TYPE AND FIGURED FOSSILS IN THE WORTHEN COLLECTION

AT THE ILLINOIS STATE GEOLOGICAL SURVEY

Lois S. Kent
Cover: This portrait of Amos Henry Worthen is from a print presented to me by Worthen's great-grandson, Arthur C. Brookley, Jr., at the time he visited the Illinois State Geological Survey in the late 1950s or early 1960s. The picture is the same as that published in connection with the memorial to Worthen in the appendix to Vol. 8 of the Geological Survey of Illinois, 1890. — LSK

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ABSTRACT
This catalog lists all type and figured specimens of fossils in the part of the "Worthen Collection" now housed at the Illinois State Geological Survey in Champaign, Illinois. Materials collected and described by A.H. Worthen, State Geologist of the first Geological Survey of Illinois from 1858 to 1875 and Curator of the Illinois State Museum from 1878 to 1888, form the nucleus of the collection, which also includes specimens collected and described by other early geologists. The largest parts of the Worthen Collection are now located in three places: The Illinois State Museum in Springfield; the Department of Geology at the University of Illinois in Urbana; and the Illinois State Geological Survey. Catalogs of the collections in the first two repositories have already been published. Smaller parts of the collection are located in at least five other museums in the United States.

Each entry in this catalog contains the name under which the specimen was originally described, the geologic horizon, the locality in which it was found, the collector (if known), and a reference to the first publication in which the specimen was described or illustrated. Plate and figure numbers under each entry indicate illustrations of the specimens in the collections of the Illinois State Geological Survey. References are made to significant later publications, especially to those in which the name was changed or the specimen re-illustrated. The introduction to the catalog provides a brief account of Worthen's life and work, especially as related to the Worthen Collection, and of the early history of the first Geological Survey of Illinois.
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INTRODUCTION

The Illinois State Geological Survey has many type and figured specimens of fossils in what is generally known as the "Worthen Collection." Materials collected and described by A.H. Worthen comprise the nucleus of this collection, but specimens collected and described by other early geologists are also included. Much of the material was described and illustrated in the volumes issued by the first Geological Survey of Illinois, published between 1866 and 1890; the Illinois State Museum Bulletins 1 and 2, 1882 and 1884; the Proceedings of the Philadelphia Academy of Natural Sciences, 1860-1872; and James Hall's Report of the Geological Survey of the State of Iowa, v. 1, pt. 2, 1858, and Supplement, 1859.

The largest part of the Worthen Collection is now housed in three places: the Illinois State Museum in Springfield; the Department of Geology at the University of Illinois in Urbana; and the Illinois State Geological Survey in Champaign. Catalogs of the collections in the first two repositories have already been published.1 Smaller parts of the collections and some specimens described and figured in the Geological Survey of Illinois reports are in the Museum of Comparative Zoology at Harvard University (many of Charles Wachsmuth's specimens); the United States National Museum (crinoids in the Springer Collection and Ulrich's bryozoans); the University of Michigan Museum of Paleontology, in Ann Arbor, Michigan; and the Walker Museum of the University of Chicago, now transferred to the Field Museum of Natural History in Chicago, Illinois. Two specimens (Chaenomya maria Worthen, SUPTC 5583 and Actinocrinus arnoldi Wachsmuth and Springer, SUPTC 409) formerly at Stanford University, Palo Alto, California, have been moved to the Department of Geology, California Academy of Sciences, in San Francisco.2
Amos Worthen was born in Bradford, Orange County, Vermont, October 31, 1813, the next to the youngest of 13 children. He acquired his basic education in the Vermont common schools and in the Academy in Bradford, and his physical training on his father’s farm. His farm background proved to be a great asset in his life work.

In 1834 he and his young bride moved west to the vicinity of Cincinnati, Ohio. He taught for two years in the schools of Cummins ville, a town which later became a part of Cincinnati, and in June 1836 moved to Warsaw, Illinois, influenced, no doubt, by the fact that some of his wife’s family had settled in this area. The move proved to be a happy choice: the geode beds and abundant fossils of the area were a great attraction to him and stimulated his interest in natural science. In Warsaw, Worthen became first a “forwading and commission merchant” and later conducted a dry goods business. Then in 1842, influenced by the depression caused by Mormon difficulties in Hancock County, he and his family moved to Charlestown, Massachusetts. They returned to Warsaw in July 1844, and Worthen spent more and more time studying the rocks of the area and collecting mineral and fossil specimens. His nephew, N.W. Bliss, wrote that by 1850 (when he arrived in the Worthen home) the home and shop were both more of a stone shop than a drygoods store; he also noted that his uncle evidently begrudged the time spent attending to customer needs. In 1855 Worthen sold the business, determining to devote himself completely to science. By this time he had already established a system of exchanges of fossils and minerals for books and collections with correspondents in the east.

In February 1851 the Illinois Legislature authorized the first Geological Survey of the State, appropriating $3,000 a year for this purpose. Two years later the appropriation was increased to $5,000 a year. Dr. J.G. Norwood, a doctor of medicine and a native of Indiana, was named State Geologist, and began his work July 29, 1851. Norwood had previously worked as an assistant geologist under David Dale Owen on a geological survey of Iowa, Wisconsin and Minnesota. In the fall of the year he employed Worthen as one of two assistants.

Collecting for the new Survey was carried on vigorously during 1852 and 1853, and the collections grew in size and quality; especially as a result of Worthen’s interest and industry. The collections were housed in New Harmony, Indiana at this time, and it soon became apparent that this location was inappropriate. In December 1854 the first of what were to be many moves was made.

The specimens and all museum materials were packed in boxes to be sent by boat down the Wabash 40 miles to the Ohio, 120 miles down the Ohio to the Mississippi, 140 miles up the Mississippi to St. Louis, from thence by rail 100 miles to Springfield. But cold weather filled the rivers with ice and the museum did not reach Springfield till the following April (1855). Even then it was given a cool reception since no place could be found for housing it. Finally it was stored in the Supreme Court room in the building which at that time served as State House. In a few months, in order to make room for the approaching session of the Court it was moved to the Senate Chamber where it was made accessible during the winter of ’55 and ’56. During the summer it was moved to the new arsenal building where new cases and drawers were provided.

But unfortunately the building was not heated and not only did the workers suffer but their reagents and ink froze and consequently during two or three months the work was given up entirely (Crook, A.R., 1907, p. 9).

In 1855 the State of Iowa passed an act authorizing a Geological Survey of that State and appointed James Hall from New York to take charge of it. The Survey started in September 1855, and Hall promptly engaged Worthen as his assistant. Worthen was employed “during the seasons for exploration until the close of 1857.” Worthen lent Hall his fine collection of Carboniferous crinoids, which Hall later described (1858, 1859).

Meanwhile, dissatisfaction with Norwood’s accomplishment had grown. The criticism was perhaps unfair, considering that the museum had been moved three times, and the collections had ended up in a place where it was almost impossible to work on them. In addition, appropriations for the Survey were inadequate. The total budget allotted was from $3,500 to $5,500 per year, which was to take care of all expenses, including the salaries of a geologist and two assistants, traveling and office expenses, and publication.

Nevertheless, it was decided that the Geological Survey should be reorganized, and on March 22, 1858 Worthen replaced Norwood as State Geologist. During his first few years as State Geologist, Worthen concentrated on preparing two geologic sections of the State, showing all the principal formations in Illinois. One section was made across the Silurian and Devonian formations of southern Illinois, from below Thebes...
in Alexander County to Jonesboro in Union County; the other was made along the Mississippi River from the northern border of the State to Cairo. Subsequent study of several counties in southwestern Illinois focused on the distribution and comparative thickness of the formations and on the economic geology of these areas. Some of the county reports resulting from this work were published in the early volumes of the Geological Survey of Illinois.

Worthen’s own work for the Geological Survey was greatly enhanced and supplemented by his ability to obtain the help of many of the able specialists of the day. Notable among these men were Leo Lesquereux in paleontology and Carboniferous stratigraphy; J.S. Newberry, Orestes St. John, and Edward D. Cope in vertebrate paleontology; J.D. Whitney in geology and mineralogy of the lead region; E.O. Ulrich in fossil sponges and bryozoa; Oliver Everett in sponges and Hiram Prout in bryozoa; Henry Englemann in chemistry and detailed county work; and S.H. Scudder in insects.

Frederick B. Meek was a great personal friend of Worthen, and many works on invertebrate paleontology were published jointly by Meek and Worthen. S.A. Miller, Charles Wachsmuth, Frank Springer, and H. Barris all contributed to work on *Echinodermata*. Other assistants worthy of mention were J.V.Z. Blaney in chemical analysis and H.M. Bannister, H.C. Freeman, Frank H. Bradley, H.A. Green, James Shaw, G.C. Broadhead, and E.T. Cox in detailed county work.

From 1863 to 1870 Worthen worked at carrying out the provisions of the law of 1851 requiring the distribution of typical collections of duplicate fossil and mineral specimens among educational institutions of the state. He found this task time-consuming and difficult to implement without neglecting more important parts of the work.

The collections remained in the Arsenal. They were later moved to a rented room in the Masonic Hall until the hall was damaged by fire on February 22, 1871.

*Burnishing of the State Geological Rooms at Springfield, Illinois.—On the night of the 22nd of February (after the 4th volume of the Illinois Geological Report, above noticed, was received by us) the building containing the State Geological Rooms and Collections was burned. The fire took in a book-binder’s adjoining, and, “in five minutes after the alarm was given, the upper part of the building was a sheet of flame.” Professor Worthen’s son, who was sleeping that night in the office, succeeded in removing all his father’s library and private cabinet, before it became necessary for the engines to play upon the building. The State Collections, which contained the most complete series of Carboniferous fossils in the country, if not in the world, besides numerous other species, and many kinds unknown elsewhere, were greatly damaged by water and by hasty removal, and very many fine specimens were ruined. Since the fire they have been transferred to the basement of the new Post-Office building, which, as it is fireproof, is safe against such disasters, and where they ought to have gone long before the fire. Fortunately, the copies of the 4th volume were in the hands of another bookbinder and escaped (Scientific Intelligence, 1871, in American Journal of Science and Arts, 3rd ser., v. 1, no. 4, p. 303).*

In 1872 regular appropriations for the State Survey were abolished; however, by special appropriations, the work was provided for until 1875, when it was discontinued. In September 1875, in his transmittal letter accompanying Volume 6 of the reports of the Geological Survey of Illinois, Worthen wrote (p. IV):

> The large collection of geological specimens accumulated by the Survey remains in the condition it was left by the fire in the Masonic Hall building, where it was formerly kept, no proper place having as yet been provided for its reception, and no provision made for its preservation as a State collection. Some disposition should be made of this collection, either to preserve it as the nucleus of a State Cabinet of Natural History, or to dispose of it to some scientific institution where it would be appreciated and properly cared for.

In the same transmittal letter (p. IV-V.), Worthen also wrote as follows regarding his work for the Survey:

> In the prosecution of the work I have kept in view two objects that seemed to me of paramount importance, to wit: First, the development of the material resources of the State, so far as was possible, by making known whatever matters of economical importance the field explorations should bring to light; and secondly, to bring out such scientific results as this rich and comparatively unexplored field made possible, so that the State of Illinois, through its geological survey, might contribute something towards the general stock of scientific knowledge.

> Although the scientific results brought out by the survey may not be, and probably are not appreciated by our own people, nevertheless I have the satisfaction of knowing that they are elsewhere, and that the Illinois Reports are esteemed a desirable acquisition to all scientific libraries, both public and private, and the applications for this work since the distribution of the first three volumes, coming mainly from individuals and institutions directly interested in the scientific pursuits, would have consumed the entire edition published.

> As the alleged reasons for withholding further appropriations to continue the work were based on the necessity of economy, and lest it might therefore be supposed, by those unacquainted with the facts, that there has been an unnecessary expenditure of money in the prosecution of this work, I deem it but just to myself to state in this connection precisely the amount that has been placed at my disposal for carrying on the Geological Survey of the State since it has been under my direction.

> When the survey came under my control, in March, 1858, the annual appropriation was $5,000 per annum, with an additional sum of $500 per annum for topographical work. As the latter amount was entirely inadequate to the accomplishment of any practical results in topography, it was expended mainly in the construction of the State map accompanying this volume, and in drawing such county maps as the prosecution of the work rendered necessary, so that the first named sum was all the available means at command to pay the salaries of myself and my assistants in geology and palaeontology, for chemical work and chemicals, and the traveling and incidental expenses of the survey. This appropriation continued until the adop-
tion of the new constitution in 1872, when by a provision in that instrument it was abolished. In addition to this annual appropriation, the twenty-fifth General Assembly made a special appropriation of $10,000 per annum for two years to complete the field work, and five or six additional assistants were employed for that time, and the sum so appropriated was exclusively devoted to this department of the survey.

After the expiration of the regular annual appropriation in 1872, by the constitutional provision above referred to, the twenty-seventh General Assembly appropriated the sum of $2,000 to defray the entire expense of the Survey for one year, and the succeeding General Assembly appropriated the sum of $3,600 per annum for two years to defray the salary of myself and assistant including office and traveling expenses, and $1,500 to pay the cost of the drawings required to illustrate this volume. This appropriation expired on the 30th day of June, last. The two first volumes of my report were published in 1866, the third in 1868, the fourth in 1870, the fifth in 1872, and the sixth in 1875, this latter volume having been delayed nearly a year by causes already alluded to. These six volumes, averaging about 550 pages each and containing 175 full page plates besides numerous wood cuts, were brought out in about nine years on the appropriations above specified. From these facts and figures those best qualified to judge can determine, for themselves, whether or not the Geological Survey of Illinois has been conducted with due regard to economy.

During the period 1875-1877 Worthen continued his work without pay and the museum collections remained in his custody.

The question of the disposition of the museum collections remained unsettled until 1877, when a state law established a:

State Historical Library and Natural History Museum...The law established the institution, set aside certain rooms for it, named the trustees, stated the duties of curator and librarian, provided for moving specimens, for distribution of duplicates, for transfer of material from another museum, and made appropriations for carrying the requirements into effect. Most fittingly the man who for 17 years had been State Geologist was made Curator and was partially renumerated ($1,897.50) for the two years during which he was not paid by the State, even though continuing the work.

In the meantime the museum materials had been moved from the Masonic Hall and stored in the basement of the new Capitol building. For increasing the collections and moving $2,500 was appropriated and the museum was transferred from the basement and established in creditable style in the west wing of the third floor of the State House. For the first time in its history it was fittingly housed" (Crook, A. R., 1907, p. 11).

During the next 10 years, Worthen "selected a complete series of Carboniferous fossils for the State Museum of Natural History, out of the great mass of material brought together in the Geological Survey of the State" (Crook, 1907, p. 12). He added many specimens to the collections and increased its value by his diligent work and careful organization.

During this period Worthen had one assistant, Fannie Fisher, who served the museum as clerk and later as assistant director from 1878 till her death in 1935, except for an interim of three years (1893-1896). She was dismissed in 1893, along with Lindahl, because of a change in political power in the State. However, she returned to the Museum later when the political power changed once again.

In 1887, against Worthen's wishes and during his absence from town, the museum was moved "by ordinary laborers who had no more idea of the value of museum materials than Geronimo had of Shakespeare" (Crook, 1907, p. 12) from the third floor of the State House to the main floor and to the basement. His successor, Josua Lindahl, wrote of the move as follows:

...You may, however, get some idea of its chaotic condition, when I tell you that the entire collections in the museum rooms had been moved in the last year of Professor Worthen's life, against his protests and in his absence from Springfield, from out of the upper floors down to the main floor of the Capitol by order of some higher authority who engaged a furniture moving concern to remove the whole museum, without the supervision of anybody who had the least idea of how scientific material should be handled. Only in exceptional cases were the labels fixed to the specimens, and none of these had any numbers written or painted on them. Labels and specimens were therefore shoveled into the drawers and showcases at haphazard, and by no means always so that the labels belonged to any specimens in the same drawer. In the basement the condition was, if possible, still worse. There was no closed room assigned to the storage of the vast amount of valuable material accumulated in the course of about 35 years, but it was piled up in an open portion of the basement, and workmen of various kinds had been using the pile as a dump for rubbish under which I would never have expected such a treasure of valuable material as was finally uncovered there and removed to a separate room with door and lock, which I secured after much arguing. The assistant told me that Professor Worthen felt so grieved over the wreck of collections in the museum rooms, that he could never attempt to remedy the havoc. His health was already broken, and after his death, some months later, I found the collections in such a condition as indicated. I devoted years of assiduous work to save what could be saved" (Crook, A. R., 1907, p. 12).

From the time of Worthen's death in 1888 until the present (1980) the Illinois State Museum has had eight Curators, or Chiefs (the title was changed from Curator to Chief sometime during Crook's administration, and to Museum Director during Deuel's):

Josua Lindahl, 1888-1893
William F.E. Gurley, 1893-1897
C.H. Crantz, 1897-1906
Alja R. Crook, 1906-1930
Arthur Sterry Coggeshall, 1931-1937
Thorne Deuel, 1938-1962
Milton D. Thompson, 1963-1976
R. Bruce McMillan, 1977-present

Lindahl did what he could to reassemble Worthen's collections and to secure them in a locked room on the first floor of

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the State House; this was an enormous task because of the great confusion resulting from the unprecedented move that had been made a year before Worthen's death. He also edited and prepared for publication Volume 8 of the Geological Survey reports, which Worthen had largely prepared but had not been able to complete. The State Historical Library was made a separate institution in 1889 and removed from Lindahl's supervision, a move which freed him for more of the museum work.

Lindahl's next large task was to prepare the exhibits for the World's Columbian Exposition which was to be held in Chicago from May through October, 1893. He began with great vigor to prepare materials that would properly exhibit the geology of the State; however, because of a change in the political party in power, he was removed from office in June 1893.

One month later William F.E. Gurley replaced him. During his tenure, Gurley published Bulletins 3-12 of the Illinois State Museum, and the collections were moved again—this time from the first to the third floor of the State House. These quarters were smaller and were used partly as committee rooms by the legislature.

When another change in State politics occurred in 1897, Gurley was removed and C.H. Crantz became the new Curator. During Crantz' tenure the museum was moved once again, this time to the new arsenal. Apparently, a little space was gained by the move, but at the expense of beauty and dignity of surroundings. There was no space for a workroom, and little room for arranging exhibits.

In September 1906 A.R. Crook was appointed Curator, and he served until his death. The new Illinois State Geological Survey had been organized the previous year, and this freed the Curator from the necessity of answering a great deal of correspondence relating to the economic geology of the State. Crook worked hard to obtain a building which would house the museum as well as the State Library, the State Historical Library, and the Department of Public Instruction. His proposal, first introduced in 1909, was finally approved in 1917, and by 1923 the Centennial Memorial Building was completed. In the fall of 1923 the Museum was moved into 30,000 square feet of space on the fifth floor and in the basement. In 1927 Crook wrote: "The museum now occupies 12 attractive rooms in this building and is one of the best housed state museums of the country." Crook died in 1930.

During the late 1940s and 1950s, Dr. Thorne Deuel, then Chief of the museum, was able to convince the Legislature of the need for a new building in which to house the museum. The new building was completed in June 1962 and the formal opening was held on February 4, 1963.

Worthen had been an ardent collector long before he became State Geologist and later Curator of the Illinois State Museum. Even while he held office he continued to collect for himself. This caused some criticism because of the size and value of his private collection; however, the State had shown little interest in the valuable collections and had failed to provide adequately for their care. Worthen had been paid nothing for his work from 1875 to 1877. The collections had been moved at least six times during his tenure and had gone through one fire.

After Worthen's death in 1888, his heirs wished to realize some money from what Worthen had considered his private collection. The collection was sold to the Commission for the World's Columbian Exposition (held in Chicago from May through October, 1893). This collection and a large part of the State collection from the Illinois State Museum in Springfield were taken to Chicago.

Under the direction of Josua Lindahl, the new Curator of the Illinois State Museum, these collections and other materials were organized to represent the geology of the State and to make up an impressive exhibit that received a gold medal and a certificate. New labels in attractive calligraphy, with colored stickers to indicate the geologic age, were prepared for both collections. Prominent paleontologists, J.M. Clarke (trilobites), Carl Rominger (corals), E.O. Ulrich (mollusks), James Hall (brachiopods), Charles Wachsmuth (crinoids), Charles E. Beecher (other crustacea), and David White (plants), were brought in to check and update the nomenclature. These men revised old labels, identified numerous specimens previously undetermined, and made brief reports on the collections they examined, discussing primarily the geological and geographical distribution of the forms found within the State. Their reports were to be inserted in an eventual descriptive catalog of the exhibits; however, in the confusion accompanying the closing days of the exhibition, all the papers were lost.

After the close of the Exposition, the Illinois State Museum collections were returned to Springfield and Worthen's private collection was stored for a time in the Walker Museum of the University of Chicago until it was given to the Geology Department of the the University of Illinois. At some time during William F.E. Gurley's tenure as Chief, or possibly during the time Worthen's private collection was stored at the Walker Museum, a few of the type specimens found their way into Gurley's private collection. This collection was given to the University of Chicago in 1900 and eventually was preserved in the Walker Museum collections, now housed in the Field Museum.

Worthen's private collection was eventually given to the Department of Geology of the University of Illinois. No catalog of the collection was available until sometime in the 1930s when Professor Harold Scott and others under his direction removed and segregated all the types and figured specimens they could recognize and catalogued them with a new set of numbers. A prefix of X- before the number was used to indicate a type or figured specimen. Much of the non-type material was also re-catalogued at this time with a prefix letter indicating the geologic period (A= Cambrian, B= Ordovician, C= Silurian, D= Devonian, and so on). Some types may have been inadvertently incorporated in the University of Illinois' Department of Geology general collections because they were not recognized when the re-cataloging was done.

Worthen's original handwritten catalog was later located in the Illinois State Museum, and in 1963 Milton D. Thompson, then Chief of the Museum, and Richard Leary, Curator of Geology, kindly permitted me to borrow the catalog and have it copied. This has proved invaluable because much of the catalog is in Worthen's own handwriting and contains his designation of types and indications of how many specimens he catalogued in each entry. Unfortunately, Worthen's designation of types is not consistent with modern usage, and he often indicated figured specimens only. Nevertheless, this is probably about as close as we can ever come to Worthen's original idea of types.

The entries in Worthen's catalog originally started with number 1. Subsequently, someone inserted the number 10,000.
before the original number, presumably so the numbers would not duplicate those in the old Illinois State Museum catalog. As a result the same specimen may be listed in two ways, for instance, 6,432 or 16,432. Strictly speaking, Worthen's handwritten catalog should have been referred to as the "Worthen catalog" and not as the "Illinois State Museum catalog." By the time I fully realized the distinction it was not practical to go back and change all the references. In general, entries above 10,000 were those in the "Worthen catalog." Some name corrections of crinoids in Charles Wachsmuth's handwriting in this catalog were probably made by him at the time of the Columbian Exposition.

During the 1930s J. Marvin Weller of the Illinois State Geological Survey in Urbana was making considerable use of the Illinois State Museum collections. In 1936 he and the Survey obtained approval from the Museum Board to transfer the Worthen Collection from Springfield to Urbana. In 1938 and 1939 the move was finally carried out; Weller and James M. Schopf made three trips to the Museum and brought back to Urbana all the specimens of invertebrate fossils they could locate from the Worthen Collection. At the time, Weller noted that "a great many specimens are missing and over fifty invertebrate types are unaccounted for. Some of these, I hope, will turn up when the collection is carefully studied but possibly others have found their way into some of your other collections." Materials Weller did not bring to Urbana included fossil plants and some vertebrates, mostly fish teeth.

During the late 1950s or early 1960s Arthur C. Brookley, Jr. paid a visit to the Illinois State Geological Survey. He identified himself as Worthen's great-grandson and wished to see some of his great-grandfather's collections. During the course of conversation he stated that there had been a third collection that was completely lost when the house in which it was kept burned. (This was probably the family home in Warsaw, although I have not been able to confirm this.)

ORGANIZATION OF THE CATALOG

The catalog in this circular lists all type and figured specimens of fossils from the Worthen Collection now housed in the State Geological Survey in Champaign. It also includes references to significant later publications, such as those in which the specimens have been re-illustrated, the names changed or lectotypes designated, or assignments to other genera made. Although many such references have probably been missed, those that have come to my attention have been included.

In each entry the name under which a specimen was originally described is given first, followed by the geologic horizon, locality, and collector (if known). Next is the reference to the first publication in which the specimen was described or illustrated. In many cases the first description was given without illustration in the Proceedings of the Academy of Natural Sciences of Philadelphia, in the American Journal of Science, or in the Illinois State Museum Bulletin. The same description was later repeated verbatim in the old reports of the Geological Survey of Illinois and illustrated there.

The plate and figure numbers under each entry indicate only illustrations of the specimens in the collections of the Illinois State Geological Survey.

The catalog number appears at the top right of each entry. ISGS as a prefix indicates the specimens are now at the Illinois State Geological Survey. ISM in parentheses indicates the old Illinois State Museum numbers that have been preserved. Under the catalog number are listed the kind of type and a condensed reference to its illustration. The first reference is to the original author's illustration. If no plate or figure number is given here, it means that the illustration is the same as that given in the synonymy. The second reference is to a later author's work and indicates where he illustrated it and whether he designated it a lectotype or did anything to change the original designation as to kind of type.

Dates of publication of most references are simply those given on the title pages. This is not always strictly accurate: for example, the Proceedings of the Philadelphia Academy of Natural Sciences were commonly published during the year following that for which they were designated. However, for the purposes of this catalog, the published date was considered sufficient. Anyone involved in taxonomic research will wish to establish the actual date of publication.

Terminations of scientific names are usually those first published (as -ensis instead of -ense, or -crinus instead of -crinites) without any attempt to determine which is correct.

References to the Worthen reports of the first Geological Survey of Illinois are abbreviated to "GSI v.*:*" references to the present Illinois State Geological Survey are abbreviated to ISGS. References to the United States National Museum are simply USNM; to the Geological Society of America, GSA; and to the American Museum of Natural History, AMNH.

The formations and ages are those given in the original description, on the original label, or in the old catalog. Most need to be brought up to date. This has been done in only a few instances in which subsequent work has clearly indicated what the correction should be. The authority for the change is cited.

The Worthen Collection contains many bryozoa that were described and illustrated by E.O Ulrich in Volume 8 of the Geological Survey of Illinois reports. Some of the specimens were collected by Worthen and some by Ulrich. Unfortunately, the type material for Ulrich's bryozoa has been divided between the Illinois State Geological Survey and the United States National Museum. In a general way, all Ulrich's thin sections and some hand specimens are in the USNM; many of his hand specimens are in the ISGS. Many of the former are listed in Schuchert's 1905 catalog of the USNM collections. The catalog numbers published by Schuchert were considered more or less in the nature of acquisition numbers. In some cases, type collection numbers were assigned later, but if these were ever published, I have not seen them. Because it has been impossible to make the careful comparisons of the USNM and ISGS material that are needed, the entries for Schuchert is the ISGS are cross-referenced with those listed in Schuchert's catalog. This should alert bryozoan scholars to the fact that they must consult both the ISGS and the USNM collections.

Some of Ulrich's illustrations were published as mirror images of the specimens. Apparently Ulrich realized, when he had completed about half his drawings, that the drawings would be reversed in the reproduction process, so he made a change in subsequent drawings. This has made the identification of his figured specimens more difficult.

Designations of kinds of types are subject to correction upon further study. There is room for discussion as to the kind of type some of these really are, especially in the case of Ulrich's bryozoa. If an author clearly had only one specimen, it is referred to as the holotype. If the author had several but figured only one, without designating a holotype, the
specimens would be considered figured and unfigured syntypes.

Worthen and Ulrich commonly referred to all figured specimens as "Type," meaning holotype, cotYPE or syntype, or possibly only a figured specimen. Sometimes they even marked an unfigured specimen as "Type."

When later authors have designated lectotypes from the collections, the listings are in chronological order. The specimen considered a syntype in the earliest reference is designated a lectotype in the later reference.

Unfortunately, some authors designated a holotype instead of a lectotype from an original syntype suite; when this was noted it is given as "holotype" (lectotype). Also some "paratypes" should have been paralectotypes, and are indicated as "paratype" (paralectotype).

Over the years many errors in citations, catalog numbers, and so forth, have crept into the literature. Whenever these have been found, the corrections have been indicated. It is inevitable that some errors have been introduced in the present effort, but I hope that the advantages of having these notes published will outweigh the disadvantages.

NOTES


(Both of Leary's catalogs include material from the Worthen Collection and also material from other sources described in later reports.)


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Hall, James, 1861, Descriptions of new species of Crinoidea from the Carboniferous rocks of the Mississippi Valley: Boston Society of Natural History Journal, v. 7, art. 4, p. 261-327.

Hall, James, 1866, Account of some new or little-known species of fossils from rocks of the age of the Niagara Group: 20th Annual Report, New York State Cabinet of Natural History, p. 305-401, pls. 9-22, (not seen).

Hall, James, 1870, Descriptions of new or little-known species of fossils from rocks of the age of the Niagara Group: 20th Annual Report, New York State Cabinet of Natural History, revised edition, p. 347-434, pls. 10-25. (Originally printed in advance, in Dec. 1864, for the 18th Report of the New York State Cabinet.)

Hall, James, 1872, Photographic plates, 7 pls. In the upper left hand corner of each plate is printed “State Mus. N.H. Bul. 1.” (This is not Bull. of the New York State Museum, v. 1, no. 1, 1892). There is no cover or title page with these plates—one page with “Explanation of Plates, published August, 1872,” printed on it. The plates are primarily illustrations of species described in Hall, 1858, 1859, and 1861. (Separate copies of the paper published by Hall, 1861, in the Journal of the Boston Society of Natural History, v. 7, art. 4, were bound with the 7 photographic plates of crinoids and explanatory matter and circulated in 1872.)


Meek, F. B., and A. H. Worthen, 1868, Remarks on some types of Carboniferous Crinoidea, with descriptions of new genera and species of the same, and of one echinoid: Academy of Natural Sciences of Philadelphia, Proceedings, p. 335-359.


Moore, Raymond C., and Harrell L. Strimple, 1969, Explosive evolutionary differentiation of unique group of Mississippian-Pennsylvanian camerate crinoids


Schenck, Hubert G., 1939, Revised nomenclature for some nucild palycopods: Journal of Paleontology, v. 13, no. 1, p. 21-41, pls. 5-8.


Scudder, Samuel H., 1882, Archipolypoda, a subordinal type of spined myriapods from the Carboniferous Formation: Boston Society of Natural History Memoirs, v. 3, p. 143-182, 4 pls.


Utgaard, John, and T.G. Perry, 1964, Trepangomatos bryozoan fauna of the upper part of the Whitewater Formation


Worthen, A.H., 1882, Art. I, Descriptions of fifty-four new species of crinoids from the Lower Carboniferous limestones and Coal Measures of Illinois and Iowa; Art. II, Addenda, Corrections and proposed new names for species previously described in the Geological Survey of Illinois, under names that were preoccupied; and descriptions of two new species of fossil shells from the Coal Measures of Illinois and Kansas: Illinois State Museum of Natural History Bulletin 1, p. 3-40.


Wright, James, and H.L. Strimple, 1945, Moesocrinus and Urococrinus gen. nov., with notes on the family Cromyocrinidae: Geological Magazine, v. 82, no. 5, p. 221-229.

FOSSIL CATALOG
Abrotocrinus sculpitus (Worthen)  
See Poteriocrinus sculpitus Worthen

Abrotocrinus unicus (Hall)  
See Scaphiocrinus unicus Hall

Acanthoceras  
See Euphoberia

Acanthoceras granulosa (Ulrich)  
See Ceramoporella granulosa Ulrich

Acanthoceras fruticosus Ulrich  
ISGS (ISM) 4471-1  
Upper Coal Measures  
"Type" = Syntype?  
Near Springfield, Sangamon County, Ill.  
= Blake's ms, pl. 1, f. 13  
Ulrich, E.O., 1890, GSI v. 8, p. 635, pl. 65, f. 2, 2a-c.


Acanthotelon eveni Meek and Worthen  
ISGS (ISM) 3066  
Coal Measures  
"Type" (= fig'd. syntype?)  
Mazon Creek, Grundy Co., Ill.  
Collected by Mr. Joseph Even of Morris  
Meek, F.B., and A.H. Worthen, 1868, Am. Jour. Sci. (2), v. 46, p. 28; Meek and Worthen, 1868, GSI v.3, p. 551, text fig. A.

This specimen may be the reverse half of the specimen figured as text fig. A, above, or text fig. A may be a composite drawing. See U.I. X-344 (= ISM 11108), "Type," part and counterpart.

Acrocrinus wortheni Wachsmuth  
ISGS (ISM) 2469  
Coal Measures  
Holotype  
Peoria Co., Ill.  
Collected by Wm. Gifford  

Wachsmuth, Charles, and W.H. Barris, 1883, GSI v. 7, p. 343, text fig. p. 343, pl. 30, f. 13a-b.


Actinocrinus asteriscus Meek and Worthen  
ISGS (ISM) 10247?  
Upper Burlington limestone  
Unfig'd. syntype?  
Lower Carboniferous  
Burlington, Iowa  

= Actinocrinus (Batrocrinus) asteriscus Meek and Worthen, 1866, GSI v. 2, p. 207 (see also pl. 15, f. 8a-c = figured syntype).

= Uperocrinus aequibrachiatius var. asteriscus (Meek and Worthen) in Bassler and Moodey, 1943, p. 277.

Two specimens were catalogued originally; only one (unfigured) here as of 9/77. This specimen was bounced out of its tray and could possibly have been misplaced.

Actinocrinus augustatus Miller and Gurley  
ISGS (ISM) 2594-A/B  
2 Syntypes  
Keokuk limestone; Miss.  
Green Co., Ill.  
Collected by Henry Talbot  

See also Actinocrinus lobatus Worthen, 1890 (not Hall, 1859) and Actinocrinus magnificus Wachsmuth and Springer, 1897.

Actinocrinus decornis Hall  
ISGS (ISM) 10280  
2 Syntypes  
Upper Burlington limestone;  
Lower Carboniferous  
Burlington, Iowa  
Collected by A.H. Worthen  
Hall, James, 1859, Geol. Rept. Iowa, v. 1 (2), Suppl., p. 13-14, text fig.

Number changed in catalog to 13275; changed back to 10280.

= Dorycrinus cornigerus (Hall) in Bassler and Moodey, 1943, p. 439.

Actinocrinus lobatus Worthen, 1890  
ISGS (ISM) 2594-A/B  
2 figured specimens  
(not Hall, 1859)  
Keokuk limestone; Miss.  
Green Co., Ill.  
2594-A = F. 8  
2594-B = F. 8a  
Collected by Henry Talbot  
Syntypes (not refigured) in Miller and Gurley  
Worthen, A.H., 1890, GSI v. 8, p. 97, pl. 12, f. 8, 8a.


Name was changed in the old III. State Mus. catalog from A. lobatus to A. magnificus in Wachsmuth's handwriting.

Actinocrinus magnificus Wachsmuth and Springer, 1897  
See also Actinocrinus lobatus Worthen, 1890 (not Hall, 1859), and Actinocrinus augustatus Miller and Gurley, 1894.

Actinocrinus plagosus Miller and Gurley  
ISGS (ISM) 2032-A/B  
2 Syntypes  
Burlington limestone; Miss.  
Burlington, Iowa  
2032-A = F. 5  
2032-B = F. 6  
Actinostroma sp. isGS (ISM) 2665
Hamilton Group; Devonian
Cerro Gordo, Iowa
Collected by A.H. Worthen
Ulrich, E.O., 1890, GSI v. 8, p. 221, pl. 7, f. 5, 5a-b.

Actinostroma? tretonense Ulrich and Everett
Ulrich Group
Near Dixon, Lee Co., III.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 282, pl. 7, f. 3.
See also USNM 46545, “Figured sections of holotype...pl. 7, f. 3a-b,” tide Schuchert’s 1905 catalog.

Actinotyra peculiaris (Rominger)
Kokuk Group; Miss.
Warsaw, III.
Two slides made from this specimen by T.G. Perry, 11/30/65 = 7680-1 and 7680-2.

Agaricocrinus? jerseyensis (Worthen)
See Amphoracrinus jerseyensis Worthen

Agassizocrinus carbonarius Worthen
Coal Measures
Shelby Co., III.
Meek, F.B., and A.H. Worthen, 1873, GSI v. 5, p. 566, pl. 24, f. 4.
See also ISGS (ISM) 8364, also marked “Type” on label and in catalog.

Agassizocrinus carbonarius Worthen
Coal Measures
Albion, Edwards Co., III.
The original label for this specimen was marked “Type” and carried the diamond sticker commonly used by Worthen to indicate types, but I was not able to find any published description or illustration of it until this recent one by Ettensohn. LSK, 11/80.

Agassizocrinus hemisphericus Worthen
Chester Limestone, Miss.
Randolph Co., III.
= Agassizocrinus papillatus Worthen in Bassler and Moore, 1943, p. 291.
= Mooreocrinus hemisphericus (Worthen) in Wright and Strimple, 1945, Geol. Mag., v. 82, p. 222.

Agassizocrinus papillatus Worthen
Chester Group; Miss.
Monroe Co., III.
See also Agassizocrinus hemisphericus Worthen.

Alisocrinus tetramatus Brower
ISGS (ISM) 10486-A/B
“Cincinnati Group; Lower Silurian” = Paratypes
Girardeau Limestone; 10486-A = Paratype 8
Ord. (Brower) 10486-B = Paratype 9
Cape Girardeau Co., Mo.
Brower, James C., 1973, Palaeontographica Americana, v. 7 (46), p. 408. These two specimens were marked by Brower as “Paratype 8 and Paratype 9” but apparently neither was specifically mentioned in his paper. They were originally identified in the Worthen Collection as Glyptocrinus sp. undet.

Allagocrinus carpenteri Wachsmuth
ISGS (ISM) 2440
Chester Group; Miss.
Monroe Co., III.
= Allocatilocrinus carpenteri (Wachsmuth) in Bassler and Moore, 1943, p. 294.

Allocatilocrinus carpenteri (Wachsmuth)
See Allagocrinus carpenteri Wachsmuth

Amonochia illinoiensis Worthen
ISGS (ISM) 2286-1/2
Cincinnati Group; Ord.
Syntypes
Savanna, Ill.
2286-1 = Fig. 4a
2286-2 = Fig. 4b
Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 495, pl. 23, f. 4a and 4b.

Ampelocrinus kaskaskiensis (Worthen)
See Poteriocrinus kaskaskiensis Worthen

Ampelocrinus richfieldensis (Worthen) (or Aphelocrinus)
See Poteriocrinus richfieldensis Worthen
Amphicyrtoceras orcasatum Foerste
Racine dolomite; Silt.
Racine, Wis.


Amphigenia curta (Meek and Worthen)
See Stricklandia elongata curta Meek and Worthen

Amphoracrinus jerseyensis Worthen
Kinderhook Group, Miss.
Jersey Co., Ill.
Collected by A.H. Worthen
Worthen, A.H., 1890, GSI v. 8, p. 96, pl. 14, f. 8, 8a.


Amplexoceras affinis Ulrich
Cincinnati Group; Ord.
Wilmington, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 450, pl. 36, f. 2.
1 slide prepared by June Ross about 1962-63.
See also USNM 43769, "Figured sections of holotype...pl. 36, f. 2a," tide Schuchert's 1905 catalog.


Amplexopora filiosa (d’Orbigny)
See Leptotrypa filiosa? d’Orbigny

Amplexus geniculatus Worthen
Chester Group; Miss.
Pope Co., Ill.
Collected by A.H. Worthen
Worthen, A.H., 1890, GSI v. 8, p. 82, pl. 10, f. 7, 7a.

Anisotrypa illustris Ulrich
Chester Group; Miss.
Chester, Randolph Co., III.

Labelled "Type," and catalog refers to Ulrich ms. Unpublished, so far as I can tell. LSK 10/28/71. See discussion GSI v. 8, p. 448. This could be the unnamed form referred to, or the name could have been changed in final publication.

Anisotrypa ramulosa Ulrich
St. Louis Group; Miss.
Pella, Iowa

2851-1 = F. 7
2851-2 = F. 7a
2851-3-4 = Unfigured
Ulrich, E.O., 1890, GSI v. 8, p. 449, pl. 72, f. 7, 7a.

Anolotichia ponderosa Ulrich
Cincinnati Group; Ord.
Wilmington, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 473, pl. 41, f. 3, 3a.

Few fragments from same specimen and 3 slides made by June Ross about 1962-63.
See also USNM 43275, "Cotype and figured sections...pl. 41, f. 3b-d," tide Schuchert's 1905 catalog.

See also Utgaard, John, 1968, Jour. Paleo., v. 42 (4), p. 1036, pl. 129, f. 1-5. Utgaard designated USNM 159693-A/B as lectotype and USNM 159694-159697 as paralectotypes, all taken from USNM collection number 43275; but he did not examine the ISGS specimens.

Anisotrypa fistulosa Ulrich
St. Louis Group; Miss.
Pella, Iowa

2756-1 = F. 6
2756-2/3 = Unfigured
Ulrich, E.O., 1890, GSI v. 8, p. 448, pl. 72, f. 6.
See also USNM 43735, "Figured sections of cotype...pl. 72, f. 6b, 6c," tide Schuchert's 1905 catalog.

Anisotrypa illustris Ulrich
Chester Group; Miss.
Chester, Randolph Co., III.

Labelled "Type," and catalog refers to Ulrich ms. Unpublished, so far as I can tell. LSK 10/28/71. See discussion GSI v. 8, p. 448. This could be the unnamed form referred to, or the name could have been changed in final publication.

Anisotrypa ramulosa Ulrich
St. Louis Group; Miss.
Pella, Iowa

2851-1 = F. 7
2851-2 = F. 7a
2851-3-4 = Unfigured
Ulrich, E.O., 1890, GSI v. 8, p. 449, pl. 72, f. 7, 7a.

Anolotichia ponderosa Ulrich
Cincinnati Group; Ord.
Wilmington, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 473, pl. 41, f. 3, 3a.

Few fragments from same specimen and 3 slides made by June Ross about 1962-63.
See also USNM 43275, "Cotype and figured sections...pl. 41, f. 3b-d," tide Schuchert's 1905 catalog.

See also Utgaard, John, 1968, Jour. Paleo., v. 42 (4), p. 1036, pl. 129, f. 1-5. Utgaard designated USNM 159693-A/B as lectotype and USNM 159694-159697 as paralectotypes, all taken from USNM collection number 43275; but he did not examine the ISGS specimens.

Anisotrypa sp.
Trenton limestone (Ordovician;
Trenton, uppermost Mifflin
or basal Grand Detour,
tide Dennis Kolata)
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 272, pl. 6, f. 1, 1a. The specimen is attached to the type of Endiospongia basalis Ulrich and Everett.

Anasthyspina fenestrata Ulrich and Everett
Trenton limestone (Ordovician;
Trenton, uppermost Mifflin
or basal Grand Detour,
tide Dennis Kolata)
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 264, pl. 2, f. 1.

Anasthyspina firma Ulrich and Everett
Trenton limestone (Ordovician;
Trenton, uppermost Mifflin
or basal Grand Detour,
tide Dennis Kolata)
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 263, pl. 2, f. 3, 3a.

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Anthaspidella florifera Ulrich and Everett
Trenton limestone (Ordovician): Platteville, uppermost Mifflin or basal Grand Detour, *fide* Dennis Kolata
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 259, pl. 1, f. 2; pl. 4, f. 2.

Anthaspidella grandis Ulrich and Everett
Trenton limestone (Ordovician): Platteville, uppermost Mifflin or basal Grand Detour, *fide* Dennis Kolata
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 259, pl. 2, f. 2, 2a.

Anthaspidella magnifica Ulrich and Everett
Trenton limestone (Ordovician): Platteville, uppermost Mifflin or basal Grand Detour, *fide* Dennis Kolata
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 265, pl. 8, f. 27, 2a-c. This specimen was marked as "type" by Ulrich, but if fig. 2 was drawn from this specimen, the base of the specimen has since been broken off and is missing. LSK 10/77.

Anthaspidella mammulata Ulrich and Everett
Trenton limestone (Ordovician): Platteville, uppermost Mifflin or basal Grand Detour, *fide* Dennis Kolata
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 258, pl. 1, f. 1, and f. 1a-d?

Anthaspidella minimistellata Ulrich and Everett
See Anthaspidella parvistellata Ulrich and Everett

Anthaspidella obliqua Ulrich and Everett
Trenton limestone (Ordovician): Platteville, uppermost Mifflin or basal Grand Detour, *fide* Dennis Kolata
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 265, pl. 4, f. 1, 1a.

Anthaspidella parvistellata Ulrich and Everett
Trenton limestone (Ordovician): Platteville, uppermost Mifflin or basal Grand Detour, *fide* Dennis Kolata
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, in GSI v. 8, p. 260, pl. 1, f. 3. This specimen was catalogued as *A. minimistellata* but published as *A. parvistellata*.

Anthracaris gracilis (Meek and Worthen)
See Anthrapalaemon gracilis Meek and Worthen

Anthrapalaemon gracilis Meek and Worthen
ISGS (ISM) 3067
Coal Measures
Figured specimen Grundy Co., Ill. (part and counterpart)
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 554, text f. B. This is one of the specimens on which Meek and Worthen based their composite drawing.


Anthrapalaemon gracilis Meek and Worthen
ISGS (ISM) 3077
Coal Measures
Figured specimen Grundy Co., Ill. (part and counterpart)
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 554, text fig. A. This is one of the specimens on which Meek and Worthen based their composite drawing.

= Anthracaris gracilis (Meek and Worthen) in Brooks, H.K., 1962, Bull. Am. Paleont., v. 44 (202), p. 173, pl. 30, f. 1-2 (erroneously given as ISMNH 3067). Brooks calls this specimen the holotype. The holotype should be U.I. X-343 (ISM 11124), which Brooks figures, pl. 30, f. 4, and states that it bears no resemblance to the specimen drawn by Meek and Worthen (1866, pl. 32, f. 4). In Worthen's handwritten catalog, in his handwriting, ISMNH 11124 (U.I. X-343), part and counterpart, is designated as "type" and the reference to Meek and Worthen, 1866, pl. 32, f. 4 given.

See also ISGS (ISM) 3067.

Aphelecrinus columbiensis (Worthen)
See Poteriocrinus columbiensis Worthen

Aphelecrinus okawensis (Worthen)
See Poteriocrinus okawensis Worthen

Aphelecrinus peculiaris (Worthen)
See Poteriocrinus peculiaris Worthen

Aphelecrinus richfieldensis (Worthen)
See Poteriocrinus richfieldensis Worthen

Aphelecrinus sp. cf. *A. popensis* (Worthen)
See Poteriocrinus popensis Worthen

Aphelecrinus venustus (Worthen)
See Poteriocrinus venustus Worthen

Archaecidaridir edgerensis Worthen
ISGS (ISM) 2477-A/C
and Miller
Syntypes
Upper Coal Measures
One mile east of Baldwinsville, Edgar Co., Ill.
2477-A = F. 15a
2477-B = F. 15b
2477-C = F. 15c
Worthen, A.H., and S.A. Miller, 1883, GSI v. 7, p. 337, pl. 30, f. 15a-c. Drawings are composite to some extent.

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Archaeocidaris illinoiensis Worthen

Syntypes
ISGS (ISM) 2475-A/B
and Miller
St. Louis Limestone; Miss.
Illinois Furnace,
Hardin Co., Ill.

1a-b.

Archaeocidaris spinoclavatus Worthen

Syntypes
ISGS (ISM) 2404-A/E
and Miller
Coal Measures
2404-A = Pl. 24, f. 13a-b
St. Clair and
2404-B = Pl. 24, f. 13c
Marshall Co., Ill.
2404-C = Pl. 24, f. 13d
2404-D = Pl. 24, f. 13e
2404-E = Not figured

= Archaeocidaris? sp. undet., figured but not described.

14a-e. Illustrations are of different specimens from those
figured in v. 5, even though the catalog number, 2404, was
given in the text, p. 338. Specimens figured in v. 7 are miss-

ing. LSK 10/777.

Jackson, R.T., 1912, Boston Soc. Nat. Hist. Mem., v. 7, p. 281,
pl. 15, f. 7a-h. F. 7a-e are after Worthen and Miller, 1883, pl.
30, f. 14a, d, e. F. 7h are after Meek and Worthen, 1973, pl.
24, f. 13a, d, e.

Archimedes compactus Ulrich

Syntypes (on slab)
Chester Group; Miss.
with 9 other species
8745-2A = Fig. 2b
8745-2B = Fig. 2d

Ulrich, E.O., 1890, GSI v. 8, p. 572, pl. 63, f. 2b, 2d.

See also USNM 43736, "Cotypes...pl. 63, f. 2, 2a," "Figured
Schuchert's 1905 catalog.

pl. 29, f. 1-8. Designated as lectotype the specimen
figure by Ulrich, 1890, pl. 63, f. 2, but Condra and Elias did not see
this specimen. USNM 43736-1 = "supplementary type"
(called "neotype" in Condra and Elias' explanation of pl.
29, f. 6-7). USNM 43736-2 = "Plesiotype," in Condra and Elias,
1944, pl. 29, f. 8. Condra and Elias' numbering of USN
specimens in text differs from that on the explanation of
plate.

Archimedes distans Ulrich

Syntype - Lectotype
Chester Group; Miss.
Chester, Randolph Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 578, pl. 63, f. 9b.

pl. 8, f. 5.

See also USNM 44097, "Cotypes...pl. 63, f. 9-9b," "Figured
Schuchert's 1905 catalog. (But F. 9b is ISGS (ISM) 2798-1.
LSK 12/13/77)

Other specimens on slab include one designated by Ulrich as
A. swallowana Hall = 2798-2 (now changed to 2798-2b).
Specimen numbered 2798-2a is designated by Condra and
Elias as the neotype of A. meekanus (Hall), figured in GSA

Archimedes halli Condra and Elias

Unnumbered specimen
Keokuk Group; Miss.
Bentonsport, Iowa
of ISGS (ISM) 2785-2

Specimen used for measurements

97-98. This was a frond exposed on the reverse of ISGS
(ISM) 2785-2, Archimedes negilgens Ulrich (Condra and
Elias' paralectotype, figured pl. 14, f. 4-5). The specimen ap-
parently was removed and is now missing (LSK, 43/78).
Condra and Elias referred to both specimens, A. halli and A.
negilgens, as ISGS (ISM) 2785-2.

See also Archimedes negilgens Ulrich.

Archimedes invaginatus Ulrich

Syntype - Lectotype
Chester Group; Miss.
2 miles east of Anna, Union Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 575, pl. 63, f. 11a.

pl. 29, f. 22-24, 27.

Thin section made by Elias from fragment of same specimen.
Figured pl. 29, f. 23.

See also USNM 43740, "Figured sections of cotype...pl. 63, f.
11c, 11d," "Figured Schuchert's 1905 catalog.

Archimedes macfarlani Condra and Elias

Holotype
Chester Group; Miss.
2 miles east of Anna,
Randolph Co., Ill.

pl. 8, f. 3-4; pl. 31, f. 2b, 3-4; pl. 32, f. 1.

= Archimedes proutanus var., Ulrich, E.O., 1890, GSI v. 8, p.
576, pl. 63, f. 11 (same specimen as figured by Condra and
Elias).

Specimen is on same slab with A. perminimus Ulrich, ISGS
(ISM) 2801-1.

Archimedes meekanus (Hall)

"Plesiotype" - Figured
2 miles east of Anna,
Union Co., Ill.

143-147, pl. 8, f. 8-9; pl. 29, f. 21.

One thin section made by Elias from fragment of ISGS (ISM)
2779-2. Figured by Condra and Elias, 1944, pl. 29, f. 21.
Archimedes meekanus (Hall)  
Chester Group; Miss.  

Archimedes neglectus Ulrich  
Keokuk Group; Miss.  
Bentonport, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 569, pl. 3, f. 7.


Archimedes neglectus Ulrich  
Keokuk Group; Miss.  
Bentonport, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 569 (specimen was part of Ulrich's material but not figured by him).

Archimedes owenanus Hall  
Keokuk Group; Miss.  
Three miles northeast of Quincy, Adams Co., Ill.


Archimedes owenanus Hall  
Keokuk Group; Miss.  
(tide Ulrich in expl. of plates).

Ulrich, E.O., 1890, GSI v. 8, p. 570, pl. 63, f. 6a.


One thin section made by Elias from fragment of ISGS (ISM) 2782-1. Figured by Condra and Elias, pl. 14, f. 15.

Condra and Elias designated this specimen as lectotype, but this may not be valid. See Perry, T.G., and A.S. Horowitz, 1963, Ind. Dept. Cons., Geol. Survey Bull. 26, p. 36.

Archimedes owenanus Hall  
Keokuk Group; Miss.  
Keokuk, Iowa (tide Ulrich, in expl. of plates)

Ulrich, E.O., 1890, GSI v. 8, p. 570, pl. 63, f. 6.


Archimedes owenanus Hall  
Keokuk Group; Miss.  
Condra, Randolph Co., Ill.


Ulrich, E.O., 1890, GSI v. 8, p. 574, pl. 63, f. 12a.


One thin section made by Elias from fragment of this specimen. Figured by Condra and Elias, pl. 26, f. 13.


Archimedes owenanus (Hall)  
Keokuk Group; Miss.  
Condra and Elias’ paratype (paralletype), pl. 14, f. 7, 13

Ulrich, E.O., 1890, GSI v. 8, p. 574.

Specimen is from Worthen Collection, not figured by Ulrich, but figured by Condra and Elias and called a paratype by them.


Archimedes terebriformis Ulrich

Chester Group; Miss.

Syntype

Sloan’s Valley, Ky. = Condra and Elias’ lectotype (fide Ulrich, in expl. of plates) 1 thin section

Ulrich, E.O., 1890, GSI v. 8, pl. 575, f. 63, f. 5a.


One thin section made by Condra and Elias from fragment of 2738-1 and figured by them, pl. 26, f. 4.


See also USNM 43739, “Cotypes…pl. 63, f. 5, 5b,” fide Schuchert’s 1905 catalog. Perry and Horowitz (p. 49) reported only the specimen represented by Ulrich’s fig. 5b as in the USNM.

Archimedes terebriformis Ulrich

Chester Group; Miss.

Syntype

Sloan’s Valley, Ky. (fide Ulrich, in expl. of plates)

Ulrich, E.O., 1890, GSI v. 8, p. 575, pl. 63, f. 5.

Condra, G.E., and M.K. Elias, 1944, GSA Spec. Paper 53, p. 135, pl. 3, f. 5 (incorrectly listed in explanation of plates as 2738-1); pl. 26, f. 17, 21 (incorrectly listed in explanation of plates as 2738-1). Pictures on pl. 3, f. 5 and pl. 26, f. 21 are identical.

Archimedes terebriformis Ulrich

Chester Group; Miss.

Syntype

Chester, Randolph Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 575, pl. 63, f. 5c.


Archimedes wortheni (Hall)

Warsaw beds; Miss.

= Condra & Elias, pl. 3, f. 4

2780-2 = Spec. used by Condra & Elias for measurements, p. 83

Ulrich, E.O., 1890, GSI v. 8, pl. 571, f. 63, f. 8a.


Three specimens from the Warsaw beds, Warsaw, Ill., were catalogued in Worthen’s handwritten catalog, in his handwriting, as A. wortheni Hall, ISM 10636, as types figured by Hall, 1858, pl. 22, f. 2-5. The specimen Hall illustrated as fig. 2 is the type of A. reverse Hall. Worthen’s reference to the other two specimens as Hall’s types must be in error, as Condra and Elias, and later Perry and Horowitz, indicate the specimens shown by Hall as f. 3-5 are in the AMNH.

It is probable that the three specimens, ISM 10636, are A. reverse Hall = A. wortheni Hall, and are the same specimens, U.I. X-18-1/3, studied by Condra and Elias. U.I. X-18-1 was figured by Condra and Elias, pl. 18, f. 1; U.I. X-18-1/3 were all used by Condra and Elias for measurements, p. 83. Condra and Elias’ picture of U.I. X-18-1, called A. wortheni Hall, is the same as Hall’s pl. 22, f. 2, figured as A. reverse Hall. U.I. X-18-2 is Condra and Elias’ pl. 19, f. 3-4. Ulrich recognized the possible identity of A. reverse and A. wortheni; Condra and Elias considered them synonymous. These three specimens, U.I. X-18-1/3, were apparently not in the U.I. collections at the time Hansman and Scott’s catalog (1967) was prepared."

"U.I. X-18-1 was returned to the University of Illinois in October 1980. Unfortunately the upper six whorls of the specimen were missing. The specimen still carries Worthen’s number 636 (or 10636).

"Type" (2 specimens) of A. wortheni (Hall) is AMNH 7525/1 (Hall Coll. 5058/1), fide Condra and Elias, 1944, p. 81, and Perry and Horowitz, 1963, p. 36. Condra and Elias designated the specimen illustrated by Hall, p. 22, f. 4a-4b, as lectotype.

Arctinus thompsoni Miller and Unklesbay

See Lichas boltoni (Biggsy)

Arthrocloma angulare Ulrich

Cincinnati Group; Ord.

Syntype

Wilmington, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 641, pl. 29, f. 6a, 6b.

Slide on which specimen illustrated in fig. 6 was mounted is empty. Specimen presumed lost, 17/69.

Ascoceras southwelli Worthen

Niagara limestone; Upper Silurian

Port Byron, Whiteside Co., Ill.

Collected by J.H. Southwell

Worthen, A.H., 1890, GSI v. 8, p. 151, pl. 27, f. 2, 2a.


Foerste called this specimen the holotype, but Worthen stated that he was figuring only the better of the two specimens he had. Presumably the other is lost. LSK, 1961.

Astyspongia? carbonaria Meek

Upper Coal Measures

Springfield, Ill.


Astyspongia praemorsa Goldfuss

"Head Lanark," loose in Carroll Co., Ill.

Figured specimen (Lanark is town in sec. 5, T. 24 N., R. 6 E., Mt. Carroll Quadr., Carroll Co., Ill.) Probably from Niagara Group; Upper Silurian. Collected by J.B. Christian

Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 499, pl. 25, f. 2a-b.

WORTHEN FOSSIL COLLECTION CATALOG 21
Aviculopecten longa Geinitz sp. ISGS (ISM) 3078 Roof shales of Coal No. 7; Penn. Figured specimen (badly broken) Danville, III.

Meek, F.B., and A.H. Worthen, 1873, GSI v. 5, p. 578, pl. 26, f. 1.

Aviculopecten oblonga Meek and Worthen ISGS (ISM) 4253 Keokuk Group; Miss. 2 ?Syntypes Near Warsaw, Ill.


= Aviculopecten oblongus Meek and Worthen, 1866, GSI v. 2, p. 258 (compare with pl. 18, f. 3a, 3b).

See also U.I. X-186 (ISM 10687), which is catalogued as the specimen figured. These 2 specimens (4253) are labeled "Type" in Worthen's handwriting, but are not the specimens figured GSI v. 2, pl. 18, f. 3a, b.

Aviculopecten chesuntenis Worthen ISGS (ISM) 2512-A/B Chester limestone; Miss. Holotype Chester, Ill. part and counterpart Collected by Mrs. J.C. Salter 2507-A = Fig'd.


Aviculopecten colletti Worthen ISGS (ISM) 2512-A/B, 13191 Keokuk shale; Miss. Syntypes Crawfordsville, Ind. 2512-A = Worthen, pl. 22, f. 13

Collected by 2512-B = Worthen, pl. 22, f. 8b

Frank H. Bradley = Driscoll, lectotype, pl. 19, f. 2 13191 is counterpart of 2512-B


Driscoll, E.G., in N. Gary Lane, 1973, Univ. Calif. Pub. Geol. Sci., v. 99, p. 117, pl. 19, f. 2. ISGS (ISM) 2512-B is designated as lectotype. 2512-A is assigned to Pseudaviculopeteropecten (?) inianensis (Meek and Worthen), and figured pl. 19, f. 3.

Aviculopecten coranus Meek and Worthen ISGS (ISM) 3009 Coal Measures Unfigured syntype Adams Co., Ill. = Newell's paralactotype

Meek, F.B., and A.H. Worthen, 1860, Acad. Nat. Sci. Philadelphia Proc., p. 453; Meek and Worthen, 1866, GSI v. 2, p. 326. (Pl. 26, f. 6a, b are of U.I. X-219 (ISM 10931)).

Newell, Norman D., 1937, State Geol. Survey Kansas, v. 10 (1), p. 56. Newell figured (pl. 4, f. 23) one of two U. of I. specimens as "holotype" (lectotype). Hansman and Scott's catalog of the U. of I. collections lists 2 specimens under U.I. X-219 as "syntypes." Newell called ISGS (ISM) 3009 "paratype" (paralactotype). Newell probably saw only one of the 2 specimens, U.I. X-219. Worthen listed 2 in his original handwritten catalog. When I (LSK) went through the U.I type collections about 1965 I noted only 1 specimen in the tray. Later (1967) Hansman and Scott noted 2 in their catalog. Presumably they had located one which had been misplaced. LSK, 10/20/77.

Aviculopecten edwardsii Worthen ISGS (ISM) 2511 Holotype Keokuk limestone; Miss. Warsaw, Ill. Collected by A.H. Worthen


Aviculopecten elsahensis Worthen ISGS (ISM) 2506 Holotype Kinderhook Group; Miss. Half a mile above Elsah, Jersey Co., III. Collected by A.H. Worthen


Aviculopecten hardinensis Worthen ISGS (ISM) 2591 St. Louis Limestone; Miss. Hardin Co., Ill. Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 117, pl. 22, f. 5, 5a.

Aviculopecten indianensis Meek and Worthen See Aviculopecten colletti Worthen

Aviculopecten macwhorteri Worthen ISGS (ISM) 2583 Kinderhook Group; Miss; Kinderhook, Ill. Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 118, pl. 22, f. 4.

Aviculopecten mazonensis Worthen ISGS (ISM) 2592-A/B, 13190 Syntypes - Lectotype and paralactotype Coal Measures Mazon Creek, Syntype = Newell, "holotype" (lectotype), Grundy Co., Ill. pl. 4, f. 21a, b 2592-B - Part and counterpart = Worthen, unfig'd. syntype = Newell, "topo-paratype" (paralactotype), p. 57 13190 - Part and counterpart = Newell, topotype, fig'd. pl. 4, f. 22

Worthen, A.H., 1890, GSI v. 8, p. 117, pl. 22, f. 9. ISGS (ISM) 13190, part and counterpart, was part of Worthen's material and probably is also syntype material.

Newell, Norman D., 1937, State Geol. Survey Kan., v. 10, p. 56, pl. 4, f. 21a, b, 22.

Aviculopecten menardi (Worthen) See Lima? menardi Worthen

Aviculopecten monroensis Worthen ISGS (ISM) 2509 Holotype St. Louis Limestone; Miss. Monroe Co., Ill. Collected by A.H. Worthen

Aviculopecten neglectus (Geinitz) ISGS (ISM) 4055
Coal Measures
Danieville, Ill.
Meek, F.B., and A. H. Worthen, 1873, GSI v. 5, p. 569, pl. 26, f. 7b, 7c.
See also Euchordia neglecta (Geinitz) in Newell, Norman D.,

Aviculopecten niotensis Worthen ISGS (ISM) 2505
Holotype
Keokuk limestone; Miss.
Niota, Hancock Co., III.
Collected by A.H. Worthen
1890, GSI v. 8, p. 113, pl. 22, f. 10.

Aviculopecten oblongus (Meek and Worthen) See Avicula oblonga Meek and Worthen

Aviculopecten orestes Worthen ISGS (ISM) 2504
Holotype
Keokuk limestone; Miss.
Warren, Ill.
Collected by A.H. Worthen
1890, GSI v. 8, p. 112, pl. 22, f. 6.

Aviculopecten spinuliferus Meek ISGS (ISM) 2508-A/B
and Worthen Holotype, part and counterpart
Keokuk shale; Miss.
Crawfordsville, Ind.
Collected by Frank H. Bradley
1890, GSI v. 8, p. 116, pl. 22, f. 1.
v. 99, p. 116, pl. 17, f. 9.

Aviculopecten talboti Worthen ISGS (ISM) 2510-A/C
St. Louis limestone; Miss.
Monroe Co., III.
Collected by A.H. Worthen
1890, GSI v. 8, p. 114, pl. 22, f. 11, 11a.

Aviculopina illinoiensensis Worthen ISGS (ISM) 2529
Holotype
Coal Measures
Peoria Co., Ill.
Collected by Mr. Gifford
1890, GSI v. 8, p. 128, pl. 20, f. 5, 5a.

Barycinus crassibrachiatus (Hall) See Cyathocrinus crassibrachiatus Hall

Barycinus herculeus Meek and Worthen See Barycinus hoveyi var. herculeus Meek and Worthen

Barycinus hoveyi var. herculeus Meek ISGS (ISM) 1805-B
Syntype
Keokuk Group; Miss.
Crawfordsville, Ind.

Barycinus lyoni (Hall) ISGS (ISM) 1807-A/B
Holotype
Keokuk Group; Miss.
Crawfordsville, Ind.
Specimens used for measurements

Pelecrinus hexadactylus (Lyon and Casseday) ISGS (ISM) 1891

Barycinus magnificus Meek and Worthen ISGS (ISM) 1866
Holotype
Near Biggsville, Henderson Co., Ill.

Barycinus spectabilis Meek and Worthen ISGS (ISM) 1891
Holotype - calyx and stem (stem in 2 pieces)

Barycinus spurius (Hall) ISGS (ISM) 13211
Holotype - specimen
Warren, Ill.
Worthen, A.H., 1890, GSI v. 8, p. 99, pl. 14, f. 4, 4a.

Baryphyllum?? arenarium Meek ISGS (ISM) 4555-A/B
and Worthen Syntypes
Oriskany Group (probably Dutch Creek ss.); Dev.
Eight miles west of Jonesboro, Union Co., Ill.
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 409, pl. 9, f. 2a-b.

Batrocrinus aestivibernatus var. asteriscus (Meek and Worthen) See Actinocrinus asteriscus Meek and Worthen

Batocrinus icosidactylus Casseday ISGS (ISM) 8184
Figured specimen
Indiana
Lane, N. Gary, 1963, Jour. Paleol., v. 37 (3), p. 695, text fig. 3B. This specimen was missing in 1967 and still in 1978. So far as we can determine, no one has seen this specimen since Lane did his work for the above paper, in which he incor-
rectly indicated that it was a U.I. specimen. Almost the entire crinoid collection from the U.I. Dept. of Geology and the ISGS was on loan to Ray C. Moore at the Univ. of Kansas from 1954 to 1965. Apparently this specimen was not returned with the rest of the collections.

Batostoma unionensis Worthen
St. Louis Limestone; Miss. Synotype = S. Weller’s holotype

Worthen, A.H., 1890, GSI v. 8, p. 84, pl. 12, f. 5-5a (not pl. 13, f.3).


Worthen figured two specimens as Batostorinus unionensis, one lacking arms (pl. 12, f. 5, 5a) and the other with arms (pl. 13, f. 3). In 1920 Stuart Weller called the specimen without arms the holotype of Globocrinus unionensis (Worthen) and stated that the other specimen (pl. 13, f. 3) was missing from the ISM collection at that time. Weller stated that the two were not conspecific and probably neither came from the St. Louis Limestone.

Both specimens are missing now (1978). The last time anyone has seen the type of Globocrinus unionensis (Worthen), so far as we can determine, was between 1954 and 1958 when N. Gary Lane figured it in his doctoral thesis at the Univ. of Kansas as Batostorinus unionensis = Globocrinus unionensis (Worthen) Weller (holotype). He incorrectly designated it a U.I. specimen. Almost the entire crinoid collection from the U.I. Dept. of Geology and the ISGS was on loan to Ray C. Moore at the Univ. of Kansas at the time. So far as it is possible to determine, it was not returned with the collections, and a diligent search in recent years has failed to locate it.

Batostoma varians (James) See Batostoma variabilis Ulrich

Beecheria bovidens (Morton) See Terebratula bovidens Morton

Belemnospongia tascicularis Ulrich
Lower Carboniferous
Burlington, Iowa

ISGS (ISM) 2664-1/2
Syntypes 2664-1 = Pl. 3, f. 2, 2a
2664-2 = Unfigured

Ulrich, E.O., 1890, GSI v. 8, p. 248, pl. 3, f. 2, 2a.

Also three thin sections from 2686-A made by June Ross about 1962-63.

See also USNM 43820 and 44062, “Cotypes and figured sections...pl. 35, f. 4b-e, 5; pl. 36, f. 1,” fide Schuchert’s 1905 catalog.

Batostoma variabilis Ulrich
Chester Group; Miss. Tateville, Ky.

ISGS (ISM) 2740
Syntype

Ulrich, E.O., 1890, GSI v. 8, p. 435, pl. 75, f. 2.

See also USNM 43741, “Cotype and figured sections...pl. 75, f. 2a-e,” fide Schuchert’s 1905 catalog.

Batostoma intermedius Ulrich
St. Louis Group; Miss. Pella, Iowa

ISGS (ISM) 2739
Syntype

Ulrich, E.O., 1890, GSI v. 8, p. 434, pl. 75, f. 4, 4a. Specimen illustrated in pl. 75, f. 4b-c, is missing.

See also USNM 43742, “Figured sections of cotype...pl. 75, f. 4d, 4e,” fide Schuchert’s 1905 catalog.

Batostoma nitsulida Ulrich
Cincinnati Group; Ord.
Randolph Co., Ill.

ISGS (ISM) 2836
Syntype

Ulrich, E.O., 1890, GSI v. 8, p. 436, pl. 75, f. 3, 3a. (Specimen is labeled B. asperata Ulrich, but this must have been a manuscript name, changed before publication.)

See also USNM 43743, “Figured section of cotype...pl. 75, f. 3b,” fide Schuchert’s 1905 catalog.

Batostoma simulatrix Ulrich
Cincinnati Group; Ord.
Sterling, Whiteside Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 432, pl. 35, f. 1c.


See also USNM 43744, “Cotypes and figured sections...pl. 35, f. 1, 1a-b, 1d-g,” fide Schuchert’s 1905 catalog.

Baylea adamsi (Worthen) See Pleurotomaria adamsi Worthen

Baylea giffordi (Worthen) See Pleurotomaria adamsi Worthen
See also USNM 46577, “Cotype...pl. 3, f. 2b,” *fide* Schuchert’s 1905 catalog.

**Cathloecrinus bradleyi** Meek and Worthen 1868

Holotype
Keokuk Group (Borden Group); Miss. Crayfordville, Ind.
Collected by Prof. Frank H. Bradley of Hanover College


**Cenocentrocella tennesseensis** Worthen 1875

Holotype
Niagara Group; Silurian Near Clifton, Wayne Co., Tenn.

Worthen, A.H., 1890, GSI v. 8, p. 95, pl. 14, f. 1.


**Centronella billingsiana** Meek 1869

Holotype
Upper Silurian of the *Centronelloidea* and paralecotypes

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 352, text f. A-C, pl. 6, f. 5a-c. (Text f. A-C = 2168-A. Pl. 6, f. 5a-c may be 2168-B or 2168-C, but it is impossible to be sure. LSK 2/16/78)

= *Whitfieldella billingsiana* (Meek and Worthen). Savage, T.E., 1913, Ill. Geol. Survey Bull. 23, p. 134, pl. 7, f. 11-12. U.I. X-897 is specimen figured by Savage, *fide* Amsden, but Savage called the specimen illustrated in f. 11 “Type,” which should have meant it was one of Meek and Worthen’s specimens.

= *Whitfieldella billingsiana* (Meek and Worthen, 1868). Amsden, T.W., 1974, Okla. Geol. Survey Bull. 119, p. 72, pl. 17, f. 2-6. Designates 2168-A as lectotype. (Amsden, p. 72, line 15 incorrectly refers to lectotype as ISM 2168-B. Should be ISGS (ISM) 2168-A, as in expl. of pls.)

**Centronelloidea rowleyi** (Worthen)
See *Terebratula rowleyi* Worthen

**Ceramopora granulosa** Ulrich 1890

Holotype
Revised
Cincinnati Group; Ord. Wilmington, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 466 (sections only figured, pl. 41, f. 2, 2a).

See also USNM 43227, “Figured sections of holotype...pl. 41, f. 2, 2a,” *fide* Schuchert’s 1905 catalog.

= *Acanthoceramopora granulosa* (Ulrich) in Utgaard, John, 1968, Jour. paleo., v. 42 (6), p. 1451. Utgaard designated as lectotype USNM 159715 and as paralecotypes USNM 159715-159717, all from USNM Collection number 54554. Note that this is not the collection number listed by Schuchert. Utgaard did not examine the ISGS specimen, believed to be Ulrich’s “the type specimen,” or holotype.
Ceramoporella stellata Ulrich
Cincinnati Group; Ord.
Kane Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 465, pl. 41, f. 1, 1a.
Ulrich’s label, glued to the specimen, gives locality as Kane Co., 4 miles north of Fayville. Published locality is Sterling, Ill. (Whiteside Co.)

Ceratocaris? sinuatus Meek and Worthen
Coal Measures
Grundy Co., Ill.
Meek, F.B., and A.H. Worthen, 1868, Am. Jour. Sci. and Arts (2), v. 46, p. 22; Meek and Worthen, 1868, GSI v. 3, p. 540, text f. A.
Originally catalogued in the Ill. State Mus. catalog as No. 2666, but later, for a reason unknown to me, changed to No. 13242-A.


Chaniodictyon laxum var. minor Ulrich
Coal Measures
Seville, Fulton Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 640, pl. 62, f. 3, 3a.
See also USNM 44085, “Plastotype...pl. 62, f. 3, 3a,” fide Schuchert’s 1905 catalog.

Cholaster peculiaris Worthen and Miller
Coal Measures
“From the second division of the Chester Limestone;” Miss.
Okaw Bluffs, between Chester and Kaskaskia, Randolph Co., Ill.

Worthen, A.H., and S.A. Miller, 1883, GSI v. 7, p. 329, pl. 31, f. 4a, b.

Chonetes maculata Norwood and Pratten
Hamiton Group; Dev.
“Devil’s Backbone,”
Jackson Co., Ill.
Specimen 4571-1 was identified by G. Arthur Cooper in 1943 as the one figured by Norwood and Pratten.


Chonetes smithi Norwood
Coal Measures
St. Clair Co., Ill.
Meek, F.B., and A.H. Worthen, 1873, GSI v. 5, p. 570, pl. 25, f. 11.

Clinopistha levis Meek and Worthen
Coal Measures
Mercer Co., Ill.
Collected by Tyler McWhorter.

Worthen, A.H., 1890, GSI v. 8, p. 122, pi. 19, f. 3, 3a; pl. 21, f. 2?
Note by E.O. Ulrich, dated 1892, with this specimen: “It seems to me that Worthen intended to describe this as a new species. I doubt very much that it is identical with Hall’s sp. Clinopistha radiata. Fig. in vol. 5.”

Clinopistha radiata var. levis Meek
Coal Measures
Unfigured

ISGS (ISM) 2933-A/G
Syntypes
2933-A probably = pl. 27, f. 7a-c (c written on plate)
=McAlester’s paratype A (paralectotype), pl. 4, f. 6, 10, 13
2933-B probably = pl. 27, f. 7d-e (c written on plate)
=McAlester’s paratype B (paralectotype), pi. 4, f. 5, 16
2933-C = McAlester’s paratype C (paralectotype), pl. 4, f. 7, 11, 14
2933-D = McAlester’s paratype D (paralectotype), pi. 4, f. 4, 12
2933-E = McAlester’s paratype E (paralectotype), pi. 4, f. 19
2933-F = McAlester’s paratype F (paralectotype), pi. 4, f. 8
2933-G = pl. 27, f. 7i (labeled 7c on plate)
=Locotype, McAlester’s pl. 4, f. 1-3, 15
Meek and Worthen’s original description, 1870, reads “Near base of Coal-measures, Seaville County, Illinois.” The label with the specimens reads “Coal Measures. Peoria and Fulton Cos., Ill.” Meek and Worthen’s description, 1873, reads “Roof of Coals Nos. 4 and 5 of the Illinois section, in Fulton County, and in the shafts at Springfield.” (Springfield is in Sangamon County.)


=Clinopistha levis Meek and Worthen in McAlester, A. Lee, 1968, GSA Memoir 105, p. 20, pl. 4, f. 1-16.

Errors in labeling the Illustrations on Meek and Worthen’s plate and a later error by McAlester in correcting them have created considerable confusion. McAlester designated as lectotype the specimen shown as f. 7f on Meek and Worthen’s pl. 27. The designation 7f is clear in Meek and Worthen’s explanation of the plate, but on the plate itself the Illustration is labeled 7c, though McAlester said it was labeled 7e. LSK, 11/18/60.
**Cnemidium? trentonensis** Worthen  
ISGS (ISM) 12093  
Lower division of the Trenton limestone; Ord.  
Holotype  
3 miles northeast of Dixon, Lee Co., Ill.  
Collected by Oliver Everett.

Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 491, text figs. p. 491 and 492 (figures very poorly drawn).  
= *Zittelella trentonensis* (Worthen) sp. in Worthen and Everett, 1890, GSI v. 8, p. 270.

See also ISGS (ISM) 2643, *Zittelella trentonensis*, marked "Type," but not figured nor described so far as I have been able to tell. LSK, 11/22/61.

**Cockroach (abdomen), gen. and sp. indeterminable**  
ISGS (ISM) 4941  
Coal Measures  
Olney, Ill.  
Collected by V.E. Phillips.

Scudder, S.H., 1895, U.S.G.S. Bull. 124, p. 25-26, pl. 12, f. 8-11.

**Colpocaris chesterensis** Worthen  
ISGS (ISM) 2496  
Holotype  
Chester limestone; Miss.  
Chester, Ill.


**Conocardiostina sinuata** (Meek and Worthen)  
See *Ceratiocrinus? sinuatus* Meek and Worthen

**Conocardiostina parrisi** Worthen  
ISGS (ISM) 13284  
Holotype  
"Oolitic limestone of upper Coal Measures."  
Near Kansas City, Mo.  
Collected by W.J. Parrish of Leavenworth, Kan.

Worthen, A.H., 1890, GSI v. 8, p. 112, pl. 20, f. 7.

Catalog number 2605 was published for this specimen, p. 112, v. 8, but that number was entered in the old Ill. State Mus. catalog and also published for *Zaphrentis pelfaensis*, p. 74. The number for *C. parrisi* was later changed to 13284.

**Constellaria parva** Ulrich  
ISGS (ISM) 2703-A/C  
Syntype  
Cincinnati Group; Ord.  
Wilmington, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 424, pl. 34, f. 1.

This specimen was called "type" in the old Ill. State Mus. catalog, and is the only specimen figured by Worthen, but he mentions having others when he described the species. Their present whereabouts is unknown. LSK 2/27/78.

**Cooilinia propinquia** (Meek and Worthen) Amsden  
See *Hemipronites subplanus* Conrad? Meek and Worthen

**Compsaster fromosus** Worthen and Miller  
ISGS (ISM) 2476  
Holotype  
Chester limestone; Miss.  
Okaw Bluffs, between Chester and Kaskaskia, Randolph Co., Ill.

Worthen, A.H., and S.A. Miller, 1883, GSI v. 7, p. 327, pl. 31, f. 2a-b.


**Concavicaris**  
See *Colpocaris*  
See ?Dithyrocaris chesterensis* (Worthen)

**Concavicaris rostellata** Rolfe  
ISGS (ISM) 2955  
"Holotype," part  
Henry Co., Ill.  
and counterpart  

This specimen was erroneously listed in the Ill. State Mus. catalog as *Eleuticis anthracinus* Scudder.

**Ceraticrinus sinuatus** (Meek and Worthen)  
See *Ceratiocrinus? sinuatus* Meek and Worthen

**Conocardiopsis parrisi** Worthen  
ISGS (ISM) 13284  
Holotype  
"Oolitic limestone of upper Coal Measures."  
Near Kansas City, Mo.  
Collected by W.J. Parrish of Leavenworth, Kan.

Worthen, A.H., 1890, GSI v. 8, p. 112, pl. 20, f. 7.

Catalog number 2605 was published for this specimen, p. 112, v. 8, but that number was entered in the old Ill. State Mus. catalog and also published for *Zaphrentis pelfaensis*, p. 74. The number for *C. parrisi* was later changed to 13284.

**CONESPIRANACES**

**Coscinium elegans** Prout  
See *Glyptopora elegans* (Prout)

**Coscinium latum** Ulrich  
ISGS (ISM) 2773  
Syntype  
Burlington limestone; Miss.  
Burlington, Iowa (incorrectly given as Henderson Co., Ill., in explanation of plates)  
Collected by A.H. Worthen

Ulrich, E.O., 1890, GSI v. 8, p. 497, pl. 76, f. 7.

See also USNM 43746, "Cotypes...pl. 76, f. 7a, 7b," *fide* Schuchert's 1905 catalog.

**Cosmetocrinus richfieldensis** (Worthen)  
See *Poteriocrinus richfieldensis* Worthen
Crasiauna epidermata (Urich)
See Crepipora epidermata Ulrich

Crepipora epidermata Ulrich
ISGS (ISM) 2901-1/2
Cincinnati Group; Ord.
Wilmington, Ill.
Holotype
Syntypes
2901-1 = f. 1
2901-2 = f. 1a, b

Ulrich, E.O., 1890, GSI v. 8, p. 471, pl. 40, f. 1, 1a-b.
= Bythotrypa epidermata (Urich) in Nickles and Bassier, 1900, U.S.G.S. Bull. 173, p. 217.

Crasiauna epidermata (Urich) in Utgaard, John, 1968, Jour. Paleol., v. 42 (4), p. 1039. Crepipora epidermata Ulrich, 1890, is type species for Utgaard's new genus. These two specimens were part of Ulrich's original material but were not examined by Utgaard in his 1968 study. Utgaard designated USNM 159700 as lectotype and USNM 159701-159703 as paralectotypes, all from USNM collection number 43229.

See also USNM 43229, "Cotypes and figured sections...pl. 40, f. 1c-e," fide Schuchert's 1905 catalog.

Crepipora hemisphaerica Ulrich
ISGS (ISM) 2897
Cincinnati Group; Ord.
Wilmington, Ill.
Syntype
Ulrich, E.O., 1890, GSI v. 8, p. 472, pl. 40, f. 5.

See also Utgaard, John, 1968, Jour. Paleol., v. 42 (6), p. 1449 (specimens to be reassigned to a new genus).

= Papillalunaria hemisphaerica (Urich) in Utgaard, John, 1969, Jour. Paleol., v. 43 (2), p. 291. This specimen was part of Ulrich's original material but was not examined by Utgaard in his 1968-69 study.

See also USNM 43234, "Cotype and figured sections...pl. 40, f. 5a-b," fide Schuchert's 1905 catalog.

Crepipora simulans Ulrich
ISGS (ISM) 2716
Cincinnati Group; Ord.
Covington, Ky.
Unfigured syntype?
Ulrich, E.O., 1890, GSI v. 8, p. 470 (pl. 39-40).

This specimen was labeled "type" on one III. State Mus. label, but not in Ulrich's handwriting. Possibly an unfigured syntype?

See also USNM 43230, "Cotypes and figured sections...pl. 39, f. 4, 4a; pl. 40, f. 3, 3a," fide Schuchert's 1905 catalog.


Culicocrinus? girardeaenus Brower
ISGS (ISM) 8258-B
Holotype
Girardeau limestone; Ord.
Orchard Creek, 2 miles S. of Thebes, SE1/4 NW1/4 sec. 21, T. 15 S., R. 3 W., Alexander Co., Ill.
Brower, James C., 1973, Palaeontographica Americana, v. 7 (46), p. 398-400, text fig. 27, pl. 68, f. 1. (Catalog number given incorrectly as Worthen Coll. IGS 8528 on p. 400, column 2.)

Specimen on small slab with Apilocystites?, Dendrocrinus? n. sp. aff. D. navigium Miller and several unidentified small crinoids.

Cyathaxonia profunda (Worthen)
See Lophophyllum profundum Worthen

Cyathocrinites multibrachiatus (Lyon and Casseday)
See Cyathocrinus multibrachiatus Lyon and Casseday

Cyathocrinus crassibrachiatus Hall
ISGS (ISM) 1834
Holotype
Keokuk Group; Miss.
Worthing, Hancock Co., Ill.

Hall, James, 1859, Rept. Geol. Survey Iowa, v. 1 (2), Supplement, p. 60.

Cyathocrinus meekianus (Shumard)
See Poteriocrinus meekianus Shumard

Cyathocrinus multibrachiatus Lyon and Casseday
ISGS (ISM) 10173
Figured specimen
Keokuk Group; Lower Carboniferous Crawfordsville, Ind.
Collected by L.H. Corey

Cycloceras niagarensis (Hall)
ISGS (ISM) 7762-C
Figured specimen
Racine dolomite, Sil.
Bridgeport, Ill.
Foerste, August F., 1928, Denison Univ. Bull., v. 28 (10), (Jour. Sci. Lab., v. 23 (7)), p. 266, pl. 57, f. 1; pl. 75, f. 10.

Cyclopora discoidea Prout
See Proutilia discoidea (Prout)

Cyclopora? perversa Ulrich
ISGS (ISM) 4484
Syntype
Keokuk Group; Miss.
Greene Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 676, pl. 69, f. 3? 

See also USNM 43400, "Figured section of cotype...pl. 69, f. 3-3b," fide Schuchert's 1905 catalog.

The ISGS specimen is labeled in Ulrich's handwriting as "Type. Pl. 69, fig. 3," and is cataloged in the old III. State Mus. catalog as "Type." It is probably the specimen from which the USNM sections were made.

Cyclopora? spinifera Ulrich
ISGS (ISM) 4451
Syntype
Keokuk Group; Miss.
Worthing, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 675, pl. 69, f. 1.

See also USNM 43745, "Figured sections of cotype...pl. 69, f. 1a-1c," fide Schuchert's 1905 catalog.

The ISGS specimen is labeled in Ulrich's handwriting "Type. Pl. 69, fig. 1," and is probably the hand specimen from which the USNM sections were made.
**Cyclotrypa communis** (Ulrich)

See * Fistulipora communis* Ulrich

**Cyclotrypa concinna** (Meek and Worthen)

See * Poteriocrinites (Zeacrinus?)* concinna Meek and Worthen

**Cypricardia? randolphensis** Worthen

Chester limestone; Miss.

Randolph Co., III.

Worthen, A.H., 1883, GSI v. 7, p. 326.

= *Sanguinolites randolphensis* (Worthen) in Worthen, 1890, GSI v. 8, p. 130, pl. 20, f. 1, 1a.

**Cystodictya lineata** var. major Ulrich

Keokuk Group; Miss.

Warsaw, III. This horizon and locality were probably an error for St. Louis limestone, Alton, III., tide E.O.U., p. 496.

Ulrich, E.O., 1890, GSI v. 8, p. 495, pl. 76, f. 3.

**Cystodictya nitida** Ulrich

Keokuk Group; Miss.

Bentonsport, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 493, pl. 76, f. 4 (and 4a-c)?.

**Dalmania danae** Meek and Worthen

See *Dalmanites danae* (Meek and Worthen)

**Dalminites (Odontocentrophalus)**

*aegeria* (Hall)?

ISGS (ISM) 4595-1/3

*Figured specimens*

Oriskany Group

4 miles west of Jonesboro,

Union Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 417, pl. 10, f. 4a-c.

Labels with 4595-3 gave "Trenton Group, Dunleith, III.," but this is surely an error, and the specimen must have come from the same place as 4595-1 and 4595-2.

**Dalminites danae** (Meek and Worthen)

ISGS(ISM) 2184-1/5

*Syntypes*

Alexander Co., III.

2184-1 = F. 1a

2184-2 = F. 1d, 1e


Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 363, pl. 6, f. 1a, 1d, 1e.

(Figs. 1b and 1c could possibly be a composite drawn from 2184-3 and 2184-4, but this is not obvious and there are discrepancies.)

**Dalminites tridentiferus** (Shumard)

ISGS (ISM) 8505-A/D

*Figured specimen*

Upper Silurian

Bailey’s Landing, Perry Co., Mo.

8505-A = F. 16

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 391, pl. 7, f. 16.

= *Synphoroides?*

Specimen has been further cleaned and the underside of the complete cephalon is now exposed.

**Dasciocrinus similis** (Worthen)

See *Poteriocrinites similis* Worthen

**Decadocrinus depressus** (Meek and Worthen)

See *Scaphiocrinus depressus* Meek and Worthen

**Decadocrinus fountainensis** (Worthen)

See *Poteriocrinites fountainensis* Worthen

**Decadocrinus grandis** Wachsmuth and Springer

See *Poteriocrinus coreyi* Worthen

**Dekayella singularis** (Ulrich)

See *Heterotrypa singularis* Ulrich

**Dendrocrinus angustatus** (Meek and Worthen)

See *Homocrinus angustatus* Meek and Worthen

**Dendrocrinus? n. sp. aff.**

ISGS (ISM) 8258-C

*Figured specimens*

Girardeau limestone, Ord.

Orchard Creek, 2 miles S. of Thebes, SE1/4 NW1/4 sec. 21, T. 15 S., R. 3 W., Alexander Co., Ill.


Specimen on small slab with *Apicyostites*, *Culicocrinus girardeaensis* Brower, and several unidentified small crinoids.

**Dentalium illinoiensis** Worthen

ISGS (ISM) 2488

*Figured specimens*

Chester limestone; Miss.

Chester, III.

Worthen, A.H., 1883, GSI v. 7, p. 325; Worthen, 1890, GSI v. 8, p. 145, pl. 23, f. 1.


**Devonocochonestes**

See *Chonetes maclurea* Norwood and Pratten

**Dichocrinus expansus** Meek

ISGS (ISM) 1814-A/B, 1815

*Figured specimens*

Keokuk Group; Miss.

Crawfordsville, Ind.

1814-A = Pl. 14, f. 1a

1814-B - Not figured

1815 = Pl. 14, f. 1b-c

Meek, F.B., and A.H. Worthen, 1868, Acad. Nat. Sci. Philadelphia, Proc., p. 344; Meek and Worthen, 1873, GSI v. 5, p. 500, pl. 14, f. 1a-c. (Name *D. stelliformis* was suggested in text, p. 502, for ISGS (ISM) 1815.)


Dichocinus ficus Casseday and Lyon, 1862 ISGS (ISM) 2399 Keokuk Group; Miss. Figured specimen Crawfordsville, Ind.

Meek, F.B., and A.H. Worthen, 1873, GSI v. 5, p. 502, pl. 14, f. 5a, b.


Dichocinus polyactylus Casseday and Lyon
See Dichocinus expansus Meek and Worthen

Dichocinus stelliformis Meek and Worthen
See Dichocinus expansus Meek and Worthen

Dichotrypa elegans Ulrich ISGS (ISM) 2758-1/3 St. Louis Group; Miss. 3 Syntypes Monroe Co., Ill. 2758-1 = Pl. 76, f. 8a

Ulrich, E.O., 1890, GSI v. 8, p. 500, pl. 76, f. 8a.

See also USNM 43749, "Cotypes...pl. 76, f. 8, 8b, 8c, 8d," fide Schuchert's 1905 catalog.

Dichotrypa flabellum (Rominger) ISGS (ISM) 2847-1/6 Warsaw beds; Miss. Figured and unfigured spec. 2847-1 = Pl. 77, f. 1, 1a 2847-2 = Pl. 77, f. 1b?

Ulrich, E.O., 1890, GSI v. 8, p. 501, pl. 77, f. 1, 1a, 1b?

Dichotrypa grandis Ulrich ISGS (ISM) 2672 Niagara Group Holotype Near Wilmington, Will Co., Ill. Pl. 42, f. 1, 1a

Ulrich, E.O., 1890, GSI v. 8, p. 498, pl. 42, f. 1, 1a.

Also two slides made from this specimen by June Ross about 1962-63.

See also USNM 44088, "Figured sections of holotype...pl. 42, f. 1b-1e," fide Schuchert's 1905 catalog.

Dichotrypa intermedia Ulrich ISGS (ISM) 2755 St. Louis Group; Miss. Holotype or Syntype? Alton, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 500, pl. 76, f. 9, 9a.

See also USNM 43748, "Figured sections of cotytes...pl. 76, f. 9b, 9c," fide Schuchert's 1905 catalog.

Dielasma boidvens (Morton) See Terebratula boidvens Morton

Dielasma rowleyi (Worthen) See Terebratula rowleyi Worthen

Dinacrocrinus wortheni (Wachsmuth) See Acrocrinus wortheni Wachsmuth

Dinotocinus saltati (Worthen) See Poteriocinus saltati Worthen

Diplopora? bifurcata Ulrich ISGS (ISM) 4469-1 Syntypes Chester Group; Miss. Chester, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 637, pl. 62, f. 12, 12a. Two out of three specimens shown as fig. 12 are on this slab. The third may be.


Diplopora? biseriata Ulrich ISGS (ISM) 2820-9 Syntypes Seville Is.; Coal Measures Seville, Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 637, pl. 62, f. 11 (and 11a-c?). Several specimens on small slab, two of which (marked 9) are probably those figured.


Diploporaria? bifurcata (Ulrich) See Diplopora? bifurcata Ulrich

Diploporaria? biseriata (Ulrich) See Diplopora? biseriata Ulrich

Discina varsoviensis Worthen ISGS (ISM) 2545-A/B Syntypes Warsaw, Ill. Collected by A.H. Worthen 2545-A = Worthen, pl. 11, f. 7 = Weller, pl. 1, f. 24 2545-B = Weller, pl. 1, f. 23


Disc cystis kaskaskiensis (Hall) See Echinodiscus opitatus Worthen and Miller


DIinthyrocaris chesteriensis (Worthen) See Colpocaris chesteriensis Worthen

Dizygocrinus intermedius (Wachsmuth and Springer) See Eretmocrinus varsoviensis Worthen

ILLINOIS STATE GEOLOGICAL SURVEY CIRCULAR 524
Dorycrinus cornigerus (Hall)
See Actinocrinus decorum Hall

Dorycrinus decorum (Hall)
See Actinocrinus decorum Hall

Dystactospongia minor Ulrich and Everett
ISGS (ISM) 2667
Twenty-five feet above the base of the Trenton Is.
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 278.
This does not appear to be the specimen figured (pl. 8, f. 3a, 3b), but was marked "type." Possibly it was broken to obtain material for sections, the base trimmed considerably after the illustration was drawn, and the parts glued back together; or it may be one of the specimens referred to in the footnote, p. 279.
See also USNM 46554, "Figured sections of holotype...pl. 8, f. 3a-b," *fide* Schuchert's 1905 catalog.

Dystactospongia rudis Ulrich and Everett
ISGS (ISM) 2646
Holotype (2 pieces)
Twenty-five feet above the base of the Trenton limestone Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 279, pl. 8, f. 4.
See also USNM 46556, "Figured sections of holotype...pl. 8, f. 4a," *fide* Schuchert's 1905 catalog.

Echinodiscus optatus Worthen and Miller
Chester Group; Miss.
Pope Co., Ill.
Collected by A.H. Worthen
= Discocystis kasasakiensis (Hall) in Bell, B.M., 1976, N.Y. State Mus. and Sci. Service Memoir 21, p. 244-251, pl. 47, f. 6-8.

Edmonia illinoiensis Worthen
Keokuk limestone; Miss.
Warsaw, Ill.
Worthen, A.H., 1884, Ill. State Mus. Nat. Hist., Bull. 2, p. 18; Worthen, 1890, GSI v. 8, p. 122, pl. 18, f. 7, 7a (not f. 6. Specimen figured as f. 6, pl. 18 missing as of 2I22I6. LSK).

Edmonia varsoviensis Worthen
Keokuk limestone; Miss.
Warsaw, Ill.

Edriocrinus pocilliformis? Hall
Upper Silurian
Bailey's Landing, Mo.
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 370, pl. 7, f. 5a?, 5b? This may be the specimen figured by Meek and Worthen, although it is not so marked and it is very difficult to be sure.

Edriocrinus basalis Ulrich
ISGS (ISM) 2645-A/C
(and Anthaspidella sp.)
Syntypes
2645-A/B = two halves of the same specimen = F. 1, 1a
2645-C = F. 1b
Ulrich, E.O., 1890, GSI v. 8, p. 272, pl. 6, f. 1, 1a, 1b.
*Anthaspidella* sp. deposited on surface of the *Edriocrinus*.

Eudrocrinus indiandelensis (Miller)
See Orthoceras crebristriatum Meek and Worthen

Endelocrinus fayettensis (Worthen)
See Eupachycrinus fayettensis Worthen

Eopatelliocrinus latibrachiatius Brower
ISGS (ISM) 8272-A
Girardeau limestone; Ord.
Paratype #30
Brower, James C., 1973, Palaeontographica Americana, v. 7 (46), p. 333. This specimen was used by Brower and labeled by him "Paratype #30," but apparently it was not officially mentioned nor figured by him in his report. It was originally identified in the Worthen Collection as *Pychocrinus splendens* (S.A. Miller).

Eratocrinus orbicularis (Hall)
See Eupachycrinus orbicularis (Hall)

Eratocrinus pikensis (Worthen)
See Zeacrinos pikensis Worthen

Eretmocrinus cassedayanus Miller and Gurley
(ISGS (ISM) 8305
Holotype
(Published as *E. lymanus* by error, but corrected by printed slip tipped in opposite p. 17.)
Upper Burlington; Miss.

Eretmocrinus lymanus Miller and Gurley
See Eretmocrinus cassedayanunos Miller and Gurley

Eretmocrinus remibrachiatius expansus Wachsmuth and Springer
See Eretmocrinus cassedayanunos Miller and Gurley

Eretmocrinus varsoviensis Worthen
ISGS (ISM) 2459
Lower part of Warsaw limestone; Miss.
Warsaw, Ill.
= Dizygocrinus intermedius (Wachsmuth and Springer, 1881)
Eridotrypa appressa (Ulrich)  
See Monotrypella appressa Ulrich

Eridotrypa simulatrix (Ulrich)  
See Batostomella simulatrix Ulrich

Eothylocrinus bassetti (Worthen)  
See Eupachycrinus bassetti Worthen

Eucalyptocrinus sp. indet.  
ISGS (ISM) 1591-A/B  
Upper Silurian  
Bridgeport, Cook Co., III.

Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, pl. 24, f. 2a, 2a (no description in text). Catalogued in the Ill. State Mus. catalog as *E. splendidus?* Troost, a nomen nudum.

Eucalilocrinus bradleyi (Meek and Worthen)  
See Catillocrinus bradleyi Meek and Worthen

Euchondria marmita (Worthen)  
See Lima? marmita Worthen

Euchondria neglecta (Geeinite)  
See Aviculopecten neglectus (Geinite)

Eumicratus hawaii var. sinuata Meek and Worthen  
See Pseudomonotis Hawi var. sinuata (Meek and Worthen)

Euomphalus pernodosus Meek and Worthen  
See Straparollus (Euomphalus) pernodosus Meek and Worthen

Euomphalus planodorsatus Meek and Worthen  
ISGS (ISM) 4093-1/2  
Syntypes  
Thompson’s Quarry, Chester, Randolph Co., III.  
Chester Group;  
Lower Carboniferous


* = Straparollus planidorsatus (Meek and Worthen), 1866, GSI v. 2, p. 302, pl. 24, f. 2a-c.


Eupachycrinus bassetti Worthen  
ISGS (ISM) 1904  
Syntype  
Coal Measures. Vandalia coal shaft, from a bed of black argillaceous shale limestone at the depth of about 230 feet, and probably near the horizon of the No. 10 coal. Vandalia, Fayette Co., III.

Worthen, A.H., in Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 528, pl. 32, f. 2 (not f. 2a). Name was changed in Ill. State Mus. catalog to *E. verrucosus* White and St. John by Charles Wachsmtuh (= *Perulocrinus* verrucosus (White and St. John), *Ida* Bassler and Moodey, 1943, p. 471).


Eupachycrinus boydi Meek and Worthen  
ISGS (ISM) 2439  
Chester Group; Miss. Monroe Co., III.

Worthen, A.H., 1883, GSI v. 7, pl. 29, f. 3.

Holotype is U.I. X-138 (ISM 10054) and is specimen figured by Worthen, 1873, GSI v. 5, p. 554, pl. 21, f. 6a-b, and by Sutton, A.H., and Virgil D. Winkler, 1940, Jour. Paleo., v. 14 (6), p. 550, pl. 67, f. 16, 17. The specimen listed in Leary’s 1971 catalog of the Ill. State Mus. Nat. Hist. types as *E. boydi* Meek and Worthen (ISGS 2443) is the type of *E. asperatus*. The name had been changed to *E. boydi* in the old handwritten catalog, but this must have been an error. LSK 3/14/78.

Eupachycrinus fayettensis Worthen  
ISGS (ISM) 1905-A/B  
Upper Coal Measures  
Hickory Creek, Fayette Co., III.

Worthen, 1873, GSI v. 5, pl. 24, f. 10a-b  
& Moore & Plummer pl. 2, f. 7; pl. 16, f. 3

1905-B = Figured specimen, fig’d. by Moore & Plummer, pl. 16, f. 2

Meek, F.B., and Worthen, A.H., 1873, GSI v. 5, p. 565, pl. 24, f. 10a-b.

Moore, R.C., and F.B. Plummer, 1940, Univ. Texas Pub., Contrib. to Geol., no. 3945, p. 297, pl. 9, f. 7; pl. 16, f. 2-3.

= Genotype of *Endelocrinus* = Endelocrinus fayettensis (Worthen) in Moore and Plummer, 1940.

Two specimens on one slab, only one of which was seen by Worthen. The other was exposed by subsequent cleaning (see note in Moore and Plummer’s description).

Eupachycrinus monroensis Worthen  
ISGS (ISM) 2447  
Chester Group; Miss. Holotype Monroe Co., III.


Eupachycrinus orbicularis (Hall)  
ISGS (ISM) 8257  
Keokuk limestone; Miss.  
Keokuk, Iowa  
A.H. Worthen Collection

Worthen, A.H., 1890, GSI v. 8, p. 97, pl. 14, f. 2, 2a.


= *Eratocrinus orbicularis* (Hall), *Ida* Bassler and Moodey, 1943, p. 471.

Eupachycrinus sancti-ludovici Worthen  
ISGS (ISM) 2579  
St. Louis limestone; Miss.  
St. Louis, Mo.

Worthen, A.H., 1890, GSI v. 8, p. 98-99.


**Eupachycinus verrucosus** White and St. John
See *Eupachycinus bassetti* Worthen

**Euphocerbia armigera** Meek and Worthen
Coal Measures
Mazon Creek, Grundy Co., Ill.
Collected by Joseph Even


"ISGS (ISM) 2910 = *Euphocerbia granosa* Scudder, part and counterpart. I think the one part was described by Meek and Worthen as *Euphocerbia armigera* and then loaned to Scudder. Scudder discussed the Meek and Worthen description and reproduced their figure, and then, apparently unaware that he had the part which had been described, redescribed it, along with the counterpart." (Letter from John Burke, Cleveland Mus. Nat. Hist., July 18, 1974.)


See also U.I. X-497 (ISM 11106) (specimen figured by Meek and Worthen in GSI v. 3, p. 556, text fig. C) and Field Museum Univ. of Chicago 1970 (specimen figured GSI v. 3, p. 556, text fig. D), syntypes.

**Euphocerbia granosa** Scudder
See *Euphocerbia armigera* Meek and Worthen

**Eurydictya calhouensis** Ulrich
Trenton Group
3 miles N. Port au Gres, Calhoun Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 520, pl. 30, f. 4. 4a.

Also 2 slides made by June Ross about 1962-63.

See also USNM 43754, "Figured sections of holotype...pl. 30, f. 4b, 4c," *H. Schuchert's 1905 catalog.

**Eurydictya montifera** Ulrich
Cincinnati Group
Holotype =
Wilmington, Ill.

Ulrich - pl. 30, f. 3, 3a
Phillips - pl. 3, f. 1, 3, 6, 7

Ulrich, E.O., 1890, GSI v. 8, p. 521, pl. 30, f. 3, 3a.

Also 5 slides made by J.R. Phillips, 1958.

See also USNM 43753, "Figured sections and fragments of holotype...pl. 30, f. 3b, 3c, 3d," *H. Schuchert's 1905 catalog. Letter 2/6/69 from O.L. Karklins, USNM, states another piece of the holotype is USNM 137614.

Phillips, June R.P., 1960, Palaeontology, v. 3, pl. 1, p. 12, pl. 3, f. 1, 3, 6, 7 (figs. 2, 4, and 5 are from slides made from the part of the holotype that is USNM 137614).
Small slab with 10 species on it. 2821-1 is marked "Type" in Ulrich's handwritten label. There are two specimens marked 1, but they do not appear to match Ulrich's illustration. M.K. Elias noted May 13, 1961 that these were not the illustrated types (personal communication).

See also USNM 43758, "Cotytes and figured section...pl. 51, f. 5, 5a," *Fide* Schuchert's 1905 catalog.

**Fenestella delicatula** Ulrich

**Coal Measures**

Seville, Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 549, pl. 52, f. 2.

Verified as type (mirror image) by M.K. Elias, 1960. One thin section made and retained by M.K. Elias, to be returned later (still not returned as of 11/11/80). —LSK

**Fenestella elevatipora** Ulrich

**Chester Group; Miss.**

Kaskaskia, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 549, pl. 51, f. 3?, 3a?

Small slab with 10 species on it. 2821-5 is marked "Type" in Ulrich's handwritten label. There are two specimens labeled 5 but they do not appear to match Ulrich's illustration. M.K. Elias noted May 13, 1961 that these were not the illustrated types (personal communication).

See also USNM 44080, "Cotytes...pl. 51, f. 3, 3a," *Fide* Schuchert's 1905 catalog.

**Fenestella exigua** Ulrich

**Warsaw beds; Miss.**

Monroe Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 545, pl. 51, f. 1?, 1a? Ulrich's handwritten label, glued to the specimen, calls this "Type. Pl. 51, f. 1, 1a." M.K. Elias (personal communication, 1964) says this is not the type or specimen figured, but that the types are in the U.S. National Museum as of 1960.

See also USNM 43755, "Holotype...pl. 51, f. 1, 1a," *Fide* Schuchert's 1905 catalog.

**Fenestella filistriata** Ulrich

**Burlington limestone; Miss.**

Burlington, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 535, pl. 49, f. 2?, 2a?

This slab was marked as "type" but does not appear to match illustrations. Ulrich's arrows and marking of the specimens are now illegible. M.K. Elias noted in January 1963 that these specimens do not match Ulrich's illustrations.

**Fenestella inaequalis** Ulrich

**Upper Coal Measures**

According to Wanless-Simon-Elias, 6/64, this is Macoupin Limestone Member, Modesto Formation, McLeansboro. Probably equivalent to Bathany Falls limestone of Missouri series in Kansas-Missouri area. Crow's Mill, Sangamon Co., Ill. (Original label and text, p. 554, give Ball's Mill as locality. Note by A.R. Crook, 1910, says this was a mistake and should be Crow's Mill in Ball Township.)

Ulrich, E.O., 1890, GSI v. 8, p. 554, pl. 52, f. 9, 9a.

At least four specimens on one slab along with other forms. I can't tell which specimen Ulrich figured. LSK 3/17/68.

See also USNM 43358, "Figured sections and fragment of holotype...pl. 54, f. 4, 4a," *Fide* Schuchert's 1905 catalog.

**Fenestella lowensis** Elias

**Keokuk Group; Miss.**

Bentonport, Iowa


This specimen was originally catalogued as a syntype of *Fenestella rudis* Ulrich, 1890, q.v.

Two fragments removed for thin sections by M.K. Elias June 5, 1964, and retained by him. To be returned to ISGS later (not returned as of 11/11/80).

**Fenestella limitaris** Ulrich

**Keokuk Group; Miss.**

Bentonport, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 538, pl. 49, f. 4, 4a.


**Fenestella mimica** Ulrich

**Seville Is.; Coal Measures**

Seville, Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 552, pl. 52, f. 7, 7a (illustrations are mirror image of specimen).

On small slab with several other species.

**Fenestella multispinosa** Ulrich

**var. chesterensis** Condra

2766-2 = Holotype, pl. 33, f. 1-2

and Elias

2766-3 = Paratype, pl. 33, f. 3?

Chester Group; Miss.

2766-4 = Paratype, pl. 33, f. 4

Chester, Randolph Co., Ill.


2766-3 = Paratype, pl. 33, f. 3? Illustration appears to be of thin section probably made from this section, but section was not returned to the ISGS by Elias.

For types of *Fenestella multispinosa* Ulrich, see USNM 43349 and 43350, "Cotytes...pl. 50, f. 3-3d," *Fide* Schuchert's 1905 catalog.

**Fenestella perminuta** Ulrich

**Seville Is.; Coal Measures**

Seville, Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 551, pl. 52, f. 4, 4a, 4b?

On slab with several other species.

**Fenestella rudiformis** Elias

**Warsaw beds, Miss.**

Warsaw, Hancock Co., Ill.

See also *F. rudis* Ulrich. Ulrich's label indicates this specimen was type for *F. rudis* Ulrich. M.K. Elias says this specimen was not figured by Ulrich (personal communication, 1964).

**Fenestella rudis** Ulrich  
Warsaw beds; Miss. Warsaw, Hancock Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 537, pl. 49, f. 3b, 3c.

Ulrich's label indicated this specimen was used for illustrations above. M.K. Elias says Ulrich did not figure it (personal communication, 1964). Elias made 2745-1 holotype for his species *Fenestella rudiformis* Elias: Cinquième Congrès International de Stratigraphie et de Géologie du Carbonifère, Paris, 1963, Compte Rendu, v. 1, p. 379, pl. 1, f. 3; pl. 4; pl. 5, f. 2.

See also ISGS (ISM) 2776-1/2, *Fenestella rudis* Ulrich.

See also USNM 43759, "Cotypes...pl. 49, f. 3a-d," *Fide* Schuchert's 1905 catalog.

**Fenestella rudis** Ulrich  
Keokuk Group; Miss. Bentonport, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 537, pl. 49, f. 3 (mirror image).


Elias, same reference, made 2776-2 holotype for his new species, *F. iowensis*, p. 378, pl. 1, f. 2; pl. 3; pl. 5, f. 1.

Fragment removed by Elias from 2776-1 May 13, 1961, and another in 1963?, for thin sections; two fragments from 2776-2 removed by Elias 65/64. To be returned to the ISGS later, but not returned yet as of 11/11/80.

See also ISGS (ISM) 2745-1, *Fenestella rudis* Ulrich.

See also USNM 43759, "Cotypes...pl. 49, f. 3a-d," *Fide* Schuchert's 1905 catalog.

**Fenestella serratula** Ulrich  
Warsaw beds; Miss. Warsaw, Hancock Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 544, pl. 50, f. 57, 5a-c?

Ulrich's label indicates that this is the specimen figured, though his numbers 2 and 4 on the small slab have been lost. M.K. Elias says these are not the types. Types are USNM 44079 (personal communication, 1964).

See also USNM 44079, "Holotype...pl. 50, f. 5-5c," *Fide* Schuchert's 1905 catalog.

**Fenestella sevillensis** Ulrich  
Seville; Coal Measures Seville; Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 552, pl. 52, f. 6, 6a (and 6b?).

Ulrich's handwritten label indicates this is his "type," but I cannot be positive that it is the specimen figured. Drawing may be a reverse image from the specimen. LSK 37178.

On slab with several other species.

**Fenestella tenax** Ulrich  
Warsaw beds; Miss. Monroe Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 546, pl. 51, f. 2? Ulrich's handwritten label, glued to the specimen, calls this "Type. Pl. 51, f. 2." M.K. Elias (personal communication, 1964) says this is not the type or specimen figured, but that the types are in the U.S. National Museum as of 1960.

See also USNM 43756 and 43757, "Cotypes...pl. 51, figs. 2-2e," *Fide* Schuchert's 1905 catalog.

**Fenestella wortheni** Ulrich  
Seville Is.; Coal Measures Seville, Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 551, pl. 52, f. 5, 5a.

This specimen is marked on Ulrich's label as being his "type." However, I could not be positive that it is the specimen figured. If so, the illustration has been reversed and is a mirror image. LSK 37178.

On slab with several other species.

**Fenestratorpa occidentalis** Ulrich  
Hamilton Group Buffalo, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 558, pl. 44, f. 2, 2a.

See also USNM 43760, "Cotypes and figured sections...pl. 54, f. 7-7e," *Fide* Schuchert's 1905 catalog.

**Fistulipora communis** Ulrich  
Hamilton Group 2730-A = Fig'd. syntype Buffalo, Iowa 2730 · About 10 other specimens (unfig'd. syntypes?)

Ulrich, E.O., 1890, GSI v. 8, p. 476, pl. 47, f. 1, 1a.

See also USNM 43290, "Cotypes and figured sections...pl. 48, f. 1, 1a," *Fide* Schuchert's 1905 catalog.


**Fistulipora (Dichtotrypa) corrugata** Ulrich  
Hamilton Group Thunder Bay, Michigan

Ulrich, E.O., 1890, GSI v. 8, p. 480, pl. 47, f. 8, 8a.

See also USNM 43245, "Figured sections and fragment of holotype...pl. 48, f. 6-6b," *Fide* Schuchert's 1905 catalog.

**Fistulipora monticulata** Ulrich  
Hamilton Group Buffalo, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 477, pl. 47, f. 3, 3b.

See also USNM 43248, "Cotypes and figured sections...pl. 47, f. 3a; pl. 48, f. 2, 2a," *Fide* Schuchert's 1905 catalog.
Geisonoceras crebriatium (Meek and Worthen)
See Orthoceras crebriatium Meek and Worthen

Glyptopora sagenella (Prout)
St. Louis limestone; Miss.
Collected by A.H. Worthen
Ulrich, E.O., 1890, GSI v. 8, p. 150, pl. 26, f. 5.
= Prolecanites monroensis (Worthen) in Collinson, C.W., 1955, Jour. Paleol., v. 29 (3), p. 436, pl. 45, f. 3-6. Stratigraphic horizon corrected to Ste. Genevieve Is. 2589-B and 2589-C were found in the same piece of limestone as the holotype.

Glyptopora sagenella var. caliculosa Ulrich
Warsaw beds; Miss.
Warsaw, Ill.
Collected by A.H. Worthen
Ulrich, E.O., 1890, GSI v. 8, p. 514.

Glyptopora sagenella var. lata Ulrich
Warsaw beds; Miss.
Warsaw, Hancock Co., Ill.
Collected by A.H. Worthen
Ulrich, E.O., 1890, GSI v. 8, p. 515, pl. 78, f. 7 (not f. 4 as listed on p. 515).

Goniatites monroensis Worthen

St. Louis limestone; Miss.
Collected by A.H. Worthen
Ulrich, E.O., 1890, GSI v. 8, p. 150, pl. 26, f. 5.

Glyptopora michelinia (Prout)
Warsaw beds; Miss.
St. Louis Co., Mo.
Ulrich, E.O., 1890, GSI v. 8, p. 515, pl. 78, f. 8, 8a, 8b.

Glyptopora pinnata Ulrich
Burlington Group; Miss.
Sagetown, Henderson Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 516, pl. 78, f. 2.

Glyptopora plumosa (Prout)
Warsaw beds; Miss.
Warsaw, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 512, pl. 78, f. 3, 3a.
See also USNM 43761, "Plesiotype...pl. 78, f. 3b, 3c," fide Schuchert's 1905 catalog.

Glyptopora punctipora Ulrich
Chester Group; Miss.
Chester, Randolph Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 519, pl. 78, f. 97, 9a?
See also USNM 43762, "Figured fragment of holotype...pl. 78, f. 9, 9a," fide Schuchert's 1905 catalog.

Hemiphragma imperfectum (Ulrich)
See Batostoma imperfectum Ulrich

ISGS (ISM) 2774-A/B
2774-A = Pl. 78, f. 6, 8a
2774-B = Not figured, but specimen bears diamond sticker usually used on types
Ulrich, E.O., 1890, GSI v. 8, p. 513, pl. 78, f. 6, 6a.

ISGS (ISM) 2790
Syntype? not figured
Ulrich, E.O., 1890, GSI v. 8, p. 514.

ISGS (ISM) 2775
Holotype?

ISGS (ISM) 2589-A/C
2589-A = Holotype, fig'd, by Worthen, pl. 26, f. 5 and by Collinson, pl. 45, f. 3
2589-B = Topotype, fig'd, by Collinson, f. 4
2589-C = Topotype fig'd, by Collinson, f. 5-6
Worthen, 1890, GSI v. 8, p. 150, pl. 26, f. 5.

ISGS (ISM) 2697
Syntypes?
Ulrich, E.O., 1890, GSI v. 8, p. 644, pl. 29, f. 5.

ISHGS (ISM) 2774-A/B
2774-A = Pl. 78, f. 6, 8a
2774-B = Not figured, but specimen bears diamond sticker usually used on types
Ulrich, E.O., 1890, GSI v. 8, p. 513, pl. 78, f. 6, 6a.

ISGS (ISM) 2790
Syntype? not figured
Ulrich, E.O., 1890, GSI v. 8, p. 514.

ISGS (ISM) 2775
Holotype?

ISGS (ISM) 2589-A/C
2589-A = Holotype, fig'd, by Worthen, pl. 26, f. 5 and by Collinson, pl. 45, f. 3
2589-B = Topotype, fig'd, by Collinson, f. 4
2589-C = Topotype fig'd, by Collinson, f. 5-6
Worthen, 1890, GSI v. 8, p. 150, pl. 26, f. 5.

= Prolecanites monroensis (Worthen) in Collinson, C.W., 1955, Jour. Paleol., v. 29 (3), p. 436, pl. 45, f. 3-6. Stratigraphic horizon corrected to Ste. Genevieve Is. 2589-B and 2589-C were found in the same piece of limestone as the holotype.

Granatocrinus granulosus Meek and Worthen
See Pentremites (Granatocrinus) granulosus Meek and Worthen

Graphiocrinus monroensis (Worthen)
See Eupachycrinus monroensis Worthen

Halysiocrinus bradleyi (Meek and Worthen)
See Calceocrinus bradleyi Meek and Worthen

Hapsiphyllum ulrichi (Worthen)
See Zaphrentis ulrichi Worthen

Helopora imbricata Ulrich
Cincinnati Group
Wilmington, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 644, pl. 29, f. 5.

ISGS (ISM) 2697
Syntypes?
Ulrich, E.O., 1890, GSI v. 8, p. 644, pl. 29, f. 5.
Hemipronites propinquus Meek and Worthen
See Hemipronites subplanus Conrad?

Hemipronites subplanus Conrad?
ISGS (ISM) 2204-A/B
Upper Silurian (Leemon Fm.,
 tide Amsden, 1974)
Figured specimens -
Syntypes - Lectotype
Thebes, Alexander Co., Ill.
2204-A = Meek & Worthen, pl. 6, f. 6a
= Amsden, lectotype, pl. 3, f. 2a
2204-B = Meek & Worthen, pl. 6, f. 6b
= Amsden, pl. 3, f. 2b

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 349, pl. 6, f. 6a, 6b.

= Hemipronites (or Streptorhynchus) propinquus Meek and Worthen, 1868, GSI v. 3, p. 351, pl. 6, f. 6a, 6b (2204-A/B = syntypes).

= Coolinia propinqua (Meek and Worthen, 1868) in Amsden, T.W., 1974, Okla. Geol. Survey Bull. 119, p. 57, pl. 3, f. 2a-b. (2204-A is here designated as lectotype.)

Hemipronites aspera Ulrich
Keokuk Group; Miss.
Bentonport, Iowa
ISGS (ISM) 2623-1/2
Syntypes
2623-1 = Pl. 57, f. 4, 4a-b

Ulrich, E.O., 1890, GSI v. 8, p. 563, pl. 57, f. 4, 4a-b.

See also USNM 43764, 43765, "Cotytes...pl. 57, f. 4c-4f," tide Schuchert's 1905 catalog.

Hemipronites nodosa Ulrich
Keokuk Group; Miss.
Bentonport, Iowa
ISGS (ISM) 2824
Syntype?

Ulrich, E.O., 1890, GSI v. 8, p. 562, pl. 57, f. 3?

See also USNM 44087, "Holotype...pl. 57, f. 3," tide Schuchert's 1905 catalog.

Hemipronites persstriata Ulrich
Keokuk Group; Miss.
Bentonport, Iowa
ISGS (ISM) 2817
Syntype?

Ulrich, E.O., 1890, GSI v. 8, p. 564, pl. 57, f. 6?

This specimen bears Ulrich's label as "type," but USNM catalog also claims to have the type. Both may be syntypes?

See also USNM 43766, "Cotytes...pl. 57, f. 6, 6a," tide Schuchert's 1905 catalog.

Hemipronites protana Ulrich
Warsaw beds; Miss.
Monroe Co., Ill. (2818-1)
ISGS (ISM) 2818-1/2
Syntypes
2818-1 = Pl. 57, f. 1

Ulrich, E.O., 1890, GSI v. 8, p. 560, pl. 57, f. 1.

Specimen 2818-1 bears Ulrich's label, "Hemipronites protana Ul.
Type. Cells on fig. 1 were taken from this specimen."

See also USNM 43371, "Plesiotype...pl. 57, f. 1-1c," tide Schuchert's 1905 catalog.

pt. G, Bryozoa, revised, manuscript pl. 1, f. 8.

Hemipronites protana var. vermitera Ulrich
Warsaw beds; Miss.
ISGS (ISM) 2815-1/2
var. vermitera Ulrich
Syntypes
2815-1 = Pl. 57, f. 5, 5a
Warsaw, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 561, pl. 57, f. 5, 5a.

Heterotrypa affinis (Ulrich)
See Amplexopora affinis Ulrich

Heterotrypa lamellosa (Ulrich)
See Monticulipora lamellosa Ulrich

Heterotrypa singularis Ulrich
Cincinnati Group; Ord.
ISGS (ISM) 2680-A/B
Wilmington, Ill.
Syntypes
2680-A = Pl. 37, f. 3, 3b
2680-B = Pl. 37, f. 3a

Ulrich, E.O., 1890, GSI v. 8, p. 415, pl. 37, f. 3, 3a, 3b.


Also three thin sections and 4 fragments cut from 2680-A and four thin sections from 2680-B made by June Ross about 1962-63.

See also USNM 43750, "Figured sections of cotytes...pl. 37, f. 3c, 3d, 3e," tide Schuchert's 1905 catalog.

= Dekayella singularis (Ulrich) in Ulrich and Bassler, 1904, Smithsonian Misc. Coll., v. 47, p. 27.


Hindia inaequalis Ulrich and Everett
Trenton Group
Near Dixon, Lee Co., Ill.
Collected by Dr. Oliver Everett
USNM 43750

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 275, pl. 2, f. 4. See also discussion of Hindia pp. 226-230. Originally catalogued as Microspongia Dixonensis Ulrich and Everett, which appears to have been a manuscript name, changed in publication to Hindia inaequalis.

See also USNM 46561, "Figured sections of holotype...pl. 2, f. 4-4b," tide Schuchert's 1905 catalog. (The specimen at the USGS appears to be complete, so it is unlikely that the USNM slides could have been made from this specimen.)

Histocrinus coreyi (Worthen)
See Poteriocrinus coreyi Worthen

Holopoea keokuk (Worthen)
See Polyhexopsis? keokuk Worthen

Homocrinus angustatus Meek and Worthen
Cincinnati Group; Lower Silurian
Mount Carroll, Ill.
ISGS (ISM) 1570-A/B
Syntypes (2 on one slab)
1570-A = Pl. 23, f. 8
1570-B = Not figured


= Dendrocrinus angustatus (Meek and Worthen) in Bassler and Moody, 1943, p. 413.

Homotrypa flabellaris Ulrich
Cincinnati Group
Wilmington, Ill.
ISGS (ISM) 2688
Syntype, pl. 32, f. 3, 3a

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Ulrich, E.O., 1890, GSI v. 8, p. 411, pl. 32, f. 3, 3a.


Also 5 thin sections prepared by June Ross about 1962-63.

See also USNM 43767, “Figured sections of cototype…pl. 32, f. 3b-c,” *vide* Schuchert’s 1905 catalog.

**Homotrypa gelasinosa** Ulrich

Cincinnati Group

Holotype, pl. 32, f. 2, 2a

Wilmington, Will Co., III.

Ulrich, E.O., 1890, GSI v. 8, p. 410, pl. 32, f. 2, 2a. Part of specimen below crack shown in drawing is missing, 3/22/78.

See also USNM 43768, “Figured sections of holotype…pl. 32, f. 2b-c,” *vide* Schuchert’s 1905 catalog.

**Homotrypa contexta** Ulrich

Cincinnati Group

Holotype

Wilmington, III.

Ulrich, E.O., 1890, GSI v. 8, p. 412, pl. 32, f. 5.

One specimen, 3 fragments of same; 2 slides made by June Ross about 1962.

See also USNM 43763, “Fragment and figured sections of holotype…pl. 32, f. 5a-b,” *vide* Schuchert’s 1905 catalog.

**Hormocrinus tennesseensis** (Worthen)

See *Centrocrinus tennesseensis* Worthen

**Hybochinus** sp.

Chester limestone; Miss.

Monroe Co., Ill.

Worthen, A.H., and S.A. Miller, 1883, GSI v. 7, p. 331, pl. 31, f. 7.


**Hybochinus spectabilis** Worthen and Miller

Syntypes

Chester limestone; Miss.

Prairie du Long Creek, Monroe Co., Ill.

Worthen, A.H., and S.A. Miller, 1883, GSI v. 7, p. 332, pl. 31, f. 5a-c, 6.


**Hydroionocrinus sancti-ludovici** (Worthen)

See *Eupachynocrinus? sancti-ludovici* Worthen

**Hypselocrinus calyculus** (Hall)

See *Poteriocrinus calyculus* Hall

**Hysteroites (Acrosphirif) worthenanus** (Schuchert)

See *Spirifer engelmanni* Meek and Worthen

**Hystriosophonia carbonaria** Ulrich

Near the base of the Coal Measures (cap rock of the Rock Island, No. 1, coal)

Seville, Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 245, pl. 6, f. 3.

= *Hystriosophonia carbonaria* S.A. Miller, 1889, N. American Geol. and Paleo., p. 160.

**Ianthinopsis worthenanus** (Miller)

See *Macrocheilus altokensis* Worthen

**Iliaenus (Bumastrus) graftonensis**

Meek and Worthen

Upper Silurian, Grafton, Ill.


**Intermediocrinus monoensis** (Worthen)

See *Eupachynocrinus monoensis* Worthen

**Intrapora basalis** Ulrich

See *Stictoporella basalis* Ulrich

**Kionoceras cancellatum** Hall

See *Orthoceras angulatum* Wahlenberg

**Kionoceras scammoni** (McChesney)

ISGS (ISM) 2216

Upper Silurian

Bridgeport, Ill.


(Originally catalogued as *Orthoceras woodworthi* McChesney).

**Kionoceras scammoni** (McChesney)

ISGS (ISM) 7770

Racine dolomite, Silurian

Bridgeport, Ill.

Foerste, A.F., 1928, Denison Univ. Bull., v. 28 (10), (Jour. Sci. Lab., v. 23 (7)), p. 288, pl. 67, f. 2A, 2B.

Five specimens, or pieces, catalogued under this number. The two figured pieces are parts of the same specimen. All studied by A. Foerste, 1919. Foerste’s labels give all but one (marked 7770-E) the name *K. scammoni numerosior*, n. var., but when the article was published the varietal name was not included.

**Koninckiocras scottense** (Worthen)

See *Temnocheilus scottense* Worthen

**Lechritrochoceras notum** (Hall)

Racine dolomite; Upper Silurian

Bridgeport, Ill.

ISGS (ISM) 2162

Figured specimen


= Trochoceras costatum Hall, 1868, (incorrect citation in expl. of pl. 16, corrected in Errata facing p. 410, fide Foerste 1930, p. 52).

Lecythicinus adamsi Worthen

ISGS (ISM) 2468
Holotype

About horizon of Coal No. 8, Lower Coal Measures
Sec. 13, T. 11 N., R. 6 E., Peoria Co., Ill.
Collected by Mr. W.H. Adams


Leioclema? araneum Ulrich

ISGS (ISM) 2840
Syntypes (3)

Chester Group; Miss. Randolph Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 431, pl. 75, f. 9?
Two of three specimens catalogued as 2840 bear the diamond sticker indicating type, but it is impossible to tell whether one of these is the specimen from which figure 9 was drawn.

See also, USNM 43777, “Cotypes and figured sections...p. 75, f. 9a-c,” fide Schuchert’s 1905 catalog.

Leioclema foliatum Ulrich

ISGS (ISM) 2842-1
“Type”- (probably holotype)

Warsaw beds; Miss.
Warsaw, Ill.

Ulrich, E.O., 1890, GSI v. 8, text fig. 1 on p. 301, p. 431.

See also USNM 43333, “Figured sections of holotype...p. 301, f. 1, p. 431,” fide Schuchert’s 1905 catalog.

Presumably ISGS (ISM) 2842-1 is specimen from which illustration on p. 301 (fig. 1) was made. Ulrich’s handwritten label, glued to the specimen, says “Type. Fig. in cut.” Presumably this is also the specimen from which the USNM slides were made.

Leioclema gracillimum Ulrich

ISGS (ISM) 2811
Figured “type”

Keokuk Group; Miss.
Bentonport, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 429, pl. 75, f. 6 (and 6a-b?).
Labeled L. minimum on label and in catalog, but this is definitely the specimen figured as L. gracillimum.

Leioclema minimum Ulrich

See Leioclema gracillimum Ulrich

Leioclema subglobosum Ulrich

ISGS (ISM) 2841
“Type?”

Kinderhook Group; Miss.
Marshaltown, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 428 (not pl. 75, f. 8).

See also USNM 43775, “Figured section of holotype...pl. 75, f. 8a, 8b,” fide Schuchert’s 1905 catalog.

Label in Ulrich’s handwriting, glued to specimen, says “Type. Pl. 75, fig. 8.” This is not the specimen shown as fig. 8, however. Perhaps the figured specimen was taken from this slab. LSK 10/28/71.

Leioclema wachsmuthi Ulrich

ISGS (ISM) 2753
Holotype

Kinderhook Group; Miss.
Marshaltown, Iowa
Collected by Mr. Charles Wachsmuth.

Ulrich, E.O., 1890, GSI v. 8, p. 428, pl. 75, f. 7.

See also USNM 43774, “Figured sections of holotype...pl. 75, f. 7a, 7b,” fide Schuchert’s 1905 catalog.

Leioclema wilmingtonense Ulrich

ISGS (ISM) 2700
Holotype (2 pieces)

Wilmington, Will Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 426, pl. 34, f. 4.

Also two thin sections prepared by June Ross about 1962-63.

See also USNM 43776, “Figured sections of holotype...pl. 34, f. 4a, 4b,” fide Schuchert’s 1905 catalog.

Leptopopsis chesterensis Worthen

ISGS (ISM) 2514
Holotype

Chester limestone; Miss.
Chester, Ill.
Collected by Mrs. J.C. Sailer.


Lepidesthes

See Hybochinus

Lepidesthes spectabilis (Worthen and Miller)

See Hybochinus spectabilis Worthen and Miller

Leptodorus? magnus (Worthen)

See Schizodus magnus Worthen

Leptotrypa filiosa? d’Orbigny

ISGS (ISM) 2704
Figured specimen?

Trenton Group
Calhoun Co., Ill.

Ulrich, E. O., 1890, GSI v. 8, p. 456 (pl. 36).

Also see USNM 43309, “Figured sections of plesiotype...pl. 36, f. 7, 7a,” fide Schuchert’s 1905 catalog.

= Amplexopora filiosa (d’Orbigny) in Nickles and Bassler, 1900, U.S.G.S. Bull. 173, p. 164.

This is probably the specimen from which material was taken for the slides that are in the U.S. National Museum, though I know of no way to prove it. LSK 3/23/78.

Leptotrypa hexagonalis Ulrich

ISGS (ISM) 2683
Syntype?

Trenton Group
Calhoun Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 455, pl. 36, f. 6? 6a?

See also USNM 44057, “Holotype...pl. 26, f. 6, 6a,” fide Schuchert’s 1905 catalog.
Both the ISGS and the USNM specimens are marked type or holotype. They should be compared to see whether it is possible to determine which specimen was figured by Ulrich. LSK 2/23/78.

*Lichas boltoni* (Bigsby)  
Niagara Group; Upper Silurian  
Grafton, Ill.  
Holotype  
2183-A/B  
2183-A = Fig. spec.  
2183-B = Not fig'd.  
2183-A = Holotype in Miller & Uncklesbay

Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 508, pl. 25, f. 5.  

*Lima chestenerensis* Worthen  
Chester shale; Miss.  
Holotype  
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 120, pl. 33, f. 7.

*Lima? menardi* Worthen  
Coal Measures (roof of Greenview coal).  
Collected by A.H. Worthen

= *Aviculopecten menardi* (Worthen), 1890, GSI v. 8, p. 120, pl. 22, f. 12.

= *Euchondria menardi* (Worthen) in Newell, Norman D., 1937, State Geol. Survey Kansas, v. 10, p. 108; pl. 19, f. 14a, b, 15a, b. (Fig. 14a, b is a toptype on same slab with holotype but not mentioned by Worthen).

*Lingula mytiloides?* Sowerby  
Coal Measures  
Fulton Co., Ill.  
Figured specimens  
2876-A = F. 2a  
2876-B = F. 2b

Meek, F.B., and A.H. Worthen, 1873, GSI v. 5, p. 572, pl. 25, f. 2a, 2b.  

*Lingula umbonata* Cox  
See *Lingula mytiloides?* Sowerby

*Lingula varsoviensis* Worthen  
Warsaw beds; Miss.  
Warsaw, Hancock Co., Ill.  
Collected by A.H. Worthen


Weller, Stuart, Ill. Geol. Survey Mon. 1, p. 36, pl. 1, f. 6.

In Worthen, 1890, the catalog number is given as 2495. In Weller, 1914, it is given as 2601. In the Ill. State Mus. catalog the Worthen 1884 reference is given after the entry for 2495; the Worthen 1890 reference after 2601. There is no specimen in the collection for 2495; and 2601 is the specimen figured by Weller as the holotype. # 2601 also bears the diamond-shaped sticker Worthen used to designate his types and figured specimens.

*Linocirrus spinuliferus* (Worthen)  
See *Poterocrinus spinuliferus* Worthen

*Liolema nitida* (Ulrich)  
See *Trematopora? nitida* Ulrich

*Lophophyllidium proliferum* (McChesney)  
ISGS (ISM) 4064-B  
Upper Coal Measures  
Beds over coal No. 8, Trivoli, Penn.  
Figured specimen  
Near Springfield, Ill.


4064-A was designated as neotype of *Cyathaxonia prolifer* McChesney, the genotype of *Lophophyllidium*, by Jeffords, but I have been unable to locate that specimen or the other seven referred to by Jeffords as being in this lot from the Worthen collection. In Dr. J.M. Weller’s correspondence a letter dated 2/5/42 from Jeffords states that he was returning the specimens by separate mail. Extensive search has failed to locate any of them in recent years. LSK 10/18/62, 3/27/78.

*Lophophyllum profundum* Worthen  
ISGS (ISM) 2565-A/B  
Lower division of LaSalle limestone;  
Upper Coal Measures  
LaSalle Co., Ill.  
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 79, pl. 10, f. 14, 14a.

*Lophophyllum proliferum* McChesney  
See *Lophophyllidium proliferum* (McChesney)

*Loxonema peoriensis* Worthen  
Coal Measures  
Peoria Co., Ill.  
Collected by Mr. Gifford


*Loxonema quadri-carinatus* Worthen  
ISGS (ISM) 2534  
Coal Measures  
Peoria Co., Ill.  
Collected by Mr. Gifford


*Lyropora divergens* Ulrich  
Cheser Group; Miss.  
Syntype

Chester, Randolph Co., Ill.  
= Ulrich’s pl. 58, f. 4  
= Blake’s ms. pl. 1, f. 12

Ulrich, E.O., 1890, GSI v. 8, p. 584, pl. 58, f. 4.

See also USNM 44082 and 44083, “Cotypes...pl. 58, f. 4b and 4d,” *vide* Schuchert’s 1905 catalog.

Lyropora quinuncialis Hall
Chester Group; Miss.
Chester, Ill.

ISGS (ISM) 2744-A/B
Figured specimens
2744-A = Pl. 58, f. 3
2744-B = Pl. 58, f. 3a-b

Ulrich, E.O., 1890, GSI v. 8, p. 583, pl. 58, f. 3a-b (and 3c-?).
See also USNM 43773, "Figured sections of pleiotypes...pl. 55, f. 7-7c," *fide* Schuchert’s 1905 catalog.

Macrocheilus altonensis Worthen
St. Louis Limestone; Miss.
Alton, Ill.

ISGS (ISM) 2598
Holotype
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 143, pl. 24, f. 1, 1a.

= Macrochilina worthenanus Miller, 1889, N. Amer. Geol. and Paleont., p. 409.

Not Macrocheilus altonensis Worthen in Meek and Worthen, 1873, GSI v. 5, p. 593, pl. 28, f. 8a-b. (Specimen figured here was catalogued in Worthen’s catalog as ISM 11042).


Macrodon minima (Worthen)
See Pleurophorus minimus Worthen

Mantikosocrinus hemisphericus (Worthen)
See Agassizocrinus hemisphericus Worthen

Mantis? Scudder
Coal Measures
Mazon Creek, Grundy Co., Ill.

Scudder, S.H., 1868, in GSI v. 3, p. 567, text f. 3.

Marginatia crawfordsvillensis (Weller)
See Productus magnus Meek and Worthen

Meekopora approximata Ulrich
Chester Group; Miss.
Chester, Randolph Co., Ill.

ISGS (ISM) 2833-A/B
Syntypes
2833-A probably is specimen figured

Ulrich, E.O., 1890, GSI v. 8, p. 484, pl. 77, f. 5.

Meekopora eximia Ulrich
Chester Group; Miss.
Monroe Co., Ill.

ISGS (ISM) 2807-A/D
4 Syntypes, 1 thin section
2807-B = pl. 77, f. 6, 6a-b
2807-A = specimen from which Perry made thin section (1956), not figured

Ulrich, E.O., 1890, GSI v. 8, p. 483, pl. 77, f. 6, 6a-b.
See also USNM 43285, "Figured sections of cotytes...pl. 77, f. 6c-d," *fide* Schuchert’s 1905 catalog.

Megaglossoceras montgomeryense (Worthen)
See Nautilus montgomeryensis Worthen

Metablastus varsoviensis (Worthen)
See Pentremites (Tricoelocrinus) varsoviensis Worthen

Microspongia dixoniensis Ulrich and Everett
See Hindia inaequalis Ulrich and Everett

Modiola illinoiensis Worthen
ISGS (ISM) 2518-A/B
Oolitic beds of St. Louis Group; Miss.
Syntypes
Monroe Co., Ill.
2518-A = Pl. 20, f. 2, 2a
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 125, pl. 20, f. 2, 2a.

Monotrypa rectimuralis Ulrich
Cincinnati Group
Alexander Co., Ill.

ISGS (ISM) 2694
Syntype

Ulrich, E.O., 1890, GSI v. 8, p. 462, pl. 38, f. 4.

See also USNM 43779, “Figured sections...pl. 38, f. 4a-b,” *fide* Schuchert’s 1905 catalog.

Monotrypa appressa Ulrich
Hamilton shale
Buffalo, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 453, pl. 46, f. 1a (on plate as *M. simplex* in error).

Worthen’s handwritten label gives locality as Buffalo, Iowa; Ulrich’s gives Rock Island, Ill.

See also USNM 43751, “Figures and figured sections...pl. 46, f. 1-1e,” *fide* Schuchert’s 1905 catalog. Fig. 1a is definitely ISGS (ISM) 2731 even though Schuchert’s catalog would indicate that the specimen was at the USNM.


Monotrypa crassimuralis Ulrich
Cincinnati Group, Ord.
Wilmington, Ill.

ISGS (ISM) 2692-A/B
Syntypes
Wilmington, Ill.
2692-A = Fig. 2
2692-B = Fig. 2a, 2b?

Ulrich, E.O., 1890, GSI v. 8, p. 452, pl. 38, f. 2, 2a, 2b?
See also USNM 43780, “Figured sections of cotytes...pl. 38, f. 2c-1,” *fide* Schuchert’s 1905 catalog.

= Tetracoelocrinus crassimuralis (Ulrich) in Boardman, Richard S., and Frank K. McKinney, 1976, Jour. Paleol., v. 50 (1), p. 75-76, pl. 2, f. 1-5; pl. 13, f. 3. Boardman and McKinney designated as lectotype USNM specimen 204844 and as paralecotypes USNM 204843, 204845-204847, chosen from the USNM syntype suite, USNM 43780. The Illinois Geological Survey specimens were not examined.

Monotrypa simplex Ulrich
See *Monotrypa appressa* Ulrich

Monticulipora lamellosa Ulrich
Cincinnati Group
Wilmington, Ill.

ISGS (ISM) 2676
Holotype?
Ulrich, E.O., 1890, GSI v. 8, p. 498, pl. 32, f. 4? (Ulrich’s label, glued to specimen, calls this the type and refers to fig. 4, but I am unable to verify this.)

Also two thin sections prepared by June Ross about 1962-63.

See also USNM 43303, “Figured sections and fragment of holotype...pl. 32, f. 4, 4b,” fide Schuchert’s 1905 catalog.


Monticulipora winchelli Ulrich

Hamilton Group
Thunder Bay, Mich.
Collected by A.H. Worthen

Ulrich, E.O., 1890, GSI v. 8, p. 408, pl. 45.

See also USNM 43302, “Figured sections of holotype...pl. 45, f. 6-6a” fide Schuchert’s 1905 catalog.

Mooreocrinus hemisphericus (Worthen)
See Agassizocrinus hemisphericus Worthen

Myalina angulata Meek and Worthen
Chester limestone; Miss.
Collected by A.H. Worthen

Meek, F.B., and A.H. Worthen, 1860, Acad. Nat. Sci. Philadelphia Proc., p. 455; Meek and Worthen, 1866, GSI v. 2, p. 300. This ISGS specimen has the diamond sticker indicating it is a type, and is labeled “Type,” but it is not figured. The U.I. has two syntypes, U.I. X-435 (ISG 10894), figured GSI v. 2, pl. 23, f. 7a-b.

Myalina monoensis Worthen
St. Louis Limestone; Miss.
Collected by A.H. Worthen


Naticopsis madisonensis Worthen
St. Louis Limestone; Miss.
Alton, Madison Co., Ill.


This specimen has apparently met with an accident and been repaired extensively.

Nautilus montgomeryensis Worthen
Coal Measures
Montgomery Co., Ill.

Worthen, A.H., 1884, Ill. State Mus. Nat. Hist., Bull. 2, p. 4; Worthen, 1890, GSI v. 8, p. 148, pl. 26, f. 2; pl. 27, f. 1.

= Megaglossoceras montgomeryense (Worthen) in Miller, A.K., C.O. Dunbar, and G.E. Condra, 1933, Nebraska Geol. Survey Bull. 9, 2d ser., p. 120, pl. 4, f. 1-2.

Nematopora alternata Ulrich
Base of Cincinnati Group
Near Thebes, Alexander Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 646, pl. 29, f. 87, 8a.

This specimen, although marked as "Type," does not appear to correspond entirely to f. 8.

See also ISGS (ISM) 2690-3, N. alternata Ulrich on same slab with N. delicatula Ulrich.

Nematopora delicatula Ulrich

Cincinnati Group
Near Thebes, Alexander Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 646, pl. 29, f. 11, 11a.

Also specimens of N. retorsa (2690-2) and N. alternata (2690-3) on same slab.

Nematopora fragilis Ulrich

Cincinnati Group
Alexander Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 646. Specimen figured as pl. 29, f. 10 should be ISM 2684, but that is missing. This specimen bears Ulrich’s label as type and figured specimen, citing pl. 29, f. 10, so possibly the specimen was inadvertently catalogued twice. However, neither specimen on this slab matches perfectly with fig. 10.

2691-1 = N. retorsa Ulrich, on same slab.

Nematopora retorsa Ulrich

Base of Cincinnati Group
Alexander Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 645, pl. 29, f. 9, 9a? and 9b?

See also ISGS (IM) 2690-2 and 2691-1 (both = N. retorsa).

Neochonetes smithi (Norwood and Pratten)
See Chonetes smithi Norwood and Pratten

Neozaphrentis parasitica (Worthen)
See Zaphrentis parasitica Worthen

Nicholsonella cumulata Ulrich

Cincinnati Group
Wilmington, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 423, pl. 33, f. 6., 6a.

4 thin sections made from figured syntype, 2673-A, by June Ross about 1962-63.

See also USNM 43781, “Cotypes and figured sections...pl. 33, f. 6b, 6c,” fide Schuchert’s 1905 catalog. Also at the USNM in 1971 under the number 43781 were 5 pieces marked “Remainder of sectioned spec.” and 1 tray with numerous specimens marked “Cotypes.”

Nicholsonella ponderosa Ulrich
Dixon, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 422.
Nucula illinoiensis Worthen
ISGS (ISM) 2519-A/C
Oolitic bed of St. Louis limestone
2519-A = Figd. syntype,
(probably Ste. Genevieve); Miss.
Worthen pl. 19, f. 4, 4a
Monroe Co., Ill.
= "Holotype," Schenck, pl. 7, f. 15-16
Collected by
2519-B = Unfig'd. syntype, Worthen
A. H. Worthen = "Paratype," Schenck, pl. 7, f. 13-14
2519-C = Unfig'd. syntype

Nuculopsis cf. N. croneisi Schenck
See Yoldia n. sp. Meek

Odontocephalus sp?
ISGS (ISM) 4686-1/3
Onondaga beds; Devonian
4686-1 = Fig'd. specimen
Union Co., Ill.

Odontocephalus aegeria Hall
See Dalmanites (Odontocephalus) aegeria Hall

Oncychocrinus distensus Worthen
ISGS (ISM) 2442-1/2
St. Louis Group; Miss.
Syntypes
Monroe Co., Ill.
2442-1 = Figd. syntype
2442-2 = Unfig'd. syntype
Name was changed in catalog and on a later label to Oncychocrinus magnus Worthen.

Oncychocrinus excuplctus Lyon
ISGS (ISM) 1822-A, B?, C?
1822-A = Spec. used for measurements?
and Casseday
Keokuk Group
Crawfordsville, Ind.
Three specimens under this catalog number were returned from R.C. Moore and Jan Van Sant 12/8/65, but Van Sant (p. 101) indicates he had only one. Measurements given do not appear to be those of any of these specimens. A note by Van Sant indicates that ISGS (ISM) 1822-B is probably Oncychocrinus ulrchi and came from Indian Creek.

Onychocrinus ramulusus (Lyon)
ISGS (ISM) 1806-A/B
and Casseday
Keokuk Group; Lower Carboniferous
Crawfordsville, Ind.
Specimen used for measurements, p. 102 (catalog number given as 1819 by error on p. 102, line 14).

Oribiculoides varsoviensis (Worthen)
See Discina varsoviensis Worthen

Oropocrinus fusiformis Wachsmuth
ISGS (ISM) 13444
and Springer
Figured specimen
Kinderhook beds (Hampton Formation, tide Macurda); Miss.
LeGrand, Iowa
= Pyrimablastus fusiformis (Wachsmuth and Springer), Macurda, D. B., Jr., 1964, Univ. Michigan Contrib. Paleont. V. 19 (8), p. 105-114, text fig. 1, pl. 1, f. 1-2. The description of Macurda’s new genus, Pyrimablastus, was based largely on this specimen.

This specimen was originally catalogued in the Ill. State Mus. as No. 2626, but later, for a reason unknown to me, changed to 13444.

Orthis resupinoides Cox
ISGS (ISM) 2600-1/3
Lower Coal Measures
Mercer Co., Ill.
2600-1 = F. 4, 4a
Collected by Tyler McWhorter
2600-2 = F. 4b
2600-3 = Not figured
Worthen, A. H., 1890, GSI v. 8, p. 106, pl. 11, f. 4, 4a, 4b.

Orthoceras angulatum Wahlenberg
ISGS (ISM) 2157
Niagara limestone, Silurian
Joliet, III.
Worthen, A. H., and F. B. Meek, 1875, GSI v. 6, p. 504, pl. 24, f. 8, 8a.
= Kionoceras cancellatum Hall, according to a note in the box by A. Foerste, 1919.

Orthoceras crebriatium Meek
ISGS (ISM) 2210
and Worthen
Figured specimen
Niagara Group; Upper Silurian
Joliet, III.
Worthen, A. H., and F. B. Meek, 1875, GSI v. 6, p. 504, pl. 24, f. 8, 8a.

= Geisonoceras crebriatium (Meek and Worthen) in Foerste, A. F., 1928, Denison Univ. Bull., v. 28 (10), (Jour. Sci. Lab., v. 23 (7)), p. 252, pl. 54, f. 1.

Foerste called this specimen the "type," but it was not figured by Meek and Worthen and none of the original labels nor the catalog refer to it as a type. The only label that calls it a "type" is one that was probably made by A. R. Crook when he lent the specimens to A. F. Foerste about 1919. Foerste also refers to the "smaller specimen figured by" Meek and Worthen, but they figured only one (ISM 12105 = U.I. X-118). Meek and Worthen’s measurements, in the original description, correspond to ISGS (ISM) 2210.
In Worthen's handwritten catalog, in his handwriting, ISM 12105 (= U.I. X-118) is designated as "type." This is the specimen figured by Worthen and Meek, GSI v. 6, pl. 26, f. 2, and as Eirodoceras indiarense (Miller) by Foerste, pl. 54, f. 2. Hanssmann and Scott, 1987, in their catalog of the U.I. Worthen Collection, call this specimen a "paratype."

Orthoceras illinoiensis Worthen

ISGS (ISM) 2484-A/B
Chester limestone; Miss.
Collected by A.H. Worthen
Worthen, A.H., 1883, GSI v. 7, p. 323; Worthen, 1890, GSI v. 8, p. 149, pl. 26, f. 1, 1a, 1b.

Orthoceras jolietense Meek and Worthen

ISGS (ISM) 2207
Upper Silurian
Collected by A.H. Worthen
Worthen, A.H., 1883, GSI v. 7, p. 324; Worthen, 1890, GSI v. 8, p. 149, pl. 26, f. 4, 4a.

Orthoceras niagarensis Hall

See Cycloceras niagarensis (Hall)

Orthoceras okawensis Worthen

ISGS (ISM) 2485-A/D
Chester limestone; Miss.
Vicinity of Okaw bluffs near Red Bud, Randolph Co., Ill.
Collected by A.H. Worthen
Worthen, A.H., 1883, GSI v. 7, p. 324; Worthen, 1890, GSI v. 8, p. 149, pl. 26, f. 3.

Orthoceras subbaculum Meek and Worthen

ISGS (ISM) 7771
Joliet member of Niagara; Silurian
Collected by A.H. Worthen
Foerste, August F., 1928, Denison Univ. Bull., v. 28 (10), (Jour. Sci. Lab., v. 23 (7)), p. 245, pl. 49, f. 1.

Orthoceras unionensis Worthen

ISGS (ISM) 2219
Red layers at base of Niagara; Upper Silurian
Union Co., Ill.
Worthen, A.H., in A.H. Worthen and F.B. Meek, 1875, GSI v. 6, p. 505 (misprinted as 465), pl. 26, f. 4.

Orthoceras woodworthi McCchesney

See Kionoceras scammoni (McCchesney)

Orthonema carbonaria Worthen

ISGS (ISM) 2533
Coal Measures
Peoria Co., Ill.
Collected by Mr. Gifford


Pachydictya fenestelliformis var. ISGS (ISM) 2671
curticula Ulrich
Cincinnati Group; Ord.
Wilmington, Will Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 526, pl. 31, f. 1.
1 specimen, 2 fragments cut from the same specimen, and 3 thin sections made by June Ross about 1962-63.

Pachydictya firma Ulrich
ISGS (ISM) 2675-A/B
Cincinnati Group; Ord.
Wilmington, Will Co., Ill.
2 Syntypes
145, 2675-A = PI. 31, f. 2, 2a
2675-B = Unfigured
Ulrich, E.O., 1890, GSI v. 8, p. 525, pl. 31, f. 2, 2a.
See also Pachydictya splendens Ulrich.
Six slides, 3 from each specimen, made by J.R.P. Phillips, 1959.
2675-A/B were catalogued as P. splendens, but 2675-A is obviously the specimen figured as P. firma Ulrich.
See also USNM 43783, "Figured sections of cotype...pl. 31, f. 2b, 2c, 2d, 2f, fide Schuchert's 1905 catalog.

Pachydictya gigantea Ulrich
ISGS (ISM) 2669
Cincinnati Group; Ord.
Wilmington, Will Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 524, pl. 31, f. 3, 3a.
Four thin sections prepared by June Ross about 1963.
See also USNM 43784, "Figured sections of cotype...pl. 31, f. 3b-e, fide Schuchert's 1905 catalog.

Pachydictya intermedia Ulrich
See Pachydictya splendens Ulrich

Pachydictya splendens Ulrich
ISGS (ISM) 2670-A/B
Cincinnati Group; Ord.
Wilmington, Will Co., Ill.
2 Syntypes
145, 2670-A = PI. 32, f. 1, 1a
2670-B = PI. 31, f. 2g
Ulrich, E.O., 1890, GSI v. 8, p. 523, pl. 31, f. 2g; pl. 32, f. 1, 1a.
Four thin sections made from 2670-A by J.R.P. Ross about 1963.
Ulrich's labels on the specimens read P. intermedia, but apparently the name was changed before publication. LSK 36/68.
See also USNM 43785, "Figured sections of cotype...pl. 32, f. 1b, fide Schuchert's 1905 catalog.

Pachydictya splendens Ulrich
See also Pachydictya firma Ulrich

Pachylocrinos nauvooensis (Worthen)
See Poteriocrinus nauvooensis Worthen

Pachylocrinos nodobasalis (Worthen)
See Poteriocrinus nodobasalis Worthen
Pachylocrinus okawensis (Worthen)  
See Poteriocrinus okawensis Worthen

Pachylocrinus popensis (Worthen)  
See Poteriocrinus popensis Worthen

Pachylocrinus propinquus (Worthen)  
See Poteriocrinus propinquus Worthen

Pachylocrinus spinobrachiatus (Worthen)  
See Poteriocrinus spinobrachiatus Worthen

Pachylocrinus varsoviensis (Worthen)  
See Poteriocrinus varsoviensis Worthen

Palaeaeis enorme var. depressus (Meek and Worthen)  
See Sphenopoterium enorme var. depressus Meek and Worthen

Palaeoneilo oweni (McChesney)  
See Yoldia n. sp. Meek

Palaeoneilo oweni (McChesney)  
See Yoldia Knoxensis McChesney

Palaeostylus (Pseudozygopleura) peoriensis (Worthen)  
See Loxonema peoriensis Worthen

Palasterina (Schoenaster) limbriciata Meek and Worthen  
ISGS (ISM) 1894
Syntype
St. Louis Limestone; Miss. Monroe Co., III.


= Schoenaster limbricius Meek and Worthen, 1866, GSI v. 2, p. 278, pl. 19, f. 7d (not fig. 7a, which is ISM 10071 = U.I. X-359).

ISGS (ISM) 1894 consists of an impression of an almost complete specimen and fragments of 2 arms peeled off. One of these is part of the specimen shown as f. 7d.

Papillalunaria hemisphaerica (Ulrich)  
See Crepipedra hemisphaerica Ulrich

Paradichocrinus polydactylus (Cassaday and Lyon)  
See Dichocrinus expansus Meek and Worthen

Paragassizocrinus? carbonarius (Worthen)  
See Agassizocrinus carbonarius Worthen

Parulocrinus verrucosus (White and St. John)  
See Eupachycrinus bassetti Worthen

Pellecrinus hexadactylus (Lyon and Casseday)  
See Baryocrinus lyoni (Hall)

Pentremites (Granatocrinus)  
ISGS (ISM) 1843-A/B
granulosus Meek and Worthen  
1843-A = Spec. figured  
Keokuk Group; Miss.  
Warsaw, Hancock Co., III.

by Fay, pl. 41, f. 7-8,  
and called "holotype"  
1843-B = Not figured


= Granatocrinus granulosus Meek and Worthen, 1873, GSI v. 5, p. 506, not pl. 15, f. 10a, 10b. The specimen figured by Worthen is almost certainly U.I. X-567 (ISM 10145). This specimen was designated in Worthen's handwritten catalog, in his own handwriting, as the "type" figured, but the drawing is not adequate for a positive identification. LSK, 11/278.

= Schizoblastus? granulosus (Meek and Worthen) in Etheridge and Carpenter, 1886, British Museum Catalog, p. 223.

= Poroblastus granulosus (Meek and Worthen) in Fay, R.O., 1961, Univ. Kansas Paleont. Contrib., Echinodermata, art. 3, p. 97, pl. 41, f. 7-9. ISGS (ISM) 1843-A was figured by Fay and called "holotype" by him. The specimen was designated as type species of the genus. This is not the specimen figured by Meek and Worthen, 1873. There was no designation in the III. State Mus. catalog, nor on the original Worthen Collection labels that ISGS (ISM) 1843-A or 1843-B was a type or figured specimen. The number 713, which Fay gave immediately following the word holotype, on p. 98, was a locality designation only and not a catalog number. LSK, 11/78.

Pentremites obesus Lyon?  
Chester limestone; Miss. Monroe Co., III.
Collected by E.O. Ulrich

Worthen, A.H., 1890, GSI v. 8, pl. 14, f. 10, 10a (no description in text).

Pentremites (Tricoelocrinus)  
ISGS (ISM) 1885-1/2
varsoviensis Worthen  
Warsaw beds; Miss.  
Monroe Co., III.

Worthen, A.H., 1875, GSI v. 6, p. 521, not pl. 31, f. 8-9.

= Metablastus varsoviensis (Worthen) in Fay, R.O., 1961, Univ. Kansas Paleont. Contrib., art. 3, p. 80, pl. 19, f. 9; pl. 50, f. 1-3; pl. 52, f. 6. Fay called these two specimens syntypes, but they are not the specimens figured by Worthen and they were not specifically referred to by Worthen in his description. According to the Hansman and Scott catalog, 1967, of the U.I. Worthen Collection, the specimens and types figured by Worthen are U.I. X-48 (ISM 10078). In Worthen's original handwritten catalog, in his handwriting, he called ISM 10078 (2 specimens) "Type." In the U.I. Worthen collection, under the number U.I. X-48 (ISM 10078) are two specimens. One, bearing the diamond sticker, is Worthen's fig. 9. The other may possibly be represented by Worthen's fig. 8, but if so the illustration is somewhat generalized and reduced in size. This specimen may be an unfigured syn- 
type. LSK 11/278.

ISGS (ISM) 1885-2 is the specimen figured by Fay, March 1961, Okla. Geol. Notes, v. 21 (3), p. 92-93, text fig. 1-2, and erroneously identified as Tricoelocrinus woodmani (Meek and Worthen), 1866. Correction was noted by Fay, July 1962, in Okla. Geol. Notes, v. 22 (7), p. 188.
Perischodomus illinoiensis  
*Holotype*  
Chester limestone; Miss. 
Bay City, Pope Co., Ill.  
Collected by A.H. Worthen 

Phacelocrinus columbiensis (Worthen)  
*See* *Potericrinus columbiensis* Worthen

Phacelopora pertenuis Ulrich  
*ISGS (ISM) 2682*  
Top of Trenton or base of Cincinnati Group; Ord. 
Thebes, Alexander Co., Ill. 
Ulrich, E.O., 1890, GSI v. 8, p. 406, pl. 29, f. 1, 1a? 
See also USNM 43272, "Cotypes and figured sections ...pl. 29, f. 1b, 1c," *vide* Schuchert's 1905 catalog.

Phillipsia tuberculata Meek and Worthen  
*Holotype*  
Pike Co., Ill. 
Philadelphia Proc., p. 52.

Phylloporina granistrata Ulrich  
*ISGS (ISM) 2696*  
Base of Cincinnati Group; Ord. 
Near Thebes, Alexander Co., Ill. 
Ulrich, E.O., 1890, GSI v. 8, p. 639, pl. 29, f. 3, 3a.

Pinnatopora bellula Ulrich  
*ISGS (ISM) 4482-1/2*  
Seville (coal No. 1), base of Coal Measures 
Syntypes 
Seville, Fulton Co., Ill. 
4482-1 = F. 8, 6b 
4482-2 = F. 8a 
Ulrich, E.O., 1890, GSI v. 8, p. 619, pl. 66, f. 8, 8a-b.

Pinnatopora striata Ulrich  
*ISGS (ISM) 4470*  
"Type" = holotype?  
Keokuk Group; Miss. 
Bentonsport, Iowa 
Ulrich, E.O., 1890, GSI v. 8, p. 617, pl. 66, f. 4d.

Pinnatopora tenuiramosa Ulrich  
*ISGS (ISM) 4483-1*  
"Type" = Holotype?  
Waverly Group; Miss. 
Richfield, Ohio 
Ulrich, E.O., 1890, GSI v. 8, p. 619, pl. 66, f. 7.

Plagiostrongylus illinoiensis (Worthen)  
*ISGS (ISM) 2483*  
Holotype  
St. Louis Group; Lower Carboniferous 
Blount Co., Tenn.  
Collected by A.H. Worthen 
Worthen, 1883, GSI v. 7, p. 306, pl. 30, f. 9.

Platyceras (Orthonychia) pyramidatum Hall  
*ISGS (ISM) 2174*  
Holotype  
Upper Silurian 
Bailey's Landing, Perry Co., Mo. 
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 389, pl. 7, f. 11.

Platyceras spirale Hall  
*ISGS (ISM) 2194-A/D*  
Upper Silurian 
2194-A = Figured specimen, Bailey's Landing, 
Perry Co., Mo.  
2194-B/D - Not figured 
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 389, pl. 7, f. 12c.

Platyceras subundatum Meek and Worthen  
*Syntypes*  
Upper Silurian 
Bailey's Landing, Perry Co., Mo. 
2195-A = F. 13a? 
2195-C - Not figured 
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 387, pl. 7, f. 13a-b. (Specimen shown in f. 14a-b is missing. LSK 4/11/78).

Platyceras tortuosum Hall  
*ISGS (ISM) 2195-A/C*  
Holotype  
See *Platyceras spirale* Hall

Platyptynites hemisphericus (Meek and Worthen)  
*ISGS (ISM) 1818-A/C*  
Holotype  
Meek and Worthen 1818-A = Flgd. spec., M. & W., 
pl. 16, f. 6a-b 
= Spec. used for measurements, 
Van Sant, p. 126 
1818-C - Not figured 
= *Platyptynites hemisphericus* (Meek and Worthen), 1873, GSI v. 5, p. 506, pl. 16, f. 6a, 6b (specimen shown as f. 6c is missing).

Van Sant, Jan F., in Van Sant, Jan F., and N. Gary Lane, 1964, 
125-126. Van Sant refers to ISGS (ISM) 1818-A as the 
holotype and gives its measurements in his table, but this 
 specimen was not illustrated till 1873 (v. 5). The first 
species Meek and Worthen illustrated (1868, v. 3, pl. 20, f. 
2a, 2b) was ISM 10120-B = U.I. X-143. The original description 
included no illustrations.

Platyptynites monroensis Worthen  
*ISGS (ISM) 2461*  
Holotype  
St. Louis Group; Lower Carboniferous 
Blount Co., Tenn.  
Collected by A.H. Worthen 
Worthen, 1883, GSI v. 7, p. 306, pl. 30, f. 9.
= *Platycrinus sarae* Hall, 1858 (identification by Charles Wachsmuth).

*Platycrinus safordii* (Troost ms., 1850) Holotype

Keokuk Group; Miss.

1838 - F. 5

1838 - B = F. 6

Hall, James, 1858, Rept. Geol. Survey Iowa, v. 1, pt. 2, p. 634, pl. 18, f. 5, 6.

*Plaxocrinus?? sancti-ludovici* (Worthen)

See *Eupachycrinus? sancti-ludovici* Worthen

*Pleurodictyum problematicum* ISGS (ISM) 4769-A/C

Coal Measures Figured specimens

Corniferous Group (Onondaga)

((probably Dutch Creek ss.; Dev.

"Yellowish friable sandstone,

referred to the horizon of the

Onondaga period of the New York

series; four miles west of

Jonesboro, Union County, Illinois."

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 407, pl. 9, f. 1a-c.

*Pleurophorus? angulatus* Meek and Worthen ISGS (ISM) 2875

Upper Coal Measures Holotype

Wabash cut-off, near New Harmony,

Posey Co., Ind.


*Pleurophorus chesterensis* Worthen ISGS (ISM) 2501

Holotype

Chester limestone; Miss.

Chester, Randolph Co., Ill.

Collected by A.H. Worthen


*Pleurophorus minima* Worthen ISGS (ISM) 2524

Holotype

Oolitic beds of St. Louis Is.; Miss.

Monroe Co., Ill.

Collected by A.H. Worthen


= *Macrodon minima* (Worthen), *fide* Ulrich 1892.

*Pleurophorus monoensis* Worthen ISGS (ISM) 2523-A/B

Oolitic beds of the St. Louis Group; Miss.

Monroe Co., Ill.

Collected by A.H. Worthen


See also the note under *Solenomya monoensis* Worthen, 2515, indicating Ulrich’s opinion that that form and this one are identical.

*Pleurotomaria adamsi* Worthen ISGS (ISM) 2536-A/E

Coal Measures Syntypes

Peoria Co., Ill.

2536-A = Fig’d. syntype

Collected by W.H. Adams

2536-B = Unfigured


= *Yania adamsi* (Worthen) in Weller, J.M., 1929, Illinois State Geol. Survey, R.I. 18, p. 30-32. In 1928 Weller borrowed from the Ill. State Mus. in Springfield what was supposed to be the type of *P. adamsi* Worthen. He noted that the specimen lent him was not a *Pleurotomaria* at all, and the type was presumed lost or misplaced. By the time (1961) I worked on the collections, after they had been moved from Springfield to the Illinois State Geological Survey in Urbana, there were 5 specimens in the tray, all numbered 2536. I don’t know what specimen had been lent to Weller, but apparently none of these. One of these, now marked 2536-A, bears the diamond sticker Worthen used to indicate types and appears to be the specimen Worthen figured, though Worthen’s drawings are too poor to permit positive identification. LSK 4/13/78


*Pleurotomaria coxana* Worthen

See *Pleurotomaria iowaensis* Worthen

*Pleurotomaria giffordi* Worthen ISGS (ISM) 2535-A/E

Coal Measures Syntypes

Peoria County, Ill.

2535-A = Fig’d. syntype

Collected by Mr. Gifford

2535-B = Unfigured


= *Yania giffordi* (Worthen) in Weller, J.M., 1929, Illinois State Geol. Survey, R.I. 18, p. 36-38. In 1928 Weller borrowed two types of *P. giffordi* from the Illinois State Museum in Springfield. One of these, 2535-A, he called the holotype (1929, p. 38), and used to make plaster casts which he called "plastoholotype" and are now #24 in the ISGS collections. By the time (1961) I worked on the collections there were 5 specimens in the tray under ISGS (ISM) 2535. Slips of paper on which the specimens had been glued would appear to indicate there were 5 specimens under this number, but a label with the number 4060, In the same tray also indicated the possibility that two lots of specimens were combined. The locality and age information on the label and in the catalog are the same for 4060 as for 2535. LSK 4/17/78.


*Pleurotomaria illinoiensis* Worthen ISGS (ISM) 2530-A/B

Black limestone over one of the lower coal seams

2530-A = Fig’d. syntype

Mercer Co., Ill.

Sturgeon’s lectotype

Collected by A.H. Worthen

2530-B = Unfig’d. syntype

Sturgeon’s paralectotype

pl. 121, f. 10-13.

Worthen, A.H., 1884, Ill. State Mus. Nat. Hist. Bull. 2, p. 4; Worthen, 1890, GSI v. 8, p. 135, pl. 23, f. 6, 6a, 6b.
= Trepospira (Trepospira) illinoiensis (Worthen) in Sturgeon, M.T., 1964, Jour. Paleol., v. 36 (4), p. 741, pl. 121, f. 10-14. ISGS (ISM) 2530-B was accidentally damaged and further exfoliated during Sturgeon's study.


Pleurotomaria iowensis Worthen ISGS (ISM) 2547 Holotype
Keokuk limestone; Miss.
Keokuk, Iowa
Collected by Mr. L.A. Cox

Pleurotomaria coxana in Worthen, A.H., 1884, Ill. State Mus. Nat. Hist. Bull. 2, p. 6; Worthen, A.H., 1890, GSI v. 8, p. 138, pl. 24, f. 2. (Name changed because P. coxana was preoccupied).

Pleurotomaria montezuma Worthen ISGS (ISM) 2487 Holotype
Burlington limestone; Miss.
Montezuma, Pike Co., Ill.
Collected by A.H. Worthen
Worthen, A.H., 1883, GSI v. 7, p. 324; Worthen, 1890, GSI v. 8, p. 136, pl. 24, f. 5.

Pleurotomaria nauvooensis Worthen ISGS (ISM) 2493 Holotype
Keokuk limestone; Miss.
Nauvoo, Ill.
Collected by A.H. Worthen

Polyphemosis? keokuk Worthen ISGS (ISM) 2494 Holotype
Keokuk limestone; Miss.
Keokuk, Iowa
Collected by Mr. L.A. Cox of Keokuk


Polypora bisenilata Ulrich ISGS (ISM) 2803 Syntypes
St. Louis Group; Miss.
Monroe Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 592, pl. 60, f. 4, 4a-b. The largest of the 10 fragments bears the diamond sticker commonly used to indicate a type, but otherwise I cannot determine which piece was actually illustrated. LSK 4/17/78.

Polypora burlingtonensis Ulrich ISGS (ISM) 2785 "Type"
Burlington Group; Miss.
Henderson Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 587, pl. 59, f. 2, 2a.

Polypora cestriensis Ulrich ISGS (ISM) 2831-1 Syntype
Chester Group; Miss.
2 miles east of Anna, Union Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 594, pl. 60, f. 7, 7a. This specimen is clearly marked in Ulrich's handwriting as his "type" for fig. 7. However the frond does not match the drawing in detail and part of the frond on the right side in the drawing has been removed from the specimen. LSK 4/17/78.

See also USNM 43792, "Cotype and figured sections...pl. 55, f. 4-4b; pl. 60, 7b-7e," tide Schuchert's 1905 catalog.

Polypora corticosa Ulrich ISGS (ISM) 2802-1/3
Chester limestone; Miss.
Chesler, Randolph Co., Ill.
3 Syntypes
2802-1 = PL 60, f. 5, 5a and Pl. 61, f. 1
2802-2 = PL 60, f. 5b
2802-3 = PL 60, f. 5c
Ulrich, E.O., 1890, GSI v. 8, p. 596, pl. 60, f. 5, 5a-c; pl. 61, f. 1.

Polypora crassa Ulrich ISGS (ISM) 2743 Holotype
Upper Coal Measures
Sugar Creek, Sangamon Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 603, pl. 61, f. 8, 8a.

Polypora gracilis Prout ISGS (ISM) 2816-1/2
Keokuk Group; Miss.
Near Warsaw, Hancock Co., Ill.
2816-1 = Fig'd. specimen
Ulrich, E.O., 1890, GSI v. 8, p. 590, pl. 61, f. 10.

See also USNM 43789, "Plesiotype...pl. 61, f. 10a," tide Schuchert's 1905 catalog.

The specimen figured in GSI v. 2, pl. 21, f. 1 was catalogued by Worthen in his handwritten catalog as ISM 1071. Its present whereabouts is unknown. It could possibly be the same specimen as listed in the Hansman and Scott catalog of the U.I. Worthen Collection as U.I. X-35, also listed as missing in 1967.

Polypora haliliana Prout ISGS (ISM) 2796
Keokuk Group; Miss.
Keokuk, Iowa
2816-3 = Fragments of 3 or 4 specimens
Ulrich, E.O., 1890, GSI v. 8, p. 579, pl. 59, f. 5?, 5a?

One of these fragments bears the diamond sticker indicating it is a "type" or figured specimen, but it is not otherwise labelled as a type. I cannot match it up with the enlarged drawing.

See also USNM 44073, "Plesiotype and figured sections...pl. 59, f. 5b-c," tide Schuchert's 1905 catalog.

Polypora hamiltonensis (Prout)
See Retepora hamiltonensis Prout

Polypora nodocarina Prout ISGS (ISM) 2806
Upper Coal Measures
Crooked Creek near Centralia, Ill.
2 Syntypes
Ulrich, E.O., 1890, GSI v. 8, p. 601, pl. 61, f. 97 9a?

Both of these specimens are clearly marked in Ulrich's handwriting as "Type, Pl. 61," but I cannot match them with either illustration. The illustrations show only the frontals surfaces. The larger specimen shows only the back (though part of it could have been removed to expose the front). The smaller specimen does not correspond with either illustration. LSK 4/18/78.

Polypora spinodonta Ulrich ISGS (ISM) 2786
Warsaw beds; Miss.
Warsaw, Hancock Co., Ill.
Syntype
Collected by A.H. Worthen
Ulrich, E.O., 1890, GSI v. 8, p. 594, pl. 60, f. 3.

**Polypora spinulifera** Ulrich

*Chester Group; Miss.*

Chester, Randolph Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 598, pl. 61, f. 2, 2a.

**Polypora spinulifera var. Ulrich**

*ISGS (ISM) 2772*

*Syntype*

Coal Measures

Montgomery Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 599, pl. 61, f. 3, 3a.

See also USNM 43790, "Coty...pl. 61, f. 4, 4a," *fide* Schuchert's 1905 catalog.

This specimen shows only the obverse side. Probably fig. 3a was drawn from a small portion that was removed to show the reverse. The part that was removed is now missing or it could possibly be the specimen that is in the USNM.

**Polypora tuberculata** Prout

*ISGS (ISM) 2751-1/3*

*Syntype*

Chester Group; Miss.

2751-1/2 from Chester, Randolph Co., Ill.

2751-3 from Monroe Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 595, pl. 60, f. 8.

**Porcellia weblei** Ulrich

*ISGS (ISM) 2820-6*

*Holotype?*

Seville Is.; Coal Measures

Seville, Fulton Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 600, pl. 62, f. 2 (illustration is mirror image of specimen). On small slab with several other species.

**Porcellia peoriensis** Worthen

*ISGS (ISM) 2531-A/D*

*Syntypes*

Lower Coal Measures

Peoria Co., Ill.

2531-A = *Fig'd. syntype*, pl. 23, f. 4

= *Sturgeon's lectotype*, pl. 122, f. 2-3

2531-B = *Fig'd. syntype*, pl. 23, f. 4a, 4b

= *Sturgeon's paralectotype*, pl. 122, f. 1

2531-C/D = Unfig'd. syntypes

= *Sturgeon's unfig'd. paralectotypes*


**Poroblatus granulosus** (Meek and Worthen)

See Pentremites (Granatocrinus) granulosus Meek and Worthen

**Poteriocrinites (Zeascrinus?) concinnus** Meek and Worthen

*Keokuk Group; Miss.*

Crawfordsville, Ind.

Collected by Mr. Corey


Catalogued as *Scaphiocrinus concinnus* Meek and Worthen.


**Poteriocrinites similis** (Worthen, 1882)

See *Poteriocrinites similis* Worthen

**Poteriocrinus arachnaeformis** Worthen

*Keokuk Group; Miss.*

Warsaw, Hancock Co., Ill.


**Poteriocrinus calyculus** Hall

*Lower Burlington limestone; Miss.*

Burlington, Iowa

Hall, James, 1858, Rept. Geol. Survey Iowa, v. 1, pt. 2, p. 553, pl. 9, f. 6a-b. (Pl. 9, f. 6c is U.I. X-1088 (ISNM 10318)). The diagram of plates given in Hall, 1858, Rept. Geol. Survey Iowa, v. 1, pt. 2, Supplement, p. 2, f. 11, was probably drawn from one or both of these specimens. Another specimen was figured by Hall, 1872, Photo. plates of crinoids, pl. 6, f. 1, as *Scaphiocrinus calyculus* (present whereabouts unknown).

**Poteriocrinus claytonensis** Worthen

*Warsaw beds; Miss.*

Near Clayton, Adams Co., Ill.


**Poteriocrinus clytis** Worthen

*Worthen 1882 and 1883 and the old Ill. State Mus. catalog give St. Louis limestone as the source. Only the 1892 label in the tray gives Chester Gr.*

Monroe Co., Ill.


**Poteriocrinus columbiensis** Worthen

*Chester Group; Miss.*

Near Columbia, Monroe Co., Ill.


= *Phacelocrinus columbiensis* (Worthen) in Bassler and Mooday, 1943, p. 646.


**Poteriocrinus coreyi** Worthen

*Keokuk Group; Miss.*

Crawfordsville, Ind.

Specimens used for measurements by Van Sant, 1964, p. 93

Worthen, A.H., in Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 516.


Re Van Sant's note on the type of this species, p. 93, bottom right hand column: Both of Worthen's two original specimens were lent to Moore, Van Sant, and Lane by the U.I. Dept. Geology for this study. They are U.I. X-1190 (ISM 10169) and were returned to the Dept. of Geology, via the ISGS 128/65. The upper half of the specimen figured by Worthen, pl. 29, f. 3a-b, was missing at that time. If either of those two specimens could be considered a holotype it would be that specimen (pl. 29, f. 3a-b) because of Worthen's referring to it as "the typical specimen," on p. 517, line 24. Van Sant figured the other specimen (Worthen's pl. 29, f. 2) and called it a neotype (bottom p. 93), and holotype in the explanation of pl. 4, f. 5.

Poteriocrinus cultidactylus Hall ISGS (ISM) 2471 Figured specimen
Burlington limestone; Miss. Montezuma, Pike Co., Ill.

= Blothrocrinus cultidactylus (Hall) in Bassler and Moodey, 1943, p. 334.

Poteriocrinus dilatatus? Hall ISGS (ISM) 2001 Figured specimen
Proboscis?
Lower Burlington limestone; Miss.
Calhoun Co., Ill.
Presented by Miss Eliza Reed
Entered in old ISM catalog as "Coelocrinus (ventral sac)."
Meek, F.B., and A.H. Worthen, 1873, GSI v. 5, pl. 4, f. 7. (Illustration only, no description).

Poteriocrinus elsahensis Worthen ISGS (ISM) 2580 Holotype
Kinderhook Group; Miss.
Near Elsah, Jersey Co., Ill.
Collected by A.H. Worthen
Worthen, A.H., in Miller, S.A., 1889, N. Amer. Geol. Paleo., p. 274; Worthen, 1890, GSI v. 8, p. 88, pl. 14, f. 5.

Poteriocrinus fountainensis Worthen ISGS (ISM) 2455 Holotype
St. Louis limestone; Miss.
Fountain Creek, Monroe Co., Ill.

= Decadocrinus fountainensis (Worthen) in Bassler and Moodey, 1943, p. 647.

Poteriocrinus illinoiensis Worthen ISGS (ISM) 2457 Holotype
Warsaw beds; Miss.
Warsaw, Hancock Co., Ill.

Poteriocrinus kaskaskiensis Worthen ISGS (ISM) 2452 Holotype
Chester limestone; Miss.
Bluffs of the Kaskaskia River, 4 miles above Chester, Randolph Co. Ill.

Worthen, A.H., 1882, Ill. State Mus. Nat. Hist. Bull. 1, p. 27; Worthen, 1883, GSI v. 7, p. 300, pl. 29, f. 15. Name was changed in Ill. State Mus. catalog to Scaphicrinus kaskaskiensis (Worthen).


Poteriocrinus mammeeformis Worthen ISGS (ISM) 2578 Holotype
Warsaw beds; Miss.
Warsaw, Ill.
Collected by A.H. Worthen
Worthen, A.H., 1890, GSI v. 8, p. 91 (not figured).

Poteriocrinus nauvoensis Worthen ISGS (ISM) 2465 Holotype
Keokuk Group; Miss.
Nauvoo, Hancock Co., Ill.

= Pachylocrinus nauvoensis (Worthen) in Bassler and Moodey, 1943, p. 582.

Poteriocrinus nodobasalis Worthen ISGS (ISM) 2577-A/B Syntypes
St. Louis limestone; Miss.
8227-A/B Monroe Co., Ill.
Collected by Mr. Henry Talbot
2577-A = Pl. 12, f. 3
2577-B = Pl. 12, f. 3a
8227-A = Pl. 13, f. 6
8227-B = Not figured
Worthen, A.H., 1890, GSI v. 8, p. 89, pl. 12, f. 3, 3a; pl. 13, f. 6.

= Pachylocrinus nodobasalis (Worthen) in Bassler and Moodey, 1943, p. 649.

Poteriocrinus okawensis Worthen ISGS (ISM) 2441 Holotype
Chester Group; Miss.
Bluffs of Okaw River above Chester, Randolph Co., Ill.

= Pachylocrinus okawensis (Worthen) in Bassler and Moodey, 1943, p. 649.

= Aphelecrinus okawensis (Worthen) in Kirk, 1944, p. 198.

Poteriocrinus ottenensis Worthen ISGS (ISM) 2466 Holotype
Keokuk Group; Miss.
Otter Creek, Jersey Co., Ill.

Poteriocrinus peculiarsi Worthen ISGS (ISM) 2448 Holotype
Chester Group; Miss.
Monroe Co., Ill.
Poteriocrinus popensis Worthen  ISGS (ISM) 2454  
Chester limestone; Miss.  
Pope Co., Ill.


= Pachylocrinus popensis (Worthen) in Bassler and Moodey, 1943, p. 649.

Poteriocrinus spinobrachiatus Worthen  ISGS (ISM) 2437  
Chester Group; Miss.  
Monroe Co., Ill.

= Cosmetocrinus richfieldensis (Worthen) in Bassler and Moodey, 1943, p. 649.

Poteriocrinus spinuliferous Worthen  ISGS (ISM) 2492  
Chester limestone; Miss.  
Near Columbia, Monroe Co., Ill.

Worthen, A.H., 1884, Ill. State Mus. Nat. Hist. Bull. 2, p. 27; Worthen, 1890, GSI v. 8, p. 86, pl. 14, f. 3. Another specimen was figured on pl. 17, f. 1, 1a of vol. 8, but was not mentioned in the description. That specimen is missing as of 10/26/65. LSK.

= Linocrinus spinuliferous (Worthen) in Bassler and Moodey, 1943, p. 650.

Poteriocrinus talbotti Worthen  ISGS (ISM) 2470  
St. Louis Group; Miss.  
Monroe Co., Ill.


= Scytalocrinus talbotti (Worthen) in Bassler and Moodey, 1943, p. 650.
Poteriocrinus validus Worthen
Warsaw limestone; Miss.
Warsaw, Ill.

Holotype
Figured
Syntypes 10, Syntype B2

Poteriocrinus varsouviensis Worthen
Warsaw beds; Miss.
Warsaw, Hancock Co., Ill.

= Pachylocrinus varsouviensis (Worthen) in Bassler and Moodey, 1943, p. 650.

Poteriocrinus venustus Worthen
Chester Group; Miss.
Monroe Co., Ill.


Prismopora trifolia (Rominger)
Keokuk Group; Miss.
Keokuk, Iowa
Ulrich, E.O., 1890, GSI v. 8, p. 505, pi. 77, f. 4b.

See also USNM 43782, “Plesiotypes...pl. 77, f. 4b,” fide Schuchert’s 1905 catalog.

ISGS (ISM) 2767-A/B
Keokuk Group; Miss. 2767-A = Figured specimen
Keokuk, Iowa 2767-B = Not figured

Ulrich, E.O., 1890, GSI v. 8, p. 505, pl. 77, f. 4b.

See also USNM 43782, “Plesiotypes...pl. 77, f. 4b,” fide Schuchert’s 1905 catalog.

ISGS (ISM) 2767-A bears Ulrich’s handwritten label, glued to the specimen, reading “Figured on pl. 77, fig. 4b, vol. 8.” It appears to be the specimen figured, but a comparison with the USNM specimen will be necessary to determine which is really the specimen figured.


Prismopora trifolia (Rominger)
Keokuk Group; Miss.
Keokuk, Iowa
Ulrich, E.O., 1890, GSI v. 8, p. 505, pi. 77, f. 4, 4a.

See also USNM 43782, “Plesiotypes...pl. 77, f. 4b,” fide Schuchert’s 1905 catalog. Comparison of ISGS (ISM) 2767-A and USNM specimens will be necessary to determine which is really the specimen shown as fig. 4b.


Productus magnus Meek and Worthen
Keokuk Group; Miss.
Crawfordsville, Ind.

Holotype
Figured specimen


Catalogued in old Ill. State Mus. catalog as Productus semireticulatus Martin.


Productus semireticulatus Martin
See Productus magnus Meek and Worthen

Prolecanites monoensis (Worthen)
See Goniatites monoensis Worthen

Protocestus gregarius Meek and Worthen
Keokuk Group; Miss.
Crawfordsville, Ind.

ISGS (ISM) 1823
Syntypes
Worthen, A.H., and A.H. Worthen, 1873, GSI v. 5, p. 509, pl. 16, f. 5a-e.

This is the slab marked by Meek and Worthen as “Type”; it has many specimens on it, but I have not determined which are the figured ones. LSK, 1961.

Procrisina exigua Ulrich
Cincinnati Group; Ord.
Wilmington, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 405, pl. 29, f. 4 (larger of 2 specimens shown under 4), and 4a-4c?

2687-1 = Phyloporina variolata Ulrich. Ulrich’s handwritten label designating 2687-1 = Phyloporina variolata Ulrich and 2687-2 = Procrisina exigua Ulrich, “Type. Pl. 29, fig. 4,” is glued to 2687-1, but Ulrich’s figured specimen of P. exigua is on 2687-2.

See also USNM 43287-43288, “Figured sections of cytope...pl. 29, f. 4c; pl. 53, f. 11-11e,” fide Schuchert’s 1905 catalog.

Proutella discoidea (Prout)
Keokuk Group; Miss.
Hancock, Co., Ill.

ISGS (ISM) 4454-1/2
Syntypes
Ulrich, E.O., 1890, GSI v. 8, p. 674, pl. 69, f. 4. Ulrich, p. 675, notes “Several of the specimens used in drawing up the above diagnosis of the species were so named by Dr. Prout himself...” It is therefore possible that these specimens were some of Prout’s types, though there is apparently no way of proving it.

See also USNM 43788, “Cytoplly and figured sections...pl. 69, f. 4a-d,” fide Schuchert’s 1905 catalog.

Cyclopora discoidea Prout, 1860, Acad. Sci. St. Louis, Trans., v. 1, p. 578; Prout, 1866, GSI v. 2, p. 420, pl. 21, f. 2-2a; pi. 22, f. 10, 10a. The specimen figured on pl. 22 (and possibly that on pl. 21 also) is U.I. X-15 (ISM 10714).
Pseudaviculopecten (?) indianensis (Meek and Worthen)
See Aviculopecten collectti Worthen

Pseudomonotis hawni var. sinuata
(Meek and Worthen) ISGS (ISM) 2971-A/D
Coal Measures
Gallatin Co., Ill.
2971-A = Fig’d specimen, p. 244, f. 11-H

Bull., v. 143, art. 4, p. 244, f. 11-H.

Eumicrotus hawni var. sinuata Meek and Worthen, 1866, GSI v. 2, p. 338.

Newell and Boyd's figures 11-F and 11-G on p. 244 are of the same specimen as figured by Meek and Worthen, 1866, pl. 27, f. 13. That specimen is U.I. X-722 (ISM 10914). It is called "holotype" by Newell and Boyd, and ISGS (ISM) 2971-A is called "paratype." Worthen catalogued 2 specimens under his number 10914, in his handwritten catalog, and in his own handwriting. Present whereabouts of the second specimen and/or the other three specimens used for Meek and Worthen's illustrations is unknown. The other three specimens under ISGS (ISM) 2971 (2971-B/D) do not appear to be those illustrated. LSK 4/25/78

Ptilopora acuta Ulrich ISGS (ISM) 4472-1
Keokuk Group; Miss.
Bentonport, Iowa
Ulrich, E.O., 1890, GSI v. 8, p. 622, pl. 65, f. 4, 4a.

Ptilopora sp. cf. P. acuta Ulrich ISGS (ISM) 4472-2
Keokuk Group; Miss.
Bentonport, Iowa
Ulrich, E.O., 1890, GSI v. 8, p. 622, pl. 65, f. 5c.

Ptilopora cylindracea Ulrich ISGS (ISM) 4481
Keokuk Group; Miss.
Bentonport, Iowa
Ulrich, E.O., 1890, GSI v. 8, p. 623, pl. 66, f. 2a.
See also USNM 43786, "Cotypes...pl. 66, f. 2, 2b," tida Schuchert's 1905 catalog.

Ptilopora prouti Hall ISGS (ISM) 4463
Warsaw beds; Miss.
Monroe Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 625, pl. 65, f. 3 (specimen shown as f. 3a, 3b, 3c is missing).

Ptilopora valida Ulrich ISGS (ISM) 4459-1/3
Keokuk Group; Miss.
Bentonport, Iowa (4459-3); 4459-1 = Pl. 65, f. 5; pl. 66, f. 1
and Henderson Co., 4459-2 = Pl. 65, f. 5a; pl. 66, f. 1a, 1b
Ill. (4459-1/2) 4459-3 = Pl. 65, f. 5b
Ulrich, E.O., 1890, GSI v. 8, p. 623, pl. 65, f. 5, 5a-b; pl. 66, f. 1, 1a-b.

Ptilotrypa obliquata Ulrich ISGS (ISM) 2701-A/D
Cincinnati Group; Ord.
Wilmington, Will Co., Ill.
2701-A = Pl. 30, f. 1, 1a
Ulrich, E.O., 1890, GSI v. 8, p. 531, pl. 30, f. 1, 1a.
Four thin sections from 2701-A and 5 from 2701-D prepared by June Philips, 1959.
See also USNM 43787, "Cotypes and figured sections...pl. 30, f. 1b, 1d, 1e," tida Schuchert's 1905 catalog.

Pychoicrinus splendens (S.A. Miller) ISGS (ISM) 1579
Cincinnati Group; Ord.
Alexander Co., Ill.
(possibly Orchard Creek exposure, fide Brower, 1969)
Brower, James C., 1973, Palaeontographica Americana, v. 7 (46). Specimen used by Brower in his statistical studies and labeled by him "Brower #48" but not specifically mentioned by him in his report.
See also Eopatelliocrinus latibrachiatus Brower.

Ptylopora
See Ptilopora

Pyramiblastus fusiformis (Wachsmuth and Springer)
See Orophocrinus fusiformis Wachsmuth and Springer

Retepora hamiltonensis Prout ISGS (ISM) 11458
Hamilton; Devonian
New Buffalo, Iowa
Collected by A.H. Worthen

Polypora hamiltonensis (Prout) in Meek, F.B., and A.H. Worthen, 1866, GSI v. 2, p. 423, pl. 21, f. 6 (and f. 6a?).


Retepora hamiltonensis (Prout)
See Retepora hamiltonensis Prout

Rhomboopora attenuata Ulrich ISGS (ISM) 4442
Keokuk Group; Miss.
Warsaw, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 655, pl. 70, f. 7? The old ISM label says "Type," but it is impossible to tell whether any of these is figured. A comparison with the USNM specimens would be necessary.
See also USNM 43344, "Cotypes...pl. 70, f. 7," tida Schuchert's 1905 catalog.

Rhomboopora decipiens Ulrich ISGS (ISM) 4440
St. Louis Group; Miss.
Monroe Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 657, pl. 71, f. 3, 3a (specimen on right-hand side of illustration only).

See also USNM 44104, "Cotype and figured sections...pl. 71, f. 3b-3d," fide Schuchert's 1905 catalog.

**Rhombopora dichotoma** Ulrich

ISGS (ISM) 4458

Holotype

Burlington Group; Miss.

Burlington, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 650, pl. 70, f. 13, 13a-b.

**Rhombopora exigua** Ulrich

ISGS (ISM) 4450

Holotype

Burlington Group; Miss.

Burlington, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 651, pl. 70, f. 10, 10a.

**Rhombopora gracilis** Ulrich

ISGS (ISM) 4477

Holotype?

Burlington Group; Miss.

Burlington, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 651, pl. 70, f. 11 (and 11a-b?). This specimen is definitely that figured as f. 11 and probably that figured as f. 11a-b, but a careful comparison with the USNM specimens will be necessary to make a final determination.

See also USNM 44103, "Cotypes...pl. 70, f. 11a, 11b," fide Schuchert's 1905 catalog.

**Rhombopora simulatrix** Ulrich

ISGS (ISM) 4441-A/C

3 Syntypes

Monroe Co., Ill.

4441-A = Pl. 71, f. 2c

4441-B/C = Unfigured

Ulrich, E.O., 1890, GSI v. 8, p. 657, pl. 71, f. 2c.

See also USNM 44105, "Cotypes and figured sections...pl. 71, f. 2, 2b, 2d, 2e," fide Schuchert's 1905 catalog.

**Rhombopora subannulata** Ulrich

ISGS (ISM) 4476

Syntype

Hamilton Group; Dev.

New Buffalo, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 648, pl. 45, f. 1b.

See also USNM 44102, "Cotypes and figured sections...pl. 45, f. 1, 1a, 1c-i," fide Schuchert's 1905 catalog.

**Rhombopora tabulata** Ulrich

ISGS (ISM) 2821-8

Syntype

Chester Group; Miss.

Kaskaskia, Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 658, pl. 70, f. 2. Slab has 10 species on it; this is #8.

See also USNM 43793, "Cotype and figured sections...pl. 70, f. 2a-2c," fide Schuchert's 1905 catalog.


**Rhombopora transversalis** Ulrich

ISGS (ISM) 4465-1/2

Keokuk Group; Miss.

Warsaw (4465-1) and

Nauvoo (4465-2), III.

4465-1 = Holotype? or
syntype?, pl. 71, f. 4, 4a, 4b?

4465-2 = Unfigured, possibly not conspecific?

Ulrich, E.O., 1890, GSI v. 8, p. 654, pl. 71, f. 4, 4a, and 4b.

**Rhombopora varians** Ulrich

ISGS (ISM) 4455-1/2

Syntypes

Keokuk Group; Miss.

Warsaw (4455-1) and

Plymouth (4455-2), III.

4455-1 = Pl. 71, f. 1, 1a

4455-2 = Pl. 71, f. 1b-d

Ulrich, E.O., 1890, GSI v. 8, p. 653, pl. 71, f. 1a-d.

**Rynchonella illinoiense** Worthen

ISGS (ISM) 2537-A/B

Coal Measures (probably Lonsdale limestone)

2 Syntypes

Peoria County, Ill.

Collected by Mr. Gifford and W.H. Adams


**Sanguinolites? burlingtonensis** Worthen

ISGS (ISM) 2541

Holotype

Burlington limestone; Miss.

Calhoun Co., Ill.

Collected by A.H. Worthen


**Sanguinolites? multistriatus** Worthen

ISGS (ISM) 2528

Holotype

Keokuk shale; Miss.

Crawfordsville, Ind.

Collected by Frank H. Bradley


**Sanguinolites? randolphensis** (Worthen)

See **Cypricardia? randolphensis** Worthen

**Scalaripora approximata** Ulrich

ISGS (ISM) 2709

Holotype?

Hamilton Group; Dev.

Thunder Bay, Mich.

Ulrich, E.O., 1890, GSI v. 8, p. 508, pl. 43, f. 3.

**Scalaripora separata** Ulrich

ISGS (ISM) 2899

Holotype?

Hamilton Group; Dev.

Thunder Bay, Mich.

Ulrich, E.O., 1890, GSI v. 8, p. 507, pl. 43, f. 2.

**Scaphiocrinus calyculus** (Hall)

See **Poteriocrinus calyculus** Hall
Scaphiocrinus concinnus (Meek and Worthen)  
See Poteriocrinus (Zeacrinus?) concinnus Meek and Worthen

Scaphiocrinus depressus Meek and Worthen  ISGS (ISM) 1811  
Keokuk Group; Miss.  
Holotype?

Meek, F.B., and A.H. Worthen, 1870, Acad. Nat. Sci. Philadelphia Proc., p. 27; Meek and Worthen, 1873, GSI v. 5, p. 492, pl. 14, f. 8 (f. 6 is U.I. X-1907 = ISM 10171).


Scaphiocrinus kaskaskiensis (Worthen)  
See Poteriocrinus kaskaskiensis Worthen

Scaphiocrinus peculiaris (Worthen)  
See Poteriocrinus peculiaris Worthen

Scaphiocrinus popensis (Worthen)  
See Poteriocrinus popensis Worthen

Scaphiocrinus robustus Hall  
See Scytalocrinus robustus (Hall)

Scaphiocrinus rowleyi (Worthen)  
See Poteriocrinus rowleyi Worthen

Scaphiocrinus salteri (Worthen)  
See Poteriocrinus salteri Worthen

Scaphiocrinus similis (Worthen)  
See Poteriocrinus similis Worthen

Scaphiocrinus spinobrachiatius (Worthen)  
See Poteriocrinus spinobrachiatius Worthen

Scaphiocrinus taiboti (Worthen)  
See Poteriocrinus taiboti Worthen

Scaphiocrinus unicus Hall  ISGS (ISM) 8195-A/B  
Keokuk Group; Miss.  
8195-A - Used by Van Sant  
Crawfordsville, Ind.  
for measurements, p. 86  
= Abrotocrinus unicus (Hall) in Van Sant and Lane, 1964, Univ. Kans. Paleo. Contrib., art. 7, p. 86. Catalog number is erroneously given as IGS 38195 in bottom line, p. 86.

Scaphiocrinus varsoviensis (Worthen)  
See Poteriocrinus varsoviensis Worthen

Schizoblastus? granulosus (Meek and Worthen)  
See Pentremites (Granotocrinus) granulosus Meek and Worthen

Schizodus? circulus Worthen  ISGS (ISM) 2521-A/B  
Oolitic beds of St. Louis Group; Miss.  
Syntypes  
2 miles W. of Waterloo,  
2521-A = Fig'd., pl. 19, f. 1  
Monroe Co., Ill.  
Collected by A.H. Worthen  

Schizodus depressus Worthen  ISGS (ISM) 2520-A/B  
Oolitic beds of St. Louis Group; Miss.  
Syntypes  
Monroe Co., Ill.  
2520-A = Fig'd., pl. 18, f. 8, 8a  
Collected by A.H. Worthen  

Schizodus magnus Worthen  ISGS (ISM) 2498  
Holotype  
From one of the upper divisions of the Chester limestone;  
Lower Carboniferous. About 2 miles below the mouth of Marys River, Randolph Co., Ill.  
Collected by A.H. Worthen  
= Leptodomas? magnus (Worthen) 1890, GSI v. 8, p. 107, pl. 18, f. 2, 2a.

Schizodus nauvoensis Worthen  ISGS (ISM) 2499  
Keokuk limestone; Miss.  
Nauvoo, III.  
Collected by A.H. Worthen  

Schizodus randolphensis Worthen  ISGS (ISM) 2590-1/2  
Chester limestone; Miss.  
Syntypes  
Chester, Ill.  
2590-1 = Fig'd., pl. 20, f. 12  
Collected by A.H. Worthen  
2590-2 - Not fig'd.  
Worthen, A.H., 1890, GSI v. 8, p. 110, pl. 20, f. 12.

Schizodus ulrichi Worthen  ISGS (ISM) 2584-A/D  
Upper Coal Measures  
(pretty Mattoon Fm., fide Newell)  
Syntypes - Lectotype  
2584-A = Syntype, Worthen,  
pl. 20, f. 9; pl. 21, f. 1a  
Fairfield, Wayne Co., Ill.  
= Lectotype, Newell & Boyd,  
F. 55 C-D  
2584-B = Syntype, Worthen, pl. 21, f. 1  
= Newell & Boyd, F. 55 E-F  
2584-C = Syntype, Worthen, pl. 21, f. 1b  
2584-D = Unfig'd. syntype  
= Newell & Boyd, f. 55 A-B
Septopora Ulrich
Upper Coal Measures
Jasper Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 633, pl. 64, f. 7; pl. 65, f. 1a (and 17).

Solenocris sancti-ludovici Worthen
St. Louis limestone; Miss.
South St. Louis, Mo.
Collected by A.H. Worthen


Solenomya iowensis Worthen
Shaly layers of St. Louis Is.; Miss.
Pella, Iowa
2517-1 = "Fig’d., pl. 19, f. 5, 5a
Collected by A.H. Worthen


Solenomya monroensis Worthen
Oolitic beds of the
St. Louis limestone; Miss.
Fountain Creek, Monroe Co., Ill.
2515-B/C = Unfig’d.
Collected by A.H. Worthen

Worthen, A.H., 1884, Ill. State Mus. Nat. Hist. Bull. 2, p. 13; Worthen, 1890, GSI v. 8, p. 131, pl. 18, f. 5, 5a. Note in tray with these specimens, “In my opinion Solenomya monroensis (2515) and Pleurophorus monroensis (2523), both of Worthen (vol. 8) are identical, E.O. Ulrich det. 1892.”

Solenomya varsoviensis Worthen
Keokuk limestone; Miss.
Warsaw, Ill.
2539 = Holotype
Collected by A.H. Worthen


Note in tray with specimen, “Type of Worthen’s Solenomya varsoviensis. This I regard as a large specimen of Chaenomya? hybeda M. & W. E.O. Ulrich det. 1892.”

Sorospongia radiata Ulrich and Everett
Trenton Group
Lee County, Ill.
Collected by Dr. Oliver Everett
Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, pl. 7, f. 2 (and 2a?, 2b?). Figured without name or description but catalogued in old Ill. State Mus. catalog under this name. One label appears to be in Ulrich’s handwriting; another indicates that the identification was confirmed by Dr. C. Rominger in 1892.
Sphenopoterium enorme ISGS (ISM) 4397-A/C
var. depressione Meek and Worthen Syntypes (3)
Kinderhook Group; Miss. 4397-A = Fig'd. syntype
Salt Lick Point, Monroe Co., Ill.

Meek, F.B., and A.H. Worthen, 1866, GSI v. 2, p. 146, pl. 14, f. 2a-b.

Spirifer engelmanii Meek and Worthen ISGS (ISM) 4530-1/4
Syntypes - Lectotype and Lower Helderberg, Dev.
paraleptotypes
T. 12 S., R. 2 W., 4530-1 = Meek & Worthen, pl. 8, f. 5a
Union Co., Ill. = Amsden, pl. 17, f. 19
4530-2 = Meek & Worthen, pl. 8, f. 5b, c, d
= Amsden, Lectotype, pl. 17, f. 13-15, 17
4530-3 = Amsden, pl. 17, f. 16, 18, 20
4530-4 = Not figured

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 398, pl. 8, f. 5a-d.


Spirifer engelmanii Meek and Worthen ISGS (ISM) 4970
Lower Helderberg; Dev. 6 specimens (one, unnumbered, 5 miles from Jonesboro, on is another form)
the road to Bennett's 4970-1 = Amsden, pl. 17, f. 21
Landing, Union Co., Ill.

Catalogued originally as S. macropterus Goldfuss.


Spirifer fastigatus Meek and Worthen ISGS (ISM) 4237-1/2
Keokuk shale; Miss. Syntypes
Crawfordsville, Ind. 4237-1 = F. 3a
4237-2 = F. 3b


Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 521, pl. 30, f. 3a, 3b.

Not S. fastigatus Morton, 1836.

= S. mortonanus Miller, 1883, in Weller, 1914, ISGS Mon. 1, p. 366.

Spirifer hemicyclus Meek and Worthen ISGS (ISM) 4522-1/3
Lower Helderberg, Dev. Types?
Union Co., Ill. (cast from Alexander Co.?)

= Spirifer engelmanii? Meek and Worthen, 1868 (identified by T.W. Amsden).
**Stenopora perextensus** Meek and Worthen  
Onondaga limestone; Dev.  
2 miles west of Jonesboro,  
Union Co., Ill.  
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 414, pl. 10, f. 1b.  
See also ISGS (ISM) 4549-1/3 for other syntypes.

**Spirifer worthenianus** Schuchert  
See *Spirifer engelmanni* Meek and Worthen

**Stegocelia (Stegocelia) worthani** Knight  
See *Loxonema quadri-carinatus* Worthen

**Stenopora americana** Ulrich  
Keokuk Group; Miss.  
Near Warsaw, Ill.  
Ulrich, E.O., 1890, GSI v. 8, p. 437, pl. 74, f. 17, 1a?  
See also USNM 44066, "Figured sections and fragment of holotype...pl. 74, f. 1, 1a" fide Schuchert's 1905 catalog.

Ulrich's handwritten labels, glued to these specimens, read "Typical." The old Ill. Stat. Mus. catalog calls them "Type." It is possible but by no means certain that the USNM specimen and slides came from the ISGS specimens. The Schuchert catalog gives the locality as Nauvoo, Ill., which is not listed in Ulrich's original description.

**Stenopora americana** var. *varsoviensis* Ulrich  
Keokuk Group; Miss.  
Near Warsaw, Hancock Co., Ill.  
Ulrich, E.O., 1890, GSI v. 8, p. 437, pl. 74, f. 3. A label in Ulrich's handwriting, glued to the specimen, reads "Type. Pl. 74, f. 3."

See also USNM 43322, "Figured sections of holotype...pl. 74, f. 3, 3a," fide Schuchert's 1905 catalog.

**Stenopora angularis** Ulrich  
Keokuk Group; Miss.  
LaG range, Mo.  
Ulrich, E.O., 1890, GSI v. 8, p. 439, pl. 74, f. 6. This ISGS specimen bears the diamond sticker commonly used to indicate types and Ulrich's handwritten label designating specimen as "Type. Pl. 74, f. 6, vol. 8."

See also USNM 43323, "Figured sections and fragment of holotype...pl. 74, f. 6-6b," fide Schuchert's 1905 catalog.

**Stenopora carbonaria** var. *conferta* Ulrich  
Coal Measures  
Caseyville, St. Clair Co., Ill.  
Ulrich, E.O., 1890, GSI v. 8, p. 446. This specimen bears the diamond sticker commonly used to indicate types and may well be the holotype from which the USNM sections (figured) were made.

See also USNM 43315, "Figured sections of holotype...pl. 73, f. 9, 9a," fide Schuchert's 1905 catalog.

**Stenopora cestriensis** Ulrich  
Chester Group; Miss.  
1 slide prepared by T.G. Perry, 1956

Ulrich, E.O., 1890, GSI v. 8, p. 442. Ulrich's handwritten label reads "Type. Pl. 74, fig. 7, Vol. 8."

See also USNM 43314, "Figured sections of holotype...pl. 74, f. 7, 7a," fide Schuchert's 1905 catalog.


**Tabulipora diamond** Ulrich  
Keokuk Group; Miss.  
Worthen, v. 9a, p. 1905  
These specimens were catalogued in the old Ill. State Mus. catalog as "Type" and bear the diamond stickers indicating types, but Ulrich's handwritten labels do not say type, as was usual. See Perry and Horowitz' discussion of types.

See also USNM 43320, "Figured sections of holotype...pl. 73, f. 7-7a," fide Schuchert's 1905 catalog.

**Stenopora meekana** Ulrich  
Chester Group; Miss.  
1890, GSI v. 8, p. 443. Ulrich's handwritten label reads "Type. Pl. 74, fig. 7, 7a," fide Schuchert's 1905 catalog.

See also USNM 43325, "Holotype and figured sections...p. 440, f. 16," fide Schuchert's 1905 catalog.

**Stenopora meekana** var. *conferta* Ulrich  
Coal Measures  
Caseyville, St. Clair Co., Ill.  
Ulrich, E.O., 1890, GSI v. 8, p. 446. This specimen bears the diamond sticker commonly used to indicate types and may well be the holotype from which the USNM sections (figured) were made.

See also USNM 43315, "Figured sections of holotype...pl. 73, f. 9, 9a," fide Schuchert's 1905 catalog.

**Stenopora cestriensis** Ulrich  
Chester Group; Miss.  
1 slide prepared by T.G. Perry, 1956

Ulrich, E.O., 1890, GSI v. 8, p. 442. Ulrich's handwritten label reads "Type. Pl. 74, fig. 7, Vol. 8."

See also USNM 43314, "Figured sections of holotype...pl. 74, f. 7, 7a," fide Schuchert's 1905 catalog.
Stenopora montifera Ulrich
Keokuk Group; Miss.
Bentonport, Iowa
Ulrich, E.O., 1890, GSI v. 8, p. 438, pl. 74. This specimen bears
the diamond sticker indicating a type, and Ulrich’s hand-
written label, glued to the specimen, reads “Type. Pl. 74, fig.
4, vol. 8.” This may be another piece of the specimen in the
USNM or both may be syntypes.
See also USNM 44065, “Figured sections and fragment of
holotype..pl. 74, f. 4-4b,” tide Schuchert’s 1905 catalog.

Stenopora? signata Ulrich
Coal Measures
Caseville, St. Clair Co., III.
Ulrich, E.O., 1890, GSI v. 8, p. 446.
See also USNM 43798, “Figured sections of holotype..pl. 73, f.
5, 5a, 5b,” tide Schuchert’s 1905 catalog.

Stenopora tuberculata (Prout)
Warsaw beds; Miss.
Ulrich, E.O., 1890, GSI v. 8, p. 441, f. 17? The specimen, 2757-1,
bears the diamond sticker, and Ulrich’s handwritten label
reads “fig. cut,” so it is probable the specimen from which
the slides for text fig. 17 were made.
See also USNM 43796 and 43797, “Figured sections of plesiotypes..p.
441, text fig. 17, figs. 17a, 17b,” tide Schuchert’s 1905 catalog.

Tabulipora ??T. tuberculata (Prout, 1859) in McKinney, Frank

Stictoporella basalis Ulrich
Warsaw beds; Miss.
Ulrich, E.O., 1890, GSI v. 8, p. 532, pl. 75, f. 1. These two
specimens were originally labeled by Ulrich and catalogued in
the old III. State Mus. catalog as Intrapora basalis.
Ulrich’s handwritten labels, glued to each specimen, read
“Impo. Pl. 75, fig. 5, vol. 8.” It is impossible to determine ex-
actly which part of which specimen Ulrich used for his il-
Illustrations. See also ISGS (ISM) 4449, pl. 69, f. 2.

Intrapora basalis Ulrich in Nickles and Bassler, 1900,
See also USNM 43770, “Cotypes and figured sections..pl. 68,
figs. 5, 5a; pl. 59 (by error for 69), figs. 2, 2a,” tide
Schuchert’s 1905 catalog.

Stictoporella basalis Ulrich
Keokuk Group; Miss.
Warsaw, Hancock Co., III.
Ulrich, E.O., 1890, GSI v. 8, p. 532, pl. 69, f. 2. See also ISGS
(ISM) 2777, pl. 75, f. 5.

= Intrapora basalis Ulrich in Nickles and Bassler, 1900,

See also USNM 43770, “Cotypes and figured sections..pl. 68,
figs. 5, 5a; pl. 59 (by error for 69), figs. 2, 2a,” tide
Schuchert’s 1905 catalog.

Streblotrema distincta Ulrich
Chester Group; Miss.
Ulrich, E.O., 1890, GSI v. 8, p. 669, pl. 71, f. 10 (and 10a-b?).

Streblotrema major Ulrich
Keokuk Group; Miss.
Nauvoo, III.
Ulrich, E.O., 1888, Denison Univ. Bull., v. 4, p. 84, pl. 14, f. 10;
Ulrich, E.O., 1890, GSI v. 8, p. 666, pl. 71, f. 8d. Ulrich’s 1888
description was taken from his manuscript for his 1890
description in GSI, v. 8. This specimen bears Ulrich’s hand-
written label which reads “Type. Pl. 71, fig. 8.”
See also USNM 44095, “Cotypes and figured sections..pl. 71,
fig. 8, 8a; pl. 72, f. 1, 1a,” tide Schuchert’s 1905 catalog.

Streblotrema nicklesi Ulrich
Chester Group; Miss.
Kaskaskia, Ill.

= Intrapora basalis Ulrich in Nickles and Bassler, 1900,

See also USNM 43770, “Cotypes and figured sections..pl. 68,
figs. 5, 5a; pl. 59 (by error for 69), figs. 2, 2a,” tide
Schuchert’s 1905 catalog.

Straparollus (Euomphalus) pernodosus Meek and Worthen
Lower Coal Measures
Near Alton, III.
Philadelphia, Proc., p. 45; Meek and Worthen, 1873, GSI v. 5,
p. 604, pl. 29, f. 14a-c.

Straparollus (Euomphalus) planodorsatus (Meek and Worthen)
See Euomphalus planodorsatus Meek and Worthen

Straparollus (Euomphalus) subquadratus Meek and Worthen
Meek and Worthen
Coal Measures
Montgomery Co., III.
Collected by Mr. G.C. Broadhead

Philadelphia, Proc., p. 46; Meek and Worthen, 1873, GSI v. 5,

= Straparollus (Amphiscapha) subquadrata Meek and Worthen
in Yochelson and Saunders, 1967, U.S.G.S. Bull. 1210,
p. 216.

Straparollus subumbilicatus Worthen
Calcareaous shales of the
Chester Group; Miss.
Worthen, A.H., 1890, GSI v. 8, p. 142, pl. 24, f. 3, 3a, 3b.

= Straparollus (Straparollus) subumbilicatus Worthen
Ulrich, E.O., 1890, GSI v. 8, p. 667, pl. 71, f. 9. I believe the specimen on this slab marked 2821-10 is the one figured as the uppermost on the page of three specimens shown as fig. 9. Part of the specimen below the junction of the two branches has been removed. The specimen should be compared with the USNM specimens. LSK 9/23/71.


See also USNM 43311, "Cotypes and figured sections...pl. 71, f. 9, 9c," *fide* Schuchert's 1905 catalog.

**Streblotrepa radialis** Ulrich  
Keokuk Group; Miss.  
Bentonport, Iowa

Ulrich, E.O., 1890, GSI v. 8, p. 667, pl. 72, f. 2. Six slides (peels) prepared by Sam Huffman, Indiana Univ., 1969.

**Streblotrepa subspinosus** Ulrich  
Chester Group; Miss.  
Chester, Randolph Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 668, pl. 71, f. 7 (and 7a?). One small slab bearing several specimens. LSK 9/23/71.

**Streptorhynchos propinquus** Meek and Worthen  
See *Helminites subplanus* Conrad?

**Streptosolen obconicus** Ulrich and Everett  
Figured syntype

25 ft. above the base of the Trenton limestone; Ord.  
Near Dixon, Lee Co., Ill.

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 274, pl. 4, f. 4, 4a, 4b.

**Streiklandinia** sp. undet.  
Oriskany Group (probably Dutch)  
Creek ss.; Dev.  
Union Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 402, pl. 9, f. 5.

**Streiklandinia elongata** var.  
*Meek and Worthen*  
Oriskany Group (cherty)  
(= Clear Creek Fm., *fide* Amsden); Dev.  
Union Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 402, pl. 8, f. 1a-c.  

**Strigocaris sanctitudovici** (Worthen)  
See *Strigonotus sanctitudovici* Worthen

**Strophomena?** sp. undet.  
Oriskany Group (probably Dutch)  
Creek ss.; Dev.  
4 miles west of Jonesboro, Union Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, pl. 8, f. 8.

**Strophomena (Strophodonta)** sp. undet.  
Oriskany Group (probably Dutch)  
Creek ss.; Dev.  
4 miles west of Jonesboro, Union Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 411, pl. 9, f. 7b, 9? (Specimen shown in f. 7a missing.

**Strophomena (Strophodonta)** sp.  
Yellowish friable sandstone, referred to the horizon of the Oriskany of the New York series (= Dutch Creek sandstone)  
Four miles west of Jonesboro, Union Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 412, pl. 9 (printed as pl. 6 by error on p. 412), f. 6a-6b. Listed in old Illinois State Museum catalog as *Strophodonta sp.? perplana* Conrad and on old ISM labels as *Strophodonta perplana* Conrad. The specimen 4553-6 is probably different from the others in this collection.

**Strophostylus cancellatus** Meek and Worthen  
Syntypes  
Oriskany Group; Dev.  
Bald Rock, Jackson Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 404, pl. 8, f. 11a-b. A note in the tray reads "I regard this as the normal form of *Strophostylus cancellatus* M. & W. The types of that species I hold to be compressed vertically. E.O. Ulrich det. 1892."

**Strophostylus cancellatus** Meek and Worthen  
Syntypes  
Oriskany Group; Dev.  
Bald Rock, Jackson Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 404, pl. 8, f. 12.

**Strotocrinus venustus** Miller and Gury  
Burlington Group; Miss.  
Burlington, Iowa


**Strotospongia maculosa** Ulrich and Everett  
25 feet above the base of the Trenton limestone; Ord.  
Near Dixon, Lee Co., Ill.  
Collected by Oliver Everett

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 277. Although this specimen bears Ulrich's label "Type" and "det. 1888," it is not the specimen figured by Ulrich and Everett on pl. 8, f. 1a-d. It may be an unfigured syntype—see reference in text to "2 other examples" on p. 278.

See also USNM 46573, "Figured sections of holotype...pl. 8, f. 1c-1d," *fide* Schuchert's 1905 catalog.
**Synbathocrinus robustus** Shumard
Keokuk Group; Miss.
Green Co., III.

Worthen, A.H., and F.B. Meek, 1875, GSI v. 6, p. 514, pl. 29, f. 4.

**Synphoroides**
See *Dalmanites tridentiferus* (Shumard)

**Syringelasma worteni** Ulrich
Hamilton Group; Devonian
Holotype (in 2 pieces)
Thunder Bay, Mich.

Ulrich, E.O., 1890, GSI v. 8, p. 250, pl. 7, f. 4, 4a, 4c-e. Name was
given as *Syringophyllum* in text, but changed to *Syringelasma*
in explanation of plates, because the former was
preoccupied. See note on explanation of plate.

See also USNM 46574, "Figured sections of holotype ....pl. 7, f. 4b," *fide* Schuchert's 1905 catalog.

**Syringophyllum worteni** Ulrich
See *Syringelasma worteni* Ulrich

**Tabulipora cestriensis** (Ulrich)
See *Stenopora cestriensis* Ulrich

**Tabulipora meekana** (Ulrich)
See *Stenopora meekana* Ulrich

**Tabulipora ramosa** (Ulrich)
See *Stenopora meekana* Ulrich

**Taeniodictya cingulata** Ulrich
Keokuk Group; Miss.
Near Warsaw, III.

Ulrich, E.O., 1890, GSI v. 8, p. 530, pl. 67, f. 3, 3a? 3b?

**Taeniodictya frondosa** Ulrich
Keokuk Group; Miss.
Nauvoo, Hancock Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 529, pl. 67, f. 5.

See also USNM 43799, "Cotypes and figured sections....pl. 69, f. 5-5c, " *fide* Schuchert's 1905 catalog.

**Taeniodictya ramulosa** Ulrich
Keokuk Group; Miss.
Near Warsaw, Hancock Co., Ill.

Ulrich, E.O., 1890, GSI v. 8, p. 528, pl. 67, f. 1.

See also USNM 43800, "Cotypes and figured sections....pl. 67, f. 1a-11, " *fide* Schuchert's 1905 catalog.

**Taeniodictya ramulosa var. burlingtonensis** Ulrich
Burlington Group; Miss.
Burlington, Iowa (2799-1) and Montezuma, Ill. (2799-2)

Ulrich, E.O., 1890, GSI v. 8, p. 529, pl. 67, f. 2, 2a-b.

**Talarocrinus ovatus** Worthen
Chester Group (Paint Creek Fm?);
*fide* Weller, 1920, p. 341); Miss.
Monroe Co., Ill.

Worthen, 1883, GSI v. 7, p. 314, pl. 29, f. 11a-b.

Cam., p. 787, pl. 78, f. 2a-b (drawings inaccurate).

Weller, Stuart, 1920, Ill. State Geol. Survey Bull. 41, p. 340, pl. 6,
f. 27-30.

**Taxocrinus gracilis** Meek and Worthen
New Buffalo, Iowa
Philadelphia Proc., p. 142; Meek and Worthen, 1868, GSI v.
3, p. 421, pl. 13, f. 3. Worthen's handwritten catalog lists
ISM 10397 (= U.I. X-49) as type for this species, giving same
pl. and fig. The U.I. specimen was not included in Hansman
and Scott's catalog, 1967, and I have not seen it. This ISGS
specimen is definitely the one figured by Meek and Worthen,
1868. LSK, 6/19/78.

= *Eutaxocrinus gracilis* (Meek and Worthen) in Spring, Frank, 1920, Crin. Flexibilia, p. 367, pl. 49, f. 8a-b.

**Temnocellius scottense** Worthen
Warsaw; Miss.
Near Winchester, Scott Co., Ill.

Worthen, A.H., 1890, GSI v. 8, p. 151, pl. 27, f. 3, 3a.

= *Koninckioceras scottense* (Worthen) in Miller and Kemp,

**Terebratula boidens** Morton
LaSalle, Ill.
Morton, F.B., and A.H. Worthen, 1873, GSI v.
5, p. 572, pl. 25, f. 15a-b

= *Dielasma boidens* (Morton) in Hall and Clarke, 1884,


**Terebratula rowleyi** Worthen
From a cherty bed near the base of
the Burlington Is.; Miss.
2526-A = Fig'd. specimen
Pike Co., Mo. Collecting by R.R. Rowley

Worthen, 1890, GSI v. 8, p. 102, pl. 11, f. 6, 6a, 6b.

= *Dielasma rowleyi* (Worthen) in Hall and Clarke, 1884,

= *Centronelloidea rowleyi* (Worthen) in Weller, Stuart, 1914,
I.S.G.S. Mon. 1, p. 247, and in Stehli, F.G., 1965, in the

**Tetraosteus crassimuralis** (Ulrich)
See *Monotypella crassimuralis* Ulrich
Thamniscus fuciillatus Ulrich
Chester Group; Miss.
Chicago, Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 609, pl. 62, f. 9. The specimen is labeled "Type, pl. 62, f. 9," in Ulrich's handwriting. If this is the specimen figured, part of it has been removed from the slab.
See also USNM 43384, "Cotype...pl. 62, f. 9, 9b," fide Schuchert's 1905 catalog.

Thamniscus octonarius Ulrich
Coal Measures
"Type" (= holotype?)
Lawrence, Greenwood Co., Kan.
Ulrich, E.O., 1890, GSI v. 8, p. 611, pl. 62, f. 7, 7a-b. Ulrich's handwritten label, glued to the specimen, reads "Type. Pl. 62, fig. 7, 7a, 7b." M.K. Elias also found this form 2 to 7 feet below the base of the Neva limestone, in a highway cut approximately 2 miles west of Grena, Greenwood Co., Kan. Elias thinks this specimen probably came from the Murrill Is. (?), Big Blue series. Personal communication, 1960.

Thamniscus sevillensis Ulrich
Coal No. 1; Coal Measures
"Type" (= holotype?)
Seville, Fulton Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 552, pl. 62 (not pl. 52 as given on p. 552), f. 5, 5a. Ulrich's handwritten label, glued to the specimen, reads "Type. Thamniscus ramulosus var. sevillensis Ulrich. Pl. 62, fig. 5, 5a." The ramulosus was dropped and the var. sevillensis raised to specific rank before publication.
See also USNM 43801, "Cotypes and figured sections...pl. 55, f. 6," fide Schuchert's 1905 catalog. Catalogued by Schuchert as Thamniscus ramulosus var. sevillensis Ulrich.

Tholocrinus armiger (Meek and Worthen)
See Zeacrinus? armiger Meek and Worthen

Trachydonta nodulosa Worthen
Coal Measures (probably Lonsdale Is.)
Peoria Co., Ill.
Collected by W.H. Adams and Mr. Gifford

Trachypora austini Worthen
Coal Measures
"Syntypes" (2)
Labette Co., Kan.
Collected by A.C. Austin
Worthen, A.H., 1890, GSI v. 8, p. 81, pl. 11, f. 1, 1a-1d. It is impossible to tell from which specimen sections shown in figs. 1c and 1d were made. The slides are missing. A rubber mold made by Harrell L. Strimple Is with the specimens.

Trematosaster difficilis Worthen and Miller
Chester; Miss.
Prairie du Long Creek, Monroe Co., Ill.
Worthen, A.H., and S.A. Miller, 1883, GSI v. 7, p. 330, pl. 31, f. 3a, 3b.

Trematopora calliporoides Ulrich
Cincinnati Group; Ord.
Alexander Co., Ill.
Ulrich, E.O., 1890, GSI v. 8, p. 420, pl. 38, f. 1, 1a. Part of specimen has been broken away and is missing. LSK 12/22/69.
See also USNM 43803, "Cotype and figured sections...pl. 38, f. 1b-d," fide Schuchert's 1905 catalog.
See also Boardman, R.S., and F.K. McKinney, 1976, Jour. Paleol. v. 50 (1), p. 37, pl. 4, f. 4a, b (USNM 43803).

Trematopora debilis Ulrich
Cincinnati Group; Ord.
Alexander Co., Ill.
2695-A = Pl. 34, f. 3
2695-B = Pl. 34, f. 3a
Ulrich, E.O., 1890, GSI v. 8, p. 419, pl. 34, f. 3, 3a.
See also USNM 43802, "Figured sections and fragment of holotype...pl. 34, f. 3c, 3d," fide Schuchert's 1905 catalog.

Trematopora nitida Ulrich
Cincinnati Group; Ord.
"Syntypes" 2 slabs bearing many specimens
Kane Co., Ill?
Ulrich, E.O., 1890, GSI v. 8, p. 419, pl. 34, f. 2, 2a-c. V. 8, p. 420, gives the locality as "Cincinnati group at Savannah, Ill., where it is very abundant at an horizon about 150 ft. above the river." Ulrich's label, glued to one of the specimens, says "Kane Co., 4 miles N. of Fayville, Ill."
See also USNM 43778, "Cotypes and figured sections...pl. 34, f. 2d-1," fide Schuchert's 1905 catalog.

Trematospira? imbricata Hall
Upper Silurian
Bailey's Landing, Perry Co., Mo.
2169-A = Fig'd specimen, pl. 7, f. 2a-e
2169-B - Spec. referred to in text, p. 372
Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 381, pl. 7, f. 2a-e.

Trepespira (Trepespira) illinoensis (Worthen)
See Pleurotomaria illinoensis Worthen

Triplpyllites centralis (Milne-Edwards and Hale)
See Zaphrentis centralis Edwards and Hale

Triplpyllites ellipticus (White)
See Zaphrentis carinata Worthen

Triplpyllites exigus (Miller)
See Zaphrentis cliffordana Edwards and Hale

Triplpyllites (Homaloppyllites) cliniatus (Greene)
See Zaphrentis lanceolatus Worthen

Triphophyllites (Homalophyllites) compressus var. lanceolatus (Worthen)
See Zaphrentis lanceolatus Worthen

Triphophyllites (Homalophyllites) reversus (Worthen)
See Zaphrentis reversa Worthen

Trochoceras costatum Hall
See Lechrirothoceras notum (Hall)

Trochoceras notum Hall
See Lechrirothoceras notum (Hall)

Uperocrinus aequibrachiatus var. asteriscus (Meek and Worthen)
See Actinocrinus asteriscus Meek and Worthen

Whittlefielda billingsiana (Meek and Worthen)
See Centronella billingsiana Meek and Worthen

Worthenoceras? racinense

Foerste 8382-D-1 = Holotype
Racin dolomite; 8382-D-2 = Unfig'd. paratype
Niagara Group; Sil. Racine, Wis.


Worthenopora spinosa Ulrich

ISGS (ISM) 4475-1-A/B
Waraw beds; Miss. Koeuk is., Miss. Bentonport, Iowa (4475-1A)

Ulrich, E.O., 1890, GSI v. 8, p. 669, pl. 68, f. 1, 1a-c.
See also USNM 43804, "Figured sections of cortypes...pl. 68, f. 1d-f," "fig. Schuchert's 1905 catalog.

Yoldia knoxensis McChesney

ISGS (ISM) 3019
Coal Measures 5 specimens Knox Co., Ill.

Yoldia n. sp. Meek

Coal Measures (Bond Fm., Fig. spec. - Murphy, fide Murphy) pl. 101, f. 10 Lawrenceville, Ill.

Yoldia n. sp. Meek
Coal Measures (Bond Fm., Fig. spec. - Murphy, fide Murphy) ISGS (ISM) 3020-1 pl. 101, f. 10 Lawrenceville, Ill.

Zaphrentis sp. ISGS (ISM) 4606-A/C
Oriskany Group; Dev. "Yellowish 4606-A = Fig'd. specimen, friable sandstone referred to, pl. 9, f. 3a-b the horizon of the Onondaga period of the New York Series." (Probably = Dutch Creek ss.)

Four miles west of Jonesboro, Union Co., Ill.

Meek, F.B., and A.H. Worthen, 1868, GSI v. 3, p. 410, pl. 9, f. 3a-b.

Zaphrentis calcariformis Hall

ISGS (ISM) 2558-A/B
Warsaw beds; Miss. Bentonport, Ky. Collected by E.O. Ulrich 2558-B - Unfig'd.

Worthen, A.H., 1890, GSI v. 8, p. 74, pl. 10, f. 2, 2a.

Zaphrentis carinata Worthen

ISGS (ISM) 2564 Holotype
Keokuk limestone; Miss. Bentonport, Iowa Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 75, pl. 10, f. 3, 3a.


Zaphrentis centralis ISGS (ISM) 2563-A/B
Edwards and HAime Figured specimens Keokuk Group; Miss. 2563-A = Pl. 9, f. 1, 1a Warsaw and near Plymouth, Ill. 2563-B = Pl. 10, f. 13, 13a Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 72, pl. 9, f. 1, 1a; pl. 10, f. 13, 13a. The specimen figured on pl. 9; f. 2a is at the Illinois State Museum in Springfield, Ill., No. 2569.


Zaphrentis chesterensis Worthen

ISGS (ISM) 2560-A/B Chester Group; Miss. Chester, Randolph Co., Ill. 2560-A = Pl. 9, f. 3, 3a Collected by A.H. Worthen 2560-B - Unfig'd.

Worthen, A.H., 1890, GSI v. 8, p. 73, pl. 9, f. 3, 3a. Worthen's note, p. 73, also calls this a variety of Zaphrentis spinulosa Edwards and Haime. Another label with the specimen reads
“Zaphrentis spinulosa Milne-Edwards. (Type of Zaphrentis chesterensis Worthen). Dr. C. Rominger rev. 1892.”

Zaphrentis clifforiana Edwards and Haimé
ISGS (ISM) 2570
Figured specimen
Kinderhook Group; Miss.
Monroe Co., Ill.
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 75, pl. 10, f. 1b. (Specimens figured on pl. 10, f. 1 and 1a were missing in 1944 when Easton studied them, and still in 1961. LSK)


Zaphrentis cyindracea Worthen
ISGS (ISM) 2561
Holotype
Chester Group; Miss.
Chester, Ill.
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, pl. 9, f. 5, 5a.

Zaphrentis dalei Edwards and Haimé
ISGS (ISM) 2556-A/C
and Haimé 2556-A = Spec. Fig’d.
and Haimé 2556-B/C = Unfig’d.
Lower Warsaw division of the
St. Louis limestone; Miss.
Warsaw, Ill.
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, pl. 7, pl. 10, f. 12, 12a. Description in text, p. 71, given as Z. spinulifera Hall.

Zaphrentis illinoiensis Worthen
Keokuk limestone; Miss.
Near Plymouth, Ill.
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 77, pl. 9, f. 4, 4a.

Zaphrentis lanceolatus Worthen
ISGS (ISM) 2572-A/B
Warsaw beds; Miss.
Coalsburg, Ky.
2572-A = Worthen, pl. 10, f. 4, 4a
Collected by E.O. Ulrich = Easton, “holotype” (lectotype),
= Easton, pl. 59, f. 8a-c
2572-B = Worthen, pl. 10, f. 4b
= Easton, pl. 60, f. 10a-c

Worthen, A.H., 1890, GSI v. 8, p. 78, pl. 10, f. 4, 4a, 4b.

2572-A = Triplophyllites (Homalophyllites) compressus var. lanceolatus (Worthen) in Easton, W.H., 1951, Jour. Paleol., v. 25 (3), p. 401, pl. 59, f. 8a-c. Easton called this specimen the holotype for (lectotype).

2572-B = Triplophyllites (Triplophyllites) clinatus (Greene) 1904, in Easton, W.H., 1951, Jour. Paleol., v. 25 (3), p. 395, 401, pl. 60, f. 10a-c. On p. 396 Easton gave the catalog number as 2573 instead of 2572 (= 2572-B) by error.

Zaphrentis parasitica Worthen
ISGS (ISM) 2571
Holotype
Kinderhook Group; Miss.
Clarksville, Mo.
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 79, pl. 10, f. 5, 5a.

= Neozaphrentis parasitica (Worthen), identified by W.H. Easton, 1949.

= Zaphrentis pellaensis Worthen
St. Louis Group; Miss.
Pella, Iowa
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 74, pl. 9, f. 6, 6a; pl. 10, f. 11, 11a.

Zaphrentis reverse Worthen
Warsaw beds; Miss.
Near Columbia, Monroe Co., Ill.
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 78.


Zaphrentis spinulifera Hall
See Zaphrentis dalei Edwards and Haimé

Zaphrentis spinulosa Edwards and Haimé
ISGS (ISM) 2559-A/B
and Haimé 2559-A = Fig’d. specimen,
and Haimé 2559-B = Unfig’d.
Chester limestone; Miss.
Chester, Ill.
Collected by A.H. Worthen

Worthen, A.H., 1890, GSI v. 8, p. 73, pl. 10, f. 6, 6a. Worthen’s note, p. 73, calls Z. chesterensis Worthen a variety of Z. spinulosa Edwards and Haimé.

Zaphrentis ulrichi Worthen
ISGS (ISM) 2573-A/D
Warsaw beds; Miss.
Coalsburg, Ky.
2573-A = Worthen, fig’d. syntype, = Easton, “holotype” (lectotype),
Collected by E.O. Ulrich = Easton, pl. 10, f. 10a
2573-B = Worthen, unfig’d. syntype = Easton, “paratype” (paralectotype)
2573-C = Worthen, unfig’d. syntype = Easton, unidentifed

Worthen, A.H., 1890, GSI v. 8, p. 76, pl. 10, f. 10, 10a.

= Hapsiphyllum ulrichi (Worthen) in Easton, W.H., 1951, Jour. Paleol., v. 25 (3), p. 390, pl. 60, f. 11a-c. Easton’s note with ISGS (ISM) 2573-D identifies it as Triplophyllites, and states “This specimen probably belongs with some other lot of species. It is not Z. ulrichi and I doubt if Worthen ever thought it was. W.H. Easton, 1949.”

Zaphrentis varsoviensis Worthen
ISGS (ISM) 2557-A/F
Warsaw Group; Miss.
2557-A = Fig’d. syntype
Collected by A.H. Worthen
2557-B/F = Unfig’d

Worthen, A.H., 1890, GSI v. 8, p. 78, pl. 10, f. 9, 9a.

Zacrinus? armiger Meek and Worthen
ISGS (ISM) 1897
Holotype
Chester Group; Miss.
Bay City, Pope Co., Ill.

Meek, F.B., and A.H. Worthen, 1870, Acad. Nat. Sci. Philadelphia Proc., p. 27; Meek and Worthen, 1873, GSI v. 5, p. 547, pl. 21, f. 3a-b.
= Thloicrinus armiger (Meek and Worthen) in Bassler and Mooey, 1943, p. 710.

Zearcinus orbicularis (Hall)
See Eupachycrinus orbicularis (Hall)

Zearcinus pikensis Worthen ISGS (ISM) 2462
Holotype Lower Burlington Is.; Miss. Montezuma, Pike Co., Ill.

Worthen, A.H., 1882, Illinois State Mus. Nat. Hist. Bull. 1, p. 29; Worthen, 1883, GSI v. 7, p. 304, pl. 30, f. 3. The labels and entry in the old II. State Mus. catalog were changed to Z. troostanus Meek and Worthen, but not so published so far as I can determine. LSK, 6/2778.

= Eratocrinus pikensis (Worthen) in Bassler and Mooey, 1943, p. 728.

Zearcinus troostanus Meek and Worthen See Zearcinus pikensis Worthen

Zittelella inosculata Ulrich and Everett ISGS (ISM) 2656
Figured syntype 25 feet above base of Trenton limestone; Ord. Near Dixon, Lee Co., Ill. Collected by Dr. Oliver Everett

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 271, pl. 5, f. 6a (specimen shown as f. 6 is missing).

Zittelella lobata Ulrich and Everett ISGS (ISM) 2647
Figured syntype 25 feet above the base of the Trenton limestone; Ord. Near Dixon, Lee Co., Ill. Collected by Dr. Oliver Everett

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 270, pl. 4, f. 3a (specimen shown as fig. 3 is missing).

See also USNM 46575, " Figured sections of cotype...pl. 4, f. 3b, 3c," fide Schuchert’s 1905 catalog.

Zittelella trentonensis (Worthen)
See Cnemidium? trentonensis Worthen

Zittelella typicalis Ulrich and Everett ISGS (ISM) 2640-1/2
Figured syntypes 25 feet above the base of the Trenton limestone; Ord. Near Dixon, Lee Co., Ill. Collected by Dr. Oliver Everett

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 268, pl. 5, f. 3, f. 5, 5a.

See also USNM 46576, " Figured sections of cotype...pl. 5, f. 3a, 3b," fide Schuchert’s 1905 catalog.

Zittelella typicalis var.
pistilliformis Ulrich and Everett ISGS (ISM) 2657
Unfigured syntype?

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 269. (See pl. 5, f. 4. This is not the specimen figured, which is missing, but is probably an unfigured syntype.)

Zittelella typicalis var.
subrotunda Ulrich and Everett ISGS (ISM) 2655
Figured syntype
25 feet above the base of Trenton limestone; Ord. Near Dixon, Lee Co., Ill. Collected by Dr. Oliver Everett

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 269, pl. 5, f. 2, 2a.

Zittelella typicalis var.
turbinata Ulrich and Everett ISGS (ISM) 2640-3
Figured syntype
25 feet above the base of Trenton limestone; Ord. Near Dixon, Lee Co., Ill. Collected by Dr. Oliver Everett

Ulrich, E.O., and Oliver Everett, 1890, GSI v. 8, p. 269, pl. 5, f. 7, 7a.