; (3217) 1 gm.; (3218) 1.5 gms.; (3219) 1.1 gms.; (3220) 1.1 gms.; (3221) 1 gm.; (3222) 0.8 gm.; (3223) 1 gm.; (3224) 1.3 gms.; (3225) 1.1 gms.; (3226) 1 gm.; (3227) 1.1 gms.; (3228) 1.2 gms.; (3229) 1.6 gms.; (3230) 1.8 gms.; (3231) 0.9 gm.; (3232) 1 gm.; (3233) 1.2 gms.; (3234) 1 gm.; (3235) 0.8 gm.; (3236) 0.8 gm.; (3237) 0.4 gm.; (3238) 0.8 gm.; (3239) 0.7 gm.; (3240) 0.4 gm.; (3241) 1.1 gms.; (3242) 0.7 gm.; (3243) 1.2 gms.; (3244) 0.9 gm.; (3245) 1 gm.; (3246) 0.8 gm.; (3247) 0.9 gm.; (3248) 1.2 gms.; (3249) 0.8 gm.; (3250) 1.3 gms.; (3251) 1.1 gms.; (3252) 1.1 gms.; (3253) 1 gm.; (3254) 1 gm.; (3255) 0.3 gm.; (3256) 1.2 gms.; (3257) 0.9 gm.; (3258) 1.2 gms.; (3259) 1 gm.; (3260) 1 gm.; (3261) 0.6 gm.; (3262) 1.1 gms.; (3263) 0.9 gm.; (3264) 1 gm.; (3265) 0.7 gm.; (3266) 0.9 gm.; (3267) 1 gm.; (3268) 1 gm.; (3269) 0.9 gm.; (3270) 0.7 gm.; (3271) 1.1 gms.; (3272) 1 gm.; (3273) 0.8 gm.; (3274) 0.6 gm.; (3275) 1.1 gms.; (3276) 0.8 gm.; (3277) 1 gm.; (3278) 1 gm.; (3279) 1.1 gms.; (3280) 1 gm.; (3281) 0.9 gm.; (3282) 0.8 gm.; (3283) 1.3 gms.; (3284) 0.8 gm.; (3285) 1.3 gms.; (3286) 0.9 gm.; (3287) 0.6 gm.; (3288) 0.9 gm.; (3289) 1.1 gms.; (3290) 1 gm.; (3291) 0.8 gm.; (3292) 0.7 gm.; (3293) 0.7 gm.; (3294) 0.9 gm.; (3295) 1.2 gms.; (3296) 0.8 gm.; (3297) 0.9 gm.; (3298) 1.1 gms.; (3299) 0.8 gm.; (3300) 0.8 gm.; (3301) 0.6 gm.; (3302) 0.8 gm.; (3303) 1 gm.; (3304) 0.9 gm.; (3305) 0.7 gm.; (3306) 0.5 gm.; (3307) 0.6 gm.; (3308) 1.3 gms.; (3309) 0.4 gm.; (3310) 1.2 gms.; (3311) 0.8 gm.; (3312) 0.6 gm.; (3313) 0.8 gm.; (3314) 0.6 gm.; (3315) 0.5 gm.; (3316) 0.8 gm.; (3317) 0.8 gm.; (3318) 1.2 gms.; (3319) 0.5 gm.; (3320) 0.5 gm.; (3321) 0.9 gm.; (3322) 0.7 gm.; (3323) 0.3 gm.; (3324) 0.6 gm.; (3325) 0.5 gm.; (3326) 0.3 gm.; (3327) 0.5 gm.; (3328) 0.5 gm.; (3329) 0.8 gm.; (3330) 0.5 gm.; (3331) 0.5 gm.; (3332) 0.9 gm.; (3333) 0.6 gm.; (3334) 0.6 gm.; (3335) 0.6 gm.; (3336) 0.6 gm.; (3337) 0.9 gm.; (3338) 0.4 gm.; (3339) 0.5 gm.; (3340) 0.7 gm.; (3341) 0.8 gm.; (3342) 0.6 gm.; (3343) 0.6 gm.; (3344) 1.1 gms.; (3345) 0.5 gm.; (3346) 0.8 gm.; (3347) 1 gm.; (3348) 0.7 gm.; (3349) 0.8 gm.; (3350) 0.7 gm.; (3351) 0.8 gm.; (3352) 0.6 gm.; (3353) 0.8 gm.; (3354) 0.5 gm.; (3355) 0.5 gm.; (3356) 0.6 gm.; (3357) 0.4 gm.; (3358) 0.9 gm.;

**Holbrook**

Specimens: (3359) 0.8 gm.; (3360) 0.8 gm.; (3361) 0.4 gm.; (3362) 0.5 gm.; (3363) 0.8 gm.; (3364) 0.7 gm.; (3365) 0.5 gm.; (3366) 0.6 gm.; (3367) 0.5 gm.; (3368) 0.7 gm.; (3369) 1.1 gms.; (3370) 0.6 gm.; (3371) 0.9 gm.; (3372) 0.7 gm.; (3373) 0.9 gm.; (3374) 0.7 gm.; (3375) 0.8 gm.; (3376) 1 gm.; (3377) 0.6 gm.; (3378) 1 gm.; (3379) 0.8 gm.; (3380) 0.5 gm.; (3381) 1 gm.; (3382) 0.5 gm.; (3383) 0.7 gm.; (3384) 0.8 gm.; (3385) 0.6 gm.; (3386) 0.7 gm.; (3387) 0.7 gm.; (3388) 0.5 gm.; (3389) 0.8 gm.; (3390) 0.9 gm.; (3391) 0.5 gm.; (3392) 0.7 gm.; (3393) 0.7 gm.; (3394) 0.4 gm.; (3395) 0.8 gm.; (3396) 0.6 gm.; (3397) 0.8 gm.; (3398) 0.5 gm.; (3399) 0.6 gm.; (3400) 0.4 gm.; (3401) 0.4 gm.; (3402) 0.6 gm.; (3403) 0.5 gm.; (3404) 0.4 gm.; (3405) 0.9 gm.; (3406) 0.7 gm.; (3407) 0.7 gm.; (3408) 0.7 gm.; (3409) 0.6 gm.; (3410) 0.9 gm.; (3411) 0.4 gm.; (3412) 0.4 gm.; (3413) 0.7 gm.; (3414) 0.7 gm.; (3415) 0.6 gm.; (3416) 0.6 gm.; (3417) 0.7 gm.; (3418) 0.5 gm.; (3419) 0.7 gm.; (3420) 0.6 gm.; (3421) 0.7 gm.; (3422) 0.7 gm.; (3423) 0.7 gm.; (3424) 0.5 gm.; (3425) 0.6 gm.; (3426) 0.6 gm.; (3427) 0.8 gm.; (3428) 0.8 gm.; (3429) 0.6 gm.; (3430) 0.8 gm.; (3431) 0.6 gm.; (3432) 0.7 gm.; (3433) 0.6 gm.; (3434) 0.6 gm.; (3435) 0.4 gm.; (3436) 0.6 gm.; (3437) 0.6 gm.; (3438) 0.8 gm.; (3439) 0.3 gm.; (3440) 0.6 gm.; (3441) 0.5 gm.; (3442) 0.5 gm.; (3443) 0.8 gm.; (3444) 0.5 gm.; (3445) 0.6 gm.; (3446) 0.5 gm.; (3447) 0.7 gm.; (3448) 0.7 gm.; (3449) 0.6 gm.; (3450) 0.7 gm.; (3451) 0.4 gm.; (3452) 0.7 gm.; (3453) 0.4 gm.; (3454) 0.6 gm.; (3455) 0.6 gm.; (3456) 0.6 gm.; (3457) 0.7 gm.; (3458) 0.4 gm.; (3459) 0.3 gm.; (3460) 0.5 gm.; (3461) 0.5 gm.; (3462) 0.5 gm.; (3463) 0.6 gm.; (3464) 0.6 gm.; (3465) 0.5 gm.; (3466) 0.5 gm.; (3467) 0.5 gm.; (3468) 0.5 gm.; (3469) 0.6 gm.; (3470) 0.6 gm.; (3471) 0.6 gm.; (3472) 0.5 gm.; (3473) 0.6 gm.; (3474) 0.6 gm.; (3475) 0.6 gm.; (3476) 0.4 gm.; (3477) 0.4 gm.; (3478) 0.6 gm.; (3479) 0.5 gm.; (3480) 0.5 gm.; (3481) 0.4 gm.; (3482) 1 gm.; (3483) 0.5 gm.; (3484) 0.3 gm.; (3485) 0.6 gm.; (3486) 0.5 gm.; (3487) 0.7 gm.; (3488) 0.4 gm.; (3489) 0.3 gm.; (3490) 0.5 gm.; (3491) 0.2 gm.; (3492) 0.5 gm.; (3493) 0.5 gm.; (3494) 0.4 gm.; (3495) 0.7 gm.; (3496) 0.6 gm.; (3497) 0.5 gm.; (3498) 0.4 gm.; (3499) 0.4 gm.; (3500) 0.5 gm.; (3501) 0.5 gm.; (3502) 0.4 gm.; (3503) 0.4 gm.; (3504) 0.5 gm.; (3505) 0.6 gm.; (3506) 0.4 gm.; (3507) 0.8 gm.; (3508) 0.3 gm.; (3509) 0.4 gm.; (3510) 0.4 gm.; (3511) 0.4 gm.; (3512) 0.2 gm.; (3513) 0.9 gm.; (3514) 0.5 gm.; (3515) 0.9 gm.; (3516) 0.3 gm.; (3517) 0.7 gm.; (3518) 0.5 gm.; (3519) 0.7 gm.; (3520) 0.5 gm.; (3521) 0.4 gm.; (3522) 0.3 gm.; (3523) 0.6 gm.; (3524) 0.4 gm.; (3525) 0.3 gm.; (3526) 0.4 gm.; (3527) 0.3 gm.; (3528) 0.3 gm.; (3529) 0.3 gm.; (3530) 0.5 gm.; (3531) 0.8 gm.; (3532)

**Holbrook**

Specimens: 0.5 gm.; (3533) 0.8 gm.; (3534) 0.9 gm.; (3535) 0.5 gm.; (3536) 0.6 gm.; (3537) 0.4 gm.; (3538) 0.6 gm.; (3539) 0.4 gm.; (3540) 0.5 gm.; (3541) 0.4 gm.; (3542) 0.3 gm.; (3543) 0.3 gm.; (3544) 0.4 gm.; (3545) 0.6 gm.; (3546) 0.5 gm.; (3547) 0.5 gm.; (3548) 0.2 gm.; (3549) 0.4 gm.; (3550) 0.2 gm.; (3551) 0.2 gm.; (3552) 0.5 gm.; (3553) 0.5 gm.; (3554) 0.2 gm.; (3555-3734) 72.3 gms. (180 specimens in a bottle.)

Remarks: After appearance of a smoky trail in the sky, and detonations, a shower of stones fell, estimated to number 17,000, of a total weight of about 481 lbs., with individuals varying in weight from 14.5 lbs. to a few grains.

**Holland's Store, Chattooga County, Georgia, U. S. A.**

Found: 1887

Siderite: Brecciated hexahedrite, Hb.

Specimens: (37) 212.8 gms.; \*(671) 16.5 gms.

Remarks: A mass of 27 lbs. was found and was afterwards broken up.

**Homestead, Iowa County, Iowa, U. S. A.**

Fell: 1875, February 12, 10:15 P.M.

Aerolite: Brecciated gray bronzite-chondrite, Cgb.

Specimens: <sup>1</sup>(359) 1986 gms.; \*(1004) 969 gms.; (1005) 7850 gms.

Remarks: After appearance of a brilliant fire-ball (moving from south to north), and detonations, about 100 stones, weighing together about 500 lbs., and the largest about 74 lbs., were found scattered over an area of about 18 square miles from Amana to Boltonville.

**Honolulu, Oahu, Hawaiian Islands, U. S. A.**

Fell: 1825, September 27, 10:30 A.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (459) 91 gms.

Remarks: After detonations, several stones fell, two of which weighed about 1.5 kg. each.

**Hopper, Henry County, Virginia, U. S. A.**

Found: 1889

Siderite: Medium octahedrite, Om.

Specimen: (123) 8 gms.

Remarks: A mass of about 4 lbs. was found.

**Hraschina, Zagreb, Croatia, Yugoslavia**

Fell: 1751, May 26, 6 P.M.

Synonym: Agram

Siderite: Medium octahedrite, Om.

Specimen: (871) 80.4 gms.

Remarks: After appearance of fire-ball which divided into two parts with detonations, two masses of about 40 kg. and 9 kg., respectively,

<sup>1</sup> Note: 8.5 gms. cut from original mass (1994.5 gms.) for analyses.



were found to have fallen. The smaller iron appears to have been lost; the main mass of the larger (39 kg.) is in Vienna (Naturhist. Mus.).

**Huizopa**, Guerrero district, Chihuahua, Mexico

Found: 1907

Synonym: Guerrero

Siderite: Fine octahedrite, Of.

Specimens: (288) 3047 gms.; (2232) 524.6 gms.

Remarks: A mass of 108.5 kg. and four smaller masses of from 5 to 10 kg. were found in a ruin near Huizopa, 60 miles west of Temosachic, and were brought to Chihuahua for sale as silver ore (authority, G. Griggs, Director State Mining Exhibition, Chihuahua in 1908, according to letters of R. Tower, 1908, in Min. Dept., British Museum). The repository of these large masses unknown.

*Humboldt's Iron*, see Rancho de la Pila

**Hvittis**, Åbo, Finland

Fell: 1901, October 21, noon

Aerolite: Crystalline enstatite-chondrite, Ck.

Specimen: (2622) 128.7 gms.

Remarks: After detonations, three days later, a stone of 14 kg. was found.

**Ibbenbüren**, Westphalia, Prussia, Germany

Fell: 1870, June 17, 2 P.M.

Aerolite: Diogenite (hypersthene-achondrite) Chl.

Specimen: (461) 0.18 gm.

Remarks: After detonation and appearance of light, a stone of about 2 kg. was found two days later.

*Iharaota*, see Lalitpur

**Illinois Gulch**, Deer Lodge County, Montana, U. S. A.

Found: 1897

Siderite: Nickel-rich ataxite, Dc.

Specimen: (64) 268.5 gms.

Remarks: A mass of about 2.5 kg. was found about 4 feet below the surface.

**Imilac**, Desert of Atacama, Chile

Known: In 1822

Siderolite: Pallasite, Pi.

Specimens: (307) 459 gms.; (975) 312.7 gms.; (997) 4538 gms.

Remarks: Numerous masses weighing together several hundred-weights, with individuals up to 450 lbs., were found in a valley to the S.W. of Imilac.

**Indarch**, Shusha, Elisavetpol, Azerbaijan, U. S. S. R.

Fell: 1891, April 7, 8:10 P.M.

Aerolite: Carbonaceous spherical chondrite, Kc.

Specimens: (463) 8.5 gms.; (2237) 18.7 gms.

Remarks: After detonations and appearance of "flame," a stone of about 27 kg. fell, and was found next morning.

**Iquique, Tarapaca, Chile**

Found: 1871

Siderite: Nickel-rich ataxite, Dc.

Specimens: (153) 63 gms.; (743) 24.5 gms.

Remarks: A mass of 12.5 kg. was found embedded in nitrate, 30 miles east of Iquique.

**Iredell, Bosque County, Texas, U. S. A.**

Found: 1898

Siderite: Hexahedrite, H.

Specimen: (117) 179.4 gms.

Remarks: A mass of about 1.5 kg. was found on a sheep ranch, 5 or 6 miles S.W. of Iredell, but only about 1/2 kg. has been preserved.

**Iron Creek, Battle River, North Saskatchewan, Canada**

Known: Before 1869

Synonym: Victoria

Siderite: Medium octahedrite, Om.

Specimen: (30) 88.7 gms.

Remarks: A mass of 386 lbs. on a hill near Iron Creek had been long known to the Indians before its removal to Victoria about 1869.

**Ivanpah, San Bernardino County, California, U. S. A.**

Found: 1880

Siderite: Medium octahedrite, Om.

Specimen: (23) 508 gms.

Remarks: A mass of about 128 lbs. was found. Main mass in San Francisco (State Mining Bureau Mus. California).

*Ixtlahuaca*, see Toluca

**Jackson County, Tennessee, U. S. A.**

Known: 1846

Siderite: Medium octahedrite, Om.

Specimens: (91) 44.9 gms.; \*(104) 13 gms.; \*(220) 46.5 gms.

Remarks: A piece of about 1 lb. from a large mass (since lost sight of) was described by G. Troost (Amer. Journ. Sci., 1846, Vol. 2, p. 357).

**Jamestown, Stutsman County, North Dakota, U. S. A.**

Found: 1885

Siderite: Fine octahedrite, Of.

Specimen: (88) 91.7 gms.

Remarks: A mass of about 4 kg. was found 15 to 20 miles S.E. of Jamestown.

*Jamyscheva*, see Pavlodar

**Jelica**, near Jezevica, Jugoslavia

Fell: 1889, December 1, 2:30 P.M.

Aerolite: Amphoterite, Am.

Specimens: (464) 665.5 gms.; (1063) 157.9 gms.; \*(1064) 1.5 gms.; \*(2604) 38.5 gms.

Remarks: After detonations and appearance of light, a shower of stones fell over an area of  $5 \times 3$  miles; the stones, of which 26 or more were found, varied in weight from 8.5 kg. to 70 grams and had a total weight of about 34 kg.

**Jenny's Creek**, Wayne County, West Virginia, U. S. A.

Found: 1883

Siderite: Coarse octahedrite, Og.

Specimens: (124) 227.3 gms.; \*(714) 10 gms.

Remarks: Three masses, of about 23, 2.5 and 1 lb., respectively, were found in 1883-1885, but only about 2 lbs. have been preserved.

*Jewell Hill*, see Duel Hill

**Jhung**, Punjab, India

Fell: 1873, June, 3 P.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (465) 24.2 gms.

Remarks: After detonations, four stones, of 6, 4, 2 and 1 lb., respectively, fell in villages, in a line from south to north, in the district of Jhang.

**Joe Wright Mountain**, Independence County, Arkansas, U. S. A.

Found: 1884

Siderite: Medium octahedrite, Om.

Specimen: (21) 276.2 gms.

Remarks: A mass of 94 lbs. was found 7 miles east of Batesville. Main mass (33 kg.) in Vienna (Naturhist. Mus.).

**Johnstown**, Weld County, Colorado, U. S. A.

Fell: 1924, July 6, 4:20 P.M.

Aerolite: An achondrite, similar to Shalka

Specimens: (2493) 19,220 gms.; (2494) 2196.5 gms.; (2495) 1887.2 gms.; (2496) 514 gms.; (2497) 249.5 gms.; (2498) 33.5 gms.; (2499) 5.2 gms.; (2500) 6.4 gms.

Remarks: After four explosions, 27 stones were found over an area of  $10 \times 3$  miles (S.S.W. to N.N.E.) near Johnstown. Total weight recovered about 40.5 kg., largest fragment weighed 19,220 grams.

**Jonzac**, Charente Inférieure, France

Fell: 1819, June 13, 6 A.M.

Aerolite: Eucrite, Eu.

Specimen: (602) 7.4 gms.

Remarks: After appearance of luminous meteor and detonations, a shower

of stones fell, the two largest of which weighed 3 kg. and 2 kg. respectively.

**Juncal**, Desert of Atacama, Chile, S. A.

Found: 1866

Siderite: Medium octahedrite, Om.

Specimen: (149) 165.2 gms.

Remarks: A mass of 104 kg. was found between the Rio Juncal and the Salinas de Pedernal. Main mass in Paris (Mus. d'Hist. Nat.).

**Juvinas**, Ardèche, France

Fell: 1821, June 15, 3 P.M.

Aerolite: Eucrite, Eu.

Specimen: (466) 387.2 gms.

Remarks: After appearance of fire-ball and detonations, a stone of over 91 kg. fell near the village of Libonnes.

**Kaba**, Debreczen, Hungary

Fell: 1857, April 15, 10 P.M.

Aerolite: Carbonaceous hypersthene-chondrite, K.

Specimen: (467) 1.28 gms.

**Karakol**, Ayagus, Semipalatinsk, Siberia, U. S. S. R.

Fell: 1840, May 9, noon

Aerolite: White chondrite, Cw.

Specimen: (468) 2 gms.

Remarks: A stone of about 3 kg. fell, after detonations, by the river Karakol.

**Kendall County**, Texas, U. S. A.

Known: 1887

Synonym: Borne

Siderite: Brecciated hexahedrite, Hb.

Specimens: (118) 170.4 gms.; \*(255) 44.5 gms.; \*(267) 307 gms.; (710) 368 gms.; \*(846) 494 gms.; (847) 629.5 gms.; (848) 625 gms.; (849) 11.5 gms.

Remarks: A mass of about 21 kg. is mentioned by A. Brezina as found in Kendall County and acquired by the Naturhist. Hofmuseum in Vienna.

**Kenton County**, Kentucky, U. S. A.

Found: 1889

Siderite: Medium octahedrite, Om.

Specimen: (57) 9590 gms.

Remarks: A mass of 163 kg. was found on a farm about 8 miles south of Independence.

**Kerilis**, Côtes-du-Nord, France

Fell: 1874, November 26, 10:30 A.M.

Aerolite: Veined gray chondrite, Cga.

Specimen: (469) 0.6 gms.

Remarks: After detonations, a stone of about 5 kg. fell,

**Kermichel**, Morbihan, France

Found: 1911; perhaps fell 1903, June 30

Aerolite: Crystalline-chondrite, Ck.

Specimen: (580) 53.6 gms.

Remarks: A stone of about 3 kg. was ploughed up in 1911 on the farm Kermichel. According to the Marquis de Mauroy, who obtained possession of the mass, a stone was seen to fall, after the usual light and sound phenomena, on June 30, 1903, but was not found at the time.

**Kernouvé**, Cléguérec, Morbihan, France

Fell: 1869, May 22, 10 P.M.

Aerolite: Veined crystalline bronzite-chondrite, Cka.

Specimens: (470) 163.8 gms.; \*(1065) 39 gms.

Remarks: A conical stone of about 80 kg. fell, after detonations, and appearance of fire-ball.

**Kesen**, Hondo, Japan

Fell: 1850, June 13, 5 A.M.

Synonym: Rikuzen

Aerolite: Spherical hypersthene-chondrite, Ccb.

Specimen: (472) 6025 gms.; \*(633) 108 gms.

Remarks: A stone of about 135 kg. fell, after detonations.

**Khairpur**, Bahawalpur State, Punjab, India

Fell: 1873, September 23, 5 A.M.

Aerolite: Crystalline enstatite-chondrite, Ck.

Specimen: (473) 540.8 gms.

Remarks: After the appearance of a cluster of luminous meteors, followed by detonations, a shower of stones fell on both sides of the Sutlej over an area of 16 × 3 miles; of six stones preserved in the Indian Museums, three weighed about 11, 10 and 8 lbs., and the total weight was about 30 lbs.

**Khetri**, Rajputana, India

Fell: 1867, January 19, 9 A.M.

Aerolite: Brecciated gray bronzite-chondrite, Cgb.

Specimen: (474) 15.8 gms.

Remarks: After detonations, a shower of stones (about 40) fell; they were mostly pounded to powder by the natives, and two fragments only appear to have been preserved; the two stones were of about 13 lbs. and 4.5 lbs., respectively.

**Kikino**, Smolensk, U. S. S. R.

Fell: 1809

Aerolite: Veined white chondrite or gray chondrite, Cwa. or Cg.

Specimen: (475) 1 gm.

Remarks: An "ash-colored" stone fell in the village Kikino, but no particulars of the fall nor weight are recorded. (E. von Eichwald, A. Erman's Arch. Wiss. Kunde Russland, Berlin, 1847, Vol. 5, p. 177).

**Kilbourn**, Columbia County, Wisconsin, U. S. A.

Fell: 1911, June 16, 5 P.M.

Aerolite: Gray chondrite, Cga.

Specimen: (585) 53 gms.

Remarks: After detonations, a stone of 772 grams fell through the roof to the floor of a barn, penetrating two hemlock boards.

**Killeter**, County Tyrone, Ireland

Fell: 1844, April 29, 3:30 P.M.

Aerolite: Veined white chondrite

Specimen: (476) 0.23 gms.

Remarks: After appearance of rapidly moving cloud and detonations, a shower of stones fell over several fields, but only a few fragments were preserved.

**Kingston**, Sierra County, New Mexico, U. S. A.

Found: 1891

Siderite: Medium octahedrite, Om.

Specimens: (209) 482 gms.; (774) 521 gms.

Remarks: A mass of about 28.5 lbs. was found near the Solitary Mine, Percha Creek, 4 miles north of Kingston.

*Klein-Menow*, see Menow**Klondike**, Big Skookum Gulch, Bonanza Creek, Yukon, Canada

Found: 1905

Synonym: Big Skookum

Siderite: Nickel-rich ataxite, Db.

Specimen: (273) 788.2 gms.

Remarks: One mass of 483 grams was found in *Gay Gulch*, Bonanza Creek, in 1901, and another of about 16 kg. in Pliocene gravels in Skookum Gulch, 10 miles distant; the two masses give similar etching effects and in all probability belong to one fall.**Knowles**, Beaver County, Oklahoma, U. S. A.

Found: 1903

Siderite: Fine octahedrite, Of.

Specimens: (208) 161,000 gms.; (768) 22 gms.; (769) 32.9 gms.; \*(770) 158 gms.; (771) 152.7 gms.; (772) 11.3 gms.; \*(773) 169 gms.

Remarks: A somewhat rectangular mass, 24.5 inches long by 15 inches wide by 8 inches high and weighing 161.39 kg. (355 lbs.) was found in 1903. It was purchased by the American Museum in 1910. Two pieces, 158 grams and 169 grams, have been exchanged.

**Knyahinya**, Nagy-Bereszna, Ungvar, Czechoslovakia

Fell: 1866, June 9, 5 P.M.

Aerolite: Gray hypersthene-chondrite, Cg.

Specimens: <sup>1</sup>(478) 1036.2 gms.; \*(1067) 142 gms.; (1068) 78.1 gms.; (1069)<sup>1</sup> Note: 5.9 gms. cut from original mass (1042.1 gms.) for analyses.

174.9 gms.; \*(1070) 35.2 gms.; \*(1071) 75.5 gms.

Remarks: After appearance of fire-ball and detonations, a shower of stones (estimated at over 1000, and of total weight of about 500 kg., the largest weighing about 293 kg.) fell over an area of  $2 \times \frac{3}{4}$  miles.

**Kokomo**, Howard County, Indiana, U. S. A.

Found: 1862

Siderite: Nickel-rich ataxite, Dc.

Specimen: (48) 11.7 gms.

Remarks: A mass of about 4 lbs. was found at a depth of about 2 ft. Only 655 grams (418 in Harvard University) known in collections.

**Krasnojarsk**, Yeniseisk, Siberia, U. S. S. R.

Found: 1749

Synonym: Medwedewa; Pallas Iron

Siderolite: Pallasite, Pk.

Specimens: \*(320) 111 gms.; (896) 211.5 gms.; (897) 940.8 gms.

Remarks: A mass estimated at about 700 kg. was discovered in 1749 about 145 miles south of Krasnojarsk between the Ubei and Sisim rivers; it was seen by P. S. Pallas in 1772, and was transported to Krasnojarsk.

*Krasnojarsk* (iron) see Toubil River

**Kuleschovka**, Poltava, Ukraine, U. S. S. R.

Fell: 1811, March 12, 11 A.M.

Aerolite: Veined white chondrite, Cwa.

Specimen: (479) 13 gms.

Remarks: A stone of over 6 kg. fell, after detonations.

*Kwidzyn*, see Schwetz

**Kyushu**, Japan

Fell: 1886, October 26, 3 P.M.

Synonyms: Maeme; Oynchimura

Aerolite: Veined white chondrite, Cwa.

Specimens: (493) 7800 gms.; (522) 717.2 gms.; (1072) 815 gms.; (1073) 2.9 gms.; \*(1090) 113 gms.; \*(1091) 97 gms.; (1092) 5.7 gms.; (2238) 5.2 gms.; (2239) 4.3 gms.; (2240) 2.2 gms.; (2241) 3.5 gms.; (2242) 2.3 gms.; (2243) 1.85 gms.; (2244) 2.05 gms.; (2245) 0.9 gm.; (2246) 1.05 gms.; (2247) 0.85 gm.; (2249) 3.85 gms.; (2250) 2.1 gms.; (2251) 1.6 gms.

Remarks: After detonations, a shower of stones fell in the southern part of Kyushu in the provinces of Satsuma and Osumi; the largest weighed about 29 kg., the smaller were described as "innumerable." Two complete stones in Tokyo (Imp. Mus.).

**La Bécasse**, Indre, France

Fell: 1879, January 31, noon

Aerolite: White chondrite, Cw.

Specimens: (658) 21.1 gms.; (2221) 9.5 gms.

Remarks: After detonations, a stone of 2.8 kg. was seen to fall. Main mass (2.5 kg.) in Paris (Mus. d'Hist. Nat.).

*La Bella Roca*, see *Bella Roca*

**Laborel**, Drôme, France

Fell: 1871, June 14, 8 P.M.

Aerolite: Intermediate chondrite, Cib.

Specimen: (480) 99.2 gms.

Remarks: Two stones, one of about 2 kg., and the other of 91 grams, appear to have fallen, but were not discovered (or made known) until 1895. The specimen in the British Museum does not appear to be brecciated (G. T. Prior).

**La Caille**, Grasse, Alpes Maritimes, France

Found: About 1600, recognized 1828

Siderite: Medium octahedrite, Om.

Specimen: (186) 29.2 gms.

Remarks: A mass of about 625 kg. for about two centuries was used as a seat in front of the church of La Caille. It was recognized as meteoric in 1828 by Brard, who states that it had been brought from the mountain of Audibergue about 6 miles S.E. of La Caille. Main mass in Paris (Mus. d'Hist. Nat.).

**La Grange**, Oldham County, Kentucky, U. S. A.

Found: 1860

Siderite: Fine octahedrite, Of.

Specimen: (51) 55.8 gms.

Remarks: A mass of 112 lbs. was found.

**Lake Labyrinth**, South Australia

Fell: 1924

Aerolite: Brecciated and slickenside chondrite, Cgb.

Specimens: (2682) 20 gms.; (2683) 688.2 gms.; (2684) 12.7 gms.; (2685) 155.6 gms.

Remarks: Specimens received in 1935 from Kyancutta Museum.

**L'Aigle**, Orne, France

Fell: 1803, April 26, 1 P.M.

Aerolite: Brecciated intermediate hypersthene-chondrite, Cib.

Specimen: (481) 157.4 gms.

Remarks: After appearance of a fire-ball, followed by detonations, a shower of stones, estimated at 2000-3000 in number and of aggregate weight of about 37 kg., the largest weighing about 9 kg., fell within an area of  $6 \times 2.5$  miles; the detailed report of the phenomena by J. B. Biot first established beyond doubt the fact of the fall of stones from outer space.



**Lalitpur**, Lalitpur district, United Provinces, India

Fell: April 7, 1887, 10:30 A.M.

Synonym: Iharaota

Aerolite: Veined intermediate chondrite, Choa

Specimen: (462) 13.8 gms.

Remarks: After detonations, a stone was seen to fall and break into pieces, eight of which, weighing 372 grams, were recovered between Jharaota and Nayagaon, 24° 27' N., 78° 34' E., 20 miles S.E. of Lalitpur, Tashil Mahroni, sub-division Lalitpur, district Jhansi.

**Lampa**, Desert of Atacama, Chile, S. A.

Found: 1905

Aerolite: Crystalline chondrite, Ck.

Specimen: (592) 369.4 gms.

Remarks: A mass of 6.25 lbs., obtained from H. A. Ward, was described by O. C. Farrington. Except that it is more oxidized, in characters it is very similar to Cobija, and may be identical with it since the information as to locality was obtained not from H. A. Ward, but indirectly from the School of Mines, Santiago (G. T. Prior).

**Lancé**, Loir-et-Cher, France

Fell: 1872, July 23, 5:20 P.M.

Aerolite: Spherical carbonaceous chondrite, Kc.

Specimen: (618) 4.1 gms.

Remarks: After appearance of fire-ball (moving from S.W. to N.W.), and detonations, a shower of stones fell, of which six were recovered; the total weight was about 51.75 kg., and the largest stone weighed 47 kg. The largest stone (47 kg.) in Vienna (Naturhist. Mus.), about 1.5 kg. in Paris (Mus. d'Hist. Nat.).

**Lançon**, Bouches-du-Rhone, France

Fell: 1897, June 20, 8:30 P.M.

Aerolite: Veined intermediate chondrite, Cia.

Specimens: (482) 7.1 gms.; (665) 91.8 gms.

Remarks: After the usual light and sound phenomena, a stone (or stones) fell, of total weight probably of about 7 kg. (the De Mauroy Collection in 1909 contained 5.8 kg., the largest piece weighing 4.4 kg.).

**La Primitiva**, Tarapaca, Chile, S. A.

Found: 1888

Synonyms: Primitiva; Salitra

Siderite: Nickel-poor ataxite, Dp.

Specimens: (152) 173.7 gms.; (742) 70.4 gms.

Remarks: A mass of 6-8 lbs. was found by a native near the nitrate works of La Primitiva in 1888. In 1903, a mass of 4 kg. was found embedded in "caliche" at the Angela Nitrate Co., works about 12 miles from La Primitiva, and in 1906 and 1911 two other

masses, of 1.5 kg., and 4.3 kg., respectively, from the same locality were sent to the British Museum. A further mass of 9 kg. was found (probably transported there) in 1907 (Aug. 10) on a mountain of the Sierra Gorda, desert of Atacama, Chile, by an Indian who lived near Calama. It has a structure like that of *La Primitiva* and is a nickel-poor ataxite, with Ni = 4.22% (G. T. Prior), and contains large nodules of schreibersite.

**Laurens County, South Carolina, U. S. A.**

Found: 1857

Siderite: Fine octahedrite, Of.

Specimen: (95) 40 gms.

Remarks: A mass of 4.75 lbs. was found in the northwestern corner of Laurens County.

**Lenarto, Sáros, Czechoslovakia**

Found: 1814

Siderite: Medium octahedrite, Om.

Specimens: (183) 119 gms.; (756) 53.6 gms.

Remarks: A mass of 108.5 kg. was found on one of the highest summits of the Carpathians.

**Le Pressoir, Indre-et-Loire, France**

Fell: 1845, January 25, 3 P.M.

Aerolite: Spherical chondrite, Cc.

Specimens: \*(483) 4 gms.; (632) 13.5 gms.

Remarks: After detonations, a stone of about 3 kg. was found next day.

**Lesves, Namur, Belgium**

Fell: 1896, April 13, 7:30 A.M.

Aerolite: Gray chondrite, Cg.

Specimen: (484) 112.8 gms.

Remarks: After detonations, a stone of about 2 kg. was seen to fall.

**Le Teilleul, Manche, France**

Fell: 1845, July 14, 3 P.M.

Aerolite: Howardite, Ho.

Specimen: (650) 3.8 gms.

Remarks: After detonations a stone of 780 grams fell.

**Lexington County, South Carolina, U. S. A.**

Found: 1880

Siderite: Coarse octahedrite, Og.

Specimen: (96) 210.2 gms.

Remarks: A mass of 10.5 lbs. was found on a farm.

**Lime Creek, Claiborne, Monroe County, Alabama, U. S. A.**

Found: 1834

Siderite: Nickel-rich ataxite, Dc.

Specimen: (4) 129.6 gms.

Remarks: A mass, "of irregular triangular shape 10 in. long by 5 or 6 in.

in thickness," was found: described and analyzed by C. T. Jackson, who, in this meteorite, was the first to record the presence of chloride of iron in meteoric irons. Analyzed later by R. Knauer confirming Jackson's results. Repository of the main mass unknown.

**Limerick County, Adare, Ireland**

Fell: 1813, September 10, 9 A.M.

Aerolite: Veined gray bronzite-chondrite, Cgb.

Specimen: (485) 30.8 gms.

Remarks: A shower of stones fell after detonations, one of 17 lbs. at Scagh, several smaller ones near Adare, one of 65 lbs. at Brasky, and another of 24 lbs. at Faha.

**Linville, Linville Mountain, Burke County, North Carolina, U. S. A.**

Found: 1882

Siderite: Nickel-rich ataxite, Db.

Specimen: (85) 66 gms.

Remarks: A mass of 442 grams was found on Linville Mountain.

*Lion River*, see Bethany

**Lissa, Bunzlau, Bohemia, Czechoslovakia**

Fell: 1808, September 3, 3:30 P.M.

Aerolite: Veined white chondrite, Cwb.

Specimen: (486) 220.7 gms.

Remarks: After detonations, four (perhaps five) stones fell, two at Wustrá and two at Strataw. The total weight of the four stones was about 10.4 kg., the largest stone weighing about 3 kg.

**Little Piney, Pulaski County, Missouri, U. S. A.**

Fell: 1839, February 13, 3:30 P.M.

Synonym: Pine Bluff

Aerolite: Spherical chondrite, Cc.

Specimen: (375) 10.3 gms.

Remarks: After appearance of a luminous meteor followed by detonations, a stone of about 50 lbs., which had struck an oak tree was found 2 miles from Pine Bluff and 10 miles from Little Piney. Only about 400 grams known in collections, 75 grams in Washington (U. S. Nat. Mus.).

**Lixna, Dvinsk (= Daugavpils, Dünaburg), Latvia**

Fell: 1820, July 12, 5:30 P.M.

Aerolite: Veined gray bronzite-chondrite, Cga.

Specimen: (487) 53.7 gms.

Remarks: After appearance of a fire-ball (moving from S. to N.), and detonations, a stone of about 40 lbs., was seen to fall at the village of Lasdany; other stones fell in water and were not recovered.

*Llano del Inca*, see *Vaca Muerta*

**Locust Grove**, Henry County, Georgia, U. S. A.

Found: 1857

Siderite: Nickel-poor ataxite, Ds.

Specimens: <sup>1</sup>(40) 324.8 gms.; \*(872) 373 gms.

Remarks: A mass of 10 kg. was found three days after the appearance of a luminous meteor on July 26, 1857.

**Lodran**, Multan, Punjab, India

Fell: 1868, October 1, 2 P.M.

Siderolite, Lodranite, Lo.

Specimen: (314) 31.4 gms.

Remarks: After detonations, a stone fell 12 miles east of Lodran, and a portion of about 1 kg. was preserved.

**Lonaconing**, Allegany County, Maryland, U. S. A.

Found: 1888

Siderite: Coarse octahedrite, Og.

Specimens: (59) 99.1 gms.; (675) 24.3 gms.

Remarks: A mass of 45 oz. (1.25 kg.) was ploughed up in Garrett County, 12 miles south of the post-office of Lonaconing in Allegany County.

**Long Island**, Phillips County, Kansas, U. S. A.

Found: 1891

Aerolite: Veined intermediate hypersthene-chondrite, Cia

Specimens: (367) 340 gms.; <sup>2</sup>(631) 74 gms. (2 pieces); (661) 27 lbs.; (1022) 460 gms.; (1023) 900 gms.; (1024) 1070 gms.; (1025) 6690 gms.; (1026) 1134 gms.; (2268) 462.5 gms.; (2269) 610 gms.; (2270) 388.5 gms.; (2271) 320.5 gms.; (2272) 607.5 gms.; (2273) 110 gms.; (2274) 672 gms.; (2275) 190 gms.; (2276) 302.5 gms.; (2277) 300 gms.; (2278) 452 gms.; (2279) 518 gms.; (2280) 361.5 gms.; (2281) 626 gms.; (2282) 218 gms.; (2283) 403.5 gms.; (2284) 212.5 gms.; (2285) 253 gms.; (2286) 457 gms.; (2287) 409.5 gms.; (2288) 1304 gms.; (2289) 850.5 gms.; (2290) 1369 gms.; (2291) 335 gms.; (2292) 238 gms.; (2293) 14,840 gms.; (2294) 11,937 gms.; (2295) 168.2 gms.; (2296) 87.7 gms.; (2297) 99.2 gms.; (2298) 83.8 gms.; (2299) 54 gms.; (2300) 228 gms.; (2301) 75 gms.; (2302) 190.5 gms.; (2303) 98 gms.; (2304) 78 gms.; (2305) 44.5 gms.; (2306) 33 gms.; (2307) 32.8 gms.; (2308) 27 gms.; (2309) 24.9 gms.; (2310) 38.8 gms.; (2311) 29.9 gms.; (2312) 24.3 gms.; (2313) 79.3 gms.; (2314) 177.6 gms.; (2315) 112.5 gms.; (2316) 109.5 gms.; (2317) 100.1 gms.; (2318) 26 gms.; (2319) 41 gms.; (2320) 26.2 gms.; (2321)

<sup>1</sup> Note: Original weight 761 gms.—cut in two sections (63.2 gms. lost in cutting). Museum specimen weighs 324.8 gms., 373 gms. exchanged (872).

<sup>2</sup> Note: See also Cat. No. 2605 for second piece—combined weight 74 gms. Both specimens exchanged.

28.4 gms.; (2322) 33.3 gms.; (2323) 24.3 gms.; (2324) 45 gms.; (2325) 9.7 gms.; (2326) 9.7 gms.; (2327) 4 gms.; (2328) 4.8 gms.; (2329) 13.2 gms.; (2330) 67.3 gms.; (2331) 110.8 gms.; (2332) 43.8 gms.; (2333) 61.5 gms.; (2334) 61.2 gms.; (2335) 102 gms.; (2336) 56.3 gms.; (2337) 98.7 gms.; (2338) 52.8 gms.; (2339) 46.5 gms.; (2340) 51.2 gms.; (2341) 60.3 gms.; (2342) 54.7 gms.; (2343) 28.2 gms.; (2344) 28.3 gms.; (2345) 41.7 gms.; (2346) 54.2 gms.; (2347) 57.3 gms.; (2348) 43.4 gms.; (2349) 50.5 gms.; (2350) 34.9 gms.; (2351) 31.8 gms.; (2352) 42.7 gms.; (2353) 15.2 gms.; (2354) 42.8 gms.; (2355) 33.8 gms.; (2356) 33.9 gms.; (2357) 30.3 gms.; (2358) 31 gms.; (2359) 32 gms.; (2360) 258.2 gms.; (2361) 20.7 gms.; (2362) 17.3 gms.; (2363) 25 gms.; (2364) 22.5 gms.; (2365) 20.8 gms.; (2366) 14.8 gms.; (2367) 20 gms.; (2368) 22.7 gms.; (2369) 26.8 gms.; (2370) 9 gms.; (2371) 39 gms.; (2372) 25 gms.; (2373) 12.7 gms.; (2374) 21.5 gms.; (2375) 10.3 gms.; (2376) 18.9 gms.; (2377) 14.6 gms.; (2378) 6.9 gms.; (2379) 11 gms.; (2380) 4.9 gms.; (2381) 10.5 gms.; (2382) 20 gms.; (2383) 9 gms.; (2384) 5.3 gms.; (2385) 31.8 gms.; (2386) 12.6 gms.; (2387) 24.3 gms.; (2388) 5.8 gms.; (2389) 7.2 gms.; (2390) 8.5 gms.; (2391) 12.8 gms.; (2392) 9.3 gms.; (2393) 4.1 gms.; (2394) 14.2 gms.; (2395) 16.6 gms.; (2396) 96.2 gms.; (2397) 153.1 gms.; (2398) 53.1 gms.; (2399) 139.9 gms.; (2400) 46.5 gms.; \*(2401) 475 gms.; (2501) 4.1 gms.; (2502) 9.9 gms.; (2503) 3.8 gms.; (2504) 13.1 gms.; (2505) 1.95 gms.; (2506) 6.6 gms.; (2507) 18.4 gms.; (2508) 10.6 gms.; (2509) 8.6 gms.; (2510) 9.4 gms.; (2511) 3.4 gms.; (2512) 3.1 gms.; <sup>1</sup>(2605) ? gms. (2 pieces).

Remarks: About 3000 pieces, belonging to one stone and weighing together about 1244 lbs., were found over a small area of about 15-20 ft. long by 6 ft. wide, in the N.W. corner of Phillips County, 3 miles west of the town of Long Island. Most of the material (over 543 kg.) in Chicago (Field Mus. Nat. Hist.).

**Losttown, Cherokee County, Georgia, U. S. A.**

Found: 1868

Siderite: Medium octahedrite, Om.

Specimens: (38) 320.6 gms.; \*(265) 46 gms.; (2538) 217.6 gms.; (2539) 68 gms.; (2540) 27.7 gms.; (2541) 40 gms.; (2542) 208 gms.

Remarks: A mass of about 6.5 lbs. was ploughed up 2.5 miles S.W. of Losttown. Main mass in Amherst College.

*Louisa County, see Staunton*

*Lowain, see Tourinnes-la-Grosse*

**Lucé, Sarthe, France**

Fell: 1768, September 13, 4:30 P.M.

<sup>1</sup> Note: See Cat. No. 631 for other piece—combined weight 74 gms. Both specimens exchanged.

Aerolite: Veined white chondrite, Cwa.

Specimen: (489) 0.19 gms.

Remarks: After detonations a stone of 3.5 kg. was seen to fall. Little preserved, 166 grams in Vienna (Naturhist. Mus.).

**Lucky Hill**, St. Elizabeth, Jamaica, B. W. I.

Found: 1885

Synonym: Bellevue

Siderite: Medium octahedrite, Om.

Specimen: (239) 14.5 gms.

Remarks: An oxidized mass of over 45 lbs., was dug up from 2 ft. below the surface.

**Luis Lopez**, Socorro County, New Mexico, U. S. A.

Found: 1896

Siderite: Medium octahedrite, Om.

Specimen: (204) 362.2 gms.

Remarks: A mass of about 7 kg. was picked up about 5 miles S.W. of Socorro.

**Lumpkin**, Stewart County, Georgia, U. S. A.

Fell: 1869, October 6, 11:45 A.M.

Aerolite: Crystalline spherical hypersthene-chondrite, Cck.

Specimen: (355) 24.4 gms.

Remarks: After detonations, a stone of about 3/4 lb., was seen to fall 12 miles S.W. of Lumpkin.

**Lundsgård**, Ljungby, Gottland, Sweden

Fell: 1889, April 3, 8:30 P.M.

Aerolite: White hypersthene-chondrite, Cw.

Specimen: (609) 118.1 gms.

Remarks: After the appearance of a luminous meteor and detonations, a stone of about 11 kg. was found. Main mass (9.5 kg.) in Stockholm (Riksmus.).

**Luponnas**, Ain, France

Fell: 1753, September 7, 1 P.M.

Aerolite: Brecciated intermediate chondrite, Cib.

Specimen: (491) 1 gm.

Remarks: After detonations, two stones were found, one of 9 kg. at Luponnas and the other of 5 kg. at Pont-de-Vesle, but very little appears to have been preserved.

**Macao**, Rio Grande do Norte, Brazil, S. A.

Fell: 1836, November 11, 5 A.M.

Aerolite: Veined intermediate chondrite, Cia.

Specimen: (492) 22.3 gms.

Remarks: After the appearance of a brilliant meteor, followed by detonations, a shower of stones, most of the size of doves' eggs, but some said to weigh from 1 lb. to 80 lbs., fell near the mouth of the river Assu.

**Macquaire River**, New South Wales, Australia

Found: 1857

Siderolite: Mesosiderite, M.

Specimen: (312) 9.9 gms.

Remarks: Slice  $25 \times 40 \times 2$  mm., crust on edges. Two faces polished, showing a black, compact groundmass, thickly sprinkled with points of nickel-iron.**Madoc**, Hastings County, Ontario, Canada.

Found: 1854

Siderite: Fine octahedrite, Of.

Specimen: (29) 27.1 gms.

Remarks: A mass of 370 lbs. was found. Main mass in Ottawa (Mus. Geol. Surv. Canada).

*Maeme*, see Kyushu**Magura**, Arva, Czechoslovakia

Found: 1840

Siderite: Coarse octahedrite, Og.

Specimens: (184) 927 gms.; \*(757) 305 gms.; (2264) 30.3 gms.; (2592) 87.7 gms.; (2593) 42 gms.; (2594) 26.6 gms.; (2595) 13.2 gms.; (2596) 9.3 gms.; (2597) 4.9 gms.; (2598) 24 gms.; (2599) 38.3 gms.;

Remarks: A mass of about 1500 kg. was found, but the greater part was smelted and only about 150 kg. was saved.

**Mainz**, Hesse, Germany

Found: 1852

Aerolite: Veined intermediate hypersthene-chondrite, Ck.

Specimens: (494) 114.3 gms.; \*(1074) 16 gms.

Remarks: A stone of about 1.5 kg. was ploughed up.

**Makariwa**, Invercargill, County Southland, New Zealand

Found: 1879

Aerolite: Brecciated gray hypersthene-chondrite, Cgb.

Specimen: (495) 14.2 gms.

Remarks: A stone of about 5 lbs. was found in clay about 2.5 ft. from the surface. Small pieces in the Dunedin and Wellington Museums.

**Manbhoom**, Bengal, India

Fell: 1863, December 22, 9 A.M.

Aerolite: Amphoterite, Am.

Specimen: (496) 599.6 gms.

Remarks: After detonations, several stones, of which the largest weighed about 1.5 kg., were found near the villages of Govindpur, Pandra and Cossipore.

**Mantos Blancos**, Atacama Desert, Chile, S. A.

Found: 1876

Siderite: Fine octahedrite, Of.

Specimen: (150) 34 gms.

Remarks: A mass of 10.3 kg. was found on the S.E. side of Mount Hicks, about 40 miles from Antofagasta.

**Marion**, Linn County, Iowa, U. S. A.

Fell: 1847, February 25, 2:45 P.M.

Synonym: Hartford

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimens: \*(360) 94 gms.; (590) 234.4 gms.

Remarks: After detonations, a stone of about 2.5 lbs. was seen to fall 9 miles due south of Marion, and two other stones were found later, one of about 40 lbs. and the other 20 lbs. The 20 lb. stone is in Amherst College, 1 kg. in Yale University.

**Marmande**, Lot-et-Garonne, France

Fell: 1848, July 4

Aerolite: Spherical chondrite, Cc.

Specimen: (497) 0.7 gm.

Remarks: A fragment, labeled as from a stone of 3 kg., which fell on the above date, was found among the effects of Col. Gabalda (label with specimen in British Museum Collection). Only a few grams known in collections; 25 grams in Vienna (Naturhist. Mus.).

**Marshall County**, Kentucky, U. S. A.

Described: 1860

Siderite: Medium octahedrite, Om.

Specimen: (223) 19.6 gms.

Remarks: A piece from a mass said to weigh 15 lbs. was analyzed by J. L. Smith (*Amer. Journ. Sci.*, 1860, Vol. 30, p. 240).

**Mart**, McLennan County, Texas, U. S. A.

Found: 1898

Siderite: Finest octahedrite, Off.

Specimen: (119) 202.4 gms.

Remarks: An oval mass of 15.75 lbs. was found on a farm. Main mass in Baylor University, Waco, Texas.

**Mauerkirchen**, Upper Austria

Fell: 1768, November 20, 4 P.M.

Aerolite: White hypersthene-chondrite, Cw.

Specimen: (498) 83.7 gms.

Remarks: After detonations, a stone of about 19 kg. fell.

**Mauritius**, Indian Ocean

Fell: 1801, December 22

Aerolite: Howarditic chondrite, Cho.

Specimen: (499) 1.7 gms.

Remarks: After detonations and appearance of light, three stones, one as



large as a melon and two as large as an orange, fell on the Isle aux Tonneliers.

**Mazapil**, Zacatecas, Mexico

Fell: 1885, November 27, 9 P.M.

Siderite: Medium octahedrite, Om.

Specimen: (136) 93 gms.

Remarks: A mass of about 4 kg. fell during a star-shower.

**McKinney**, Collin County, Texas, U. S. A.

Found: 1870

Aerolite: Black hypersthene-chondrite, Cs.

Specimens: (391) 1686.3 gms.; (595) 632.5 gms.; (1037) 2750 gms.; (2177) 326.9 gms.; \*(2178) 65 gms.; \*(2179) 60 gms.

Remarks: Two stones, of which the larger weighed 100 kg., were found (or were seen to fall?) 8 miles west of McKinney.

*Medwedewa*, see Krasnojarsk

*Mejillones*, see Vaca Muerta

*Melbourne*, see Cranbourne

**Melrose**, Curry County, New Mexico, U. S. A.

Found: 1933

Aerolite: Crystalline chondrite, Ck.

Specimen: (2642) 608 gms.

Remarks: A much-weathered meteoric stone weighing 31 kg. was ploughed up some years ago at Melrose, and in 1933 four stones with a total weight of 20.382 kg., were found on the surface near La Lande (Roosevelt Co.), 26 miles to the west. They are to some extent chondritic, and are all believed to belong to the same fall. A trace of gold has been found in these specimens. H. H. Ninger, Amer. Min. 1934, Vol. 19, pp. 370-371.

**Menow**, Alt-Strelitz, Mecklenburg, Germany

Fell: 1862, October 7, 12:30 P.M.

Synonym: Klein-Menow

Aerolite: Crystalline spherical chondrite, Cck.

Specimens: (477) 18.5 gms.; \*(1066) 5 gms.

Remarks: A stone of about 10.5 kg. fell, after detonations, near Fürstenberg.

**Merceditas**, Chañaral, Atacama, Chile, S. A.

Found: 1884

Siderite: Medium octahedrite, Om.

Specimens: (151) 1250.8 gms.; \*(740) 267 gms.; (741) 10,149 gms.

Remarks: A mass of about 94.5 lbs. was found near a mining camp, 10 or 12 leagues east of Chañaral.

**Mern**, Praesto, Denmark

Fell: 1878, August 29, 2:30 P.M.

**Aerolite:** Veined crystalline spherical chondrite, C.

**Specimen:** (611) 23.5 gms.

**Remarks:** A stone of about 4 kg. fell, after detonations. Main mass (3.25 kg.) in Copenhagen University.

*Meung sur Loire*, see Charsonville

**Mighei**, Kherson, Ukraine, U. S. S. R.

**Fell:** 1889, June 18, 8:30 A.M.

**Aerolite:** Carbonaceous chondrite, K.

**Specimens:** (500) 29.6 gms.; \*(1075) 14 gms.

**Remarks:** After the "usual light and sound phenomena," a stone, of over 8 kg. according to the total weight in collections, was seen to fall.

**Milena**, Varazdin, Croatia, Yugoslavia

**Fell:** 1842, April 26, 3 P.M.

**Aerolite:** White chondrite, Cw.

**Specimen:** (501) 13.6 gms.

**Remarks:** After appearance of a luminous meteor, followed by detonations, two (or three) stones, each of 5 to 6 kg., fell at Pusinsko Selo, 4 miles south of Milena, but were mostly broken up. 260 grams in Budapest (Hung. Nat. Mus.); main mass perhaps in Zagreb (Agram) Museum.

**Miller**, Cleburne County, Arkansas, U. S. A.

**Fell:** July 13, 1930, 9 A.M.

**Aerolite:** Crystalline chondrite, Ck.

**Specimens:** (2624) 16,613 gms.; (2625) 20.4 gms.

**Remarks:** A heart-shaped stone some twelve inches across by six inches thick was seen to fall in a dry road bed 50 yards distant from the house of Julian Bailey, near Miller, Arkansas. It made a round hole 18 inches in depth. The specimen weighs 36 lbs. 10 oz. (16.7 kg.). The surface of the specimen is coated with a thin black crust, except in a few places, where it has been removed. The margins of the under surface are radially grooved. Its texture is a gray, finely crystalline, chondritic mass. The minerals detected by the Mineral Department of the Museum are enstatite, chromite and pyrrhotite.

*Milwaukee*, see Trenton

**Minas Geraes** (?) Brazil

**Known:** In 1888

**Aerolite:** Veined white chondrite, Cwa.

**Specimens:** (615) 4.2 gms.; (2184) 2.3 gms.

**Remarks:** A piece of 1.2 kg. was found without label among specimens which may have been brought from Minas Geraes. Main mass in Rio de Janeiro (Mus. Nac.), 422 grams in Chicago (Field Mus. Nat. Hist.).

**Mincy, Taney County, Missouri, U. S. A.**

Found: 1857

Siderolite: Mesosiderite, M.

Specimens: (303) 376.4 gms.; \*(886) 37 gms.; (887) 2031.5 gms.

Remarks: A mass of about 197 lbs. is stated to have fallen in 1857, 11 miles S.E. of Forsyth, whence it was taken to a farm in Newton County.

**Misshof, Baldohn, Courland, Latvia**

Fell: 1890, April 10, 3:30 P.M.

Aerolite: Spherical bronzite-chondrite, Cc.

Specimen: (502) 160.2 gms.

Remarks: After detonations, a stone of about 5.8 kg., fell.

**Misteca, Oaxaca, Mexico**

Known: 1804

Siderite: Medium octahedrite, Om.

Specimen: (734) 139.5 gms.

Remarks: Del Rio mentions La Misteca as a locality for metallic iron, weight unknown. (Tablas Mineralogicas, 1804, p. 57.) Has been confused with Yanhuitlan, hence repository of main masses uncertain.

**Mocs, Cluj (= Klausenburg, Kolozsvár), Transylvania, Rumania**

Fell: 1882, February 3, 4 P.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimens: (503) 28 gms.; <sup>1</sup>(635) ? gms.; <sup>2</sup>(1076) 125.3 gms.; (1077) 641.8 gms.; (1078) 339.2 gms.; (1079) 131 gms.; \*(1080) 164.3 gms.; (1081) 24.7 gms.; (1082) 11.4 gms.; (1083) 229.9 gms.; <sup>1</sup>(2201) ? gms.; <sup>1</sup>(2203) ? gms.

Remarks: After appearance of luminous meteor and detonations, a shower of stones fell; the number has been estimated at 3000 and the total weight at about 300 kg., the largest stone weighing about 56 kg.

**Moctezuma, Sonora, Mexico**

Found: 1889

Siderite: Medium octahedrite, Om.

Specimen: (137) 177.4 gms.

Remarks: The main mass, 1.7 kg. (3.7 lbs.) is in the School of Mines, City of Mexico.

**Modoc, Scott County, Kansas, U. S. A.**

Fell: 1905, September 2, 9:30 P.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimens: (604) 9110 gms.; (630) 1404.8 gms.; (2187) 1258.8 gms.; (2188) 732.9 gms.; (2189) 679.4 gms.; (2190) 448.9 gms.; (2191) 818.5 gms.; (2192) 348.6 gms.; \*(2193) 1048.8 gms.:

<sup>1</sup> Note: Cat. Nos. 635, 2201, 2203 (combined weights 67 gms.) exchanged.<sup>2</sup> Note: Original wt. 132.7 gms. (5.2 gms. used for analyses).

(2194) 136.2 gms.; (2195) 89 gms.; (2196) 343.2 gms.;  
 (2197) 218.8 gms.; (2198) 544.1 gms.; (2200) 3.4 gms.;  
 (2436) 101.2 gms.; (2437) 10.9 gms.; (2438) 141.5 gms.;  
 \*(2439) 93.9 gms.; <sup>1</sup>(2440) 162 gms.; (2441) 51.8 gms.;  
 (2442) 165.2 gms.; (2443) 12.4 gms.; (2444) 2316.5 gms.;  
 (2445) 900.7 gms.; (2446) 182.4 gms.; (2447) 210.9 gms.;  
 (2448) 140.1 gms.; (2449) 136.7 gms.; (2450) 197.4 gms.;  
 (2451) 188 gms.; (2452) 289.7 gms.; (2453) 39.9 gms.; (2454)  
 126.3 gms.; (2455) 74.2 gms.; (2456) 63.4 gms.; (2457)  
 349.4 gms.; \*(2458) 93 gms.; \*(2459) 348 gms.

Remarks: After appearance of luminous meteor, followed by detonations, 100 stones were found scattered over an area of about 2 miles by 7 miles; the largest stone weighed about 10.75 lbs., and the total weight was about 66 lbs.

**Molina**, Murcia, Spain

Fell: 1858, December 24

Aerolite: Brecciated gray bronzite-chondrite, Cgb.

Specimen: (504) 9 gms.

Remarks: A stone of 114 kg. fell. Main mass in Madrid (Mus. Cienc. Nat.).

**Molong**, Ashburnham County, New South Wales, Australia

Found: 1912

Siderolite: Pallasite, Pi.

Specimens: (998) 453.8 gms.; (2462) 67.6 gms.; (2463) 59.9 gms.

Remarks: A mass of about 230 lbs. was found on Ti-Tree Creek, 12 miles N.W. of Canoblas. Main mass in Sydney (Mining and Geol. Mus.).

**Monroe**, Cabarrus County, North Carolina, U. S. A.

Fell: 1849, October 31, 3 P.M.

Aerolite: Veined gray bronzite-chondrite, Cga.

Specimen: (381) 86.2 gms.

Remarks: After detonations, a stone of about 19 lbs. was found near the post-office Flows, 22 miles east of Charlotte and 18 miles from Monroe.

**Mooranoppin**, County Lansdowne, Western Australia

Found: About 1893

Siderite: Coarsest octahedrite, Ogg.

Specimen: (160) 255.7 gms.

Remarks: A mass of 2.5 lbs. was found about 160 miles east of York.

**Mooresfort**, County Tipperary, Ireland

Fell: 1810, August, noon

Aerolite: Veined gray chondrite, Cga.

Specimens: (505) 43.5 gms.; (1084) 1.4 gms.

<sup>1</sup> Used in analyses.

Remarks: After appearance of moving cloud and sounds like thunder, a stone of 7.75 lbs. was seen to fall.

*Mordvinovka*, see Pavlograd

**Morito**, San Gregoria, Chihuahua, Mexico

Known: 1600

Siderite: Medium octahedrite, Om.

Specimen: (222) 4.9 gms.

Remarks: An enormous mass of about 11,000 kg. (11 tons) was known to the Indians before 1600. Main mass in Mexico City (School of Mines).

**Mornans**, Bourdeaux, Drôme, France

Fell: 1875, September

Aerolite: Veined gray chondrite, Cga.

Specimen: (507) 18.2 gms.

Remarks: A stone of about 1.3 kg. fell, after detonations.

**Morristown**, Hamblen County, Tennessee, U. S. A.

Found: 1887

Siderolite: Mesosiderite, Mg.

Specimen: (305) 356.7 gms.

Remarks: Several masses weighing together about 36 lbs. were found about 6 miles W.S.W. of Morristown.

*Moteeka-Nugla*, see Moti-ka-nagla

**Moti-ka-nagla**, Goordha, Bharatpur, Rajputana, India

Fell: 1868, December 22, 5 P.M.

Synonyms: Moteeka-Nugla; Buhrtpur

Aerolite: Crystalline chondrite, Ck.

Specimen: (508) 71.5 gms.

Remarks: After appearance of a luminous meteor (passing from N.E. to S.W.), and detonations, a shower of stones fell, but only three were found; the largest fragment weighing about 3.25 lbs. was preserved in the Indian Museum, Calcutta.

**Mount Ayliff**, Griqualand East, Cape Province, South Africa

Known: 1907

Siderite: Coarse octahedrite, Og.

Specimen: (2228) 236.2 gms.

Remarks: A mass of about 30 lbs. was found about 1907. Main mass in King William's Town Museum, South Africa.

**Mount Dyrning**, Singleton, Durham County, New South Wales, Australia

Found: 1903

Siderolite: Pallasite

Specimens: (2464) 5.3 gms.; (2465) 3.7 gms.; (2466) 4.1 gms.; (2467) 3.4 gms.; (2468) 2.3 gms.; (2469) 0.9 gm.; (2470) 0.9 gm.;

Remarks: Fragments weighing together about 25 lbs. were found 8 miles

north of Bridgman. Main mass in Sydney (Mining and Geol. Mus.).

**Mount Edith**, Ashburton district, Western Australia

Found: 1913

Siderite: Medium octahedrite, Om.

Specimen: (242) 8750 gms.

Remarks: A mass of 161 kg., of irregular triangular shape, was found in 116° 10' E. and 22° 30' S., about 80 miles S.E. of Onslow. Another mass of 364 lbs. was found in 1914.

**Mount Joy**, Adams County, Pennsylvania, U. S. A.

Found: 1887

Siderite: Coarsest octahedrite, Ogg.

Specimens: (92) 772 gms.; (256) 47.3 gms.; (2513) 29.8 gms.; (2514) 18 gms.; (2515) 23.9 gms.; (2516) 15.8 gms.; (2517) 17.9 gms.; (2518) 20.3 gms.; (2519) 14.8 gms.; (2520) 14.6 gms.; (2521) 12.5 gms.; (2522) 15.8 gms.; (2523) 1.5 gms.; (2524) 10.2 gms.; (2525) 10.3 gms.; (2526) 7.9 gms.; (2527) 8 gms.; (2528) 5.6 gms.; (2529) 41.1 gms.; (2530) 78.2 gms.

Remarks: A mass of 847 lbs. was found 5 miles S.E. of Gettysburg.

*Mount Ouray*, see Ute Pass

**Mount Stirling**, York, South West Division, Western Australia

Known: 1892

Siderite: Coarse octahedrite, Og.

Specimens: \*(161) 515 gms.; (295) 1464 gms.; \*(877) 71 gms.

Remarks: A mass of about 200 lbs. was found 25 miles S.E. of Mount Stirling. Main mass in Sydney (Australian Mus.).

**Mount Vernon**, Christian County, Kentucky, U. S. A.

Known: About 1868

Siderolite: Pallasite, Pk.

Specimens: (324) 7.35 gms.; (899) 11 gms.

Remarks: A mass of about 351 lbs. was found about 7 miles N.E. of Hopkinsville, but was not recognized as meteoric until 1902. Main mass in Washington (U. S. Nat. Mus.) (weight 288 lbs.).

**Muddoor**, Annay Doddi, Mysore, India

Fell: 1865, September 21, 7 A.M.

Aerolite: Spherical hypersthene-chondrite, Cc.

Specimen: (509) 286.2 gms.

Remarks: Two stones were seen to fall, after detonations, near Annay Doddi, Maddur taluq; one weighed about 2 kg., the other was broken in pieces.

*Mukerop*, see Bethany

**Mungindi**, County Benarba, New South Wales, Australia

Found: 1897

Siderite: Finest octahedrite, Off.

Specimens: \*(162) 467 gms.; (280) 7300 gms.

Remarks: Two masses of 62 lbs., and 51 lbs., respectively, were found in Queensland, 3 miles N.N.E. of Mungindi, New South Wales. Main masses in Sydney (Mining and Geol. Mus.).

**Murfreesboro**, Rutherford County, Tennessee, U. S. A.

Found: 1847

Siderite: Medium octahedrite, Om.

Specimen: (106) 73.9 gms.

Remarks: A mass of about 19 lbs. was found a few miles from Murfreesboro.

**Murphy**, Cherokee County, North Carolina, U. S. A.

Found: 1899

Siderite: Hexahedrite, H.

Specimens: \*(86) 213 gms.; (294) 559.2 gms.

Remarks: A mass of about 17 lbs. was found 5 miles from Murphy.

**Nagy-Vázsony**, Veszprém, Czechoslovakia

Found: 1890

Siderite: Medium octahedrite, Om.

Specimen: (185) 217.7 gms.

Remarks: A mass of about 2 kg. was found.

**Nammianthal**, South Arcot district, Madras, India

Fell: 1886, January 27.

Aerolite: Veined spherical chondrite, Cc.

Specimen: (510) 6.1 gms.

Remarks: A stone of about 4.5 kg. was seen to fall after a loud report.

**Nanjemoy**, Charles County, Maryland, U. S. A.

Fell: 1825, February 10, noon

Aerolite: Spherical chondrite, Cc.

Specimen: (372) 29.5 gms.

Remarks: After a loud detonation, a stone of about 16.5 lbs. was seen to fall.

**Narraburra Creek**, Temora, County Bland, New South Wales, Australia

Found: 1855

Siderite: Finest octahedrite, Off.

Specimens: \*(163) 19.25 gms.; (168) 41 gms.

Remarks: A mass of about 71 lbs. was found about 12 miles east of Temora. Main mass in Sydney (Australian Mus.).

**Nativitas**, Tlaxcala, Mexico

Found: 1904

Siderite: Medium octahedrite, Om.

Specimen: (2630) 3885 gms.

Remarks: Main mass 1315.6 kg. (2893 lbs.) in the National Museum of Mexico. Slice purchased March 14, 1931.

**Nejed, Wadee Baneé Khaled, Central Arabia**

Found: 1863

Siderite: Medium octahedrite, Om.

Specimens: \*(170) 85 gms.; (293) 1818.1 gms.

Remarks: A mass of 131 lbs. said to have been seen to fall in the Wadee Baneé Khaled during a thunderstorm in 1863, was in 1885 obtained from a Persian agent by the British Museum; this mass, which showed no signs of weathering, was described and analyzed by L. Fletcher (*Mineral. Mag.*, 1887, Vol. 7, p. 179). In 1893 a second mass of 137 lbs., much weathered, was brought to the Museum by the same agent and was said to have been found in the same valley, three days after its fall during a thunderstorm. Both masses probably were only found and not seen to fall. The main part of the second mass (48 kg.) in Chicago (*Field Mus. Nat. Hist.*).

**Nelson County, Kentucky, U. S. A.**

Found: 1856

Siderite: Coarsest octahedrite, Ogg.

Specimen: (52) 345.8 gms.

Remarks: A mass of 161 lbs. was ploughed up.

**Nenntmannsdorf, Pirna, Saxony**

Found: 1872

Siderite: Hexahedrite, H.

Specimen: \*(190) 12 gms.

Remarks: A mass of about 12.5 kg. was found 2 ft. below the surface. Main mass (11.5 kg.) in Dresden (*Min. Mus.*).

**Nerft, Courland, Latvia**

Fell: 1864, April 12, 4:45 A.M.

Aerolite: Veined intermediate hypersthene-chondrite, Cia.

Specimen: (511) 252.6 gms.

Remarks: After detonations, two stones fell, one of about 5.5 kg. at the farmhouse Swajahn, and the other of about 4.75 kg. at the farmhouse Pohgel, 700 yards distant.

*Ness City*, see *Ness County***Ness County, Kansas, U. S. A.**

Found: 1894

Synonym: *Ness City*

Aerolite: Crystalline chondrite, Cib.

Specimens: (364) 1570 gms.; (582) 280.6 gms.; \*(607) 194.5 gms.; (612) 213.4 gms.; <sup>1</sup>(640) 326.1 gms.; (643) 455.4 gms.; (644) 481.1 gms.; (657) 2433 gms.; (1014) 1631.4 gms.; \*(1015) 1360 gms.; \*(1016) 1814 gms.; (1017) 1683.5 gms.; (1018) 99.9 gms.; (1019) 583.7 gms.; \*(1020) 100 gms.; (1123) 412 gms.; \*(1124) 650 gms.; (2180) 740.6 gms.; (2181) 494.2 gms.;

<sup>1</sup> Used in analyses.



(2182) 157.4 gms.; (2202) 61.2 gms.; (2209) 125 gms.; (2210) 172.2 gms.; (2211) 70.6 gms.; (2212) 233 gms.; \*(2213) 105 gms.; \*(2214) 156.2 gms.; \*(2215) 164.7 gms.; (2216) 12 gms.; (2217) 136.4 gms.; (2218) 67.8 gms.; (2488) 2862 gms.; \*(2553) 185.5 gms.; (2554) 172.3 gms.; (2589) 48.6 gms.; (2590) 167.5 gms.; <sup>1</sup>(2696) 25.3 gms.

Remarks: The earliest known stone of this fall was a coarsely brecciated one of about 21 lbs., found in "November, 1894, about 1/2 mile S.W. of Kansada." The next stone was one of 417 grams found in 1897, S.W. of Ness County; later others were found including one ploughed up on April 10, 1899, seven miles south and 3 miles west of Ness City. Altogether 26 stones, varying in weight from 34 to 3467 grams, and of total weight of about 17 kg. were found.

#### **Netschaëvo, Tula, U. S. S. R.**

Found: 1846

Synonym: Tula

Siderite: Brecciated octahedrite, with silicate inclusions, Ob.

Specimens: (195) 28.7 gms.; \*(760) 20.7 gms.

Remarks: A mass of about 250 kg. was found in making a road, and was broken up and used for various purposes.

#### **New Concord, Muskingum County, Ohio, U. S. A.**

Fell: 1860, May 1, 12:45 P.M.

Aerolite: Veined intermediate hypersthene-chondrite, Cia.

Specimens: (385) 375.9 gms.; (1035) 1449.4 gms.; \*(1036) 44.3 gms.;

Remarks: After detonations and appearance of fire-ball, about 30 stones fell over an area of 10 by 3 miles; the largest stone weighed 103 lbs., and the total weight was about 500 lbs.

#### **Newport, Jackson County, Arkansas, U. S. A.**

Found: 1923

Siderolite: Pallasite, Pr.

Specimen: (2635) 256.3 gms.

Remarks: A stony-iron mass of 5.6 kg. (12.5 lbs.) with oxidized exterior, was found in 1923 near the town of Newport, Arkansas. There is much irregularity in the size of the various inclusions.

#### **Newtown, Fairfield County, Conn., U. S. A.**

Fell: 1925, December 29, 5 P.M.

Siderite: Ataxite

Specimens: (2610) 26.1 gms.; (2611) 189.5 gms.

Remarks: Some five months after appearance of bluish-yellow ball of fire, passing from south to north at 5:00 P.M., December 29, 1925, a flat somewhat irregular mass of meteoric iron was found on patch of sand on edge of George Beers' property, opposite school-house, and about 1/2 mile northwest of railroad station at Newtown, Conn.

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<sup>1</sup>Note: Débris from specimen, Cat. No. 640.

**Ngawi, Gentoeng, Madioen, Java**

Fell: 1883, October 3, 5:15 p.m.

Aerolite: Spherical hypersthene-chondrite, Cc.

Specimens: (512) 1 gm.; (1085) 3 gms.

Remarks: After appearance of fire-ball and detonations, two stones fell, one of 1191 grams at Karang Modjo, and the other of 202 grams at Ngawi. The Ngawi stone and the main mass of the other stone in Leiden (Geol. Min. Mus.).

**N'Goureyima, Jenne, Massina, French West Africa**

Fell: 1900, June 15

Siderite: Brecciated octahedrite, Ob.

Specimen: (224) 909.7 gms.

Remarks: A mass of 37.5 kg. which came into the possession of H. Minod of Geneva in 1901 is said to have fallen and penetrated 1 meter into the clayey soil.

**Nobleborough, Lincoln County, Maine, U. S. A.**

Fell: 1823, August 7, 4:30 p.m.

Aerolite: Howardite, Ho.

Specimen: (597) 0.9 gm.

Remarks: After detonations and appearance of cloud, a stone of about 5 lbs. fell and broke into pieces. Very little preserved; 60 grams in Halle University in 1897.

**Nocoleche, Wanaaring, County Ularara, New South Wales, Australia**

Known: 1895

Siderite: Medium octahedrite, Om.

Specimens: (164) 2006.5 gms.; \*(253) 9 gms.

Remarks: A mass of about 44 lbs. was found 5 miles S.W. of Nocoleche Station. Main mass in Sydney (Australian Mus.).

**Nogoya, Entre Rios, Argentina, S. A.**

Fell: 1879, July 1, evening

Aerolite: Carbonaceous hypersthene-chondrite, K.

Specimen: (513) 8.2 gms.

Remarks: After appearance of a luminous meteor, a stone of about 4 kg. fell.

*Noon*, see Arispe**Norfolk, Norfolk County, Virginia, U. S. A.**

Found: 1906

Siderite: Medium octahedrite, Om.

Specimens: (2266) 20,962.6 gms.; \*(2267) 1275.7 gms.; <sup>1</sup>(2637) 114.8 gms.; <sup>1</sup>(2638) 108.9 gms.; <sup>1</sup>(2686) 352.3 gms.; <sup>2</sup>(2695) 120.4 gms.

Remarks: A mass of about 53 lbs. fell in 1906. It was placed on exhibition at the Jamestown, Va., Exposition, 1907, by Dr. E. A. Shubert

<sup>1</sup> Note: Specimen cut from Cat. No. 2266.

<sup>2</sup> Note: Shavings from Cat. No. 2266.

of Virginia. He again exhibited it in Pittsburgh, Pa., 1910, 1911 and 1912, and sold it to Dr. D. J. Cable of Pittsburgh. Mr. Lloyd B. Curtis obtained the specimen from Mr. Cable in settlement of a debt, June 20, 1923, and sold it to the American Museum, June 26, 1923. When received, the specimen had been cut into two pieces weighing 21,659 grams and 1275.7 grams. The smaller piece was later exchanged with Ward's Natural Science Establishment, Rochester, N. Y.

**Novo-Urei, Karamzinka, Nijni-Novgorod, U. S. S. R.**

Fell: 1886, September 4, 7:15 P.M.

Aerolite: Carbonaceous chondrite, K.

Specimen: (514) 12.9 gms.

Remarks: After appearance of light and detonations, three stones fell, one of 1.9 kg. on the left bank of the river Alaty at Karamzinka, another on the right bank at Petrovka and was broken up and lost, and the third in a swamp to the south of the farm Novo-Urei and was also lost. Y. I. Simashko says that the correct date of the fall, according to many witnesses, is Sept. 4 (not Sept. 22), and the locality as above and not Krasnoslobodsk, Penza, as usually given. Main mass in Petrograd (Mus. Mining Inst.) in 1897.

**Oakley, Logan County, Kansas, U. S. A.**

Found: 1895

Aerolite: Crystalline bronzite-chondrite, Ck.

Specimen: (362) 735.8 gms.

Remarks: A stone of 61 lbs. was ploughed up 15 miles S.W. of Oakley.

**Obernkirchen, Bückeberg, Hanover, Germany**

Known: Before 1863

Siderite: Fine octahedrite, Of.

Specimen: (189) 20.8 gms.

Remarks: A mass of about 41 kg. was found in a quarry on the Bückeberg 15 ft. below the surface; recognized as meteoric in 1863 by W. Wicke and F. Wöhler.

*Obritti*, see Pultusk

**Ochansk, Perm, U. S. S. R.**

Fell: 1887, August 30, 1 P.M.

Synonym: Tabory

Aerolite: Brecciated spherical bronzite-chondrite, Ccb.

Specimens: (557) 190.5 gms.; (1112) 9.9 gms.; (1113) 3.3 gms.; (2545) 5.3 gms.; (2546) 5.4 gms.; (2547) 5.6 gms.; (2548) 7.4 gms.; (2549) 9.6 gms.; (2550) 5.9 gms.; (2551) 7.6 gms.; (2552) 4.7 gms.

Remarks: After appearance of luminous meteor and detonations, a shower of stones, of total weight of about 500 kg., the largest weighing 115 kg., fell in the village of Tabory, near Okhansk. Main

masses (125 kg.) in Kazan University, 14 kg. in Petrograd (Mus. Mining Inst.) in 1897.

**Oesel Island, Esthonia,**

Fell: 1855, May 11, 3:30 P.M.

Aerolite: White hypersthene-chondrite, Cw.

Specimens: (471) 3 gms.; (629) 80.9 gms.

Remarks: After detonations, several stones appear to have fallen on the island and in the sea, but only about 6 kg. of fragments of one stone were preserved.

**Ogi, Hizen, Kyushu, Japan**

Fell: 1741, June 8, 11 A.M.

Aerolite: White bronzite-chondrite, Cw.

Specimen: (516) 15.9 gms.

Remarks: After sounds like thunder, four stones fell, one of about 5.6 kg., another of 4.6 kg. and the two others of about 2 kg. each; the two largest were for a long time among the offerings annually made in the temple in Ogi. The largest stone in Tokyo (Nabeshima family).

**Ohaba, Alba-Iulia (= Karlsburg), Rumania**

Fell: 1857, October 11, 12:15 A.M.

Synonym: Veresegyhaza

Aerolite: Veined gray bronzite-chondrite, Cga.

Specimen: (518) 1 gm.

Remarks: After appearance of fire-ball, followed by detonations, a stone of 16.5 kg. was found. Main mass (15.75 kg.) in Vienna (Naturhist. Mus.).

**Okano, Sasayama, Tamba, Japan**

Fell: 1904, April 7, 6:35 A.M.

Siderite: Hexahedrite, H.

Specimens: (282) 20.5 gms.; (858) 204.7 gms.

Remarks: After appearance of fire-ball and detonations, a mass of 4742 grams was found. Main mass in Kyôto University.

**Okniny, Krzemieniec, Wolyn, Poland**

Fell: 1834, January 8, 9:30 A.M.

Aerolite: Brecciated gray chondrite, Cgb.

Specimen: (517) 2.8 gms.

Remarks: With the "usual phenomena" a stone of about 12 kg. fell, but only a little has been preserved.

**Oktibbeha, Oktibbeha County, Mississippi, U. S. A.**

Found: About 1854

Siderite: Nickel-rich ataxite, Db.

Specimen: (62) 14.8 gms.

Remarks: A mass of 5.5 oz. (156 grams) was found in an Indian tumulus. Very little known; 4 grams in Harvard University.

**Ollague, Potosi, Bolivia**

Found: 1924

Siderolite: Pallasite

Specimen: (2606) 292.8 gms.

Remarks: A meteoric mass of 6.66 kg. was found April, 1924, by Juan Reyes, a prospector, at a depth of 14 feet. A. Hyatt Verrill obtained possession of the specimen and on June 9, 1925, brought it to the American Museum for sectioning. The specimen was very hard, thirty hours being consumed in the initial sawing. The American Museum retained 293.2 grams; 5.5 kg. are in the Mineralogical Museum Harvard University, Cambridge, Mass.; 650 grams in the National Museum, Washington, D. C., and 259 grams in the British Museum, London. Described by C. Palache (*Amer. Jour. Sci.*, 1926, Vol. 12, pp. 136-137).

**Orange River, South Africa**

Known: 1855

Siderite: Medium octahedrite, Om.

Specimens: (176) 90.9 gms.; \*(754) 25.5 gms.

Remarks: A mass of 328 lbs. sent by a farmer of the Orange River district, was brought to London in August, 1855. Repository of main mass unknown; 283 grams in Chicago (*Field Mus. Nat. Hist.*).

**Orgueil, Montauban, Tarn-et-Garonne, France**

Fell: 1864, May 14, 8 P.M.

Aerolite: Carbonaceous chondrite, K.

Specimens: (519) 47.9 gms.; \*(1086) 1.9 gms.; <sup>1</sup>(1087) 4 gms.; (1088) 2.1 gms.

Remarks: After appearance of a luminous meteor and detonations, about 20 stones, the largest of the size of a man's head but most as large as a fist, fell over an area of 2 square miles.

**Ornans, Doubs, France**

Fell: 1868, July 11, 7:15 P.M.

Aerolite: Spherical chondrite, Cc.

Specimens: (520) 14.6 gms.; \*(1089) 8 gms.

Remarks: After detonations, a stone of about 6 kg. fell and broke into two pieces.

**Oroville, Butte County, California, U. S. A.**

Found: 1893

Siderite: Medium octahedrite, Om.

Specimen: (24) 282.5 gms.

Remarks: A mass of 54 lbs. was found. Main mass in San Francisco (*Acad. Sci.*) in 1905.

**Orvinio, Rome, Perugia, Italy**

Fell: 1872, August 31, 5:15 A.M.

Aerolite: Black bronzite-chondrite, Cc.

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<sup>1</sup> Used in analyses.

Specimen: (521) 3.4 gms.

Remarks: After appearance of fire-ball and detonations, several stones appear to have fallen, of which six "fragments" were found; the total weight was 3.4 kg. and the largest piece weighed 1.2 kg.

**Oscuro Mountains, Socorro County, New Mexico, U. S. A.**

Found: 1895

Siderite: Coarse octahedrite, Og.

Specimen: (71) 208.1 gms.

Remarks: Three pieces of about 3.5, 3.25 and 1.25 lbs., were found in the eastern foothills.

**Ottawa, Franklin County, Kansas, U. S. A.**

Fell: 1896, April 9, 6:15 P.M.

Aerolite: Gray chondrite, Cho.

Specimens: (366) 360.3 gms.; (1021) 31.3 gms.; (2248) 1.6 gms.

Remarks: The fall was described in the *Ottawa Weekly Times* of April 16, 1896. The single stone of 840 grams which fell passed into the possession of C. S. Bement (O. C. Farrington, *Cat. Meteorites North America*, Mem. Nat. Acad. Sci. Washington, 1915, Vol. 13, p. 347).

**Otumpa, Santiago del Estero, Argentina, S. A.**

Found: 1783

Synonym: Campo del Cielo

Siderite: Nickel-poor ataxite, Ds.

Specimen: (144) 116 gms.

Remarks: The history of this iron from 1576 to 1925 has been given by Antenor Alvarez (*El Meteorito del Chaco*, Buenos Aires, 1926, 222 pp., 16 figs., 2 maps). The large mass found by Don Rubin de Celis in 1783 appears to have been recorded by Hernan Mexia de Miraval as early as 1576. The mass of about 1000 kg. of which the 1400 lb. mass in the British Museum was the greater part, was found in 1803 at Runa Pocito, Campo del Cielo, Santiago del Estero. Recently other masses have been found in the Campo del Cielo near the boundary between Santiago del Estero and Chaco Nacional: viz., in 1913, pieces estimated to weigh about 1500 kg. at Pozo del Cielo (Hoyo Rubin de Celis), Chaco Nacional; in 1923, an immense mass of 4210 kg. known as "El Toba," at "El Rosario," 21 km. S.E. of Gancedo, Santiago del Estero; in 1924, an implement of 2500 grams at Gancedo, Chaco Nacional; and lastly in 1925, a large mass of 732 kg., known as "El Mocovi," at "Los Guanacos," Chaco Nacional. Analyses by E. H. Ducloux (*Anal. Mus. Nac. Hist. Nat. Buenos Aires*, 1925, Vol. 33, p. 311) indicate that these last masses belong to the same fall, and have about the same percentage of nickel (5.30 to 5.87), as the Runa Pocito mass analyzed by O. Sjöström (Ni = 5.11). A 1530 gram mass of

"Pozo del Cielo" is in the La Plata Museum; the "El Rosario," "Gancedo" and "Los Guanacos" masses and 350 grams of "Pozo del Cielo" are in (Mus. Nac. Nat. Hist. Buenos Aires).

**Owens Valley, Inyo County, California, U. S. A.**

Found: 1913

Siderite: Medium octahedrite, Om.

Specimen: (2636) 32,630 gms. (75 pounds)  
(2734) Cast in iron of entire mass.

Remarks: A mass of 425 lbs. was found by Lincoln Ellsworth and a sheep herder some 22 miles N.E. of Big Pine, Owens Valley. Seventy-five pounds is in The American Museum of Natural History, New York. The remainder is in the National Museum, Washington, D. C.

*Oyinchimura*, see Kyushu

**Pacula, Jacala, Hidalgo, Mexico**

Fell: 1881, June 18, morning

Aerolite: Brecciated white chondrite, Cwb.

Specimens: (523) 303 gms.; \*(1093) 1.1 gms.; (1094) 0.9 gm.

Remarks: Three pieces were recovered, weighing together about 3.4 kg., and the largest 2 kg.

*Pallas Iron*, see Krasnojarsk

*Park County*, see Guffey

**Parnallee, Madura, Madras, India**

Fell: 1857, February 28, noon

Aerolite: Veined gray hypersthene-chondrite, Cga.

Specimens: (524) 514.6 gms.; \*(628) 55 gms.; \*(1095) 93.5 gms.; (1096) 1040.5 gms.; \*(1097) 23.3 gms.

Remarks: After detonations, two stones, one of about 134 lbs., and the other of 37 lbs. were seen to fall.

**Paulding County, Georgia, U. S. A.**

Found: About 1901

Siderite: Coarse octahedrite, Og.

Specimens: (231) 19.2 gms.; (2233) 81.1 gms.

Remarks: A mass, of which oxidized fragments weighed 725 grams, was found.

**Pavlodar, Semipalatinsk, Siberia, U. S. S. R.**

Found: 1885

Siderolite: Pallasite, Pk.

Specimen: (319) 23.2 gms.

Remarks: A mass of 4.5 kg. was found near the village Jamysheva (Yamysheva). The olivine crystals were described by P. V. Jeremejev (Eremyeev) (Abst. in Zeits. Kryst. Min., 1900, Vol. 32, p. 424.) In 1897, 2 kg. in Y. I. Simashko's Collection, 622 grams in Petrograd (Mus. Acad. Sci.).

**Pavlograd**, Ekaterinoslav, Ukraine, U. S. S. R.

Fell: 1826, May 19

Synonym: Mordvinovka

Aerolite: White chondrite, Cw.

Specimen: (506) 10 gms.

Remarks: A stone of about 40 kg. is said to have fallen in a field of Frau Sorbinov. Whether any specimens in collections really came from such a stone is by no means certain; they are all very similar to Bachmut.

**Pavlovka**, Balashev, Saratov, U. S. S. R.

Fell: 1882, August 2, 5 P.M.

Aerolite: Howardite, Ho.

Specimen: (525) 4 gms.

Remarks: A stone of about 2 kg. fell, after detonations.

**Perryville**, Perry County, Missouri, U. S. A.

Found: 1906

Siderite: Finest octahedrite, Off.

Specimen: (241) 136.9 gms.

Remarks: A stone of 17.5 kg. was found. Main mass in Washington (U. S. Nat. Mus.).

**Persimmon Creek**, Cherokee County, North Carolina, U. S. A.

Found: 1903

Siderite: Granular finest octahedrite, Offb.

Specimen: (873) 13.8 gms.

Remarks: A mass of about 5 kg. was found. The date of find is given by W. Tassin as 1893, and by O. C. Farrington (Cat. Meteorites Field Mus. Nat. Hist., Chicago, 1916, p. 288), as 1903. Main mass in Washington (U. S. Nat. Mus.).

**Petersburg**, Lincoln County, Tennessee, U. S. A.

Fell: 1855, August 5, 3:30 P.M.

Aerolite: Howardite, Ho.

Specimens: (388) 11.8 gms.; (2252) 1.2 gms.

Remarks: After detonations, a stone of about 4 lbs. was seen to fall.

**Pillistfer**, Livonia, Latvia

Fell: 1863, August 8, 12:30 P.M.

Synonym: Fellin

Aerolite: Crystalline enstatite-chondrite, Ck.

Specimen: (526) 139 gms.

Remarks: After detonations, several stones fell, and four were found, at Aukoma, Kurla, Wahhe and Sawiauk, weighing respectively about 14, 7.5, 1.5 and 0.25 kg.

*Pine Bluff*, see Little Piney**Pipe Creek**, Bandera County, Texas, U. S. A.

Found: 1887



Aerolite: Veined crystalline bronzite-chondrite, Cka.

Specimens: (390) 336 gms.; \*(627) 34 gms.

Remarks: A mass of about 30 lbs. was found, 35 miles S.W. of San Antonio.

**Pirgunje**, (possibly Pirganj), Dinajpur, Bengal, India

Fell: 1882, August 29

Aerolite: Veined white chondrite, Cwa.

Specimen: (528) 24 gms.

Remarks: A stone of 842 grams, labeled "Pirgunje, 29.8.82," was sent from India to E. A. Pankhurst of Brighton by a man who had "no knowledge whatever of it or its antecedents" (letters of E. A. Pankhurst of May 12 and 15, and November 3, 1889, in Min. Dept., British Museum).

**Pirthalla**, Hissar, Punjab, India

Fell: 1884, February 9, 2:30 P.M.

Aerolite: Brecciated spherical chondrite, Ccb.

Specimen: (529) 2.2 gms.

Remarks: After detonations, a stone of about 3 lbs. was seen to fall 150 paces from the village of Pirthalla; three pieces of 510, 427 and 224 grams were preserved.

**Pitts**, Wilcox County, Georgia, U. S. A.

Fell: 1921, April 20, 9 A.M.

Siderite: Octahedrite (with silicate inclusions), O.

Specimen: (2254) 46.7 gms.

Remarks: After appearance of brilliant fire-ball, followed by detonations, four stones, of 57, 42.5, 30 and 2 oz., respectively, fell over an area of 1 mile by 1/4 mile.

**Pittsburgh**, Allegheny County, Pennsylvania, U. S. A.

Found: About 1850

Siderite: Coarsest octahedrite, Ogg.

Specimen: (93) 4.4 gms.

Remarks: A mass said to have been of about 292 lbs., was ploughed up on Miller's Run; the main mass was forged into a bar and only a small part (about 600 grams) has been preserved.

**Plainview**, Hale County, Texas, U. S. A.

Found: 1917

Aerolite: Veined intermediate chondrite, Cia.

Specimens: (656) 1947 gms.; (2219) 1461 gms.; (2220) 595.5 gms.

Remarks: About a dozen stones, of total weight of about 31 kg., were found in 1917 and later, the largest weighing 5.5 kg., and the smallest 863 gms.

**Ploschkovitz**, Litomerice, Bohemia, Czechoslovakia

Fell: 1723, June 22, 2 P.M.

Synonym: Bunzlau

Aerolite: Brecciated spherical chondrite, Ccb.

Specimen: (594) 7.9 gms.

Remarks: After detonations and appearance of cloud, 33 stones fell. The only reputed specimen of this fall was a fragment of 1.25 oz. purchased by the British Museum in 1846 from H. Heuland.

**Plymouth, Marshall County, Indiana, U. S. A.**

Found: 1893

Siderite: Medium octahedrite, Om.

Specimen: (49) 3645 gms.

Remarks: A mass, measuring about  $12.5 \times 7.375 \times 2$  in., was ploughed up in 1893 about 5 miles S.W. of Plymouth; previously in 1872 a larger pear-shaped mass about 4 ft. long and 3 ft. "in its widest diameter" had been found, but was afterward buried and lost. Main mass now in the Amer. Mus. Nat. Hist., New York.

**Ponca Creek, Holt County, Nebraska, U. S. A.**

Found: 1863

Synonym: Dakota

Siderite: Coarsest octahedrite, Ogg.

Specimens: (35) 26.5 gms.; \*(669) 29.5 gms.

Remarks: A mass of about 100 lbs. was found in the Reservation of the Ponca Indians. Repository of the main mass unknown.

**Prairie Dog Creek, Decatur County, Kansas, U. S. A.**

Found: 1893

Aerolite: Spherical crystalline chondrite, Cck.

Specimen: (365) 714.8 gms.

Remarks: A stone of about 2.9 kg., was found about 1893.

**Pricetown, Highland County, Ohio, U. S. A.**

Fell: 1893, February 13

Aerolite: White chondrite, Cw.

Specimen: (384) 480.4 gms.

Remarks: A stone of about 900 grams came into the possession of C. S. Bement, but no details of the fall have been published. Main mass in New York (Amer. Mus. Nat. Hist.).

*Primitiva*, see La Primitiva

**Pultusk, Warsaw, Poland**

Fell: 1868, January 30, 7 P.M.

Synonym: Obritti

Aerolite: Veined gray bronzite-chondrite, Cgb.

Specimens: (515) 28.9 gms.; (530) 310.1 gms.; \*(626) 142 gms.; \*(1098) 30 gms.; (1099) 9.6 gms.; (1100) 124.5 gms.; (1101) 2.3 gms.; \*(1102) 128.5 gms.; (1103) 658.7 gms.; <sup>1</sup>(1104) 51.2 gms.

Remarks: After the appearance of a fire-ball followed by detonations, a shower of stones fell over an area of several square miles between Pultusk and Ostrolenka on the Narew; the number of stones

<sup>1</sup> Used in analyses.

was estimated at 100,000, the weights of individuals varying from 9 kg. to about a gram; a few were of 4 kg. and over 200 of 1 kg.; over 200 kg. are preserved in collections.

**Puquios, Copiapo, Atacama, Chile, S. A.**

Found: 1885

Siderite: Medium octahedrite, Om.

Specimens: (154) 1620.8 gms.; (251) 14 gms.; \*(744) 200 gms.

Remarks: A mass of about 14.5 lbs. was found near Puquios.

**Putnam County, Georgia, U. S. A.**

Found: 1839

Siderite: Fine octahedrite, Of.

Specimens: \*(41) 3 gms.; (42) 34.9 gms.

Remarks: A mass of 72 lbs. was found.

**Queensland, Australia,**

Found: 1880

Siderite: Coarse octahedrite, Og.

Specimen: (165) 93.5 gms.

Remarks: 72 grams were in the Ward-Coonley Collection in 1904 (Cat. Ward-Coonley Coll. Meteorites, Chicago, 1904, p. 20).

**Quenggouk, Bassein district, Lower Burma, India**

Fell: 1857, December 27, 2:30 A.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (533) 994.3 gms.

Remarks: After appearance of fire-ball, and detonations, three stones of 2291, 1909.5, 1844.5 grams respectively were seen to fall.

**Quinn Canyon, Nye County, Nevada, U. S. A.**

Found: 1908

Siderite: Medium octahedrite, Om.

Specimen: (274) 13.1 gms.

Remarks: A mass of 1450 kg. was found 90 miles east of Tonopah; it is possibly part of the Nevada meteor of 1894 (Feb. 1, 10 P.M.). Main mass in Chicago (Field Mus. Nat. Hist.).

**Rakovka, Tula, U. S. S. R.**

Fell: 1878, November 20, 3 P.M.

Aerolite: Veined intermediate hypersthene-chondrite, Ci.

Specimen: (534) 357.5 gms.

Remarks: A stone of about the size of a man's head fell.

*Ranchito*, see Bacubirito

**Rancho de la Pila, Durango, Mexico**

Known: 1804

Synonym: Humboldt's Iron

Siderite: Medium octahedrite, Om.

Specimen: (138) 375 gms.

Remarks: A mass of 46.5 kg. was ploughed up at Rancho de la Pila, 9 leagues east of Durango. Described, De Rio, 1804, *Tablas Mineralogicas Mexico*, 1804, p. 57. (Ward-Coonley Cat. 1900.)

**Rancho de la Presa, Zenapecuaro, Michoacan, Mexico**

Fell: 1899

Aerolite: Brecciated chondrite, Cgb.

Specimen: (2623) 36.4 gms.

Remarks: 3 grams in Chicago (Field Mus. Nat. Hist.) (O. C. Farrington, *Cat. Meteorites Field Mus. Nat. Hist., Chicago*, 1916, p. 291). One mass, weighing 300 grams, was reported by H. H. Nininger in 1933 (Our Stone-Pelted Planet).

*Rasgata*, see Santa Rosa

**Red River, Cross Timbers, Johnson County, Texas, U. S. A.**

Found: 1808

Siderite: Medium octahedrite, Om.

Specimens: (113) 79.7 gms.; (707) 168.2 gms.

Remarks: A mass of about 1635 lbs., and two smaller ones were found by Pawnee Indians about 1808, north by west of Natchitoches on the Red River in Lat. 32° 7' N., and Long. 95° 10' W. The large mass was brought to New York in 1810. Main mass in Yale University.

**Reed City, Osceola County, Michigan, U. S. A.**

Found: 1895

Siderite: Coarse octahedrite, Og.

Specimen: (230) 296.4 gms.

Remarks: A mass of about 44 lbs. was ploughed up. Main mass in Michigan Agricultural College.

**Renazzo, Cento, Ferrara, Italy**

Fell: 1824, January 15, 8:30 P.M.

Aerolite: Black chondrite, Cs.

Specimen: (588) 0.3 gm.

Remarks: After appearance of light, followed by three detonations, several stones fell, of which three were recovered, the largest weighing about 5 kg.

**Richardton, Stark County, North Dakota, U. S. A.**

Fell: 1918, June 30, 10 P.M.

Aerolite: Veined spherical bronzite-chondrite, Cca.

Specimen: (662) 8320 gms.

Remarks: After appearance of a luminous meteor, followed by detonations, several stones, of a total weight of 200 lbs., the largest weighing about 18 lbs., fell over an area of 9 × 5 miles between Richardton and Mott.

**Richmond, Chesterfield County, Virginia, U. S. A.**

Fell: 1828, June 4, 8:30 P.M.

Aerolite: Crystalline spherical hypersthene-chondrite, Cck.

Specimen: (535) 15.5 gms.

Remarks: After detonations, a stone of about 4 lbs., was seen to fall 7 miles S.W. of Richmond.

*Rikuzen*, see *Kesen*

*Rio Arriba County*, see *Glorieta Mountain*

*Rio San Francisco do Sul*, see *Santa Catharina*

*Rittersgrün*, see *Steinbach*

**Rochester**, Fulton County, Indiana, U. S. A.

Fell: 1876, December 21, 8:45 P.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (357) 1.2 gms.

Remarks: After the passage eastward, for over 1000 miles, of a cluster of luminous meteors over the states from Kansas to Ohio, and detonations, a stone of about 12 oz. (340 grams) fell 3 miles N.W. of Rochester.

**Roda**, Huesca, Spain

Fell: 1871, spring

Aerolite: Amphoterite (rodite), Ro.

Specimen: (600) 3.9 gms.

Remarks: A stone of about 400 grams fell.

**Rodeo**, Durango, Mexico

Found: 1852

Siderite: Fine octahedrite, Of.

Specimen: (2227) 76.7 gms.

Remarks: A mass of 97 lbs. was found about 7 miles N.W. of Rodeo and was used as an anvil for many years.

**Roebourne**, Hammersley Range, Western Australia

Found: 1892

Siderite: Medium octahedrite, Om.

Specimens: (166) 2371.3 gms.; \*(748) 1497 gms.

Remarks: A mass of 191.5 lbs. was found 200 miles S.E. of Roebourne and 8 miles from the Hammersley Range, in Lat. 22° 20' S., Long. 118° E.

**Rosario**, Opalaca Mts., Honduras

Found: 1896

Siderite: Coarse octahedrite, Og.

Specimens: (143) 1540.3 gms.; \*(733) 14.5 gms.

Remarks: A mass of about 4 lbs., in July, 1896, was brought to Mr. E. Schernikov at the Rosario mine by a native who had found it at a ranch called Rosario, about 50 miles from the mine (verbal communication from Mr. E. Schernikov in 1922). The main

mass of 1567 grams is in the C. S. Bement Collection in The American Museum of Natural History, New York (Cat. Ward-Coonley Coll. Meteorites, Chicago, 1904, p. 21).

**Rose City, Ogemaw County, Michigan, U. S. A.**

Fell: 1921, October 17, 11 P.M.

Aerolite: Brecciated black chondrite, Cs.

Specimens: (2225) 411.5 gms.; (2256) 26.5 gms.; (2257) 27.2 gms.; (3737) 9 lbs. 14 oz.; \*(2707) plaster cast, colored; (2719) plaster cast, colored; (2720) plaster cast, colored.

Remarks: A brilliant meteor was seen to pass from N.N.W. to S.S.E. over the N.E. portion of the Lower Peninsula of Michigan, and, after detonations, three stones, of 3.25, 7 and 13 lbs., respectively, fell and were found the next day about nine miles N.E. of Rose City. The stone is black both on the surface and in the interior; it is like a conglomerate with coarse and fine material cemented together, and contains about 17% of metal with nickel and cobalt comprising about 9%.

**Ruff's Mountain, Lexington County, South Carolina, U. S. A.**

Found: 1844

Siderite: Medium octahedrite, Om.

Specimen: (97) 125 gms.

Remarks: A mass of 117 lbs. was found.

**Rushville, Franklin County, Indiana, U. S. A.**

Found: 1866

Aerolite: Brecciated gray chondrite, Cgb.

Specimen: (356) 22.1 gms.

Remarks: Main mass in The Amer. Mus. Nat. Hist., New York.

**Russel Gulch, Gilpin County, Colorado, U. S. A.**

Found: 1863

Siderite: Fine octahedrite, Of.

Specimens: (34) 5052 gms.; \*(668) 303 gms.; (2724) plaster cast, colored.

Remarks: A mass of 29 lbs. was found. 11.5 lbs. in The Amer. Mus. Nat. Hist., New York.

**Sacramento Mountains, Otero County, New Mexico, U. S. A.**

Found: 1896

Siderite: Medium octahedrite, Om.

Specimens: (72) 902.9 gms.; (243) 0.86 gms.; (686) 3870 gms.

Remarks: A mass of 523 lbs. was found on the eastern slope of the Sacramento Mountains, 23 miles S.W. of Badger.

**St. Francois County, Missouri, U. S. A.**

Known: Before 1863

Siderite: Coarse octahedrite, Og.

Specimens: (65) 312.2 gms.; \*(874) 259 gms.; (2557) 1.7 gms.

Remarks: A specimen weighing about 1/2 lb. was found in 1863 by B. F.

Shumard. It was labeled "S.E. Missouri" in the Museum of the St. Louis Academy of Sciences. Later, a larger mass of over 2.5 kg. was found and became known as St. Francois County.

**St. Genevieve County, Missouri, U. S. A.**

Found: 1888

Siderite: Fine octahedrite, Of.

Specimen: (66) 3708 gms.

Remarks: A mass of 539 lbs. was found in the extreme western portion of St. Genevieve County.

**St. Mark's, St. Mark's Mission Station, Transkei, Cape Province, South Africa.**

Fell: 1903, January 3, 11 P.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (653) 16.8 gms.

Remarks: A stone of 13.78 kg. was seen to fall after appearance of light and four detonations. A thin section of this meteorite shows an aggregate of quartz granules, one (0.3 mm. across) with a good hexagonal outline, embedded in metal—Merrill, 1924.

**St. Mesmin, Aube, France**

Fell: 1866, May 30, 3:45 P.M.

Aerolite: Brecciated intermediate hypersthene-chondrite, Cib.

Specimen: (651) 20.7 gms.

Remarks: After appearance of fire-ball, followed by three detonations, three stones were found, weighing respectively about 4.2, 2.2 and 1.9 kg.

**St. Michel, Finland**

Fell: 1910, July 12, 7:25 P.M.

Aerolite: White hypersthene-chondrite, Cw.

Specimen: (608) 761.5 gms.

Remarks: After appearance of fire-ball followed by detonations, two stones of about 7 kg. and 10 kg. respectively were found. Main masses in Helsingfors (Geol. Kom.).

**Saline, Sheridan County, Kansas, U. S. A.**

Found: 1901, possibly fell in 1898, November 15, 9:30 P.M.

Aerolite: Crystalline spherical hypersthene-chondrite, Cck.

Specimen: (584) 38.6 gms.

Remarks: After appearance of fire-ball in 1898, a stone of about 68 lbs. was found three years later.

*Salitra*, see *La Primitiva*

**Salles, Villefranche, Rhône, France**

Fell: 1798, March 12, 6 P.M.

Aerolite: Veined intermediate chondrite, Cia.

Specimen: (536) 14.3 gms.

**Remarks:** After appearance of a fire-ball moving from east to west, a stone of about 20 lbs. fell and buried itself 18 inches in the soil. Date of fall perhaps March 8, when a fire-ball moving in the same direction and at about the same hour was observed.

**Salt River, Bullitt County, Kentucky, U. S. A.**

Found: About 1850

Siderite: Finest octahedrite, Off.

Specimens: \*(53) 31.5 gms.; (227) 60.7 gms.

**Remarks:** A mass of about 8 lbs. was found about 20 miles south of Louisville, and was heated in a forge.

**Sams Valley, Jackson County, Oregon, U. S. A.**

Found: 1894

Siderite: Medium octahedrite, Om.

Specimens: (278) 1093.2 gms.; (2608) 1232.7 gms.; (2726-2728) plaster casts, colored.

**Remarks:** A mass of 15.25 lbs. was found about 10 miles N.W. of Medford. Main mass secured by the Foote Mineral Co., sliced up and distributed.

**San Angelo, Tom Green County, Texas, U. S. A.**

Found: 1897

Siderite: Medium octahedrite, Om.

Specimens: (120) 610 gms.; (711) 227.7 gms.

**Remarks:** A mass of 194 lbs. was found 7 miles south of San Angelo.

*San Bernardino County*, see San Emigdio Mountains

*Sancha Estate*, see Coahuila

**San Cristobal, Antofagasta, Chile, S. A.**

Found: About 1882

Siderite: Nickel-rich ataxite, Db.

Specimen: (2229) 855.5 gms.

**Remarks:** A mass of about 5 kg. was found.

**San Emigdio Mountains, Kern County, California, U. S. A.**

Known: 1887

Synonym: San Bernardino County

Aerolite: Spherical chondrite, Cc.

Specimens: (352) 4.1 gms.; (624) 6.3 gms.

**Remarks:** A stone of about 80 lbs. was found and was crushed to pieces as an ore. Only a little has been preserved; 467 grams in Washington (U. S. Nat. Mus.).

**San Francisco del Mezquital, Durango, Mexico**

Known: Before 1868

Siderite: Nickel-poor Ataxite, Ds.

Specimen: (140) 38 gms.

**Remarks:** A mass of about 7.5 kg. was brought from Mexico by Gen.



Castlenau (G. A. Daubrée, *Comptes Rendus Acad. Sci., Paris*, 1868, Vol. 66, p. 573.)

*San Francisco Pass*, see Barranca Blanca

*San Gregorio*, see Morito

**San Pedro Springs**, Bexar County, Texas, U. S. A.

Found: 1887

Aerolite: White chondrite, Cw.

Specimen: (537) 49.7 gms.

Remarks: A specimen of 72 grams is mentioned in C. S. Bement's *Catalogue of June, 1894*.

**Santa Catharina**, Brazil, S. A.

Found: 1875

Synonym: Rio San Francisco do Sul

Siderite: Nickel-rich ataxite, Dn.

Specimens: (146) 487.8 gms.; <sup>1</sup>(249) ? gms.; (735) 434.3 gms.; (736) 497.1 gms.; \*(737) 113.3 gms.; \*(738) 20.25 gms.; \*(739) 13.55 gms.; <sup>1</sup>(812) ? gms.; <sup>1</sup>(813) ? gms.; <sup>1</sup>(814) ? gms.

Remarks: Large masses, of total weight of about 7000 kg. (about 7 tons), including six weighing, respectively, 2250, 1500, 450, 375, 300, 300 kg., were found in clay overlying granite on the island of São Francisco. According to Guignet (*ibid.*, 1877, Vol. 84, p. 1507) the total weight was as much as 25,000 kg. (about 25 tons), and most of it appears to have been sent to England to be smelted for nickel.

**Santa Rosa**, Tunja, Boyaca, Colombia, S. A.

Found: 1810

Synonyms: Tocavita; Rasgata; Zipaquira

Siderite: Ataxite to obscure brecciated octahedrite, Ds.

Specimens: \*(155) 10.5 gms.; \*(156) 2.5 gms.;

Zipaquira (232) 3503 gms.;

Rasgata (234) 3149 gms.;

\*(745) 31 gms.; (2600) 7.3 gms.

Remarks: A large mass estimated at 750 kg. and smaller pieces were found on the hill of Tocavita, near Santa Rosa, in 1810, and in 1824, the large mass was being used as an anvil in Santa Rosa. In 1874 it was placed on a pillar in the market-place where it was seen in 1906 by H. A. Ward, who obtained a large piece (*Amer. Journ. Sci.*, 1907, Vol. 23, p. 1). Two other masses of 41 kg. and 22 kg., respectively, were found in 1810 at the village Rasgata near the saline of Zipaquira (Mariano de Rivero and J. B. Boussingault, l. c., p. 442). The etched figures of Santa Rosa and Rasgata are similar (G. T. Prior).

<sup>1</sup> Note: Four specimens, Cat. Nos. (249), (812), (813), (814), total weight 136 gms. All four specimens exchanged.

**Sao Juliao de Moreira**, Ponte de Lima, Minho, Portugal

Known: Before 1883

Siderite: Brecciated hexahedrite, Hb.

Specimen: (187) 1763.7 gms.

Remarks: A mass of 162 kg. was ploughed.

**Sarepta**, Saratov, U. S. S. R.

Found: 1854

Siderite: Coarse octahedrite, Og.

Specimen: (197) 94.5 gms.

Remarks: A mass of about 14 kg. was found on the right bank of the Volga, 20 miles from Sarepta.

**Sauguis**, St. Étienne, Basses-Pyrénées, France

Fell: 1868, September 7, 2:30 A.M.

Aerolite: Veined white chondrite, Cwa.

Specimen: (538) 0.7 gms.

Remarks: After appearance of fire-ball, followed by detonations, a stone fell in a stream and was broken in pieces, of which a weight of about 2-4 kg. was collected.

**Savtschenskoje**, Tiraspol, Kherson, Ukraine, U. S. S. R.

Fell: 1894, July 27, 8 P.M.

Aerolite: Crystalline spherical chondrite, Cck.

Specimen: (539) 40.8 gms.

Remarks: After three detonations, a stone of about 2.5 kg. was seen to fall. Main mass in Odessa University.

**Schellin**, Stargard, Pomerania, Prussia, Germany

Fell: 1715, April 11, 4 P.M.

Aerolite: Veined intermediate chondrite, Cia.

Specimen: (591) 0.7 gms.

Remarks: After detonations, two stones fell, one of about 7 kg. and the other as large as a goose egg, but little has been preserved. In 1897, 341 grams were in the possession of the Bredow family in Wagenitz, Brandenburg.

**Schönenberg**, Pfaffenhausen, Swabia, Bavaria, Germany

Fell: 1846, December 25, 2 P.M.

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (541) 50.9 gms.

Remarks: After detonations, a stone of about 8 kg. was seen to fall.

**Schwetz**, Kwidzyn, Poland

Found: 1850

Synonym: Kwidzyn

Siderite: Medium octahedrite, Om.

Specimen: (283) 20.6 gms.

Remarks: A mass of about 21.5 kg. was found, 4 feet below the surface, in making a road.

*Schwiebus*, see Seeläsgen

**Scott City**, Scott County, Kansas, U. S. A.

Found: 1905

Aerolite: Spherical chondrite, Cc.

Specimen: (659) 140.3 gms.

Remarks: A stone of 135 grams was found in 1905, and another of about 2 kg. in 1911.

**Scottsville**, Allen County, Kentucky, U. S. A.

Found: 1867

Siderite: Hexahedrite, H.

Specimen: (50) 532.7 gms.

Remarks: A mass of about 10 kg. was found.

**Searsmont**, Waldo County, Maine, U. S. A.

Fell: 1871, May 21, 8:15 A.M.

Aerolite: Spherical bronzite-chondrite, Cc.

Specimens: (370) 46.6 gms.; \*(1028) 4.2 gms.

Remarks: After sound of explosion, a stone was seen to fall which on impact was broken into fragments weighing together about 12 lbs.; only about 2 lbs. appear to have been preserved. Most of the 2 lbs. in Amherst College.

**Seelasgen**, Brandenburg, Prussia, Germany

Known: Before 1847

Synonym: *Schwiebus*

Siderite: Coarsest octahedrite, Ogg.

Specimens: (191) 190.4 gms.; (250) 68.1 gms.

Remarks: A mass of about 102 kg. was found in draining a field, and several years afterward (in 1847) was recognized as meteoric by Hartig. (Göppert, *Ann. Phys. (Poggendorff)*, 1848, Vol. 73, pp. 329; and W. G. Schneider, *ibid.*, 1848, Vol. 74, p. 57).

**Segowlie**, Champaran district, Bihar, India

Fell: 1853, March 6, noon

Aerolite: Crystalline chondrite, Ck.

Specimen: (542) 4 gms.

Remarks: About 30 stones, varying in weight from about 1/2 lb. to 14 lbs. were seen to fall.

**Selma**, Dallas County, Alabama, U. S. A.

Found: 1906; possibly fell 1898, July 20, 9 P.M.

Aerolite: Spherical chondrite, Cc.

Specimens: \*(639) 51.5 gms.; \*(2208) 3 gms.; (2223) 140.6 kg.; (2556) 26.7 gms.

Remarks: A stone of 310 lbs. was found, after a luminous meteor was seen. Main mass in New York (*Amer. Mus. Nat. Hist.*).

**Sena, Sariñena, Huesca, Spain**

Fell: 1773, November 17, midnight

Aerolite: Brecciated gray chondrite, Cgb.

Specimens: (543) 4.3 gms.; (1105) 19.6 gms.; \*(1106) 2.4 gms.

Remarks: After detonations, a stone of about 4 kg. was seen to fall.

**Seneca Falls, Seneca County, New York, U. S. A.**

Found: 1850

Siderite: Medium octahedrite, Om.

Specimen: (76) 43.8 gms.

Remarks: A mass of about 9 lbs. was found in digging a ditch.

*Senegal, see Siratik**Senhadja, see Aumale***Seres, Macedonia, Greece**

Fell: 1818, June

Aerolite: Gray chondrite, Cg.

Specimen: (544) 10.8 gms.

Remarks: A stone of about 8.5 kg. fell, but particulars are unknown.

*Sevier County, see Cosby's Creek***Sevrukovo, Byelgorod, Kursk, U. S. S. R.**

Fell: 1874, May 11, 11:45 P.M.

Aerolite: Black bronzite-chondrite, Cs.

Specimens: (545) 33.7 gms.; (1107) 5.7 gms.; \*(1108) 5 gms.

Remarks: After appearance of a band of light and detonations, a stone of 98 kg. fell 2 miles east of the village of Sevrukovo. Main mass perhaps in Kharkov Museum, 365 grams in Paris (Mus. d'Hist. Nat.).

**Shalka, Bishnupur, Bankura district, Bengal, India**

Fell: 1850, November 30, 4:30 P.M.

Aerolite: Diogenite, Chl.

Specimen: (546) 104.8 gms.

Remarks: After detonations, an immense stone, said to measure 3 feet across, fell and broke in pieces, and only about 8 lbs. has been preserved.

**Shelburne, Grey County, Ontario, Canada**

Fell: 1904, August 13, 8 P.M.

Aerolite: Veined gray chondrite, Cga.

Specimen: (583) 62.2 gms.

Remarks: After appearance of fire-ball and detonations, two stones fell, weighing about 28 lbs. and 13 lbs., respectively.

**Sherghotty, Gya, Bihar, India**

Fell: 1865, August 25, 9 A.M.

Aerolite: Shergottite, She.

Specimen: (605) 7.2 gms.

Remarks: After detonations, a stone of about 11 lbs. fell.

**Shingle Springs**, El Dorado County, California, U. S. A.

Found: 1869

Siderite: Nickel-rich ataxite, Dsh.

Specimen: (26) 109.9 gms.

Remarks: A mass of about 85 lbs. was found in a field about 1/2 mile from Shingle Springs. According to H. A. Ward the main mass fell into the hands of boys and was lost. 932 grams in Yale University.

**Shrewsbury**, York County, Pennsylvania, U. S. A.

Found: 1907

Siderite: Medium octahedrite, Om.

Specimen: (212) 563.3 gms.

Remarks: A mass of about 27 lbs. was ploughed up.

**Shytal**, Madhupur jungle, Mymensingh district, Bengal, India

Fell: 1863, August 11, noon

Aerolite: Brecciated intermediate hypersthene-chondrite, Cib.

Specimen: (547) 25.8 gms.

Remarks: After detonations, a stone of about 7 lbs. was seen to fall.

**Siena**, Tuscany, Italy

Fell: 1794, June 16, 7 P.M.

Aerolite: Intermediate chondrite (howarditic chondrite of Brezina), Cho.

Specimen: (548) 44.7 gms.

Remarks: After appearance of cloud and detonations, a shower of small stones fell, the largest weighing about 3.5 kg.

*Sierra de Chaco*, see *Vaca Muerta*

*Sierra de Deesa*, see *Copiapo*

**Signal Mountain**, Lower California, Mexico

Found several years before 1919

Siderite: Medium octahedrite, Om.

Specimens: (291) 57,833 gms.; \*(864) 13 gms.; (865) 12 gms.; (866) 6.6 gms.

Remarks: A mass of 140 lbs. was found and is supposed to have fallen a short time before, as detonations had been heard and a streak of "yellow-green smoke" had been seen one afternoon at about 3 P.M.

*Sikkensaare*, see *Tennasilm*

**Silver Crown**, Laramie County, Wyoming, U. S. A.

Found: 1887

Siderite: Coarse octahedrite, Og.

Specimen: (127) 136 gms.

Remarks: A mass of 25.6 lbs. was found half buried in decomposed granite.

**Siratik**, Upper Senegal, French West Africa

Found: 1716

Siderite: Nickel-poor ataxite, Ds.

Specimens: (179) 190.8 gms.; (755) 67.2 gms.

Remarks: Large masses of iron were found by P. Compagnon in 1716 to be used by natives of Siratik and Bambuk for making pots. Two pieces in the British Museum formed part of the material brought back from Senegal by Gen. O'Hara. Lacroix, 1924, states that the iron generally known as Siratik or Senegal River probably came from various regions and was transported from the desert by the Nomads on the two banks of the Senegal. Siratik is not a geographical expression, but is the title given to the kings of the Fouta Toro, a region distinct from Bambuk which lies to the southeast.

**Sitathali**, Raipur district, Central Provinces, India

Fell: 1875, March 4, 11 A.M.

Aerolite: Gray bronzite-chondrite (howarditic chondrite of Brezina), Cho.

Specimen: (550) 37.1 gms.

Remarks: After detonations, two stones, of about 2 lbs. and 1.5 lbs., respectively, fell 3/4 mile apart, but the two fitted together. The main mass of the larger stone (935 grams) in Calcutta (Mus. Geol. Surv. India).

**Ski**, Akershuus, Oslo, Norway

Fell: 1848, December 27, evening

Aerolite: Veined white hypersthene-chondrite, Cwa.

Specimen: (551) 0.5 gms.

Remarks: After detonations and appearance of light, two days later a stone of 850 grams was found on the ice of a small stream.

**Smithland**, Livingston County, Kentucky, U. S. A.

Found: 1839-1840

Siderite: Nickel-rich ataxite, Db.

Specimen: (54) 35.9 gms.

Remarks: A large mass was found and partly smelted, but about 5 kg. have been preserved.

**Smith's Mountain**, Rockingham County, North Carolina, U. S. A.

Found: About 1863

Siderite: Fine octahedrite, Of.

Specimens: (87) 484.8 gms.; \*(692) 153.5 gms.; \*(875) 54.8 gms.

Remarks: A mass of about 11 lbs. was found. Main mass in State Museum, Raleigh, North Carolina.

*Smithsonian Iron*, see Coahuila**Smithville**, DeKalb County, Tennessee, U. S. A.

Found: 1840

Synonym: Caryfort

Siderite: Coarse octahedrite, Og.

Specimens: (108) 3269 gms.; \*(697) 507.9 gms.; \*(698) 3000 gms.; (699) 3869 gms.; \*(700) 47 gms.; (701) 3000 gms.; \*(702) 216.5 gms.; (876) 6435 gms.; (2555) 3 gms.

Remarks: A mass of 36 lbs. was found "near the mouth of the Cany Fork" in 1840. Three other masses of about 7 lbs., 15 lbs. and 65 lbs. were found at Smithville in 1892, and two masses of 8 lbs. and 1 lb. at Berey Cantrell's in 1903.

**Soko-Banja, Aleksinac, Yugoslavia**

Fell: 1877, October 13, 2 P.M.

Synonym: Alexinatz

Aerolite: Spherical hypersthene-chondrite, Cc.

Specimens: (552) 180.1 gms.; \*(625) 5 gms.; (1110) 30.2 gms.

Remarks: After appearance of fire-ball, and detonations, a shower of stones, of which about ten were found, fell over an area of  $7 \times 1$  miles; the total weight was about 80 kg. and the largest stone weighed 38 kg.

**South Bend, St. Joseph County, Indiana, U. S. A.**

Found: 1893

Siderolite: Pallasite, Pi.

Specimen: (995) 58.3 gms.

Remarks: A mass of 5.5 lbs. was ploughed up, two miles S.E. of South Bend. Main mass in Chicago (Field Mus. Nat. Hist.).

**Springwater, Battleford County, Saskatchewan, Canada**

Found: 1931, August

Siderolite: Pallasite, Pk.

Specimen: (2641) 570 gms.

Remarks: Masses of 41 lbs., 23 lbs. and 85 lbs., were found in 1931 in a field near Springwater. Outwardly and in section the specimens resemble the Brenham (Kiowa County, Kansas, pallasite) but their structure is on a smaller scale and the yellow olivine is more in evidence, forming a larger proportion of the masses. H. H. Nininger, 1932, *American Mineralogist*, Vol. 17, pp. 396-400.

**Stalldalen, Nya Kopparberg, Orebro, Sweden**

Fell: 1876, June 28, 11:30 P.M.

Aerolite: Brecciated gray bronzite-chondrite, Cgb.

Specimens: \*(553) 56 gms.; (610) 285.3 gms.; \*(1111) 70.8 gms.; (2265) 177.3 gms.

Remarks: After appearance of fire-ball and detonations, 11 stones fell, of total weight of about 34 kg., the largest weighing about 12.5 kg.

**Stannern, Iglau, Moravia, Czechoslovakia**

Fell: 1808, May 22, 6 A.M.

Aerolite: Eucrite, Eu.

Specimen: (554) 51.2 gms.

Remarks: After detonations, some 200–300 stones fell of which about 66 were recovered, of a total weight of about 52 kg., the largest weighing about 6 kg.

**Staunton, Augusta County, Virginia, U. S. A.**

Found: 1858 or 1859

Synonym: Louise County

Siderite: Medium octahedrite, Om.

Specimens: (122) 1143.1 gms.; \*(248) 213 gms.; \*(713) 217 gms.; (488) 0.9 gm.

Remarks: A mass of about 152 lbs. was found in 1858 or 1859, was thrown away and later built into a wall, and in 1877 was taken out and recognized as meteoric. Three other masses, of about 25.5, 16.5 and 1.5 kg., respectively, the first of which was ploughed up in 1869, were described and analyzed by J. W. Mallet in 1871 (*ibid.*, 1871, Vol. 2, p. 10, figs.), Ni = 10.24%. A fifth mass of about 2 kg. was described by G. F. Kunz in 1887 and analyzed by J. W. Mallet (*ibid.*, 1887, Vol. 33, p. 58, fig.), Ni = 8.85%. A sixth mass of about 7 kg. was described by H. D. Campbell and J. L. Howe with analysis by J. E. Whitfield (*ibid.*, 1903, Vol. 15, p. 469, etch. fig.), Ni = 7.69%. The first and sixth masses differ somewhat in structure from the others.

**Stavropol, Caucasus, U. S. S. R.**

Fell: 1857, March 24, 5 P.M.

Aerolite: Crystalline bronzite-chondrite, Ck.

Specimen: (555) 48.1 gms.

Remarks: After detonations, a stone fell, measuring 132 × 93 × 66 mm. and weighing about 1.5 kg.

**Steinbach, Erzgebirge, Saxony, Germany**

Found: 1724

Synonyms: Breitenbach; Rittersgrün

Siderolite: Siderophyre, Si.

Specimens: Breitenbach, (315) 76.1 gms.; \*(894) 16 gms.; Rittersgrün, (895) 42.6 gms.; (901) 8.8 gms.

Remarks: Large masses of iron were said by G. Fabricius to have fallen at Whitsuntide, 1164, in the region of Meissen and between 1540–1550 a large mass of iron is said by Albin to have fallen near Grimma (E. F. F. Chladni, *Feuer-Meteore*, Wien, 1819, p. 212). A mass of nearly 1 kg. which has been known since about 1724 in the Naturalien-Cabinette at Gotha may possibly be part of the Grimma mass. A mass of "native iron" from Steinbach was described by J. G. Lehmann in 1751 (E. F. F. Chladni, *loc. cit.*, p. 324). In 1833 (or 1847) a mass of about 86.5 kg. was found at Rittersgrün. In 1861 another mass of about 10.5 kg. was found at Breitenbach.



**Summit**, Blount County, Alabama, U. S. A.

Known: Since 1890  
Siderite: Hexahedrite, Ha.  
Specimen: (1) 33.1 gms.  
Remarks: A mass of about 1 kg. was found.

**Tabor**, Bohemia, Czechoslovakia

Fell: 1753, July 3, 8 P.M.  
Aerolite: Brecciated spherical chondrite, Ccb.  
Specimen: (556) 43.2 gms.  
Remarks: After appearance of light and detonations, a shower of stones, the largest weighing 13 lbs., was seen to fall.

*Tabory*, see Ochansk

**Tadjera**, Sétif, Constantine, Algeria

Fell: 1867, June 9, 10:30 P.M.  
Aerolite: Black chondrite, Ct.  
Specimen: (558) 53.6 gms.  
Remarks: After appearance of fire-ball (traveling from S.E. to N.E.), and three detonations, two stones were found which according to weights in collections must have been of about 6 kg., and 3 kg., respectively.

*Taiga*, see Toubil River

*Tajgha*, see Toubil River

**Takenouchi**, Yabu, Tajima, Japan

Fell: 1880, February 18  
Synonym: Toke-uchi-mura  
Aerolite: Crystalline chondrite, Ck.  
Specimen: (563) 10 gms.  
Remarks: A stone of about 3/4 kg. was seen to fall. Main mass in Tokyo (Imp. Mus.).

*Taltal*, see Vaca Muerta

**Tamarugal**, Iquique, Tarapaca, Chile, S. A.

Found: 1903  
Synonym: El Inca  
Siderite: Medium octahedrite, Om.  
Specimens: (2461) 11,200 gms.; (2591) 148.7 gms.  
Remarks: A mass of 320 kg. was found in the Pampa de Tamarugal and was called "The Inca" by the finder.

**Tazewell**, Claiborne County, Tennessee, U. S. A.

Found: 1853  
Siderite: Finest octahedrite, Off.  
Specimens: (110) 81.9 gms.; (703) 67.7 gms.; \*(704) 52.9 gms.; \*(705) 29.5 gms.

Remarks: A mass of about 60 lbs. was ploughed up 10 miles west of Tazewell.

**Tennant's Iron, U. S. S. R.**

Found: 1784

Siderite: Coarse octahedrite, Og.

Specimen: (238) 4.1 gms.

Remarks: A specimen of 4 grams, from the mineral collection of the Agricultural Academy of Petrovskoie-Rasumovskoie, near Moscow, and said to be from an old collection of Tennant of London, was in the Ward-Coonley Collection in 1904.—Prior, 1923. American Museum specimen collected by C. G. Gilbert. Museum derived specimen from Ward-Coonley Collection.

**Tennasilm, Esthonia**

Fell: 1872, June 28, noon

Synonym: Sikkensaare

Aerolite: Veined spherical hypersthene-chondrite, Cca.

Specimens: (549) 91.6 gms.; (1109) 4.5 gms.

Remarks: After appearance of a cloud and detonations, some days later a stone of about 28.5 kg. was found; it was broken in pieces by gypsies, but most of it was recovered.

*Tennessee*, see Cleveland

**Thunda, Windorah, Gray County, Queensland, Australia**

Known: Since 1886

Siderite: Medium octahedrite, Om.

Specimens: (167) 509.3 gms.; \*(749) 113.7 gms.

Remarks: A mass of 137 lbs. was found. Main mass in possession of A. Liversidge.

**Thurlow, Hastings County, Ontario, Canada**

Found: 1888

Siderite: Fine octahedrite, Of.

Specimen: (27) 136.3 gms.

Remarks: A mass of about 5.5 kg. was found. Main mass in Ottawa (Mus. Geol. Surv., Canada).

**Tieschitz, Přerov, Moravia, Czechoslovakia**

Fell: 1878, July 15, 1:45 P.M.

Aerolite: Spherical hypersthene-chondrite, Cc.

Specimen: (560) 6.2 gms.

Remarks: After detonations, a stone of about 28 kg. was seen to fall. Main mass in Vienna (Naturhist. Mus.).

**Timochin, Yukhnov, Smolensk, U. S. S. R.**

Fell: 1807, March 25, 3 P.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (561) 24.3 gms.

Remarks: After detonations, a stone of about 65.5 kg. was seen to fall. Main mass (48.5 kg.) in Petrograd (Mus. Acad. Sci.) in 1897.

**Tjabé**, Padang, Rembang, Java, Dutch East Indies

Fell: 1869, September 19, 9 P.M.

Aerolite: Crystalline chondrite, Ck.

Specimen: (562) 1.2 gms.

Remarks: After appearance of fire-ball, moving from N.E., and a detonation, a stone of about 20 kg. was seen to fall and was found next day. Main mass perhaps still in Java, 1/2 kg. in Budapest.

**Tlacotepec**, Tecamachalco, Pueblo, Mexico

Found: 1903

Siderite: Coarse octahedrite, Og.

Specimen: (2640) 2785.6 gms.

Remarks: L. F. Ward, 1904, lists 24 kg., H. H. Nininger in 1931 found in National Institute of Geology, Mexico City, masses weighing 34 kg. and 36.6 kg., which were sliced counter-parts of a complete individual, except for a small slab, which had been removed from one end of the larger half and estimated to weigh about 200 grams. Described by H. H. Nininger, 1931. *Amer. Jour. Sci.*, Ser. V, Vol. XXII, pp. 360-363.

*Tocavita*, see Santa Rosa

*Toke-uchi-mura*, see Takenouchi

**Toluca**, Mexico State, Mexico

Known: Before 1776

Synonyms: Ixtlahuaca; Xiquipilco

Siderite: Medium octahedrite, Om.

Specimens: Ixtlahuaca, (141) 173 gms.;

Xiquipilco (725) 242.7 gms.; (729) 1150.7 gms.;

" (731) 564.6 gms.; (809) 1127.7 gms.;

" (811) 8.5 gms.;

Toluca \*(724) 51.5 gms.; \*(247) 378 gms.; (726) 386.1 gms.;

(727) 1739 gms.; (728) 4444 gms.; (730) 251.1 gms.; \*(762)

7.02 gms.; \*(808) 65 gms.; \*(810) 49 gms.

Remarks: Many masses, the largest of 300 lbs., were found near Xiquipilco and were being forged into agricultural implements in 1776; three masses of 220 lbs., 19.5 lbs. and 13 lbs., respectively, were brought to Germany by G. A. Stein. The mass of 43 lbs. (19.5 kg.) found at Los Reyes, 40 miles east of Toluca, is considered by O. C. Farrington as distinct from Toluca. The Toluca iron is said to contain crystals of quartz and zircon. To Toluca probably belongs the Abert Iron, a mass of about 456 grams found in the mineral collection of Col. J. J. Abert and presented by his son to the United States National Museum.

**Tomatlan**, Jalisco, Mexico

Fell: 1879, September 17, 4:30 P.M.

Synonym: Atemajac

Aerolite: Spherical chondrite, Cc.

Specimens: \*(406) 65.1 gms.; \*(564) 1 gm.; (1114) 7.4 gms.

Remarks: After appearance of luminous meteor traveling from S.E. to N.W., and detonations, two or three stones fell, the largest of about 2 lbs.

**Tombigbee River**, Choctaw and Sumter County, Alabama, U. S. A.

Found: 1859

Siderite: Hexahedrite, nickel-poor ataxite, H.

Specimen: (2) 1049 gms.

Remarks: Six masses, of a total weight of about 96 lbs., the largest of 33 lbs., were found at different times from 1859 to 1886 near De Sotoville.

**Tomhannock Creek**, Rensselaer County, New York, U. S. A.

Found: About 1863

Synonym: Yorktown

Aerolite: Brecciated gray chondrite, Cgb.

Specimens: (379) 92 gms.; (380) 6.1 gms.; \*(1032) 21.5 gms.; \*(1033) 10.5 gms.; (1034) 1322.3 gms.

Remarks: A stone of about 1.5 kg. was found.

**Tonganoxie**, Leavenworth County, Kansas, U. S. A.

Found: 1886

Siderite: Medium octahedrite, Om.

Specimen: (55) 320.5 gms.

Remarks: A mass of about 26 lbs. was found on a farm one mile west of Tonganoxie. Main mass in Kansas University.

**Toubil River**, Achinsk, Yeniseisk, Siberia, U. S. S. R.

Found: 1891

Synonyms: Taiga; Tajgha; Krasnojarsk

Siderite: Medium octahedrite, Om.

Specimens: (196) 38.4 gms.; (761) 305.3 gms.

Remarks: A mass of about 22 kg. was found on the river Toubil, 264 miles from Krasnoyarsk. It is identical with Taiga, to which place pieces were brought. Main mass in Petrograd (Mus. Mining Inst.) in 1897.

**Toulouse**, Haute Garonne, France

Fell: 1812, April 10, 8 p.m.

Aerolite: Veined intermediate chondrite, Cia.

Specimens: (565) 1.5 gms.; (1115) 0.85 gm.; (1116) 14 gms.

Remarks: After appearance of fire-ball, followed by three detonations, a small shower of stones fell between La Pradère in the N.W. and La Bordette in the S.E.; about eight stones were found, the largest weighing about 1 kg.

**Tourinnes-la-Grosse**, Tirlemont, Belgium

Fell: 1863, December 7, 11:30 a.m.

Synonym: Louvain

Aerolite: White hypersthene-chondrite, Cw.

Specimen: (566) 112.3 gms.

Remarks: After detonations, two stones fell; one of about 7 kg. was found in a wood near Opvelp, and the other of about 7.5 kg. was seen to fall at Le Culot sous Tourinnes-la-Grosse.

**Travis County, Texas, U. S. A.**

Found: 1889

Aerolite: Black chondrite, Cs.

Specimen: (567) 10.7 gms.

Remarks: A piece of 2.5 kg. was found. Main mass in Washington (U. S. Nat. Mus.).

**Trenton, Washington County, Wisconsin, U. S. A.**

Found: 1858

Synonyms: Milwaukee; Wisconsin

Siderite: Medium octahedrite, Om.

Specimens: (126) 525.4 gms.; \*(246) 25 gms.

Remarks: Masses of 60, 16, 10 and 8 lbs. were found in 1858, and two more of 16.25 and 33 lbs. in 1872. 22 kg., including four complete stones of 12.5, 3.5, 3.5, 2 kg., in the Milwaukee Museum, 10 kg. in Wisconsin University, 6 kg. in Harvard University.

**Trenzano, Brescia, Italy**

Fell: 1856, November 12, 4 P.M.

Aerolite: Veined spherical bronzite-chondrite, Cca.

Specimen: (568) 377.3 gms.

Remarks: After detonations, three stones were said to have fallen, but only two were found, the largest weighing about 9 kg.

*Trier*, see Bitburg

*Trinity County*, see Canyon City

*Trutnov*, see Braunau

**Tucson, Pima County, Arizona, U. S. A.**

Known: Before 1850

Synonyms: Ainsa; Signet Iron

Specimens: \*(20) 88.5 gms.; (221) 510.4 gms.; (3735) Iron cast.

Remarks: Two large masses, one ring-shaped (the Signet or Irwin-Ainsa Iron) of 688 kg., and the other (the Carleton Iron) of 287 kg., known for centuries, had been transported to Tucson from the Puerta de los Muchacos, a pass 20-30 miles south of that town, and were used as anvils; first mentioned by J. F. Velasco in 1850. The Signet Iron in 1863 was deposited in the Smithsonian Institution at Washington, and the Carleton Iron in 1862 was sent by General J. H. Carleton to San Francisco. More recently both masses have been described by E. Cohen and analyzed by J. Fahrenhorst. The Ring Meteorite or Signet

Iron is in Washington (U. S. Nat. Mus.), the Carleton mass in San Francisco (California State Mining Bureau). Iron cast of ring-shaped mass in The American Museum of Natural History.

*Tula*, see Netschaëvo

**Tysnes**, Tysnes Island, Norway

Fell: 1884, May 20, 8:30 P.M.

Aerolite: Brecciated gray bronzite-chondrite, Cgb.

Specimens: (569) 10 gms.; (1117) 10.4 gms.

Remarks: After appearance of fire-ball and detonations, two stones fell of 18.95 kg., and 0.91 kg., respectively.

**Uberaba**, Minas Geraes, Brazil, S. A.

Fell: 1903, June 29, 10 A.M.

Synonym: Dores dos Campos Formosos

Aerolite: Veined spherical chondrite, Cca.

Specimens: (648) 10.2 gms.; (654) 73.6 gms.

Remarks: After appearance of luminous meteor (traveling from N.E. to S.W.), and detonations, a stone of about 30-40 kg., was seen to fall about 50 miles west of Uberaba.

**Udipi**, South Kanara, Madras, India

Fell: 1866, April, 10 A.M.

Aerolite: Veined gray chondrite, Cga.

Specimen: (570) 14.2 gms.

Remarks: After detonations, a stone of about 8 lbs. was seen to fall at Yedabettu village (13° 29' N., 74° 47' E.) in Udipi taluq.

**Union County**, Georgia, U. S. A.

Found: 1853

Siderite: Coarsest octahedrite, Ogg.

Specimen: (43) 58.9 gms.

Remarks: A mass of about 15 lbs. was found.

**Ute Pass**, Summit County, Colorado, U. S. A.

Found: 1894

Synonym: Mount Ouray

Siderite: Coarest octahedrite, Ogg.

Specimen: (33) 53.6 gms.

Remarks: Mentioned by H. A. Ward (Cat. Ward-Coonley Coll. Meteorites, Chicago, 1904, p. 26). The specimen of 120 grams there referred to is now in Chicago (Field Mus. Nat. Hist.).

**Utrecht**, Holland

Fell: 1843, June 2, 8 P.M.

Aerolite: Veined spherical hypersthene-chondrite, Cca.

Specimens: (571) 1.3 gms.; (1118) 1.5 gms.

Remarks: After detonations, a stone of 7 kg. was seen to fall near Blaauw-Kapel, 3 miles east of Utrecht, and three days later a second of 2.7 kg. was found at Loevenhoutje, 2 miles away.

**Vaca Muerta, Sierra de Chaco, Taltal, Atacama, Chile**

Recognized: 1861

Synonyms: Dona Inez; Llano del Inca; Mejillones; Taltal

Siderolite: Mesosiderite, Mg.

Specimens: Dona Inez: (309) 198.6 gms.; (891) 1177.4 gms.; \*(977) 162.5 gms.; (978) 3.6 gms.; \*(979) 41.5 gms.; (980) 22.7 gms.; (981) 28.9 gms.; (982) 11.4 gms.; (983) 53.5 gms.; (984) 23.5 gms.; (985) 59.4 gms.; (986) 19.1 gms.;  
 Llano del Inca: (310) 74.2 gms.; (892) 87.2 gms.; \*(905) 69 gms.; (906) 34.2 gms.; (907) 21.2 gms.; (908) 17.8 gms.; (909) 34.7 gms.; (910) 45.7 gms.; (911) 8.2 gms.; (912) 22.4 gms.; (913) 12.4 gms.; (914) 13.8 gms.; (915) 9.2 gms.; (916) 8.9 gms.; (917) 5.4 gms.; (918) 30.6 gms.; (919) 4.1 gms.; (920) 24.1 gms.; (921) 11 gms.; (922) 2.8 gms.; (923) 6.2 gms.; (924) 11.4 gms.; (925) 16.2 gms.; (926) 5.6 gms.; (927) 30.4 gms.; (928) 13.5 gms.; (929) 23.1 gms.; (930) 39.3 gms.; (931) 6.8 gms.; (932) 2.1 gms.; (933) 15.3 gms.; (934) 8.7 gms.; (935) 22.8 gms.; (936) 11.5 gms.; (937) 28.2 gms.; (938) 22.3 gms.; (939) 30.3 gms.; (940) 12.8 gms.; (941) 11.5 gms.; (942) 12.4 gms.; (943) 17.2 gms.; (944) 8.5 gms.; (945) 14.5 gms.; (946) 5.3 gms.; (947) 10.9 gms.; (948) 12.5 gms.; (949) 34.1 gms.; (950) 5.8 gms.; (951) 15.2 gms.; (952) 8.2 gms.; (953) 34.4 gms.; (954) 10.9 gms.; (955) 12.4 gms.; (956) 6.9 gms.; (957) 23.1 gms.; (958) 24.9 gms.; (959) 19.6 gms.; (960) 28.7 gms.; (961) 27.8 gms.; (962) 21.7 gms.; (963) 12.6 gms.; (964) 14.9 gms.; (965) 23 gms.; (966) 19.4 gms.; (967) 4.7 gms.; (968) 14.3 gms.; (969) 2.3 gms.; (970) 20.5 gms.; \*(971) 22.1 gms.; (972) 9.7 gms.; (973) 42 gms.; (974) 21.8 gms.;  
 Mejillones: (308) 175.8 gms.; (890) 4876 gms.;  
 Taltal: (559) 12.5 gms.;  
 Vaca Muerta: (311) 309 gms.; (893) 113.5 gms.; \*(900) 6 gms.

Remarks: Large masses up to 25 kg. in weight were found before 1864. In 1888 precisely similar specimens were found on the Llano del Inca, weighing altogether 27 lbs., and at Cerro de Dona Inez, weight of pieces 16 lbs., both about 100 miles S.E. of Taltal.

**Valley Wells, San Bernardino County, California, U. S. A.**

Found: 1929, June 10

Aerolite: Gray chondrite, Cg.

Specimens: (2615) 10.5 gms.; (2616) 13.5 gms.; (2617) 24 gms.; (2618) 81.9 gms.

Remarks: On June 10, 1929, Dr. Barnum Brown of the American Museum, after 35 years experience as a collector, found his first meteorite. Four weathered pieces of a stony meteorite were picked up on a desert landscape, 1/2 mile north of Valley Wells, California. The weights are as noted above. The specimens were delivered

to the Department of Geology of the Museum, April 28, 1930. The four pieces are considerably weathered, have a desert polish and show considerable oxidization. The surface of one of the pieces has been polished. Unweathered parts indicate a gray chondrite (cg.) with isolated metallic points of nickel-iron scattered throughout the mass.

**Vavilovka**, Kherson, Ukraine, U. S. S. R.

Fell: 1876, June 19, 2 P.M.

Aerolite: Amphoterite (rodite), Ro.

Specimen: (572) 26.3 gms.

Remarks: After detonations, a stone of about 16 kg., fell about 2 miles from Vavilovka, and was broken up by the peasants.

**Veramin**, Karand, Teheran, Persia

Fell: 1880, May 3, 3 hours before sunset

Siderolite: Mesosiderite, M.

Specimen: (313) 123.6 gms.

Remarks: After appearance of cloud and detonations, a mass of about 54 kg. was seen to fall "on the 8th of Jamadi-ul-aval A. H. 1298" (i.e., A.D. 1880) (H. A. Ward, *Amer. Journ. Sci.*, 1901, Vol. 12, p. 453). Main mass in Teheran.

*Veresegyhaza*, see Ohaba

**Verkhne Dnieprovsk**, Ekaterinoslav, Ukraine, U. S. S. R.

Found: 1876

Synonym: Werchne Dnieprowsk

Siderite: Finest octahedrite, Off.

Specimen: (198) 76.8 gms.

Remarks: Original weight and details of find not known; mentioned in 1882 in Catalogue of Y. I. Simashko's Meteorite Collection as found in 1876.

**Verkhne Udinsk**, Transbaikal, Siberia, U. S. S. R.

Found: 1854

Synonym: Werchne Udinsk

Siderite: Medium octahedrite, Om.

Specimen: (199) 209 gms.

Remarks: A mass of over 18 kg. was found on the river Niro, a tributary of the Vitim.

**Vernon County**, Wisconsin, U. S. A.

Fell: 1865, March 26, 9 A.M.

Aerolite: Veined crystalline bronzite-chondrite, Cka.

Specimen: (573) 2 gms.

Remarks: After appearance of fire-ball and detonations, two stones of 800 and 700 grams fell, and were found five days later, the first, however, being subsequently lost.



*Victoria*, see Iron Creek

**Victoria West**, Cape Province, South Africa

Fell: 1860

Siderite: Fine octahedrite, Of.

Specimen: (178) 1.6 gms.

Remarks: A mass of 6.5 lbs. was seen to fall by a Hottentot on a farm 30 miles S.W. of Victoria West. Half the mass in Cape Town (South African Mus.), 1/4 kg. in Calcutta (Mus. Geol. Surv. India).

**Vigarano**, Ferrara, Italy

Fell: 1910, January 22, 9:30 P.M.

Aerolite: Black spherical chondrite, Cc.

Specimen: (2226) 332.3 gms.

Remarks: After detonations, a stone of about 11.5 kg. was seen to fall, and a month later a second stone of 4.5 kg. was found.

*Vimperk*, see Bohumilitz

**Vouillé**, Poitiers, Vienne, France

Fell: 1831, May 13, 11 P.M.

Aerolite: Veined intermediate chondrite, Cia.

Specimens: (574) 176.1 gms.; \*(1119) 1.5 gms.; \*(1120) 0.8 gm.

Remarks: After appearance of fire-ball (moving from south to north), and detonations, a stone of about 20 kg. was found next day. Main mass (15.9 kg.) in Paris (Mus. d'Hist. Nat.).

**Waconda**, Mitchell County, Kansas, U. S. A.

Found: 1874

Aerolite: Brecciated spherical hypersthene-chondrite, Ccb.

Specimens: (363) 137.9 gms.; \*(623) 25 gms.; \*(2186) 18 gms.

Remarks: A stone of about 50 kg. was found and was broken in pieces, one of which weighed 58 lbs. (26 kg.). The 58 lb. mass is in Amherst College.

**Wairarapa Valley**, Wellington, New Zealand

Found: 1864, December 4, 2 A.M.

Aerolite: Crystalline chondrite, Ck.

Specimen: (641) 7.5 gms.

Remarks: A stone of 30 lbs. was found at Tohirua. Wairarapa is possibly one of the stones of the Taranaki meteorite which fell on Dec. 4, 1864, 2 A.M., partly in the sea and partly on land at Turakina, after loud detonations, and appearance of fire-ball of which the smoke persisted for two hours. Main mass in Wellington (in possession of W. G. Mantell), 195 grams in Chicago (Field Mus. Nat. Hist.).

**Waldron Ridge**, Claiborne County, Tennessee, U. S. A.

Known: 1887

Siderite: Coarse octahedrite, Og.

Specimen: (111) 371.9 gms.

Remarks: A mass found at Waldron (perhaps Wallens) Ridge appears to have been of about 30 lbs., for a 15 lb. piece was described by G. F. Kunz (*Amer. Journ. Sci.*, 1887, Vol. 34, p. 475), and a 12 lb. one by A. R. Ledoux, who says that he handed over a larger piece to Kunz (*Trans. New York Acad. Sci.*, 1889, Vol. 8, p. 187). This iron, together with Greenbrier County, was considered by O. W. Huntington as parts of the Cosby's Creek mass (*Proc. Amer. Acad. Arts and Sci.*, 1894, Vol. 29, p. 259).

**Walker County, Alabama, U. S. A.**

Found: 1832

Siderite: Hexahedrite, H.

Specimens: (6) 41.1 gms.; \*(7) 6.41 gms.; (297) 29.9 gms.

Remarks: A mass of about 165 lbs. was found in the N.E. corner of Walker County.

**Warialda, Burnett County, New South Wales**

Found: 1919, September

Siderite: Nickel-poor ataxite (or hexahedrite), H.

Specimen: (2231) 93.2 gms.;  
(2722) plaster cast, colored.

Remarks: A mass of 6.25 lbs. was found near Adams Scrub, about 6 miles from Warialda railway station in Co. Murchison. Probably identical with Barraba and Bingera.

**Warrenton, Warren County, Missouri, U. S. A.**

Fell: 1877, January 3, 7:15 A.M.

Aerolite: Spherical hypersthene-chondrite, Cco.

Specimen: (376) 66 gms.

Remarks: With a whistling noise a stone of about 100 lbs. was seen to strike a tree and break into pieces. Only about 1.6 kg. known in collections.

**Weekeroo, Weekeroo Station, Mannahill, South Australia**

Found: 1924

Siderolite: Pallasite, Pi.

Specimen: (2620) 3188 gms.

Remarks: End piece, polished and etched, of irregular shape and thickness, greatest dimensions,  $37.3 \times 13.5 \times 5$  cm. Obtained from Ward's Natural Science Establishment, Rochester, N. Y., April 16, 1930. Elongated and irregular areas of olivine are scattered sparingly throughout the mass.

**Welland, Welland County, Ontario, Canada.**

Found: 1888

Siderite: Medium octahedrite, Om.

Specimen: (28) 260.9 gms.

Remarks: A mass of about 18 lbs. was ploughed up, about 1.5 miles north of Welland.

*Werchne Dnieprowsk*, see Verkhne Dnieprovsk

*Werchne Udinsk*, see Verkhne Udinsk

**Wessely**, Hradisch, Moravia, Czechoslovakia

Fell: 1831, September 9, 3:30 P.M.

Synonym: Znorow

Aerolite: Veined gray chondrite, Cga.

Specimen: (575) 6.9 gms.

Remarks: After appearance of moving cloud, and detonations, a stone of about 3.75 kg. was seen to fall.

**Weston**, Fairfield County, Connecticut, U. S. A.

Fell: 1807, December 14, 6:30 A.M.

Aerolite: Brecciated spherical chondrite, Ccb.

Specimens: (353) 282 gms.; \*(1001) 94 gms.

Remarks: After appearance of fire-ball (traveling from north to south), and detonations, a shower of several stones fell over an area about 10 miles in length; the total weight was estimated at 330 lbs., and the largest stone, which broke into fragments, at 200 lbs. The smaller stones fell before the larger (O. C. Farrington, Publ. Field Columbian Mus. Chicago, 1907, Geol. Ser., Vol. 3, p. 128). Comparatively little has been preserved.

**Wichita County**, Texas, U. S. A.

Known: Before 1836

Siderite: Coarse octahedrite, Og.

Specimens: \*(121) 1424 gms.; (712) 1663.5 gms.

Remarks: A mass of 320 lbs., known to the Comanche Indians for many years, was removed in 1836. Main mass in Texas University.

**Willamette**, Clackamas County, Oregon, U. S. A.

Found: 1902

Siderite: Medium octahedrite, Om.

Specimens: (203) 31,107 lbs.; (763) 1860 gms.; (764) 507 gms.; (765) 13,154.4 gms.; (2234) 2284 gms.

Remarks: An immense cavernous mass of about 13.5 tons was found on wooded slopes drained by the Willamette River 3 miles N.W. of Oregon City, Ore. Main mass in New York (Amer. Mus. Nat. Hist.).

**Williamstown**, Grant County, Kentucky, U. S. A.

Found: 1892

Siderite: Medium octahedrite, Om.

Specimens: <sup>1</sup>(245) 859.9 gms.; \*(786) 628 gms.; (787) 643.2 gms.; (788) 646.8 gms.; (789) 622.3 gms.; (790) 607 gms.; (791) 443.9 gms.; (792) 406.4 gms.; \*(793) 195 gms.; (794) 120.6 gms.; (795) 78.6 gms.; (796) 85 gms.; (797) 58.4 gms.; (798) 53.7 gms.; (799) 160.3 gms.; (800) 20.3 gms.; (801) 37.7 gms.;

<sup>1</sup> Note: Original weight 17,822 gms. (specimen sawed into 21 slices, Cat. No. 786-806)

(802) 36.4 gms.; \*(803) 27.4 gms.; (804) 31.3 gms.; (805) 989 gms.; (806) 20.9 gms.; (807) 12,725 gms.; (3743) plaster cast, colored; (3744) plaster cast, colored.

Remarks: A mass of 68 lbs. was found on a farm 3 miles north of Williamstown.

*Winnebago County*, see Forest City

*Wisconsin*, see Trenton

*Witmess*, see Eichstädt

**Wold Cottage**, Thwing, Scarborough, Yorkshire, England

Fell: 1795, December 13, 3:30 P.M.

Aerolite: Veined white chondrite, Cwa.

Specimen: (577) 42.7 gms.

Remarks: After detonations heard in adjacent villages, a stone of about 56 lbs. was seen to fall.

**Wooster**, Wayne County, Ohio, U. S. A.

Recognized: 1858

Siderite: Medium octahedrite, Om.

Specimens: (90) 4.3 gms.; \*(693) 2.44 gms.

Remarks: A mass of about 50 lbs. was found in a wood. The main mass appears to have been lost; only a few grams known in collections.

*Xiquipilco*, see Toluca

**Yatoor**, Nellore, Madras, India

Fell: 1852, January 23, 4:30 P.M.

Aerolite: Spherical chondrite, Cc.

Specimens: (578) 64.5 gms.; (1122) 1.4 gms.

Remarks: After a single detonation, a stone of about 30 lbs. was seen to fall.

**Yenberrie**, Northern Territory, Australia

Found: 1918

Siderite: Coarse octahedrite, Og.

Specimen: (290) 3760 gms.; (2708) plaster cast, colored.

Remarks: A mass of 291 lbs. was found about 20 miles S.S.E. of Yenberrie. A mass of 28 lbs. was divided between the Museums of Chicago, New York and Washington.

**York**, York County, Nebraska, U. S. A.

Found: 1878

Siderite: Medium octahedrite, Om.

Specimen: (287) 795.5 gms.

Remarks: A mass of 835 grams was ploughed up. Main mass in the Kunz Collection in New York (Amer. Mus. Nat. Hist.).

*Yorktown*, see Tomhannock Creek

**Youndegin**, Avon, South West Division, Western Australia

Found: 1884

Siderite: Coarse octahedrite, Og.

Specimens: \*(169) 51.5 gms.; (296) 3227 gms.; \*(750) 1805 gms.

Remarks: In 1884, four pieces of 25.75, 24, 17.5 and 6 lbs. were found 3/4 mile N.W. of Penkarring Rock and 70 miles east of York. In 1891, another mass of 382.5 lbs., and in 1892, a still larger mass of 2044 lbs. were found. Main part of the 24 and 17 lb. masses in Melbourne (Nat. Mus.); 382 lb. mass in Chicago (Field Mus. Nat. Hist.); and 2044 lb. mass in Vienna (Natur-hist. Mus.).

**Ysleta**, El Paso County, Texas, U. S. A.

Known: 1914

Siderite: Fine octahedrite, Of.

Specimens: (271) 115.9 gms.; (286) 310 lbs.

Remarks: A mass of 310 lbs. (140.6 kg.), and measuring 20 × 15 × 12 inches, was delivered to the American Museum, May 18, 1914. Purchased of Mr. Lazard Cahn, June 11, 1914. Gift of Mr. Arthur Curtiss James. Smaller piece which had been sawed from larger mass was obtained from Foote Mineral Company, June 26, 1914.

**Zaborzika**, Jitomir, Volhynia, Ukraine, U. S. S. R.

Fell: 1818, April 10

Aerolite: Veined intermediate chondrite, Cia.

Specimen: (428) 2.4 gms.

Remarks: A stone of about 4 kg. fell, but no details are known.

**Zabrodje**, Vilna, Lithuania

Fell: 1893, September 22, 2 hours before sunset

Aerolite: Veined intermediate hypersthene-chondrite, Cia.

Specimen: (490) 2.3 gms.

Remarks: After appearance of a cloud moving from N.E. to S.W., and detonations, a stone of about 3 kg., fell through the roof of a house.

**Zacatecas**, Mexico

Known: Before 1792

Siderite: Brecciated octahedrite, Obz.

Specimens: (142) 59.3 gms.; (732) 70.8 gms.

Remarks: A large mass of about 1000 kg. (1 ton), from time immemorial before 1792, had been in a street of Zacatecas, and was said to have been found near the Quebradilla mine on the western outskirts of the city. Main mass in Mexico City (School of Mines).

**Zaffra**, Le Flore County, Oklahoma, U. S. A.

Found: 1919, December

Siderite: Coarse octahedrite, Og.

Specimen: (2614) 1430.8 gms.

Remarks: While prospecting for zinc in Section 1, T. 1 S., R.26 E. near Zaffra, Okla., Messrs. Moore and Hesperling in Dec., 1919, found a meteoric iron weighing about 3 kg. The specimen was broken apart on an anvil, each finder retaining about half of the specimen. The part owned by J. L. Hesperling was purchased by the American Museum, May 24, 1930. The mass is weathered and oxidized to some extent. It is deeply pitted and covered with jagged, sharp metallic points. Analysis: A. C. Shead (Proc. Okla. Acad. Sci., Vol. II, 1922), Fe 91.6; Ni 7.23; Co trace; P .235; Si .0015; Cl .22; C not determined; S not detected. The chlorine is present as lawrencite,  $\text{FeCl}_2$ .

*Zagreb*, see Hraschina

**Zavid**, Zvornik, Bosnia, Yugoslavia

Fell: 1897, August 1, 11:30 A.M.

Aerolite: Brecciated gray hypersthene-chondrite, Cgb.

Specimen: (540) 855.6 gms.

Remarks: After appearance of fire-ball (moving from S.E. to N.W.), and detonations, four stones fell, of about 90 kg., 2.5 kg., 220 grams and 48 grams, respectively. Main masses in Sarajevo (Bosnian Landesmus.).

**Zebrak**, Hořovice (= Horowitz), Beraun, Bohemia, Czechoslovakia

Fell: 1824, October 14, 8 A.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (531) 210 gms.

Remarks: After detonations, a stone of about 2 kg. fell at Praskolesy.

*Zipaquira*, see Santa Rosa

**Zmenj**, Minsk, U. S. S. R.

Fell: 1858, August

Aerolite: Howardite, Ho.

Specimen: (437) 6.8 gms.

Remarks: A stone of 246 grams fell.

**Zsadány**, Temes district, Rumania

Fell: 1875, March 31, 3-4 P.M.

Aerolite: Spherical chondrite, Cc.

Specimen: (649) 5 gms.

Remarks: After detonations, a shower of stones fell, of which 9 small ones only were found, of total weight 552 grams and the largest of 152 grams.

## AMERICAN MUSEUM METEORITES ARRANGED ACCORDING TO MAJOR GROUPS

In discussing and arranging suites of meteorites, it has been found convenient to group them according to the three principal kinds: (1) Aerolites, (2) Siderolites and (3) Siderites. Meteorites, which have been seen to fall, and those which have been found, constitute one or the other of these three groups. In no instance has more than one kind been known to fall at a given place at the same time. It is thus natural in making comparisons and in arranging large collections of specimens to group them according to these three main subdivisions.

It is a well-established fact that aerolites are "seen to fall" more frequently than siderites; on the other hand, specimens of nickel-iron meteorites are more often "found" than the stony ones, due to the fact that the nickel-iron specimens offer greater resistance to the processes of weathering and decay over long periods of time. Referring to G. P. Merrill's 1929 list of 482 meteorites seen to fall, we note that for the 15th and 16th centuries there is one each; for the 17th, three; for the 18th, nineteen; for the 19th, three hundred forty-two; and for the first third of the 20th, one hundred sixteen. These figures show quite conclusively that during the 15th to 17th centuries, when meteorites were regarded as being supernatural, few specimens were found, that during the 19th and early 20th centuries, when they received attention by scientists, many were recovered. Out of a total of 482 seen to fall, 458 represent aerolites, 5 siderolites and 22 siderites. Out of a total of 835 meteoritic falls noted by Merrill in 1929, three hundred and fifty of them represented nickel-iron meteorites which had been found and not seen to fall. From 1929 to December 31, 1935, the list of known meteorites has been very considerably increased so that at the end of 1935 there were 1073 known falls, consisting of 617 aerolites, 46 siderolites and 410 siderites.

When the American Museum meteorites are grouped according to their major kinds, as noted in the subjoined lists, aerolites are represented by 282 falls, siderites by 238 falls and siderolites by 28 falls. This gives a grand total of 548 falls, comprising the American Museum Collection as of October 1, 1935. Entries marked with an asterisk (\*) have been exchanged.

## (1) AEROLITES (STONY METEORITES)

- Adalia*, Turkey  
*Agen*, France  
*Alais*, France  
*\*Albareto*, Italy  
*Aldsworth*, England  
*Aleppo*, Syria  
*Alessandria*, Italy  
*Alfianello*, Italy  
*Allegan*, Michigan, U. S. A.  
*Ambapur Nagla*, India  
*Angers*, France  
*Apt*, France  
*Asco*, France  
*Assam*, India  
*Assisi*, Italy  
*Aumale*, Algeria  
*Aumières*, France  
*Aussun*, France  
*Avilez*, Mexico  
*Bachmut* Ukraine, U. S. S. R.  
*Bandong*, Java  
*Barbotan*, France  
*Barratta*, New South Wales  
*Bath*, South Dakota, U. S. A.  
*Bath Furnace*, Kentucky, U. S. A.  
*Beaver Creek*, British Columbia, Canada  
*Benares*, India  
*Berlanguillas*, Spain  
*Bethlehem*, New York, U. S. A.  
*Bielokrynitschie*, Ukraine, U. S. S. R.  
*Bishopville*, South Carolina, U. S. A.  
*Bishunpur*, India  
*Bjurböle*, Finland  
*Blansko*, Czechoslovakia  
*Bliethfield*, Ontario, Canada  
*Bluff*, Texas, U. S. A.  
*Borgo San Donnino*, Italy  
*Bori*, India  
*Borkut*, Czechoslovakia  
*Bremervörde*, Germany  
*Bur-Gheluai*, Italian Somaliland  
*Buschhof*, Latvia  
*Bustee*, India  
*Butsura*, India  
*Cabeza de Mayo*, Spain  
*Cangas de Onis*, Spain  
*Cape Girardeau*, Missouri, U. S. A.  
*Castalia*, North Carolina, U. S. A.  
*Castine*, Maine, U. S. A.  
*Cereseto*, Italy  
*Chandakapur*, India  
*Chantonnay*, France  
*Charsonville*, France  
*Charwallas*, India  
*Chassigny*, France  
*Château-Renard*, France  
*Colby*, Wisconsin, U. S. A.  
*Cold Bokkeveld*, South Africa  
*Collescipoli*, Italy  
*Constantinople*, Turkey  
*Cosina*, Mexico  
*Cross Roads*, North Carolina, U. S. A.  
*Culbertson*, Nebraska, U. S. A.  
*Cullison*, Kansas, U. S. A.  
*Cumberland Falls*, Kentucky, U. S. A.  
*Cynthiana*, Kentucky, U. S. A.  
*Dandapur*, India  
*Daniel's Kuil*, South Africa  
*Danville*, Alabama, U. S. A.  
*Darmstadt*, Germany  
*Deal*, New Jersey, U. S. A.  
*De Cewsville*, Ontario, Canada  
*Dhurmsala*, India  
*Djati-Pengilon*, Java  
*Drake Creek*, Tennessee, U. S. A.  
*Durala*, India  
*Duruma*, Kenya Colony, Africa  
*Eichstädt*, Germany  
*Elm Creek*, Kansas, U. S. A.  
*El Perdido*, Argentina  
*Ensisheim*, France  
*Ergheo*, Italian Somaliland  
*Erzleben*, Germany  
*Estacado*, Texas, U. S. A.  
*Farmington*, Kansas, U. S. A.  
*Fisher*, Minnesota, U. S. A.  
*Forest City*, Iowa, U. S. A.  
*Forsyth*, Georgia, U. S. A.  
*Frankfort*, Alabama, U. S. A.  
*Futtehpur*, India  
*Gambat*, India  
*Garraf*, Spain  
*Gilgoïn*, New South Wales  
*Girgenti*, Italy



- Gnadenfrei*, Germany  
*Goalpara*, India  
*Grosnaja*, Chechen, U. S. S. R.  
*Grossliebenthal*, Ukraine, U. S. S. R.  
*Grüneberg*, Germany  
*Harrison County*, Indiana, U. S. A.  
*Hendersonville*, North Carolina, U. S. A.  
*Heredia*, Costa Rica  
*Hermitage Plains*, New South Wales  
*Hessle*, Sweden  
*Holbrook*, Arizona, U. S. A.  
*Homestead*, Iowa, U. S. A.  
*Honolulu*, Hawaiian Islands, U. S. A.  
*Hvittis*, Finland  
*Ibbenbüren*, Germany  
*Indarch*, Azerbaijan, U. S. S. R.  
*Jelica*, Yugoslavia  
*Jhung*, India  
*Johnstown*, Colorado, U. S. A.  
*Jonzac*, France  
*Juvinas*, France  
*Kaba*, Hungary  
*Karakol*, Siberia, U. S. S. R.  
*Kerilis*, France  
*Kermichel*, France  
*Kernowé*, France  
*Kesen*, Japan  
*Khaipur*, India  
*Khetri*, India  
*Kikino*, U. S. S. R.  
*Kilbourn*, Wisconsin, U. S. A.  
*Killeter*, Ireland  
*Knyahinya*, Czechoslovakia  
*Kuleschovka*, Ukraine, U. S. S. R.  
*Kyushu*, Japan  
*La Bécasse*, France  
*Laborel*, France  
*Lake Labyrinth*, South Australia  
*L'Aigle*, France  
*Lalitpur*, India  
*Lampa*, Chile  
*Lançé*, France  
*Lancon*, France  
*Le Pressoir*, France  
*Lesves*, Belgium  
*Le Teilleul*, France  
*Limerick*, Ireland  
*Lissa*, Czechoslovakia  
*Little Piney*, Missouri, U. S. A.  
*Lixna*, Latvia  
*Long Island*, Kansas, U. S. A.  
*Lucé*, France  
*Lumpkin*, Georgia, U. S. A.  
*Lundsgård*, Sweden  
*Luponnas*, France  
*Macao*, Brazil  
*Mainz*, Germany  
*Makariwa*, New Zealand  
*Manbhoom*, India  
*Marion*, Iowa, U. S. A.  
*Marmande*, France  
*Mauerkirchen*, Austria  
*Mauritius*, Island Mauritius, Indian Ocean  
*McKinney*, Texas, U. S. A.  
*Melrose*, New Mexico, U. S. A.  
*Menow*, Germany  
*Mern*, Denmark  
*Mighei*, Ukraine, U. S. S. R.  
*Milena*, Yugoslavia  
*Miller*, Arkansas, U. S. A.  
*Minas Geraes(?)*, Brazil  
*Misshof*, Latvia  
*Mocs*, Transylvania, Rumania  
*Modoc*, Kansas, U. S. A.  
*Molina*, Spain  
*Monroe*, North Carolina, U. S. A.  
*Mooresfort*, Ireland  
*Mornans*, France  
*Moti-ka-nagla*, India  
*Muddoor*, India  
*Nammianthal*, India  
*Nanjemoy*, Maryland, U. S. A.  
*Nerft*, Latvia  
*Ness County*, Kansas, U. S. A.  
*New Concord*, Ohio, U. S. A.  
*Ngawi*, Java  
*Nobleborough*, Maine, U. S. A.  
*Nogoya*, Argentina  
*Novo-Urei*, U. S. S. R.  
*Oakley*, Kansas, U. S. A.  
*Ochansk*, U. S. S. R.  
*Oesel*, Esthonia  
*Ogi*, Japan  
*Ohaba*, Rumania  
*Okniny*, Poland

- Orgueil*, France  
*Ornans*, France  
*Orvinio*, Italy  
*Ottawa*, Kansas, U. S. A.  
*Pacula*, Mexico  
*Parnallee*, India  
*Pavlograd*, Ukraine, U. S. S. R.  
*Pavlovka*, U. S. S. R.  
*Petersburg*, Tennessee, U. S. A.  
*Pillistfer*, Latvia  
*Pipe Creek*, Texas, U. S. A.  
*Pirgunje*, India  
*Pirthalla*, India  
*Plainview*, Texas, U. S. A.  
*Ploschkovitz*, Czechoslovakia  
*Prairie Dog Creek*, Kansas, U. S. A.  
*Pricetown*, Ohio, U. S. A.  
*Pultusk*, Poland  
*Quenggouk*, India  
*Rakovka*, U. S. S. R.  
*Rancho de la Presa*, Mexico  
*Renazzo*, Italy  
*Richardton*, North Dakota, U. S. A.  
*Richmond*, Virginia, U. S. A.  
*Rochester*, Indiana, U. S. A.  
*Roda*, Spain  
*Rose City*, Michigan, U. S. A.  
*Rushville*, Indiana, U. S. A.  
*St. Mark's*, Cape Province, South Africa  
*St. Mesmin*, France  
*St. Michel*, Finland  
*Saline*, Kansas, U. S. A.  
*Salles*, France  
*San Emigdio*, California, U. S. A.  
*San Pedro Springs*, Texas, U. S. A.  
*Sauguis*, France  
*Savtschenskoje*, Ukraine, U. S. S. R.  
*Schellin*, Germany  
*Schönenberg*, Germany  
*Scott City*, Kansas, U. S. A.  
*Searsmont*, Maine, U. S. A.  
*Segowlie*, India  
*Selma*, Alabama, U. S. A.  
*Sena*, Spain  
*Seres*, Greece  
*Sevrukovo*, U. S. S. R.  
*Shalka*, India  
*Shelburne*, Ontario, Canada  
*Sherghotty*, India  
*Shytl*, India  
*Siena*, Italy  
*Sitathali*, India  
*Ski*, Norway  
*Soko-Banja*, Yugoslavia  
*Springwater*, Saskatchewan, Canada  
*Ställdalen*, Sweden  
*Stannern*, Czechoslovakia  
*Stavropol*, U. S. S. R.  
*Tabor*, Czechoslovakia  
*Tadjera*, Algeria  
*Takenouchi*, Japan  
*Tennasilm*, Esthonia  
*Tieschitz*, Czechoslovakia  
*Timochin*, U. S. S. R.  
*Tjabé*, Java  
*Tomatlan*, Mexico  
*Tomhannock Creek*, New York, U. S. A.  
*Toulouse*, France  
*Tourinnes-la-Grosse*, Belgium  
*Travis County*, Texas, U. S. A.  
*Trenzano*, Italy  
*Tysnes*, Norway  
*Uberaba*, Brazil  
*Udipi*, India  
*Utrecht*, Holland  
*Valley Wells*, California, U. S. A.  
*Vavilovka*, Ukraine, U. S. S. R.  
*Vernon County*, Wisconsin, U. S. A.  
*Vigaramo*, Italy  
*Vouillé*, France  
*Waconda*, Kansas, U. S. A.  
*Wairarapa*, New Zealand  
*Warrenton*, Missouri, U. S. A.  
*Wessely*, Czechoslovakia  
*Weston*, Connecticut, U. S. A.  
*Wold Cottage*, England  
*Yatoor*, India  
*Zaborzika*, Ukraine, U. S. S. R.  
*Zabrodje*, Lithuania  
*Zavid*, Yugoslavia  
*Zebrak*, Czechoslovakia  
*Zmenj*, U. S. S. R.  
*Zsadány*, Rumania

## (2) SIDEROLITES (STONY-IRON METEORITES)

- |   |  |
|---|--|
| <i>Admire</i> , Kansas, U. S. A.          | <i>Macquaire River</i> , New South Wales |
| <i>Ahumada</i> , Mexico                   | <i>Mincy</i> , Missouri, U. S. A.        |
| <i>Australia</i> , Australia              | <i>Molong</i> , New South Wales          |
| <i>Bitburg</i> , Germany                  | <i>Morristown</i> , Tennessee, U. S. A.  |
| <i>Brahin</i> , U. S. S. R.               | <i>Mount Dyrning</i> , New South Wales   |
| <i>Brenham</i> , Kansas, U. S. A.         | <i>Mount Vernon</i> , Kentucky, U. S. A. |
| <i>Crab Orchard</i> , Tennessee, U. S. A. | <i>Newport</i> , Arkansas, U. S. A.      |
| <i>Eagle Station</i> , Kentucky, U. S. A. | <i>Ollague</i> , Bolivia                 |
| <i>Estherville</i> , Iowa, U. S. A.       | <i>Pavlodar</i> , Siberia, U. S. S. R.   |
| <i>Finmarken</i> , Norway                 | <i>South Bend</i> , Indiana, U. S. A.    |
| <i>Hainholz</i> , Germany                 | <i>Steinbach</i> , Germany               |
| <i>Imilac</i> , Chile                     | <i>Vaca Muerta</i> , Chile               |
| <i>Krasnojarsk</i> , Siberia, U. S. S. R. | <i>Veramin</i> , Persia                  |
| <i>Lodran</i> , India                     | <i>Weekeroo</i> , South Australia        |

## (3) SIDERITES (NICKEL-IRON METEORITES)

- |  |  |
|--|--|
| <i>Abert Iron</i> , Mexico(?)                      | <i>Burkett</i> , Texas, U. S. A.               |
| <i>Adargas</i> , Mexico                            | <i>Burlington</i> , New York, U. S. A.         |
| <i>Agricultural College</i> , U. S. S. R.          | <i>Buller</i> , Missouri, U. S. A.             |
| <i>Ainsworth</i> , Nebraska, U. S. A.              | <i>Cambria</i> , New York, U. S. A.            |
| <i>Akpohon</i> , Ellesmereland, Canada             | <i>Canton</i> , Georgia, U. S. A.              |
| <i>Alexander County</i> , North Carolina, U. S. A. | <i>Canyon City</i> , California, U. S. A.      |
| <i>Apoala</i> , Mexico                             | <i>Canyon Diablo</i> , Arizona, U. S. A.       |
| <i>Arispe</i> , Mexico                             | <i>Cape of Good Hope</i> , South Africa        |
| <i>Arlington</i> , Minnesota, U. S. A.             | <i>Cape York</i> , Greenland                   |
| <i>Ashfork</i> , Arizona, U. S. A.                 | <i>Carlton</i> , Texas, U. S. A.               |
| <i>Auburn</i> , Alabama, U. S. A.                  | <i>Carthage</i> , Tennessee, U. S. A.          |
| <i>Augustinovka</i> , Ukraine, U. S. S. R.         | <i>Casas Grandes</i> , Mexico                  |
| <i>Babb's Mill</i> , Tennessee, U. S. A.           | <i>Casey County</i> , Kentucky, U. S. A.       |
| <i>Bacubirito</i> , Mexico                         | <i>Central Missouri</i> , Missouri, U. S. A.   |
| <i>Ballinger</i> , Texas, U. S. A.                 | <i>Charcas</i> , Mexico                        |
| <i>Ballinoo</i> , Western Australia                | <i>Charlotte</i> , Tennessee, U. S. A.         |
| <i>Barranca Blanca</i> , Chile                     | <i>Chesterville</i> , South Carolina, U. S. A. |
| <i>Bear Creek</i> , Colorado, U. S. A.             | <i>Chilkoot</i> , Alaska, U. S. A.             |
| <i>Bella Roca</i> , Mexico                         | <i>Chinaulta</i> , Guatemala                   |
| <i>Bendegó</i> , Brazil                            | <i>Chulafinnee</i> , Alabama, U. S. A.         |
| <i>Bethany</i> , Southwest Africa                  | <i>Chupaderos</i> , Mexico                     |
| <i>Billings</i> , Missouri, U. S. A.               | <i>Cincinnati</i> , Ohio, U. S. A.             |
| <i>Bingera</i> , New South Wales                   | <i>Cleveland</i> , Tennessee, U. S. A.         |
| <i>Bischtübe</i> , Siberia, U. S. S. R.            | <i>Coahuila</i> , Mexico                       |
| <i>Black Mountain</i> , North Carolina, U. S. A.   | <i>Colfax</i> , North Carolina, U. S. A.       |
| <i>Bohumilitz</i> , Czechoslovakia                 | <i>Cookeville</i> , Tennessee, U. S. A.        |
| <i>Braunau</i> , Czechoslovakia                    | <i>Coopertown</i> , Tennessee, U. S. A.        |
| <i>Bridgewater</i> , North Carolina, U. S. A.      | <i>Copiapo</i> , Chile                         |
|  | <i>Cosby's Creek</i> , Tennessee, U. S. A.     |
|  | <i>Costilla Peak</i> , New Mexico, U. S. A.    |

- Cowra*, New South Wales  
*Cranberry Plains*, Virginia, U. S. A.  
*Cranbourne*, Victoria, Australia  
*Cruz del Aire*, Mexico  
*Cuernavaca*, Mexico  
*Dalton*, Georgia, U. S. A.  
*Davis Mountains*, Texas, U. S. A.  
*Deep Springs*, North Carolina, U. S. A.  
*Delegate*, New South Wales  
*Denton County*, Texas, U. S. A.  
*Descubridora*, Mexico  
*Dexter*, Texas, U. S. A.  
*Duchesne*, Utah, U. S. A.  
*Duel Hill*, North Carolina, U. S. A.  
*Dungannon*, Virginia, U. S. A.  
*Elbogen*, Czechoslovakia  
*El Capitan*, New Mexico, U. S. A.  
*Emmitsburg*, Maryland, U. S. A.  
*Espiritu Santo*, Mexico  
*Forsyth County*, North Carolina, U. S. A.  
*Fort Pierre*, South Dakota, U. S. A.  
*Four Corners*, New Mexico, U. S. A.  
*Franceville*, Colorado, U. S. A.  
*Gladstone*, Queensland, Australia  
*Glasgow*, Kentucky, U. S. A.  
*Glorieta Mountain*, New Mexico, U. S. A.  
*Grand Rapids*, Michigan, U. S. A.  
*Guffey*, Colorado, U. S. A.  
*Guilford County*, North Carolina, U. S. A.  
*Hammond*, Wisconsin, U. S. A.  
*Hayden Creek*, Idaho, U. S. A.  
*Henbury*, Central Australia  
*Hex River Mountains*, South Africa  
*Hoba West*, Southwest Africa  
*Holland's Store*, Georgia, U. S. A.  
*Hopper*, Virginia, U. S. A.  
*Hraschina*, Yugoslavia  
*Huizopa*, Mexico  
*Illinois Gulch*, Montana, U. S. A.  
*Iquique*, Chile  
*Iredell*, Texas, U. S. A.  
*Iron Creek*, Saskatchewan, Canada  
*Ivanpah*, California, U. S. A.  
*Jackson County*, Tennessee, U. S. A.  
*Jamestown*, North Dakota, U. S. A.  
*Jenny's Creek*, West Virginia, U. S. A.  
*Joe Wright Mountain*, Arkansas, U. S. A.  
*Juncal*, Chile  
*Kendall County*, Texas, U. S. A.  
*Kenton County*, Kentucky, U. S. A.  
*Kingston*, New Mexico, U. S. A.  
*Klondike*, Yukon, Canada  
*Knowles*, Oklahoma, U. S. A.  
*Kokomo*, Indiana, U. S. A.  
*La Caille*, France  
*La Grange*, Kentucky, U. S. A.  
*La Primitiva*, Chile  
*Laurens County*, South Carolina, U. S. A.  
*Lenarto*, Czechoslovakia  
*Lexington County*, South Carolina, U. S. A.  
*Lime Creek*, Alabama, U. S. A.  
*Linville*, North Carolina, U. S. A.  
*Locust Grove*, Georgia, U. S. A.  
*Lonaconing*, Maryland, U. S. A.  
*Losttown*, Georgia, U. S. A.  
*Lucky Hill*, Jamaica, B. W. I.  
*Luis Lopez*, New Mexico, U. S. A.  
*Madoc*, Ontario, Canada  
*Magura*, Czechoslovakia  
*Mantos Blancos*, Chile  
*Marshall County*, Kentucky, U. S. A.  
*Mart*, Texas, U. S. A.  
*Mazapil*, Mexico  
*Merceditas*, Chile  
*Misteca*, Mexico  
*Moctezuma*, Mexico  
*Mooranoppin*, Western Australia  
*Morilo*, Mexico  
*Mount Ayliff*, South Africa  
*Mount Edith*, Western Australia  
*Mount Joy*, Pennsylvania, U. S. A.  
*Mount Stirling*, Western Australia  
*Mungindi*, New South Wales  
*Murfreesboro*, Tennessee  
*Murphy*, North Carolina, U. S. A.  
*Nagy-Vázsony*, Czechoslovakia  
*Narraburra*, New South Wales  
*Nativitas*, Mexico  
*Nejed*, Central Arabia  
*Nelson County*, Kentucky, U. S. A.  
*\*Nennmannsdorf*, Germany  
*Netschaëvo*, U. S. S. R.  
*Newtown*, Connecticut, U. S. A.  
*N'Goureyma*, French West Africa  
*Nocoleche*, New South Wales

- Norfolk*, Virginia, U. S. A.  
*Obernkirchen*, Germany  
*Okano*, Japan  
*Oktibbeha*, Mississippi, U. S. A.  
*Orange River*, South Africa  
*Oroville*, California, U. S. A.  
*Oscuro Mountains*, New Mexico, U. S. A.  
*Otumpa*, Argentina  
*Owens Valley*, California, U. S. A.  
*Paulding County*, Georgia, U. S. A.  
*Perryville*, Missouri, U. S. A.  
*Persimmon Creek*, North Carolina, U. S. A.  
*Pitts*, Georgia, U. S. A.  
*Pittsburgh*, Pennsylvania, U. S. A.  
*Plymouth*, Indiana, U. S. A.  
*Ponca Creek*, Nebraska, U. S. A.  
*Puquios*, Chile  
*Putnam County*, Georgia, U. S. A.  
*Queensland*, Australia  
*Quinn Canyon*, Nevada, U. S. A.  
*Rancho de la Pila*, Mexico  
*Red River*, Texas, U. S. A.  
*Reed City*, Michigan, U. S. A.  
*Rodeo*, Mexico  
*Roebourne*, Western Australia  
*Rosario*, Honduras  
*Ruff's Mountain*, South Carolina, U. S. A.  
*Russel Gulch*, Colorado, U. S. A.  
*Sacramento Mountains*, New Mexico, U. S. A.  
*St. Francois County*, Missouri, U. S. A.  
*St. Genevieve County*, Missouri, U. S. A.  
*Salt River*, Kentucky, U. S. A.  
*Sams Valley*, Oregon, U. S. A.  
*San Angelo*, Texas, U. S. A.  
*San Cristobal*, Chile  
*San Francisco del Mezquital*, Mexico  
*Santa Catharina*, Brazil  
*Santa Rosa*, Colombia  
*São Julião de Moreira*, Portugal  
*Sarepta*, U. S. S. R.  
*Schwetz*, Poland  
*Scottsville*, Kentucky, U. S. A.  
*Seeläsgen*, Germany  
*Seneca Falls*, New York, U. S. A.  
*Shingle Springs*, California, U. S. A.  
*Shrewsbury*, Pennsylvania, U. S. A.  
*Signal Mountain*, Mexico  
*Silver Crown*, Wyoming, U. S. A.  
*Siratik*, French West Africa  
*Smithland*, Kentucky, U. S. A.  
*Smith's Mountain*, North Carolina, U. S. A.  
*Smithville*, Tennessee, U. S. A.  
*Staunton*, Virginia, U. S. A.  
*Summit*, Alabama, U. S. A.  
*Tamarugal*, Chile  
*Tazewell*, Tennessee, U. S. A.  
*Tennant's Iron*, U. S. S. R.  
*Thunda*, Queensland, Australia  
*Thurlow*, Ontario, Canada  
*Tlacotepec*, Mexico  
*Toluca*, Mexico  
*Tombigbee River*, Alabama, U. S. A.  
*Tonganoxie*, Kansas, U. S. A.  
*Toubil (River)*, Siberia, U. S. S. R.  
*Trenton*, Wisconsin, U. S. A.  
*Tucson*, Arizona, U. S. A.  
*Union County*, Georgia, U. S. A.  
*Ute Pass*, Colorado, U. S. A.  
*Verkhne Dnieprovsk*, Ukraine, U. S. S. R.  
*Verkhne Udinsk*, Siberia, U. S. S. R.  
*Victoria West*, South Africa  
*Waldron Ridge*, Tennessee, U. S. A.  
*Walker County*, Alabama, U. S. A.  
*Warialda*, New South Wales  
*Welland*, Ontario, Canada  
*Wichita County*, Texas, U. S. A.  
*Willamette*, Oregon, U. S. A.  
*Williamstown*, Kentucky, U. S. A.  
*Wooster*, Ohio, U. S. A.  
*Yenberrie*, Northern Territory, Australia  
*York*, Nebraska, U. S. A.  
*Youndegin*, Western Australia  
*Ysleta*, Texas, U. S. A.  
*Zacatecas*, Mexico  
*Zaffra*, Oklahoma, U. S. A.

NAMES OF AMERICAN MUSEUM METEORITES ARRANGED  
ACCORDING TO COUNTRIES AND STATES

**NORTH AMERICA**

**ALASKA (U. S. A.)**

*Chilkoot Inlet*, Portage Bay

**CANADA**

**BRITISH COLUMBIA**

*Beaver Creek*, West Kootenay District

**ELLESMERELAND**

*Akpohon*, East Coast of Ellesmereland

**ONTARIO**

*Bliethfield*, Renfrew County

*De Cewsville*, Haldimand County

*Shelburne*, Gray County

*Thunder Bay*, Lake Superior

*Thurlow*, Hastings County

*Welland*, Welland County

**SASKATCHEWAN**

*Iron Creek*, North Saskatchewan River

*Springwater*, Battleford County

**YUKON**

*Klondike*, Big Skookum Gulch, Bonanza Creek

**GREENLAND (DENMARK)**

*Cape York*, Nr. Cape York, West Greenland

**UNITED STATES**

**ALABAMA**

*Auburn*, Lee County

*Chulafinnee*, Cleburne County

*Danville*, Morgan County

*Frankfort*, Franklin County

*Lime Creek*, Claiborne, Monroe County

*Selma*, Dallas County

*Summit*, Blount County

*Tombigbee River*, Choctaw and Sumter County

*Walker County*

**ARIZONA**

*Ashfork*, Yavapai County

*Canyon Diablo* (about "Meteor Crater") Coconino County

*Holbrook*, Navajo County

*Tucson*, Pima County

UNITED STATES

ARKANSAS

*Joe Wright Mountain*, Independence County  
*Miller*, Cleburne County  
*Newport*, Jackson County

CALIFORNIA

*Canyon City*, Trinity County  
*Ivanpah*, San Bernardino County  
*Oroville*, Butte County  
*Owens Valley*, Inyo County  
*San Emigdio Mountains*, Kern County  
*Shingle Springs*, Eldorado County  
*Valley Wells*, San Bernardino County

COLORADO

*Bear Creek*, Jefferson County  
*Franceville*, El Paso County  
*Guffey*, Park County  
*Johnstown*, Weld County  
*Russel Gulch*, Gilpin County  
*Ute Pass*, Summit County

CONNECTICUT

*Newtown*, Fairfield County  
*Weston*, Fairfield County

GEORGIA

*Canton*, Cherokee County  
*Dalton*, Whitfield County  
*Forsyth*, Monroe County  
*Holland's Store*, Chattooga County  
*Locust Grove*, Henry County  
*Losttown*, Cherokee County  
*Lumpkin*, Stewart County  
*Paulding County*  
*Pitts*, Wilcox County  
*Putnam County*  
*Union County*

IDAHO

*Hayden Creek*, Lemhi County

INDIANA

*Harrison County*  
*Kokomo*, Howard County  
*Plymouth*, Marshall County  
*Rochester*, Fulton County  
*Rushville*, Franklin County  
*South Bend*, St. Joseph County

## UNITED STATES

## IOWA

*Estherville*, Emmet County  
*Forest City*, Winnebago County  
*Homestead*, Iowa County  
*Marion*, Linn County  
*Pilot Grove*, Independence County

## KANSAS

*Admire*, Lyon County  
*Brenham*, Kiowa County  
*Cullison*, Pratt County  
*Elm Creek*, Admire, Lyon County  
*Farmington*, Washington County  
*Long Island*, Phillips County  
*Modoc*, Scott County  
*Ness County*  
*Oakley*, Logan County  
*Prairie Dog Creek*, Decatur County  
*Saline* (Township), Sheridan County  
*Scott City*, Scott County  
*Tonganoxie*, Leavenworth County  
*Waconda*, Mitchell County

## KENTUCKY

*Bath Furnace*, Bath County  
*Casey County*  
*Cumberland Falls*, Whitley County  
*Cynthiana*, Harrison County  
*Eagle Station*, Carroll County  
*Glasgow*, Barren County  
*Kenton County*  
*La Grange*, Oldham County  
*Marshall County*  
*Mount Vernon*, Christian County  
*Salt River*, Bullitt County  
*Scottsville*, Allen County  
*Smithland*, Livingston County  
*Williamstown*, Grant County

## MAINE

*Castine*, Hancock County  
*Nobleborough*, Lincoln County  
*Searsmont*, Waldo County

## MARYLAND

*Emmitsburg*, Frederick County  
*Lonaconing*, Alleghany County  
*Nanjemoy*, Charles County



UNITED STATES

MICHIGAN

*Allegan*, Allegan County  
*Grand Rapids*, Kent County  
*Reed City*, Osceola County  
*Rose City*, Ogemaw County

MINNESOTA

*Arlington*, Sibley County  
*Fisher*, Polk County

MISSISSIPPI

*Oktibbeha* (County)

MISSOURI

*Billings*, Christian County  
*Butler*, Bates County  
*Cape Girardeau*, Cape Girardeau County  
*Central Missouri*  
*Little Piney*, Pulaski County  
*Miney*, Taney County  
*Perryville*, Perry County  
*St. Francois County*  
*St. Genevieve County* (western portion)  
*Warrenton*, Warren County

MONTANA

*Illinois Gulch*, Deer Lodge County

NEBRASKA

*Ainsworth*, Brown County  
*Culbertson*, Hitchcock County  
*Ponca Creek*, Holt County  
*York* (County)

NEVADA

*Quinn Canyon*, Nye County

NEW JERSEY

*Deal*, Long Branch, Monmouth County

NEW MEXICO

*Costilla Peak*, Taos County  
*El Capitan* (Range), Lincoln County  
*Four Corners*, San Juan County  
*Glorieta Mountain*, Santa Fé County  
*Kingston*, Sierra County  
*Luis Lopez*, Socorro County  
*Melrose*, Curry County  
*Oscuro Mountains*, Socorro County  
*Sacramento Mountains*, Eddy County

## UNITED STATES

## NEW YORK

*Bethlehem*, Albany County  
*Burlington*, Otsego County  
*Cambria*, Niagara County  
*Scriba*, Oswego County  
*Seneca Falls*, Seneca County  
*Tomhannock Creek*, Rensselaer County

## NORTH CAROLINA

*Alexander County*  
*Black Mountain*, Buncombe County  
*Bridgewater*, Burke County  
*Castalia*, Nash County  
*Colfax*, Rutherford County  
*Cross Roads*, Boyett, Wilson County  
*Deep Springs*, Rockingham County  
*Duel Hill*, Madison County  
*Forsyth County*  
*Guilford County*  
*Hendersonville*, Henderson County  
*Linville (Mountain)*, Burke County  
*Monroe*, Cabarrus County  
*Murphy*, Cherokee County  
*Persimmon Creek*, Cherokee County  
*Smith's Mountain*, Rockingham County

## NORTH DAKOTA

*Jamestown*, Stutsman County  
*Richardton*, Stark County

## OHIO

*Cincinnati*, Hamilton County  
*New Concord*, Muskingum County  
*Pricetown*, Highland County  
*Wooster*, Wayne County

## OKLAHOMA

*Knowles*, Beaver County  
*Zaffra*, Le Flore County

## OREGON

*Sams Valley*, Jackson County  
*Willamette*, Clackamas County

## PENNSYLVANIA

*Mount Joy*, Adams County  
*Pittsburgh*, Allegheny County  
*Shrewsbury*, York County

UNITED STATES

SOUTH CAROLINA

*Bishopville*, Sumter County  
*Chesterville*, Chester County  
*Laurens County*  
*Lexington County*  
*Ruff's Mountain*, Lexington County

SOUTH DAKOTA

*Bath*, Brown County  
*Fort Pierre*, Stanley County

TENNESSEE

*Babb's Mill*, Greene County  
*Carthage*, Smith County  
*Charlotte*, Dickson County  
*Cleveland*, Bradley County  
*Cookeville*, Putman County  
*Coopertown*, Robertson County  
*Cosby's Creek*, Cocke County  
*Crab Orchard (Mountains)*, Cumberland County  
*Drake Creek*, Sumner County  
*Jackson County*  
*Long Creek*, Jefferson County  
*Morristown*, Hamblen  
*Murfreesboro*, Rutherford County  
*Petersburg*, Lincoln County  
*Smithville*, De Kalb County  
*Tazewell*, Claiborne County

TEXAS

*Ballinger*, Runnels County  
*Bluff*, Fayette County  
*Burkett*, Coleman County  
*Carlton*, Hamilton County  
*Davis Mountains*, Jeff Davis County  
*Denton County*  
*Dexter*, Cooke County  
*Estacado*, Hale County  
*Iredell*, Bosque County  
*Kendall County*  
*Mart*, McLennan County  
*McKinney*, Collin County  
*Pipe Creek*, Bandera County  
*Plainview*, Hale County  
*Red River*, Johnson County  
*San Angelo*, Tom Green County  
*San Pedro Springs*, Bexar County

## UNITED STATES

## TEXAS

*Travis County*  
*Wichita County*  
*Ysleta, El Paso County*

## UTAH

*Duchesne, Duchesne County*

## VIRGINIA

*Cranberry Plains, Giles County*  
*Dungannon, Scott County*  
*Hopper, Henry County*  
*Norfolk, Norfolk County*  
*Richmond, Chesterfield County*  
*Staunton, Augusta County*

## WEST VIRGINIA

*Jenny's Creek, Wayne County*

## WISCONSIN

*Colby, Clark County*  
*Hammond (Township), St. Croix County*  
*Kilbourn, Columbia County*  
*Trenton, Washington County*  
*Vernon County*

## WYOMING

*Silver Crown, Laramie County*

## MEXICO

## CHIHUAHUA

*Adargas*  
*Ahumada*  
*Casas Grandes*  
*Chupaderos*  
*Huizopa*  
*Morito*

## COAHUILA

*Coahuila*

## DURANGO

*Avilez*  
*Bella Roca*  
*Rancho de la Pila*  
*Rodeo*  
*San Francisco del Mezquital*

MEXICO

GUANAJUATO

*Cosina*

HIDALGO

*Pacula*

JALISCO

*Tomatlan*

LOWER CALIFORNIA

*Signal Mountain*

MEXICO STATE

*Toluca*

MICHOACAN

*Espiritu Santo*

*Rancho de la Presa*

MORELOS

*Cuernavaca*

NUEVO LEON

*Cruz del Aire*

OAXACO

*Apoala*

*Misteca*

PUEBLA

*Tlacotepec*

SAN LUIS POTOSI

*Charcas*

*Descubridora*

SINALOA

*Bacubirito*

SONORA

*Arispe*

*Moctezuma*

TLAXCALA

*Nativitas*

ZACATECAS

*Mazapil*

*Zacatecas*

## CENTRAL AMERICA

## COSTA RICA

*Heredia, San José*

## GUATEMALA

*Chinaulta, 15 kilometers from City of Guatemala*

## HONDURAS

*Rosario, Department of Olanchó*

## WEST INDIES

## JAMAICA (B. W. I.)

*Lucky Hill*

## SOUTH AMERICA

## ARGENTINA

## BUENOS AIRES

*El Perdido*

Entre Rios

*Nogoya*

Santiago del Estero

## BOLIVIA

## POTOSI DEPARTMENT

*Ollague*

## BRAZIL

## BAHIA

*Bendegó*

## MINAS GERAES

*Minas Geraes**Uberaba*

## RIO GRANDE DO NORTE

*Macao*

## SANTA CATHERINA

*Santa Catherina*

## CHILE

## ANTOFAGASTA

*San Cristobal*

## ATACAMA

*Barranca Blanca**Copiapo**Imilac*

CHILE

ATACAMA

*Juncal*  
*Lampa*  
*Mantos Blancos*  
*Merceditas*  
*Puquios*  
*Vaca Muerta*

TARAPACA

*Iquique*  
*La Primitiva*  
*Tamarugal*

COLOMBIA

BOYACA

*Santa Rosa*

EUROPE

AUSTRIA

UPPER AUSTRIA

*Mauerkirchen*

BELGIUM

BRABANT

*Tourinnes-la-Grosse*

NAMUR

*Lesves*

ENGLAND

GLOUCESTERSHIRE

*Aldsworth*

YORKSHIRE

*Wold Cottage*

IRELAND

IRISH FREE STATE

*Limerick County*  
*Mooresfort*

ULSTER

*Killeter*

SCOTLAND

ROXBURGHSHIRE

*Newstead*

## CZECHOSLOVAKIA

## ARVA

*Magura*

## BOHEMIA

*Braunau**Elbogen**Ploschkovitz**Tabor**Zebrač*

## MORAVIA

*Blansko**Stannern**Tieschitz**Wessely*

## RUTHENIA

*Borkut*

## SÁROS

*Lenartó*

## UNGVAR

*Knyahinya*

## VESZPRÉM

*Nagy-Vázsony*

## VIMPERK

*Bohumilitz*

## DENMARK

## ZEALAND

*Mern*

## ESTHONIA

*Oesel**Tennasilm*

## FINLAND

*Bjurböle**Hvittis**St. Michel*

## FRANCE

## AIN

*Luponnas*

## ALPES-MARITIMES

*La Caille*



FRANCE

ALSACE

*Ensisheim*

ARDÈCHE

*Juvinas*

AUBE

*St. Mesmin*

BASSES-PYRÉNÉES

*Sauguis*

BOUCHES-DU-RHÔNE

*Lançon*

CHARENTE-INFÉRIEURE

*Jonzac*

CÔTES-DU-NORD

*Kerilis*

DOUBS

*Ornans*

DRÔME

*Laborel*

*Mornans*

GARD

*Alais*

HAUTE-GARONNE

*Aussun*

*Toulouse*

HAUTE-MARNE

*Chassigny*

INDRE

*La Bécasse*

INDRE-ET-LOIRE

*Le Pressoir*

LANDES

*Barbotan*

LOIRET

*Charsonville*

*Château-Renard*

LOIR-ET-CHER

*Lancé*

LOT-ET-GARONNE

*Agen*

*Marmande*

LOZÈRE

*Aumières*

## FRANCE

## MAINE-ET-LOIRE

*Angers*

## MANCHE

*Le Teilleul*

## MORBIHAN

*Kermichel**Kernowé*

## ORNE

*L'Aigle*

## RHÔNE

*Salles*

## SARTHE

*Lucé*

## TARN-ET-GARONNE

*Orgueil*

## VAUCLUSE

*Apt*

## VENDÉE

*Chantonmay*

## VIENNE

*Vouillé*

## ISLAND OF CORSICA

*Asco*

## GERMANY

## BAVARIA

*Eichstädt**Schönenberg*

## BRANDENBURG

*Seeläsgen*

## HANOVER

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*Darmstadt**Mainz*

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*Menow*

## POMERANIA

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## RHENISH PRUSSIA

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GERMANY

SAXONY

*Erzleben*  
*Steinbach*

SILESIA

*Gnadenfrei*  
*Grüneberg*  
*Lissa*

WESTPHALIA

*Hainholz*  
*Ibbenbüren*

WEST PRUSSIA

*Schwetz*

HUNGARY

*Kaba*

ITALY

EMILIA

*Albareto*  
*Borgo San Donnino*  
*Renazzo*  
*Vigarano*

LOMBARDY

*Alfianello*  
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PIEDMONT

*Alessandria*  
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UMBRIA

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*Okniny**Pultusk*

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## TEMES

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BURGOS

*Berlanguillas*

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*Cabeza de Mayo*

*Molina*

OVIDO

*Cangas de Onis*

SWEDEN

*Hessle*

*Lundsgård*

*Ställdalen*

YUGOSLAVIA

*Hraschina*

*Jelica*

*Milena*

*Soko-Banja*

*Zavid*

ASIA

ARABIA

CENTRAL PLATEAU

*Nejed*

INDIA

ASSAM

*Assam*

*Goalpara*

BENGAL

*Manbhoom*

*Pirgunje*

*Shalka*

*Shyital*

BIHAR

*Butsura*

*Segowlie*

*Sherghotty*

BURMA

*Quenggouk*

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## MYSORE

*Muddoor*

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*Charwallas**Dhurmsala**Durala**Jhung**Khairpur**Lodran**Pirthalla*

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*Verkhne Udinsk*

SYRIA

*Aleppo*

TURKEY

*Adalia*  
*Constantinople*  
*Seres*

EAST INDIES

JAVA

*Bandong*  
*Djati-Pengilon*  
*Ngawi*  
*Tjabe*

AFRICA

EAST AFRICA

ITALIAN SOMALILAND

*Bur-Gheluai*  
*Ergheo*

KENYA COLONY

*Duruma*

FRENCH WEST AFRICA

MASSINA DISTRICT

*N'Goureyma*

UPPER SENEGAL

*Siratik*

NORTH AFRICA

ALGERIA

*Aumale*  
*Tadjera*

SOUTHWEST AFRICA

DAMARALAND

*Hoba West*

GREAT NAMAQUALAND

*Bethany*

## UNION OF SOUTH AFRICA

## BECHUANALAND

*Daniel's Kuil*

## CAPE PROVINCE

*Cape of Good Hope**Cold Bokkeveld**Hex River Mountains**Mount Ayliff**St. Mark's**Victoria West**Orange River*

## AUSTRALASIA

## AUSTRALIA

*Australia*

## CENTRAL AUSTRALIA

*Henbury*

## NEW SOUTH WALES

*Barratta**Bingra**Cowra**Delegate**Gilgoin**Hermitage Plains**Macquaire River**Molong**Mount Dyrning**Narraburra**Nocoleche**Warialda*

## NORTHERN AUSTRALIA

*Yenberri*

## QUEENSLAND

*Gladstone**Mungindi**Queensland**Thunda*

## SOUTH AUSTRALIA

*Lake Labyrinth**Weekeroo*

## VICTORIA

*Cranbourne*



**AUSTRALIA**

**WESTERN AUSTRALIA**

*Ballinoo*  
*Mooranoppin*  
*Mount Edith*  
*Mount Stirling*  
*Roebourne*  
*Youndegin*

**NEW ZEALAND**

*Makariwa*  
*Wairarapa*

**TASMANIA**

*Mount Darwin*

**INDIAN OCEAN**

*Mauritius*

**PACIFIC OCEAN**

**HAWAIIAN ISLANDS**

*Honolulu*

**THE ROSE-TSCHERMAK-BREZINA SYSTEM OF METEORITE CLASSIFICATION**

It is now generally recognized that meteorites may be arranged according to three general classes, namely: (1) Aerolites or stony meteorites, (2) Siderolites or stony-iron meteorites and (3) Siderites or nickel-iron meteorites. The simple separation of iron from stony meteorites was made by Klapworth in 1807. The division into three fundamental classes, which is used today, was proposed by Maskelyne in 1863. Efforts to divide these classes into subordinate groups have been made at various times, and classifications have been proposed, based either on certain falls as types for groups, or on their mineralogical composition. Each of these separate bases have been elaborated by various scholars and are in use in different parts of the world.

The Rose classification of 1862 based on mineral composition was modified by Tschermak and Brezina, and color and structure brought into the picture. The 1904 rendering of the Rose-Tschermak-Brezina system of meteorite classification, which has come into general use, is reproduced herewith. It permits of the grouping of the meteorites

according to physical characters. The symbol, which has been used to designate each of the subdivisions of this classification has been recognized in the preparation of the entries in the annotated alphabetical list of this catalogue.

## I.—STONES. SILICATES PREVALENT

### A.—ACHONDRITES

Stones poor in iron. In the main without round chondri.

1. Chladnite. (Chl.) Chiefly bronzite.
2. Chladnite, veined. (Chla.) Bronzite with black or metallic veins.
3. Angrite. (A.) Chiefly augite.
4. Chassignite. (Cha.) Chiefly olivine.
5. Bustite. (Bu.) Bronzite with augite.
6. Amphoterite. (Am.) Bronzite with olivine.
7. Rodite. (Ro.) Bronzite with olivine, breccia-like.
8. Eukrite. (Eu.) Augite with anorthite.
9. Shergottite. (She.) Augite with maskelynite.
10. Howardite. (Ho.) Bronzite, olivine, augite and anorthite.
11. Howardite, Breccia-like. (Hob.) Bronzite, olivine, augite and anorthite.

### B.—CHONDRITES

Bronzite, olivine and nickel-iron. Round, rounded or polyhedral chondri.

12. Howarditic Chondrite. (Cho.). Polyhedral segregations preponderating, round chondri scarce. Crust bright in parts.
13. Howarditic Chondrite, veined. (Choa.) Polyhedral segregations predominating, round chondri scarce. Metallic or black veins.
14. White Chondrite. (Cw.) White, rather friable mass with few, chiefly white, chondri.
15. White Chondrite, veined. (Cwa.) White, rather friable mass with few, chiefly white chondri. Black or metallic veins.
16. White Chondrite, Breccia-like. (Cwb.) White, rather friable mass with few, chiefly white chondri, breccia-like.
17. Intermediate Chondrite. (Ci.) Firm, polishable mass with white and gray chondri breaking with matrix.
18. Intermediate Chondrite, veined. (Cia.) Firm, polishable mass with white and gray chondri breaking with matrix. Black or metallic veins.
19. Intermediate Chondrite, Breccia-like. (Cib.) Firm polishable mass with white and gray chondri breaking with matrix, breccia-like.
20. Gray Chondrite. (Cg.) Firm, gray mass, chondri of various kinds breaking with matrix.
21. Gray Chondrite, veined. (Cha.) Firm, gray mass. Chondri of various kinds breaking with matrix, veined.

22. Gray Chondrite, Breccia-like. (Cgb.) Firm, gray mass. Chondri of various kinds breaking with matrix, breccia-like.
23. Orvinitite. (Co.) Black, infiltrated mass: fluidal structure; surface uneven; crust incomplete.
24. Tadjerite. (Ct.) Black, semi-glassy, crust-like mass with similar surface.
25. Black Chondrite. (Cs.) Dark or black mass. Chondri of various kinds breaking with matrix.
26. Black Chondrite, veined. (Csà.) Dark or black mass. Chondri of various kinds breaking with matrix; veined.
27. Ureilite. (U.) Black mass, chondritic or granular, iron in veins or incoherent.
28. Carbonaceous Chondrite. (K.) Dull black, friable chondrite with free carbon and of low specific gravity. Nickel-iron nearly or wholly wanting.
29. Carbonaceous Chondrite, Spherulitic. (Kc.) Dull gray or black, friable mass with free carbon; chondri not breaking with matrix. Nickel-iron.
30. Carbonaceous Chondrite, Spherulitic, veined. (Kca.) Dull black, firm mass with free carbon; chondri not breaking with matrix. Nickel-iron. Metallic veins.
31. Spherulitic Chondrite. (Cc.) Friable mass with firm chondri of radiate structure, not breaking with matrix.
32. Spherulitic Chondrite, veined. (Cca.) Friable mass with firm chondri of radiate structure, not breaking with matrix; black or metallic veins.
33. Spherulitic Chondrite, Breccia-like. (Ccb.) Friable, breccia-like mass with firm chondri of radiate structure, not breaking with matrix.
34. Ormansite. (Cco.) Friable mass of chondri.
35. Ngawite. (Ccn.) Friable, breccia-like mass of chondri.
36. Spherulitic Chondrite, crystalline. (Cek.) Slightly friable, crystalline mass with firm chondri of radiate structure, some breaking with matrix.
37. Spherulitic Chondrite, Crystalline, veined. (Ceka.) Slightly friable, crystalline, veined mass with firm chondri of radiate structure, some breaking with matrix.
38. Spherulitic Chondrite, Crystalline, Breccia-like. (Cckb.) Slightly friable, crystalline, breccia-like mass with firm chondri of radiate structure, breaking with matrix.
39. Crystalline Chondrite. (Ck.) Hard, crystalline mass with firm chondri of radiate structure, breaking with matrix.
40. Crystalline Chondrite, veined. (Cka.) Hard, crystalline, veined mass with firm chondri of radiate structure, breaking with matrix.
41. Crystalline Chondrite, Breccia-like. (Ckb.) Hard, crystalline, breccia-like mass with firm chondri of radiate structure, breaking with matrix.

#### C.—ENSTATITE-ANORTHITE-CHONDRITES

Enstatite, anorthite and nickel-iron with round chondri.

42. Crystalline. Enstatite-Anorthite-Chondrite. (Cek.) Hard crystalline mass with firm chondri of radiate structure, breaking with matrix.

## D.—SIDEROLITES

Transition from stones to irons. Nickel-iron in the mass cohering; on sections separated.

43. Mesosiderite. (M.) Crystalline olivine and bronzite with nickel-iron.
44. Grahamite. (Mg.) Crystalline olivine, bronzite and plagioclase with nickel-iron.
45. Lodhranite. (Lo.) Granular, crystalline olivine and bronzite with nickel-iron.

## II.—IRONS. METALLIC CONSTITUENTS PREVALENT OR FORMING ENTIRE MASS

## E.—LITHOSIDERITES

Transition from stones to irons. Nickel-iron cohering in mass and in sections.

46. Siderophyre. (Si.) Grains of bronzite with accessory asmanite in trias.
47. Pallasite, Krasnojarsk group. (Pk.) Rounded crystals of olivine in trias.
48. Pallasite, Rokicky group. (Pr.) Polyhedric crystals of olivine, partly broken, and fragments separated by nickel-iron.
49. Pallasite, Imilac group. (Pi.) Olivine crystals fissured and compressed.
50. Pallasite, Bitburg group. (Pb.) Olivine crystals in fine, brecciated trias.

## F.—OCTAHEDRITES

51. Kamacite, taenite and plessite (trias), in lamellae and concamerations of the four octahedral faces.
52. Finest Octahedrite. (Off.) Lamellae up to 0.2 mm. thickness.
53. Fine Octahedrite, Victoria group. (Ofv.) Lamellae of troilite and schreibersite in fine trias.
54. Fine Octahedrite. (Of.) Thickness of lamellae 0.2–0.4 mm.
55. Fine Octahedrite, fused. (Ofe.) Figures disordered by fusion; points instead of troilite lamellae.
56. Medium Octahedrite. (Om.) Thickness of lamellae 0.5–1 mm.
57. Medium Octahedrite, fused. (Ome.) Figures disordered by fusion; points instead of taenite lamellae.
58. Coarse Octahedrite. (Og.) Thickness of lamellae 1.5–2.0 mm.
59. Coarse Octahedrite, fused. (Oge.) Figures disordered by fusion; points instead of taenite lamellae.
60. Coarsest Octahedrite. (Ogg.) Thickness of lamellae 2.5 mm. and more.
61. Breccia-like Octahedrite, Netschajewo group. (Obn.) Medium octahedrite brecciated with nodules of silicate.
62. Breccia-like Octahedrite, Kodaikanal group. (Obk.) Fine octahedrite, brecciated with nodules of silicate.
63. Breccia-like Octahedrite, Copiapo group. (Obc.) Coarsest Octahedrite brecciated with nodules of silicate.

64. Breccia-like Octahedrite, Zacatecas group. (Obz.) Octahedral nodules breccia-like, with spherules of troilite.
65. Breccia-like Octahedrite, N'goureyima group. (Obzg.) Fused and drawn-out iron of the Zacatecas group.

#### G.—HEXAHEDRITES

##### Structure and cleavage hexahedral

66. Normal Hexahedrite. (H.) Neumann lines, not granular.
67. Grained Hexahedrite. (Ha.) Structure and cleavage running through the whole mass. The mass consists of grains with differently oriented spangling.
68. Brecciated Hexahedrite. (Hb.) Mass containing differently oriented hexahedral grains.

#### H.—ATAXITES

##### Structure interrupted.

69. Cape group. (Dc.) Rich in nickel; sharp (hexahedral?) etching bands in dull mass.
70. Shingle Springs group. (Dsh.) Rich in nickel; indistinct parallel blebs.
71. Babb's Mill group. (Db.) Rich in nickel; lusterless, homogeneous mass.
72. Linnville group. (Dl.) Rich in nickel; meandering veined or latticed.
73. Nedagolla group. (Dn.) Poor in nickel, grained, no ridges.
74. Siratik group. (Ds.) Poor in nickel; shows ridges, incisions or enveloped rhabdites.
75. Primitiva group. (Dp.) Poor in nickel; silky streaks and luster.
76. Muchachos group. (Dm.) Poor in nickel, grained, porphyritic with forsterite.

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