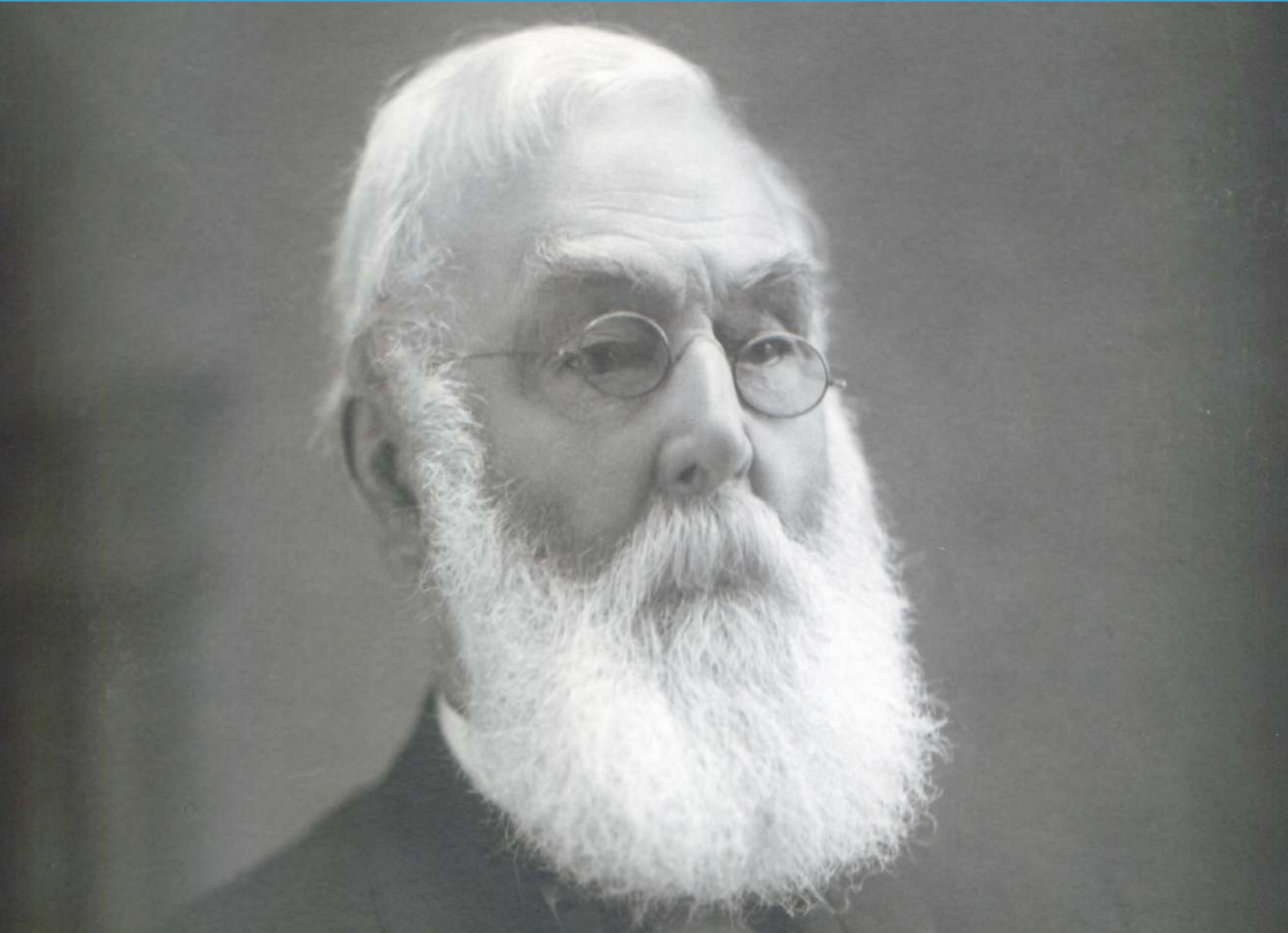


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## Bibliography of James Hall (1811–1898)

Alan Stanley Horowitz, Matthew H. Nitecki,  
and Doris V. Nitecki

Edited by William I. Ausich



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Cover image: portrait of James Hall at age 85.

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## BIBLIOGRAPHY OF JAMES HALL (1811–1898)

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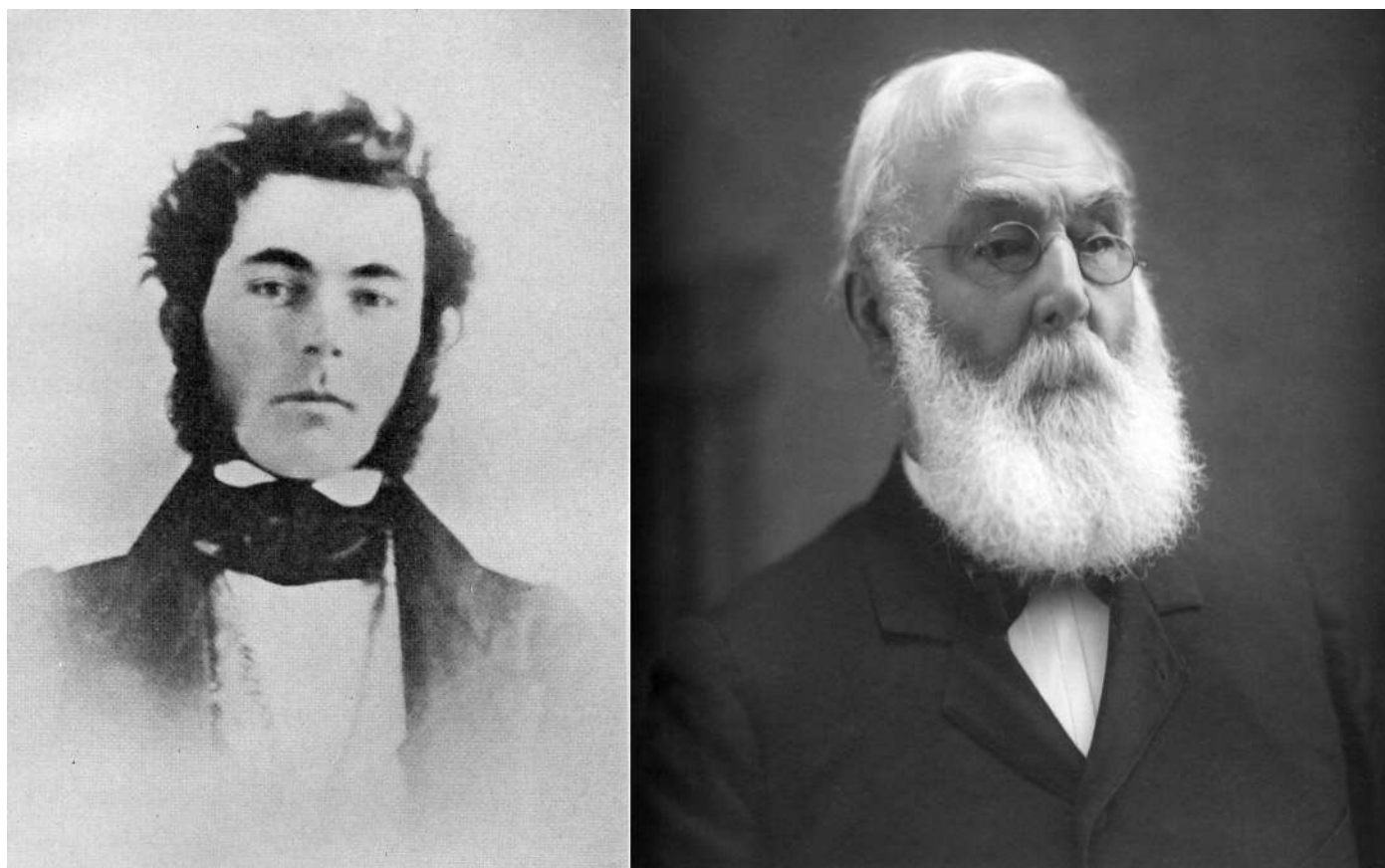
### ABSTRACT

James Hall (1811–1898) is commonly credited as being the Father of North American Geology and Paleontology. Hall was hired by the state of New York in 1836 to assist in the geological survey of western New York, and he remained employed with the state of New York throughout his entire life. His initial responsibilities included mapping the richly fossiliferous Silurian and Devonian strata of western New York, but his work extended throughout North America. Hall helped to take North American geology from its infancy to a discipline comparable to contemporary geology in Western Europe. Today, he is best known as one of the earliest paleontologists to work in eastern North America. He was, however, also a pioneer in establishing stratigraphic nomenclature usage for North America, developing principles of deformation and isostasy, publishing on geosynclinal models, as well as initiating scientific inquiry on many other geologic topics. In addition, he trained many of the next generation of North American geologists and paleontologists. Hall was a founding member and first president of the Association of American Geologists and Naturalists, which later became the American Association for the Advancement of Science, of which Hall was the first president. He was also the first president of the Geological Society of America and a charter member of the National Academy of Sciences. Hall was one of the most prolific paleontologists ever. This bibliography, with notes, lists the various editions of Hall's publications with their dates of issue, which include 1,062 publications, comprising 31,117 pages, 3,374 lithographic plates, 4,390 text figures, and 40 maps. This is the most comprehensive list of Hall publications amassed and includes monographs, journal articles, maps, abstracts, discussions of papers, records of comments at meetings, popular articles, and newspaper items. This bibliography will be of considerable use both to paleontologists needing to establish the date of publication of names of taxa described by Hall and to historians who want to reconstruct the early development of North American geology and paleontology.

### EDITOR'S PREFACE

James Hall (Text-fig. 1) is the Father of North American geology and paleontology. Hall was born in 1811 in Hingham, Massachusetts, and he received his scientific education at the Rensselaer School (now Rensselaer Polytechnic Institute) (Bachelor of Natural Science in Geology and Chemistry, 1832; M. S., 1833) under the tutelage of Amos Eaton and Stephen V. Rensselaer. His first position in geology began in 1836, when he was hired as an assistant to Ebenezer Emmons for the Natural History Survey of New York.

Emmons and Hall worked on the Geological Survey of the Fourth (Western) District. Hall continued working for the New York State Survey for the next sixty-one years until his death in 1898. The James Hall biography by J. M. Clarke (Clarke, 1921) and several obituaries and tributes (McGee et al., 1896; Anon., 1898a, 1898b; Stevenson, 1899; Hovey, 1899; Merrill, 1964; Fenton and Fenton, 1952; Fisher, 1976, 1978; Dott, 2005a, 2005b) paint the picture of a very complex man. James Hall was driven, innovative, undaunted by setbacks and obstacles, a leader, a teacher, a taskmaster, revered,



*Text-fig. 1. Left: daguerreotype of Hall taken in 1843 (ca. age 32); modified from image in Clarke (1921). Right: Hall at age 85; modified from a portrait in the archives of the Paleontological Research Institution.*

and reviled (Merrill, 1964; Bergland and Hayes, 2014). He had the necessary combination of characteristics to take North American geology from its infancy and transform it into a discipline on par with contemporary geology of Europe. Along the way, he trained many of the most influential members of the next generation of geologists and paleontologists including, among others, Charles E. Beecher (became a professor at Yale University), Ezra Carr (became a professor at the University of Wisconsin and University of California, Berkeley), Orville Derby (worked for the Geological Survey of Brazil), John M. Clarke (succeeded Hall in the New York Geological Survey), G. K. Gilbert (became Head of Geology at the United States Geological Survey), Ferdinand V. Hayden (became Director of the United States Geological Survey), Carl Rominger (became Michigan State Geologist), Charles Schuchert (became a professor at Yale University), Charles D. Walcott (became Director of the Smithsonian Institution), Robert P. Whitfield (became Chief Paleontologist for the American Museum of Natural History), Charles A. White (became State Geologist of Iowa), Josiah P. Whitney (became a professor at Harvard University), and Amos H. Worthen (became State Geologist of Illinois).

In 1837, the Geological Survey of New York was reorganized, and Hall was assigned to be the State Geologist of the Fourth District. Hall's assignment led to the first comprehensive analysis of the richly fossiliferous Silurian and Devonian strata of the relatively undeformed strata in western New York, now recognized as the Appalachian foreland basin. Hall's work began less than two decades

after the publication of William Smith's first geologic map (Smith, 1815) in England. Smith's mapping methods were surely a guide to Hall, who was tasked, among other things, with producing a geologic map of the western district. The highly fossiliferous beds of western New York were ideal for using fossils to correlate strata, as demonstrated by Smith (1815).

The early published reports from the western district (e.g., Hall, 1838, or **Hall-9** [note: we will use the preceding convention (only the boldface part) throughout this volume to refer to works of James Hall as enumerated in the present bibliography]) drew the attention of European geologists, including Charles Lyell, who challenged American geologists: "The New York geologists have made out a classification of their older rocks. Let them now prove the truth by means of fossils." (McGee et al., 1896, p. 708). Thus, the trajectory of the life's work of James Hall was established. His work extended far beyond western New York. Hall was employed by many states as state geologic surveys were first organized throughout the United States and Canada. In addition to New York, Hall was employed to lead paleontologic and other geologic investigations in Alabama, Connecticut, Georgia, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Nebraska, Ohio, Pennsylvania, Tennessee, Vermont, and Wisconsin. Hall's geologic and paleontologic studies in these states were, in part, a testing ground for the stratigraphic and paleontologic methods and conclusions of his work in western New York.

Despite his many achievements, James Hall is remembered today primarily as a paleontologist, undoubtedly because of the description



and spectacular illustration of so many, now iconic Paleozoic fossils from central and eastern North America. Paleontologists still praise and disparage Hall for various reasons. Today, paleontologists are working to understand Paleozoic fossils using modern species concepts that include intraspecific variation, and many taxa remain greatly oversplit from the work of nineteenth- and early twentieth-century paleontologists. Hall described numerous taxa, and he has a very convoluted series of publications, both of which present challenges. With publication of the present *Bibliography of James Hall (1811–1898)* by Horowitz, Nitecki, and Nitecki, it is hoped that at last Hall's publication history can be better understood.

An anecdote from my own research will let me relate one instance of the strength of Hall's paleontologic research. Thomas W. Kammer and I worked extensively on Mississippian (early Viséan, late Osagean) crinoids in the central United States. One series of projects was devoted to understanding species-level systematics of early Viséan crinoids from the type Mississippian of Iowa, Illinois, and Missouri (e.g., Ausich and Kammer, 1990; Kammer and Ausich, 1992). In many cases, species were hopelessly oversplit, making it impossible to draw any meaningful phylogenetic, evolutionary paleoecologic, biogeographic, or biostratigraphic conclusions about these fossils. Of course, James Hall (1858, or **Hall-285; Hall-301**; note that these were A.H. Worthen collections; see Dott, 2005b) was the first to describe these crinoid faunas. At the outset, we were prepared to vilify Hall for producing this systematic mess, but to our surprise, most of our work resulted in collapsing taxa into the original species concepts defined by Hall. Hall basically got it right, and subsequent paleontologists were responsible for the gross oversplitting of taxa.

James Hall was among the most prolific paleontologists ever. Only Joachim Barrande (in Bohemia) produced a larger body of paleontologic work (Anon., 1898a). In most geologic circles, Hall is best known for his systematic paleontology, but he also studied more paleobiologic topics such as the microstructure of brachiopod shells and the convolute organ of Paleozoic crinoids. It should be noted, however, that Hall worked on many other aspects of geology besides paleontology, including geologic mapping, stratigraphy, stratigraphic nomenclature, uniformitarianism, principles of deformation and isostasy, economic resources, geosynclinal models, and the geographic distribution of facies within a depositional basin.

Hall's official duties were descriptive—describing fossil taxa and making geologic maps. His published works reveal, however, that he tackled problems with a modern approach and that he was well ahead of most of his peers in thinking about the deeper meaning of the rocks and fossils he described. Hall (**Hall-40**) presented his views on science as “the term used ... to designate the conclusions drawn from a systematic arrangement of facts, verified by other facts, relating to any portion of nature's work.” Hall (**Hall-551**) referred to “time eternal,” and in Hall (**Hall-40**), he observed “there seems to have been a gradual change from the first period of living things to the present time.” Hall (**Hall-59; Hall-635**) was also concerned about effects of environmental degradation, including industrial pollution, on water resources and human health. Further, his aesthetic sense for the fossils he studied is beyond reproach. For example, he referred to crinoids as “singular and beautiful fossils of our older rocks” (**Hall-39**) and to the sculpted valves of *Orthis* (now *Glyptorthis*) *insculpta* as “beautiful” in his original species description (**Hall-92**).

Hall's bibliography is complex because he commonly published the same material multiple times. He was concerned about the priority of his taxonomic names and was faced with publication delays due primarily to politics and to the funding needed to make and print plates for his monographs. Also, several of his publications were published and presented to different entities within the state of New York, such as the State Senate and State Legislature. An example of multiple publication of the same material could be the following: distribution of a preprint, then publication with only the text. Later only the plates might have been published separately, then both the text and plates could have been published together and finally, text and/or plates with emendations could have been published at a still later time. All these reports were widely distributed, making each a separate publication. These are the kinds of issues that contributed to the need for the new Horowitz, Nitecki, and Nitecki *Bibliography of James Hall (1811–1898)*.

The impact and influence of James Hall on science in America cannot be overemphasized. He was a founding member and first president of the Association of American Geologists and Naturalists, which later became the American Association for the Advancement of Science, of which Hall was the first president. James Hall was also the first president of the Geological Society of America and a charter member of the National Academy of Sciences. He was, moreover, recognized with honorary doctoral degrees from Hamilton College, Harvard University, the University of Maryland, and McGill University.

James Hall died in 1898 at the age of 86. His legacy was a foundation on which subsequent North American paleontology and geology were built. From well-documented systematic paleontology, to the method of naming stratigraphic units, to the proposal of hypotheses for regional and continental geologic processes, James Hall was truly the Father of North American Geology and Paleontology.

The *Bibliography of James Hall (1811–1898)* is the product of countless hours of bibliographic research by Alan S. Horowitz (1930–1999), of Indiana University, and Matthew H. Nitecki (1925–2016) and Doris V. Nitecki, both of the Field Museum of Natural History. Horowitz was the initial compiler of this bibliography, and his interest in Hall's publications was undoubtedly rooted in a need to document publication dates in order to determine priority of scientific names, which were needed for Horowitz's paleontologic research on late Mississippian invertebrate faunas and Paleozoic bryozoans. In 1906, six boxcar loads of fossils, minerals, and geologic literature from the James Hall collection (more than 300,000 fossil specimens; 274 boxes of minerals; 8,000 bound volumes; and 16,000 scientific pamphlets) were purchased by the Walker Museum of the University of Chicago (Fisher, 1978). These collections were transferred to the Field Museum of Natural History in 1965, where they remain today. Overseeing these collections in the Walker Museum and in their new repository in the Field Museum was Matthew H. Nitecki. When Nitecki transitioned to the Field Museum and became Curator of Fossil Invertebrates, one of his main responsibilities was to integrate Hall's collection into the Museum's holdings. Understanding the publication history of Hall's work was imperative for curation of the Hall Collection, which led to the extensive bibliographic research by Matthew H. and Doris V. Nitecki that completed this volume.

During the course of Hall's career, he sold portions of his collection to help finance his work and the publication of his monographs. Further, some of his collection was sold after his death, such as the Walker Museum acquisition mentioned above. Thus, working with the systematics of Hall taxa can be challenging if one needs access to his type and figured specimens. Hall's illustrations are typically quite accurate, but in many instances the original descriptions were not accompanied by illustrations. Some taxa were eventually illustrated either by Hall or others (e.g., Whitfield, 1893), but some taxa were never illustrated, which has led to confusion. Again, an example from my own work, the Hall specimens of *Actinocrinus lobatus* Hall, 1859 (**Hall-301**) (Mississippian crinoid) were never illustrated. The first published illustration of this taxon was by Wachsmuth and Springer (1897), and their illustration became the working morphologic concept of *A. lobatus* for nearly 100 years. After comparing the Hall holotype and the Wachsmuth and Springer (1897) figured specimen, it was clear that these were not conspecific specimens, and appropriate revisions were proposed (Ausich and Kammer, 1991).

Hall was employed throughout his career by the State of New York, and the type and figured specimens for much of his research are in collections in New York, including the American Museum of Natural History, New York City, and the New York State Museum, Albany. As noted above, however, Hall was hired to write early geological surveys for many states, and many of those specimens were deposited in a museum in the state where they were collected. Also, the selling of portions of the Hall collection scattered the type, figured, and reference collections even farther throughout the United States. For example, because of the large acquisition of Hall specimens by the Walker Museum of the University of Chicago and the subsequent transfer of those specimens to the Field Museum of Natural History, Chicago, the Field Museum has a significant number of Hall type and figured specimens. The following is a list of institutions that currently house type and figured specimens described by James Hall, although it is not exhaustive. The primary collections of Hall type and figured specimens are located at the American Museum of Natural History, the Field Museum of Natural History, the University of California (Berkeley) Museum of Paleontology, and the New York State Museum. Other smaller collections of Hall specimens include the following: Carnegie Museum of Natural History, Pittsburgh; Geier Collections and Research Center, Cincinnati Museum Center; University of Illinois; Illinois State Geological Survey; University of Michigan Museum of Paleontology; Orton Geological Museum, Ohio State University; University of Pennsylvania; Paleontological Research Institution; United States National Museum, Smithsonian Institution, Washington, D.C.; and Yale Peabody Museum. The Hall holdings in these latter museums vary greatly from numerous specimens at the Peabody Museum to only one known specimen at the Paleontological Research Institution.

As noted in the Authors' Preface, this bibliography contains monographs, journal articles, maps, volumes of plates, newspaper articles, abstracts, and letters that can be attributed to James Hall. Also listed are paraphrased talks and comments by Hall that were given at various meetings. His talks were represented by titles only, an abstract only, a paraphrased summary of his talk written by the secretary of the relevant society, and by more extensive articles in Proceedings volumes (presumably written by Hall). Today, notes

for this bibliography and the library of Alan S. Horowitz are housed with the Fossil Collections in the Department of Earth and Atmospheric Sciences, Indiana University. Papers relating to the bibliography that were gathered by Matthew and Doris Nitecki will be in the Field Museum Archives. This bibliography contains more categories of contributions than most bibliographies. It includes 1,062 publications, comprising 31,117 pages, 3,374 lithographic plates, 4,390 text figures, and 40 maps. In a conservative estimate, more than 245 entries in the bibliography (more than 6,040 pages) represent repeat publications. Even acknowledging the multiple publication of many reports, Hall's work represents a monumental achievement. Because Hall worked during a pivotal period of the initial collection of data and development of interpretations of North American paleontology and geology, this extensive bibliography provides the needed context and fabric to fully appreciate the contributions of James Hall, widely acknowledged by historians as the Father of North American paleontology and geology.

*Acknowledgments.*—First, I need to thank Alan Horowitz, who shared various versions of the Hall bibliography with me, which demonstrated its importance for my own research. Alan was also an influential mentor who was a model of excellence and thoroughness that I still attempt to emulate. After the death of Horowitz, N. G. Lane also assembled Hall bibliographic materials amassed by Horowitz. P.D. Polly and G. Motz made Horowitz's material in the Department of Earth and Atmospheric Sciences, Indiana University, available for study. R. Baker, Royal Society of London, and T.W. Kammer helped with references. Several colleagues helped in identifying the present-day location of Hall type and figured specimens, including T. Adrain, J.D. Cundiff, G.P. Dietl, M.B. Goodwin, J. Hannibal, J. Hartman, M. Katz, A.D. Kollar, E. Landing, G.D. McIntosh, D. Miller, G. Motz, P.D. Polly, L.C. Sallan, and D.R. Vann. D.C. Fisher, M.W. Scott, and A.L. Stigall significantly improved an earlier version of this manuscript. We are also very grateful to A. Basu, D. and C. Fisher, D. Jablonski, S. Kidwell, David Nitecki, and P.D. Polly, who helped support the costs associated with publication of this volume. I also thank Matthew and Doris Nitecki for their support and encouragement to finalize this document for publication.

## INTRODUCTION

This bibliography has two major purposes. One is to clarify the various editions of James Hall's work and their dates of publication, insofar as is possible. This information will assist paleontologists involved in taxonomic problems with respect to the priority of usage of names that Hall created for the fossils he studied and described. The second purpose is to make it easier for subsequent historians to understand the role played by James Hall in the development of the study of North American geology during its nascent phase.

Our work on James Hall started with a list of his publications initiated by Alan Horowitz and Matthew Nitecki and subsequently was enlarged and completed by Doris Nitecki. We debated the desirability of publishing this list of publications—which is intended for paleontological taxonomists (and only peripherally for historians of paleontology)—without an index of taxa. The present bibliography contains at least three times as many entries as existing bibliographies of James Hall, however, and we decided to publish it



without the index. As we read and reread Hall's voluminous works, we became aware of the significance of his contribution to American geology and paleontology and also the lack of a recent evaluation of nineteenth-century American invertebrate paleontology. Thus, this bibliography by itself is an important contribution to any new synthesis of the history of nineteenth-century American geology and paleontology, in which Hall played such an important role.

James Hall began publishing in 1833 and, during the next half century with an exploding energy, built his reputation as a master stratigrapher, paleontologist, and proponent of the role of geosynclines in mountain building. In fact, he virtually initiated this new American subdiscipline within historical geology, now largely forgotten by a generation of geologists trained in plate tectonics. Nonetheless, geosynclines were a critical early step in integrating the stratigraphic and geologic history of mountain regions and thus play a vital role in the history of geologic concepts. At the apex of his career, Hall was acknowledged to be among the world's greatest geologists, and yet today his work seems to have fallen into the oblivion of subordinate historical and taxonomic interest.

The inevitable shift in methodology and interests of the present science may be responsible for the tendency to forget old meanings and interpretations, but we know that we "stand on the shoulders of giants," who resurface from time to time to teach and to inspire. We believe that examination of Hall's classic documents on early American geology remains a didactic tool for deepening our understanding of the evolution of geologic thought.

Nevertheless, the publications of Hall are a bewilderment not only to a compiler of bibliography, but even to a model biographer. For example, Hall wrote in his journal entry of December 8th, 1832 (Box 43, folder no.1373, James Hall Papers, New York State Archives, in the New York State Library, Albany), that "the publication of *Manual of Botany* goes on slowly," and on August 15th, 1833, that ". . . to my own especial benefit the *Manual of Botany* then in preparation has long ago been published (June)." Because Hall was working on plants in the eighteen-thirties (see **Wright and Hall-3**), we initially assumed that this journal entry referred to his own work. Our search for a *Manual* by Hall was unsuccessful, however, and we concluded that Hall must have been referring to Amos Eaton's sixth edition of the *Manual of Botany* published in 1833. Eaton (1833) wrote in the Acknowledgments (p. vii): "My own pupils have done much in aid of this edition . . . Mr. James Hall, Adjunct Professor in this Institution [Rensselaer Institute, Troy, New York], has the strongest claims on my gratitude. He examined every specific description, corrected every proof-sheet, and inserted, in their proper places, all the new localities of Aikin, Tully, Hitchcock, Ives, Mead, Wright, James, Cooley, Pitcher, Stevenson, Brace, Edgerton, Gray, Smith, Comstock, Houghton, Cobb, Bryant, Oatman, King, Peter, Ingalls, Fitch, Gallup, Robbins, Clinton, and numerous others. As in all cases, where proof-sheets cannot be corrected by the sense, some trifling errors, and a very few important ones, have escaped him; which will be noticed under additions and corrections." In our search for Hall's supposed book, we have learned from Eaton about Hall's characteristic quality: the detailed and exhaustive approach to publishing science that he later applied to solve his taxonomic problems.

Hall's publications can be difficult to organize and interpret because of various versions of a single work as well as his occasionally

deliberate recourse to multiple publications. Hall considered himself to be, and indeed he was, in intense competition to publish in order to obtain priority for his work in the face of sometimes desultory funding for publication from the state and national surveys for which he worked. One of the reasons Hall was eager to rush into print was that he could not control the timing with which the State of New York published his work. He expressed resentment, often contentiously, for not being paid for work he did, for example, for the Iowa Geological Survey, which may have been caused by a change of administration and priorities. He also complained about his work being "pirated." He never mentioned names, however, and it is not clear what work had been pirated. He was taken to task twice in the pages of the *American Journal of Science* for not conforming to accepted standards of publication practice. He did not hesitate to circulate copies of page proofs and frequently paid prepublication costs from his own resources for copies that he distributed gratis to other paleontologists.

This bibliography lists the various editions of Hall's publications and assumed publications and their dates of issue. The work is complete insofar as is possible, and it is unlikely that any exhaustive listing of all the editions of Hall's printed works will ever be compiled. It includes all the citations known to us, including abstracts, discussions of papers, and records of comments at meetings. We have used those reported in Hazen and Hazen (1980), Hovey (1899), Murray (1884, 1889), Nickles (1923), Pestana (1972), White and Nicholson (1878, 1879), the *Catalogue of Scientific Papers* compiled by the Royal Society of London (1869–1968), and the James Hall Papers in the New York State Archives, and other sources. We have checked available journals, such as the *Transactions of the Albany Institute*, for Hall's discussions. In some cases, we have only paraphrased discussions recorded by someone—commonly, but not always, the official secretary—at a meeting. Most of these references might be available in a large university library or as part of a geology library, and should be useful to future biographers of Hall as they explore the scientific discussions and grapple with the problems that Hall presented for his contemporaries. We are hopeful that our bibliography will also assist taxonomic paleontologists with problems regarding the priority of the taxa Hall created for the fossils he studied, described, illustrated, and named. Dating of publications determines the priority of taxonomic names, and it has, therefore, led to increased attention by journals publishing systematic work on keeping records of these dates and on prohibiting prepublication of articles. We have determined publication dates from Hall's published indications, from the months cited on the appropriate issues of journals, and from the dates printed on the publications. We used the extensive James Hall Papers in the New York State Archives to specify some dates and to annotate references based on information in Hall's files. Hall, a capable publicist, wrote articles for what today would be considered popular magazines and for newspapers. Some of his pre-1851 popular work cited in Hazen and Hazen (1980) was apparently gathered from microfilm collections of early publications, but their compilation is only to 1850. The post-1850 citations are not available to us and would require an effort beyond the scope of this work to compile, and, therefore, they are not provided here. Finally, this bibliography also includes important correspondence of James Hall; many of these letters were published in Clarke (1921).

We have not abbreviated titles of articles, notes, books, or journals, and have let the nineteenth-century titles run on to their end. We capitalized all nouns in titles of books, however, whether or not they were capitalized in the original; the titles of articles are capitalized only when originally capitalized. We had problems with properly differentiating between separates, reprints, and offprints. We have included a few items we did not examine, and such references are noted in the entries. We have cited different editions of works as separate entries, especially where the pagination differs. In this regard, reprints that Hall circulated prior to their publication are separately paginated and are listed separately. We have tried to indicate the number of figures, plates, maps, or other illustrations in the works cited. Not all works used a uniform numbering scheme, however, and this has been noted in the comments as needed. We have placed all generic and specific names in italics whether or not they were so published by Hall in the original.

When possible, each entry is divided into three parts: the bibliographic citation, our comments, and the number of the item from Hazen and Hazen, Murray, Nickles, etc., which we have considered helpful to include. We have tried to make the bibliography more useful by providing cross references to other entries based on things such as publication data, duplication of articles, and species descriptions. We accept responsibility for errors and hope there are few.

Shortened versions of the names of book depositories used in the bibliography are as follows:

James Hall Papers, New York State Archives, New York State

Library = James Hall Papers, New York State Archives.

Hall Collection, Geological Library, Department of Geological Sciences, Indiana University = Hall Collection, Indiana University.

John Crerar Science Library, University of Chicago = Crerar Library, University of Chicago (note, however, that most of the holdings in the John Crerar Library, particularly annual reports and journals, are now held in the Joe and Rika Mansueto Library, University of Chicago).

Regenstein Library of the University of Chicago = Regenstein Library, University of Chicago.

Carl Rominger Reprint Collection, Museum of Paleontology, University of Michigan = Rominger Reprint Collection, University of Michigan.

Springer Room, Springer Library, Department of Paleobiology, National Museum of Natural History, Smithsonian Institution = Springer Library, NMNH.

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Not seen. Hall, in his journal of August 16th, 1833 (the James Hall Papers, New York State Archives, box 43, folder 1373), wrote: "... appeared the first article of my own writing in any public print (*Errors in Education*) (*Troy Budget*) no one suspects me to be the author of this article ... ."

### 2. Hall, James. 1836. *On the Geological Position, Origin, Etc. of Coal with the Coal Formation of the United States.*

Read before the Gray Lyceum, January 4, 1836, and recorded in the James Hall Papers, New York State Archives (box 37, folder 1343).

### 3. Wright, John, and James Hall. 1836. *A Catalogue of Plants, Growing Without Cultivation, in the Vicinity of Troy; 42 pp. Troy, [New York]: N. Tuttle, Printer—Sign of the Lever Printing Press.*

This non-geological paper, apparently published privately by the authors, is one of the few scientific papers authored by Hall in which his name does not appear first. Based on the date at the end of the advertisement on page 2, publication occurred after March, 1836.

Murray, 1884, p. 82, scientific papers item 1.

Murray, 1889, p. 79, scientific papers item 1.

Clarke, 1899, p. 438, scientific papers item 1.

Hovey, 1899, p. 152, scientific papers item 1.

### 4. Hall, James. 1837. *Ores of iron; pp. 127–149. First Annual Report of the Second Geological District of the State of New-York. State of New-York. No. 161. In Assembly, February 11, 1837. Albany.*

Emmons, on page 126 in the Report, credits Hall with this report.

Ellis, 1903, p. 284.

Nickles, 1923, p. 440, item 37.

Hazen and Hazen, 1980, p. 188, item 4670.

### 5. Hall, James. 1837. *Ores of iron; pp. 129–151. First Annual Report of the Second Geological District of the State of New-York. 2d Edition. State of New-York. No. 161. In Assembly, February 11, 1837. Albany.*

Not seen.

Ellis, 1903, p. 284.

### 6. Hall, James. 1837. *Descriptions of two species of Trilobites, belonging to the genus Paradoxides. The American Journal of Science and Arts, Vol. XXXIII, January 1838, No. 1, pp. 139–142, 2 figs.*

This paper was read before the Yale Natural History Society, March 21, 1837. The James Hall Papers, New York State Archives, contain a copy with an 1837 imprint date. This preprint is paginated as in the *American Journal of Science*, but evidence of advance publication is lacking. The dating of this paper was discussed by Horowitz (1987). Internal evidence suggests the issue was published after October, 1837 (see p. 200 of the *Journal*). White (in White and Nicholson 1878) cites the date as January, 1838, the date of the title page of the volume. See 8.

- Royal Society of London, 1869, vol. III, p. 136, item 1.
- Murray, 1884, p. 82, scientific papers item 2.
- Murray, 1889, p. 79, scientific papers item 2.
- Clarke, 1899, p. 438, scientific papers item 2.
- Hovey, 1899, p. 152, scientific papers item 2.
- Nickles, 1923, p. 440, item 37a.
- Hazen and Hazen, 1980, p. 188, item 4669.
- Horowitz, 1987, p. 95.

7. **Mather, W. W., and James Hall. 1837. Mineralogical and Geological Collections. *The American Journal of Science and Arts*, Vol. XXXI, January 1837, pp. 418–419.**

This is an advertisement, dated December 17<sup>th</sup>, 1836, that Mather and Hall have large collections of minerals, fossil and geological specimens that they will sell at reasonable rates. The editors of the *Journal* have added their recommendation for the gentlemen “as being worthy of confidence.” See 13.

8. **Hall, James. 1838. Descriptions of two species of Trilobites, belonging to the genus *Paradoxides*. *The American Journal of Science and Arts*, Vol. XXXIII, January 1838, No. 1, pp. 139–142, 2 figs.**

The entire volume is dated January 1838, but the first number of the volume was apparently published in late 1837. See 6.

- White and Nicholson, 1878, p. 28.

9. **Hall, James. 1838. *Second Annual Report of the Fourth Geological District of New-York*; pp. 287–373, notes on unnumbered page after p. 373, 3 unnumbered figs., 2 pls., map. State of New-York. No. 200. In Assembly, February 20, 1838.**

The map in this report is cited separately in Hazen and Hazen (1980) as their item 4671. Map and plates were not seen in copies available to us. A synopsis of this report by B. Silliman and B. Silliman, Jr., editors of *The American Journal of Science and Arts*, in Vol. XXXVI, July 1839, No. 1, pp. 34–49, contains numerous quotations. It is listed as: “Fourth District, comprising eleven or twelve counties lying on Lake Erie, southern shore, east of Niagara, west of Cayuga, and north of the southern tier of counties, in Art. I.—Citations from, and abstract of, the Geological Reports on the State of New York, for 1837–8, being State Document No. 200; communicated by Gov. W. L. Marcy, to the Assembly at Albany, Feb. 20, 1838.” O. P. Hubbard has

included remarks about this report in his review of “Notice of the Geological Survey of the State of New York; presented to the Legislature, Jan. 24, 1840,” in *The American Journal of Science and Arts* 1841, Vol. XL, No. 1, April, 1841 (October–December, 1840), pp. 84–85. Hubbard noted that Hall in his report of 1840 gave different opinions about the rocks, based on new information, than in his report of 1838. See 10, 11, 12.

- Murray, 1884, p. 82, item 3.
- Murray, 1889, p. 79, item 3.
- Darton, 1896, p. 450.
- Clarke, 1899, p. 438, scientific papers item 3.
- Hovey, 1899, p. 152, scientific papers, item 3.
- Ellis, 1903, p. 284.
- Nickles, 1923, p. 440, item 38.
- Hazen and Hazen, 1980, p. 188, item 4672.

10. **Hall, James. 1838. Niagara Falls and River; pp. 371–373. In *Second Annual Report of the Fourth Geological District of New-York*. State of New-York. No. 200. In Assembly, February 20, 1838.**

Most of this was reprinted in Dow, 1921, Vol. I, pp. 542–544. See 12, 960.

- Dow, 1921, Vol. II, p. 1330.

11. **Hall, James. 1838. Geology of the Genesee River [geological map, 32 x 40 cm, E. N. Horsford, del]. *Second Annual Report of the Fourth Geological District of New-York*.**

Not seen. Although listed separately by Hazen and Hazen, this map was presumably part of Hall’s 1838 report (Hazen and Hazen item 4672). See 10.

- Hazen and Hazen, 1980, p. 188, item 4671.

12. **Hall, James. [1838] 1921. Niagara Falls and River; pp. 542–544. In Dow, Charles M., *Anthology and Bibliography of Niagara Falls*. Vol. I. Published by the State of New York. Albany: J. B. Lyon Company, Printers.**

This is a quotation from pages 371–373 of the *Second Annual Report of the Fourth Geological District of New-York*, 1838. See 10, 960.

13. **Mather, W. W., and James Hall. 1838. Mineralogical and Geological Collections.**

This separate, dated January 1, 1838, from the James Hall Papers, New York State Archives, is almost identical to Mather and Hall, 1837, and was distributed in 1838. See 7.

14. **Hall, James. 1839. *Third Annual Report of the Fourth Geological District of the State of New-York*; pp. 287–339. State of New-York. No. 275. In Assembly, February 27, 1839.**

- Murray, 1884, p. 82, scientific papers item 4.
- Murray, 1889, p. 79, scientific papers item 4.

- Darton, 1896, p. 450.  
 Clarke, 1899, p. 438, scientific papers item 4.  
 Hovey, 1899, p. 152, scientific papers item 4.  
 Ellis, 1903, p. 284.  
 Nickles, 1923, p. 440, item 39.  
 Hazen and Hazen, 1980, p. 188, item 4673.

15. **Hall, James. [1839] 1921. Letter (October 22, 1839) to Henry D. Rogers; pp. 76–77. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.**

Hall asked Henry Rogers, who was conducting the Geological Survey of Pennsylvania, whether coal might be found in New York, close to the coal fields of Pennsylvania. Rogers replied that it was quite unlikely that coal would be found anywhere in New York.

16. **Emmons, Ebenezer, and James Hall. 1839. Communication from Messrs. Emmons and Hall, relative to a place of deposit [sic] for the different specimens collected by the Geologists; pp. 5–7. Communication from the Governor, relative to the Geological Survey of the State. *Third Annual Report of the New York Geological Survey*. State of New-York. No. 275. In Assembly, February 27, 1839.**

Hazen and Hazen, 1980, p. 153, item 3498. Cited as p. 571.

17. **Hall, James. 1840. Fourth Annual Report of the Survey of the Fourth Geological District; pp. 389–456. In Report of the Geologists. *Fourth Annual Report of the New York Geological Survey*. State of New-York. No. 50. In Assembly, January 24, 1840.**

O. P. Hubbard has included remarks about this report in his review of “Notice of the Geological Survey of the State of New York; presented to the Legislature, Jan. 24, 1840,” in *The American Journal of Science and Arts* 1841, Vol. XL, April 1841, No. 1 (October–December 1840), pp. 84–85. Hubbard noted that Hall in 1840 gave different opinions about the rocks, based on new information, than in his report of 1838. Hall, in *Palaeontology*, 1894, Hall and Clarke, Vol. VIII, Part II, page ix, mentioned a letter addressed to the Governor of New York from pages 3–5 of this report: “In Nov. 1839, the Board of Geologists made a special communication to the Governor . . .” on the manner in which the final reports are to be published. Hall was one of seven signers of the letter. See 1007.

- Murray, 1884, p. 82, scientific papers item 5.  
 Murray, 1889, p. 79, scientific papers item 5.  
 Darton, 1896, p. 450.  
 Clarke, 1899, p. 438, scientific papers item 5.  
 Hovey, 1899, p. 152, scientific papers item 5.  
 Ellis, 1903, p. 284.  
 Nickles, 1923, p. 441, item 40.  
 Hazen and Hazen, 1980, p. 188, item 4674.

18. **Hall, James. 1841. Fifth Annual Report of the Fourth Geological District; pp. 149–180. Communication of the Governor, Transmitting Several Reports Relative to the Geological Survey of the State. State of New-York. In Assembly, February 17, 1841. No. 150.**

A synopsis of this was in *The American Journal of Science and Arts*, Vol. XLII, April 1842, No. 2 (January–March 1842), p. 228. Hall described hydraulic limestone in western New York. See 25, 30.

- Murray, 1884, p. 82, scientific papers item 6.  
 Murray, 1889, p. 79, scientific papers item 6.  
 Darton, 1896, p. 450.  
 Clarke, 1899, p. 438, scientific papers item 6.  
 Hovey, 1899, p. 152, scientific papers item 6.  
 Ellis, 1903, p. 284.  
 Nickles, 1923, p. 441, item 41.  
 Hazen and Hazen, 1980, p. 188, item 4675.

19. **Hall, James. 1841. Notes upon the Geology of the Western States. *The American Journal of Science and Arts*, Vol. XLII, April 1842, No. 1 (October–December 1841), pp. 51–62.**

This item was published in the October–December 1841, issue of the volume. The entire volume is dated April 1842. The James Hall Papers, New York State Archives, contain a copy of this paper with an 1841 imprint date. See 21.

- Murray, 1884, p. 82, scientific papers item 10.  
 Murray, 1889, p. 79, scientific papers item 10.  
 Nickles, 1923, p. 441, item 42a.  
 Hazen and Hazen, 1980, p. 188, item 4676.

20. **Hall, James. [1841] 1964. Letter (February 12, 1841) to Edward Hitchcock; pp. 733–734. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.**

Hall wrote to Hitchcock, of Amherst College, who had written a report on the Geology of Massachusetts, that Hitchcock had misunderstood Hall about “diluvial phenomena.” Hall wrote in detail about his current beliefs on this subject.

21. **Hall, James. 1842. Notes upon the Geology of the Western States. *The American Journal of Science and Arts*, Vol. XLII, April 1842, No. 1 (October–December 1841), pp. 51–62.**

See 19.

- Royal Society of London, 1869, vol. III, p. 136, item 2.  
 Darton, 1896, p. 450.  
 Clarke, 1899, p. 439, scientific papers item 10.  
 Hovey, 1899, p. 152, scientific papers item 10.



22. Hall, James. 1842. Observations on the resources of the western states. *The Northern Light*, Vol. 1, No. 12 (March 1842), pp. 184–185.  
Hazen and Hazen, 1980, p. 188, item 4678.
23. Hall, James. 1842. Review of *Final Report on the Geology of Massachusetts*, by E. Hitchcock; 2 vols., quarto. *The Northern Light*, Vol. 1, No. 12 (March 1842), pp. 187–188.  
Hazen and Hazen, 1980, p. 188, item 4679.
24. Hall, James. 1842. Niagara Falls. Their Physical Changes and the Geology and Topography of the Surrounding Country. *Boston Journal of Natural History*, Vol. IV, Part I (January), pp. 106–134.  
The publication of this article was noted in *The American Journal of Science and Arts*, Vol. XLII, April 1842, pp. 379–380. See 65, 960.  
Royal Society of London, 1869, vol. III, p. 136, item 5 Cited as 1843–1844.  
Murray, 1884, p. 82, scientific papers item 9.  
Murray, 1889, p. 79, scientific papers item 9.  
Darton, 1896, p. 450. Cited as 1844.  
Clarke, 1899, p. 439, scientific papers item 9.  
Hovey, 1899, p. 152, scientific papers item 9.  
Dow, 1921, Vol. I, p. 561.  
Dow, 1921, Vol. II, p. 1330.  
Nickles, 1923, p. 441, item 42.  
Hazen and Hazen, 1980, p. 188, item 4677.
25. Hall, James. 1842. Notes Explanatory of a Section from Cleveland, Ohio, to the Mississippi River, in a southwest Direction; with Remarks upon the Identity of the Western Formations with those of New York; pp. 267–293, 3 text-figs., pl. XII. *Reports of the First, Second, and Third Meetings of the Association of American Geologists and Naturalists, at Philadelphia, in 1840 and 1841, and at Boston in 1842. Embracing its Proceedings and Transactions*. Boston: Gould, Kendall, & Lincoln.  
This paper was read at the meeting of Thursday, April 28, 1842, in Boston. The James Hall Papers, New York State Archives, contain a copy of this paper with an 1842 imprint date. This preprint is paginated as in the *Reports*. See 18, 30, 33.  
Murray, 1884, p. 82, scientific papers item 7.  
Clarke, 1899, p. 438, scientific papers item 7.  
Hovey, 1899, p. 152, scientific papers item 7.
26. Hall, James. 1842. Remarks upon Casts of Mud Furrows, Wave Lines, and other Markings upon Rocks of the New York System; pp. 422–432, pl. XVII. *Reports of the First, Second, and Third Meetings of the Association of American Geologists and Naturalists, at Philadelphia, in 1840 and 1841, and at Boston in 1842. Embracing its Proceedings and Transactions*. Boston: Gould, Kendall, & Lincoln.  
This paper was read at the meeting of Friday, April 29, 1842, in Boston. The James Hall Papers, New York State Archives, contain a copy of this paper with an 1842 imprint date. This preprint is paginated as in the *Reports*. See 31, 32.  
Murray, 1884, p. 82, scientific papers item 8.  
Clarke, 1899, p. 439, scientific papers item 8.  
Hovey, 1899, p. 152, scientific papers, item 8.
27. Hall, James. 1842? Protest against Lyell's "intrusion" into American geology. *Boston Mercantile Journal*.  
Not seen. This is mentioned in Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*, (1921), p. 122. Hall was concerned about Lyell possibly using Hall's unpublished reports on American geology. See 28.
28. Hall, James. [1842] 1921. Letter (July 22, 1842) to A. A. Gould; pp. 124–126. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.  
Hall's letter was in response to Gould's request to know what Prof. Silliman had written to Hall about Charles Lyell publishing things attributed to Hall. Gould was a conchologist and close friend of Hall. See 27.
29. Emmons, Ebenezer, James Hall, W. W. Mather, and Lardner Vanuxem. 1842. Geological map of the state of New York; colored geological map, 92 x 99 cm.  
Not seen.  
Hazen and Hazen, 1980, p. 153, item 3508.
30. Hall, James. 1843. Notes Explanatory of a Section from Cleveland, Ohio, to the Mississippi River, in a southwest Direction; with Remarks upon the Identity of the Western Formations with those of New York; pp. 267–293, 3 text-figs., pl. XII. *Reports of the First, Second, and Third Meetings of the Association of American Geologists and Naturalists, at Philadelphia, in 1840 and 1841, and at Boston in 1842. Embracing its Proceedings and Transactions*. Boston: Gould, Kendall, & Lincoln.  
Hall read this paper on Thursday, April 28, 1842, at the Third Session of the Association of American Geologists and Naturalists. This is an expanded version of an article in *The American Journal of Science and Arts*, 1842, Vol. XLII, No. 2 (January–March), pp. 228, "Geological Reports of the State of New York for 1840, communicated by the Governor to the Assembly, Feb. 17, 1841. [Assembly, No. 150.]" Plate XII contains two sections: one from Cleveland, Ohio, southwest to the Mississippi River, and the



other showing the "New York system" from St. Lawrence County southwest to Chautauque [*sic*] Lake. See **18, 30**.

Royal Society of London, 1869, vol. III, p. 136, item 3.

Murray, 1889, p. 79, scientific papers item 7.

Darton, 1896, p. 450.

Nickles, 1923, p. 441, item 43c.

Hazen and Hazen, 1980, p. 188, item 4686.

- 31. Hall, James. 1843. Remarks upon Casts of Mud Furrows, Wave Lines, and other Markings upon Rocks of the New York System; pp. 422–432, pl. XVII. Reports of the First, Second, and Third Meetings of the Association of American Geologists and Naturalists, at Philadelphia, in 1840 and 1841, and at Boston in 1842. Embracing its Proceedings and Transactions. Boston: Gould, Kendall, & Lincoln.**

Hall read this paper at the Third Meeting of the Association of American Geologists and Naturalists in Boston on Friday, April 29, 1842. Hall described ripple marks, feet of reptiles and birds, as well as wave lines and mud furrows in rocks of the New York system. Plate XVII has drawings of furrows and wave lines. See **26, 32**.

Royal Society of London, 1869, vol. III, p. 136, item 4.

Murray, 1889, p. 79, scientific papers item 8.

Darton, 1896, p. 450.

Nickles, 1923, p. 441, item 43d.

Hazen and Hazen, 1980, p. 188, item 4689.

- 32. Hall, James. 1843. "On wave lines and casts of mud furrows." In Abstract of the Proceedings of the Fourth Session of the Association of American Geologists and Naturalists. *The American Journal of Science and Arts*, Vol. XLV, October 1843, No. 1 (April–June 1843), pp. 148–149.**

This is a paraphrased report of Hall's oral presentation to the Fourth Session of the Association of American Geologists and Naturalists at their April 27, 1843, meeting in Albany by the editors of the *Journal*. This appears to be a continuation of Hall's paper read the previous year at the meeting of the Association in Boston. See **26, 31**.

Murray, 1884, p. 83, scientific papers item 12. Cited as: Ripple marks and casts of furrows.

Murray, 1889, p. 79, scientific papers item 12. Cited as: Ripple marks and casts of furrows.

Darton, 1896, p. 450.

Clarke, 1899, p. 439, scientific papers item 12. Cited as: Ripple marks and casts of furrows.

Hovey, 1899, p. 153, scientific papers item 12. Cited as: Ripple marks and casts of furrows.

Nickles, 1923, p. 441, item 43e.

Hazen and Hazen, 1980, p. 188, item 4688.

- 33. Hall, James. 1843. A section intended to show the western relations of the New York strata, as**

**developed in Ohio and other western states. In Abstract of the Proceedings of the Fourth Session of the Association of American Geologists and Naturalists. *The American Journal of Science and Arts*, Vol. XLV, October 1843, No. 1 (April–June 1843), p. 152.**

This is a mention only of Hall's presentation of the section to the Fourth Session of the Association of American Geologists and Naturalists at their April 27, 1843, meeting in Albany. This may have been continued from the previous year. See **25, 30**.

- 34. Hall, James. 1843. "On the geographical distribution of fossils in the older rocks of the United States," pp. 157–163. In Abstract of the Proceedings of the Fourth Session of the Association of American Geologists and Naturalists. *The American Journal of Science and Arts*, Vol. XLV, October 1843, No. 1 (April–June 1843).**

This is a paraphrase by the *Journal* editor, B. Silliman, Jr., of Hall's communication at the Fourth Session of the Association of American Geologists and Naturalists on April 28, 1843, in Albany, and of the discussion that followed by Dr. Houghton, H. D. Rogers and E. Emmons. The paper was published in the *Boston Journal of Natural History*, 1845, vol. V, pp. 1–20, as "Nature of the Strata, and Geographical Distribution of the Organic Remains in the Older Formations of the United States." See **35, 66**.

Murray, 1884, p. 82, scientific papers item 11. Cited as: Geographical distribution of fossils of the Palaeozoic strata of the United States.

Murray, 1889, p. 79, scientific papers item 11. Cited as in Murray 1884.

Darton, 1896, p. 450.

Clarke, 1899, p. 439, scientific papers item 11. Cited as in Murray 1884.

Hovey, 1899, p. 153, scientific papers item 11. Cited as in Murray 1884.

Nickles, 1923, p. 441, item 43f.

Hazen and Hazen, 1980, p. 188, item 4687.

- 35. Hall, James. 1843. Nature of the strata, and geographical distribution of the organic remains in the older formations of the United States.**

Read before the Association of American Geologists and Naturalists at their Fourth Annual Meeting, held in Albany, April 1843. Separate is paginated as in the *Journal*. See **34, 66**.

Royal Society of London, 1869, vol. III, p. 136, item 7.

- 36. Hall, James. 1843. A short paper, and a natural section of a portion of the shore of Lake Erie, exposing the broken and contorted strata and intermingled drift. In Abstract of the Proceedings of the Fourth Session of the Association of American Geologists and Naturalists. *The American Journal***

***of Science and Arts*, Vol. XLV, October 1843, No. 2 (July–September 1843), pp. 327–329.**

Paraphrase by the editor of the *Journal* of Hall's oral presentation at the Fourth Session of the Association of American Geologists and Naturalists on April 29, 1843, in Albany. The Index to Volume XLV of the *Journal* lists this as "On the strata and drift of Lake Erie." This is a continuation of the presentation the previous year, enabling the drawing of some inferences as to the cause producing the strata and drift.

Darton, 1896, p. 450. Cited as: On exposures of broken and contorted strata and intermingled drift on the shore of Lake Erie.

Hovey, 1899, p. 153, scientific papers 13.

Nickles, 1923, p. 441, item 43g. Cited as: Section on the shore of Lake Erie (*abstract*).

Hazen and Hazen, 1980, p. 188, item 4690. Cited as: On the shore of Lake Erie and Portage, New York.

37. **Hall, James. 1843. Explanation of two sections at Portage, N.Y. In Abstract of the Proceedings of the Fourth Session of the Association of American Geologists and Naturalists. *The American Journal of Science and Arts*, Vol. XLV, October 1843, No. 2 (July–September 1843), pp. 329–330.**

Paraphrase by the editor of the *Journal* of Hall's oral presentation at the Fourth Session of the Association of American Geologists and Naturalists on April 29, 1843, in Albany. The Index to Volume XLV of the *Journal* lists this as "On diluvial phenomena."

Murray, 1884, p. 83, scientific papers item 13. Cited as: Sections at Portage.

Murray, 1889, p. 80, scientific papers item 13. Cited as: Sections at Portage.

Darton, 1896, p. 450.

Clarke, 1899, p. 439, scientific papers item 13. Cited as: Sections at Portage.

Hovey, 1899, p. 153, scientific papers item 13. Cited as: Sections at Portage.

Nickles, 1923, p. 441, item 43h. Cited as: Sections at Portage, New York (*abst*).

Hazen and Hazen, 1980, p. 188, item 4690. Cited as: On the shore of Lake Erie and Portage, New York.

38. **Hall, James. 1843. Discussion of a specimen of cherty limestone from near Niagara, and on diluvial action. In Abstract of the Proceedings of the Fourth Session of the Association of American Geologists and Naturalists. *The American Journal of Science and Arts*, Vol. XLV, October 1843, No. 2 (July–September 1843), pp. 332–333.**

Paraphrase of Hall's oral remarks at the Fourth Session of the Association of American Geologists and Naturalists on May 1, 1843, by the editors of the *Journal*. Hall thought the chert had resisted diluvial action and demonstrated the direction of the current by the striations on the chert. Hall took part in the discussion following his report, but his remarks in the discussion are not printed.

Darton, 1896, p. 450. Cited as: Glaciated surfaces of cherty limestone from near Niagara.

Nickles, 1923, p. 441, item 43i. Cited as: Glaciated [*sic*] cherty limestone from near Niagara, N.Y. (abstract with discussion).

Nickles, 1923, p. 441, item 43j. Cited as: (Hall and others) Discussion on drift phenomena.

Hazen and Hazen, 1980, p. 188, item 4685. Cited as: Glaciated cherty limestone from near Niagara, New York.

39. **Hall, James. 1843. The Crinoidea of the rocks of New York, their geological and geographical distribution. In Abstract of the Proceedings of the Fourth Session of the Association of American Geologists and Naturalists. *The American Journal of Science and Arts*, Vol. XLV, October 1843, No. 2 (July–September 1843), pp. 349–351.**

Paraphrase of Hall's oral remarks at the Fourth Session of the Association of American Geologists and Naturalists on May 2, 1843, in Albany by the editors of the *Journal*. Hall described the fossils and where they were found; he found them "singular and beautiful fossils of our older rocks."

Royal Society of London, 1869, vol. III, p. 134, incorrectly cited as Frederick Hall item 10. See Royal Society of London, 1902, vol. XII, p. 305.

Hazen and Hazen, 1980, p. 188, item 4681.

40. **Hall, James. 1843. *Geology of New-York. Part IV. Comprising the Survey of the Fourth Geological District*. Albany: Carroll and Cook, Printers to the Assembly. 683 + xxii pp., 192 figs., + 66 pp. containing explanations and figures of 74 fossils or groups of fossils, XIX lithographic plates, 3 unnumbered lithographic plates in text, geological map and cross-sections. Second Title Page: Natural History of New York. By Authority. New York; D. Appleton & Co. And Wiley & Putnam; Boston; Gould, Kendall & Lincoln. Albany, Carroll & Cook Printers to the Assembly. 1843.**

Quotations from "Preliminary Considerations," (pp. 9, 10–11) are in Clarke, 1921, pp. 81–82, 83–84. Hall was discussing the doctrine about total destructions and renovations, and observed that "there seems to have been a gradual change from the first period of living things to the present time." He also defines science as "the term used . . . to designate the conclusions drawn from a systematic arrangement of facts, verified by other facts, relating to any portion of nature's works." In a review of *Natural History of New York*, Part IV, *Geology*, Part IV, by David Dale Owen (see below), reprints of some of Hall's figures are included in at least three issues of *The American Journal of Science and Arts*: Vol. XLVIII, October 1845, No. 2 (January–March 1845), pp. 296–316; Vol. I, 2d ser., May 1846, No. 1 (January 1846), pp. 43–70; and Vol. III, 2d ser., May 1847, No. 7 (January 1847), pp. 57–74. Reprints of some of the figures are also in Hall, 1844, *The Geological Survey of New-York*. See 43, 62.

White and Nicholson, 1878, p. 28. Cited as: Geological Survey of New York; Report on the Fourth District.

Murray, 1884, p. 80, books item 1.

Murray, 1889, p. 77, books item 1.

Darton, 1896, p. 450.

Clarke, 1899, p. 436, books item 1.

Hovey, 1899, p. 149, books item 1.

Ellis, 1903, p. 284.

Nickles, 1923, p. 441, item 43.

Hazen and Hazen, 1980, p. 188, item 4683.

41. **Hall, James. 1843. Niagara Falls, Its Past, Present and Prospective Condition; pp. 383–401. In *Geology of New-York. Part IV. Comprising the Survey of the Fourth Geological District. Natural History of New York.* Albany: Carroll and Cook, Printers to the Assembly.**

A brief review of this article, with some quotations, is in Dow, 1921, Vol. I, p. 562. See 42, 49, 960.

Dow, 1921, Vol. II, p. 1330.

42. **Hall, James. 1843. Trigonometrical survey and map of Niagara Falls; pp. 402–404. In *Geology of New-York. Part IV. Comprising the Survey of the Fourth Geological District. Natural History of New York.* Albany: Carroll and Cook, Printers to the Assembly.**

Dow, 1921, Vol. I, p. 562, comments that "This is the first of a kind, a point of departure for later surveys. It is based upon a careful survey made by Mr. Blackwell in 1841 and reviewed in 1842." See 41, 960.

Dow, 1921, Vol. II, p. 1330.

43. **Hall, James. 1843. Geological map of the middle and western states; fourth district, colored geological map, 80 x 57 cm. In *Geology of New-York. Part IV.* New York: Endicott (lithographer).**

This map was published with Part IV of the *Geology of New-York*, but is cited separately in bibliographies listed below, probably because an earlier edition of the map contained no coloring across Ontario in Canada. See Hall's explanation for the map in *Geology of New-York*, Part IV, pp. 681–683. See 40.

Nickles, 1923, p. 441, item 43b. Hall is cited as sole author.

Hazen and Hazen, 1980, p. 188, item 4682.

44. **Hall, James. 1843? Sections Explanatory of a Geological Map of the Middle and Western States. Lith. of Endicott. New York.**

These cross sections were published as part of Part IV of the *Geology of New-York*. Three sections are included: Section from the south end of Lake Huron to the mouth of the Wisconsin River. Section from the Atlantic Ocean at Egg Harbor, N. J., to Lake Ontario at the mouth of the Niagara River. Section from the Atlantic Ocean at Delaware Bay to the Mississippi River at St. Louis. Of three copies, two are colored (hand-tinted?), one is not. Two other uncolored copies are on one sheet.

45. **Hall, James. 1843. Tables of Organic Remains; pp. 1–68, 74 illustrations with explanations. In *Geology of New-York. Part IV. Comprising the Survey of the Fourth Geological District. Natural History of New York.* Albany: Carroll and Cook, Printers to the Assembly.**

46. **Hall, James. 1843. [The geology of the region of Niagara Falls]. *Proceedings of the Boston Society of Natural History*, Vol. I, p. 52.**

This is a paraphrased report of verbal remarks by Hall at the December 1, 1841, meeting of the Society. Date of issue of the *Proceedings* is not known; entire volume is dated 1844; the front title page states: "From January 6, 1841, to November 6, 1844." Page 129 indicates the issue of *Proceedings* is October, 1843, which may be the date of publication of this abstract. See 64, 960.

Darton, 1896, p. 450. Cited as 1844.

Dow, 1921, Vol. II, p. 1330. Cited as 1844.

Nickles, 1923, p. 441, item 43k.

Hazen and Hazen, 1980, p. 188, item 4684.

47. **Hall, James. 1843. Communication from Mr. James Hall, one of the state geologists [on the progress of the survey]; 9 pp. New York Senate Document 59, Vol. 2, 66th Session.**

Hazen and Hazen, 1980, p. 188, item 4680.

48. **Hall, James. 1843. Communication from Mr. James Hall, one of the State geologists [on the condition of the geological survey]; 9 pp. New York Legislative Documents of the Senate, 66th session, Vol. 2, No. 59.**

Not seen.

Nickles, 1923, p. 441, item 43a.

49. **Hall, James. [1843] 1892. *Niagara Falls, Its Past, Present and Prospective Condition*; pp. 67–89. From the final Report of the Fourth Geological District of the State of New York. Published 1843. Extract from the *Tenth Annual Report of the Commissioners of the Niagara Reservation*.**

This version in the James Hall Papers, New York State Archives (box 37, folder 1345), includes, as double pagination, pages 67–89 with headings: *Eighth Annual Report of the Commissioners of the State Reservation at Niagara*; 2 pls., 1 map, text-figs. 186–189, 2 tables. See 41, 960.

Dow, 1921, Vol. I, p. 561.

Dow, 1921, Vol. II, p. 1330.

50. **Hall, James. [1843] 1921. Letter (March, 1843) to A. A. Gould; p. 132. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898.* Albany. 1921.**



Hall expressed his desire to be in charge of the work on fossils in the State Museum. Gould was a close friend of Hall.

51. **Emmons, Ebenezer, and James Hall. 1843. Communication from Messrs. Emmons and Hall, State Geologists; 9 pp. New York State Legislature, Documents of the Senate, 66th Session, Vol. 2, No. 60.**

Nickles, 1923, p. 345, Ebenezer Emmons item 43.

Nickles, 1923, p. 441, item 43l.

Hazen and Hazen, 1980, p. 153, item 3515.

52. **Hall, James. 1844. Upon the Brachiopoda and Orthocerata (Abstract); p. 16. In *Abstract of the Proceedings of the Fifth Session of the Association of American Geologists and Naturalists*. This copy of the *Proceedings* is bound with a copy of the address by Prof. Henry Rogers at the same meeting. New York and London: Wiley & Putnam.**

Hall read this abstract on Friday, May 10, 1844, in Washington, D.C., at the Fifth Session of the Association of American Geologists and Naturalists. Hall's object was to show the variation in size and form among species of Brachiopoda that resulted in some fossils having several names and to show the discovery of a conical tube in Orthocerata. See 53, 564, 939.

53. **Hall, James. 1844. Upon the Brachiopoda and Orthocerata. In *Abstract of the Proceedings of the Fifth Session of the Association of American Geologists and Naturalists*. *The American Journal of Science and Arts*, Vol. XLVII, October 1844, No. 1 (April–June 1844), p. 109.**

This is a paraphrase of Hall's paper that he delivered orally May 10, 1844, at the Fifth Session of the Association of American Geologists and Naturalists in Washington, D.C. The summary presumably was prepared by either B. Silliman, Jr. or O. P. Hubbard, the secretaries of the meeting. See 52, 564, 939.

Nickles, 1923, p. 441, item 44b. Cited as: Observations on Brachiopoda and Orthocerata (*abstract*).

Hazen and Hazen, 1980, p. 188, item 4694.

54. **Hall, James. 1844. On the nomenclature of Palaeozoic rocks, based on the "New York System" of rocks; p. 19. In *Abstract of the Proceedings of the Fifth Session of the Association of American Geologists and Naturalists*. This copy of the *Proceedings* is bound with a copy of the address by Prof. Henry Rogers at the same meeting. New York and London: Wiley & Putnam.**

This is a summary of discussions between Hall and Profs. H. D. and W. B. Rogers, at the Fifth Session of the Association of American Geologists and Naturalists in Washington, D.C., May 11, 1844, prepared presumably by either Benjamin Silliman, Jr.

or O. P. Hubbard, the secretaries of the meeting. Hall maintained that the "New York System" was considered a convenient conventional term, not to be permanent. He "advocated the more cautious method . . . of adopting a provisional nomenclature, founded mainly on the labors of foreign geologists." See 55.

Hazen and Hazen, 1980, p. 188, item 4695.

55. **Hall, James. 1844. On the nomenclature of Palaeozoic rocks, based on the "New York System" of rocks. *The American Journal of Science and Arts*, Vol. XLVII, October 1844, No. 1 (April–June 1844), p. 112.**

This is a summary of discussions between Hall and W. B. Rogers, at the Fifth Session of the Association of American Geologists and Naturalists in Washington, D.C., May 11, 1844, prepared presumably by either Benjamin Silliman, Jr., or O. P. Hubbard, the secretaries of the meeting. See 54.

Hazen and Hazen, 1980, p. 188, item 4695.

56. **Hall, James. 1844. On the geographical distribution of fossils [in the Palaeozoic of the United States], in continuation of views presented by him at the Albany meeting last year; pp. 24–25. In *Abstract of the Proceedings of the Fifth Session of the Association of American Geologists and Naturalists*. This copy of the *Proceedings* is bound with a copy of the address by Prof. Henry Rogers at the same meeting. New York and London: Wiley & Putnam.**

Hall read this paper on Monday, May 13, 1844, at the Fifth Session of the Association of American Geologists and Naturalists in Washington, D.C. Hall added some facts on the distribution of fossils, and he also presented a geological map of the western and middle states showing principal formations and their comparative development in different states. See 57.

57. **Hall, James. 1844. On the geographical distribution of fossils [in the Palaeozoic of the United States], in continuation of views presented by him at the Albany meeting last year. In *Abstract of the Proceedings of the Fifth Session of the Association of American Geologists and Naturalists*. *The American Journal of Science and Arts*, Vol. XLVII, October 1844, No. 1 (April–June 1844), pp. 117–118.**

This is a paraphrase of Hall's paper delivered May 13, 1844, at the Fifth Session of the Association of American Geologists and Naturalists in Washington, D.C. The summary was prepared presumably by either B. Silliman, Jr. or O. P. Hubbard, the secretaries of the meeting. See 56.

Murray, 1884, p. 83, scientific papers item 15.

Murray, 1889, p. 80, scientific papers item 15.

Darton, 1896, p. 450.

Clarke, 1899, p. 439, scientific papers item 15.

Hovey, 1899, p. 153, scientific papers item 15.

Nickles, 1923, p. 441, item 44c.

Hazen and Hazen, 1980, p. 188, item 4696.

58. **Hall, James. 1844. Trenton Falls [New York]. *The Northern Light: Devoted to Miscellaneous Literature, General Information, Education, Science and the Arts*, new series, Vol. 4, No. 3 (15 July 1844), pp. 33–36, 15 figs. [6 numbered].**

Hall's description is in the "romantic" style of his time. A copy of this article in the James Hall Papers, New York State Archives, contains only two figures, one of Trenton Falls and the second of fossils from the Trenton Falls area.

Hazen and Hazen, 1980, p. 188, item 4698.

59. **Hall, James. 1844. The mountains of northern New-York. *The Northern Light*, Vol. 4, No. 5 (2 September 1844), pp. 77–80, 2 figs.**

This is another popular description written in the "romantic" style, and includes some notice of environmental degradation. See 251.

Hazen and Hazen, 1980, p. 188, item 4693.

60. **Hall, James. 1844. Report of a reconnoissance [*sic*] of a route for a railroad from Portland to Montreal; 16 pp. Portland, Maine: A. Shirley and Son [printers].**

Not seen.

Hazen and Hazen, 1980, p. 188, item 4697.

61. **Hall, James. 1844. An address delivered before the Society of Natural History of the Auburn Theological Seminary on their anniversary, August 15th 1843; 20 pp. Auburn, [New York], published at the request of the Society. Printed by Henry Oliphant.**

Title page is as above but cover reads: Address of James Hall, A.M., before the Society of Natural History of the Theological Seminary, Auburn, 1843.

Murray, 1884, p. 83, scientific papers item 14.

Murray, 1889, p. 80, scientific papers item 14.

Clarke, 1899, p. 439, scientific papers item 14.

Hovey, 1899, p. 153, scientific papers item 14.

Nickles, 1923, p. 441, item 44.

Hazen and Hazen, 1890, p. 188, item 4691.

62. **Hall, James. 1844. The Geological Survey of New-York: its Influence upon the Productive Pursuits of the Community. *Transactions of the New York State Agricultural Society*, Vol. 3, Annual Report for the Year 1843; pp. 241–277, 27 pls. and numerous other variably numbered figures in text. This is also New York State Assembly Document No. 100.**

This has many woodcuts that were first published in *Geology of New-York*. Part IV. *Comprising the Survey of the Fourth Geological District*, Hall 1843. Reprints are in the Springer Library, NMNH and Clarke Reprint Collection, New York State Geological Survey. This article is cited in *The American Journal of Science and Arts*, 1844, Vol. XLVII, October 1844, No. 2 (July–September 1844), p. 415, under "New Books Received": "*Transactions of the New York State Agricultural Society*, together with an abstract of the *Proceedings of the County Agricultural Societies*. Vol. III. Albany, Carroll & Cook, 1843, 671 pp., 8 vo. This volume contains, besides much valuable agricultural matter, a condensed review of the labors of the New York geological corps, from the pen of Mr. James Hall, which is an interesting paper, fully illustrated by figures of fossils." See 40.

Darton, 1896, p. 450.

Ellis, 1903, p. 284.

Nickles, 1923, p. 441, item 44a.

Hazen and Hazen, 1980, p. 188, item 4692.

63. **Hall, James. 1844. Map: Agricultural and Geological Map of the State of New York. By Legislative Authority. 1844. Engraved by Sherman & Smith, 122 Broadway, New York. S. C. Clark, Printer. NY.**

Two copies of this colored (hand-tinted?) map, 36.5" h x 42.5" w, are in the Hall Collection, Indiana University. It includes a colored legend from Primary System to Tertiary, labeled A-S. The alluvial box is not colored. It also includes cross sections as follows: Section No. 1—From Ogdensburg N.Y. to Blossburg PA.; Section No. 2—From St. John's Canada, to the Pennsylvania Line.; Section No. 3—From Jones Beach L.I. to Oneonta; Section No. 4—From the Connecticut Line to Roxbury in Delaware Co. N.Y. One copy is in the Crerar Library, University of Chicago, in a manila folder, no date, headed Agriculture Land, but otherwise corresponding to the above.

64. **Hall, James. 1844. On the geology of the region of Niagara Falls. *Proceedings of the Boston Society of Natural History*, Vol. I, 1841–1844; p. 52.**

This is a record of verbal statements made by Hall at the December 1, 1841, meeting of the Boston Society of Natural History. Dow, 1921, vol. I, p. 546, quotes from this article. See 46, 690.

Dow, 1921, Vol. II, p. 1330.

65. **Hall, James. No date [1844]. Niagara Falls: their physical changes, and the geology and topography of the surrounding country. [From the *Boston Journal of Natural History*, 1842, Vol. IV, pp. 1–30]. [Boston: 1844]. 30 pp., illus. 8 vo.**

This undated reprint, with different pagination, is in the James Hall Papers, New York State Archives (box 36, folder 1314). Harvard University Library has a copy dated 1844. See 24, 96.

Dow, 1921, Vol. I, p. 561. Cited as 1844.

Dow, 1921, Vol. II, p. 1330. Cited as 1844.



66. Hall, James. 1845. Nature of the Strata, and Geographical Distribution of the Organic Remains in the Older Formations of the United States. *Boston Journal of Natural History, Containing Papers and Communications Read to the Boston Society of Natural History, 1845–7*. Vol. V, No. 1 (January 1845), pp. 1–20.

Read before the Association of American Geologists and Naturalists, at their Fourth Annual Meeting, held in Albany, April, 1843. A “Note” on p. 20 is dated May 1844. See 34, 35.

Royal Society of London, 1869, vol. III, p. 136, item 7.  
Darton, 1896, p. 451. Cited as 1847.  
Nickles, 1923, p. 441, item 45b.  
Hazen and Hazen, 1980, p. 189, item 4704.

67. Hall, James. 1845. Description of some Microscopic Shells from the Decomposing Marl Slate of Cincinnati. *The American Journal of Science and Arts*, Vol. XLVIII, April 1845, No. 2 (January–March 1845), pp. 292–295.

Royal Society of London, 1869, vol. III, p. 136, item 6.  
Murray, 1884, p. 83, scientific papers item 16.  
Murray, 1889, p. 80, scientific papers item 16.  
Clarke, 1899, p. 439, scientific papers item 16.  
Hovey, 1899, p. 153, scientific papers item 16.  
Nickles, 1923, p. 441, item 45c.  
Hazen and Hazen, 1980, p. 188, item 4699.

68. Hall, James. 1845. Fossil vegetables and shells from Oregon. *Proceedings of the Association of American Geologists and Naturalists*, Vol. VI, p. 66.

Hall showed specimens collected by Capt. Frémont.  
Nickles, 1923, p. 441, item 45d.  
Hazen and Hazen, 1980, p. 188, item 4701.

69. Hall, James. 1845. Comments on: Fresh Water Formation in Oregon, by Prof. Bailey. *American Quarterly Journal of Agriculture and Science*, Vol. II, p. 164.

Hall’s brief comments on Cretaceous fossils found by Lt. Frémont in Oregon, from the *Proceedings of the Association of American Geologists and Naturalists*, at the Annual Convention, held in New Haven in April 1845 at the afternoon session of the Fifth day; with remarks by one of the Editors.

Hazen and Hazen, 1980, p. 188, under item 4701. Cited as: Fossil vegetables and shells from Oregon.

70. Hall, James. 1845. Appendix A. Geological Formations. Nature of the geological formations occupying the portion of Oregon and north California included in a geographical survey under the direction of Captain Frémont; pp. 295–303, pl. V. In J. C. Frémont, *Report of the Exploring*

*Expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the Years 1843–’44*. Washington: Gales and Seaton, Printers. Senate Executive Document 174, Vol. 11, 28th Congress, Session 2. Murray, 1884, p. 80, books item 2.

Murray, 1889, p. 77, books item 2.

Hovey, 1899, p. 149, books item 2.

Nickles, 1923, p. 441, item 45.

Pestana, 1972, p. 57, item 1845b.

Hazen and Hazen, 1980, p. 189, not differentiated in item 4703.

71. Hall, James. 1845. Nature of the geological formations occupying the portion of Oregon and north California included in a geographical survey under the direction of Captain Frémont; pp. 295–303, pl. 5. In J. C. Frémont, *Report of the Exploring Expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the years 1843–’44*. Washington: Gales and Seaton, Printers. Printed by order of the Senate of the United States.

Separate contains Appendices A and B. There is no evidence that the separate was issued before the entire volume. Tops of pages of separate read: Document No. 166. See 70, 72, 73.

72. Hall, James. 1845. Nature of the geological formations occupying the portion of Oregon and north California included in a geographical survey under the direction of Captain Frémont; pp. 295–303, pl. 5. In J. C. Frémont, *Report of the Exploring Expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the years 1843–’44*. Washington: Gales and Seaton, Printers. House Executive Document 166, Vol. 4, Part 2, Appendix A. Geological Formations, 28th Congress, Session 2.

Darton, 1896, p. 451.

73. Hall, James. 1845. Appendix A. Geological Formations. Nature of the geological formations occupying the portion of Oregon and north California included in a geographical survey under the direction of Captain Frémont; pp. 295–303, pl. V. In J. C. Frémont, *Report of the Exploring Expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the Years 1843–’44*. Washington: Blair and Rives, Printers. Printed by order of the House of Representatives.

Clarke, 1899, p. 436, books item 2.

74. Hall, James. 1845. Appendix B. Organic Remains. Descriptions of organic remains collected by Captain J. C. Frémont, in the geographical survey

of Oregon and north California; pp. 304–310, pls. I–IV. In J. C. Frémont, *Report of the Exploring Expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the years 1843–'44*. Washington: Gales and Seaton, Printers. Senate Executive Document 174, Vol. 11, 28th Congress, Session 2.

White and Nicholson, 1878, p. 28.

Murray, 1884, p. 80, books item 2.

Murray, 1889, p. 77, books item 2.

Clarke, 1899, p. 436, books item 2.

Hovey, 1899, p. 149, books item 2.

Nickles, 1923, p. 441, item 45a.

Pestana, 1972, p. 57, item 1845a.

Hazen and Hazen, 1980, p. 188, not differentiated in item 4700.

75. Hall, James. 1845. Descriptions of organic remains collected by Captain J. C. Frémont, in the geographical survey of Oregon and north California; pp. 304–310, 4 pls. In J. C. Frémont, *Report of the Exploring Expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the years 1843–'44*. Washington: Gales and Seaton, Printers. House Executive Document 166, Vol. 4, Part 2, Appendix B. Organic Remains, 28th Congress, Session 2.

Separate contains Appendices A and B. See 74, 76.

76. Hall, James. 1845. Appendix. B. Organic Remains. Descriptions of organic remains collected by Captain J. C. Frémont, in the geographical survey of Oregon and north California; pp. 304–310, pls. I–IV. In J. C. Frémont, *Report of the Exploring Expedition to the Rocky Mountains in the year 1842, and to Oregon and North California in the years 1843–'44*. Washington: Blair and Rives, Printers. Printed by order of the House of Representatives.

77. Hall, James. 1845. [Map of the coal regions of Pennsylvania]; geological map 32 x 20.5 cm. In E. F. Johnson and W. R. Casey, *Reports on the Bear Mountain Railroad*, by Edwin F. Johnson and William R. Casey, Civil Engineers, and *On the Coal and Iron Ores of the Bear Valley Coal Basin*, by James Hall, New York State Geological Engineer, with Map, Profile, and Geological Cross Section: Also, an Appendix Containing the Charter of the Company, and Statistics of the Coal Trade of the United States and Great Britain; 88 pp. New York, published for private circulation: Jared W. Bell, printer, 1845.

Text listed separately in next entry. See 78.

Hazen and Hazen, 1980, p. 188, item 4702.

78. Hall, James. 1845. On the coal and iron ores of the Bear Valley coal basin; pp. 37–80, map. In E. F. Johnson and W. R. Casey, *Reports on the Bear Mountain Railroad*, by Edwin F. Johnson and William R. Casey, Civil Engineers, and *On the Coal and Iron Ores of the Bear Valley Coal Basin*, by James Hall, New York State Geological Engineer, with Map, Profile, and Geological Cross Section: Also, an Appendix Containing the Charter of the Company, and Statistics of the Coal Trade of the United States and Great Britain; 88 pp. New York, published for private circulation: Jared W. Bell, printer.

Map listed separately in previous entry. See 77.

Hazen and Hazen, 1980, p. 189, item 4707.

79. Hall, James. 1845. On the Taconic system of E. Emmons. *Proceedings of the Association of American Geologists and Naturalists*, Vol. VI, p. 68 [16 lines].

Royal Society of London, 1877, vol. VII, p. 891, item 40. Cited as: [Fossils of the partially altered shales and sandstones of Eastern New York].

Hazen and Hazen, 1980, p. 189, item 4706.

80. Hall, James. 1845. The Taconic system of Rocks. *American Quarterly Journal of Agriculture and Science*, Vol. II, p. 165.

Hall's comments on Emmons's view of the Taconic System; from the *Proceedings of the American Association of Geologists and Naturalists* [sic], Vol. VI, at the Annual Convention, held in New Haven in April 1845, at the afternoon session of the Fifth day; with remarks by one of the Editors. See 79, 202, 218, 369, 370, 371, 372, 382, 455, 456, 457, 476, 581, 599, 600, 810, 847, 894, 895, 910, 911.

Royal Society of London, 1877, vol. VII, p. 891, item 40.

Hazen and Hazen, 1980, p. 189, cited under item 4706.

81. Hall, James. 1845. New York fossils, including a trilobite from New Bedford. *Proceedings of the Association of American Geologists and Naturalists*, Vol. VI, p. 77.

Hazen and Hazen, 1980, p. 189, item 4705.

82. Hall, James. 1845. "On the Utility of Crustacea in the identification of strata." *American Quarterly Journal of Agriculture and Science*, Vol. II, p. 168.

From the *Proceedings of the American Association of Geologists and Naturalists* [sic], Vol. VI, at the Annual Convention, held in New Haven in April, 1845, on the sixth day. See 330.

Hazen and Hazen, 1980, p. 189, under item 4705. Cited as: New York fossils, including a trilobite from New York.

83. Hall, James. 1846. Notice of the Geological Position of the Cranium of the *Castoroides Ohioensis*. *Boston Journal of Natural History*, Vol. V, 1845-7, No. III (June 1846), pp. 385–391.

This article is followed by: An Anatomical Description of the Cranium, by Jeffries Wyman, with three plates. The *Proceedings of the Boston Society of Natural History* does not indicate the actual dates of publication of the issues of the *Journal*. By inference (*Proceedings*, Vol. II, p. 167), the article was received between the meetings of July 1 and August 5, 1846, and published subsequently. See 84, 85.

Royal Society of London, 1869, vol. III, p. 137, listed under Hall and Wyman.

Murray, 1884, p. 83, scientific papers item 17.

Murray, 1889, p. 80, scientific papers item 17.

Darton, 1896, p. 451. Cited as 1847.

Clarke, 1899, p. 439, scientific papers item 17.

Hovey, 1899, p. 153, scientific papers item 17.

Nickles, 1923, p. 441, item 46.

Hazen and Hazen, 1980, p. 189, item 4708.

84. Hall, James. 1846. On the geological relations of the fossil cranium mentioned on the preceding page, and called *Castoroides ohioensis*. *Proceedings of the Boston Society of Natural History*, Vol. II, 1845 to 1848, pp. 167–168.

Paper was read before the Society on August 5, 1846. This is an abstract of the paper published in full in the June 1846, *Boston Journal of Natural History*. Abstract was published in the September 1846 issue of the *Proceedings*. See 83, 85.

Darton, 1896, p. 451. Cited as: 1848; Deposit at Clyde, N.Y., holding cranium of *Castoroides* [*sic*] *ohioensis*.

Nickles, 1923, p. 441, item 46a. Cited as: On a deposit at Clyde, N.Y., containing a cranium of *Castoroides ohioensis*.

85. Hall, James. 1846. On the Geological position of the *Castoroides ohioensis*; 19 pp., 3 pls. Boston: printed by Freeman and Bolles.

This is a reprint of the preceding entry. Hall's contribution is on pp. 1–8. Copy in the Clarke Reprint Collection, New York State Geological Survey, is with quarto plates. See 83, 84.

86. Hall, James. 1847. Coal on the Rocky Mountains, discovered by Capt. Frémont; Frémont's Expedition, p. 297. *The American Journal of Science and Arts*, 2d ser., Vol. III, May 1847, No. 8 (March 1847), pp. 273–274.

Royal Society of London, 1869, vol. III, p. 136, item 8.

Darton, 1896, p. 451 Cited as: Nature of the geological formations occupying a portion of Oregon and northern California.

Hazen and Hazen, 1980, p. 189, item 4709.

87. Hall, James. 1847. Letter from Professor James Hall, on certain fossils in the red sand-rock of

Highgate [Vermont]; p. 31. In C. B. Adams, *Third Annual Report on the Geology of the State of Vermont*. Burlington, VT: Chauncey Goodrich.

This letter was published in *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99 (May 1862), pp. 370–377, and in *The Canadian Naturalist and Quarterly Journal of Science, with the Proceedings of the Natural History Society of Montreal*, n.s., Vol. VI, No. 3 (April), pp. 313–325. See 355, 387, 581.

Nickles, 1923, p. 441, item 47a.

Hazen and Hazen, 1980, p. 189, item 4710.

88. Hall, James. 1847. Terraces on the north and south side of Lake Ontario. *The Literary World*, Vol. II, No. 36 (9 October 1847), p. 228.

Comments made in response to an inquiry about river terraces (ancient sea beaches) at the Eighth Annual Meeting of the American Association of Geologists and Naturalists [*sic*] in Boston.

Hazen and Hazen, 1980, p. 189, item 4723. Cited as: [Terraces from the Lake Ontario region], and dated as 1848.

89. Hall, James. 1847. Paleontology of the lower geological strata of New York. *The Literary World*, Vol. II, No. 37 (16 October 1847), p. 255 [8 lines].

Report of a presentation given at the Eighth Annual Meeting of the American Association of Geologists and Naturalists [*sic*] in Boston.

Hazen and Hazen, 1980, p. 189, item 4721.

90. Hall, James. 1847. On the general results of investigations in the palæontology of the lower strata of New York. *Proceedings of the Association of American Geologists and Naturalists*.

Not seen.

Hazen and Hazen, 1980, p. 189, item 4711.

91. Hall, James. 1847. On the general results of investigations in the palæontology of the lower strata of New York. *American Quarterly Journal of Agriculture and Science*, Vol. VI, p. 210 [i.e., p. 258, 13 lines].

Hazen and Hazen, 1980, p. 189, item 4711.

92. Hall, James. 1847. *Palæontology of New-York. Volume I. Containing Descriptions of the Organic Remains of the Lower Division of the New-York System, (Equivalent of the Lower Silurian Rocks of Europe)*; ix–xxiv + 338 pp., 25 unnumbered text-figs., 2 tables, 99 pls. First title page: *Natural History of New York*. By Authority. New York: D. Appleton & Co. and Wiley & Putnam; Boston: Gould, Kendall & Lincoln. Albany: Carroll & Cook Printers to the Assembly. 1843. Second Title



**page has title as above. Albany: Printed by C. Van Benthuyzen.**

F. Roemer reviewed this volume in "Kritische Anzeige von James Hall's Paläontologie des Staates New-York", in *Neues Jahrbuch für Mineralogie, Geognosie, Geologie und Petrefakten-Kunde*, 1848, pp. 169–181 [in German]. E. de Verneuil's review during the meeting of the *Société Géologique de France* on May 22, 1848, was published in the *Bulletin de la Société Géologique de France*, 2d ser., vol. 5, pp. 374–380, 1848 [in French]. A short quotation from the Preface about Hall's feeling of isolation in Albany is in J. M. Clarke, 1921, pp. 163–164. See **169, 319**.

White and Nicholson, 1878, p. 29.

Murray, 1884, p. 79, books item 3.

Murray, 1889, p. 77, books item 3.

Darton, 1896, p. 451.

Clarke, 1899, p. 436, books item 3.

Hovey, 1899, p. 149, books item 3.

Ellis, 1903, p. 284.

Nickles, 1923, p. 441, item 47. Cited as: Descriptions of the organic remains of the lower division of the New York system.

Hazen and Hazen, 1980, p. 189, item 4712.

**93. Hall, James. 1847? Trilobites of the inferior strata; pp. 225–260, pls. 60–67.**

Bound copies of these pages and plates from Volume I of the *Paleontology of New-York* have no indication of source or authorship.

**94. Hall, James. 1847. Graptolites of the Utica Slate and Hudson-River Group; pp. 265–274, pls. 72–74. From Volume I of the *Paleontology of New-York*. Albany: Printed by C. Van Benthuyzen.**

Plates lack descriptions published in Volume 1. There is no evidence that this separate circulated prior to the entire volume. It probably was, because it has a cover, title page, etc.

**95. Hall, James. 1847. Crinoidea from the middle Silurian period; 72 pp., pls. 41, A41, 42–49, 49A, 50–51.**

Text was published in 1852 as pages 177–248 in *Paleontology of New York*, Vol. II. Plates in this separate lack the explanations as published in *Paleontology of New York*. See **169**.

**96. Hall, James. 1847. Crinoidea of the inferior strata of the New-York system (equivalent of the lower Silurian [*sic*] strata of Europe); 20 pp., pls. 27–29, 76–78, 2 unnumbered text-figures. From the First Volume of *Paleontology of New-York*. Albany: Printed by C. Van Benthuyzen.**

This separate contains the following from Volume 1 of *Paleontology of New-York*: pp. 80–92, Trenton Limestone; pp. 278–284, Hudson-River Group; and intercalated addenda are from pp. 316 and 318. The copy examined in the Rominger Reprint Collection, University of Michigan, is bound with a

copy of Goldfuss (1838). Copy is also in the Springer Library, NMNH. Title page of copy in the James Hall Papers, New York State Archives, suggests that there may have been more than one printing of these pages and has Hall's penciled title that reads: "Crinoidea of the Clinton & Niagaran Groups (equivalent in part of the Middle Silurian strata of Europe). From the Second Volume of the *Paleontology of New-York*. By James Hall. Albany: Printed by C. Van Benthuyzen. 1852."

Hazen and Hazen, 1980, p. 189, item 4719. Date cited as 1848.

**97. Verneuil, Édouard de, [and James Hall?]. 1847. Note sur le parallélisme des roches des depots paléozoïques de l'Amerique Septentrionale avec ceux de l'Europe; suivie d'un tableau des espèces fossiles communes aux deux continents, avec l'indication des étages où elles se rencontrent, et terminée par un examen critique de chacune des ces espèces. *Bulletin de la Société Géologique de France*, ser. 2, Vol. IV, pp. 646–710.**

This French article does not list Hall as an author although he clearly had to have supplied a large amount of the North American data included. The version in English cited below lists Hall as coauthor. See **98, 99, 114, 115, 116**.

Nickles, 1923, p. 1051, de Verneuil item 47a. Hall is not cited as coauthor.

Hazen and Hazen, 1980, p. 374, item 10620.

**98. Hall, James. 1848. [Translation of Édouard de Verneuil, 1847]. Art. XX. On the Parallelism of the Palæozoic Deposits of North America, with those of Europe; followed by a Table of the Species of Fossils common to the two Continents, with indication of the positions in which they occur, and terminated by a critical examination of each of the species; by Éd. De Verneuil, (translated and condensed from the *Bulletin of the Geol. Soc. of France*, 2d ser., vol. iv, for this *Journal*, by Mr. James Hall, New York State Geologist). *The American Journal of Science and Arts*, 2d ser., May 1848, Vol. V, No. 14 (March 1848), pp. 176–183 (to be continued).**

See **97, 99, 114, 115, 116**.

Murray, 1884, p. 83, scientific papers item 19.

Murray, 1889, p. 80, scientific papers item 19.

Darton, 1896, p. 451.

Clarke, 1899, p. 439, scientific papers item 19.

Hovey, 1899, p. 153, scientific papers item 19.

Nickles, 1923, p. 1051, de Verneuil item 47a. Hall is not cited as coauthor.

Hazen and Hazen, 1980, p. 189, item 4720. Cited as: 1848/1849, Translation of and annotations in.

**99. Hall, James. 1848. [Translation of Édouard de Verneuil, 1847]. Art. XL. Parallelism of the Palæozoic Deposits of North America, with those**

of Europe. (Continued from p. 183.) *The American Journal of Science and Arts*, 2d ser., May 1848, Vol. V, No. 15 (May 1848), pp. 359–370 (to be continued).

See 98, 99, 114, 115, 116.

Murray, 1884, p. 83, scientific papers item 19.  
Murray, 1889, p. 80, scientific papers item 19.  
Darton, 1896, p. 451.  
Clarke, 1899, p. 439, scientific papers item 19.  
Hovey, 1899, p. 153, scientific papers item 19.  
Nickles, 1923, p. 1051, de Verneuil item 47a. Hall is not cited as coauthor.  
Hazen and Hazen, 1980, p. 189, item 4720. Cited as: 1848/1849, Translation of and annotations in.

100. Hall, James. 1848. An address delivered at the anniversary meeting of the Harvard Natural History Society, May 24, 1848; 39 pp. Cambridge, [Massachusetts]: Metcalf and Company, published by the Society.

Hazen and Hazen, 1980, p. 189, item 4713.

101. Hall, James. 1848. Communication from Mr. James Hall, one of the state geologists; 9 pp. In Senate, March 6, 1843. Albany: New York Senate Document 59.

Hazen and Hazen, 1980, p. 189, item 4718.

102. Hall, James. 1848. Agricultural Geology. *American [Quarterly] Journal of Agriculture and Science*, Vol. VII, No. 3, (January 1848), pp. 91–94, 1 fig.

This was under “Extracts from the Journals & Nat. Hist. NY”.

Hazen and Hazen, 1980, p. 189, item 4714.

103. Hall, James. 1848. Agricultural geology. *The Genesee Farmer and Gardener's Journal*, Vol. 9, No. 4 (April 1848), pp. 103–105, fig. 24.

Description of the Niagaran beds was apparently based on work published in *Paleontology of New-York*, Vol. I, 1847. See 92.

Hazen and Hazen, 1980, p. 189, item 4715.

104. Hall, James. 1848. Upon some of the Results of the Palæontological Investigations in the State of New York. *The American Journal of Science and Arts*, 2d ser., Vol. V, May 1848, No. 14 (March 1848), pp. 243–249.

This is apparently a paraphrase or summary of Hall's remarks from the *Proceedings of the American Association of Geologists and Naturalists [sic]* at Boston, September 1847, and presumably prepared by Benjamin Silliman, Jr.

Royal Society of London, 1869, vol. III, p. 134, incorrectly cited as Frederick Hall item 11. See Royal Society of London, 1902, vol. XII, p. 305.

Murray, 1884, p. 83, scientific papers item 23.

Murray, 1889, p. 80, scientific papers item 23.

Darton, 1896, p. 451.

Clarke, 1899, p. 439, scientific papers item 23.

Hovey, 1899, p. 153, scientific papers item 23.

Nickles, 1923, p. 441, item 48b.

Hazen and Hazen, 1980, p. 189, item 4724.

105. Hall, James. 1848. Remarks on the Observations of S. S. Haldeman “on the supposed identity of *Atops trilineatus* with *Triarthrus Beckii*.” *The American Journal of Science and Arts*, 2d ser., Vol. V, May 1848, No. 15, pp. 322–327, figs. 1a–b, 2a–i.

These are taken from the *Proceedings of the American Association of Geologists and Naturalists [sic]* at Boston, September 1847, and presumably prepared by Benjamin Silliman, Jr.

Royal Society of London, 1869, vol. III, p. 136, item 9.

White and Nicholson, 1878, p. 29.

Murray, 1884, p. 83, scientific papers item 20.

Murray, 1889, p. 80, scientific papers item 20.

Clarke, 1899, p. 439, scientific papers item 20.

Hovey, 1899, p. 153, scientific papers item 20.

Nickles, 1923, p. 441, item 48c.

Hazen and Hazen, 1980, p. 189, item 4722.

106. Hall, James. 1848. Remarks on the observations of S. S. Haldeman “On the supposed identity of *Atops trilineatus* with *Triarthrus beckii*”; 6 pp., 2 figs.

This reprint of the preceding article has separate pagination, but with no evidence that it was published prior to the issue containing the article.

107. Hall, James. 1848. Catalogue of Specimens in the Geological Department of the Geological Survey; pp. 1–39. In *Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, with Catalogues of the Same. Made to the Senate April 11, 1848. Senate No. 72. Albany: C. Van Benthuysen, Printer.*

Retrospectively regarded as part of the first annual report of the New York State Museum. Bottoms of pages say: [Senate, No. 72]. See 899, 904, 910, 911.

Murray, 1884, p. 83, scientific papers item 21.

Murray, 1889, p. 80, scientific papers item 21.

Darton, 1896, p. 451.

Clarke, 1899, p. 439, scientific papers item 21.

Hovey, 1899, p. 153, scientific papers item 21.

Ellis, 1903, p. 285.

Nickles, 1923, p. 441, item 48.

Hazen and Hazen, 1980, p. 189, item 4716.

108. Hall, James. 1848. Catalogue of Specimens in the Palæontological Department of the Geological Survey; pp. 1–15. In *Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, with Catalogues of the*



**Same. Made to the Senate April 11, 1848. Senate No. 72. Albany: C. Van Benthuyssen, Printer.**

Retrospectively regarded as part of the first annual report of the New York State Museum. On the bottoms of pages is: [Senate, No. 72]. See 107, 899, 904, 910, 911.

Murray, 1884, p. 83, scientific papers item 22.

Murray, 1889, p. 80, scientific papers item 22.

Clarke, 1899, p. 439, scientific papers item 22.

Hovey, 1899, p. 153, scientific papers item 22.

Ellis, 1903, p. 285.

Nickles, 1923, p. 441, item 48a.

Hazen and Hazen, 1980, p. 189, item 4717.

**109. Hall, James. [1848] 1849. On the supposed impression in Shale of the soft parts of an *Orthoceras*. *The Quarterly Journal of the Geological Society of London*, Vol. V, Part I, 1849, pp. 107–111.**

From the *Proceedings of the Geological Society* [of London]. November 1, 1848. Communicated by Sir Roderick I. Murchison, to whom the notice was sent in a letter dated February 8, 1848, and whose absence from England prevented its being read at the last session.

Royal Society of London, 1869, vol. III, p. 136, item 14. Cited as 1849.

White and Nicholson, 1878, p. 103. Cited as 1849.

Murray, 1884, p. 83, scientific papers item 18.

Murray, 1889, p. 80, scientific papers item 18.

Clarke, 1899, p. 439, scientific papers item 18. Cited as 1848.

Hovey, 1899, p. 153, scientific papers item 18.

Nickles, 1923, p. 442, item 49a. Cited as 1849.

**110. Hall, James. [1848] 1921. Conversation about Jules Marcou; p. 219. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.**

Clarke gives an account of Hall's remarks on March 26, 1848, about Marcou, who had come from France to collect fossils for the Geological Society of France. Hall said "... he was too lazy to get fossils; he was very tall and it hurt him to stoop over."

**111. Hall, James. 1849. Comments on "the tracks of Mollusca . . . as evidences of beaches in the Silurian period . . . far in the interior of the land"; p. 33. In R. W. Gibbes, Afternoon Session, *Proceedings of the American Association for the Advancement of Science*. First Meeting, Held at Philadelphia, September, 1848. Philadelphia: Printed by John C. Clark, 60 Dock Street.**

In the same session Hall was appointed to the Standing Committee of the Section of Natural History, Geology, &c. Hall also exhibited and described some fossils from the Onondaga salt group.

**112. Hall, James. 1849. Letter (of September 21, 1848) to the Chairman of the American Association for the Advancement of Science [in relation to the character and services of Mr. Lardner Vanuxem]; pp. 91–92. *Proceedings of the American Association for the Advancement of Science*. First Meeting, Held at Philadelphia, September, 1848. Philadelphia: Printed by John C. Clark, 60 Dock Street.**

Hall recapitulates here the history of the formation of the American Association for the Advancement of Science: Vanuxem was "the first man to propose such an organization." The geological survey of New York was commenced in 1836. At the end of the second year of fieldwork "the want of some geological nomenclature began to be seriously felt . . . and consequently some language must be devised to enable us to understand each other." Vanuxem proposed in 1838 to invite geologists from other states "for the purpose of devising and adopting a Geological Nomenclature which might . . . thus become the nomenclature of American Geology." In 1840 the first such meeting was held, and the Association of American Geologists and Naturalists was formed. This geological association "has been merged in more important consideration" into the American Association for the Advancement of Science.

Hazen and Hazen, 1980, p. 189, item 4725.

**113. Hall, James. 1849. List of Minerals, Geological specimens and Fossils, Added to the Collection during 1847 and 1848; with a Memorandum of Prof. Hall, as to the Additions made to the Palaeontological Cabinet since April 11, 1848; pp. 65–70. In *Second Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, With Catalogues of the Same*. Made to the Senate January 12, 1849. State of New-York. No. 20. Albany: Weed, Parsons & Co., Public Printers.**

Murray, 1884, p. 83, scientific papers item 24.

Murray, 1889, p. 80, scientific papers item 24.

Clarke, 1899, p. 439, scientific papers item 24.

Hovey, 1899, p. 153, scientific papers item 24.

Ellis, 1903, p. 285.

Nickles, 1923, p. 442, item 49.

Hazen and Hazen, 1980, p. 189, item 4726.

**114. Hall, James. 1849. [Translation of Édouard de Verneuil, 1847]. Art. IV. Parallelism of the Palaeozoic Formations of North America, with those of Europe; by Ed. De Verneuil (translated and condensed from the *Bulletin of the Geol. Soc. of France*, 2d ser., vol. iv, for this *Journal*). (Continued from pp. 183, and 370, vol. V). *The American Journal of Science and Arts*, 2d ser., Vol. VII, May 1849, No. 19 (January 1849), pp. 45–51.**

See 97, 98, 99, 115, 116.

Murray, 1884, p. 83, scientific papers item 19.

Murray, 1889, p. 80, scientific papers item 19.

Darton, 1896, p. 451.

Clarke, 1899, p. 439, scientific papers item 19.

Hovey, 1899, p. 153, scientific papers item 19.

Nickles, 1923, p. 1051, Verneuil item 47a. Hall is not cited as coauthor.

Hazen and Hazen, 1980, p. 189, item 4720. Cited as: 1848/1849, Translation of and annotations in.

- 115. Hall, James. 1849. [Translation of Édouard de Verneuil, 1847]. Parallelism of the Palæozoic Formations of North America, with those of Europe; by Éd. De Verneuil; translated, with annotations, by James Hall. (Continued from p. 51.) *The American Journal of Science and Arts*, 2d ser., Vol. VII, May 1849, No. 20 (March 1849), pp. 218–231.**

See 97, 98, 99, 114, 116.

Murray, 1884, p. 83, scientific papers item 19.

Murray, 1889, p. 80, scientific papers item 19.

Darton, 1896, p. 451.

Clarke, 1899, p. 439, scientific papers item 19.

Hovey, 1899, p. 153, scientific papers item 19.

Nickles, 1923, p. 1051, Verneuil item 47a. Hall is not cited as coauthor.

Hazen and Hazen, 1980, p. 189, item 4720. Cited as: 1848/1849, Translation of and annotations in.

- 116. Verneuil, Édouard de, [and James Hall?]. 1849. The Carboniferous Fauna of America compared with that of Europe. *The Edinburgh New Philosophical Journal*, Vol. XLVII, No. XCIII (July 1849), pp. 117–121.**

Abstracted from Hall's 1848 and 1849 translation of Verneuil's 1847 article. See 97, 98, 99, 114, 115.

Nickles, 1923, p. 1051, Verneuil item 47a. Hall is not cited as coauthor.

- 117. Hall, James. 1849. On the Trails and Tracks in the Sandstones of the Clinton Group of New York: Their Probable Origin, Etc.; and A Comparison of some of them with *Nereites* and *Myrianites*; pp. 256–260. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August 1849. Boston: Henry Flanders & Co.**

This article appears to be partly a direct quote of Hall's presentation and partly a paraphrase by J. B. Felton, the secretary at the August 18, 1849, session of the Section on Geology and Palaeontology. The entire volume is dated 1850, but a copy of the paper in the James Hall Papers, New York State Archives, bears the 1849 imprint date. See 126.

Royal Society of London, 1869, vol. III, p. 136, item 11.

- 118. Hall, James. 1849. On the Brachiopoda of the Silurian Period; particularly the Leptænidæ; pp. 347–351. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.**

This article appears to have been written by Hall rather than being a paraphrase, but the discussion following the presentation was recorded by W. J. Burnett, secretary for the August 10, 1849, session of the Section of Natural History, Zoology, Etc. of the Association. Entire volume is dated 1850, but a copy of the paper in the James Hall Papers, New York State Archives, bears an 1849 imprint date. See 564.

Royal Society of London, 1869, vol. III, p. 136, item 12.

- 119. Hall, James. 1849. On Graptolites, their Duration in Geological Periods, and their Value in the Identification of Strata; pp. 351–352. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.**

Paper presented at the August 10, 1849, session of the Section of Natural History, Zoology, Etc. of the Association. Entire volume is dated 1850, but a copy of the paper in the James Hall Papers, New York State Archives, bears an 1849 imprint date. See 131.

Royal Society of London, 1869, vol. III, p. 136, item 13.

- 120. Hall, James. [1849] 1920. Letter (March, 1849) to Hon. Mr. Beach; pp. 338–339. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.**

Mr. Beach was a New York State Senator. Hall submitted an estimate for the cost of engraving for completion of the report on Paleontology and said that he needed more time for completion of his work for the Survey.

- 121. Hall, James. [1849] 1920. Letter (November 20, 1849) to Hon. Nelson J. Beach; pp. 339–341. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.**

Hall's lengthy letter asked for more space for his work, which was important worldwide.

- 122. Hall, James. [1849] 1921. Letter (May, 1849) to Josiah D. Whitney; p. 220. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.**

Whitney and John W. Foster were working in the Lake Superior region and had asked Hall for advice on geological nomenclature. Hall replied “. . . the Lake Superior Region is not the place to settle that question.” Foster and Whitney decided to have Hall as a collaborator rather than a reviewer for the rest of their work.

123. Hall, James. [1849] 1921. Letter (November 20, 1849) to Sen. Nelson J. Beach; pp. 182–183. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Part of this letter to the New York Senator is quoted. Hall wanted more space for his work and emphasized the importance of his work to the state of New York.

124. Hall, James. 1850. Letters and testimony, in the report of the select committee appointed to investigate the matters connected with the publication of the state work on natural history. New York State in Assembly [Document] No. 9, January 2, 1850.

Hall's testimony is on pages 99–105 and his letters are on pages 18, 19, 31, 53–54, 60–69, and 89–91. Copy is in the Clarke Reprint Collection, New York State Geological Survey.

125. Hall, James. 1850. Remarks on: A List of the Fossil Crinoids of Tennessee, By Prof. G. Troost, of Nashville; pp. 63–64. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

Entire volume is dated 1850.

Hazen and Hazen, p. 367, item 10409.

126. Hall, James. 1850. On the Trails and Tracks in the Sandstones of the Clinton Group of New York: their probable Origin, etc.; and a Comparison of some of them with *Nereites* and *Myrianites*; pp. 256–260. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, Held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

This article appears to be partly a direct quote of Hall's presentation and partly a paraphrase by J. B. Felton, the secretary at the August 18, 1849, session of the Section on Geology and Palaeontology. The entire volume is dated 1850, but a copy of the paper in the James Hall Papers, New York State Archives, bears the 1849 imprint date. See 117.

White and Nicholson, 1878, p. 28.

Murray, 1884, p. 83, scientific papers item 25.

Murray, 1889, pp. 80–81, scientific papers item 25.

Clarke, 1899, p. 439, scientific papers item 25.

Hovey, 1899, pp. 153–154, scientific papers item 25.

Nickles, 1923, p. 442, item 50a.

Hazen and Hazen, 1980, p. 189, item 4731.

127. Hall, James. 1850. Remarks on: On the Erratic Phenomena of the White Mountains. By Prof. Arnold Guyot; pp. 310–311. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

Hazen and Hazen, p. 186, item 4612.

128. Hall, James. 1850. Remarks on: Drift from the southward in the St. Lawrence Valley; p. 311. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

Darton, 1896, p. 451.

129. Hall, James. 1850. Remarks on: On the Erratic Phenomena of the Central Alps. By Prof. A. Guyot; p. 321. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

Hazen and Hazen, 1980, p. 186, item 4611.

130. Hall, James. 1850. On the Brachiopoda of the Silurian Period; particularly the Leptænidæ; pp. 347–351. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

This article appears to have been written by Hall rather than being a paraphrase, but the discussion following the presentation was recorded by W. J. Burnett, secretary for the August 10, 1849, session of the Section of Natural History, Zoology, Etc. of the Association. Entire volume is dated 1850, but copy of paper in the James Hall Papers, New York State Archives, bears an 1849 imprint date. See 564.

White and Nicholson, 1878, p. 29.

Murray, 1884, p. 83, scientific papers item 26.

Murray, 1889, p. 81, scientific papers item 26.

Clarke, 1899, p. 439, scientific papers item 26.

Hovey, 1899, p. 154, scientific papers item 26.

Nickles, 1923, p. 442, item 50b.

Hazen and Hazen, 1980, item 4730.

131. Hall, James. 1850. On Graptolites, their Duration in Geological Periods, and their Value in the Identification of Strata; pp. 351–352. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

Paper presented at the August 10, 1849, session of the Section of Natural History, Zoology, Etc. of the Association. Entire volume is dated 1850, but a copy of the paper in the James Hall Papers,



New York State Archives, bears an 1849 imprint date. See 119.

White and Nicholson, 1878, p. 29.

Murray, 1884, p. 83, scientific papers item 27.

Murray, 1889, p. 81, scientific papers item 27.

Clarke, 1899, p. 440, scientific papers item 27.

Hovey, 1899, p. 154, scientific papers item 27.

Nickles, 1923, p. 442, item 50c.

Hazen and Hazen, 1980, p. 189, item 4729.

132. Hall, James. 1850. Comment during General Meetings, re. preparation of volumes on physical sciences and on natural history; pp. 356–357. *Proceedings of the American Association for the Advancement of Science*. Second Meeting, held at Cambridge, August, 1849. Boston: Henry Flanders & Co.

Entire volume is dated 1850.

133. [Hall, James]. 1850. List of Minerals, Geological Specimens and Fossils, Added to the State Cabinet of Natural History (Including the Collection of the Late Mr. De Rham) from January 1, 1849, to January 1, 1850; pp. 27–46. In *Third Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection. Annexed Thereto*. Printed by order of the Assembly of the State of New-York. Made to the Senate, January 11, 1850. State of New-York. No. 75. Albany: Weed, Parsons & Co., Public Printers.

No author is cited for this compilation, although Hall is indicated as the author by Hazen and Hazen (1980).

Hazen and Hazen, 1980, p. 189, item 4728.

134. Hall, James. 1850. Description of New Species of Fossils, And Observations upon Some Other Species previously not well known, from the Trenton Limestone; pp. 167–175, 5 pls. preceding page 167. In *Third Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection. Annexed Thereto*. Printed by order of the Assembly of the State of New-York. Made to the Senate, January 11, 1850. State of New-York. No. 75. Albany: Weed, Parsons & Co., Public Printers.

Appendix K of report. The James Hall Papers, New York State Archives (box 36, folder 1315), contain a copy of pages 169–175 with no author or date, and with a penciled “#28” on it, which probably refers to Hovey’s citation. See 135.

White and Nicholson, 1878, p. 29.

Murray, 1884, p. 83, scientific papers item 28.

Murray, 1889, p. 81, scientific papers item 28.

Clarke, 1899, p. 440, scientific papers item 28.

Hovey, 1899, p. 154, scientific papers item 28.

Hazen and Hazen, 1980, p. 189, item 4727.

135. Hall, James. 1850. (K.) Description of New Species of Fossils, and Observations upon Some Other Species Previously Not Well Known, from the Trenton Limestone; pp. 173–183, pls. 1–5. In *Third Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection, Annexed Thereto. Revised Edition*. Printed by order of the Assembly of the State of New-York. Made to the Senate, Jan. 11, 1850. State of New-York. No. 75. Albany: Weed, Parsons & Company, Public Printers.

Appendix K of report. This is another version from the Third Annual Report with different pagination. See 134.

Royal Society of London, 1902, vol. XII, p. 305, item 63.

Ellis, 1903, p. 285.

Nickles, 1923, p. 442, item 50.

136. Hall, James. 1850. Letter to Editor, *Freeman’s Journal*.

Hall claims, as a good Catholic, to defend Jesuits who write in the cause of Science. A copy is in the James Hall Papers, New York State Archives (box 4, folder 134).

137. Hall, James. 1850. Remarks on the geology of Mackinac, Drummond and St. Joseph’s Islands and the northern shores of Lake Michigan; p. 354. *Proceedings of the American Association for the Advancement of Science*. Fourth Meeting, held at New Haven, Connecticut, August, 1850. Washington City: Published by S. F. Baird.

The separate bears an 1850 imprint. Penciled note on preprint in the James Hall Papers, New York State Archives, reads: “This paper . . . was read . . . but the notes were not furnished for publication.” See 138, 156.

138. Hall, James. 1851. Remarks on the geology of Mackinac, Drummond and St. Joseph’s Islands and the northern shores of Lake Michigan; p. 354. *Proceedings of the American Association for the Advancement of Science*. Fourth Meeting, held at New Haven, Connecticut, August, 1850. Washington City: Published by S. F. Baird.

Title only. Paper was read by Louis Agassiz as Hall apparently did not attend this meeting. See 137, 156.

Murray, 1884, p. 84, scientific papers item 29.

Murray, 1889, p. 81, scientific papers item 29.

Clarke, 1899, p. 440, scientific papers item 29.

Hovey, 1899, p. 154, scientific papers item 29.

139. Hall, James. 1851. Parallelism of the Palæozoic rocks of New York, with those of the Western states, and of all these with the Palæozoic Strata of Europe; p. 59. *Proceedings of the American Association for the Advancement of Science*. Fifth Meeting, held at Cincinnati, Ohio, May, 1851. Washington City: Published by S. F. Baird.

Title only. See 148.

Murray, 1884, p. 84, scientific papers item 31.  
Murray, 1889, p. 81, scientific papers item 31.  
Clarke, 1899, p. 440, scientific papers item 31.  
Hovey, 1899, p. 154, scientific papers item 31.

140. Hall, James. 1851. On the Silurian Rocks of the Lake Superior Land District; pp. 64–66. *Proceedings of the American Association for the Advancement of Science*. Fifth Meeting, held at Cincinnati, Ohio, May, 1851. Washington City: Published by S. F. Baird.

Title only. This is the published record of the remarks following Hall's paper and his reply.

Royal Society of London, 1869, vol. III, p. 136, item 15.  
Murray, 1884, p. 84, scientific papers item 32.  
Murray, 1889, p. 81, scientific papers item 32.  
Clarke, 1899, p. 440, scientific papers item 32.  
Hovey, 1899, p. 154, scientific papers item 32.  
Nickles, 1923, p. 442, item 51f.

141. Hall, James. 1851. Report on the Invertebrate Fossils exhibited to the Association; p. 180. *Proceedings of the American Association for the Advancement of Science*. Fifth Meeting, held at Cincinnati, Ohio, May, 1851. Washington City: Published by S. F. Baird.

Only the title was published.

Murray, 1884, p. 84, scientific papers item 30.  
Murray, 1889, p. 81, scientific papers item 30.  
Clarke, 1899, p. 440, scientific papers item 30.  
Hovey, 1899, p. 154, scientific papers item 30.

142. Hall, James. 1851. Chapter IX. Lower Silurian System—continued; pp. 140–151. In J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District*. Part II. *The Iron Region, Together with the General Geology*. Washington, [D.C.]: Printed by A. Boyd Hamilton. Senate Executive [Document] No. 4, Special Session March, 1851. [32nd Congress, Congressional Documents Set retroactive volume number 609].

There are two printings of this book—one dated March 18, 1851, and the other December 19, 1851, but otherwise they appear to be identical. See 146, 194, 195.

Murray, 1884, p. 80, books item 4.  
Murray, 1889, p. 77, books item 4.

Darton, 1896, p. 451.  
Clarke, 1899, p. 436, books item 4.  
Hovey, 1899, p. 149, books item 4.  
Nickles, 1923, p. 442, item 51b.  
Pestana, 1972, p. 58, item 1851b.

143. Hall, James. 1851. Chapter X. Upper Silurian and Devonian Series; pp. 152–166, 2 illustrations. In J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District*. Part II. *The Iron Region, Together with the General Geology*. Washington, [D.C.]: Printed by A. Boyd Hamilton. Senate Executive [Document] No. 4, Special Session March, 1851. [32nd Congress, Congressional Documents Set retroactive volume number 609].

See 195.

Murray, 1884, p. 80, books item 4.  
Murray, 1889, p. 77, books item 4.  
Darton, 1896, p. 451.  
Clarke, 1899, p. 436, books item 4.  
Hovey, 1899, p. 149, books item 4.  
Nickles, 1923, p. 442, item 51b.  
Pestana, 1972, p. 58, item 1851b.

144. Hall, James. 1851. Mr. Hall's remarks on Mr. Lapham's section on Geology in the State of Wisconsin under "Miscellaneous Observations on the Palæozoic Series"; pp. 171–172. In J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District*. Part II. *The Iron Region, Together with the General Geology*. Washington, [D.C.]: Printed by A. Boyd Hamilton. Senate Executive [Document] No. 4, Special Session March, 1851. [32nd Congress, Congressional Documents Set retroactive volume number 609].

145. Hall, James. 1851. Mr. Hall's remarks on "Origin of the Basins of Lakes Michigan and Huron," by Charles Whittlesey; pp. 176–177. In J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District*. Part II. *The Iron Region, Together with the General Geology*. Washington, [D.C.]: Printed by A. Boyd Hamilton. Senate Executive [Document] No. 4, Special Session March, 1851. [32nd Congress, Congressional Documents Set retroactive volume number 609].

146. Hall, James. 1851. Mr. Hall's remarks on "The above analyses of lower Silurian limestones"; pp. 194–195. In J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District*. Part II. *The Iron Region, Together with the General Geology*. Washington, [D.C.]: Printed by A. Boyd



Hamilton. Senate Executive [Document] No. 4, Special Session March, 1851. [32nd Congress, Congressional Documents Set retroactive volume number 609].

Darton, 1896, p. 451.

147. Hall, James. 1851. Chapter XIII. Description of New, or Rare Species of Fossils, from the Palæozoic Series; pp. 203–231, pls. XXIII–XXXV, and A23. In J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District. Part II. The Iron Region, Together with the General Geology*. Washington [D.C.]: Printed by A. Boyd Hamilton. Senate Executive [Document] No. 4, Special Session March, 1851 [32nd Congress, Congressional Documents Set retroactive volume number 609].

White and Nicholson, 1878, p. 29.

Murray, 1884, p. 80, books item 4.

Murray, 1889, p. 77, books item 4.

Darton, 1896, p. 451.

Clarke, 1899, p. 436, books item 4.

Hovey, 1899, p. 149, books item 4.

Nickles, 1923, p. 442, item 51c.

Pestana, 1972, p. 58, item 1851a.

148. Hall, James. 1851. Chapter XVIII. Parallelism of the Palæozoic deposits of the United States and Europe; pp. 285–318, tables. In J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District. Part II. The Iron Region, Together with the General Geology*. Washington [D.C.]: Printed by A. Boyd Hamilton. Senate Executive [Document] No. 4, Special Session March, 1851 [32nd Congress, Congressional Documents Set retroactive volume number 609].

Portions of this chapter are quoted in Merrill 1906, pages 419–421. See 139.

Murray, 1884, p. 80, books item 4.

Murray, 1889, p. 77, books item 4.

Darton, 1896, p. 451.

Clarke, 1899, p. 436, books item 4.

Hovey, 1899, p. 149, books item 4.

Nickles, 1923, p. 442, item 51d.

Pestana, 1972, p. 58, item 1851c.

149. Hall, James. 1851. List of Minerals, Geological Specimens And Fossils, Added to the State Cabinet of Natural History, from January 1, 1850, to January 1, 1851; pp. 73–90. In *Fourth Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection, Annexed Thereto*. Made to the Senate, January 14,

1851. In Senate. State of New York. No. 30. Albany: Charles Van Benthuyssen, Printer to the Legislature.

150. Hall, James. 1851. Catalogue of Specimens of the Rocks and Fossils in the Gray Sandstone, Medina Sandstone, Clinton Group, Niagara Group, Onondaga Salt Group, and a Part of the Water-lime Group; Being a Continuation of the Catalogue of the State Geological Collection as Far as the Fossils Are Named and Described; pp. 117–142. In *Fourth Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection, Annexed Thereto*. Made to the Senate, January 14, 1851. In Senate. State of New York. No. 30. Albany: Charles Van Benthuyssen, Printer to the Legislature. State of New York.

Murray, 1884, p. 84, scientific papers item 33.

Murray, 1889, p. 81, scientific papers item 33.

Clarke, 1899, p. 440, scientific papers item 33.

Hovey, 1899, p. 154, scientific papers item 33.

Ellis, 1903, p. 285.

Nickles, 1923, p. 442, item 51.

151. Hall, James. 1851. Memorandum of Drawers and Boxes of Fossils, Principally of duplicate specimens from various rocks and groups, in the basement and in the shed of the old State Hall; pp. 143–146. In *Fourth Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection, Annexed Thereto*. Made to the Senate, January 14, 1851. In Senate. State of New York. No. 30. Albany: Charles Van Benthuyssen, Printer to the Legislature. State of New York.

Clarke, 1899, p. 440, included in scientific papers item 33.

152. Hall, James. 1851. Report of James Hall, on the Geological Survey; 9 pp. State of New York. No. 32. In Senate Feb. 6, 1851.

Copy in the Clarke Reprint Collection, New York State Geological Survey, is dated February 6, 1851, and is probably the date of submission of the report.

Nickles, 1923, p. 442, item 51a. Cited as: Report [on the preparation of volumes illustrating the paleontology of New York].

153. Hall, James. 1851. New Genera of Fossil Corals from the Report by James Hall, on the Palæontology of New York. *The American Journal of Science and Arts*, 2d ser., Vol. XI, No. 33, May 1851, pp. 398–401.

This publication is an abstract and extract from Hall's 1852 *Palæontology of New York*, Vol. II. The summary is probably by

Benjamin Silliman, Jr., and has caused some nomenclatorial difficulties resulting in various notes and papers and a proposal to the International Commission on Zoological Nomenclature. See Ross (1970, 1971) and Singh (1970) for pertinent literature. See **161, 168, 176, 684, 685, 686, 687, 792, 828, 829, 886, 1034, 1041.**

Royal Society of London, 1869, vol. III, p. 136, item 17.

White and Nicholson, 1878, p. 29.

Nickles, 1923, p. 442, item 51e.

- 154. Hall, James. 1851. A Chart, Giving an Ideal Section of the Successive Geological Formations, With an Actual Geological Section, From the Atlantic, to the Pacific Ocean. The Whole Illustrated by the Characteristic Fossils of each Formation. Albany, NY: Richd. H. Pease. 152 x 184 cm, folded to 47 x 31 cm.**

A notation on the back of the chart states: "Entered according to an Act of Congress, in the Year 1851, by James Hall, in the Clerk's Office, of the District Court, of the Northern District of New York." The one in the Map Collection, Regenstein Library, University of Chicago, has 5 sheets, and a note that it was a gift of J Harlan Bretz. The map section is colored, while the fossils are in black and white. Hall got the idea of a chart after a teacher in Greenbush, N. Y., James T. Foster, had made one which did not include any mention of New York fossils. After published criticism by Hall and Agassiz, Foster sued them for libel. See Chapter 2 in Clarke, 1921, for information about this episode. A full page illustration of Hall's chart is facing page 214 in Clarke, 1921. An abstract and review are in *The American Journal of Science and Arts*, 1851, 2d ser., Vol. XII, No. 84 (July 1851), pp. 150–151. See **165, 166.**

- 155. Hall, James. [1851] 1921. Letter (October 27, 1851) to Prof. L. Agassiz; pp. 196–197. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.**

This letter was about the enthusiasm in Albany for raising money for the new University of Albany. Agassiz was a Professor at Harvard.

- 156. Hall, James. 1852. "some account of his investigations, during the past summer, on Drummond's Island, and the north shore of Lake Huron and Lake Michigan, in connection with the geological survey under the direction of Messrs. Foster and Whitney"; pp. 253–254. *Proceedings of the American Academy of Arts and Sciences*. Vol. II. From May, 1848 to May, 1852. Selected From the Records. Boston and Cambridge: Metcalf and Company.**

Page 254 is apparently a direct quote provided by Hall as presented at the three hundred and forty-first monthly meeting

on January 7, 1851. Entire volume is dated 1852. See **137, 138.** Royal Society of London, 1869, vol. III, p. 136, item 10. Cited as 1848–52.

Murray, 1884, p. 84, scientific papers item 34.

Murray, 1889, p. 81, scientific papers item 34.

Darton, 1896, p. 451. Cited as: "Geological investigation on Drummonds Island and the north shores of lakes Huron and Michigan."

Clarke, 1899, p. 440, scientific papers item 34. Cited as: "On Drummonds Island."

Hovey, 1899, p. 154, scientific papers item 34.

Nickles, 1923, p. 442, item 52e.

- 157. Hall, James. 1852. Remarks on westward extension of New York Silurian formations; pp. 255–256. *Proceedings of the American Association for the Advancement of Science*. Sixth Meeting, held at Albany, [NY], August 1851. Washington City: Published by S. F. Baird.**

These remarks were made following a talk by Prof. L. Agassiz entitled "Remarks Upon the Unconformability of the Palæozoic Formation of the United States."

Darton, 1896, p. 452.

- 158. Hall, James. 1852. Comparison of the Geological Features of Tennessee with those of the State of New-York; pp. 256–259. *Proceedings of the American Association for the Advancement of Science*. Sixth Meeting, held at Albany, [NY], August 1851. Washington City: Published by S. F. Baird.**

This is a paraphrase of Hall's presentation at the AAAS meeting. Royal Society of London, 1869, vol. III, p. 136, item 16. Cited as 1851.

Murray, 1884, p. 84, scientific papers item 35.

Murray, 1889, p. 81, scientific papers item 35.

Darton, 1896, p. 452.

Clarke, 1899, p. 440, scientific papers item 35.

Hovey, 1899, p. 154, scientific papers item 35.

Nickles, 1923, p. 442, item 52d.

- 159. Hall, James. 1852. Remarks on the Trilobite of the Potsdam Sandstone, named by Dr. Owen, *Dikellacephalus* [sic], and its Relations to *Asaphus* and *Ogygia*; p. 301. *Proceedings of the American Association for the Advancement of Science*. Sixth Meeting, held at Albany, [NY], August 1851. Washington City: Published by S. F. Baird.**

Title only. See **562.**

Murray, 1884, p. 84, scientific papers item 39.

Murray, 1889, p. 82, scientific papers item 39.

Clarke, 1899, p. 440, scientific papers item 39.

Hovey, 1899, p. 154, scientific papers item 39.

- 160. Hall, James. 1852. Remarks upon the Fossils of the Potsdam Sandstone; p. 304. *Proceedings of***

*the American Association for the Advancement of Science. Sixth Meeting, held at Albany, (NY), August, 1851. Washington City: Published by S. F. Baird.*

Title only. See 562.

- Murray, 1884, p. 84, scientific papers item 40.
- Murray, 1889, p. 82, scientific papers item 40.
- Clarke, 1899, p. 440, scientific papers item 40.
- Hovey, 1899, p. 154, scientific papers item 40.

161. Hall, James. 1852. Remarks upon the Fossil Corals of the Genus *Favosites*, and allied Fossil Genera *Favistella*, *Astiocerium* [sic], and others; p. 306. *Proceedings of the American Association for the Advancement of Science. Sixth Meeting, held at Albany, (NY), August, 1851. Washington City: Published by S. F. Baird.*

Title only. See 153.

- Murray, 1884, p. 84, scientific papers item 36.
- Murray, 1889, p. 81, scientific papers item 36.
- Clarke, 1899, p. 440, scientific papers item 36.
- Hovey, 1899, p. 154, scientific papers item 36.

162. Hall, James. 1852. On the Palæozoic Genera *Trematopora*, *Cellepora*, &c; p. 306. *Proceedings of the American Association for the Advancement of Science. Sixth Meeting, held at Albany, (NY), August, 1851. Washington City: Published by S. F. Baird.*

Title only.

- Murray, 1884, p. 84, scientific papers item 37.
- Murray, 1889, p. 81, scientific papers item 37.
- Clarke, 1899, p. 440, scientific papers item 37.
- Hovey, 1899, p. 154, scientific papers item 37.

163. Hall, James. 1852. Tracks, Trails, &c. in the Shales and Sandstones of the Clinton Group from Green Bay; with Remarks on the thinning out and reappearing of this portion of the Clinton Group; p. 306. *Proceedings of the American Association for the Advancement of Science. Sixth Meeting, held at Albany, (NY), August, 1851. Washington City: Published by S. F. Baird.*

Title only. See 164.

- Murray, 1884, p. 84, scientific papers item 38.
- Murray, 1889, p. 81, scientific papers item 38.
- Darton, 1896, p. 452. Cited as: [Result of Explorations in Wisconsin].
- Clarke, 1899, p. 440, scientific papers item 38.
- Hovey, 1899, p. 154, scientific papers item 38.

164. Hall, James. 1852. Result of explorations in Wisconsin. Letter to E. de Verneuil [in French]. *Bulletin de la Société Géologique de France*, 2d Ser., vol. 9, p. 314.

De Verneuil was a paleontologist in France. See 163.

Darton, 1896, p. 452. Cited as: [Result of Explorations in Wisconsin].

165. Hall, James. 1852. A Chart Giving an Ideal Section of the Successive Formations, with an Actual Geological Section from the Atlantic to the Pacific Ocean, the Whole Illustrated by the Characteristic fossils of Each Formation. Albany, New York.

The chart is 58 x 71 inches. See 154, 166.

Nickles, 1923, p. 442, item 52a.

166. Hall, James. 1852. Key to a Chart of the Successive Geological Formations, with an Actual Section from the Atlantic to the Pacific Ocean, Illustrated by the Characteristic Fossils of Each Formation; 72 pp. Boston: Gould and Lincoln.

See 154, 165.

Darton, 1896, p. 451.

Nickles, 1923, p. 442, item 52b.

167. Hall, James. 1852. (C.) Catalogue of Minerals, Geological Specimens and Fossils Added to the State Cabinet of Natural History, from January 1, 1851, to January 1, 1852; pp. 35–39. In *Fifth Annual Report of the Regents of the University, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Assembly, February 2, 1852. State of New York. No. 122. In Assembly, February 2, 1852. Albany: Charles Van Benthuyesen, Printer to the Legislature.

168. Hall, James. 1852. *Palæontology of New-York. Volume II. Containing Descriptions of the Organic Remains of the Lower Middle Division of the New-York System, (Equivalent in Part to the Middle Silurian Rocks of Europe.)*; vii, viii, 362 pp. + errata sheet, pls. 1–85. Albany, [New York]: C. Van Benthuyesen, Printer. First title page: *Natural History of New York*. By Authority. New York; D. Appleton & Co. and Wiley & Putnam; Boston: Gould, Kendall & Lincoln. Albany: Charles Van Benthuyesen, Printer.

Comments about *Palæontology of New York* are in *The Canadian Journal*, by E. J. Chapman, General Editor, 1856, n.s., Vol. I, No. IV (July 1856), pp. 386–387, and on Graptolites, pp. 388–390. See 153, 169.

169. Hall, James. 1852. *Palæontology of New-York. Volume II. Descriptions of the Organic Remains of the Lower Middle Division of the New-York System*;



**viii + 362 pp., 104 pls. *Natural History of New York*. Albany.**

The text of this monograph was apparently published in a separate edition in paper wrappers before the plates were completed as indicated on the errata sheet facing page 362. The imprint date of both, however, is 1852 and the dates of the months within the year are not known. Plate numbers are as follows: 1–4, 4 (bis), 5, 5a, 6–16, A17, 17–34, 34A, 34A (bis), 35, 35 (bis), 36, 36A, 37, 37A, 38–40, 40A–G, A41, 41–49, 49a, 50–65, A66, 66–77, 77a, 78–85. See 95, 168, 319.

White and Nicholson, 1878, p. 30.

Murray, 1884, p. 80, books item 6.

Murray, 1889, p. 77, books item 6.

Darton, 1896, p. 452.

Clarke, 1899, p. 436, books item 6.

Hovey, 1899, p. 149, books item 6.

Ellis, 1903, p. 284.

Nickles, 1923, p. 442, item 52.

170. Hall, James. 1852. Crinoideæ of the New York Rocks. Crinoideæ of the Clinton and Niagara Groups (Equivalent, in part, of the Middle Silurian Strata of Europe); 72 pp., pls. A41, 41–49, 49a, 50–51. From the Second Volume of the *Palæontology of New-York*. Albany: Printed by Charles Van Benthuysen.

This separate contains pages 177–248 and associated plates of Volume II of the *Palæontology of New York*. The imprint date is the same as the entire volume. See 441.

171. Hall, James. 1852. Appendix E. Letter from Professor James Hall of New York, containing observations on the geology and palæontology of the country traversed by the expedition, and notes upon some of the fossils collected on the route; pp. 399–414, 4 pls. In Howard Stansbury, *An Expedition to the Valley of the Great Salt Lake of Utah: Including a Description of its Geography, Natural History, and Minerals, and an Analysis of its Waters: with an Authentic Account of the Mormon Settlement. Illustrated by Numerous Beautiful Plates, from Drawings Taken on the Spot. Also, a Reconnaissance [sic] of a New Route Through the Rocky Mountains, and Two Large and Accurate Maps of That Region*. Philadelphia: Lippincott, Grambo & Co.

See 172, 173, 174, 179, 181, 214.

Murray, 1884, p. 80, books item 5.

Murray, 1889, p. 77, books item 5.

Clarke, 1899, p. 436, books item 5.

Hovey, 1899, p. 149, books item 5.

172. Hall, James. 1852. Appendix E. Letter from Professor James Hall of New York, Containing

Observations on the Geology and Palæontology of the Country Traversed by the Expedition, and Notes upon Some of the Fossils Collected on the Route; pp. 399–414, 4 pls. In Howard Stansbury, *An Expedition to the Valley of the Great Salt Lake of Utah: Including a Description of its Geography, Natural History, and Minerals, and an Analysis of its Waters: with an Authentic Account of the Mormon Settlement. Illustrated by Numerous Beautiful Plates, from Drawings Taken on the Spot. Also, a Reconnaissance [sic] of a New Route Through the Rocky Mountains, and Two Large and Accurate Maps of That Region*. London: Sampson, Low, Son and Co.

This is identical to the previous entry except for the publishers. Discussions of the western lands were popular sellers and we have probably not seen all the published versions. A copy in the Hall Collection, Indiana University, published in 1853 in Washington by Robert Armstrong, Public Printer, lacks Hall's contribution. See 171, 173, 174, 179, 181, 214.

173. Hall, James. 1852. Appendix E. Letter from Professor James Hall, of New York, Containing Observations on the Geology and Palæontology of the Country Traversed by the Expedition, and Notes upon Some of the Fossils Collected on the Route; pp. 399–417, 4 pls. In Howard Stansbury, *Exploration and Survey of the Valley of the Great Salt Lake of Utah, Including a Reconnaissance [sic] of a New Route Through the Rocky Mountains*. Printed by order of the Senate of the United States. Special Session, March 1851. Senate. Executive Document. No. 3. Philadelphia: Lippincott, Grambo & Co.

See 171, 172, 174, 179, 181, 214.

White and Nicholson, 1878, p. 29.

Darton, 1896, p. 452.

Nickles, 1923, p. 442, included in James Hall item 52c.

174. Hall, James. 1852. Observations on the geology and palæontology of the country traversed by the expedition; pp. 401–414, 4 pls. Senate Executive Document 3, Vol. 2, 32nd Congress Special Session. Congressional Document Set retroactive volume 608; some copies of the Senate document are dated 1853, Pestana (1972, pp. 58, 116). See 171, 172, 173, 179, 181, 214.  
Nickles, 1923, p. 442, included in James Hall item 52c.  
Pestana, 1972, p. 58, item 1852.

175. Hall, James. [1852] 1921. Letter to Calvert Baux; p. 236. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.



Hall gave a memorial to Mr. Andrew J. Downing who, as a partner with Mr. Baux, had helped Hall in landscaping his new Beaverkill property. Mr. Downing had drowned in 1852 in the burning of the Hudson River steamer *Henry Clay*.

176. Hall, James. No date [1852]. Corals of the Clinton Group; pp. 1–19. Corals of the Niagara Group; pp. 21–88, 1 text-fig. on p. 33.

A copy of the Clinton and Niagara parts in the James Hall Papers, New York State Archives, is bound together with this. The first part corresponds with pages 38–52 and the second part with pages 109–176 (unnumbered figure on p. 121) of Volume II of the *Palaentology of New-York*. See 153, 441.

177. Hall, James. No date [1852] 1921. Letter to Gov. Grimes; pp. 228–229. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

The governor of Iowa had asked for an opinion about J. D. Whitney for State Geologist. Hall was on the outs with Whitney at this time, and felt it would not be proper to reply.

178. Hall, James. No date [1852] 1921. Letter to W. H. Barris; p. 235. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall defended his practice of keeping fossils far longer than he planned. Date and source are unknown, as is who Barris was.

179. Hall, James. 1853. Appendix E. Letter from Professor James Hall, of New York, Containing Observations on the Geology and Palæontology of the Country Traversed by the Expedition, and Notes upon Some of the Fossils Collected on the Route; pp. 399–414, 4 pls. In Howard Stansbury, *Exploration and Survey of the Valley of the Great Salt Lake of Utah, Including a Reconnaissance [sic] of a New Route Through the Rocky Mountains*. Printed by order of House of Representatives of the United States. In the House of Representatives, March 3, 1853. Washington: Robert Armstrong, Public Printer.

See 171, 172, 173, 174, 181, 214.

180. Hall, James. 1853. [Certification of the Gebhard fossil collection]; p. 13. In *Sixth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and of the Historical and Antiquarian Collection Annexed Thereto*. Made to the Senate, January 22, 1853. State of New-York.

No. 16. In Senate, January 22, 1853. Albany: C. Van Benthuyssen, Printer to the Legislature.

181. Hall, James. 1853. Geology and Palæontology of a part of the Rocky Mountain Region. (From Capt. Stansbury's Expedition to the Great Salt Lake, p. 401.) *The American Journal of Science and Arts*, 2d ser., Vol. XV, May 1853, No. 43 (January 1853), pp. 126–129.

Royal Society of London, 1869, vol. III, p. 136, item 19. Darton, 1896, p. 452. Cited as 1852.

182. Hall, James. 1853. Report [The Report of Professor James Hall, New York State Geologist]; pp. 11–29, 1 unnumbered figure. In *Charter and By-Laws of the La Fayette Mineral Company*. New York: S. W. Benedict, 16 Spruce Street.

Based on the date on page 29, this report was not published before 25 May 1853. The exact date of publication is unknown. Copy of the report is in the Clarke Reprint Collection, New York State Geological Survey. See 183, 193.

183. Hall, James. 1853. Report [The Report of Professor James Hall, New York State Geologist]; pp. 11–29, 1 unnumbered figure. In *Charter and By-Laws of the La Fayette Mineral Company, also the Report of Professor James Hall, New York State Geologist*; 29 pp., 1 map. New York: S. W. Benedict, 16 Spruce Street.

Bound together with Professor Hall's Address to the People of Buffalo, June 9th, 1853, pp. 25–28. These paginations imply that the address may also have been printed elsewhere. Copy is in the James Hall Papers, New York State Archives (box 39, folder 1365). See 182, 184, 192, 193.

184. Hall, James. 1853. Professor Hall's address to the people of Buffalo, June 9th 1853; pp. 25–28, 1 unnumbered map.

This is a paraphrased report of Hall's oral presentation. Place, date of publication and publisher are unknown. Copy is in the Clarke Reprint Collection, New York State Geological Survey. See 183, 192.

185. Hall, James. 1853. On pebbles of conglomerates and formation of quartzites; pp. 236–237. *The Annals of Science, being a Record of the Inventions and Improvements in Applied Science: Including the Transactions of the American Association for the Advancement of Science*, Vol. I, No. 20 (September 15, 1853).

Hall's remarks were made following a paper by Prof. J. Brainerd, of Cleveland, on "Origin of Quartz Pebbles in the Sandstone

Conglomerate, and the Formation of the Silicious [*sic*] Stratified Rocks," pp. 235–237.

Darton, 1896, p. 452.

186. Hall, James. 1853. *Palaeontology of New-York*; 31 pp. *Catalogue of the Cabinet of Natural History of the State of New-York, and of the Historical and Antiquarian Collection Annexed Thereto*. Printed by Order of the Regents of the University. Albany: C. Van Benthuyssen, Printer to the Legislature.

This is a list of fossils in the Collection.

187. Mather, William W., Ebenezer Emmons, Lardner Vanuxem, and James Hall. 1853. *Geology of New-York*; pp. 1–53. *Catalogue of the Cabinet of Natural History of the State of New-York, and of the Historical and Antiquarian Collection Annexed Thereto*. Printed by Order of the Regents of the University. Albany: C. Van Benthuyssen, Printer to the Legislature.

This is a list of rock samples in the collection of the State Cabinet of Natural History of New-York.

188. Hall, James. [1853] 1921. Letter to Prof. Joseph Henry; pp. 259–260. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall responded to Henry's request of September 14, 1853, that Hall corroborate the date of his visit in 1831 or 1832 when Henry demonstrated how a noise could be made at a distance by magnetic currents along wires. Henry was head of the Smithsonian Institution.

189. Hall, James. [1853] 1964. Letter (May 9, 1853) to [F. V.] Hayden; p. 696. In George P. Merrill, *The First One Hundred Years of American Geology*. New York and London: Hafner Publishing Company. 1964.

Hayden was a member of a field party to the Badlands, and Hall was exhorting him to cooperate with F. B. Meek, who was older and had more experience.

190. Lapham, I. A., and James Hall. [1853] 1964. Agreement made on March 1, 1853, between James Hall and I. A. Lapham; p. 693. In George P. Merrill, *The First One Hundred Years of American Geology*. New York and London: Hafner Publishing Company. 1964.

Hall agreed to prepare a work called American Paleontology, based on manuscripts given to him by Lapham of Milwaukee, Wisconsin, and publish it as a joint work of Hall and Lapham. The manuscript described about 2000 species, but was never published (Bergland and Hayes, 2014, p. 278).

191. Hall, James, and F. B. Meek. [1853] 1964. Contract between James Hall and F. B. Meek; pp. 722–724. In George P. Merrill, *The First One Hundred Years of American Geology*. New York and London: Hafner Publishing Company. 1964.

On May 9, 1853, Hall and Meek entered into a contract for Meek to work for Hall for four years, with provision for four months of field work each year. See 200.

192. Hall, James. 1854. Professor Hall's Address to the people of Buffalo, June 9, 1853; pp. 13–16. La Fayette Mineral Company. First Annual Report. May 22, 1854. New York: Oliver & Brother, Job Printers, 89 Nassau-st.

Copy is in the James Hall Papers, New York State Archives (box 39, folder 1365). See 183, 184.

193. Hall, James. 1854. Report of Prof. James Hall to the La Fayette Mineral Company; pp. 9–13. La Fayette Mineral Company. First Annual Report, May 22, 1854. New York: Oliver & Brother, Job Printers, 89 Nassau-st.

Copy is in the James Hall Papers, New York State Archives (box 39, folder 1365). See 182, 183.

194. Hall, James. 1854. General Remarks on the identity of the members of the Silurian groups as developed in different parts of this basin. *The American Journal of Science and Arts*, 2d ser., Vol. XVII, No. 49 (January 1854), pp. 26–29.

This article is taken from the manuscript of Mr. Hall in J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District*. Part II. *The Iron Region Together with General Geology*. See 142, 146, 195.

195. Hall, James. 1854. On the Silurian System of the Lake Superior Region. *The American Journal of Science and Arts*, 2d ser., Vol. XVII, May 1854, No. 50 (March 1854), pp. 181–194.

This is from Chapters IX and X of J. W. Foster and J. D. Whitney, *Report on the Geology of the Lake Superior Land District*. Part II. *The Iron Region Together with General Geology*. See 142, 143, 146, 194.

Royal Society of London, 1869, vol. III, p. 136, item 20.

Darton, 1896, p. 451. Cited as 1851.

Nickles, 1923, p. 442. Included in James Hall item 51b.

196. Lyell, Charles, and James Hall. 1854. Rapport sur la partie géologique de l'Exposition de New York. C. Lyell and J. Hall. Traduit par M. A. Langel. *Annales des Mines*, Vol. VI, pp. 1–85.

Murray, 1884, p. 84, scientific papers item 42.

Murray, 1889, p. 82, scientific papers item 42.

Clarke, 1899, p. 440, scientific papers item 42.  
 Hovey, 1899, p. 155, scientific papers item 42.  
 Nickles, 1923, p. 442, item 54. Hall is cited as senior author.

197. Goodrich, C. R., ed., aided by Professors Hall, Silliman, and Other Scientific and Practical Men. 1854. *Science and Mechanism: Illustrated by Examples in the New York Exhibition, 1853-4: Including Extended Descriptions of the Most Important Contributions in the Various Departments, with Annotations and Notes Relative to the Progress and Present State of Applied Science, and the Useful Arts*. New York: G. P. Putnam and Company.

In the preface, Goodrich writes: "The following Gentlemen contributed more or less to the preparation of this volume." James Hall is one of fifteen men listed.

198. Hall, James. [1854] 1921. Letter (February 10, 1854) to W. E. Logan, Esq.; pp. 308-309. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811-1898*. Albany. 1921.

This letter was in response to a telegram from Logan inquiring: "Where do you place the division between the Upper Silurian and Devonian among your New York rocks?" Hall's detailed answer concludes that he cannot make any separation "that will meet the requirements of the European systematizers." Logan was head of the Canadian Geological Survey.

199. Hall, James. [1854] 1964. Letter (May 25, 1854) to A. Litton; pp. 724-726. In George P. Merrill, *The First One Hundred Years of American Geology*. New York and London: Hafner Publishing Company. 1964.

Hall wrote to Litton, apparently from the Geological Survey of Missouri, about why he was reluctant to let F. B. Meek leave his employ.

200. Hall, James, and F. B. Meek. [1854] 1964. Contract between James Hall and F. B. Meek; pp. 723-724. In George P. Merrill, *The First One Hundred Years of American Geology*. New York and London: Hafner Publishing Company. 1964.

On June 13, 1854, the contract made with Meek on May 9, 1853, was altered to let Meek spend most of his time with the Geological Survey of Missouri, and continue to work for Hall four months of the year. See 191.

201. [Hall, James]. 1854. Review of: "Notice of a Geological Map of the United States and the British Provinces of North America, with Explanatory Text, Geological Sections and Plates of the Fossils

which characterize the formations," by J. Marcou. *The American Journal of Science and Arts*, 2d ser., Vol. XVII May, 1854, No. 50 (March 1854), pp. 199-206.

There is no indication in the *Journal* that Hall wrote this critique of Marcou's map.

Murray, 1884, p. 84, scientific papers item 41.  
 Murray, 1889, p. 82, scientific papers item 41.  
 Clarke, 1899, p. 440, scientific papers item 41.  
 Hovey, 1899, p. 154, scientific papers item 41.

202. Hall, James. 1855. Notes on some Fossils of the so-called Taconic System described by Doctor Emmons. *The American Journal of Science and Arts*, 2d ser., Vol. XIX, May 1855, No. 57, pp. 434-435.

This is from a letter to one of the editors of the *Journal*. See 80.

Royal Society of London, 1869, vol. III, p. 136, item 21.  
 White and Nicholson, 1878, p. 30.  
 Darton, 1896, p. 452.  
 Nickles, 1923, p. 442, item 55.

203. Hall, James. 1855. Observations upon the Geology of the Mauvais Terres, Nebraska, with Notices of the Geographical and Geological Range of some of the Fossils of that Region; p. 290. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held at Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only. See 212, 227.

Murray, 1884, p. 84, scientific papers item 44.  
 Murray, 1889, p. 82, scientific papers item 44.  
 Clarke, 1899, p. 440, scientific papers item 44.  
 Hovey, 1899, p. 155, scientific papers item 44.

204. Hall, James. 1855. Remarks upon a Collection of Cretaceous Fossils from Nebraska, and the Absence of Species known in the Southern Extension of the same Formation; p. 290. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held at Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 84, scientific papers item 45.  
 Murray, 1889, p. 82, scientific papers item 45.  
 Clarke, 1899, p. 440, scientific papers item 45.  
 Hovey, 1899, p. 155, scientific papers item 45.

205. Hall, James. 1855. Remarks upon the Results of Extensive and Continued Collections of Fossil Species from a Portion of the Silurian Rocks of New York, showing the Number of Species



and Individuals of each Species obtained from a limited Locality during a Period of Ten Years; p. 290. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held at Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 85, scientific papers item 46.

Murray, 1889, p. 82, scientific papers item 46.

Clarke, 1899, p. 440, scientific papers item 46.

Hovey, 1899, p. 155, scientific papers item 46.

206. Hall, James. 1855. On the Reproduction of Similar Types or Representative Species in Successive Geological Formations. Illustrated by a Collection of Species of the Brachiopoda from the Niagara and Lower Helderberg Groups of the Palæozoic Rocks of the United States; p. 290. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held at Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 85, scientific papers item 47.

Murray, 1889, p. 82, scientific papers item 47.

Clarke, 1899, p. 441, scientific papers item 47.

Hovey, 1899, p. 155, scientific papers item 47.

207. Hall, James. 1855. Red Sandstone of the Connecticut River Valley, and the Proofs of its Oolitic or Liassic Age; p. 290. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held at Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 85, scientific papers item 48.

Murray, 1889, p. 82, scientific papers item 48.

Clarke, 1899, p. 441, scientific papers item 48.

Hovey, 1899, p. 155, scientific papers item 48.

208. Hall, James. 1855. Remarks upon the Geological Formation of the Country along the Line of the [Mexican] Boundary Survey, based upon the Examination of Dr. Parry, made under the Order of Major Emory; p. 291. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held at Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only. See 254–256, 258–264, 267, 268.

Murray, 1884, p. 85, scientific papers item 49.

Murray, 1889, p. 82, scientific papers item 49.

Clarke, 1899, p. 441, scientific papers item 49.

Hovey, 1899, p. 155, scientific papers item 49.

209. Hall, James. 1855. The Silurian and Devonian Systems, and the Nature of the Evidence for Drawing a Line of Separation between the two Systems in the United States; p. 291. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held in Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 85, scientific papers item 50.

Murray, 1884, p. 82, scientific papers item 50.

Clarke, 1899, p. 441, scientific papers item 50.

Hovey, 1899, p. 155, scientific papers item 50.

210. Hall, James. 1855. On the Western Limits of the Cretaceous Formation on the Northern Continent of America, as evidenced by the Various Collections that have been made by Exploring Expeditions under the Direction of the Government of the United States; p. 291. *Proceedings of the American Association for the Advancement of Science*. Eighth Meeting, held at Washington, D.C., May 1854. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 85, scientific papers item 51.

Murray, 1889, p. 83, scientific papers item 51.

Clarke, 1899, p. 441, scientific papers item 51.

Hovey, 1899, p. 155, scientific papers item 51.

211. Hall, James. 1855. Graptolites. *The Canadian Journal*, Vol. III, No. XV (October 1855), pp. 356–357.

Abstract of paper read at the American Association for the Advancement of Science, at the Ninth Annual Meeting held at Providence, Rhode Island, August 15<sup>th</sup>–18<sup>th</sup>, 1855. See 279.

212. Hall, James. 1855. The Mauvaises Terres. *The Canadian Journal*, Vol. III, No. XV (October 1855), p. 357.

Abstract of paper read at the American Association for the Advancement of Science, at the Ninth Annual Meeting held at Providence, Rhode Island, August 15<sup>th</sup>–18<sup>th</sup>, 1855. See 203, 227.

Nickles, 1923, p. 442, item 55a.

213. Hall, James. 1855. Coal Fields of Missouri and Illinois. *The Canadian Journal*, Vol. III, No. XV (October 1855), p. 357.

Abstract of paper read at the American Association for the Advancement of Science, at the Ninth Annual Meeting held at Providence, Rhode Island, August 15<sup>th</sup>–18<sup>th</sup>, 1855.

214. Hall, James. 1855. Appendix E. Letter from Professor James Hall of New York, containing



observations on the geology and palaeontology of the country traversed by the expedition, and notes upon some of the fossils collected on the route; pp. 399–414, 4 pls. In Howard Stansbury, *An Expedition to the Valley of the Great Salt Lake of Utah; Including a Description of its Geography, Natural History and Minerals, and an Analysis of its Waters; with an Authentic Account of the Mormon Settlement. Illustrated by Numerous Beautiful Plates, from Drawings Taken on the Spot. Also, a Reconnaissance of a New Route Through the Rocky Mountains, and Two Large and Accurate Maps of That Region*. Philadelphia: Lippincott, Grambo & Co.

This is a republication of the 1852 report. See 171.  
Nickles, 1923, p. 442, included in James Hall item 52c.

215. Hall, James, and F. B. Meek. 1855. Descriptions of New Species of Fossils, from the Cretaceous Formations of Nebraska, with Observations upon *Baculites ovatus* and *B. compressus*, and the Progressive Development of the Septa in *Baculites*, *Ammonites*, and *Scaphites*. (Communicated June 27, 1854). *Memoirs of the American Academy of Arts and Sciences*, n.s., Vol. V, Part II, pp. 379–411, 8 pls.

This was reviewed in *The American Journal of Science and Arts*, 1857, 2d ser., Vol. XXIV, No. 71 (September 1857), pp. 275–276, wherein it was stated that this article was “Communicated to the American Academy, June 27, 1844 [sic], and published in its *Transactions* [sic] volume v, p. 380, 1855.” See 226, 230, 231, 232.

Royal Society of London, 1869, vol. III, p. 137, under Hall and Meek. Cited as [1854], 1855.

White and Nicholson, 1878, p. 38.

Murray, 1884, p. 85, scientific papers item 55.

Murray, 1889, p. 83, scientific papers item 55.

Clarke, 1899, p. 441, scientific papers item 55.

Hovey, 1899, p. 155, scientific papers item 55.

Nickles, 1923, p. 442, item 56a.

216. Hall, James. [1855] 1920. Letter (March 17, 1855) to Sir William Logan, Canadian Geological Survey; pp. 345–347. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.

Hall wrote a series of questions to Logan about the value of Hall's work for the purpose of showing the legislative committee how important Hall's work was. Logan's response is also included, which, of course, supported Hall glowingly.

217. Hall, James. [1855] 1921. Letter to Prof. Agassiz; p. 272. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall wrote of his reasons for accepting the appointment as State Geologist of Iowa—i.e., financial.

218. Hall, James. [1855] 1921. Letter (March 5, 1855) to Friend [James] Dana; pp. 311–315. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

This letter was in response to Dana's suggestion that “the formational divisions should be based on climacteric developments of organic life and the subordinate divisions on localized or subsidiary palaeontology.” Hall's ten-page reply is detailed. He pointed out where he agreed and disagreed, discussed the coordination of New York rocks with the European systems, and ended with a brief mention of his articles on the Taconic System, with which he did not agree. Dana was a Professor at Yale. See 80.

219. Hall, James. [1855] 1964. Letter (April 24, 1855) to [F. V.] Hayden; pp. 709–710. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.

Hall wrote to Hayden giving instructions about Hayden's planned trip to St. Louis and points further west to collect fossils for Hall.

220. [Hall, James?]. 1855. Emmons on American geology. *The American Journal of Science and Arts*, 2d ser., Vol. XIX, May 1855, No. 57, pp. 397–406.

A copy of this review in the Clarke Reprint Collection, New York State Geological Survey, suggests that the unsigned review may have been written by Hall. Nickles (1923) does not list it under Hall's name, Anonymous citations, or under either of the Sillimans, who were the editors of the *Journal*.

221. Silliman, Benjamin, Jr., and James Hall. 1855. *Coal Lands in Kentucky. Report on Bituminous Coal Lands upon the Waters of the Big Sandy River in Kentucky. Examined in 1854 for the Kentucky Mining and Manufacturing Company*; 16 pp. New York: Holman & Gray, Printers and Stereotypers, Corner of Centre and White-Streets.

Date on page 16 is June 1855.

Murray, 1884, p. 84, scientific papers item 43.

Murray, 1889, p. 82, scientific papers item 43.

Clarke, 1899, p. 440, scientific papers item 43.

Hovey, 1899, p. 155, scientific papers item 43.

222. Hall, James. 1856. Chapter IX. Descriptions and Notices of the Fossils Collected upon the Route; pp. 99–105, 2 pls. In William P. Blake, *No. 1. General Report upon the Geological Collections. Reports of Exploration and Surveys, to Ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean. Made under the Direction of the Secretary of War, in 1853–4, according to Acts of Congress of March 3, 1853, May 31, 1854, and August 5, 1854*. House of Representatives. 33d Congress, 2d Session, Ex. Doc. No. 91. Vol. III. Washington: A. O. P. Nicholson, Printer. [Congressional Documents Set retroactive volume number 793].

This article is cited under Miscellaneous Scientific Intelligence, *The American Journal of Science and Arts*, 1858, 2d ser., Vol. XXV, May 1858, No. 73 (January 1858), p. 150. See 293.

White and Nicholson, 1878, p. 30.

Nickles, 1923, p. 442, included in James Hall item 56.

Pestana, 1972, p. 58, included in James Hall item 1855.

223. Hall, James. 1856. Chapter IX. Descriptions and notices of the fossils collected upon the route (near the 35th parallel); pp. 99–105, 2 pls. Senate Executive Document 78, Vol. 13, Part 3, Special Session 33-2. [Congressional Documents Set retroactive volume number 760].

224. [Anonymous]. 1856. Report of the Select Committee on the Completion of the Natural History of the State; 16 pp. State of New York in Assembly [Doc.] No. 211, April 8, 1856.

This extract contains several woodcuts of Hall's brachiopod species but no formal communication from Hall. A copy is in the Clarke Reprint Collection, New York State Geological Survey. See 250.

225. Hall, James. 1856. Notes upon the Genus *Graptolithes* [sic]; p. 277. *Proceedings of the American Association for the Advancement of Science*. Ninth Meeting, held at Providence, R. I., August 1855. Cambridge: Published by Joseph Lovering.

Title only. See 279.

Murray, 1884, p. 85, scientific papers item 53.

Murray, 1889, p. 83, scientific papers item 53.

Clarke, 1899, p. 441, scientific papers item 53.

Hovey, 1899, p. 155, scientific papers item 53.

226. Hall, James. 1856. On the Development of the Septa in the Genus *Baculites*, from the extreme Young to the Adult State; p. 277. *Proceedings of the American Association for the Advancement of Science*. Ninth

Meeting held at Providence, R. I., August 1855. Cambridge: Published by Joseph Lovering.

Title only. Paper published as Hall and Meek (1856) in *Memoirs of the American Academy of Arts and Sciences*, n.s., Vol. V, Part II, pp. 379–411. See 215, 231, 232.

Murray, 1884, p. 85, scientific papers item 54.

Murray, 1889, p. 83, scientific papers item 54.

Clarke, 1899, p. 441, scientific papers item 54.

Hovey, 1899, p. 155, scientific papers item 54.

227. Hall, James. 1856. Contributions to our Knowledge of the Geology of Nebraska and the Mauvais Terres; p. 277. *Proceedings of the American Association for the Advancement of Science*. Ninth Meeting, held at Providence, R. I., August 1855. Cambridge: Published by Joseph Lovering.

Title only. See 203, 212.

Murray, 1884, p. 85, scientific papers item 52.

Murray, 1889, p. 83, scientific papers item 52.

Clarke, 1899, p. 441, scientific papers item 52.

Hovey, 1899, p. 155, scientific papers item 52.

228. Hall, James. 1856. On the Genus *Tellinomya*, and allied Genera, with illustrations. *The Canadian Naturalist and Geologist*, Vol. I, No. V, December 1856, pp. 390–395, 7 figs.

This preceded the same article published in the Tenth Annual Report of the New York State Museum in 1857. It was also reviewed under *Descriptions of New Species of Palaeozoic Fossils from the Lower Helderberg, Oriskany Sandstone, Upper Helderberg, Hamilton and Chemung Groups*, in *The American Journal of Science and Arts* 1858, Vol. XXV, 2d ser., May 1858, No. 73 (January 1858), p. 108, and included a corrected description of *Tellinomya*. See 249, 250, 293.

Royal Society of London, 1869, vol. III, p. 136, item 24.

White and Nicholson, 1878, pp. 30, 104.

Murray, 1884, p. 85, scientific papers item 56.

Murray, 1889, p. 83, scientific papers item 56.

Clarke, 1899, p. 441, scientific papers item 56.

Hovey, 1899, p. 156, scientific papers item 56.

Ellis, 1903, p. 285.

229. Hall, James. [1856] 1920. Letter (January 1856) to His Excellency James W. Grimes, Governor [of Iowa]; pp. 86–88. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.

Hall outlined the results of his first season of work as the Iowa State Geologist. He concluded that there was more material of scientific interest than he had expected.

230. Hall, James. No date [1856]. **Description of new species of fossils, from the Carboniferous Limestones of Indiana and Illinois** [Read November 29, 1856]; 36 pp.

Reprint or preprint. Copy is in the Springer Library, NMNH. This article is noted in *The American Journal of Science and Arts*, 1857, 2d ser., Vol. XXIV, No. 71 (September 1857), p. 276, where the publication is given as *Trans. Albany Institute*, 1858, iv, pp. 1 to 37. See 215, 272, 439, 771, 796, 797.

White and Nicholson, 1878, p. 30, list this as 1856, *Trans. Albany Inst.*, vol. iv, pp. 1–36.

231. Hall, James, and F. B. Meek. 1856. **Descriptions of New Species of Fossils from the Cretaceous Formations of Nebraska, with Observations upon *Baculites ovatus* and *B. compressus*, and the Progressive Development of the Septa in *Baculites*, *Ammonites*, and *Scaphites*. *Memoirs of the American Academy of Arts and Sciences*, n.s., Vol. V, pp. 379–411, 8 pls.**

Separate has its own title page (imprint 1856) but is paginated as in the published article. See 215, 226, 232.

232. Hall, James. 1857. **Descriptions of New Species of Fossils, from the Cretaceous Formations of Nebraska, with Observations upon *Baculites ovatus* and *B. Compressus*, and the Progressive Development of the Septa in *Baculites*, *Ammonites*, and *Scaphites*; p. 204. *Proceedings of the American Academy of Arts and Sciences*. Vol. III. From May, 1852, to May, 1857. Boston and Cambridge: Metcalf and Company.**

Title only. The paper was communicated to the Academy by Hall on June 27, 1854, read on October 9, 1855, by the Recording Secretary of the Academy, and published in *Memoirs of the American Academy of Arts and Sciences*, 1855, n.s., Vol. V, Part II, pp. 379–411. See 215, 226, 231.

Royal Society of London, 1869, vol. III, p. 136, item 18. Cited as 1852-57.

233. Hall, James. 1857. **On the Carboniferous Limestones of the Mississippi Valley; pp. 51–69. *Proceedings of the American Association for the Advancement of Science*. Part II. Tenth Meeting, held at Albany, New York, August 1856. Cambridge: Published by Joseph Lovering.**

This article was published in two other journals, *The American Journal of Science and Arts* 1857, 2d ser., vol. XXIII, pp. 187–203, and *Mineralogical Magazine* 1857, Vol. 9, pp. 529–542, and as separately paginated reprints. See next four entries, 441, 591, 771, 796, 797, 988.

Royal Society of London, 1869, vol. III, p. 136, item 22. Cited as 1856.

Murray, 1884, p. 85, scientific papers item 58.  
Murray, 1889, p. 83, scientific papers item 58.  
Darton, 1896, p. 452.  
Clarke, 1899, p. 441, scientific papers item 58.  
Hovey, 1899, p. 156, scientific papers item 58.  
Nickles, 1923, p. 443, included in James Hall item 57d.

234. Hall, James. 1857. **Art. XXII. Observations upon the Carboniferous Limestones of the Mississippi Valley. *The American Journal of Science and Arts*, 2d ser., Vol. XXIII, May 1857, No. 68 (March 1857), pp. 187–203, 5 figs.**

A footnote states: “From the *Proceedings of the American Association for the Advancement of Science*. The same subject essentially forms a part of the 1858 *Report of Progress of the Iowa Geological Survey*.” See preceding and next three entries, 441, 771, 796, 797, 988.

Royal Society of London, 1869, vol. III, p. 136, item 25.  
Murray, 1884, p. 85, scientific papers item 62.  
Murray, 1889, p. 83, scientific papers item 62.  
Darton, 1896, p. 452. Cited as 1856.  
Clarke, 1899, p. 441, scientific papers item 62.  
Hovey, 1899, p. 156, scientific papers item 62.  
Nickles, 1923, p. 443, included in Item 57d.

235. Hall, James. 1857. **Observations upon the Carboniferous limestones of the Mississippi Valley. *Mineralogical Magazine*, Vol. 9, pp. 529–542.**

See preceding two and next two entries, 441, 771, 796, 797, 988.

Nickles, 1923, p. 443, included in James Hall item 57d.

236. Hall, James. 1857. **Observations upon the Carboniferous limestones of the Mississippi Valley; 17 pp., with section of the Carboniferous limestones of the Mississippi Valley [facing p. 1].**

Extracted from *The American Journal of Science and Arts*, 2d ser., Vol. XXIII, No. 68, March 1857, pp. 187–203. Reprint is separately paginated and is bound with Hall’s 1857 article on *Archimedes* from the same issue of the *Journal*. See preceding three and next entries, 292, 441, 771, 796, 797, 988.

237. Hall, James. 1857. **On the Carboniferous limestones of the Mississippi Valley; 21 pp., 3 unnumbered figures in text. Cambridge: Printed by Allen and Farnham.**

This is a separately paginated reprint of the article in *Proceedings of the American Association for the Advancement of Science* (see above) and is bound with an article on *Archimedes* from the same issue of *The American Journal of Science and Arts*, 1857, 2d ser., Vol. XXIII, pp. 203–204. See preceding four entries, 236.

238. Hall, James. 1857. **Note following “Remarks on Niagara Falls” by Prof. L. R. Gibbs; pp. 76–78. *Proceedings of the American Association for the***



***Advancement of Science. Part II. Tenth Meeting, held at Albany, New York, August 1856. Cambridge: Published by Joseph Lovering.***

Gibbes made his remarks in the form of a letter addressed to Hall, who was then the president of the AAAS. Hall's note is appended to this letter with his review of the theories of Gibbes. See 960.

Darton, 1896, p. 452. Cited as: Note [on recession of Niagara Falls].

Dow, 1921, Vol. I, p. 567. Cited as: Note [on recession of Niagara Falls].

Dow, 1921, Vol. II, p. 1330. Cited as: Note [on recession of Niagara Falls].

Nickles, 1923, p. 443, item 57g.

239. Hall, James. 1857. Observations on the genus *Archimedes*, or *Fenestella*, with Descriptions of Species, etc.; pp. 176–180. *Proceedings of the American Association for the Advancement of Science. Part II. Tenth Meeting, held at Albany, New York, August 1856. Cambridge: Published by Joseph Lovering.*

See 791.

Royal Society of London, 1869, vol. III, p. 136, item 23. Cited as 1856.

White and Nicholson, 1878, p. 30.

Murray, 1884, p. 85, scientific papers item 57.

Murray, 1889, p. 83, scientific papers item 57.

Clarke, 1899, p. 441, scientific papers item 57.

Hovey, 1899, p. 155, scientific papers item 57.

Nickles, 1923, p. 443, included in James Hall item 57e.

240. Hall, James. 1857. Remarks upon the Genus *Archimedes* or *Fenestella* from the Carboniferous Limestones of the Mississippi Valley. *The American Journal of Science and Arts*, 1857, 2d ser., Vol. XXIII, May 1857, No. 68 (March 1857), pp. 203–204.

See preceding and next three entries, See 791.

Royal Society of London, 1869, vol. III, p. 136, included in item 23.

White and Nicholson, 1878, p. 30.

Murray, 1884, p. 86, scientific papers item 63.

Murray, 1889, p. 83, scientific papers item 63.

Clarke, 1899, p. 441, scientific papers item 63.

Hovey, 1899, p. 156, scientific papers item 63.

Nickles, 1923, p. 443, included in James Hall item 57e.

241. Hall, James. 1857. Observations on the genus *Archimedes*, or *Fenestella*, with descriptions of species, etc.; 4 pp. Cambridge: Printed by Allen and Farnham.

Reprint of preceding article is separately paginated and bound with an article on Carboniferous limestones from the same issue of *The American Journal of Science and Arts*, 1857, 2d ser., Vol. XXIII, No. 68, pp. 187–203. See 791.

242. Hall, James. 1857. Remarks upon the genus *Archimedes* or *Fenestella* from the Carboniferous limestones of the Mississippi Valley; pp. 17–18. Extracted from *The American Journal of Science and Arts*, 2d ser., Vol. XXIII, pp. 203–204.

Separate is bound with article on Carboniferous limestones from the same issue of the *Journal*. See 791.

243. [Hall, James.] No date [1857]. Observations on the genus *Archimedes*, or *Fenestella*, with descriptions of species, etc.; 4 pp. [no other data].

Copies in the Rominger Reprint Collection, University of Michigan, and in the Springer Library, NMNH, are bound with an extract of pages 649–656 and plate 22 from Hall, 1858, *Report on the Geological Survey of the State of Iowa: Part II: Paleontology*; 724 pp., pls. 1–29. Copy in the James Hall Papers, New York State Archives (box 36, folder 1315), lacks author and date but has penciled in: #57 [Nickles number?]. See 791.

244. Hall, James. 1857. On some Points in the Geology of the Upper Mississippi Valley; p. 226. *Proceedings of the American Association for the Advancement of Science. Part II. Tenth Meeting, held at Albany, New York, August 1856. Cambridge: Published by Joseph Lovering.*

Title only. See 245.

Murray, 1884, p. 85, scientific papers item 60.

Murray, 1889, p. 83, scientific papers item 60.

Clarke, 1899, p. 441, scientific papers item 60.

Hovey, 1899, p. 156, scientific papers item 60.

245. Hall, James. 1857. On some Points in the Geology of the Upper Mississippi Valley. *Edinburgh New Philosophical Journal, Exhibiting a View of the Progressive Discoveries and Improvements in the Sciences and the Arts*, n.s., Vol. VI, No. II (April 1857), p. 362.

Taken from the *Proceedings of the American Association for the Advancement of Science*, Tenth Meeting, Albany, August 20–27, 1856. This is a half-page paragraph summarizing Hall's talk. See 244.

Nickles, 1923, p. 443, item 57f.

246. Hall, James. 1857. On the Results of Collections of Fossils During a Period of Ten Years in the Limestones of the Lower Helderberg; p. 227. *Proceedings of the American Association for the Advancement of Science. Part II. Tenth Meeting, held at Albany, New York, August 1856. Cambridge: Published by Joseph Lovering.*

Title only.

Murray, 1884, p. 85, scientific papers item 61.

Murray, 1889, p. 83, scientific papers item 61.



Clarke, 1899, p. 441, scientific papers item 61.  
Hovey, 1899, p. 156, scientific papers item 61.

247. **Hall, James. 1857. Opening address, as incoming President, before the American Association for the Advancement of Science; pp. 230–232. *Proceedings of the American Association for the Advancement of Science. Part II. Tenth Meeting, held at Albany, New York, August 1856. Cambridge: Published by Joseph Lovering.***

Hall made this address on the separation of science and religion as incoming president, because the retiring president of the American Association for the Advancement of Science, John Torrey, was unable to attend. Three paragraphs of Hall's speech are quoted in Clarke, 1921, p. 103. Hall reminded the group that the predecessor of the AAAS, the Association of American Geologists and Naturalists, was begun in Albany in the building they were in.

Murray, 1884, p. 85, scientific papers item 59.  
Murray, 1889, p. 83, scientific papers item 59.  
Clarke, 1899, p. 441, scientific papers item 59.  
Hovey, 1899, p. 156, scientific papers item 59.

248. **Hall, James. 1857. Descriptions of Palaeozoic fossils, chiefly from those constituting the third volume of the *Palaeontology of New-York*; with others from the fourth volume, etc., etc.; pp. 39–180 [numerous figures not sequentially numbered]. In *Tenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. State of New-York. No. 109. In Senate, March 11, 1857. Albany: C. Van Benthuyssen, Printer to the Legislature.***

Not published before March 11, 1857. According to Hall (1862, p. 197), proofs were pulled as soon as possible from the printer before the entire report was published. See 308, 309.

White and Nicholson, 1878, p. 30.  
Murray, 1884, p. 86, scientific papers item 65.  
Murray, 1889, p. 83, scientific papers item 65.  
Clarke, 1899, p. 441, scientific papers item 65.  
Hovey, 1899, p. 156, scientific papers item 65.  
Royal Society of London, 1902, vol. XII, p. 305, item 64.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 442, item 57.

249. **Hall, James. 1857. On the genus *Tellinomya* and allied genera; pp. 181–186, 7 figs. In *Tenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. State of New-York. No. 109. In Senate, March 11,***

**1857. Albany: C. Van Benthuyssen, Printer to the Legislature.**

This was first published in 1856 in *The Canadian Naturalist and Geologist*, Vol. 1, No. V, pp. 390–395. See 228, 250, 293.

White and Nicholson, 1878, pp. 30, 104.

Ellis, 1903, p. 285.

Nickles, 1923, p. 442, included in James Hall item 56b.

250. **Hall, James. 1857. *Descriptions of New Species of Palaeozoic Fossils from the Lower Helderberg, Oriskany Sandstone, Upper Helderberg, Hamilton and Chemung Groups; Notice + 146 pp., numerous woodcut figures not continuously numbered and some unnumbered. Extracted from the Report of the Regents of the University for 1856. Albany: Charles Van Benthuyssen, Printer.***

In the Notice, Hall indicates that he published this paper privately because the figures from the work came into the hands of people who published them ahead of him, thereby gaining priority, presumably for the fossil names. Hall does not list the prior publications. Perhaps the Select Committee Report of 1856 is that publication, but it does not list authors. The copy in the Crerar Library, University of Chicago, has a handwritten notation (by Hall?) “10<sup>th</sup> Report.” This paper was reviewed, probably by the editor, in *The American Journal of Science and Arts*, 1858, 2d ser., Vol. XXV, May, 1858, No. 73 (January 1858), p. 108. It includes a one-paragraph corrected description of *Tellinomya* by Hall. This paper is reviewed also in *The Canadian Journal* n.s., Vol. III, No. XIV, March 1858, pp. 153–156, by E. J. C. [E. J. Chapman, General Editor of the *Journal*]. His comments on Hall's publications include “the author's object being simply, as before observed, to ensure a priority of publication.” See 222, 224, 249, 293.

251. **Hall, James. 1857. Direction of the Currents of Deposition and Source of the Materials of the Older Palaeozoic rocks. *The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal, Conducted by a Committee of the Natural History Society of Montreal. Vol. II, No. 4 (September 1857), pp. 284–286.***

This abstract, apparently prepared by Elkanah Billings, editor of the journal, is a paraphrase of the address about mountain building presented by Hall before the Eleventh Annual Meeting of the American Association for the Advancement of Science in Montreal, August 1857. Billings stated on pages 241–242 that he used newspaper reports of the meetings to prepare the published record of the meetings. As this and the following citations show, Hall's ideas on mountain building were widely and quickly published in North America and Europe. See 252, 270, 275, 276, 287, 299, 303, 347, 410, 450, 488, 689, 691, 697, 773, 788, 798.

Darton, 1896, p. 452.

Nickles, 1923, p. 443, included in James Hall item 57c.

252. Hall, James. 1857. On the Direction of Ancient Currents of Deposition and the Source of Materials in the Older Palæozoic rocks, with Remarks on the Origin of the Appalachian Chain of Mountains. *The Edinburgh New Philosophical Journal, Exhibiting a View of the Progressive Discoveries and Improvements in the Sciences and the Arts*, n.s., Vol. VI, No. II (October 1857), pp. 348–349.

This is an abstract of Hall's talk about mountain building given at the Eleventh Annual Meeting of the American Association for the Advancement of Science in Montreal, August 1857, "chiefly from notices of the proceedings given in the *Boston Daily Advertiser* and the *New York Tribune*." See 251.

Nickles, 1923, p. 443, included in James Hall item 57c.

253. Hall, James. 1857. [Comment on trilobites of Professor Dana]. *Edinburgh New Philosophical Journal, Exhibiting a View of the Progressive Discoveries and Improvements in the Sciences and the Arts*, n.s., Vol. VI, No. II (October 1857), p. 351 [2 lines].

254. Hall, James. 1857. Geology and Palæontology of the Boundary; pp. 101–140; explanation of pls. I–XXI, 21 pls., pp. 167–174. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

This report contains seven titled sections by Hall, which follow here. See 208, 255–264, 267.

Murray, 1884, p. 80, books item 7.

Murray, 1889, p. 77, books item 7.

Clarke, 1899, p. 436, books item 7.

Hovey, 1899, p. 149, books item 7.

Nickles, 1923, p. 442, item 57a.

Pestana, 1972, p. 58, included in James Hall item 1857.

255. Hall, James. 1857. Letter to Colonel W. H. Emory, Commissioner for the United States and Mexican Boundary Survey. Briefly reviewing sources of information and present state of knowledge of the geology of the west; pp. 103–105. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

Hovey, 1899, p. 149, books item 7.

Pestana, 1972, p. 58, included in James Hall item 1857.

256. Hall, James. 1857. Observations upon the Character and Geological Age of the Specimens of Rocks and Minerals Submitted to My Examination from the Collections of the United States and Mexican Boundary Survey; pp. 106–113. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

Hovey, 1899, p. 149, books item 7.

Pestana, 1972, p. 58, included in James Hall item 1857.

257. Hall, James. 1857. Specimens Collected on the Route from the Pacific Coast Eastward, Including the Tertiary of the Coast and the Metamorphic Rocks of the Cordilleras; the Tertiary of the Great Plain East of the Cordilleras, and the Metamorphic Rocks of the Isolated Mountains in the Great Plains; pp. 113–119. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

Hovey, 1899, p. 149, books item 7.

Pestana, 1972, p. 58, included in James Hall item 1857.

258. Hall, James. 1857. Observations upon the Igneous and Metamorphic Rocks, and Associated Minerals, in the Boundary Survey Collections; pp. 120–121. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

Hovey, 1899, p. 149, books item 7.

Pestana, 1972, p. 58, included in James Hall item 1857.

259. Hall, James. 1857. Observations on the Carboniferous Limestone of the Boundary Survey Collections, and its Relations with the Carboniferous Limestones of the Mississippi Valley; pp. 122–125. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

Hovey, 1899, p. 149, books item 7.

Pestana, 1972, p. 58, included in James Hall item 1857.

260. Hall, James. 1857. Observations upon the Cretaceous Strata of the United States, with

Reference to the Relative Position of the Fossils Collected by the Boundary Commission; pp. 126–138. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

Text is identical to *The American Journal of Science and Arts*, 1857, 2d ser., Vol. XXIV, No. 70 (July 1857), pp. 72–86, 1 unnumbered figure in text. See 261.

Hovey, 1899, p. 149, books item 7.

Nickles, 1923, p. 442, item 57a.

Pestana, 1972, p. 58, included in James Hall item 1857.

261. Hall, James. 1857. Observations upon the Cretaceous Strata of the United States with reference to the Relative Position of Fossils collected by the Boundary Commission. *The American Journal of Science and Arts*, 2d ser., Vol. XXIV, November 1857, No. 70, (July 1857), pp. 72–86, 1 unnumbered figure in text.

Text is identical to Hall's section (pp. 126–138) in *Report on the United States and Mexican Boundary Survey* by W. H. Emory, 1857. See 260.

Royal Society of London, 1869, vol. III, p. 136, item 26.

Murray, 1884, p. 80, books item 7; p. 86, scientific papers item 64.

Murray, 1889, p. 77, books item 7; p. 83, scientific papers item 64.

Darton, 1896, p. 452. Cited as: Geology and paleontology of the boundary.

Clarke, 1899, p. 436, included in books item 7; p. 441, scientific papers item 64.

Hovey, 1899, p. 156, scientific papers item 64; also books item 7.

Nickles, 1923, p. 442, included in item 57a.

262. Hall, James. 1857. Remarks upon the Tertiary Formation; pp. 139–140. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

Hovey, 1899, p. 149, books item 7.

Pestana, 1972, p. 58, included in James Hall item 1857.

263. Hall, James. 1857. Geology and Palæontology of the Boundary; pp. 101–140. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. 1, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, House of Representatives, Ex. Doc. No. 135. Washington: Cornelius Wendell, Printer.

The articles are identical to the report of the Senate. See 268.

Darton, 1896, p. 452.

Clarke, 1899, p. 436, books item 7.

Nickles, 1923, p. 442, item 57a.

264. Hall, James. 1857. Explanation of Plates of Professor Hall's Report; pp. 167–174; 21 plates, numbered in Arabic, Explanations of Plates in Roman. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. 1, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, House of Representatives, Ex. Doc. No. 135. Washington: Cornelius Wendell, Printer.

Nickles, 1923, p. 442, item 57a.

Pestana, 1972, p. 58, included in James Hall item 1857.

265. Hall, James. 1857. Section on the Mississippi River from Lansing to St. Louis and on the East Side of the River from Prairie Du Rocher to Thebes. Constructed from Observations made in the Autumn of 1855 by James Hall assisted by A. H. Worthen. Foldout.

This section, apparently published separately, is identical to that published in 1858. See 285, 288.

266. Hall, James. 1857. Geological Map of the Eastern Half of the State of Iowa. By Legislative Authority. 1857. Foldout. Lith. of Saxony, Major & Knapp, 449 Broadway, NY.

This map was probably published separately, and is identical to that in Hall, Chapter 3, in Hall and Whitney, 1858. See 288.

267. Hall, James (assisted by J. P. Lesley). 1857. Map illustrating the general geological features of the country west of the Mississippi River. In William H. Emory, *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, Vol. I, Part II. 34<sup>th</sup> Congress, 1<sup>st</sup> Session, Senate, Ex. Doc. 108. Washington: A. O. P. Nicholson, Printer.

This map is considered a part of the *Report on the United States and Mexican Boundary Survey, Made under the Direction of the Secretary of the Interior*, by Major William H. Emory, 1857, as noted in Miscellaneous Scientific Intelligence in *The American Journal of Science and Arts*, 1858, Vol. XXVI, No. 77 (November 1858), p. 446. See 208, 254, 282.

Nickles, 1923, p. 443, item 57b.

268. Hall, James. [1857]. Geology and Palæontology of the Boundary. In *United States and Mexican Boundary Survey, under the orders of Lieut. Col. W. H. Emory, Major First Cavalry, and United States Commissioner*. 140 pp., pls. I–XXI (1–21).

A copy is in the James Hall Papers, New York State Archives (box 58, folder 1484), but without title page, and, therefore, without date. This copy contains a one-paragraph note to page 143 on the issue of priority on the North American Permian, referring to



pages 142–143, and signed in ink, October 1858. This note may refer to the pages following Hall's report in the Boundary Survey volume. A bound separate in the Crerar Library, University of Chicago, with no publication data, has the title: "United States and Mexican Boundary Survey, under the orders of Lieut. Col. W. H. Emory, Major First Cavalry, and United States Commissioner," and a handwritten inscription: "For Professor James Hall from his friend & Servant W. H. Emory." See also *Transactions of the Albany Institute* (1864), Vol. IV, pp. 247–248, 258–259, 262–263, and 272 for Hall's concern over obtaining priority for F. B. Meek. See 641.

269. Hall, James. [1857] 1921. Letter (December 26, 1857) to Prof. Henry; pp. 300–301. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

This reply to Prof. Henry of the Smithsonian Institution was about whether Hall would consider organizing a Geological Survey of New Mexico. Hall was ambivalent about it—he would like an opportunity to organize a competent corps for extending the knowledge of geology, but did not want to contend openly for the position.

270. Hall, James. [1857] 1921. Letter (December 26, 1857) to Professor Joseph Henry; pp. 328–331. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

This letter was in response to Prof. Henry's letter about Hall's talk about mountain building—had Hall compromised his scientific reputation? Hall felt he had been very scrupulous about his theories, and gave some brief examples of how he had reached some conclusions, based on observed facts. See 251.

271. Hall, James. [1857] 1921. Letter of support (December 28, 1857) for Mr. A. H. Worthen; pp. 283–284. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall sent this letter to "Hitchcock, Agassiz and Dana," requesting them to write letters of recommendation to Gov. Bissell of Illinois for Worthen to be appointed head of the Geological Survey of Illinois. Copy is also in the James Hall Papers, New York State Archives. See 297.

272. Hall, James. 1858. Descriptions of New Species of Fossils from the Carboniferous Limestones of Indiana and Illinois. [From the *Transactions of the Albany Institute*, Vol. IV, 36 pp.].

In the Hall Collection, Indiana University, this entry apparently represents a preprint of the 1864 volume article. This preprint contains notations for typographical corrections in Hall's handwriting and the handwritten names of geologists to whom the preprint apparently was sent. Hall cites the 1856 *Proceedings*

of the American Association for the Advancement of Science that was published in 1857. Yochelson and Saunders (1967, p. 255) indicate that there is evidence the paper was published prior to 1858 and the Royal Society of London, 1869, Vol. III, p. 136, indicates in brackets an 1856 publication date. The first issue of the volume apparently contained pages 1–88 with papers by Hall and Meek. Meek's Note on pages 85–88 cites correspondence as late as February 22, 1858, and presumably this issue was published after that date. A review of this paper is given in *The American Journal of Science and Arts*, 2d ser., Vol. XXIV, November 1857, No. 71 (September 1857), pp. 276. See 215, 230, 439, 771, 796, 797.

273. Hall, James. 1858. On the Cretaceous formations of the United States and the North American continent. *Proceedings of the American Association for the Advancement of Science*, Part II, p. 158. Eleventh Meeting, held at Montreal, Canada East, August 1857. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 86, scientific papers item 66.

Murray, 1889, p. 84, scientific papers item 66.

Clarke, 1899, p. 441, scientific papers item 66.

Hovey, 1899, p. 156, scientific papers item 66.

274. Hall, James. 1858. On the Carboniferous Limestones and Coal-Measures of the United States. *Proceedings of the American Association for the Advancement of Science*, Part II, p. 158. Eleventh Meeting, held at Montreal, Canada East, August 1857. Cambridge: Published by Joseph Lovering.

Title only. This talk is included in Chapter III, Geology of Iowa: General Reconnaissance, pp. 92–141, in the *Report on the Geological Survey of the State of Iowa*, Vol. I, Part I: Geology, Hall and Whitney, 1858. See 288.

Murray, 1884, p. 86, scientific papers item 67.

Murray, 1889, p. 84, scientific papers item 67.

Clarke, 1899, p. 442, scientific papers item 67.

Hovey, 1899, p. 156, scientific papers item 67.

275. Hall, James. 1858. On the Direction of Ancient Currents of Deposition, and the Source of Materials in the Older Paleozoic Rocks, with Remarks on the Origin of the Appalachian Chain of Mountains. *Proceedings of the American Association for the Advancement of Science*, Part II, p. 158. Eleventh Meeting, held at Montreal, Canada East, August 1857. Cambridge: Published by Joseph Lovering.

Title only. Hall's address as retiring president of the AAAS was his first talk on mountain building and was published in a modified form in Chapter II, General Geology, in the *Report on the Geological Survey of the State of Iowa*, Vol. I, Part I: Geology, Hall and Whitney, 1858. His talk was summarized or reviewed



in several places: *Canadian Naturalist*, Vol. II, No. 4 (September 1857), p. 284–286; *Edinburgh New Philosophical Journal* (October 1857), pp. 348–349; and *Canadian Journal* (January 1858), p. 88. *The True Witness and Catholic Chronicle* in Montreal published an editorial on Hall's talk on September 11, 1857, p. 4, praising his views about science and religion. See 251.

Murray, 1884, p. 86, scientific papers item 68.

Murray, 1889, p. 84, scientific papers item 68.

Clarke, 1899, p. 442, scientific papers item 68.

Hovey, 1899, p. 156, scientific papers item 68.

276. Hall, James. 1858. Direction of the Currents of Deposition and Source of the Materials of the Older Palæozoic Rocks. *The Canadian Journal of Industry, Science, and Art*, n.s., Vol. III, No. XIII (January 1858), p. 88.

This summary of Hall's talk at the American Association for the Advancement of Science in August, 1857, was probably prepared by the General Editor, E. J. Chapman. See 251, 275.

Nickles, 1923, p. 443, included in James Hall item 57c.

277. Hall, James. 1858. Report of James Hall, Esq., addressed to Sir William E. Logan, Director of Geological Survey of Canada; pp. 109–110. *Geological Survey of Canada. Report of Progress for the Year 1857*. Printed by Order of the Legislative Assembly. Toronto: Printed by John Lovell, Yonge Street.

278. Hall, James. 1858. Descriptions of Canadian Graptolites; pp. 111–145. *Geological Survey of Canada. Report of Progress for the Year 1857*. Printed by Order of the Legislative Assembly. Toronto: Printed by John Lovell, Yonge Street.

The subtitle is: *Graptolithus*, and descriptions of some remarkable new forms from the shales of the Hudson River group, discovered in the investigations of the Geological Survey of Canada, under the direction of Sir William E. Logan, F. R. S. [Communicated in April 1855.] See 705.

White and Nicholson, 1878, p. 104.

279. Hall, James. 1858. Report [on Canadian graptolites]; pp. 109–145. *Geological Survey of Canada: Report of Progress for 1857*.

See preceding and next three entries, 211, 225, 296, 357, 471–474, 471, 480, 500, 520.

Royal Society of London, 1902, vol. XII, p. 305, item 31. Cited as 1857.

Nickles, 1923, p. 443, item 58b.

280. Hall, James. 1858. Report on Canadian graptolites; 39 pp., 2 pls. *Geological Survey of Canada. Extracted from Sir William Logan's Report of*

*Progress, For 1857*. Montreal: Printed by John Lovell.

This is a reprint of the preceding paper with separate pagination. See preceding two and next two entries, 279.

281. Hall, James. 1858. Note upon the Genus *Graptolithus*, and description of some remarkable new forms from the shales of the Hudson River Group, discovered in the investigations of the Geological Survey of Canada, under the direction of Sir W. E. Logan, F.R.S. *The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal*; Vol. III, No. 2 (March 1858), pp. 139–150; Vol. III, No. 3 (June 1858), pp. 161–177.

This was published in the "Report for 1857," according to Sir W. E. Logan, Director of the Geological Survey of Canada, and communicated to him by Hall in April 1855. See 705.

Royal Society of London, 1869, vol. III, p. 137, item 31.

White and Nicholson, 1878, p. 104.

Murray, 1884, p. 86, scientific papers item 70.

Murray, 1889, p. 84, scientific papers item 70.

Clarke, 1899, p. 442, scientific papers item 70.

Hovey, 1899, p. 156, scientific papers item 70.

Nickles, 1923, p. 443, included in James Hall item 58c.

282. Hall, James. 1858. Note on the genus *Graptolithus*. *The American Journal of Science and Arts*, 2d ser., Vol. XXVI, No. 76, July 1858 (November 1858), pp. 117–119.

This review of the article from *The Canadian Naturalist and Geologist*, 1858, has direct quotations and remarks about the article. See preceding four entries, 278–281.

Royal Society of London, 1869, vol. III, p. 137, included in item 31.

Nickles, 1923, p. 443, included in James Hall item 58c.

283. Hall, James. 1858. Report by James Hall, Esq. to His Excellency, Hon. Alex W. Randall, Governor of the State of Wisconsin; pp. 1–5. In *Report of the Commissioners of the Geological Survey [of Wisconsin]*. Madison: Atwood & Rublee, Printers.

This is apparently an introduction to a "Report of Progress" by Charles Whittlesey for the region between the Oconto and Menomonee Rivers, pp. 5–7.

Nickles, 1923, p. 443, item 58a.

284. Hall, James. [1858] 1920. Letter (February 16, 1858) to His Excellency Hon. Alexander W. Randall, Governor of Wisconsin; p. 518. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.

This short statement accompanied a letter from E. S. Carr, State Geologist, to the Governor, certifying to its truth about problems in the Survey.

- 285. Hall, James, and J. D. Whitney. 1858. *Report on the Geological Survey of the State of Iowa: Embracing the Results of Investigations Made During Portions of the Years 1855, 56 & 57. Volume I, Part I: Geology*; xv + 472 pp. + 4 pp. index, 52 figs., 3 foldouts. Published by Authority of the Legislature of Iowa. [Albany, New York]: Printed by Charles Van Benthuyssen.**

This report was previewed as "Iowa Geological Report.& We are authorized to report that this Report by Prof. James Hall and J. D. Whitney is nearly ready to be published. The work is one of great interest in all its departments. It contains descriptions and plates of numerous fossils, and is exceedingly rich on the subject of Crinoids," under Scientific Intelligence in *The American Journal of Science and Arts* 1858, 2d ser., Vol. XXVI, No. 78 (November 1858), p. 411. It was reviewed in detail, probably by the editor, Benjamin Silliman, in *The American Journal of Science and Arts* 1859, 2d ser., Vol. XXVII, No. 79 (January [May] 1859), pp. 103–117. It was reviewed in *The Canadian Journal of Industry, Science, and Art*, n.s., Vol. V, No. XXVI (March 1860), pp. 195–200, by E. J. Chapman, General Editor of the *Journal*. *The Canadian Naturalist*, 1860, Vol. V, No. 3 (June 1860), pp. 213–215, had a review by J. W. D. [J. W. Dawson]. Quotations from Hall and Whitney (pp. 41–42, 112–113, 138–139, 140, 142, 144, 340–341) are printed in Merrill, 1906 (pp. 465–467, 469) and in Merrill, 1964 (pp. 345–350). See **281, 286.**

Murray, 1884, p. 80, books item 8.

Murray, 1884, p. 77, books item 8.

Darton, 1896, p. 454.

Clarke, 1899, p. 437, books item 8.

- 286. Hall, James, and J. D. Whitney. 1858. *Report on the Geological Survey of the State of Iowa: Embracing the Results of Investigations Made During Portions of the Years 1855, 56 & 57. Part II: Palaeontology*; pp. 473–724, pls. 1–29 [Descriptions, I–XXIX]. Published by Authority of the Legislature of Iowa. [Albany, New York]: Printed by Charles Van Benthuyssen.**

See **285.**

- 287. Hall, James. 1858. Chapter II. General Geology. General Remarks on the Geology of the Northwest, and the Relations of the Formations to those of the East; pp. 35–44. In James Hall and J. D. Whitney, *Report on the Geological Survey of the State of Iowa: Embracing the Results of Investigations Made During Portions of the Years 1855, 56 & 57. Vol. I, Part I: Geology*. Published by Authority of the**

**Legislature of Iowa. [Albany, New York]: Printed by Charles Van Benthuyssen.**

This is the talk on mountain building that Hall gave as retiring president of the AAAS in Montreal, 1857 (1858). See **251.**

Murray, 1884, p. 80, included in books item 8.

Murray, 1889, p. 77, included in books item 8.

Clarke, 1899, p. 437, included in books item 8.

Hovey, 1899, p. 149, included in books item 8.

Nickles, 1923, p. 443, included in James Hall item 58; Whitney item 58.

- 288. Hall, James. 1858. Chapter III. Geology of Iowa. General Reconnaissance [*sic*]; pp. 45–146, text-figs. 4–11, 2 maps, chart. In James Hall and J. D. Whitney, *Report on the Geological Survey of the State of Iowa: Embracing the Results of Investigations Made During Portions of the Years 1855, 56 & 57. Vol. I, Part I: Geology*. Published by Authority of the Legislature of Iowa. [Albany, New York]: Printed by Charles Van Benthuyssen.**

The maps are: Geological Map of the Eastern Half of the State of Iowa. By Legislative Authority. 1857. Foldout. Lith. of Saxony, Major & Knapp, 449 Broadway, NY, and Diagram of Lead-Bearing Crevices near Dubuque, Iowa. The chart is: Section on the Mississippi River from Lansing to St. Louis and on the East Side of the River from Prairie Du Rocher to Thebes. Constructed from Observations made in the Autumn of 1855 by James Hall assisted by A. H. Worthen. Foldout. See **274.**

Murray, 1884, p. 80, included in books item 8.

Murray, 1889, p. 77, included in books item 8.

Clarke, 1899, p. 437, included in books item 8.

Hovey, 1899, p. 149, included in books item 8.

Nickles, 1923, p. 443, included in James Hall item 58; Whitney item 58.

- 289. Hall, James. 1858. Geological Gleanings: Quotes by Hall, from Hall and Whitney, *Report on the Geological Survey of the State of Iowa: Embracing the Results of Investigations Made During Portions of the Years 1855, 56 & 57. The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal*, Vol. III, No. 3 (June 1858), pp. 184–186.**

Darton, 1896, p. 454.

- 290. Hall, James. 1858. Chapter VIII. Palaeontology of Iowa; pp. 473–724, 29 pls. In James Hall and J. D. Whitney, *Report on the Geological Survey of the State of Iowa: Embracing the Results of Investigations Made During Portions of the Years 1855, 56 & 57. Vol. I, Part II: Palaeontology*. Index to Part II (separately paginated); 3 pp. Published by Authority of the Legislature of Iowa. 1858. [Albany, New York]: Printed by Charles Van Benthuyssen.**

The copy in the Hall Collection, Indiana University, contains four pages separately paginated, titled: *Supplement to Volume I, Part II*, imprinted 1859 and annotated as received from Hall by Orestes St. John on April 9th, 1860. Meek's copy in the Springer Library, NMNH, has a penciled notation that the four-page "Supplement" was published in 1860. See 301, 348, 349.

White and Nicholson, 1878, p. 30.

Murray, 1884, p. 80, included in books item 8.

Murray, 1889, p. 77, included in books item 8.

Clarke, 1899, p. 437, included in books item 8.

Hovey, 1899, p. 149, included in books item 8.

Nickles, 1923, p. 443, included in James Hall item 58; Whitney item 58.

- 291. Hall, James. 1858. Crinoideæ of the Burlington Limestone. Crinoideæ of the Keokuk Limestone [handwritten title by Hall]; 140 pp.**

This is a reprint of the Echinodermata parts from the *Report on the Geological Survey of the State of Iowa*, Vol. I, Part II: *Paleontology* (1858), continuously paginated and representing pp. 524–596, 600–634, 654–666, 669–673, and 678–700 of the Iowa Report. We saw one copy in the Springer Library, NMNH, and another in the Hall Collection, Indiana University.

- 292. Hall, James. No date [1858]. Fossils of the Warsaw Limestone; pp. 649–656.**

Reprint from Hall's *Report on the Geological Survey of the State of Iowa* (1858) is bound with a reprint of his paper on *Archimedes* from the *Proceedings of the American Association for the Advancement of Science*, 1857. Copy is in the Rominger Reprint Collection, University of Michigan. See 236.

- 293. Hall, James. 1858. [Corrected Description of *Tellinomya*]. *The American Journal of Science and Arts*, 2d ser., Vol. XXV, May 1858, No. 73 (January 1858), p. 108.**

This is a one-paragraph entry by Hall in a review, probably by the editor, of Hall's article from *The Tenth Annual Report of the Regents of the University of the State of New York*. See 222, 228, 249, 250.

- 294. Hall, James. 1858. Crinoids of New York [in advance of *Paleontology of New York*, Vol. III]. *The American Journal of Science and Arts*, 2d ser., Vol. XXV, May 1858, No. 74 (March 1858), pp. 277–279.**

Nickles, 1923, p. 443, item 58d.

- 295. Hall, James. [1858] 1859. Report of James Hall, Esq., addressed to Sir William E. Logan, F. R. S., Director of the Geological Survey of Canada; p. 63. Decade II. Appendix, (No. 32). *Geological Survey of Canada. Report of Progress for the Year***

**1857. Printed by Order of the Legislative Assembly.**

**Toronto: Printed by John Lovell, Yonge Street.**

This is bound with Decades I, III, and IV, which are dated 1859.

The title page appears to be hand printed, and is dated 1858.

- 296. Hall, James. [1858] 1859. Descriptions of Canadian Graptolites; pp. 64–84. Appendix, (No. 32). No plates. Decade II. *Geological Survey of Canada. Report of Progress for the Year 1857. Printed by Order of the Legislative Assembly. Toronto: Printed by John Lovell, Yonge Street.***

This is bound with Decades I, III, and IV, which are dated 1859.

The title page appears to be hand printed, and is dated 1858. See 278–280.

- 297. Hall, James. [1858] 1921. Letter (January 9, 1858) to Dr. J. G. Norwood; pp. 284–285. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898. Albany. 1921.***

Hall wrote to Norwood, the head of the Illinois Geological Survey, offering help for him to keep his position, for which Hall had already recommended Mr. A. H. Worthen. Copy is also in the James Hall Papers, New York State Archives (folder 247). See 271.

- 298. Hall, James. [1858] 1921. Letter (September 10, 1858) to [James] Dana; pp. 350–351. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898. Albany. 1921.***

Hall wrote a somewhat despairing letter to Dana, of Yale University, about continuing in science—and the animosity among members of the scientific community—after he received a somewhat reproving letter from Joseph Henry of the Smithsonian Institution.

- 299. Hall, James. [1858] 1921. Letter (October 10, 1858) to Sterry Hunt; p. 331. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898. Albany. 1921.***

This is a one-paragraph quotation from Hall's letter discussing secondary change or metamorphism in mountain building. Hunt was a chemist in the Canadian Geological Survey. See 251.

- 300. Hall, James. 1859. An address by Prof. James Hall. In Inauguration of the New Buildings of the Natural History Society, Cathcart Street, Montreal. *The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal*, Vol. IV, No. 2 (April 1859), pp. 146–151.**

The article is apparently a direct quotation of Hall's speech, in which he talked about the progress of natural science in Canada.



301. Hall, James. 1859. *Contributions to the Palæontology of Iowa; Being Descriptions of New Species of Crinoidea and Other Fossils*. Supplement to Volume I, Part II, of the *Geological Report of Iowa*. Published by Authority of the Legislature of Iowa. 92 pp., 3 pls., 43 unnumbered text-figs. Albany [New York]?

Published after August 1859, the date of Hall's letter of transmittal. Hall (1861) stated in a preliminary note in "Descriptions of New Species of Crinoidea," that a Supplement to Volume II [*sic*] was published in 1860. *The American Journal of Science and Arts*, 2d ser., Vol. XXX, No. 89 (September 1860), p. 308, said: "Eight sheets of an early copy of these contributions have reached us from the Author in advance of publication. As we hope soon to receive a complete copy, we reserve a list of its contents for a second notice." Notice of Publication, with comments, was in *The Canadian Journal*, n.s., Vol. V, No. XXX (November 1860), p. 551. See 290, 302, 332, 348, 349, 354.

White and Nicholson, 1878, p. 32. Cited as 1860.

Murray, 1884, p. 80, books item 9.

Murray, 1889, p. 77, books item 9.

Clarke, 1899, p. 437, books item 9.

Hovey, 1899, p. 149, books item 9.

Nickles, 1923, p. 443, item 59j.

302. Hall, James. 1859. *Iowa Geological Survey, Supplement to Volume I, Part II*; 4 pp.

The copy in the Hall Collection, Indiana University, contains four pages separately paginated, titled: *Supplement to Volume I, Part II*, imprinted 1859 and annotated as received from Hall by Orestes St. John on April 9th, 1860. Meek's copy in the collections of the National Museum of Natural History has a penciled notation that the four-page "Supplement" was published in 1860. See preceding entry, 290, 349.

Murray, 1884, p. 81, books item 10.

Murray, 1889, p. 78, books item 10.

Clarke, 1899, p. 437, books item 10.

Hovey, 1899, p. 150, books item 10.

Nickles, 1923, p. 443, included in James Hall item 59j.

303. Hall, James. 1859. *Palæontology: Volume III. Containing Descriptions and Figures of the Organic Remains of the Lower Helderberg Group and the Oriskany Sandstone. 1855-1859*. Part I: Text; xii + 1-424; 401-494 pp., 38 text-figs. Geological Survey of New York. Albany: Printed by C. Van Benthuyssen. First title page: *Natural History of New York*. Published by Authority of the State. Charles Van Benthuyssen, Printer.

The Introduction contains the speech he made at the American Association for the Advancement of Science meeting in 1857 about mountain building. See 251.

Murray, 1884, p. 81, books item 11.

Murray, 1889, p. 78, books item 11.

Clarke, 1899, p. 437, books item 11.

Hovey, 1899, p. 150, books item 11.

Ellis, 1903, p. 284.

Nickles, 1923, p. 443, item 59j.

304. Hall, James. 1859. *Palæontology: Volume III. Containing Descriptions and Figures of the Organic Remains of the Lower Helderberg Group and the Oriskany Sandstone. 1855-1859*. Part I: Text; pp. 1-152, 345-384; 38 text-figs.; Supplement, 497-533, 1 table, 51 numbered and unnumbered figures. Geological Survey of New-York. Albany, [New York]: Printed by C. Van Benthuyssen.

This includes parts of articles and has no plates. Hall Collection, Indiana University, soft-cover quarto. See 325, 374.

White and Nicholson, 1878, p. 34. Cited as 1861.

Darton, 1896, p. 452.

305. Hall, James. 1859. *Supplement to Vol. I. Notes upon the Genus Graptolithus; with Remarks upon Some of the Species, Their Mode of Growth, and Manner of Reproduction or Germination*; pp. 495-529, 49 text-figs. In *Palæontology of New York*, Vol. III. Containing Descriptions and Figures of the Organic Remains of the Lower Helderberg Group and the Oriskany Sandstone. 1855-1859. Geological Survey of New York. Albany: Printed by C. Van Benthuyssen. First title page: *Natural History of New York*. Published by Authority of the State. Charles Van Benthuyssen, Printer.

See 279, 331.

Murray, 1884, p. 81, books item 12.

Murray, 1889, p. 78, books item 12.

Clarke, 1899, p. 437, books item 12; p. 442, noted in scientific papers item 89.

Hovey, 1899, p. 150, books item 12.

Nickles, 1923, p. 443, included in James Hall item 59.

306. Hall, James. 1859. Observations upon the Genus *Graptolithus* and allied Genera. *Proceedings of the American Association for the Advancement of Science*; p. 287. Twelfth Meeting, held at Baltimore, Maryland, May 1858. Cambridge: Published by Joseph Lovering.

Title only. See 279.

Murray, 1884, p. 86, scientific papers item 71.

Murray, 1889, p. 84, scientific papers item 71.

Clarke, 1899, p. 442, scientific papers item 71.

Hovey, 1899, p. 156, scientific papers item 71.

307. Hall, James. 1859. Observations upon the Genus *Meganteris* and other Palæozoic Brachiopoda. *Proceedings of the American Association for the Advancement of Science*; p. 287. Twelfth



**Meeting, held at Baltimore, Maryland, May 1858.  
Cambridge: Published by Joseph Lovering.**

Title only.

- Murray, 1884, p. 86, scientific papers item 72.  
Murray, 1889, p. 84, scientific papers item 72.  
Clarke, 1899, p. 442, scientific papers item 72.  
Hovey, 1899, p. 157, scientific papers item 72.

308. Hall, James. 1859. *Contributions to the Palæontology of New York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & 1858; 17 pp., variously numbered and unnumbered figures.* Albany: Charles Van Benthuyssen, Printer.

This is a preprint of the first 17 pages of the full report listed in the next entry. A copy in the Hall Collection, Indiana University, has a printed note attached but no indication of the date of publication. According to Hall (see next entry), it was published in February 1859. *The American Journal of Science and Arts*, 1858, 2d ser., Vol. XXVIII, No. 82 (July [November] 1859), p. 149, has a review of this pamphlet, probably by the editor Silliman. The preprint contains the first three articles of the final publication as follows: Notice of the Genera *Ambonychia*, *Palæarca* and *Megambonia* (pp. 3–9, 5 numbered and 3 unnumbered figures); Observations on the genera *Capulus*, *Pileopsis*, *Acroculia*, and *Platyceras* (pp. 10–14, 4 numbered and 5 unnumbered figures); Observations on the genera *Platyostoma* and *Strophostylus* (pp. 15–17, 3 numbered and 1 unnumbered figure). See 248, 309.

309. Hall, James. 1859. *Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58; pp. 7–62. Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*

A note states: "The following notices and descriptions of new genera, with other investigations, have been communicated, in part or entirely, at different times, to the Albany Institute; to the Reports of the Regents of the University on the State Collections of Natural History, for the years 1856 and 1858; to the AAAS; and are already printed in the third volume of the Palæontology of the State of New-York." According to Hall (1862, p. 197), the first 17 pages were distributed in February 1859 (see preceding entry); through page 56 was printed in July 1859, and the entire report was published before September 20, 1859. The report contains 13 entries listed below. See 248, 308, 310–322.

- Murray, 1884, pp. 86–87, scientific papers items 73–85.  
Murray, 1889, pp. 84–85, scientific papers items 73–85.  
Clarke, 1899, p. 442, scientific papers items 73–85.

- Hovey, 1899, p. 157, scientific papers items 73–85.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, items 59a–i.

310. Hall, James. 1859. *Notice of the Genera Ambonychia, Palæarca and Megambonia; pp. 8–14, 5 sequentially numbered and 3 unnumbered figs. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*

- White and Nicholson, 1878, p. 30.  
Murray, 1884, p. 86, scientific papers item 73.  
Murray, 1889, p. 84, scientific papers item 73.  
Clarke, 1899, p. 442, scientific papers item 73.  
Hovey, 1899, p. 157, scientific papers item 73.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, item 59a.

311. Hall, James. 1859. *Observations on the Genera Capulus, Pileopsis, Acroculia, and Platyceras; pp. 15–19, 9 unnumbered figs. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*

- White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 86, scientific papers item 74.  
Murray, 1889, p. 84, scientific papers item 74.  
Clarke, 1899, p. 442, scientific papers item 74.  
Hovey, 1899, p. 157, scientific papers item 74.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, item 59b.

312. Hall, James. 1859. *Observations on the Genera Platyostoma and Strophostylus; pp. 20–22, 3 sequentially numbered and 1 unnumbered figure. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State*

*Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859.*

**Albany: Printed by C. Van Benthuyesen.**

White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 86, scientific papers item 75.  
Murray, 1889, p. 84, scientific papers item 75.  
Clarke, 1899, p. 442, scientific papers item 75.  
Hovey, 1899, p. 157, scientific papers item 75.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, item 59c.

313. Hall, James. 1859. Observations on the Genus *Nucleospira*; pp. 23–34, 29 figs. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In *Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859.*  
**Albany: Printed by C. Van Benthuyesen.**

This report is listed in the table of contents as "*Nucleospira*, etc." and is followed by a discussion of additional genera as follows:

Genus *Trematospira* (Hall, 1857), pp. 27–28, 4 figs.  
Genus *Rhynchospira* (n. g.), pp. 29–30, 6 figs.  
Genus *Tropidoleptus* (Hall), p. 31, 4 figs.  
Genus *Leptocælia* (Hall, 1856), pp. 32–34, 4 figs.

See 511, 531, 564.

White and Nicholson, 1878, p. 31, generic discussions separately cited.  
Murray, 1884, p. 86, scientific papers item 76.  
Murray, 1889, p. 84, scientific papers item 76.  
Clarke, 1899, p. 442, scientific papers item 76.  
Hovey, 1899, p. 157, scientific papers item 76.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, item 59d.  
Nickles, 1923, p. 443, item 59e. Cited as: Observations on genera of Brachiopoda.

314. Hall, James. 1859. Observations on the Genus *Eatonina*; pp. 34–37, 7 figs. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In *Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of*

*New York. No. 186. In Assembly, March 15, 1859.*

**Albany: Printed by C. Van Benthuyesen.**

White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 86, scientific papers item 77.  
Murray, 1889, p. 84, scientific papers item 77.  
Clarke, 1899, p. 442, scientific papers item 77.  
Hovey, 1899, p. 157, scientific papers item 77.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, included in James Hall item 59e. Cited as: Observations on genera of Brachiopoda.

315. Hall, James. 1859. Observations on the Genus *Rensselæria*; pp. 38–41, 5 figs. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In *Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859.*  
**Albany: Printed by C. Van Benthuyesen.**

White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 86, scientific papers item 78.  
Murray, 1889, p. 84, scientific papers item 78.  
Clarke, 1899, p. 442, scientific papers item 78.  
Hovey, 1899, p. 157, scientific papers item 78.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, included in James Hall item 59e. Cited as: Observations on genera of Brachiopoda.

316. Hall, James. 1859. Observations on the Genus *Camarium*; pp. 42–43, 6 figs. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In *Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859.*  
**Albany: Printed by C. Van Benthuyesen.**

This contribution is followed by an additional untitled generic description of the genus *Triplesia* (Hall, 1858), p. 44, 3 figs.

White and Nicholson, 1878, p. 31; genus *Triplesia* is cited separately.  
Murray, 1884, p. 86, scientific papers item 79.  
Murray, 1889, p. 84, scientific papers item 79.  
Clarke, 1899, p. 442, scientific papers item 79.  
Hovey, 1899, p. 157, scientific papers item 79.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, included in James Hall item 59e. Cited as: Observations on genera of Brachiopoda.

317. Hall, James. 1859. Notes upon the Genus *Graptolithus*; with Remarks upon Some of the Species, their Mode of Growth, and Manner of Reproduction. [Supplement to Volumes I & II of the *Palæontology of New-York*]; pp. 45–58, 15 figs., sequentially numbered only within genera. In *Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*

See 305, 332.

White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 86, scientific papers item 80.  
Murray, 1889, p. 84, scientific papers item 80.  
Clarke, 1899, p. 442, scientific papers item 80.  
Hovey, 1899, p. 157, scientific papers item 80.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, item 59f.

318. Hall, James. 1859. Trilobites of the Shales of the Hudson-River Group; pp. 59–62, 3 figs. In *Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*

See 323, 343, 355–357, 390, 407.

White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 86, scientific papers item 81.  
Murray, 1889, p. 84, scientific papers item 81.  
Clarke, 1899, p. 442, scientific papers item 81.  
Hovey, 1899, p. 157, scientific papers item 81.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, item 59g.

319. Hall, James. 1859. Catalogue of the Species of Fossils, Described in Volumes I., II. and III. of the *Palæontology of New-York*; With the Corrections in Nomenclature, as far as determined to the present time; pp. 63–87. In *Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual*

*Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*

See 92, 169.

White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 87, scientific papers item 82.  
Murray, 1889, p. 85, scientific papers item 82.  
Clarke, 1899, p. 442, scientific papers item 82.  
Hovey, 1899, p. 157, scientific papers item 82.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, included in James Hall item 59h.

320. Hall, James. 1859. Corrected List of the Fossils Described in the Report of the Fourth Geological District of New-York (Excepting those which are corrected in the preceding lists.); pp. 87–92. In *Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*

White and Nicholson, 1878, p. 31.  
Murray, 1884, p. 87, scientific papers item 83.  
Murray, 1889, p. 85, scientific papers item 83.  
Clarke, 1899, p. 442, scientific papers item 83.  
Hovey, 1899, p. 157, scientific papers item 83.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 443, included in James Hall item 59h.

321. Hall, James. 1859. Catalogue of the Species of Fossils Described in the Third Volume of the *Palæontology of New York*; including those from the Waterlime Group, the Lower Helderberg Group, and the Oriskany Sandstone; pp. 93–96. In *Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuyssen.*



- Murray, 1884, p. 87, scientific papers item 84.  
 Murray, 1889, p. 85, scientific papers item 84.  
 Clarke, 1899, p. 442, scientific papers item 84.  
 Hovey, 1899, p. 157, scientific papers item 84.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, included in James Hall item 59h.

322. Hall, James. 1859. Supplementary note on the Genus *Ambonychia*; p. 110, 2 figs. In Contributions to the Palæontology of New-York; Being Some of the Results of Investigations Made During the Years 1855, '56, '57, & '58. In *Twelfth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Connected Therewith. Made to the Assembly, March 15, 1859. State of New York. No. 186. In Assembly, March 15, 1859. Albany: Printed by C. Van Benthuysen.*

White and Nicholson, 1878, p. 30.  
 Murray, 1884, p. 87, scientific papers item 85.  
 Murray, 1889, p. 85, scientific papers item 85.  
 Clarke, 1899, p. 442, scientific papers item 85.  
 Hovey, 1899, p. 157, scientific papers item 85.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, item 59i.

323. Hall, James. 1859. New American Trilobites. *The Canadian Journal, n.s., Vol. IV, No. XXIV (November 1859), pp. 491–493.*

See 318, 343, 355, 356, 390.

Royal Society of London, 1869, vol. III, p. 137, item 32. Cited as: New American Trilobites, *Olenus Thompsoni* and *O. Vermontana*.  
 Nickles, 1923, p. 443, item 59k. Cited as: New American trilobites [from Hudson River group of Vermont].

324. Hall, James. 1859. [Letter to the Editor]: The Geological Survey [of Wisconsin] for *The Sentinel*. *The Sentinel*, Wednesday Morning, October 19, 1859.

This letter was in defense of accusations of misconduct by the “partizan attacks” which appeared in the Madison *Patriot*, the Milwaukee *News* and other Democratic organs. Copy is in the James Hall Papers, New York State Archives.

325. Hall, James. [1859]. [Plates to Volume III of *Palæontology of New York*]. Plates 1, 2, 2A, 3, 3A, 3B, 4–7, 7A, 73–79, 85–88.

Hall Collection, Indiana University. See 304, 374.

326. Hall, James. [1859] 1920. Letters (March 29, and April 8, 1859) to [Charles] Whittlesey; p. 518. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History*

*Surveys. Smithsonian Institution. United States National Museum, Bulletin 109. Washington: Government Printing Office.*

Whittlesey, working for Hall on the Wisconsin Geological Survey, had proposed that Hall resign. Hall acknowledged that “The affair is an awkward one . . .” and hoped to accomplish something before he quit. See 601, 609.

327. Hall, James. 1860. New species of fossils from the Niagara Group of Wisconsin; pp. 1–4. *Report of Progress for 1859. Albany, [New York].*

Murray, 1884, p. 87, scientific papers item 86.  
 Murray, 1889, p. 85, scientific papers item 86.  
 Clarke, 1899, p. 442, scientific papers item 86.  
 Hovey, 1899, p. 157, scientific papers item 86.  
 Nickles, 1923, p. 443, item 60g.

328. Hall, James. 1860. Descriptions of New Species of Fossils from the Silurian Rocks of Nova Scotia. *The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal*, Vol. V, No. 2 (April 1860), pp. 144–159, 20 figs.

See 329.

Royal Society of London, 1869, vol. III, p. 137, item 33.  
 White and Nicholson, 1878, p. 104.  
 Murray, 1884, p. 87, scientific papers item 87.  
 Murray, 1889, p. 85, scientific papers item 87.  
 Clarke, 1899, p. 442, scientific papers item 87.  
 Hovey, 1899, p. 157, scientific papers item 87.  
 Nickles, 1923, p. 443, item 60i.

329. Hall, James. 1860. Descriptions of new species of fossils from the Silurian rocks of Nova Scotia; pp. 13–28, 20 figs.

Reprint is separately paginated from original article, and pagination is continuous with J. W. Dawson's introductory article. See 328.

330. Hall, James. 1860. Fossil Crustacea of the genus *Eurypterus*, DeKay, its species and their geological relations; p. 353. *Proceedings of the American Academy of Arts and Sciences. Four hundred and seventy-third meeting. December 13, 1859. Vol. IV (From May 1857, to May 1860). Boston and Cambridge: Welch, Bigelow, and Company.*

The notes say: “Prof. James Hall made a detailed communication upon the Fossil Crustacea of the genus *Eurypterus*, DeKay, its species and their geological relations; illustrated by a full suite of specimens, and by drawings.” See 8, 82, 390–391, 409, 421, 426, 430, 449, 461, 518, 681, 682, 686, 687, 835, 836, 842, 854, 855, 897, 907, 923, 1062.

Murray, 1884, p. 87, scientific papers item 88. Cited as: Relations of the Genus *Eurypterus*.



Murray, 1889, p. 85, scientific papers item 88.

Clarke, 1899, p. 442, scientific papers item 88. Cited as: Relations of the Genus *Eurypterus*.

Hovey, 1899, p. 157, scientific papers item 88. Cited as: Relations of the Genus *Eurypterus*.

331. Hall, James. 1860. Appendix F. Contributions to Palæontology, 1858 & 1859; pp. 53–125. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.

A note appended to the report indicates that publication was on or about December 17, 1860. According to Hall (1860, p. 176) this report was published in December 1860. Reprint has same pagination with the addition of a note by Hall on page 128. This report is noted and discussed, apparently by the Editors, in *The American Journal of Science and Arts*, 1861, 2d ser., Vol. XXXI, No. 92 (March 1861), pp. 292–294. Title on paper wrappers of separate reads: *Contributions to Palæontology, 1858 & 1859, with additions in 1860*. A review of a publication with this latter title was in *The Canadian Journal*, 1861, n.s., Vol. VI, No. XXXII (March 1861), pp. 187–191, signed by E. J. C. [E. J. Chapman, General Editor of the Journal]. See 373.

Murray, 1884, p. 87, scientific papers items 89–97.

Murray, 1889, p. 85, scientific papers items 89–97.

Clarke, 1899, p. 442, scientific papers items 89–97.

Ellis, 1903, p. 285.

332. Hall, James. 1860. Notices of New Forms of the Genus *Graptolithus* and Allied Genera [From the Supplement to Vol. 1, published in Vol. III, Pal. N. York, pp. 510–520]; pp. 55–64, 25 figs. sequentially numbered only within species. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.

See 301.

White and Nicholson, 1878, p. 31.

Murray, 1884, p. 87, scientific papers item 89.

Murray, 1889, p. 85, scientific papers item 89.

Clarke, 1899, p. 442, scientific papers item 89.

Hovey, 1899, p. 157, scientific papers item 89.

Ellis, 1903, p. 285.

Nickles, 1923, p. 443, item 60.

333. Hall, James. 1860. Genus *Rhynchonella* (Fischer, 1809); With Observations on the *R. (Atrypa) increbescens*; pp. 65–68, 13 figs. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen. State of New York. No. 89. In Senate, April 10, 1860.

White and Nicholson, 1878, p. 31.

Murray, 1884, p. 87, scientific Papers item 90.

Murray, 1889, p. 85, scientific Papers item 90.

Clarke, 1899, p. 443, scientific papers item 90.

Hovey, 1899, p. 157, scientific papers item 90.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 65. Cited as: [Remarks upon the genera *Rhynchonella* and *Leiorhynchus*.].

Ellis, 1903, p. 285.

Nickles, 1923, p. 443, included in James Hall item 60a.

334. Hall, James. 1860. *Atrypa modesta*. *Palaeontology of New-York*, Vol. I, p. 141, pl. 33; p. 69. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.

Murray, 1884, p. 87, included in scientific papers item 90.

Murray, 1889, p. 85, included in scientific papers item 90.

Hovey, 1899, p. 157, included in scientific papers item 90.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 65.

Nickles, 1923, p. 443, included in James Hall item 60a.

335. Hall, James. 1860. Observations upon *Orthis insignis* of the Lower Helderberg Group (*Pal. New-York*, Vol. iii, pa. 173, pl. 13, f. 13–15); *Orthis pyramidalis* of the Niagara Group (*Pal. New-York*, Vol. ii, p. 251, pl. 52, f. 2), and a similar species from Tennessee; pp. 69–70, 5 figs. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.

White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 91.  
 Murray, 1889, p. 85, scientific papers item 91.  
 Clarke, 1899, p. 443, scientific papers item 91.  
 Hovey, 1899, p. 157, scientific papers item 91.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 66.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, included in James Hall item 60a.

- 336. Hall, James. 1860. Genus *Skenidium* (n.g.); p. 70, 5 figs. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.**

Murray, 1884, p. 87, scientific papers item 91.  
 Murray, 1889, p. 85, scientific papers item 91.  
 Clarke, 1899, p. 443, included in scientific papers item 91.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 66.  
 Ellis, 1903, p. 285.

- 337. Hall, James. 1860. Observations on the genus *Ambocœlia*; pp. 71–72, 6 figs. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.**

White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 91.  
 Murray, 1889, p. 85, scientific papers item 91.  
 Clarke, 1899, p. 443; included in scientific papers item 91.  
 Hovey, 1899, p. 157, scientific papers item 91.  
 Royal Society of London, 1902, vol. XII, p. 305; included in James Hall item 66.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443; included in James Hall item 60a.

- 338. Hall, James. 1860. Genus *Vitulina* (n.g.); pp. 72–73, 2 figs. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No.**

- 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.**

White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 91.  
 Murray, 1889, p. 85, scientific papers item 91.  
 Clarke, 1899, p. 443, included in scientific papers item 91.  
 Hovey, 1899, p. 157, scientific papers item 91.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 66.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, included in James Hall item 60a.

- 339. Hall, James. 1860. Observations on the Genera *Athyris* (= *Spirigera*), *Merista* (= *Camarium*), *Meristella* and *Leiorhynchus*; pp. 73–75. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.**

This was also published in the *Fifteenth Annual Report of the Regents of the University of the State of New York*, 1862, pp. 178–181. See **397, 398, 418, 506, 526**.

White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 92.  
 Murray, 1889, p. 85, scientific papers item 92.  
 Clarke, 1899, p. 443, scientific papers item 92.  
 Hovey, 1899, p. 157, scientific papers item 92.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 67.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, included in James Hall item 60a.

- 340. Hall, James. 1860. Descriptions of New Species of Fossils, from the Hamilton Group of Western New-York, with Notices of Others from the Same Horizon in Iowa and Indiana; pp. 76–94, (34 figures sequentially numbered only within a species or a discussion of a group of species). In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.**

See **399**.

White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 93.  
 Murray, 1889, p. 85, scientific papers item 93.  
 Clarke, 1899, p. 443, scientific papers item 93.

- Hovey, 1899, p. 157, scientific papers item 93.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 68.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, item 60b.
341. Hall, James. 1860. Additional Species from the Hamilton Group; p. 94. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.
- Murray, 1884, p. 87, included in scientific papers item 93.  
 Murray, 1889, p. 85, included in scientific papers item 93.  
 Clarke, 1899, p. 443, included in scientific papers item 93.  
 Nickles, 1923, p. 443, included in item 60b.
342. Hall, James. 1860. Notes and Observations Upon the fossils of the Goniatic limestone in the Marcellus shale of the Hamilton Group, in the eastern and central parts of the State of New-York, and those of the Goniatic beds of Rockford, Indiana; with some analogous forms from the Hamilton Group proper; pp. 95–112, 22 figs. (Nineteen figures are sequentially numbered in the first part of the paper, and three figures are sequentially numbered within the species.) In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.
- See 346, 389.
- White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 94.  
 Murray, 1889, p. 85, scientific papers item 94.  
 Clarke, 1899, p. 443, scientific papers item 94.  
 Hovey, 1899, pp. 157–158, scientific papers item 94.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 69.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, item 60c.
343. Hall, James. 1860. Note upon the Trilobites of the Shales of the Quebec Group in the Town of Georgia, Vermont; pp. 113–119, 3 unnumbered figs. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.
- In some copies this is entitled “Hudson River Group.” The correction is noted on page 110 of the 4<sup>th</sup> Report. See 318, 323, 390, 705.
- White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 95.  
 Murray, 1889, p. 85, scientific papers item 95.  
 Clarke, 1899, p. 443, scientific papers item 95.  
 Hovey, 1899, p. 158, scientific papers item 95.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 70.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, item 60d.
344. Hall, James. 1860. New Species of Fossils from the Hudson-River Group of Ohio, and Other Western States; pp. 119–121, 1 fig. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen. State of New York. No. 89. In Senate, April 10, 1860.
- See 362.
- White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 96.  
 Murray, 1889, p. 85, scientific papers item 96.  
 Clarke, 1899, p. 443, scientific papers item 96.  
 Hovey, 1899, p. 158, scientific papers item 96.  
 Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 71.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, item 60e.
345. Hall, James. 1860. Observations upon a New Genus of Crinoidea: *Cheirocrinus*; pp. 121–124, 8 figs. numbered sequentially only within species. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyesen.
- White and Nicholson, 1878, p. 32.  
 Murray, 1884, p. 87, scientific papers item 97.



- Murray, 1889, p. 85, scientific papers item 97.  
 Clarke, 1899, p. 443, scientific papers item 97.  
 Hovey, 1899, p. 158, scientific papers item 97.  
 Royal Society of London, 1902, vol. XII, p. 305, item 72.  
 Ellis, 1903, p. 285.  
 Nickles, 1923, p. 443, item 60f.

346. **Hall, James. 1860. Note Referred to on Page 101 [About *Goniatites rotatorius*]; p. 125, 3 figs. In Appendix F. Contributions to Palæontology, 1858 & 1859. In *Thirteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto. Made to the Senate, April 10, 1860. State of New York. No. 89. In Senate, April 10, 1860. Albany: Printed by C. Van Benthuyssen.***

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 69.

347. **Hall, James. 1860. On the Formation of Mountain Ranges. *The Canadian Journal of Industry, Science, and Art*, n.s. Vol. V, No. XXX (November 1860), pp. 542–544.**

This is a summary, with commentary, of some observations on this subject made by Professor Hall at the April 3 and 17 meetings of the Albany Institute, written by E. J. Chapman. See 251.

Royal Society of London, 1869, vol. III, p. 137, item 34.  
 Nickles, 1923, p. 444, item 60j.

348. **Hall, James. 1860. Report . . . in relation to the geological survey of the State of Iowa . . . Des Moines, Iowa. 15 pp.**

See 290, 301, 349, 988.

Nickles, 1923, p. 443, item 60h. Cited as: in Iowa, Legislative Documents, 1859–1860, and as not seen by him.

349. **Hall, James, and J. D. Whitney. 1860. Annual Report [Iowa Geology]. Des Moines, Iowa. 75 pp.**

See 290, 301, 348.

Darton, 1896, p. 454. Cited as [Not seen].

350. **Hall, James. [1860] 1920. Letter to the Honorable W. H. F. Gurley, Chairman of the Committee of Ways and Means of the House of Representatives of Iowa; pp. 88–90. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.**

Hall made suggestions regarding the continuation of the Iowa Geological Survey, after the publication of the first report in 1858 by Hall and Whitney, and the discontinuance of the Survey set

by law. He felt the lead region was very important to be further studied and mapped and suggested that expenses be shared by Iowa, Illinois, and Wisconsin. Nothing happened after this letter.

351. **Hall, James. 1861. Descriptions of New Species of Crinoidea from the Carboniferous Rocks of the Mississippi Valley. *Boston Journal of Natural History, containing Papers and Communications, Read to the Boston Society of Natural History, 1859–1863*. Vol. VII, No. 1, pp. 261–328.**

Read before the Society on December 19, 1860. Text apparently was published January 1861, as indicated on the first page of the article. Separate has same pagination. Text, with addition of seven plates, was republished by Hall in 1872. See next three entries, 591.

Royal Society of London, 1869, vol. III, p. 137, item 39. Cited as [1860], 1863.

White and Nicholson, 1878, p. 33.

Murray, 1884, p. 88, scientific papers item 104.

Murray, 1889, p. 86, scientific papers item 104.

Clarke, 1899, p. 443, scientific papers item 104.

Hovey, 1899, p. 158, scientific papers item 104.

Nickles, 1923, p. 444, item 61e.

352. **Hall, James. 1861. Descriptions of New Species of Crinoidea; From Investigations of the Iowa Geological Survey. Preliminary Notice; 18 pp. Albany, February 25, 1861. Printed by C. Van Benthuyssen.**

This publication was noted, with comments, in *The Canadian Journal*, n.s., Vol. VI, No. XXXIII (May 1861), p. 301. Apparently the first ten pages of the pamphlet were published in full in the preceding entry. Additional names have priority as of February 25, 1861. In his note opposite page 1, Hall indicates the first twelve pages were distributed on February 14, 1861, and the entire paper as indicated on the title page: February 25, 1861. It is not clear that we have seen a copy of the twelve-page separate, but see preceding entry and next two entries, 591.

White and Nicholson, 1878, p. 34.

Murray, 1884, p. 87, scientific papers item 98.

Murray, 1889, p. 86, scientific papers item 98.

Clarke, 1899, p. 443, scientific papers item 98.

Hovey, 1899, p. 158, scientific papers item 98.

Nickles, 1923, p. 444, item 61d.

353. **Hall, James. 1861. Descriptions of new species of Crinoidea; from investigations of the Iowa Geological Survey. Preliminary Notice; pp. 8–18. Albany, [New York], February 25, 1861. Printed by C. Van Benthuyssen.**

Copy is in the Clarke Reprint Collection, New York Geological Survey. See 351, 352, 354, 591, 988.



354. Hall, James. 1861. Descriptions of New Species of Crinoidea; From Investigations of the Iowa Geological Survey. Preliminary Notice; 19 pp. Albany, February 25, 1861. Printed by C. Van Benthuyssen.

This separate appears similar to the preceding three entries except that it has an additional page. The heading on the first page of the text reads: "Descriptions of New Species of Crinoidea & Other Fossils, from the Carboniferous Rocks of the Mississippi Valley." A handwritten inscription on the title page reads: "U. P. James, Esquire with the respects of the Author." In his note opposite page 1, Hall indicates the first twelve pages were distributed on February 14, 1861, and the entire paper as indicated on the title page: February 25, 1861. He also indicates that this paper is a continuation of the investigations "published in 1860, a Supplement to Volume II [*sic*] [this appears to be Hall's error; it should be Vol. I, Part II.], of ninety-two pages . . . with three plates of outline figures and diagrams of Crinoidea, and descriptions of eighty new species." See preceding three entries, 301, 591.

355. Hall, James. 1861. "On Trilobites"; p. 339. In Edward Hitchcock, Edward Hitchcock, Jr., Albert D. Hager, and Charles H. Hitchcock, *Report on the Geology of Vermont: Descriptive, Theatrical, Economical, and Scenographical*. Vol. I. Published under the Authority of the State Legislature, by Albert D. Hager, Proctorsville, Vt. Printed by the Claremont Manufacturing Company, Claremont, N. H.

The index lists this as "Highgate fossils." Hall comments on the fossils that were sent to him by Prof. Adams in 1847. See 87, 323, 387, 581.

356. Hall, James. 1861. Note upon the Trilobites of the Shales of the Hudson River Group in the town of Georgia, Vermont; pp. 367–372, pl. XIII [in Vol. II]. In Edward Hitchcock, Edward Hitchcock, Jr., Albert D. Hager, and Charles H. Hitchcock, *Report on the Geology of Vermont: Descriptive, Theatrical, Economical, and Scenographical*. Vol. I. Published under the Authority of the State Legislature, by Albert D. Hager, Proctorsville, Vt. Printed by the Claremont Manufacturing Company, Claremont, N. H.

The index refers to it as "on Georgia trilobites." The article was originally published in the 13<sup>th</sup> Annual Report of New York (1860). See 323, 355, 390, 705.

Nickles, 1923, p. 443, included in James Hall item 60d.

357. Hall, James. 1861. *Graptolithus Milesi*; p. 372, fig. 256, pl. XII [in Vol. II]. In Edward Hitchcock, Edward Hitchcock, Jr., Albert D. Hager, and

Charles H. Hitchcock, *Report on the Geology of Vermont: Descriptive, Theatrical, Economical, and Scenographical*. Vol. I. Published under the Authority of the State Legislature, by Albert D. Hager, Proctorsville, Vt. Printed by the Claremont Manufacturing Company, Claremont, N. H.

The index lists this as "New species of graptolite." See 279.

358. Hall, James. 1861. Letter from James Hall, Palaeontologist of New York, to the Editors of *The American Journal of Science and Arts* [regarding trilobites in the shales of Georgia, Vermont]; pp. 382–386. In Edward Hitchcock, Edward Hitchcock, Jr., Albert D. Hager, and Charles H. Hitchcock, *Report on the Geology of Vermont: Descriptive, Theatrical, Economical, and Scenographical*. Vol. I. Published under the Authority of the State Legislature, by Albert D. Hager, Proctorsville, Vt. Printed by the Claremont Manufacturing Company, Claremont, N. H.

This letter, dated January 23, 1861, is part of the Barrande, Logan, Hall correspondence. See 318.

Darton, 1896, p. 452. Cited as: Letter on the primordial faunæ and Point Levis Fossils.

Nickles, 1923, p. 444, included in James Hall item 61f.

359. Hall, James. 1861. "[O]n the large Encrinites from the Upper Helderberg group of New York"; p. 448. In Edward Hitchcock, Edward Hitchcock, Jr., Albert D. Hager, and Charles H. Hitchcock, *Report on the Geology of Vermont: Descriptive, Theatrical, Economical, and Scenographical*. Vol. I. Published under the Authority of the State Legislature, by Albert D. Hager, Proctorsville, Vt. Printed by the Claremont Manufacturing Company, Claremont, N. H.

Hall is quoted in a comment by E. H., Sr. [E. Hitchcock].

360. Hall, James. 1861. New species of *Orthoceras* [*hageri*]; p. 718, fig. 322. In Edward Hitchcock, Edward Hitchcock, Jr., Albert D. Hager, and Charles H. Hitchcock, *Report on the Geology of Vermont: Descriptive, Theatrical, Economical, and Scenographical*. Vol. II. Published under the Authority of the State Legislature, by Albert D. Hager, Proctorsville, Vt. Printed by the Claremont Manufacturing Company, Claremont, N. H.

Murray, 1884, p. 87, scientific papers item 100.

Murray, 1889, p. 86, scientific papers item 100.

Clarke, 1899, p. 443, scientific papers item 100.

Hovey, 1899, p. 158, scientific papers item 100.

Nickles, 1923, p. 444, item 61g. Vol. 2.

Nickles, 1923, p. 444, included in James Hall item 61f.

361. Hall, James. 1861. Contributions to Palæontology. Being some of the Results of Investigations made during the years 1859 and 1860; pp. 81–109. In *Fourteenth Annual Report of the Regents of the University of the State of New York, on the condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Assembly, April 10, 1861. State of New York. No. 136. In Assembly, April 10, 1861. Albany: Printed by C. Van Benthuyesen.

Contains three articles cited separately below. Tip-in indicates the report was published in August 1861, and a separate with the same pagination has a date of July 1861. This was reviewed in *The American Journal of Science and Arts*, 1862, 2d Ser., Vol. XXXIII, No. 98 (March 1862), pp. 279–280.

Clarke, 1899, p. 443, scientific papers items 101–103.  
Ellis, 1903, p. 285.

362. Hall, James. 1861. Observations Upon some new and other species of Fossils, from the rocks of Hudson-river Group of Ohio and the Western States; with descriptions; [Continued from page 121 of the 13<sup>th</sup> Annual Report of the Regents of the University on the State Collections of Natural History.]; pp. 89–92. In *Fourteenth Annual Report of the Regents of the University of the State of New York, on the condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Assembly, April 10, 1861. State of New York. No. 136. In Assembly, April 10, 1861. Albany: Printed by C. Van Benthuyesen.

Separate with same pagination together with the following two entries were published July 1861. See next two entries, 344.

White and Nicholson, 1878, p. 32.  
Murray, 1884, p. 88, scientific papers item 101.  
Murray, 1889, p. 86, scientific papers item 101.  
Clarke, 1899, p. 443, scientific papers item 101.  
Hovey, 1899, p. 158, scientific papers item 101.  
Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 71.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 444, item 61.

363. Hall, James. 1861. Note on the Genera *Bellerophon*, *Bucania*, *Carinaropsis*, and *Cyrtolites* [See Vol. I, Pal. N. York]; pp. 93–98. In *Fourteenth Annual Report of the Regents of the University of the State of New York, on the condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Assembly, April 10, 1861. State of New York. No. 136. In Assembly, April 10, 1861. Albany: Printed by C. Van Benthuyesen.

Separate with same pagination together with preceding and subsequent entries were published in July 1861.

White and Nicholson, 1878, p. 33.  
Murray, 1884, p. 88, scientific papers item 102.  
Murray, 1889, p. 86, scientific papers item 102.  
Clarke, 1899, p. 443, scientific papers item 102.  
Hovey, 1899, p. 158, scientific papers item 102.  
Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 73.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 44, item 61a.

364. Hall, James. 1861. Descriptions of New Species of Fossils from the Upper Helderberg, Hamilton and Chemung Groups; with observations upon previously described species [Continued from page 94 of the preceding Report.]; pp. 99–109. In *Fourteenth Annual Report of the Regents of the University of the State of New York, on the condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto*. Made to the Assembly, April 10, 1861. State of New York. No. 136. In Assembly, April 10, 1861. Albany: Printed by C. Van Benthuyesen.

Separate has same pagination and is included with preceding two entries published in July 1861. See 228, 375, 384, 388.

White and Nicholson, 1878, p. 33.  
Murray, 1884, p. 88, scientific papers item 103.  
Murray, 1889, p. 86, scientific papers item 103.  
Clarke, 1899, p. 443, scientific papers item 103.  
Hovey, 1899, p. 158, scientific papers item 103.  
Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 74.  
Ellis, 1903, p. 285.  
Nickles, 1923, p. 444, item 61b.

365. Hall, James. 1861. Contributions to Palæontology. Being some of the results of investigations made during the years 1859 and 1860; pp. 87–110. From the *Fourteenth Annual Report of the Regents of the University*.

Separate of Fourteenth Annual Report has same pagination. Title page indicates separate was published July 1861, and contains the preceding three articles, and Correction, p. 110.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 70. "Correction" only.

366. Hall, James. 1861. *Report of the Superintendent of the Geological Survey [of Wisconsin], Exhibiting the Progress of the Work. January 1, 1861; 52 pp. Madison [Wisconsin]: E. A. Calkins & Co., State Printers.*

This oversewn paper consists of Cover Page of various colors (pink and yellow have been observed), Title Page, and two sections by James Hall. The first is the "Geological Report" (next

entry), and the other is “Descriptions of New Species of Fossils” (second next entry). Hall, in the [1868] 1870, 20th Annual Report of the State University New York, Revised Edition, p. 351, cites this as a [Wisconsin] Legislative Document [not seen]. One copy has corrections made in pencil. F. B. Meek, as mentioned in Merrill (1920), wrote on his copy in the United States National Museum: “First 16 pages, pub. February, 1861. Pages 17 to 32, inclusive, pub. Nov. 10, 1861. Remainder at a later date - December, according to Hall.” E. Billings wrote “On the date of the recently published *Report of the Superintendent of the Geological Survey of Wisconsin, exhibiting the Progress of the Work, Jan. 1, 1861*,” in *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99 (May 1862), pp. 420–421; Billings expressed concern about publication dates and the possibility of his being accused of plagiarism. A short favorable review is in *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99 (May 1862), p. 453. J. W. D. [J. W. Dawson] reviewed it in *The Canadian Naturalist*, Vol. VI, No. 3 (June 1861), pp. 213–215. See 367, 368, 1017.

White and Nicholson, 1878, p. 34.

Murray, 1884, p. 87, scientific papers item 99.

Murray, 1889, p. 86, scientific papers item 99.

Darton, 1896, p. 452.

Clarke, 1899, p. 443, scientific papers item 99.

Hovey, 1899, p. 158, scientific papers item 99.

Nickles, 1923, p. 444, item 61c.

367. Hall, James. 1861. Geological Report; pp. 3–7. In *Report of the Superintendent of the Geological Survey, Exhibiting the Progress of the Work. January 1, 1861*. Madison [Wisconsin]: E. A. Calkins & Co., State Printers.

This report, signed by J. Hall, is dated December 24<sup>th</sup>, 1860. See 366, 368.

368. Hall, James. 1861. Geological Survey of Wisconsin; Descriptions of New Species of Fossils; From The Investigations of the Survey; To accompany the Report of Progress made to His Excellency, Alexander W. Randall, on the 24th day of December, 1860; pp. 9–52. In *Report of the Superintendent of the Geological Survey, Exhibiting the Progress of the Work. January 1, 1861*. Madison [Wisconsin]: E. A. Calkins & Co., State Printers.

Hall is identified as the State Geologist and Palæontologist. Handwritten corrections (by Hall?) are throughout the copy in the Crerar Library, University of Chicago. See 366, 367, 1017.

369. Hall, James. 1861. Letter (January 23, 1861) from James Hall, Palæontologist of New York, to the Editors of *The American Journal of Science and Arts*. In Art. XIX.—Correspondence of Joachim Barrande, Sir William Logan, and James Hall, on the Taconic System and the age of the Fossils found

in the Rock of Northern New England, and the Quebec Group of Rocks. *The American Journal of Science and Arts*, 2d ser., Vol. XXXI, May 1861, No. 92 (March 1861), pp. 220–226.

The letter is listed in the index of the *Journal* as “primordial fauna and Point Levi fossils.” See 80, 331, 358, 370–373, 407.

Royal Society of London, 1869, vol. III, p. 137, included in item 35.

White and Nicholson, 1878, pp. 9, 75 under Anon.

Murray, 1884, p. 88, scientific papers item 105. Cited as: On the primordial fauna and Point Levi fossils.

Murray, 1889, p. 86, scientific papers item 105. Cited as: On the primordial fauna and Point Levi fossils.

Darton, 1896, p. 452. Cited as: Letter on the primordial faunæ and Point Levi fossils.

Clarke, 1899, p. 443, scientific papers item 105. Cited as: On the primordial fauna and Point Levi fossils.

Nickles, 1923, p. 444, item 61f. Cited as: On the Primordial faunas and Point Levi, Quebec, fossils.

370. Hall, James. 1861. Letter from James Hall, Palæontologist of New York, to the Editors of *The American Journal of Science and Arts* [On the Primordial fauna and Point Levi, Quebec, fossils].

Reprint is from *The American Journal of Science and Arts*, 1861, 2d ser., Vol. XXXI, No. 92, pp. 220–226. Reprint included in pamphlet is entitled: “Primordial fauna and Taconic system. Correspondence of Barrande, Logan, and Hall, 1861.” Doubly paginated with original page numbers in brackets, Hall’s contribution is on pages 12–18. See 80, 331, 369, 371, 372, 407.

Hovey, 1899, p. 158, scientific papers item 105.

Nickles, 1923, p. 444, included in James Hall item 61f.

371. Hall, James. 1861. Letter from James Hall, Palæontologist of New York, to the Editors of *The American Journal of Science and Arts*; pp. 12–18. In Correspondence of Joachim Barrande, Sir William Logan and James Hall, on the Taconic System, and the age of the fossils found in the rocks of northern New England, and the Quebec Group of rocks.

Pagination of this separate includes both sequential numbers and page numbers as in the original *Journal* article. Separate with title is as cited, presumably published after original issue of the *Journal*. See 80, 331, 369, 370, 372, 379, 407.

372. Hall, James. 1861. Letter (January 23, 1861) from James Hall, Palæontologist of New York, to the Editors of *The American Journal of Science and Arts* [regarding three species of trilobites from the shales of the town of Georgia in Vermont, referring them to the age of the Hudson River group]. *The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal*, Vol. VI, No. 2 (April 1861), pp. 113–120.



The letter is part of the "Correspondence of Joachim Barrande, Sir William E. Logan and James Hall on the Taconic System and on the age of the Fossils found in the Rocks of Northern New England, and the Quebec Group of Rocks," (from *The American Journal of Science and Arts*, 1861, 2d ser., Vol. XXXI, No. 92, pp. 220–226). See **80, 331, 369–372, 407, 705**.

Royal Society of London, 1869, vol. III, p. 137, included in James Hall item 35.

White and Nicholson, 1878, p. 75, authors cited as: Anon[ymous].

Murray, 1884, p. 88, included in scientific papers item 105. Cited as: On the primordial fauna and Point Levis fossils.

Murray, 1889, p. 86, included in scientific papers item 105. Cited as: On the primordial fauna and Point Levis fossils.

Darton, 1896, p. 452. Cited as: Letter on the primordial faunæ and Point Levis fossils.

Clarke, 1899, p. 443, scientific papers item 105. Cited as: On the primordial fauna and Point Levis fossils.

Hovey, 1899, p. 158, included in scientific papers item 105.

Nickles, 1923, p. 444, included in James Hall item 61f.

- 373. Hall, James. 1861. On the Primordial fauna and Point Levis, Quebec, fossils. *The Canadian Journal*, n.s., Vol. VI, No. XXXIII (May 1861), pp. 284–292.**

This is extracted from *The American Journal of Science and Arts* (March 1861) "Letter to the Editor" dated January 23, 1861, with comments by E. J. C. [E. J. Chapman, General Editor]. See **331, 369–372, 391, 407**.

Royal Society of London, 1869, vol. III, p. 137, included in item 35.  
Nickles, 1923, p. 444, included in item 61f.

- 374. Hall, James. 1861. *Palæontology: Volume III. Containing Descriptions and Figures of the Organic Remains of the Lower Helderberg Group and the Oriskany Sandstone. 1855–1859. Part II: Plates*. Albany: Printed by C. Van Benthuyssen, 1861, 120 pls. [First title page] *Natural History of New York. Published by the Authority of the State. Charles Van Benthuyssen. Printer. Albany. [Second title page] Geological Survey of New-York.***

Plate numbers are as follows: 1, 2(in two parts), 2A, 3, 3A–B, 4–7, 7A, 8–10, 10A, 11–28, 28A–B, 29–49, 49a, 50–72, 72A, 73–80, 80A, 81, 81a, 81B–C, 82, 82\*, 83, 83a–b, 84, 84A, 85–101, 101A, 102–103, 103A–B, 104–120.6. See **304, 325**.

White and Nicholson, 1878, p. 34.

Murray, 1884, p. 81, books item 13.

Murray, 1889, p. 78, books item 13.

Darton, 1896, p. 452.

Clarke, 1899, p. 437, books item 13.

Hovey, 1899, p. 150, books item 13.

Ellis, 1903, p. 284.

- 375. Hall, James. 1861. Descriptions of new species of fossils, from the Upper Helderberg, Hamilton and Chemung Groups, continued from page 109 of the *Fourteenth Annual Report of the Regents upon the***

***State Cabinet*; 84 pp. Albany: Printed by Charles Van Benthuyssen.**

Privately published by Hall. Tip-in indicates that the first twenty-four pages were published and distributed in August, and the remaining portion was published in September, according to the imprint at the bottom of each page. Intended for the Fifteenth Annual Report. This paper was briefly reviewed under Scientific Intelligence, II Geology, 2. *Contributions to Palæontology, The American Journal of Science and Arts* 1861, 2d ser., Vol. XXXII, No. 96 (November 1861), p. 430. See **228, 364, 384, 388**.

- 376. Hall, James. [1861] 1920. Letter (October 5, 1861) to His Excellency Alex. W. Randall, Governor; pp. 522–523. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.**

Hall wrote the governor of Wisconsin his version of misunderstandings prevalent in the Geological Survey and that he intended to leave as soon as he finished his work.

- 377. Hall, James. [1861] 1921. Letter (January 10, 1861) to Benjamin Silliman; p. 375. In John M. Clarke, *James Hall of Albany, Geologist and Palæontologist, 1811–1898*. Albany. 1921.**

Hall's letter to Silliman, editor of the *American Journal of Science*, told of his concern about the age of the Quebec rocks and the Hudson River group. See **705**.

- 378. Hall, James. [1861] 1921. Letter (January 26, 1861) to Edward Hitchcock; pp. 375–376. In John M. Clarke, *James Hall of Albany, Geologist and Palæontologist, 1811–1898*. Albany. 1921.**

This letter to Hitchcock, President of Amherst, was about the dispute regarding the age of the shales of the Quebec Group at Georgia, Vermont—is it based on stratigraphic or palæontological evidence?

- 379. Hall, James. [1861] 1921. Letter (October 15, 1861) to Joachim Barrande; pp. 372–375. In John M. Clarke, *James Hall of Albany, Geologist and Palæontologist, 1811–1898*. Albany. 1921.**

Hall's letter to Barrande, paleontologist in Bohemia, discussed the "primordial fauna" and the reasons for changing his opinions about their age, whether of Hudson River group or Quebec age. See **373, 407, 705**.

- 380. Hall, James. [1861] 1964. Letter (October 18, 1861) to Sterry Hunt; p. 731. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.**



Hall contended that Emmons's sections were not possible. Hunt was a chemist in the Canadian Geological Survey.

381. Hall, James. [1861] 1921. Letter (November 23, 1861) to Sir William E. Logan; pp. 376–377. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall explained his views on the age of the Hudson River group and felt that his “palaeontological views” did not agree with Logan’s stratigraphical conclusions. Logan was head of the Canadian Geological Survey. See 705.

382. Hall, James. [1861] 1964. Letter (December 5, 1861) to J. P. Lesley; pp. 729–731. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.

This letter gave a detailed explanation of Hall’s views about the Taconic System and the Hudson River group to Lesley of the Pennsylvania Geological Survey. See 80, 705.

383. Hall, James. [1861] 1921. Letter (December 16, 1861) to [Prof.] Agassiz; pp. 377–378. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall again was trying to justify his views on the conflict about the age of the Hudson River group to Prof. Agassiz of Harvard University. See 80, 705.

384. Hall, James. 1861–1862. Descriptions of new species of fossils, from the Upper Helderberg, Hamilton and Chemung Groups, continued from page 109 of the Fourteenth Annual Report of the Regents of the University upon the State Cabinet; pp. 83–127, 167–170, 1 pl. From the Fifteenth Report on the State Cabinet. Albany: Printed by Charles Van Benthuyzen.

In this version pages 83–127 are the same as pages 113–155 of the Documentary Edition, and pages 167–170 are the same as pages 195–198 in the Documentary Edition. Plate 1 and its explanation are the same in both editions. Page 130 contains the explanation for Plate 2 which does not accompany this edition. Date printed on this version is “1861.-2”. See 228, 364, 375, 388.

385. Hall, James. 1862. Letter from James Hall, Esq., on the Potsdam Sandstone and Hudson River Rocks in Vermont. To the Editors of *The American Journal of Science and Arts*. *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 97 (January 1862), pp. 106–107.

The letter was written December 19, 1861. See 562.

Royal Society of London, 1869, vol. III, p. 137, item 38.

Murray, 1884, p. 88, scientific papers item 106.

Murray, 1889, p. 86, scientific papers item 106.

Darton, 1896, p. 452.

Clarke, 1899, p. 443, scientific papers item 106.

Nickles, 1923, p. 444, item 62p.

386. Hall, James. 1862. Prof. Hall’s rejoinder to the criticisms of this *Journal* on his *Contributions to Palaeontology*. Letter to the Editors of *The American Journal of Science and Arts*. *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99 (May 1862), pp. 127–132.

Hall’s letter is regarding the review of *The Thirteenth Annual Report of the Regents upon the State Cabinet of Natural History* in *The American Journal of Science and Arts*, 1861, Vol. XXXI, March 1861, p. 292. Hall dissented from the tone of the review, specifically regarding the date of publication and changes Hall made during the process of publication. The Editors of the *Journal* have made comments and notes following Hall’s letter. The separate is paginated as in original article.

Murray, 1884, p. 88, scientific papers item 107.

Murray, 1889, p. 86, scientific papers item 107.

Clarke, 1899, p. 443, scientific papers item 107.

Hovey, 1899, p. 158, scientific papers item 107.

Nickles, 1923, p. 444, item 62q.

387. Hall, James. 1862. Letter from Professor James Hall, on certain fossils in the Red Sandrock of Highgate; p. 374. In E. Billings, “On Prof. J. Hall’s claim of Priority in the determination of the Age of the Red Sandrock Series of Vermont.” *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99 (May 1862), pp. 370–377.

This letter, dated September 17<sup>th</sup>, 1847, is a copy of a letter from Hall first published in Adams, 1847, *Third Annual Report on the Geology of Vermont*, p. 31. This same letter was republished in an article by Billings in *The Canadian Naturalist*, 1872, n.s., Vol. VI, No. 3, pp. 321–322. See 87, 355, 562, 581.

Darton, 1896, p. 452. Cited as: On the Potsdam sandstone and Hudson River rocks in Vermont.

388. Hall, James. 1862. Appendix D. Contributions to Palaeontology; Comprising Descriptions of New Species of Fossils, from the Upper Helderberg, Hamilton and Chemung Groups; pp. 27–197, 11 pls., 34 text-figs. variously numbered. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. Albany: Printed by Charles Van Benthuyzen. State of New York. No. 116. In Senate, April 12, 1862. 8vo.

Page 28 indicates that pages 29–112 were published in advance as indicated on the pages: pp. 29–53, August 1861; pp. 54–112, September 1861. See also Hall's note on page 197, which indicates that through page 112 was published in August and September 1861, the crinoid article (pp. 115–149) in July 1862, and the entire report was expected to be published in October 1862. Imprint date is 1862. Some title pages may read "Made to the Legislature" in place of "State of New York. No. 116. In Senate." Pages 29–80 do not have a separate title and contain Gastropoda and Cephalopoda. Titled articles and notes are cited as separate entries below. Issued in hard and soft covers. E. Billings complained about Hall's dates of publication in "Remarks on Prof. Hall's recent publication entitled *Contributions to Paleontology*" in *The Canadian Naturalist*, Vol. VII, No. 5 (October 1862), pp. 389–393. *The American Journal of Science and Arts*, 1861, Vol. XXXIII, No. 96 (November 1861), p. 430, reported the publication of this book, with comments about dates of publication. See **228, 364, 375, 384.**

White and Nicholson, 1878, p. 33. Cited as 1861.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall items 73, 74, 75.

Ellis, 1903, p. 285. Cited as 1861.

Nickles, 1923, p. 444, item 62.

- 389. Hall, James. 1862. Supplementary Note to Pages 95 and 96 of the Thirteenth Annual Report of the Regents on the State Cabinet; p. 81. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. Albany: Printed by Charles Van Benthuyssen. State of New York. No. 116. In Senate, April 12, 1862. 8 vo.**

See **342, 346.**

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 69. Cited as: Notes and observations upon the fossils of the goniatite limestone in the Marcellus shale of the Hamilton group of western New York.

Nickles, 1923, p. 444, item 62a. Cited as: [On the position of the goniatite beds of Rockford, Ind.].

- 390. Hall, James. 1862. Preliminary Notice of the Trilobites and Other Crustacea of the Upper Helderberg, Hamilton and Chemung Groups; pp. 82–112. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No.**

- 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyssen.**

Prepublication in September 1861, is indicated on title page of article. See **318, 330, 355.**

White and Nicholson, 1878, p. 33. Cited as 1861.

Hovey, 1899, p. 159, scientific papers item 110.

Royal Society of London, 1902, vol. XII, p. 305, item 75.

Ellis, 1903, p. 285.

Nickles, 1923, p. 444, included in James Hall item 62b.

- 391. Hall, James. 1862. Note [about species omitted from the trilobites and other Crustacea of the Upper Helderberg, Hamilton and Chemung Groups]; p. 113. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyssen.**

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 75.

Nickles, 1923, p. 444, included in James Hall item 62b.

- 392. Hall, James. 1862. Supplementary Note to the Thirteenth Report of the Regents on the State Cabinet [about *Olenellus*]; p. 114. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyssen.**

See **323, 343, 355, 356.**

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 70. Cited as: Note upon the trilobites of the shales of the Hudson River group [Quebec group] in the town of Georgia, Vermont.

- 393. Hall, James. 1862. Preliminary Notice of Some of the Species of Crinoidea Known in the Upper Helderberg and Hamilton Groups of New-York; pp. 115–153, 1 pl., 6 figs. variously numbered. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April**

12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.

Also published as a separate; see 394.

White and Nicholson, 1878, p. 33. Cited as 1861.

Murray, 1889, p. 87, scientific papers item 111.

Hovey, 1899, p. 159, scientific papers item 111.

Royal Society of London, 1902, vol. XII, p. 305, item 76.

Ellis, 1903, p. 286.

Nickles, 1923, p. 444, item 62c.

394. Hall, James. 1862. Preliminary notice of some species of Crinoidea known in the Upper Helderberg and Hamilton Groups of New-York; pp. 115–152, 4 figs.

Separate is cited on first and last pages as published in July 1862. We have not seen a copy of the 15th Annual Report that contains the pagination cited in Murray (1884). See 393.

395. Hall, James. 1862. Observations upon a New Genus of Brachiopoda; pp. 154–155, 2 figs. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.

See 564.

White and Nicholson, 1878, p. 33. Cited as 1861.

Murray, 1889, p. 87, scientific papers item 112.

Hovey, 1899, p. 159, scientific papers item 112.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 71. Cited as: Observations upon [*Zygospora*], a new genus of Brachiopoda, [and its relations to *Atrypa*].

Ellis, 1903, p. 286.

Nickles, 1923, p. 444, item 62d.

396. Hall, James. 1862. Explanation of Plates; pp. 156–175. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.

397. Hall, James. 1862. Notice [about publication dates of *Merista* and *Camarium*]; pp. 176–177. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of*

*the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.

Nickles, 1923, p. 444, included in James Hall item 62e.

398. Hall, James. 1862. Observations on the Genera *Athyris* (= *Spirigera*), *Merista*, *Camarium* and *Meristella*; pp. 178–181, 15 figs. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.

This was also published in the Thirteenth Annual Report (1860), pp. 73–75. See 339, 505, 526.

White and Nicholson, 1878, p. 33. Cited as 1861.

Hovey, 1899, p. 159, scientific papers item 113.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 67.

Ellis, 1903, p. 286.

Nickles, 1923, p. 444, included in James Hall item 62e.

399. Hall, James. 1862. Descriptions of New Species of Fossils, Chiefly from the Hamilton Group of Western New-York; pp. 181–191, 11 figs. variously numbered. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.

See 340.

White and Nicholson, 1878, p. 33. Cited as 1861.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 68.

Nickles, 1923, p. 444, item 62f.

400. Hall, James. 1862. Note on the Genus *Cypricardites*; pp. 192–194, pl. 11. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and*



***Antiquarian Collection Annexed Thereto. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.***

White and Nicholson, 1878, p. 33; list plate 11 of Conrad's illustrations as a separate item. Cited as 1861.

Hovey, 1899, p. 159, scientific papers item 114.

Royal Society of London, 1902, vol. XII, p. 305, item 78.

Ellis, 1903, p. 286.

Nickles, 1923, p. 444, item 62g.

401. Hall, James. 1862. Notes and Corrections [for the Twelfth, Thirteenth, Fourteenth and Fifteenth Reports on the State Cabinet]; pp. 195–197. In Appendix D. Contributions to Palæontology. In *Fifteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto. Made to the Legislature, April 12, 1862. State of New York. No. 116. In Senate, April 12, 1862. Albany: Printed by Charles Van Benthuyesen.*

White and Nicholson, 1878, p. 33. Cited as 1861.

Hovey, 1899, p. 159, scientific papers item 115.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall items 69, 70, 71.

Ellis, 1903, p. 286.

Nickles, 1923, p. 444, item 62i.

402. Hall, James, and J[osiah] D[wight] Whitney. 1862. *Report on the Geological Survey of the State of Wisconsin. Volume 1. 455 pp., 9 text-figs., 16 figs. of groups of fossils, 2 pls. Printed by Authority of the Legislature of Wisconsin. January 1862. [Albany, New York].*

Hall wrote the Address to His Excellency The Hon. Alexander W. Randall, Governor of the State of Wisconsin (pp. v–vii), Chapter I, Chapter IX, and Notes. A short favorable review of this report is in *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99, (May 1862), p. 453. E. Billings wrote very similar but not identical notes about this book, complaining of Hall's practice of "antedating his publications," in two journals — *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99, (May 1862), pp. 420–421, and *The Canadian Naturalist*, Vol. VII, (April 1862), pp. 156–158.

Murray, 1884, p. 81, books item 14.

Murray, 1889, p. 78, books item 14.

Darton, 1896, p. 454.

Clarke, 1899, p. 437, books item 14.

Nickles, 1923, p. 444, item 62j; Whitney item 62c.

403. Hall, James. 1862. Chapter I. Physical Geography and General Geology; pp. 1–72, text-figs. 1–9,

"Fossil" text-figs. 1–16, 13. In James Hall and J. D. Whitney, *Report on the Geological Survey of the State of Wisconsin. Vol. 1. Printed by Authority of the Legislature of Wisconsin. January 1862. [Albany, New York].*

Murray, 1884, p. 81, included in books item 14.

Murray, 1889, p. 78, included in books item 14.

Clarke, 1899, p. 437, included in books item 14.

404. Hall, James. 1862. Chapter IX. Palæontology of Wisconsin; Remarks upon the Condition of the Fossils in the Rocks of Several Formations. Catalogue of Fossils Known in the Palæozoic Formations of Wisconsin, with Observations upon some of the Known Species, and Descriptions of Several New Forms; pp. 425–442, 2 text-figs. In James Hall and J. D. Whitney, *Report on the Geological Survey of the State of Wisconsin. Vol. 1. Printed by Authority of the Legislature of Wisconsin. January 1862. [Albany, New York].*

See 405, 535, 567–570.

White and Nicholson, 1878, p. 34.

Murray, 1884, p. 81, included in books item 14.

Murray, 1889, p. 78, included in books item 14.

Clarke, 1899, p. 437, included in books item 14.

Hovey, 1899, p. 150, included in books item 14.

Nickles, 1923, p. 444, item 62k.

405. Hall, James. 1862. Notes: Note on the Hudson-River Group; pp. 443–445. In James Hall and J. D. Whitney, *Report on the Geological Survey of the State of Wisconsin. Vol. 1. Printed by Authority of the Legislature of Wisconsin. January 1862. [Albany, New York].*

Clarke, 1899, p. 437, included in books item 14.

406. Hall, James. 1862. Notes: Note upon the Niagara Limestone; pp. 446–448. In James Hall and J. D. Whitney, *Report on the Geological Survey of the State of Wisconsin. Vol. 1. Printed by Authority of the Legislature of Wisconsin. January 1862. [Albany, New York].*

Clarke, 1899, p. 437, included in books item 14.

407. Hall, James. 1862. Lettre de M. Le professeur James Hall [in French]; pp. 725–734. In J. Barrande, Assentiment du professeur James Hall et autres documents nouveaux, au sujet de la faune primordiale en Amérique. *Bulletin de la Société Géologique de France*, 2<sup>e</sup> série, tome xix, 1861 a 1862, pp. 721–739.

The letter is dated Avril 1862. See 369–373.

Nicholson, in White and Nicholson, 1879, p. 150. Listed under Barrande.

Darton, 1896, p. 452. Cited as: Letter on the primordial faunæ and Point Levis Fossils; also under Letter on the primordial of America.

Nickles, 1923, p. 444, item 62l.

408. Hall, James. 1862. On the Catskill Group of New York. A Letter addressed to Principal Dawson, dated Albany, October, 1862. *The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal*, Vol. VII, No. 5 (October 1862), pp. 377–381.

Royal Society of London, 1869, vol. III, p. 137, item 36.

Darton, 1896, p. 452.

Nickles, 1923, p. 444, item 62m.

409. Hall, James. 1862. On a new Crustacean from the Potsdam sandstone. A Letter addressed to Principal Dawson, dated Albany, 31st October, 1862. *The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal*, Vol. VII, No. 6 (December 1862), pp. 443–445, 1 unnumbered figure.

See 330, 562.

Royal Society of London, 1869, vol. III, p. 137, item 37.

White and Nicholson, 1878, pp. 35, 104.

Murray, 1884, p. 88, scientific papers item 116.

Murray, 1889, p. 87, scientific papers item 116.

Hovey, 1899, p. 159, scientific papers item 116.

Nickles, 1923, p. 444, item 62n.

410. Hall, James. 1862. "On the Formation of Mountain Chains." *Proceedings of the American Academy of Arts and Sciences*. Four hundred and ninety-fifth meeting, May 14, 1861. Vol. V, pp. 240–241.

The notes for the Monthly Meeting say: "Prof. Hall made a communication upon some points in North American geology, in which he proposed and illustrated some novel ideas in respect to the formation of mountain-chains. These views were discussed with Prof. Agassiz, Rogers and others." See 251.

411. Hall, James. [1862] 1964. Letter (May 24, 1862) to [J. D.] Dana; p. 354. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.

Hall's letter to Dana of Yale University explained that his motive "to engage in the Wisconsin Survey was to enable Whitney to bring out his Report on the Lead Region."

412. Hall, James. 1863. [Letter, December 23, 1862] To His Excellency Edward Salomon, Governor of Wisconsin; pp. 246–251. *State of Wisconsin. Journal of the Senate. Annual Session*. By

**Authority. Madison, Wisconsin. Atwood & Rublee, State Printers.**

This letter from Albany stated the condition of the work under Hall's direction, and of the progress made since his last annual statement. It contains the appended letters from many United States geologists in support of the Wisconsin Geological Survey, and of Hall's work in Wisconsin. It was presented to the Senate by Gov. Salomon on February 10, 1863.

413. Hall, James. 1863. Appendix: "A" and "B"; pp. 251–256. *State of Wisconsin. Journal of the Senate. Annual Session*. By **Authority. Madison, Wisconsin. Atwood & Rublee, State Printers.**

"A" includes a letter, dated June 26<sup>th</sup>, 1862, to Hon. Henry L. Palmer, Chairman of the Committee on matters relating to the Geological Survey of Wisconsin. "B" contains a letter to his Excellency, Alexander W. Randall, Governor of the State of Wisconsin, dated March 5, 1861, from Madison, Wisconsin, regarding the final report of the 1860 Wisconsin Geological Survey Report.

414. Hall, James. 1863. [Letter] *State of Wisconsin; pp. 177–182. Journal of the Senate. Fifteenth Annual Session.*

Includes a letter in support of Hall's retaining the collections and publishing on them.

415. Hall, James. 1863. Art. XII. Notice of some New Species of Fossils from a Locality of the Niagara Group, in Indiana; with a List of Identified Species from the same Place; 34 pp. [Abstract from a paper read before the Albany Institute, April 29, 1862.] [Published May 2, 1863.]

This separate is a preprint of an article in *Proceedings of the Albany Institute, Transactions of the Albany Institute*, 1864, Vol. IV, pp. 195–228, 301, with its own pagination. Hall (1879, p. 99) also cites this publication as "May 2d, 1863." One copy (MHN) has penciled in on cover, apparently in Stuart Weller's handwriting: "Transactions of Albany Institute, Vol. IV—pp. 195–228, 1864. Adv. sheet. p. 1–34. May 2—1863." This copy is bound together with Hall, 1876—The Fauna of the Niagara Group, in Central Indiana, and Hall, 1879—Descriptions of New Species of Fossils, from the Niagara Formation at Waldron, Indiana. Copies are also in the Rominger Reprint Collection, University of Michigan, and the Springer Library, NMNH. Publication of this paper was noted in *The American Journal of Science and Arts*, 2nd. ser., Vol. XXXVI, No. 106, July 1863, p. 127. See 441, 680, 732.

White and Nicholson, 1878, pp. 34, 37, both cited as 1862.

416. Hall, James. 1863. Appendix D. Contributions to Palæontology; Principally from Investigations Made During the Years 1861 & 1862; pp. 15–226,

pls. I–XI, numerous figs. variously numbered. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. State of New York. No. 115. In Senate, April 16, 1863. Albany: Comstock & Cassidy, Printers.

Contains the seven articles cited as separate entries below. This was supposed to be Appendix D of the Sixteenth Annual Report, but was apparently issued separately. See 417–423.

Murray, 1884, pp. 88–89, scientific papers items 117–128.

Murray, 1889, pp. 87–88, scientific papers items 117–128.

Clarke, 1899, p. 444, scientific papers items 117–128.

Ellis, 1903, p. 286.

417. Hall, James. 1863. 1. Descriptions of New Species of Brachiopoda, from the Upper Helderberg, Hamilton and Chemung Groups; pp. 19–37. In *Contributions to Palæontology*. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. State of New York. No. 115. In Senate, April 16, 1863. Albany: Comstock & Cassidy, Printers.

White and Nicholson, 1878, p. 34.

Murray, 1884, p. 88, scientific papers item 117.

Murray, 1889, p. 87, scientific papers item 117.

Clarke, 1899, p. 444, scientific papers item 117.

Hovey, 1899, p. 159, scientific papers item 117.

Royal Society of London, 1902, vol. XII, p. 305, item 79.

Ellis, 1903, p. 286.

Nickles, 1923, p. 444, item 63.

418. Hall, James. 1863. 2. Observations upon Some of the Brachiopoda, with Reference to the Characters of the Genera *Cryptonella*, *Centronella*, *Meristella*, *Trematospira*, *Rhynchospira*, *Retzia*, *Leptocœlia* and Allied Forms; pp. 38–59, figs. 1–36 and 1–17. In *Contributions to Palæontology*. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. State of New York. No. 115. In Senate, April 16, 1863. Albany: Comstock & Cassidy, Printers.

On page 38, Hall notes that the Albany Institute version of this paper was published in February 1863. Vol. IV, 125–148. See 510, 564.

White and Nicholson, 1878, p. 34.

Murray, 1884, p. 89, scientific papers item 118.

Murray, 1889, p. 87, scientific papers item 118.

Clarke, 1899, p. 444, scientific papers item 118.

Hovey, 1899, p. 159, scientific papers item 118.

Royal Society of London, 1902, vol. XII, p. 305, items 28, 29, 41.

Ellis, 1903, p. 286.

Nickles, 1923, p. 444, item 63a.

419. Hall, James. 1863. Observations upon some of the Brachiopoda, with reference to the genera *Cryptonella*, *Centronella*, *Meristella*, and allied forms. *The American Journal of Science and Arts*, 2d ser., Vol. XXXV, No. 105, May 1863, pp. 396–406, 26 figs.; Vol. XXXVI, July 1863, pp. 11–15.

Abstract of a paper read before the Albany Institute, February 3d, 1863; *Transactions of the Albany Institute*, Vol. IV, pp. 125–148. See 420, 463, 510, 564.

Royal Society of London, 1869, vol. III, p. 136, item 28.

Royal Society of London, 1877, vol. VII, p. 891, item 41.

White and Nicholson, 1878, pp. 35.

Murray, 1884, p. 89, included in scientific papers item 129.

Murray, 1889, p. 88, included in scientific papers item 129.

Clarke, 1899, p. 444, included in scientific papers item 129.

Hovey, 1899, p. 160, included in scientific papers item 129.

Nickles, 1923, p. 445, included in James Hall item 63l.

420. Hall, James. 1863. Observations upon some of the Brachiopoda, with references to the genera *Cryptonella*, *Centronella*, *Meristella*, and allied forms; 24 pp., figs. 12–37.

This separate of the preceding citation has a February 23, 1863, publication date cited on page 23 and a Supplementary Note, page 24 with a date: Albany, February 25, 1863. This appears to be a prepublication of articles published in *The American Journal of Science and Arts* and in the *Transactions of the Albany Institute*, Vol. IV, 1864. See 419, 510, 564.

421. Hall, James. 1863. On a new Crustacean from the Potsdam Sandstone. *The American Journal of Science and Arts*, 2d ser., Vol. XXXV, May 1863, No. 104 (March 1863), p. 295.

See 330, 562.

White and Nicholson, 1878, pp. 35, 104.

Nickles, 1923, p. 444, included in James Hall item 62n.

422. Hall, James. 1863. Note on the genus *Leptocœlia*; pp. 59–61, 1 unnumbered fig. In *Contributions to Palæontology*. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.



- White and Nicholson, 1878, p. 34.  
 Murray, 1884, p. 89, included in scientific papers item 118.  
 Murray, 1889, p. 87, included in scientific papers item 118.  
 Clarke, 1899, p. 444, included in scientific papers item 118.  
 Hovey, 1899, p. 159, included in scientific papers item 118.  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 444, item 63b.
- 423. Hall, James. 1863. 3. Observations upon the Genus *Streptorhynchus*, with Remarks upon some Species heretofore referred to the Genera *Strophomena* and *Orthis*; pp. 61–66, 6 figs. In Contributions to Palaeontology. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.**  
 White and Nicholson, 1878, p. 35.  
 Murray, 1884, p. 89, scientific papers item 119.  
 Murray, 1889, p. 87, scientific papers item 119.  
 Clarke, 1899, p. 444, scientific papers item 119.  
 Hovey, 1899, p. 159, scientific papers item 119.  
 Royal Society of London, 1902, vol. XII, p. 305, item 80.  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 444, item 63c.
- 424. Hall, James. 1863. 4. Note on the Geological Range of the Genus *Receptaculites* in American Palaeozoic Strata; pp. 67–69. In Contributions to Palaeontology. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.**  
 White and Nicholson, 1878, p. 35.  
 Murray, 1884, p. 89, scientific papers item 120.  
 Murray, 1889, p. 87, scientific papers item 120.  
 Clarke, 1899, p. 444, scientific papers item 120.  
 Hovey, 1899, p. 159, scientific papers item 120.  
 Royal Society of London, 1902, vol. XII, pp. 305–306, item 81.  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 444, item 63d.
- 425. Hall, James. 1863. 5. Note on the Occurrence of *Astylospongia* in the Lower Helderberg Rocks; pp. 69–70. In Contributions to Palaeontology. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.**  
 White and Nicholson, 1878, p. 35.  
 Murray, 1884, p. 89, scientific papers item 121.  
 Murray, 1889, p. 87, scientific papers item 121.  
 Clarke, 1899, p. 444, scientific papers item 121.  
 Hovey, 1899, p. 159, scientific papers item 121.  
 Royal Society of London, 1902, vol. XII, p. 306, item 82.  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 444, item 63e.
- 426. Hall, James. 1863. 6. On the Occurrence of Crustacean Remains of the Genera *Ceratiocaris* and *Dithyrocaris*, with a Notice of Some New Species from the Hamilton Group and Genesee Slate [with a plate]; pp. 71–75, pl. I. In Contributions to Palaeontology. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.**  
 White and Nicholson, 1878, p. 35.  
 Murray, 1884, p. 89, scientific papers item 122.  
 Murray, 1889, p. 87, scientific papers item 122.  
 Clarke, 1899, p. 444, scientific papers item 122.  
 Hovey, 1899, p. 159, scientific papers item 122.  
 Royal Society of London, 1902, vol. XII, p. 306, item 83. Title includes [*C. armatus*, *C. longicaudus*, *C.? punctatus*; *D. neptuni*, nn. spp.].  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 445, item 63f.
- 427. Hall, James. 1863. 7. Observations upon Some Spiral-Growing Fucoidal Remains of the Palaeozoic Rocks of New-York; pp. 76–83, pl. II, and 4 text-figs. In Contributions to Palaeontology. In *Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto*. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.**  
 White and Nicholson, 1878, p. 35.  
 Murray, 1884, p. 89, scientific papers item 123.  
 Murray, 1889, p. 87, scientific papers item 123.  
 Clarke, 1899, p. 444, scientific papers item 123.  
 Hovey, 1899, p. 159, scientific papers item 123.  
 Royal Society of London, 1902, vol. XII, p. 306, item 84.  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 445, item 63g.

428. Hall, James. 1863. 8. Observations upon the Genera *Uphantania* and *Dictyophyton*; with notices of some species from the Chemung Group of New-York, and the Waverly Sandstone of Ohio; pp. 84–91, pls. III–VA, 1 unnumbered text-figure. In *Contributions to Palaeontology. In Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.*

White and Nicholson, 1878, p. 35.

Murray, 1884, p. 89, scientific papers item 124.

Murray, 1889, p. 87, scientific papers item 124.

Clarke, 1899, p. 444, scientific papers item 124.

Hovey, 1899, p. 159, scientific papers item 124.

Royal Society of London, 1902, vol. XII, p. 306, item 85.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, item 63h.

429. Hall, James. 1863. 9. The Flora of the Devonian period; pp. 92–117, 10 figs. In *Contributions to Palaeontology. In Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.*

This entry includes part of a paper by J. W. Dawson, "On the Flora of the Devonian Period in Northeastern America," pp. 97–107.

Murray, 1884, p. 89, scientific papers item 125.

Murray, 1889, p. 87, scientific papers item 125.

Clarke, 1899, p. 444, scientific papers item 125.

Hovey, 1899, p. 159, scientific papers item 125.

Royal Society of London, 1902, vol. XII, p. 306, item 86.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, item 63i.

430. Hall, James. 1863. 10. Preliminary Notice of the Fauna of the Potsdam Sandstone; with Remarks upon the Previously Known Species of Fossils, and Descriptions of some new ones, from the sandstone of the Upper Mississippi Valley; pp. 119–209, pls. VI–XI. In *Contributions to Palaeontology. In Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto. Made to the Legislature, April 15,*

*1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.*

Plates are numbered in Arabic and plate captions in Roman numerals. This article is apparently the one mentioned in *Transactions of the Albany Institute*, 1867, Vol. V. See 562.

White and Nicholson, 1878, p. 35, also includes the following three citations.

Murray, 1884, p. 89, scientific papers item 126.

Murray, 1889, p. 88, scientific papers item 126.

Darton, 1896, p. 452.

Clarke, 1899, p. 444, scientific papers item 126.

Hovey, 1899, pp. 159–160, scientific papers item 126.

Royal Society of London, 1902, vol. XII, p. 305, item 46.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 63j.

431. [Hall, James]. [1863]. Crustacea; pp. 137–207 (top), 8–23 (bottom), pls. VI–XI. [Extracted from *Contributions to Palaeontology. In Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.*]

This hardcover separate in the Crerar Library, University of Chicago, although filed under Hall as author, has neither an author listed nor any publication data, and is titled "Crustacea." The headings on some pages are "Contributions to Palaeontology, Senate No. 115," and "Sixteenth Report on the Cabinet of Natural History." It is bound with an excerpt from the Twentieth Report on the State Cabinet, also headed "Crustacea." See 562.

432. Hall, James. 1863. Supplementary Note on the Potsdam Sandstone; pp. 210–220. In *Contributions to Palaeontology. In Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.*

White and Nicholson, 1878, p. 35, included with preceding item.

Murray, 1884, p. 89, scientific papers item 127.

Murray, 1889, p. 88, scientific papers item 127.

Darton, 1896, p. 452.

Clarke, 1899, p. 444, scientific papers item 127.

Hovey, 1899, p. 160, scientific papers item 127.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 46.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 63j.

433. Hall, James. 1863. Supplementary Note on Some Fossils of the Lower Beds of the Potsdam Sandstone of the Upper Mississippi Valley; pp. 221–222, pl. 5A. In *Contributions to Palaeontology. In Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.*

See 562.

White and Nicholson, 1878, p. 35, included with preceding two items.

Clarke, 1899, p. 444, included in scientific papers item 127.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 46.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 63j.

434. Hall, James. 1863. Notes and corrections [on Genus *Retzia* and some *Lichas trilobites*]; pp. 223–226, pl. V. In *Contributions to Palaeontology. In Sixteenth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Antiquarian and Historical Collection Annexed Thereto. Made to the Legislature, April 15, 1863. Albany: Comstock & Cassidy, Printers. State of New York. No. 115. In Senate, April 16, 1863.*

White and Nicholson, 1878, p. 35, included with preceding three items.

Murray, 1884, p. 89, scientific papers item 128.

Murray, 1889, p. 88, scientific papers item 128.

Clarke, 1899, p. 444, scientific papers item 128.

Hovey, 1899, p. 160, scientific papers item 128.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall items 46, 75, 79, 81, 82, 83, 86.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, item 63k.

435. Hall, James. 1863. Illustrations of American Palaeozoic life. In James D. Dana, *Manual of Geology: Treating of the Principles of the Science with Special Reference to American Geological History, for the Use of Colleges, Academies, and Schools of Science. Philadelphia: Published by Theodore Bliss & Co. London: Trübner & Co.*

On page viii of the Preface, Dana wrote that “The illustrations of American Palaeozoic life have been largely copied from the Reports of Professor Hall.” There are no other acknowledgments of Hall in the book, nor are any of the illustrations identified as Hall’s. In the copy from the Crerar Library, University of Chicago, a handwritten note, obviously by James Hall, says “while abusing him in the *Am. Journal of Science*.”

436. Hall, James. No date [1863]. [Fight with Billings]; pp. 227–228. *Contributions to Palaeontology. Sixteenth Report of the Cabinet of Natural History.*

The James Hall Papers, New York State Archives (box 37, folder 1322), contain this entry with the penciled number, #116? No pages as cited above occur in the copy of the Sixteenth Report available to us. Note that more than once, articles Hall intended for publication were delayed, although Hall may have circulated preprints. It is not clear, however, whether this paper was ever circulated.

437. Hall, James. 1863. Preliminary notice of some species of Crinoidea from the Waverly Sandstone Series of Summit County, Ohio, supposed to be the age of the Chemung Group of New-York; 11 pp. Albany: Comstock & Cassidy, Printers.

Published as pages 50–60 in the Seventeenth Annual Report. This separate and the Seventeenth Annual report indicate the publication date as November 11, 1863. See 438.

Ellis, 1903, p. 286.

438. Hall, James. 1864. Preliminary Notice of Some Species of Crinoidea from the Waverly Sandstone Series of Summit County, Ohio, supposed to be of the age of the Chemung group of New-York; pp. 50–60. In *Seventeenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto. Made to the Legislature April 4<sup>th</sup>, 1864. State of New York. No. 189. In Assembly, April 4, 1864. Albany: Comstock & Cassidy, Printers.*

Title page of paper indicates original publication was November 11, 1863. An appendix G listed in the Contents of the Appendix contains 10 titles by Hall that were apparently not published in the Seventeenth Annual Report. Also published in 1875 in *Geological Survey of Ohio*. See 437, 549, 557, 676, 678, 787, 852.

White and Nicholson, 1878, p. 35.

Murray, 1884, p. 89, scientific papers item 130.

Murray, 1889, p. 88, scientific papers item 130.

Clarke, 1899, p. 444, scientific papers item 130. Cited as 1863.

Hovey, 1899, p. 160, scientific papers item 130.

Royal Society of London, 1902, vol. XII, p. 306, item 87.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, item 64.

439. Hall, James. 1864. Description of New Species of Fossils from the Carboniferous Limestones of Indiana and Illinois. *Transactions of the Albany Institute. Vol. IV. 1858–1864, pp. 1–36. Albany: J. Munsell.*



Read before the meeting of November 27<sup>th</sup>, 1856. The exact date of the separate of this paper is in doubt and could have been as early as 1857. The entire volume bears an 1858–1864 date, and pages 1–88 were apparently published in 1858. See **215, 230, 272, 439, 771, 796, 797.**

Royal Society of London, 1869, vol. III, p. 136, item 27. Cited as [1856].

White and Nicholson, 1878, p. 30.

Murray, 1884, p. 89, scientific papers item 131.

Murray, 1889, p. 88, scientific papers item 131.

Darton, 1896, p. 452.

Clarke, 1899, p. 445, scientific papers item 131.

Hovey, 1899, p. 160, scientific papers item 131.

Ellis, 1903, p. 285.

Nickles, 1923, p. 445, item 64c.

- 440. Hall, James. 1864. Observations upon some of the Brachiopoda, with reference to the genera *Cryptonella*, *Centronella*, *Meristella*, and allied forms; pp. 125–147, 37 figs. Supplementary Note; p. 148, fig. 38. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Read before the Albany Institute, February 3, 1863. The Supplementary Note is dated February 25, 1863. See **564.**

Royal Society of London, 1869, vol. III, p. 136, items 28, 29. Cited as [1863].

White and Nicholson, 1878, p. 35.

Murray, 1884, p. 89, scientific papers item 129.

Murray, 1889, p. 88, scientific papers item 129.

Clarke, 1899, p. 444, scientific papers item 129.

Hovey, 1899, p. 160, scientific papers item 129.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, item 63l.

- 441. Hall, James. 1864. Notice of some New Species of Fossils from a Locality of the Niagara Group, in Indiana; with a List of Identified Species from the same Place; pp. 195–228. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

This is an abstract from a paper read before the Albany Institute on April 29, 1862. Note: “This paper as read before the Institute was a discussion of the geographical distribution of species during the Niagara period, with descriptions given of new species from Wisconsin and Indiana.” A note on the separate in the Springer Library, NMNH, indicates that the separate of this paper was published May 2, 1863. It was also published in 1875 in the Twenty-Eighth Annual Report of the New York State Museum as “The Fauna of the Niagara Group, in Central Indiana.” Thirty-two lithographic Plates from this are in the 28<sup>th</sup> report, 1879. See also the notice of publication in *The American Journal of Science and Arts*, 1877, 3d ser., Vol. XIV, p. 494. See **150, 170, 176, 327, 335, 415, 460, 464, 465, 470, 517, 533–535, 567, 570, 679, 680, 730, 731, 733, 734, 736, 745, 767, 772, 781, 830.**

Royal Society of London, 1869, vol. III, p. 136, item 30. Cited as [1862].

White and Nicholson, 1878, pp. 34, 37. Date cited as 1862.

Murray, 1884, p. 89, scientific papers item 138.

Murray, 1889, p. 88, scientific papers item 138.

Clarke, 1899, p. 445, scientific papers item 138.

Hovey, 1899, p. 160, scientific papers item 138.

Ellis, 1903, pp. 286, 288.

Nickles, 1923, p. 445, item 64b.

- 442. Hall, James. 1864. Comments on the electro-magnetism experiments of Prof. J. Henry; p. 245. *Proceedings of the Albany Institute*. January 13, 1858. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall commented at this meeting, at which Henry was a special guest, that Hall had witnessed in 1832 what was thought to be the first establishment of the practicability of the magnetic telegraph by Henry, in the building in which they were presently meeting. Paraphrased by the Secretary, D. Murray. See **725, 743.**

- 443. Hall, James. 1864. Remarks on F. B. Meek's paper about the Permian system; pp. 247–248. *Proceedings of the Albany Institute*. March 2, 1858. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall said that the finding of Permian fossils in the Nebraska territory, as described in Meek's paper—read by Secretary David Murray—marked the first evidence of the Permian system on this continent. Paraphrased by the Secretary, D. Murray. See **268.**

- 444. Hall, James. 1864. Remarks about the burning of the library in Parliament House at Montreal; p. 253. *Proceedings of the Albany Institute*. April 27, 1858. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Paraphrased by the Secretary, D. Murray.

- 445. Hall, James. 1864. Request for an investigation about priority for claiming the discovery of the Permian system in America; pp. 258–259. *Proceedings of the Albany Institute*. October 18, 1858. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall felt he had been unjustly accused of claiming priority for discovery of the Permian system in America in his just-published Iowa report, and because of his remarks at the *Institute* meeting of March 2, 1858, following the reading of Meek's paper. Hall requested that a committee be appointed to investigate this claim, and such a committee was formed. On January 4, 1859, the Committee asked two questions: whether they are considering the date of the discovery or the date of the claim of discovery; and what is the date of the Iowa report. The first question was to be decided by the committee, and the date of the Iowa report was to be September 1858. Paraphrased by the Secretary, D. Murray. See **268.**

Page 258 appears to establish that the Iowa Report of 1858 was published before October 19, 1858, when Hall read a passage from it to the Albany Institute. Page 263 indicates that in a meeting on January 4, 1859, the date of the Iowa Report is to be considered as published in September 1858, which is the date of the note communicating the Report to the governor. This raises the question of whether Hall read from manuscript, galley, or published report on October 19, 1858. See 268, 641.

446. Hall, James. 1864. Remarks on distribution of economic geological products; p. 263. *Proceedings of the Albany Institute. January 4, 1859. Transactions of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

Hall briefly discussed the above topic. He also planned to make a geological chart of the United States for a future meeting. Paraphrased by the Secretary, D. Murray.

447. Hall, James. 1864. Description of a new genus *Brachiopoda*; p. 264. *Proceedings of the Albany Institute. February 1, 1859. Transactions of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

Hall described this new genus of a fossil from the Helderberg Mountains, showing how it differed from the genus with which it had been confounded. No name was given in the one-paragraph summary by the Secretary, D. Murray. See 564.

448. Hall, James. 1864. The economical products of geology; pp. 264–265. *Proceedings of the Albany Institute. February 1, 1859. Transactions of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

Hall spoke about building materials, pointing out the prevalence of the use of brown sandstone. He also had dressed specimens and told of their sources. Paraphrased by the Secretary, D. Murray.

449. Hall, James. 1864. The Genus *Eurypteris* [sic]; p. 280. *Proceedings of the Albany Institute. January 17, 1860. Transactions of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

Hall described this genus, showing specimens of various species and an engraving of a perfect specimen, and also told where they occur. Paraphrased by the Secretary, D. Murray. See 578.

Murray, 1884, p. 89, scientific papers item 132.

Murray, 1889, p. 88, scientific papers item 132.

Clarke, 1899, p. 445, scientific papers item 132.

Hovey, 1899, p. 160, scientific papers item 132.

450. Hall, James. 1864. The formation of mountain ranges; pp. 284–285. *Proceedings of the Albany Institute. April 3, 1860; April 17, 1860. Transactions*

*of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

Hall stated that his views on mountain building were first proposed by him ten years ago, and in 1857 in Montreal he had introduced and discussed similar ideas. He illustrated his talk with drawings, especially from the Appalachians, which Hall said can be applied to other mountain chains. Paraphrased by the Secretary, D. Murray. See 251.

Murray, 1884, p. 89, scientific papers item 133.

Murray, 1889, p. 88, scientific papers item 133.

Clarke, 1899, p. 445, scientific papers item 133.

Hovey, 1899, p. 160, scientific papers item 133.

451. Hall, James. 1864. Remarks on a talk by H. Homes about alleged proofs of the existence of man at a former geologic period; pp. 284, 287. *Proceedings of the Albany Institute. May 31, 1860. Transactions of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

Henry Homes had discussed the possibility of man existing at a very early age based on implements made from flint that were found at the sites. Hall felt the proof insufficient to establish that man rather than existing agencies, e.g., drift, had transported the implements to the sites. Paraphrased by the Secretary, D. Murray.

452. Hall, James. 1864. Some points of interest in the geology of Wisconsin; p. 288. *Proceedings of the Albany Institute. December 21, 1860. Transactions of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

Hall illustrated his talk with maps and fossil specimens, and described a new genus of Crinoidea—*Cheirocrinus*, from its resemblance to a human hand. Paraphrased by the Secretary, D. Murray.

Murray, 1884, p. 89, scientific papers item 134.

Murray, 1889, p. 88, scientific papers item 134.

Clarke, 1899, p. 445, scientific papers item 134.

Hovey, 1899, p. 160, scientific papers item 134.

453. Hall, James. 1864. Position of rocks in which this oil of Pennsylvania is found; p. 289. *Proceedings of the Albany Institute. January 29, 1861. Transactions of the Albany Institute. Vol. IV. 1858–1864. Albany: J. Munsell.*

After a talk by Prof. Murray about oil wells of Pennsylvania, Hall described how oil formed and why pressure forces it up. Paraphrased by the Secretary, D. Murray.

Murray, 1884, p. 89, scientific papers item 135. Cited as: Remarks on oil springs.

Murray, 1889, p. 88, scientific papers item 135. Cited as: Remarks on oil springs.

Clarke, 1899, p. 445, scientific papers item 135. Cited as: Remarks on oil springs, p. 303.

Hovey, 1899, p. 160, scientific papers item 135. Cited as: Remarks on oil springs.

454. **Hall, James. 1864. Account of the gas springs and deposits; p. 289. Proceedings of the Albany Institute. January 29, 1861. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall discussed where gas springs are found on the continent. Paraphrased by the Secretary, D. Murray.

455. **Hall, James. 1864. The dispute among geologists in regard to the Taconic system; p. 289. Proceedings of the Albany Institute. January 29, 1861. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall gave an account of the dispute among geologists about the Taconic system, especially the position of Canadian geologists. Paraphrased by the Secretary, D. Murray. See 80.

Murray, 1884, p. 89, scientific papers item 136.

Murray, 1889, p. 88, scientific papers item 136.

Clarke, 1899, p. 445, scientific papers item 136.

456. **Hall, James. 1864. Sketch of the Geology of the State, with special reference to the Taconic system; p. 292. Proceedings of the Albany Institute. April 17, 1861. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall discussed the succession of strata in New York and Canada, named the Taconic system by Dr. Emmons. He also promised to prepare a table of fossils in the successive systems, disproving the Taconic system. Paraphrased by the Secretary, D. Murray. See 80.

Murray, 1884, p. 89, scientific papers item 136.

Murray, 1889, p. 88, scientific papers item 136.

Clarke, 1899, p. 445, scientific papers item 136.

457. **Hall, James. 1864. Geology, with special reference to the proof of the Taconic system; p. 293. Proceedings of the Albany Institute. May 28, 1861. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall's discussion concluded that there was no evidence for those who advocated the Taconic system. Paraphrased by the Secretary, D. Murray. See 80.

Murray, 1884, p. 89, scientific papers item 136.

Murray, 1889, p. 88, scientific papers item 136.

Clarke, 1899, p. 445, scientific papers item 136.

Hovey, 1899, p. 160, scientific papers item 136.

458. **Hall, James. 1864. Geology and Geological Surveys of Wisconsin; pp. 295–296, 298. Proceedings of the Albany Institute. January 7, 1862. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall made general remarks about Wisconsin geology, and explicated his theory that lead in the Galena area was not of subterranean origin. Paraphrased by the Secretary, D. Murray.

Murray, 1884, p. 89, included in scientific papers item 134.

Murray, 1889, p. 88, included in scientific papers item 134.

Clarke, 1899, p. 445, included in scientific papers item 134.

Hovey, 1899, p. 160, included in scientific papers item 134.

459. **Hall, James. 1864. Expression of desire that the Institute publish papers read before it; p. 298. Proceedings of the Albany Institute. January 21, 1862. *Transactions of the Albany Institute*. Vol. IV. 1858–1863.**

Hall's paraphrased remarks were prepared by Secretary David Murray.

460. **Hall, James. 1864. The Niagara group of rocks; p. 301. Proceedings of the Albany Institute. April 29, 1862. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall discussed how different fossils of the same age are due to differences of the material in which they are embedded. Paraphrased by the Secretary, D. Murray. Published as "Notice of some New Species of Fossils from a Locality of the Niagara Group, in Indiana; with a List of Identified Species from the same Place," in *Transactions of the Albany Institute*, Vol. IV, 1864, pp. 195–228. See 441.

461. **Hall, James. 1864. A new Crustacean from the Potsdam sandstone; p. 301. Proceedings of the Albany Institute. April 29, 1862. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall described a new crustacean genus from the Potsdam sandstone, not yet named. Paraphrased by the Secretary, D. Murray. Published in 1867 in *Transactions of the Albany Institute*, Vol. V, pp. 93–195, as "Preliminary Notice of the Fauna of the Potsdam Sandstone; with remarks upon the previously known Species of Fossils and Descriptions of some New Ones, from the Sandstone of the Upper Mississippi Valley." See 330, 562.

Murray, 1884, p. 89, scientific papers item 137.

Murray, 1889, p. 88, scientific papers item 137.

Clarke, 1899, p. 445, scientific papers item 137.

Hovey, 1899, p. 160, scientific papers item 137.

462. **Hall, James. 1864. Statement about Canadian publications regarding his discoveries; p. 303. Proceedings of the Albany Institute. May 19, 1862. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.**

Hall asked that a letter from R. P. Whitfield be entered in the minutes. Whitfield certified that on a certain date, he and Hall had discussed the relation to *Obolus* of the fossil designated as *Obolus apolinus* by Dr. D. D. Owen, and its differences. Paraphrased by the Secretary, D. Murray.



463. Hall, James. 1864. Remarks about the *Spirifer* and *Terebratula* families, and the Catskill mountain group; 307–308. Proceedings of the Albany Institute. February 3, 1863. *Transactions of the Albany Institute*. Vol. IV. 1858–1864. Albany: J. Munsell.

Hall described a new genus (not named), and how new discoveries of fossils indicated that the Old Red Sandstone should now be a part of the Chemung group. Paraphrased by the Secretary, D. Murray. Published as “Observations upon some of the Brachiopoda, with reference to the genera *Cryptonella*, *Centronella*, *Meristella*, and allied forms,” in *Transactions of the Albany Institute*, Vol. IV, 1864, pp. 125–147. See 564.

Darton, 1896, p. 452. Cited as: Remarks on the restriction of the Catskill group in New York.

Nickles, 1923, p. 445, item 64a.

464. Hall, James. 1864. Account of some new or little known species of fossil from rocks of the age of the Niagara Group; pp. 1–47 + 1, pl. 1, text-figs. 1–6, 1–2, 7–10. Printed in advance, for the 18th Report of the New-York State Cabinet. Albany, December 26, 1864.

This paper intended for the Eighteenth Report was not published until the Twentieth Report. Hall’s citation of the Eighteenth Report for this paper (Twentieth Report, p. 347) must refer to this preprint. Copy in the Hall Collection, Indiana University, has “#67c” penciled on page 1. See next entry for an expanded version of this paper with same title. See 441, 465.

Murray, 1884, p. 81, books item 17.

Murray, 1889, p. 78, books item 17.

Clarke, 1899, p. 437, included in books item 17.

Ellis, 1903, p. 287.

465. Hall, James. 1864. XIX. Account of some new or little known species of fossils from rocks of the age of the Niagara Group; pp. 305–401, 14 unnumbered or non-sequentially numbered text-figs., pls. 10(1)–12(2), 12a(I), 13(4)–23(14). [Originally printed in advance for the 18th Report on the New-York State Cabinet]. Albany, December 26, 1864. 8vo.

Copy in the Hall Collection, Indiana University has “#67e” penciled on page 305. See 441, 464.

Hovey, 1899, p. 150, books item 17.

466. Hall, James. [1864] 1920. Letter (January 11, 1864) to Hon. Alexander W. Randall; pp. 524–526. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.

Hall was concerned that the second volume of his report for the Wisconsin Geology Survey had not been published, even though it had been submitted in December 1862. Hall wrote a long history of what he had done for the Survey to Randall, the Governor of Wisconsin. See 467.

467. Hall, James. [1864] 1920. Letter (January 20, 1864) to Julius T. Clark, Esq.; p. 526. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.

Hall’s letter to Clark (member of the Wisconsin Legislature?) expressed his concern about not having his second volume for the Wisconsin Geological Survey published and depriving the people of the state of what they should expect. See 466.

468. Hall, James, and Sir William E. Logan. 1864. On the Geology of Eastern New York. *The Canadian Naturalist and Geologist: A Bi-Monthly Journal of Natural Science, Conducted by A Committee of the Natural History Society of Montreal*, n.s., Vol. I, No. 5 (October 1864), pp. 368–369.

This appears to be a resumé of a conversation with Hall and Logan regarding their examination of the geology of eastern New York the preceding summer, signed by T. S. H. [T. Sterry Hunt?]. See 469.

Darton, 1896, p. 454.

Nickles, 1923, p. 445, item 64d.

469. Hall, James, and William E. Logan. 1865. On the Geology of Eastern New York. *The American Journal of Science and Arts*, 2d ser., Vol. XXXIX, May 1865, No. 115 (January 1865), pp. 96–97.

This is stated as taken from *The Canadian Naturalist*, and appears to be the same as the preceding article. Page proofs of this article are in the James Hall Papers, New York State Archives. See 468.

Darton, 1896, p. 454. Cited as 1864.

Nickles, 1923, p. 445, included in James Hall item 64d.

470. Hall, James. 1865. Review of: Account of some new or little known species of Fossils from rocks of the age of the Niagara Group. *The American Journal of Science and Arts*, 2d ser., Vol. XXXIX, pp. 353–355.

This paper is from the Eighteenth Report on the New York State Cabinet. Printed in advance of the Report and issued January 1865. See Hall 441.

Royal Society of London, 1877, vol. VII, p. 891, item 42.

471. Hall, James. 1865. *Graptolites of the Quebec Group*; 151 pp., 31 text-figs., several additional figures not sequentially numbered within text, pls.

**A and B, I–XXI. In Sir W. E. Logan, ed., *Figures and Descriptions of Canadian Organic Remains. Decade II. Geological Survey of Canada. Montreal: Dawson Brothers. London, New York, and Paris: Ballière.***

Spine of book reads: Canadian Fossils. Decade II. Graptolites. A note at the beginning indicates that “the preliminary notice [was] communicated by Professor Hall in 1855” to Sir William E. Logan. Also a figure was to be published in *The Canadian Naturalist*, June 1858, but it was not. This monograph consists of two chapters, supplement and plates. The first chapter is called Introduction, and has eight sections. See 279.

White and Nicholson, 1878, p. 104.

Murray, 1884, p. 81, books item 15.

Murray, 1889, p. 78, books item 15.

Clarke, 1899, p. 437, books item 15.

Hovey, 1899, p. 150, books item 15.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall items 43 and 45. Cited as: [Introduction to the study of the Graptolitidæ, with a list of the species known in the Palæozoic formations of Canada and the United States.].

Nickles, 1923, p. 445, item 65.

472. Hall, James. 1865. Geological and geographical distribution of the graptolites in the rocks of Canada and the United States; pp. 51–58. In Sir W. E. Logan, ed., *Figures and Descriptions of Canadian Organic Remains. Decade II. Geological Survey of Canada. Montreal: Dawson Brothers. London, New York, and Paris: Ballière.*

See 471.

Darton, 1896, p. 452.

473. Hall, James. 1865. A Monograph of the Graptolitidae of the Quebec Group; 157 pages of text, numerous wood-cuts and twenty-three plates; of which two are lithographed, and the remainder engraved in steel. From Sir W. E. Logan, ed., *Figures and Descriptions of Canadian Organic Remains. Decade II. Geological Survey of Canada. Montreal: Dawson Brothers. London, New York, and Paris: Ballière.*

This separate has only two plates. See 471.

474. Hall, James. 1865. On the Graptolites of the Quebec Group. *The Canadian Naturalist and Geologist*, n.s., Vol. II, No. 1 (February 1865), pp. 42–53.

See 471.

Royal Society of London, 1877, vol. VII, p. 891, item 43.

Nickles, 1923, p. 445, item 65a.

475. Hall, James. 1865. Notes upon the oil region of Canada West, and its geographical relations. 7 pp.

Not seen.

Murray, 1884, p. 90, scientific papers item 139.

Murray, 1889, p. 88, scientific papers item 139.

Clarke, 1899, p. 445, scientific papers item 139.

Hovey, 1899, p. 160, scientific papers item 139.

476. Hall, James. 1865. [the Taconic system of Dr. Emmons]. *Proceedings of the American Philosophical Society*, Vol. IX, January 1862 to December 1864, No. 67 (January 1862), pp. 5–7.

This is an extract from letters written to the Society by Hall and read by J. P. Lesley on January 17, 1862. This issue of the *Proceedings* is dated January 1862, but contains the minutes of meetings held through May 16, 1862, and must have been published after that date. According to the published proceedings, the Librarian presented No. 67 of the *Proceedings* on June 20, 1862, and this may be considered the date of publication. The extracts have no formal title in the *Proceedings*. The entire volume is dated 1865. See 80.

Darton, 1896, p. 452. Cited as: On the Taconic question.

Nickles, 1923, p. 444, item 62o.

477. Hall, James. [1865] 1920. Letter to Governor Grimes [of Iowa]; p. 90. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.*

Hall still hoped that Iowa would resume its Geological Survey so he could write another volume.

478. Hall, James. 1866. On the Occurrence of an Internal Convolute Plate Within the Body of Certain Species of Crinoidea. *Proceedings of the Boston Society of Natural History*, Vol. X, 1864–1866 (November 1865), pp. 33–34.

Abstract only. Communicated to the Society on April 6, 1864. See 479.

Royal Society of London, 1877, vol. VII, p. 891, item 44.

White and Nicholson, 1878, pp. 36 (cited as 1865), 104.

Murray, 1884, p. 90, scientific papers item 143.

Murray, 1889, p. 89, scientific papers item 143.

Clarke, 1899, p. 445, scientific papers item 143.

Hovey, 1899, p. 160, scientific papers item 143.

Nickles, 1923, p. 445, item 65b.

479. Hall, James. 1866. On the Occurrence of an Internal Convolute Plate Within the Body of Certain Species of Crinoidea. *The Annals and Magazine of Natural History*, 3d ser., Vol. XVII, No. CI (May 1866), pp. 398–399. [Abstract reprinted from *Proceedings of the Boston Society of Natural History*, Vol. X, p. 33].

See 478.

Royal Society of London, 1877, vol. VII, p. 891, included in James Hall item 44.

White and Nicholson, 1878, p. 104.

Nickles, 1923, p. 445, included in James Hall item 65b.

480. Hall, James. 1866. *Synopsis der Gattung Graptolithinen nach Hall. Neues Jahrbuch für Mineralogie, Geologie, und Palaeontologie*, 1866, pp. 121–125 [in German].

The index of the journal lists this as Graptolites of the Quebec Group. See 471.

Royal Society of London, 1877, vol. VII, p. 891, item 45.

481. Hall, James. 1866. "Observations upon some species of *Spirifera*, being the concluding remarks of the chapter on the descriptions of species of that genus from the upper Helderberg, Hamilton and Chemung Groups." (From the *Palaeontology of New York*, vol. iv, pp. 252–257; unpublished.) *Proceedings of the American Philosophical Society*, Vol. X, January 1865 to December 1868, No. 75, January 1866 (May 1866), pp. 246–254.

The Secretary read this communication at the Stated Meeting, May 18, 1866. Also published as pp. 251–257 in Vol. 4, *Palaeontology of New York*, [1867] 1868. See 463, 492, 493, 504, 525, 841, 845, 918.

Royal Society of London, 1877, vol. VII, p. 891, item 48. Cited as 1869.

White and Nicholson, 1878, p. 36.

Murray, 1884, p. 90, scientific papers item 142.

Murray, 1889, p. 89, scientific papers item 142.

Clarke, 1899, p. 445, scientific papers item 142.

Hovey, 1899, p. 161, scientific papers item 142.

Nickles, 1923, p. 445, item 66a.

482. Hall, James. 1866. [Letter, dated August 20, 1865, to S. B. Woolworth, Secretary of the Board of Regents, concerning Reorganization of the State Cabinet of Natural History]; pp. 27–33. In *Nineteenth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 2, 1866. State of New York. No. 89. In Senate April 2, 1866. Albany: C. Wendell, Printer.

Note on page 37 of the Report indicates parts of this paper were published in advance in December 1864, and January 1865. Page 80 indicates most of the Appendix for this Annual Report was not published. Cover page indicates: Transmitted to the Legislature April 23, 1866. Albany: Charles Van Benthuysen & Sons. Text title page says: Albany: C. Wendell, Printer.

Ellis, 1903, p. 286.

483. Hall, James. 1866. *Descriptions of some new species of Crinoidea and other fossils from the Lower Silurian strata of the age of the Hudson-River Group and Trenton Limestone*; 17 pp. Printed in advance from the Report on the State Cabinet for 1866.

Pages 1 and 17 indicate this version was published in November 1866. Copy is in the Rominger Reprint Collection, University of Michigan. The Hall Collection, Indiana University copy is bound with an article having an October 1871 imprint and contains 3 plates. A printed insert by Hall at the end of the plates indicates that the pamphlet in this form was actually published in March 1872, 24<sup>th</sup> Museum Report. Circulation of earlier versions of the two articles was either very limited or did not occur. See 571, 575, 576, 584, 585, 674, 677.

Murray, 1884, p. 90, scientific papers item 141; p. 92, scientific papers item 194.

Murray, 1889, p. 88, scientific papers item 141; p. 92, scientific papers item 194.

Clarke, 1899, p. 445, scientific papers item 141; p. 447, scientific papers item 194.

Hovey, 1899, p. 160, scientific papers item 141; p. 163, scientific papers item 194.

Ellis, 1903, p. 287.

Nickles, 1923, p. 445, item 66.

484. Hall, James. 1866. *Report upon the property of the Empire State Iron and Coal Company of Georgia [giving some account of the geology of Northwestern Georgia]*; 24 pp. Albany.

Not seen.

Murray, 1884, p. 90, scientific papers item 140.

Murray, 1889, p. 88, scientific papers item 140.

Clarke, 1899, p. 445, scientific papers item 140.

Hovey, 1899, p. 160, scientific papers item 140.

485. Hall, James. 1866. [Letter to Editor]. Written February 14, 1866, in reply to aspersions cast upon his Survey [Iowa]. *The Dubuque Herald*, February 28, 1866.

This is a reply to an article of December 22, published in the *Dubuque Times*. Copy is in The James Hall Papers, New York State Archives.

486. Hall, James. 1866. [Letter to Editor]. *Mastodon Remains at Cohoes*. *The Argus*, Thursday Morning, November 15, 1866.

Description of finds. Copy is in the James Hall Papers, New York State Archives (box 2, #11). See 487.

487. Hall, James. 1866. *Geological History and Relations of the Mastodon*. *The Argus*, November 19<sup>th</sup>, 1866. (On account of the writer's absence from town, the following communication has been delayed since its date.)



Copy is in the James Hall Papers, New York State Archives. See 486, 496, 537, 566, 580, 618, 619, 621, 693, 695, 696, 777, 866.

488. Hall, James. 1867. On the Structure of the Mountains and Valleys in Tennessee, Northern Georgia, and Alabama; p. 105. *Proceedings of the American Association for the Advancement of Science*. Fifteenth Meeting, Held at Buffalo, NY, August 1866. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 90, scientific papers item 145.  
Murray, 1889, p. 89, scientific papers item 145.  
Clarke, 1899, p. 445, scientific papers item 145.  
Hovey, 1899, p. 161, scientific papers item 145.

489. Hall, James. 1867. Remarks on the Geological Structure of Southern Minnesota; p. 105. *Proceedings of the American Association for the Advancement of Science*. Fifteenth Meeting, Held at Buffalo, NY, August 1866. Cambridge: Published by Joseph Lovering.

Title only. See 490, 548, 614, 692.

Murray, 1884, p. 90, scientific papers item 146.  
Murray, 1889, p. 89, scientific papers item 146.  
Clarke, 1899, p. 445, scientific papers item 146.  
Hovey, 1899, p. 161, scientific papers item 146.

490. Hall, James. 1867. On the Geological Structure of the Southern Part of Minnesota. *The Canadian Naturalist and Geologist*, n.s., Vol. III, No. 1 (December 1866), pp. 120–121.

This is taken from the American Association for the Advancement of Science, Fifteenth Meeting at Buffalo, August 1866, corrected from the Newspaper Reports. See 489.

Royal Society of London, 1877, vol. VII, p. 891, item 47.  
Darton, 1896, p. 453. Cited as 1868.  
Nickles, 1923, p. 445, item 67f.

491. Hall, James. 1867. Observations on the Structure and Mode of Growth of the Spines on the Cardinal Area of *Chonetes*, with Remarks on the Distribution of Some Species of the Genus; p. 105. *Proceedings of the American Association for the Advancement of Science*. Fifteenth Meeting, Held at Buffalo, NY, August 1866. Cambridge: Published by Joseph Lovering.

Title only. See 502, 523.

Murray, 1884, p. 90, scientific papers item 147.  
Murray, 1889, p. 89, scientific papers item 147.  
Clarke, 1899, p. 445, scientific papers item 147.  
Hovey, 1899, p. 161, scientific papers item 147.

492. Hall, James. 1867. On the Structure of the Spines in the Genera *Athyris*, *Morestella* [sic] and Other Genera of Spiriferidæ; p. 105. *Proceedings of the American Association for the Advancement of Science*. Fifteenth Meeting, Held at Buffalo, NY, August, 1866. Cambridge: Published by Joseph Lovering.

Title only. See 481.

Murray, 1884, p. 90, scientific papers item 148.  
Murray, 1889, p. 89, scientific papers item 148.  
Clarke, 1899, p. 445, scientific papers item 148.  
Hovey, 1899, p. 161, scientific papers item 148.

493. Hall, James. 1867. On Some Characters of *Spirifera* and the Geographical and Geological Distribution of Some of the Species; p. 106. *Proceedings of the American Association for the Advancement of Science*. Fifteenth Meeting, Held at Buffalo, NY, August 1866. Cambridge: Published by Joseph Lovering.

Title only. See 481.

Murray, 1884, p. 90, scientific papers item 149.  
Murray, 1889, p. 89, scientific papers item 149.  
Clarke, 1899, p. 445, scientific papers item 149.

494. Hall, James. 1867. *Paleontology*: Volume IV, Part I. *Containing Descriptions and Figures of the Fossil Brachiopoda of the Upper Helderberg, Hamilton, Portage and Chemung Groups*. 1862–1866; vii–xi + 428 pp., 63 pls. Geological Survey of New-York. Albany, NY: Printed by C. Van Benthuyssen and Sons. March 1867. Title Page: Natural History of New York. Published by Authority of the State. Albany. Van Benthuyssen Printing House.

Plates are numbered as follows: 1–38, 38A, 38\*, 39–53, 53A, 54, 54A, 55–58, 58a, 59–61, 61A, 62–63. Their heading is: Palæont. N. Y. Vol. 4. See 564.

White and Nicholson, 1878, p. 36.  
Murray, 1884, p. 81, books item 16.  
Murray, 1889, p. 78, books item 16.  
Clarke, 1899, p. 437, books item 16.  
Hovey, 1899, p. 150, books item 16.  
Ellis, 1903, p. 284.  
Nickles, 1923, p. 445, item 67a.

495. Hall, James. 1867. Preliminary Notice of the Fauna of the Potsdam Sandstone; with remarks upon the previously known Species of Fossils and Descriptions of some New Ones, from the Sandstone of the Upper Mississippi Valley. *Transactions of the Albany Institute*. Vol. V, pp. 93–195, 6 pls., 10 unnumbered text figs.

A footnote states: "A notice of this paper was read before the Albany Institute, April 29, 1862; and by an arrangement between

the Publishing Committee and the Regents of the University, it was published in the Sixteenth Report on the State Cabinet.” This paper cites a May 1862 paper by Shumard as received in June by Hall (page 93), and was also published in 1863 in the Sixteenth Annual Report of the State Cabinet. Published in *Transactions of the Albany Institute*, 1864, as “A new Crustacean from the Potsdam sandstone,” p. 301. See **159, 160, 385, 387, 409, 421, 430, 432, 433, 461, 562, 598, 649, 899, 900.**

Royal Society of London, 1877, vol. VII, p. 891, item 46.

White and Nicholson, 1878, p. 34. Cited as 1862.

Darton, 1896, p. 452.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 63j.

- 496. Hall, James. 1867. On the Geological Relations of the Mastodon and Fossil Elephant of North America. *The American Naturalist*, Vol. I, No. 9 (November 1867), p. 500.**

A paraphrased abstract of a paper given at the American Association for the Advancement of Science, Sixteenth Meeting in Burlington, Vermont, August 21–26, 1867. See **487.**

Murray, 1884, p. 91, scientific papers item 170.

Murray, 1889, p. 90, scientific papers item 170.

Darton, 1896, p. 453. Cited as 1868.

Hovey, 1899, p. 162, scientific papers item 170.

Nickles, 1923, p. 445, item 67g.

- 497. Hall, James. 1867. Note upon the genus *Palæaster* and other fossil starfishes; with descriptions of some new species, and observations upon those previously described from the Twentieth Report on the State Cabinet of Natural History; 23 pp., pl. 9. Published (to page 21) in advance of *Report*, November and December 1866.**

Note on title page says this was published in November and December 1866, up to page 21. This version has on pages 22–23: “Supplementary. Note on the genus *Tæniaster* (Billings).” Consequently, this version is interpreted as a repaginated separate of the 1867 paper. The 1866 version of this paper was not seen. See **512, 532.**

- 498. [Hall, James]. 1867. (I.) Notice of Volume IV of the *Palæontology of New-York*; pp. 145–168, 2 numbered figs. and 6 unnumbered figs. in text. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyzen & Sons’ Printing House. State of New York. No. 239. In Assembly, April 15, 1867.**

This is dated as December 1866, and the bottom of the page states that it was published March 1867. It also states that

it will be issued in 1867, “although about two hundred pages were already printed in 1865.” Plates are numbered as follows: 1, c, 3, 4, 9, 10(1), 11(2), 12(3), 12a(1), 13(4), 14(5), 15(6), 16(7), 17(8), 18(9), 19(10), 10(11), 21(12), 22(13), 23(14). Blue wrappers of one edition say 1868 on cover and 1867 on inside title page, but page 145 says “Published March 1867.” A partially revised edition was published in 1870 with different pagination and is cited separately below. The titles of many of the articles in this report were listed under Appendix G in the Eighteenth Annual Report (1865) but were not published at that time. We have indicated articles before page 168 as having an actual publication date of 1868, as subsequently indicated by Hall (1870). This appears to be identical to **519**. See **499, 519.**

White and Nicholson, 1878, p. 36.

Murray, 1884, p. 90, scientific papers item 150.

Murray, 1889, p. 89, scientific papers item 150.

Clarke, 1899, p. 445, scientific papers item 150.

Hovey, 1899, p. 161, scientific papers item 150.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, item 67a.

- 499. Hall, James. 1867. Notice of volume IV of the *Palæontology of New York*. 24 pp.**

This reprint of pages 145–168 of the Twentieth Annual Report is separately paginated and was published in March 1867 according to the date on the first and seventeenth pages of reprint. The same dates appear in the final publication of the *Report*. See **498, 519.**

Murray, 1884, p. 90, scientific papers item 150.

Murray, 1889, p. 89, scientific papers item 150.

Clarke, 1899, p. 445, scientific papers item 150.

Ellis, 1903, p. 286.

- 500. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: I. Introduction to the Study of the Graptolitidæ; pp. 169–240, 4 pls., figs. 1–23 and 7 figs. variously numbered. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyzen & Sons’ Printing House. State of New York. No. 239. In Assembly, April 15, 1867.**

See **423, 471–474, 522.**

White and Nicholson, 1878, p. 36. Cited as 1868.

Murray, 1884, p. 90, scientific papers item 151.

Murray, 1889, p. 89, scientific papers item 151.

Clarke, 1899, p. 445, scientific papers item 151. Cited as 1867.

Hovey, 1899, p. 161, scientific papers item 151.

Royal Society of London, 1902, vol. XII, p. 305, included in James

Hall items 43, 45. Cited as 1867.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, item 67b.

501. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: II. Observations on the genus *Streptorhynchus*. III. On the genus *Strophodonta*; p. 241. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

A short notice says that these papers will be deferred until the next Report. See 500.

Murray, 1884, p. 91, scientific papers items 162–163.

Murray, 1889, p. 90, scientific papers items 162–163.

Clarke, 1899, p. 446, scientific papers items 162–163. Cited as 1867.

Hovey, 1899, p. 161, scientific papers items 162–163.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 67c.

502. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: IV. The genus *Chonetes* (Fischer, 1837), (From Vol. IV, *Palæontology of New-York*.); pp. 242–244, 1 unnumbered fig. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

White and Nicholson, 1878, p. 36. Cited as 1868.

Murray, 1884, p. 90, scientific papers item 152.

Murray, 1889, p. 89, scientific papers item 152.

Clarke, 1899, p. 445, scientific papers item 152. Cited as 1867.

Hovey, 1899, p. 161, scientific papers item 152.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 67c.

503. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: V. Remarks on the Genera *Productus*, *Strophalosia*, *Aulosteges* and *Productella* [From Vol. IV, *Palæontology of New-York*.]; pp. 245–250, figs. 3–8. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

White and Nicholson, 1878, p. 36. Cited as 1868.

Murray, 1884, p. 90, scientific papers item 153.

Murray, 1889, p. 89, scientific papers item 153.

Clarke, 1899, p. 445, scientific papers item 153. Cited as 1867.

Hovey, 1899, p. 161, scientific papers item 153.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 67c.

504. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: VI. On the Genera *Spirifera*, *Cyrtina* and Allied Genera; pp. 251–257. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

These are “concluding remarks of the chapter on *Spirifera* from Vol. iv, *Palæontology of New-York*.” See 481.

White and Nicholson, 1878, p. 36. Cited as 1868.

Murray, 1884, p. 90, scientific papers item 154.

Murray, 1889, p. 89, scientific papers item 154.

Clarke, 1899, p. 446, scientific papers item 154. Cited as 1867.

Hovey, 1899, p. 161, scientific papers item 154.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 67c.

505. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: VII. On the Genera *Athyris*, *Merista* and *Meristella*; pp. 258–266. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

See 339, 398, 526.

White and Nicholson, 1878, p. 36. Cited as 1868.

Murray, 1884, p. 90, scientific papers item 155.

Murray, 1889, p. 89, scientific papers item 155.

Clarke, 1899, p. 446, scientific papers item 155. Cited as 1867.

Hovey, 1899, p. 161, scientific papers item 155.

Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 67. Cited as 1867.

Ellis, 1903, p. 286.

Nickles, 1923, p. 445, included in James Hall item 67c.

506. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: VIII. Note upon the Genus *Zygospira* and its relations to *Atrypa*; pp. 267–268, 3 figs. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the*



*Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Transmitted to the Legislature April 15, 1867. Albany: Van Benthuysen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

See 395, 527.

White and Nicholson, 1878, p. 36. Cited as 1868.  
Murray, 1884, p. 90, scientific papers item 156.  
Murray, 1889, p. 89, scientific papers item 156.  
Clarke, 1899, p. 446, scientific papers item 156. Cited as 1867.  
Hovey, 1899, p. 161, scientific papers item 156.  
Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 77. Cited as 1867.  
Ellis, 1903, p. 286.  
Nickles, 1923, p. 445, included in James Hall item 67c.

507. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: IX. Remarks upon the Genera *Rhynchonella* and *Leiorhynchus*; pp. 269–273. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Transmitted to the Legislature April 15, 1867. Albany: Van Benthuysen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

White and Nicholson, 1878, p. 36. Cited as 1868.  
Murray, 1884, p. 90, scientific papers item 157.  
Murray, 1889, p. 89, scientific papers item 157.  
Clarke, 1899, p. 446, scientific papers item 157. Cited as 1867.  
Hovey, 1899, p. 161, scientific papers item 157.  
Royal Society of London, 1902, vol. XII, p. 305, included in James Hall item 65. Cited as 1867.  
Ellis, 1903, p. 286.  
Nickles, 1923, p. 445, included in James Hall item 67c.

508. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: X. On the Genera *Pentamerus* and *Stricklandinia*, and Their Supposed Relations with *Rensselæria*; p. 273. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Transmitted to the Legislature April 15, 1867. Albany: Van Benthuysen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

This is to appear in the next report on the State Cabinet. See 529.

Murray, 1884, p. 91, scientific papers item 164.  
Murray, 1889, p. 90, scientific papers item 164.  
Clarke, 1899, p. 446, scientific papers item 164. Cited as 1867.

Hovey, 1899, p. 161, scientific papers item 164.  
Nickles, 1923, p. 445, included in James Hall item 67c.

509. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XI. Note on the Genus *Eichwaldia*; pp. 274–278, 7 figs. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Transmitted to the Legislature April 15, 1867. Albany: Van Benthuysen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

See 530.

White and Nicholson, 1878, p. 36. Cited as 1868.  
Murray, 1884, p. 90, scientific papers item 158.  
Murray, 1889, p. 89, scientific papers item 158.  
Clarke, 1899, p. 446, scientific papers item 158. Cited as 1867.  
Hovey, 1899, p. 161, scientific papers item 158.  
Royal Society of London, 1902, vol. XII, p. 306, item 88. Cited as 1867.  
Ellis, 1903, p. 286.  
Nickles, 1923, p. 445, included in James Hall item 67c.

510. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XII. On the Genera *Terebratula*, *Centronella*, *Cryptonella*, etc.; p. 279. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Transmitted to the Legislature April 15, 1867. Albany: Van Benthuysen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

Title only, no text. Deferred to the next Report on the State Cabinet. See 418–420, 440, 463.

Murray, 1884, p. 91, scientific papers item 165.  
Murray, 1889, p. 90, scientific papers item 165.  
Clarke, 1899, p. 446, scientific papers item 165. Cited as 1867.  
Hovey, 1899, p. 161, scientific papers item 165.  
Nickles, 1923, p. 445, included in James Hall item 67c.

511. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XIII. On the Genus *Tropidoleptus*; pp. 279–281, 6 figs. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Transmitted to the Legislature April 15, 1867. Albany: Van Benthuysen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

See 313, 531.

White and Nicholson, 1878, p. 36. Cited as 1868.  
 Murray, 1884, p. 91, scientific papers item 159.  
 Murray, 1889, p. 89, scientific papers item 159.  
 Clarke, 1899, p. 446, scientific papers item 159. Cited as 1867.  
 Hovey, 1899, p. 161, scientific papers item 159.  
 Royal Society of London, 1902, vol. XII, p. 306, item 89. Cited as 1867.  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 445, included in James Hall item 67c.

512. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XIV. Note on the Genus *Paleaster*, with Descriptions of Some new Species, and Observations upon those previously Described; pp. 282–303, pl. 9. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

Hall indicates on page 282 that this paper was originally published in December 1866 and apparently included at that time only pages 282–299 of this report. See 497, 532.

White and Nicholson, 1878, p. 36. Cited as 1868.  
 Murray, 1884, p. 91, scientific papers item 160.  
 Murray, 1889, p. 90, scientific papers item 160.  
 Clarke, 1899, p. 446, scientific papers item 160. Cited as 1867.  
 Hovey, 1899, p. 161, scientific papers item 160.  
 Royal Society of London, 1902, vol. XII, p. 306, item 90. Cited as 1867.  
 Ellis, 1903, p. 286.  
 Nickles, 1923, p. 445, item 67d.

513. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XV. Descriptions of Some new Species of Crinoideæ and other Fossils from the Lower Silurian Strata, Principally of the age of the Hudson-River Group; p. 304. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

Title and eight lines of text. Hall indicates that 17 pages of this paper were published in 1866. Final report apparently did not appear until the Twenty-Fourth Annual Report in 1872. See 584.

Murray, 1884, p. 91, scientific papers item 166.  
 Murray, 1889, p. 90, scientific papers item 166.  
 Clarke, 1899, p. 446, scientific papers item 166. Cited as 1867.  
 Hovey, 1899, p. 162, scientific papers item 166.

Ellis, 1903, p. 286.  
 Nickles, 1923, p. 445, included in James Hall 67d.

514. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XVI. Descriptions of *Bryozoa* and corals, from the Lower Helderberg Group of New-York; p. 304. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

Title and four lines of text. A note states that this will be published in the next Report on the State Cabinet. See 652, 653, 739, 755, 760, 792, 886, 887, 935, 949.

Murray, 1884, p. 91, scientific papers item 167.  
 Murray, 1889, p. 90, scientific papers item 167.  
 Clarke, 1899, p. 446, scientific papers item 167. Cited as 1867.  
 Hovey, 1899, p. 162, scientific papers item 167.  
 Ellis, 1903, p. 286.

515. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XVII. Descriptions of *Bryozoa*, etc., from the Upper Helderberg and Hamilton Groups of New-York; p. 304. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.

Title and one line of text. A note says that this was deferred to the next Report on the State Cabinet. It was published later in *Transactions of the Albany Institute*, 1883, Vol. X: 145–197. See 764, 765, 775, 784, 792, 804, 808, 809, 823, 861, 867, 875, 877, 886, 939, 949.

Murray, 1884, p. 91, scientific papers item 168.  
 Murray, 1889, p. 90, scientific papers item 168.  
 Clarke, 1899, p. 446, scientific papers item 168. Cited as 1867.  
 Hovey, 1899, p. 162, scientific papers item 168.  
 Ellis, 1903, p. 286.

516. Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XVIII. Miscellaneous notices; p. 304. In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature

**April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.**

Title and two lines of text. Deferred to the Next Report.

Murray, 1884, p. 91, scientific papers item 169.

Murray, 1889, p. 90, scientific papers item 169.

Clarke, 1899, p. 446, scientific papers item 169. Cited as 1867.

Hovey, 1899, p. 162, scientific papers item 169.

517. **Hall, James. [1867] 1868. (K.) Contributions to Palæontology: XIX. Account of some new or little known species of fossils from rocks of the age of the Niagara Group; pp. 305–401, pls. 10–23(1–14). In *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House. State of New York. No. 239. In Assembly, April 15, 1867.**

According to Hall (p. 305) this paper was first published in advance of the Eighteenth Annual Report in December 1864, and page 305 is dated: Albany, December 26, 1864. Pages 305–352 are dated January 1865 in Hall's note on page 352. Pages 305–352 contain 18 sequentially numbered figures and two additional figures. The plates have two sets of sequential numbers. According to Hall, a copy of the first 16 pages was made available to A. Winchell in December 1864. We have not seen the advance versions of the article. The paper was also published in the Revised Edition of the Twentieth Annual Report in Appendix M. At least a part of the Index, and the List of Fossils, pp. 393–401, were also published separately in 1871 with different pagination. See 441.

White and Nicholson, 1878, p. 37. Cited as 1868.

Murray, 1884, p. 91, scientific papers 161.

Murray, 1889, p. 90, scientific papers 161.

Clarke, 1899, p. 437, books item 17; p. 446, scientific papers item 161. Both cited as 1867.

Hovey, 1899, p. 161, scientific papers 161.

Royal Society of London, 1902, vol. XII, p. 305, item 42. Cited as 1867.

Ellis, 1903, p. 287.

Nickles, 1923, p. 445, item 67e.

518. **[Hall, James]. [1868]. Crustacea; pp. 375–378, pls. 21(12)–24(14). Extract from *Twentieth Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 15, 1867. Albany: Van Benthuyssen & Sons' Printing House.**

**State of New York. No. 239. In Assembly, April 15, 1867.**

This hardcover separate in the Crerar Library, University of Chicago, although filed under Hall as author, has neither an author listed nor any publication data, and is titled "Crustacea." The headings on some pages are "Twentieth Report on the State Cabinet, Assembly No. 239." It is bound with an excerpt from the Sixteenth Report on the State Cabinet, also headed "Crustacea." See 330.

519. **Hall, James. [1868] 1870. (J.) Notice of Vol. IV of the Palæontology of New York; pp. 173–199; 8 text-figs., of which the third, fourth, seventh and eighth are numbered 1, 2, 1, and 2 respectively, and the others are unnumbered. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.**

This volume contains the following printed enclosure on the title page: "NOTE. — This Revised Edition was completed in 1870, and the imprint should have been so dated, instead of 1868, the date of the First Edition." Hall, p. 173, states "In consequence of the delay in the completion of the plates of this volume, which are to accompany the text, it cannot be issued until some time during the year of 1867; although about two hundred pages were already printed in 1865." We have been unable to trace these two hundred pages printed in 1865. The same note appears on p. 145 of the 1867 edition. These comments apply to appendices J–M and their contained articles, as well as the accompanying plates.

There appear to be two versions of this book. The spine of this hardbound book says: "New-York State Cabinet Natural History 20<sup>th</sup> Report 1867," and appears to be the same as the preceding entry, except for pagination. In this article, dated December 1866, Hall (p. 173) stated that "[i]n consequence of the delay in the completion of the plates of this volume, which are to accompany the text, it cannot be issued until some time during the year of 1867; although about two hundred pages were already printed in 1865." Again, we have been unable to trace these two hundred pages printed in 1865. The same note appears on p. 145 of the 1867 edition. These comments apply to appendices J–M and their contained articles, as well as the accompanying plates. See 498, 499.

520. **Hall, James. [1868] 1870. (K.) Introduction to the Study of the Graptolitidæ; pp. 201–268, pls. I–IV, 2 tables, text-figs. 1–32 and 1–3. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural***



*History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

A note states that: "The figures of Plates i, ii, iii, and iv, with two exceptions, are taken from Decade ii, of Figures and Descriptions of Canadian Organic Remains, and are illustrations of both Canadian and New York species." A note after plate IV states that Plates V, VI, VII, and VIII are omitted and will be published in a succeeding report. See 279, 519.

521. Hall, James. [1868] 1870. (K.) Supplementary Notes. Remarks upon the Genera *Didymograptus* M'Coy, *Cladograptus* Geinitz, *Cladograptus* Carruthers, *Dicranograptus* and *Cænograptus* Hall; pp. 269–275, pls. III, IV, text-figs. 1–6 and 1 unnumbered text-fig. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 519.

522. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. I & II. Observations on the Genera *Streptorhynchus* and *Strophodonta*; p. 277. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

Discussion deferred to a future report, as illustrations were not completed. See 423, 501, 519.

523. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. III. Genus *Chonetes* Fischer, 1837. (From Vol. IV, *Palæontology of New York.*); pp. 278–281, 1 text-fig. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 491, 502, 519.

524. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. IV. Remarks on the Genera *Productus*, *Strophalosia*, *Aulosteges* and *Productella* (From Vol. IV, *Palæontology of New York.*); pp. 282–288, 6 text-figs. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 503, 519.

525. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. V. On the Genera *Spirifera*, *Cyrtina* and Allied Genera; pp. 289–295. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

These include the concluding remarks of the chapter on *Spirifera* from Vol. iv, *Palæontology of New York.* See 481, 519.

526. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. VI. On the Genera *Athyris*, *Merista* and *Meristella*; pp. 296–306. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 339, 398, 505, 519.

527. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. VII. Note upon the Genus *Zygospira* and its Relations to *Atrypa*; pp. 307–308, 3 text-figs. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto.* Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 395, 506, 519.

528. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. VIII. Remarks upon the Genera *Rhynchonella* and *Leiorhynchus*; pp. 309–313. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 333, 509, 519.

529. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. IX. On the Genera *Pentamerus* and *Stricklandinia*, and Their Supposed Relations with *Rensseleria*; p. 314. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

A note states: "The essential points of this paper are presented on pages 190–194 of this report, and it will, therefore, be deferred till the illustrations are completed; to appear in the next *Report on the State Cabinet*." See 508, 519.

530. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. X. Note on the Genus *Eichwaldia*; pp. 315–320, 7 text-figs. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 509, 519.

531. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. XI. On the Genus *Tropidoleptus*; pp. 321–323, 6 text-figs. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 511, 513, 519.

532. Hall, James. [1868] 1870. (L.) Contributions to Palæontology. XII. Note on the Genus *Palæaster*, and Other Fossil Star-fishes, with Descriptions of Some New Species, and Observations upon Those Previously Described; pp. 324–345, pl. IX. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 497, 512, 519.

533. Hall, James. [1868] 1870. (M.) Descriptions of New or Little-known Species of Fossils from Rocks of the Age of the Niagara Group. I. Relations of the Niagara group with the Leclaire, Racine and Guelph Limestones; pp. 347–350. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

Hall notes that "This Paper was originally printed in advance, in December 1864 for the Eighteenth Report on the New York State Cabinet." See 441, 519.

Clarke, 1899, p. 437, books item 17.

534. Hall, James. [1868] 1870. (M.) Descriptions of New or Little-known Species of Fossils from Rocks of the Age of the Niagara Group. II. Descriptions of Fossils of the Niagara Group; pp. 351–434, 14 text-figs., plus 2 unnumbered text-figs., pls. VIII, IX(9), X–XIIa(12 a{I}), XIII–XXIII, XXIV(24)–XXV(25). Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 441, 519.

Clarke, 1899, p. 437, books item 17.

535. Hall, James. [1868] 1870. (M.) Descriptions of New or Little-known Species of Fossils from Rocks

of the Age of the Niagara Group. III. List of Fossils of the Niagara Group, Occurring in the Wisconsin, Illinois and Iowa Limestones; pp. 435–438. Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

See 441, 519.

Clarke, 1899, p. 437, books item 17.

536. Hall, James. [1868] 1870. Plates and Explanations; pls. I–IV, IX(9), X–XIIa(12 a{I}), XIII–XXIII, XXIV(24)–XXV(25). Cabinet of Natural History. 1867. In *Twentieth Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Revised Edition. Printed by the Order of the Assembly. Albany: Printing House of Charles Van Benthuyssen & Sons. 4o.

537. Hall, James. 1868. On the Geological Relations of the Mastodon and Fossil Elephant; p. 161. *Proceedings of the American Association for the Advancement of Science*. Sixteenth Meeting, Held at Burlington, Vermont, August 1867. Cambridge: Published by Joseph Lovering.

Title only. See 487.

Murray, 1884, p. 91, scientific papers item 170.  
Murray, 1889, p. 90, scientific papers item 170.  
Clarke, 1899, p. 446, scientific papers item 170.  
Hovey, 1899, p. 162, scientific papers item 170.

538. Hall, James. 1868. On the Geographical Distribution of the Sediments and of the Fossils in the Hamilton, Portage and Chemung [*sic*] Groups of New York; p. 161. *Proceedings of the American Association for the Advancement of Science*. Sixteenth Meeting, Held at Burlington, Vermont, August 1867. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 91, scientific papers item 171.  
Murray, 1889, p. 90, scientific papers item 171.  
Clarke, 1899, p. 446, scientific papers item 171.  
Hovey, 1899, p. 162, scientific papers item 171.

539. Hall, James. 1868. On the Value of the Hudson River Group in Geological Nomenclature; p. 161.

*Proceedings of the American Association for the Advancement of Science*. Sixteenth Meeting, Held at Burlington, Vermont, August 1867. Cambridge: Published by Joseph Lovering.

Title only. See 705.

Murray, 1884, p. 91, scientific papers item 172.  
Murray, 1889, p. 90, scientific papers item 172.  
Clarke, 1899, p. 446, scientific papers item 172.  
Hovey, 1899, p. 162, scientific papers item 172.

540. Hall, James. 1868. On the Occurrence of Fossil Sponges in the Successive Groups of the Palæozoic Series; p. 161. *Proceedings of the American Association for the Advancement of Science*. Sixteenth Meeting, Held at Burlington, Vermont, August 1867. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 91, scientific papers item 173.  
Murray, 1889, p. 90, scientific papers item 173.  
Clarke, 1899, p. 446, scientific papers item 173.  
Hovey, 1899, p. 162, scientific papers item 173.

541. Hall, James. 1868. Report of Prof. James Hall, of Albany, State Geologist of New York, upon iron properties lying in Salisbury, Conn. Three unpaginated pages.

No other publication information is available. Note appended to copy is dated March 1868. Copy is in the Clarke Reprint Collection, New York State Geological Survey.

Murray, 1884, p. 91, scientific papers item 170.

542. Hall, James. 1868. Report on building stones; 68 pp. Albany, NY: J. Munsell, 82 State Street.

Communicated to the Commissioners of the New Capitol in 1868. See 870, 871.

Ellis, 1903, p. 289.  
Nickles, 1923, p. 445, item 68.

543. Hall, James. [1868] 1920. Letter (January 30, 1868) to Chas. Knickerbocker, Secy. etc.; p. 527. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.

Hall apparently was responding to Knickerbocker, Secretary to the Governor of Wisconsin. Hall wrote of what he had done and what the legislature had not done, and felt that the law authorizing the Geological Survey had been repealed because the Survey did not recommend deep mining in the lead region.

544. Hall, James. [1868] 1921. Letter (April 18, 1868) to Prof. Joseph Henry; p. 405. In John M. Clarke,



***James Hall of Albany, Geologist and Palaeontologist, 1811–1898.* Albany. 1921.**

Hall asked Henry, of the Smithsonian Institution, for help in completing a map of the “northern states.” Hall had contributed to the map of Canada with Logan, and wanted a similar one for the United States. See 555.

545. Hall, James. 1869. Report of the curator; pp. 1–7. In *Twenty-Second Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 10th, 1869. Albany: The Argus Company, Printers. State of New York. No. 87. In Senate, April 10, 1869.

Ellis, 1903, p. 287.

546. Hall, James. 1869. To the Committee of the Board of Regents on the State Cabinet of Natural History; pp. 3–4. State of New York. In Senate, [Doc.] No. 77, April 15, 1869.

547. Hall, James. 1869. A general schedule of the collections of Professor James Hall; pp. 5–12. State of New York. In Senate, [Doc.] No. 77, April 15, 1869.

548. Hall, James. 1869. Notes upon the Geology of Some Portions of Minnesota, from St. Paul to the Western Part of the State. *Transactions of the American Philosophical Society*, n.s., Vol. XIII, Part IV, pp. 329–340, 5 unnumbered drawings.

Hall's paper was read June 15, 1866. It is not clear when it was published, but presumably before February 19, 1869, the date of the last paper published in the volume. See 489, 490, 614, 692.

Royal Society of London, 1877, vol. VII, p. 891, item 49.

Murray, 1884, p. 90, scientific papers item 144. Cited as 1867.

Murray, 1889, p. 89, scientific papers item 144. Cited as 1867.

Darton, 1896, p. 453.

Clarke, 1899, p. 445, scientific papers item 144. Cited as 1867.

Hovey, 1899, p. 161, scientific papers item 144. Cited as 1867.

Nickles, 1923, p. 445, item 69a.

549. Hall, James. 1869. Preliminary Notice of the Lamellibranchiate Shells of the Upper Helderberg, Hamilton and Chemung Groups, with others from the Waverly Sandstones; 80 pp. [Preparatory for the *Palaeontology of New York*, Vol. V, Part I, Lamellibranchiata II]. Part 2. State Cab. Nat. Hist., December 1869.

In the Introduction to Volume V, Part I, of the *Palaeontology of New York* (1885), Hall wrote that one hundred copies of

this were published as “Preliminary Notice No. 2 of the Fossil Lamellibranchiate Shells of the Upper Helderberg, Hamilton, Portage and Chemung Groups” in December 1869. This memoir was noticed under Scientific Intelligence, Mineralogy and Geology, in *The American Journal of Science and Arts*, 1870, 2d ser., Vol. XLIX, No. 146 (March 1870), p. 276, and attributed to Hall. See 676, 787.

White and Nicholson, 1879, p. 144. Cited as: Anon[ymous]. [Hall, James, and R. P. Whitfield].

Murray, 1884, p. 91, scientific papers item 176. Cited as 1870.

Murray, 1889, p. 91, scientific papers item 176. Cited as 1870.

Hovey, 1899, p. 162, scientific papers item 176.

550. Hall, James. 1869. The Evolution of the North American Continent. Lecture delivered on Wednesday, December 30, [1868], the sixth of the course of Scientific lectures before the American Institute at Steinway Hall. *New-York Weekly Tribune*, January 6, 1869.

See 551, 552.

551. Hall, James. 1869. Geological history of the North American continent; a lecture delivered before the American Institute in New York; pp. 77–98. *Transactions of the American Institute, Scientific Lecture*.

This is a very important paper by Hall, in which he deals with the geosynclines, uniformitarianism, “Time eternal,” and argues against the “nucleus” idea of Earth. See 550, 552.

552. Hall, James. 1869. Geological history of the North American continent; a lecture delivered before the American Institute in New York; 24 pp. Albany: The Argus Company Printers.

This is a reprint or preprint of the two preceding citations. See 550, 551.

Murray, 1884, p. 91, scientific papers item 174.

Murray, 1889, p. 90, scientific papers item 174.

Clarke, 1899, p. 446, scientific papers item 174.

Hovey, 1899, p. 162, scientific papers item 174.

Nickles, 1923, p. 445, item 69.

553. Hall, James. 1869. Letter about the Cardiff [New York] Giant; p. 21. In *The American Goliath*, a pamphlet printed in Syracuse, and sold at the Cardiff Giant's pavilion.

Not seen. Quoted by Mark Jaffe (2000) in *The Gilded Dinosaur*, as being in the papers of O. C. Marsh in the Sterling Archives of Yale University. See 623.

554. Hall, James. [1869] 1964. Letter (November 16, 1869) to T. Sterry Hunt; p. 570. In George P. Merrill, *The First One Hundred Years of American*

**Geology. 1964. New York and London: Hafner Publishing Company.**

Hall wrote to Hunt, a chemist in the Canadian Geological Survey, of his pleasure in the "preeminent success of the Eozoön."

555. Hall, James, and William E. Logan. 1869. **Geological map of Canada [and adjacent parts of the United States]. Scale 1:1,584,000. Canadian Geological Survey. Montreal.**

Notice of map is in *The American Journal of Science and Arts*, 1870, 2d ser., Vol. XLIX, No. 147 (May 1870), pp. 394–398. See 544.

Darton, 1896, p. 454. Cited as 1866.

Clarke, 1921, p. 404. Cited as 1868.

Nickles, 1923, p. 445, item 69b.

556. Hall, James. 1870. **The Schoharie Fossils. *The Albany Argus*, January 30, 1870.**

See 583, 625, 627.

557. Hall, James. 1870. **Preliminary notice of the lamellibranchiate shells of the Upper Helderberg, Hamilton and Chemung Groups, with others from the Waverly Sandstones. [Preparatory for the *Paleontology of New-York*, Vol. V, Part I, Lamellibranchiata II]. Part II; 97 pp.**

Bottom of first page reads: State Cab. Nat. Hist., December, 1869. Page 97 indicates date of printing is January 1870. In the Introduction to Volume V, Part I, of the *Paleontology of New York* (1885), Hall wrote that one hundred copies of this were published as "Preliminary Notice No. 2 of the Fossil Lamellibranchiate Shells of the Upper Helderberg, Hamilton, Portage and Chemung Groups" in December 1869, and in January [1870], printing was resumed with the addition of 16 pages. C. D. Walcott got his copy from Hall on June 22nd, 1881. Walcott's written notes indicated that Hall refused to sign Walcott's copy as sole author, and Whitfield claimed the authors should be Hall and Whitfield. See also Yochelson and Saunders (1967). This may be one of the incidents giving rise to stories that Hall did not do much of his own work in his later years. This was refuted in Fenton and Fenton (1952). See 676, 780.

Murray, 1884, p. 91, scientific papers item 176.

Murray, 1889, p. 91, scientific papers item 176.

Clarke, 1899, p. 446, scientific papers item 176.

Hovey, 1899, p. 162, scientific papers item 176.

558. Hall, James. 1870. **Preliminary Notice of the Lamellibranchiates of the Upper Helderberg, Hamilton and Chemung Groups; p. 282. *Proceedings of the American Association for the Advancement of Science*. Eighteenth Meeting, Held at Salem, Massachusetts, August 1869. Cambridge: Published by Joseph Lovering.**

Title only. See 787.

Murray, 1884, p. 91, scientific papers item 175.

Murray, 1889, p. 90, scientific papers item 175.

Clarke, 1899, p. 446, scientific papers item 175.

Hovey, 1899, p. 162, scientific papers item 175.

559. Hall, James. 1870. **On the relations of the Oneonta Sandstone and Montrose Sandstone of Vanuxem with the Hamilton and Chemung Groups. *The American Naturalist*, Vol. 4, no. 9 (November 1870), pp. 563–565.**

Long abstract, apparently written by Hall for the Nineteenth Meeting of the American Association for the Advancement of Science, held at Troy, NY, August 17–24, 1870. See 560, 572, 761, 762, 965.

Darton, 1896, p. 453. Cited as 1871.

Nickles, 1923, p. 445, item 70.

560. Hall, James. 1870. **The Oneonta and Montrose Sandstone of Vanuxem with the Hamilton and Chemung groups. *The American Naturalist*, Vol. 4, no. 10 (December 1870), pp. 639–640.**

A short note, apparently from a letter, with further explanation by Hall of the preceding abstract. See 559, 572, 761, 762, 965.

Darton, 1896, p. 453. Cited as 1871.

Nickles, 1923, p. 445, included in James Hall item 70.

561. Hall, James. 1870. **Report on the condition of the State Cabinet now printed; pp. 261–262. *Proceedings of the Albany Institute*. December 15, 1863. *Transactions of the Albany Institute*. Vol. VI. Albany: J. Munsell.**

Ten new species of fossil plants of the genus *Dictyophyton* were described in the appendix. The index lists this as "notice of marine algae." Paraphrased by the Secretary, J. Mosher. See 780.

562. Hall, James. 1870. **Some fossils from the Potsdam Sandstone; p. 262. *Proceedings of the Albany Institute*. December 29, 1863. *Transactions of the Albany Institute*. Vol. VI. Albany: J. Munsell.**

This one-paragraph summary of Hall's oral report was prepared by the Secretary, J. Mosher. See 430, 431, 433.

563. Hall, James. 1870. **Recent Progress in Geology; pp. 291–294. *Proceedings of the Albany Institute*. January 17, 1865. *Transactions of the Albany Institute*. Vol. VI. Albany: J. Munsell.**

Hall gave a history of early views that granite rocks were the original nucleus of the globe, and all stratified rocks derived from the erosion of the crystalline masses. He traced the discoveries, mostly in Canada, that changed these theories. He regarded the discovery of foraminifera as the most important for geological science of any discovery during the present age. Paraphrase of Hall's presentation by the secretary.

Murray, 1884, p. 91, scientific papers item 177.  
 Murray, 1889, p. 91, scientific papers item 177.  
 Darton, 1896, p. 453.  
 Clarke, 1899, p. 446, scientific papers item 177.  
 Hovey, 1899, p. 162, scientific papers item 177.  
 Nickles, 1923, p. 445, item 70a.

- 564. Hall, James. 1871. Notes on some new or imperfectly known forms among the Brachiopoda, etc.; 5 pp. Preliminary Notice; Twenty-third Report on the State Cabinet of Natural History, preparatory for the *Palaeontology of New York*, [March 1871].**

Hall stated that this paper was printed in March 1871 in an issue of 25 or 30 copies and cited some to whom copies were sent on the 7th of April, 1871. Hall's personal copy of this preprint in the Hall Collection, Indiana University, has a tip-in in which are handwritten the names of those to whom copies were sent. E. Billings wrote "A Question of Priority" in *The American Journal of Science and Arts*, 1872, n.s., Vol. VI (April 1872), pp. 330–333, and "Note on a Question of Priority" in the same journal, 1872, 3d Ser., Vol. III, No. 16 (April 1872), pp. 270–273, regarding publication and distribution of this article. After Hall's reply in *The American Journal of Science and Arts*, 1872, 3d Ser., Vol. IV, No. 20 (August 1872), pp. 105–109, Billings wrote a rejoinder in the same issue—pp. 399–400. Citation for this article is in Rex Doescher's unpublished listing of Hall brachiopod papers in the Springer Library, NMNH. See **52, 53, 118, 130, 206, 313, 339, 395, 417–420, 447, 463, 494, 587–590, 592, 640, 641, 770, 786, 793, 815, 833, 908, 924, 932, 934, 945, 957, 961, 961, 985, 987, 1003–1007, 1010, 1011, 1024–1028.**

Murray, 1884, p. 92, included in scientific papers item 190. Cited as: March 1871, reprinted with explanation of figures March 1873.  
 Murray, 1889, p. 92, included in scientific papers item 190. Cited as: March 1871, reprinted with explanation of figures March 1873.  
 Hovey, 1899, p. 163, included in scientific papers item 190. Cited as: March 1871, reprinted with explanation of figures March 1873.  
 Ellis, 1903, p. 287.

- 565. Hall, James. 1871. Report of the Curator; pp. 5–12. In *Twenty-First Annual Report of the Regents of the University of the State of New-York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 20, 1868. Albany: Van Benthuyssen Printing House. State of New York. No. 92. In Senate, April 20, 1868.**

Ellis, 1903, p. 287.

- 566. Hall, James. 1871. F. Notes and Observations on the Cohoes Mastodon; pp. 99–148, 25 text-figs., 7 pls. In *Twenty-First Annual Report of the Regents of the University of the State of New-York, on the***

***Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature April 20, 1868. Albany: Van Benthuyssen Printing House. State of New York. No. 92. In Senate, April 20, 1868.**

See 487.

Murray, 1884, p. 91, scientific papers item 170; p. 92, scientific papers item 182.  
 Murray, 1889, p. 91, scientific papers item 182.  
 Clarke, 1899, p. 446, scientific papers item 170; p. 447, scientific papers item 182.  
 Hovey, 1899, pp. 162–163, scientific papers item 182.  
 Royal Society of London, 1902, vol. 12, p. 306, item 91.  
 Ellis, 1903, p. 287.  
 Nickles, 1923, p. 445, item 71.

- 567. Hall, James. 1871. *Palaeontology*. Part III. *Organic Remains of the Niagara Group and Associated Limestones*; 94 pp., 18 pls. Geological Survey of the State of Wisconsin, 1859–1863. Albany, [New York].**

See 441.

Murray, 1884, p. 81, books item 17.  
 Murray, 1889, p. 78, books item 17.  
 Clarke, 1899, p. 437, books item 17.  
 Hovey, 1899, p. 150, books item 17.  
 Nickles, 1923, p. 446, item 71a.

- 568. Hall, James. 1871. *Palaeontology*. Part Third. *Organic Remains of the Niagara Group and Associated Limestones*; 94 pp., plus Errata; 14 numbered, 2 unnumbered text-figures; 25 plates: explanations of plates are numbered X–XII, XIIa, XIII–XXIII; plates are the same except for 12a(I) and 24–25. The left headings of the plates are: State Mus. Nat. Hist. 20. Geological Survey of the State of Wisconsin, 1859–1863.**

This soft-cover quarto has no publication data. In the preface, Hall says that the State of Wisconsin never made an appropriation for publication of this paper (Vol. 1 was published in 1862 by authority of the Legislature of Wisconsin), and he "has been compelled to seek a publication of the results of his labor elsewhere." The three articles in this publication are identical to those in Hall [1868] 1870, Descriptions of New or Little-Known Species of Fossils from Rocks of the Age of the Niagara Group, 20<sup>th</sup> Report. See 441, 533–535.

- 569. Hall, James. 1871. *Palaeontology*. Part Third. Geological Survey of the State of Wisconsin, 1859–1863; 94 pp., pls. 10–25.**

This should be the same as Nickles's (1923) James Hall item 71a, but the copy we examined had only the title indicated above and no indication that it was published in Albany. See 441.



570. Hall, James. 1871. List of fossils of the Niagara Group, occurring in the Wisconsin, Illinois, and Iowa limestones. Organic Remains of the Niagara Group and Associated Limestones; pp. 91–94. In *Palaeontology*. Part Third. Geological Survey of the State of Wisconsin, 1859–1863. Albany: C. Van Benthuysen & Sons.

Separate publication of part of the preceding citations that were part of the [1867] 1868 Twentieth Annual Report (New York). See 441.

571. Hall, James. 1871. Notice of the Fossil Plants of the Hamilton and Chemung Groups, with Reference to the Source of the Sediments of These Formations; p. 362. *Proceedings of the American Association for the Advancement of Science*. Nineteenth Meeting Held at Troy, New York, August, 1870. Cambridge: Published by Joseph Lovering.

Title only. See 559, 560.

Murray, 1884, p. 91, scientific papers item 178.  
Murray, 1889, p. 91, scientific papers item 178.  
Clarke, 1899, p. 446, scientific papers item 178.  
Hovey, 1899, p. 162, scientific papers item 178.

572. Hall, James. 1871. On the Relation of the Onedonta [*sic*] Sandstone and Montrose Sandstone of Vanuxem to the Hamilton and Chemung Groups; p. 362. *Proceedings of the American Association for the Advancement of Science*. Nineteenth Meeting Held at Troy, New York, August 1870. Cambridge: Published by Joseph Lovering.

Title only. See 559, 560, 761, 762, 965.

Murray, 1884, p. 92, scientific papers item 179.  
Murray, 1889, p. 91, scientific papers item 179.  
Clarke, 1899, p. 447, scientific papers item 179.  
Hovey, 1899, p. 162, scientific papers item 179.

573. Hall, James. 1871. Note upon the Rocks of the Huronian System on the Peninsula of Michigan; p. 362. *Proceedings of the American Association for the Advancement of Science*. Nineteenth Meeting Held at Troy, New York, August 1870. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 92, scientific papers item 180.  
Murray, 1889, p. 91, scientific papers item 180.  
Clarke, 1899, p. 447, scientific papers item 180.  
Hovey, 1899, p. 162, scientific papers item 180.

574. Hall, James. 1871. Remarks on the Occurrence of the Genus *Dithyrocaris* in the Hamilton and Chemung Rocks of New York; p. 363. *Proceedings of the American Association for the Advancement*

*of Science*. Nineteenth Meeting Held at Troy, New York, August 1870. Cambridge: Published by Joseph Lovering.

Title only. See 426.

Murray, 1884, p. 92, scientific papers item 181.  
Murray, 1889, p. 91, scientific papers item 181.  
Clarke, 1899, p. 447, scientific papers item 181.  
Hovey, 1899, p. 162, scientific papers item 181.

575. Hall, James. 1871. Descriptions of some new species of fossils, from the shales of the Hudson River Group, in the vicinity of Cincinnati, Ohio; 8 pp.

Title page indicates it was published in October 1871, through description of *Beyrichia oculifer* (n. sp.). See 484, 705.

576. Hall, James. 1871. Description of new species of fossils from the Hudson River Group, in the vicinity of Cincinnati, Ohio; pp. 21–28, pls. 7–8. Published October 1871, in advance of the Report on the State Museum. Albany: The Argus Company, Printers.

This is bound with and continues the pagination of the preceding citation. The cover page has a title different from the text title and reads: “Description of new species of fossils from the Hudson-River Group of Ohio and Trenton Limestone of Wisconsin.” This article is pages 225–232 of 24th Annual Report of the New York State Museum. See 484, 705.

Murray, 1884, p. 92, scientific papers item 195.  
Clarke, 1899, p. 447, scientific papers item 195.  
Hovey, 1899, p. 163, scientific papers item 195.  
Ellis, 1903, p. 287.

577. Hall, James. 1871. Descriptions of some new species of fossils, from the shales of the Hudson River Group, in the vicinity of Cincinnati, Ohio. Published October 1871, in advance of the 24th Report on the State Museum; 8 pp., 4 pls. [only pl. 2 is numbered].

Published in final form in the Twenty-fourth Annual Report of the New York State Museum. In this reprint, Hall gives a history of this paper to the time of its publication, which is indicated as October 1871 on the title page. However, the plates also contain an appended note on the history of the paper. The plates were apparently not ready for distribution until March 1872. How widely distributed the October printing was without the plates (see preceding citation) is unclear. See 484, 705.

578. Hall, James. 1871. Contributions to Palaeontology. Genus *Eurypteris* [*sic*]. (From *Palaeontology of N. York*, Vol. III); 43 pp., 11 pls., 8 text-figs. + 1 unnumbered text-fig. Albany, NY: Van Benthuysen Printing House.

Plates under the heading "Palæont. N.Y. Vol. 3." are variously numbered: 80, LXXXA, LXXXIB, LXXXIC, LXXXII, 82, 83, 89A, 84, LXXXIVA. The James Hall Papers, New York State Archives, have two copies of this work. One has a cover, plus title page as given above. The second copy is an uncut version without cover or title page, but containing penciled references of appropriate pages in Volume 3 of the *Paleontology of New York*. See 330.

579. Hall, James. [1871] 1920. Letter (March 27, 1871) to Hon. De Witt C. Littlejohn; pp. 356–357. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.

Littlejohn was apparently a member of the State Legislature. Hall complained about the lack of space and money for his work, and hoped the committee would give more money.

580. Gilbert, Grove Karl, [and James Hall?]. No date [1871]. Notes of Investigations at Cohoes with reference to the circumstances of deposition of the skeleton of *Mastodon*; by G. K. Gilbert, under the direction of James Hall.

The James Hall Papers, New York State Archives (box 69, folder 1548), contain galleys of this manuscript without any date, and suggest an article by Gilbert and Hall. Folder 1549 in box 69 contains an issue of the Twenty-first Report of the State Museum of Natural History with Gilbert's drawings and maps, including the pictures of the *Mastodon* mounted for exhibition. The galley may have been prepared years before publication as Hall began reporting on this *Mastodon* find in 1866. An article with this title was published in the Twenty-first Report and is usually attributed solely to Gilbert (e.g., Nickles, 1923, p. 398). See 487.

581. Hall, James. 1872. Letter from Professor James Hall, on certain Fossils in the Red Sandstone of Highgate; pp. 321–322. In E. Billings, "Remarks on the Taconic Controversy." *The Canadian Naturalist and Quarterly Journal of Science, with the Proceedings of the Natural History Society of Montreal*, n.s., Vol. VI, No. 3 (April), pp. 313–325.

This letter, dated September 17<sup>th</sup>, 1847, is a copy of a letter from Hall first published in Adams, 1847, *Third Annual Report on the Geology of Vermont*, p. 31. This letter was also republished in an article by Billings in *The American Journal of Science and Arts*, 2d ser., Vol. XXXIII, No. 99 (May 1862), p. 374. See 80, 87, 355, 387.

582. Hall, James. 1872. Report of the Director; pp. 5–15. In *Twenty-Fourth Annual Report on the New York State Museum of Natural History, by the Regents of*

*the University of the State of New York*. Transmitted to the Legislature April 18<sup>th</sup>, 1871. Albany: The Argus Company, Printers. State of New York. No. 68. In Senate, April 18, 1871.

Ellis, 1903, p. 287.

583. Hall, James. 1872. The Schoharie Fossils, — Letter of Dr. Hall to Dr. S. B. Woolworth, Secretary of the Board of Regents; pp. 15–16. In *Twenty-Fourth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature April 18<sup>th</sup>, 1871. Albany: The Argus Company, Printers. State of New York. No. 68. In Senate, April 18, 1871.

This is noted as: (From *The Albany Argus* of January 30, 1870.). See 556, 625, 627.

Murray, 1884, p. 92, scientific papers item 192. Cited as: Report on fossil trees of Schoharie County.

Murray, 1889, p. 92, scientific papers item 192. Cited as: Report on fossil trees of Schoharie County.

Clarke, 1899, p. 447, scientific papers item 192. Cited as: Report on fossil trees of Schoharie County.

Hovey, 1899, p. 163, scientific papers item 192. Cited as: Report on fossil trees of Schoharie County.

Ellis, 1903, p. 287. Cited as: Fossil Trees in Schoharie County.

584. Hall, James. 1872. Description of new species of *Crinoidea* and other fossils from strata of the age of the Hudson-River Group and Trenton Limestone; pp. 205–224, 3 text-figs., pls. 5–8. In *Twenty-Fourth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature April 18<sup>th</sup>, 1871. Albany: The Argus Company, Printers. State of New York. No. 68. In Senate, April 18, 1871.

Advance sheets of this paper were published in October 1871. In a footnote, Hall (p. 205) writes: "This paper was originally published in November, 1866, as advance sheets of the Twentieth Report on the New York State Cabinet of Natural History. In the present publication have been added descriptions of *Glyptocrinus parvus*, *Poteriocrinus posticus*, *Heterocrinus constrictus*, *H. latus* and *Proetus parviusculus*: of these, figures with their explanations were given in a reissue of the paper in October, 1871. There have also been added diagrams (1–3) illustrative of the genera *Glyptocrinus* and *Glyptaster*." A printed tip-in opposite page 204 reads: "The following paper, from p. 205 to p. 224 inclusive, is a republication of species described and published in 1866, except the first four species of Crinoidea mentioned in the foot note on page 205, which were first published in 1871. All the other species should have been cited as published in 1866, but owing to the absence of the author during the printing, they are

erroneously indicated as *n. sp.* in the present republication." See 483, 575, 585, 674.

White and Nicholson, 1878, p. 37.

Murray, 1884, p. 90, scientific papers item 141; p. 92, scientific papers item 194.

Murray, 1889, p. 88, scientific papers item 141; p. 92, scientific papers item 194.

Clarke, 1899, p. 445, scientific papers item 141; p. 447, scientific papers item 194.

Hovey, 1899, p. 160, scientific papers item 141; p. 163, scientific papers item 194.

Royal Society of London, 1902, vol. 12, p. 306, item 92.

Ellis, 1903, p. 287.

Nickles, 1923, p. 445, included in James Hall item 66.

- 585. Hall, James. 1872. Description of new species of *Crinoidea* and other fossils from the Hudson-River Group and Trenton Limestone; 20 pp., pls. 5–8, 3 figs. in text. Published December 1866, in advance of the Report on the State Cabinet, Albany: The Argus Company, Printers.**

The reference to plate 2 on page 10 should be plate 6 of this edition. This is pages 205–224 of 24th Annual Report of the New York State Museum and is bound with the following citation: "This reprint from the 24th Annual Report of the New York State Museum is paginated as in the Report, including unnumbered errata sheet opposite page 232." See 584.

- 586. Hall, James. 1872. Description of new species of fossils from the Hudson River Group, in the vicinity of Cincinnati, Ohio; pp. 225–232. In *Twenty-fourth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State of New York. No. 68. In Senate, April 18, 1871. Albany: The Argus Company, Printers.**

See note appended to following citation. A note on the errata sheet for the volume gives the following information: "Note—The Report on the State Museum of Natural History is printed in the ordinary course, as a legislative document of 800 copies. The copies for the Regents of the University and for the State Museum are printed by a distinct legislative order, but bear the date of the documentary edition, which, in the present instance, was printed and delivered in 1872, according to the imprint of the title page." See 483, 705.

White and Nicholson, 1878, p. 37.

Murray, 1884, p. 92, scientific papers item 195.

Murray, 1889, p. 92, scientific papers item 195.

Clarke, 1899, p. 447, scientific papers item 195. Cited as: published October 1871, in advance of the State Cab. Rept.

Hovey, 1899, p. 163, scientific papers item 195.

Royal Society of London, 1902, vol. XII, p. 306, item 93.

Ellis, 1903, p. 287.

Nickles, 1923, p. 446, item 72b.

- 587. Hall, James. 1872. Reply to a "Note on a question of Priority." *The American Journal of Science and Arts*, 3d ser., Vol. IV, No. 20 (August 1872), pp. 105–109.**

This article is in response to an article by E. Billings, in *The American Journal of Science and Arts*, 1872, 3d ser., Vol. III, No. 16 (April 1872), pp. 270–273, regarding publication and distribution of Hall's 1871 article, "Notes on some new or imperfectly known forms among the brachiopoda." Billings also wrote a rejoinder in the same journal—3d Ser., Vol. IV, No. 20, (August 1872), pp. 399–400. See 564, 641.

Royal Society of London, 1877, vol. VII, p. 891, item 50. Cited as: Reply to a "Note on a question of Priority," by E. Billings (*Rhynobolus* or *Trimerella?*).

Murray, 1884, p. 92, scientific papers item 184.

Murray, 1889, p. 91, scientific papers item 184.

Clarke, 1899, p. 447, scientific papers item 184.

Hovey, 1899, p. 163, scientific papers item 184.

Nickles, 1923, p. 446, item 72c.

- 588. Hall, James. 1872. Reply to a "Note on a question of priority"; pp. 23–27.**

This version contains the same text, but not the same type font or pagination as *The American Journal of Science and Arts* article, and a different pagination from that published in the 23rd Annual Report of the New York State Museum. A copy in the James Hall Papers, New York State Archives, also contains three paragraphs by Hall preceding the main text (paragraphs also in 23rd Annual Report), and explaining the controversy between Hall and Billings. See 564, 641.

- 589. Hall, James. 1872. Reply to a "Note on a question of priority"; 5 pp.**

Text is the same as the preceding two citations, with separate pagination and a prefatory note as in the preceding citation. See 564, 641.

- 590. Hall, James. 1872. Notes on some new or imperfectly known forms among the Brachiopoda, etc.; pp. 1–5, pls. 1–13. Reprinted with explanations of figures, March 1872. Preliminary Notice; Twenty-third Report on the State Cabinet of Natural History, preparatory for the *Palæontology of New York*. By James Hall [and] Reply to a "Note on a question of priority."; pp. 23–27.**

In this version, the preceding and next entries are bound together with this article. See 564, 641.

Murray, 1884, p. 92, included in scientific papers item 190.

Murray, 1889, p. 92, included in scientific papers item 190.

Hovey, 1899, p. 163, included in scientific papers item 190. Cited as: published March 1871, reprinted with explanations of figures, March 1873.



591. Hall, James. 1872. Descriptions of new species of Crinoidea from the Carboniferous rocks of the Mississippi Valley; pp. 261–328, 7 pls.

This version of the 1861 article from the *Journal of the Boston Society of Natural History* contains seven plates, dated as August 1872. Pagination is as in original article. See 233, 351–354.

Murray, 1884, p. 88, scientific papers item 104.

Murray, 1889, p. 86, scientific papers item 104.

Clarke, 1899, p. 443, scientific papers item 104.

592. Hall, James. 1872. Notes on some new or imperfectly known forms among the Brachiopoda, etc.; 5 pp., pl. 13. Reprinted with explanation of figures, March 1872. Preliminary Notice; Twenty-third Report on the State Cabinet of Natural History, preparatory for the *Palæontology of New York*.

Description of plate is printed incorrectly as 14. It may have been printed again in August 1872, or later with additional note of dates of publication. A copy in the Hall Collection, Indiana University, contains, in Hall's handwriting, a list of people to whom the reprint was sent. See 564.

593. Hall, James. 1872. On the Occurrence of Trunks of *Psaronius* in an Erect Position, Resting on Their Original Bed, in Rocks of Devonian Age in the State of New York; with some Inferences regarding the Condition of Sea-bottom and Shore-line during the Deposition of the Strata. *Geological Magazine*, Vol. IX, No. C (October 1872), pp. 463–465.

This paper was read before the British Association, Brighton, 1872. See 610.

Royal Society of London, 1877, vol. VII, p. 891, included in James Hall item 51.

Nickles, 1923, p. 446, item 72e.

594. Hall, James. 1872. On the Relations of the Middle and Upper Silurian (Clinton, Niagara, and Helderberg) Rocks of the United States. *Geological Magazine*, Vol. IX, No. CI (November 1872), pp. 509–513.

Reprint separately paginated and published November 1872. See 611.

Royal Society of London, 1877, vol. VII, p. 891, included in James Hall item 52.

Murray, 1884, p. 93, included in scientific papers item 197.

Murray, 1889, p. 92, included in scientific papers item 197.

Darton, 1896, p. 453.

Clarke, 1899, p. 447, scientific papers item 197.

Hovey, 1899, p. 164, included in scientific papers item 197.

Nickles, 1923, p. 446, item 72f.

595. Hall, James. 1872. Remarks upon the Catskill Red Sandstone Group as it occurs upon the Borders of

New York and Pennsylvania; p. 418. *Proceedings of the American Association for the Advancement of Science*. Twentieth Meeting, Held at Indianapolis, Indiana, August 1871. Cambridge: Published by Joseph Lovering.

Title only.

Murray, 1884, p. 92, scientific papers item 183.

Murray, 1889, p. 91, scientific papers item 183.

Clarke, 1899, p. 447, scientific papers item 183.

Hovey, 1899, p. 163, scientific papers item 183.

596. Hall, James. 1872. Preliminary note; pp. 3–5. In James Hall and R[obert] P[arr] Whitfield, *Descriptions of New Species of Fossils, from the Devonian Rocks of Iowa; with a Preliminary Note on the Formations*. Published July 1872, in advance of the Report on the State Cabinet. Albany: Weed, Parsons & Company, Printers.

597. Hall, James. 1872. Descriptions of new species of fossils. From the Devonian rocks of Iowa; pp. 7–20. In James Hall and R[obert] P[arr] Whitfield, *Descriptions of New Species of Fossils, from the Devonian Rocks of Iowa; with a Preliminary Note on the Formations*. Published July 1872, in advance of the Report on the State Cabinet. Albany: Weed, Parsons & Company, Printers.

See 596, 598, 608, 647.

598. Hall, James. 1872. Notice of two species of fossil shells from the Potsdam Sandstone of New York; pp. 20–21. In James Hall and R[obert] P[arr] Whitfield, *Descriptions of New Species of Fossils, from the Devonian Rocks of Iowa; with a Preliminary Note on the Formations*. Published July 1872, in advance of the Report on the State Cabinet. Albany: Weed, Parsons & Company, Printers.

See 596, 597, 608, 647, 649.

599. Hall, James. [1872] 1921. Letter (June 29, 1872) to T. Sterry Hunt; pp. 450–451. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall discussed the controversy about the Hudson River and Quebec groups with Logan, and also about the naming of the Taconic by Eaton rather than Emmons. Hunt was a chemist at the Canadian Geological Survey. See 80.

600. Hall, James. [1872] 1964. Letter (May 2, 1872) to T. Sterry Hunt; pp. 727–728. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.

Hall wrote about his main points of opposition to the Taconic system, following publication of an article by E. Billings in the *Canadian Naturalist*. See 80.

601. [Hall, James.] 1872. Letter; p. 2. In J. S. Newberry, "Geological Survey," Letter to the Editor of the *Ohio State Journal*, *Daily Ohio State Journal*, Vol. XXXIII, No. 81, Tuesday, April 2, 1872.

Part of Hall's letter is quoted on page one in C. Whittlesey, *Paleontology and the Moral Sense*, 1873. Newberry did not mention Hall by name, writing: "The most distinguished geologist and paleontologist in this country thus writes me in this connection." Whittlesey identified the writer as Hall, saying that Hall "presents himself as a volunteer, in the differences between Prof. J. S. Newberry, of Columbia College, New York; and myself." Hall called Whittlesey a marplot, and was very critical of him and his work. Whittlesey had worked for Hall in the Wisconsin Geological Survey. See 326, 609.

602. Hall, James, G. W. Hough, Thomas Hun and Le Roy C. Cooley. 1872. Report on the Water Supply of the City of Albany. *Transactions of the Albany Institute*. Vol. VII, pp. 218–227.

Submitted to the Albany Institute on May 21, 1872, and adopted without dissent, after extended discussion, June 18, 1872. See 615, 636.

Murray, 1884, p. 92, scientific papers item 185.  
Murray, 1889, p. 91, scientific papers item 185.  
Clarke, 1899, p. 447, scientific papers item 185.  
Hovey, 1899, p. 163, scientific papers item 185.

603. Hall, James, and R[obert] P[arr] Whitfield. 1872. Description of New Species of Fossils from the Vicinity of Louisville, Ky., and the Falls of the Ohio; pp. 181–200a. In *Twenty-Fourth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature April 18<sup>th</sup>, 1871. State of New York. No. 68. In Senate, April 18, 1871. Albany: The Argus Company, Printers.

Illustrations of this paper on plate 6 in the 27<sup>th</sup> Report (1875), page 200A, are entitled: Supplement. See Hall 1875, 27<sup>th</sup> Report: "The following Plates, 9–13, inclusive, are illustrative of a paper on *New Species of Fossils from the Vicinity of Louisville, Kentucky, and the Falls of the Ohio*, in the 24<sup>th</sup> Report on the State Museum of Natural History, pp. 181–200<sup>a</sup>. The plates were omitted in the publication of the Report for want of time for their preparation. Explanations refer to pages of the 24<sup>th</sup> Report." See 604–606, 671, 700, 718, 740.

White and Nicholson, 1878, p. 38.  
Murray, 1884, p. 92, scientific papers item 191.  
Murray, 1889, p. 92, scientific papers item 191.  
Clarke, 1899, p. 447, scientific papers item 191.  
Hovey, 1899, p. 163, scientific papers item 191.

Ellis, 1903, p. 287.

Nickles, 1923, p. 446, item 72.

604. Hall, James, and R[obert] P[arr] Whitfield. 1872. Description of new species of fossils from the vicinity of Louisville, Kentucky, and the Falls of the Ohio; pp. 181–200a. In *Twenty-Fourth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature April 18<sup>th</sup>, 1871. Albany: The Argus Company, Printers. State of New York. No. 68. In Senate, April 18, 1871.

Reprint is paginated as in original and contains no date. Six plates (numbered 9–13) for this article were published in the Twenty-Seventh Annual Report (1875). See 603, 605, 606.

White and Nicholson, 1878, p. 38.

Clarke, 1899, p. 447, scientific papers item 191.

Hovey, 1899, p. 163, scientific papers item 191.

Royal Society of London, 1902, vol. XII, p. 306, Hall and Whitfield item 1.

Nickles, 1923, p. 446, item 72.

605. Hall, James, and R[obert] P[arr] Whitfield. 1872. Descriptions of new species of fossils, from the vicinity of Louisville, Kentucky, and the Falls of the Ohio. From the collection of Dr. James Knapp, of Louisville; 7 pp. Published May 1872, in advance of the Report on the State Museum.

Descriptions begin with *Orthis nisis*. See 335, 423, 603, 604, 606, 805, 811, 915, 939.

606. Hall, James, and R[obert] P[arr] Whitfield. 1872. Descriptions of new species of fossils, from the vicinity of Louisville, Kentucky, and the Falls of the Ohio; from the collection of Dr. James Knapp, of Louisville; 13 pp. Published June 1872, in advance of the Report on the State Museum.

Pages 1–8 contain descriptions of Silurian and Devonian species. Pages 9–13 are under separate title: "List of species of fossils, from the cabinet of Dr. James Knapp, of Louisville, Kentucky, which have passed under comparison and examination, in the preparation of the *Paleontology of New York*; and other fossils subsequently received from the same source." This version of the paper begins with the species *Dictyonema pergracilis*. See 603–605.

607. Hall, James, and R[obert] P[arr] Whitfield. 1872. Remarks on Some Peculiar Impressions in Sandstone of the Chemung Group, New York; pp. 201–204, 1 fig. In *Twenty-Fourth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New*

**York.** Transmitted to the Legislature April 18<sup>th</sup>, 1871. Albany: The Argus Company, Printers. State of New York. No. 68. In Senate, April 18, 1871.

White and Nicholson, 1878, p. 38.

Murray, 1884, p. 92, scientific papers item 193.

Murray, 1889, p. 92, scientific papers item 193.

Clarke, 1899, p. 447, scientific papers item 193.

Hovey, 1899, p. 163, scientific papers item 193.

Royal Society of London, 1902, vol. XII, p. 306, Hall and Whitfield item 2.

Ellis, 1903, p. 287.

Nickles, 1923, p. 446, item 72a.

608. Hall, James, and R[obert] P[arr] Whitfield. 1872. *Descriptions of New Species of Fossils, from the Devonian Rocks of Iowa; with a Preliminary Note on the Formations.* Published July 1872, in advance of the Report on the State Cabinet. Albany: Weed, Parsons & Company, Printers; 21 pp., pls. 9–12.

Preprint is separately paginated from the 1873 article. See 596–598, 647.

609. Hall, James. 1873. Extract from Prof. Hall's Letter, *Daily Ohio State Journal*, Vol. XXXIII, No. 81, Tuesday, April 2, 1872; p. 1. In C. Whittlesey, *Paleontology and the Moral Sense*. 10 pp., Appendix. Cleveland [Ohio]: [privately printed].

Part of this letter is quoted. Whittlesey said that Hall "presents himself as a volunteer, in the differences between Prof. J. S. Newberry, of Columbia College, New York; and myself." See 326, 601.

610. Hall, James. 1873. On the occurrence of Trunks of *Psaronius* in an erect position, resting on their original bed, in Rocks of Devonian age in the State of New York; with some Inferences regarding the Condition of the Sea-bottom and Shore-line during the Deposition of the Strata. [Abstract]; p. 103. *Report of the Forty-Second Meeting of the British Association for the Advancement of Science; Held at Brighton in August 1872. Notices and Abstracts of Miscellaneous Communications to the Sections. Geology.* London: John Murray, Albemarle Street.

See 593.

Royal Society of London, 1877, vol. VII, p. 891, item 51. Cited as 1872.

Murray, 1884, p. 93, scientific papers item 196.

Murray, 1889, p. 92, scientific papers item 196.

Clarke, 1899, p. 447, scientific papers item 196.

Hovey, 1899, pp. 163–164, scientific papers item 196.

Nickles, 1923, p. 446, item 72d.

611. Hall, James. 1873. On the Relations of the Middle and Upper Silurian (Clinton, Niagara, and Lower

Helderberg) Rocks of the United States; pp. 103–104. *Report of the Forty-Second Meeting of the British Association for the Advancement of Science; Held at Brighton in August 1872. Notices and Abstracts of Miscellaneous Communications to the Sections. Geology.* London: John Murray, Albemarle Street.

See 594.

Royal Society of London, 1877, vol. VII, p. 891, item 52. Cited as 1872.

Murray, 1884, p. 93, scientific papers item 197.

Murray, 1889, p. 92, scientific papers item 197.

Darton, 1896, p. 453. Cited as 1872.

Clarke, 1899, p. 447, scientific papers item 197.

Hovey, 1899, p. 164, scientific papers item 197.

Nickles, 1923, p. 446, included in James Hall item 72f.

612. Hall, James. 1873. The N. Y. State Museum of Natural History. Its history and present condition. Founded by John A. Dix when Secretary of State—Description of the Zoological, Archaeological, Geological and other Collections—A Great School of Natural History. *Albany Daily Evening Times*, February 5, 1873.

Murray, 1884, p. 92, scientific papers item 186.

Murray, 1889, p. 91, scientific papers item 186.

Clarke, 1899, p. 447, included in scientific papers item 186.

Hovey, 1899, p. 163, scientific papers item 186.

613. Hall, James. 1873. Remarks upon the subject of petroleum; p. 8. *Proceedings of the Albany Institute, from March 1865 to September 1872.* May 22, 1865. Vol. 1. Albany: J. Munsell.

Hall had doubts about oil being found in any quantities in the state of New York. Paraphrased by the Secretary, D. J. Pratt.

614. Hall, James. 1873. An account of recent geology in Minnesota; p. 10. *Proceedings of the Albany Institute from March 1865 to September 1872.* November 28, 1865. Vol. 1. Albany: J. Munsell.

Title only. Hall also inquired about the explosion of the steamer St. John. Paraphrased probably by the Secretary D. J. Pratt. See 489.

615. Hall, James. 1873. Remarks relative to the Water Supply of Albany; pp. 41–43. *Proceedings of the Albany Institute from March 1865 to September 1872.* June 13, 1866. Vol. 1. Albany: J. Munsell.

Hall remarked about the main supply of water for Albany being wells and springs. He also discussed the pollution of the shallow lakes in the area. The Abstract was probably prepared by the Secretary D. J. Pratt. See 602, 636.



616. Hall, James. 1873. Building Materials of the State of New York; p. 45. *Proceedings of the Albany Institute from March 1865 to September 1872*. June 19, 1866. Vol. 1. Albany: J. Munsell.

One paragraph summary by the Secretary D. J. Pratt.

617. Hall, James. 1873. An account of the recent obtaining of salt water in the Onondaga salt group; p. 45. *Proceedings of the Albany Institute from March 1865 to September 1872*. November 14, 1866. Vol. I. Albany: J. Munsell.

Hall described how salt water was obtained by boring to great depth, and showed a sample of the salt obtained from the brine by evaporation. One-paragraph summary by the Secretary D. J. Pratt.

618. Hall, James. 1873. The recent discovery of a mastodon at Cohoes; pp. 45–46. *Proceedings of the Albany Institute from March 1865 to September 1872*. November 14, 1866. Vol. I. Albany: J. Munsell.

Hall briefly described the finding of the mastodon in Cohoes. Hall made a motion to try to obtain the specimen for the State Cabinet of Natural History. Paraphrased by the Secretary D. J. Pratt. See 487.

619. Hall, James. 1873. A further account about the recent discovery of the remains of a mastodon at Cohoes; p. 56. *Proceedings of the Albany Institute from March 1865 to September 1872*. January 21, 1867. Vol. 1. Albany: J. Munsell.

Hall emphasized the difference between the mastodon and an elephant, showing teeth from both. Paraphrased by the Secretary D. J. Pratt. See 487.

620. Hall, James. 1873. A report on the various plans for the care and observation of the cabinets. *Proceedings of the Albany Institute from March 1865 to September 1872*; pp. 56–57. February 4, 1867. Vol. 1. Albany: J. Munsell.

Hall gave this verbal report on behalf of the curators. The Cabinets contained the collections of the Albany Institute, for which Hall was one of the Curators. There was discussion about whether to give the collections to the State. A motion was made to offer the Cabinet of Natural History and Minerals to the State. Paraphrased by the Secretary D. J. Pratt.

621. Hall, James. 1873. The Mastodon of Cohoes; p. 84. *Proceedings of the Albany Institute from March 1865 to September 1872*. June 2, 1868. Vol. 1. Albany: J. Munsell.

Hall gave his theory that the mastodon had been deposited from ice in the ice period. Paraphrased by the Secretary. See 487.

622. Hall, James. 1873. The Origin and Formation of Prairies; pp. 92–93. *Proceedings of the Albany Institute from March 1865 to September 1872*. February 2, 1869. Vol. 1. Albany: J. Munsell.

Hall's thesis was that prairies were not the result of human agency, but necessary consequences of a continental condition. In the copy in the Regenstein Library, University of Chicago (which was donated by Hall), Hall has penciled in some question marks by one statement about severe rainfall. Paraphrased by the Secretary.

623. Hall, James. 1873. The recent discovery of a statue in human form found in Cardiff, Onondaga County; pp. 105–107. *Proceedings of the Albany Institute from March 1865 to September 1872*. October 26, 1869. Vol. 1. Albany: J. Munsell.

Hall described the site where the colossal Caucasian figure of gypsum was found and the statue also. There was much speculation about how long the statue has been there. Paraphrased by the Secretary. See 553.

624. Hall, James. 1873. Fossil Bi-valve Shells of the Upper Helderberg, Hamilton, Portage, and Chemung Groups [Abstract]; pp. 125–127. *Proceedings of the Albany Institute from March 1865 to September 1872*. January 4, 1870. Vol. 1. Albany: J. Munsell.

Hall revised the printed abstract. Hall discussed the depth of the ancient ocean at which his fossils were found. He also showed the drawings made for the *Paleontology of New York*.

Nickles, 1923, p. 446, item 71b. Cited as 1871.

625. Hall, James. 1873. Comments on fossil trees from rocks of the Hamilton Group, at Gilboa, Schoharie County; pp. 129–131, 132–134. *Proceedings of the Albany Institute from March 1865 to September 1872*. January 18, 1870, and February 1, 1870. Vol. 1. Albany: J. Munsell.

Hall thought these trees were important because they were found in place. Several of the trees have been brought to the State Cabinet. Paraphrased by the Secretary D. J. Pratt. See 556, 583, 627.

Darton, 1896, p. 453.

Nickles, 1923, p. 446, item 71c. Cited as 1871.

626. Hall, James. 1873. Statement regarding the stereoscopic views in Natural History prepared by Mr. James A. Hurst; pp. 151–152. *Proceedings of the Albany Institute from March 1865 to September 1872*. May 7, 1870. Vol. 1. Albany: J. Munsell.

Hall submitted this statement in his capacity as President of the Second Department (Natural History) of the *Albany Institute*. He regarded the stereoscopic views "as a real acquisition for the library of a naturalist, or student."

627. Hall, James. 1873. The geology of the Schoharie Valley; p. 157. *Proceedings of the Albany Institute from March 1865 to September 1872*. Field Meeting, Schoharie [New York], May 28, 1870. Vol. 1. Albany: J. Munsell.

Hall called the Helderberg series at Schoharie “unusually rich in fossils and in materials for economic purposes.” Paraphrased by the Secretary D. J. Pratt. See 556, 583, 625.

628. Hall, James. 1873. The geology of the Adirondac region; p. 170. *Proceedings of the Albany Institute from March 1865 to September 1872*. Field Meeting, Luzerne, Warren County [New York], June 18, 1870. Vol. 1. Albany: J. Munsell.

Title only. These remarks were made at the Field Meeting at Luzerne, Warren County.

629. Hall, James. 1873. On the objective of the Field Meetings; p. 181. *Proceedings of the Albany Institute from March 1865 to September 1872*. Field Meeting, Hoosick Falls [New York], September 24, 1870. Vol. 1 - Pt. II. Albany: J. Munsell.

Hall included that “his own first course of scientific lectures was given at this place, nearly forty years ago.” Paraphrased by the Secretary D. J. Pratt.

630. Hall, James. 1873. The prominent geological facts and theories relative to this region [Hoosick Falls]; p. 182. *Proceedings of the Albany Institute from March 1865 to September 1872*. Field Meeting, Hoosick Falls [New York], September 24, 1870. Vol. 1 - Pt. II. Albany: J. Munsell.

Hall discussed the fossils as being preserved as delicate markings on the slates from the quarries they visited at Hoosick Falls. Paraphrased by the Secretary D. J. Pratt. See 843, 869.

631. Hall, James. 1873. The geological character of the region between Hudson River and Cherry Valley; p. 193. *Proceedings of the Albany Institute from March 1865 to September 1872*. Field Meeting, Cherry Valley [New York], October 8, 1870. Vol. 1 - Pt. II. Albany: J. Munsell.

Hall's remarks included showing a map prepared by Sir William Logan, illustrating the relationship of New York to other parts of the country. Paraphrased by the Secretary D. J. Pratt.

632. Hall, James. 1873. Crystals from the valuable collection made by the late Dr. Ebenezer Emmons; pp. 211–213. *Proceedings of the Albany Institute from March 1865 to September 1872*. January 3, 1871. Vol. 1 - Pt. II. Albany: J. Munsell.

Hall discussed and showed some specimens from the collection, mostly of calcite specimens that had been recently purchased by

the State Museum from money advanced by Erastus Corning. Paraphrased by the Secretary D. J. Pratt.

633. Hall, James. 1873. General remarks on geology; pp. 255–257. *Proceedings of the Albany Institute from March 1865 to September 1872*. Field Meeting, Pittsfield, Mass., October 14, 1871. Vol. 1, Part III. Albany: J. Munsell.

Hall gave a general talk, with the focus on how water helps to form valleys and fill the ocean basins. Paraphrased by the Secretary D. J. Pratt.

634. Hall, James. 1873. The Geology of the Catskill Region and some other portions of the State; p. 264. *Proceedings of the Albany Institute from March 1865 to September 1872*. December 19, 1871. Vol. 1, Part III. Albany: J. Munsell.

Title only. The paper was given for publication in the *Transactions of the Albany Institute*.

635. Hall, James. 1873. Comments on pollution from factories; pp. 300–301. *Proceedings of the Albany Institute from March 1865 to September 1872*. April 2, 1872. Vol. 1, Part III. Albany: J. Munsell.

Hall was concerned with atmospheric and water pollution from industrial plants and their health effects. Paraphrased by the Secretary D. J. Pratt.

636. Hall, James. 1873. Comments on Albany's water supply; pp. 303–304. *Proceedings of the Albany Institute from March 1865 to September 1872*. April 2, 1872. Vol. 1, Part III. Albany: J. Munsell.

Hall thought that neither the Normanskill nor the Helderbergs would furnish a sufficient water supply for Albany. Paraphrased by the Secretary D. J. Pratt. See 602, 615.

637. Hall, James. 1873. Comments on Prof. Agassiz's “new discovery” of *Brongniartia trilobitoides*; p. 324. *Proceedings of the Albany Institute from March 1865 to September 1872*. May 7, 1872. Vol. 1, Part III.

Hall believed that Agassiz's omission of previous knowledge of the fossil was accidental. Paraphrased by the Secretary D. J. Pratt.

638. Hall, James. 1873. Report of the curator; Appendix A; pp. 5–15. In *Twenty-Third Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature March 10, 1870. State of New York. No. 133. In Assembly, March 10, 1870. Albany: Weed, Parsons and Company, Printers.

The 23rd Annual Report was published after the 24th Annual Report.

Ellis, 1903, p. 287.

639. Hall, James. 1873. Supplement [Note on *Trematis*]; p. 243, figs. 17–19 on pl. 13. In *Twenty-Third Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature March 10, 1870. State of New York. No. 133. In Assembly, March 10, 1870. Albany: Weed, Parsons and Company, Printers.

White and Nicholson, 1878, p. 37.

Nickles, 1923, p. 446, item 73c.

640. Hall, James. 1873. (G.) Notes on Some New or Imperfectly Known Forms among the Brachiopoda, ETC.; pp. 244–247, pls. 1–14. In *Twenty-Third Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature March 10, 1870. State of New York. No. 133. In Assembly, March 10, 1870. Albany: Weed, Parsons and Company, Printers.

According to Hall (footnote, p. 244), this paper was first published in March 1871 and republished with explanation of figures in March 1872. See 564.

White and Nicholson, 1878, p. 37.

Murray, 1884, p. 92, scientific papers item 190. Cited as 1872. Replication cited as 1873.

Murray, 1889, p. 92, scientific papers item 190. Cited as 1872. Replication cited as 1873.

Clarke, 1899, p. 447, scientific papers item 190. Cited as: Published March 1871; reprinted with explanation of figures March 1873.

Hovey, 1899, p. 163, scientific papers item 190. Cited as: Reprinted with explanations of figures March 1873.

Royal Society of London, 1902, vol. XII, p. 306, item 94.

Ellis, 1903, p. 287.

Nickles, 1923, p. 446, item 73d.

641. Hall, James. 1873. Reply to a “Note on a question of priority”; pp. 248–252. In *Twenty-Third Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature March 10, 1870. State of New York. No. 133. In Assembly, March 10, 1870. Albany: Weed, Parsons and Company, Printers.

Reprinted from *The American Journal of Science and Arts* for August 1872. See 208, 254, 268, 387, 443, 445, 564, 587–590, 592.

Ellis, 1903, p. 287.

642. Hall, James. 1873. Report of the Director; pp. 5–13. In *Twenty-Fifth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature April 18, 1872. Albany: The Argus Company, Printers. State of New York. No. 83. In Senate, April 18, 1872.

Ellis, 1903, p. 287.

643. Hall, James. 1873. Memoranda of Packages, etc., of the Gebhard Collection, received at the State Museum, December, 4th, 1871; pp. 31–33. In *Twenty-Fifth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature April 18, 1872. Albany: The Argus Company, Printers. State of New York. No. 83. In Senate, April 18, 1872.

644. Hall, James. [1873] 1921. Letter to A. Winchell, Chancellor of Syracuse University; p. 418. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall recommended Charles Callaway for Professor of Geology at Syracuse.

645. [Hall, James]. 1873. *The New York State Museum of Natural History; its history and present condition*. *Albany Daily Evening Times*, February 5, 1873, 4 unnumbered pages.

Printed as a pamphlet. No name is on the copy in the Clarke Reprint Collection, New York Geological Survey, but Hall's name has been inked in within parentheses. Copy is also in the Hall Collection, Indiana.

Murray, 1884, p. 92, scientific papers item 186.

Murray, 1884, p. 91, included in scientific papers item 186.

Clarke, 1899, p. 447, scientific papers item 186.

Hovey, 1899, p. 163, included in scientific papers item 186.

646. Hall, James, and I. W. Jackson. 1873. Gebhard Collection. Schedule of Contents, ETC.; pp. 27–31. In *Twenty-Fifth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature April 18, 1872. Albany: The Argus Company, Printers. State of New York. No. 83. In Senate, April 18, 1872.



647. Hall, James, and R[obert] P[arr] Whitfield. 1873. (F.) Descriptions of New Species of Fossils from the Devonian Rocks of Iowa; pp. 223–239, pls. 9–12. In *Twenty-Third Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature March 10, 1870. State of New York. No. 133. In Assembly, March 10, 1870. Albany: Weed, Parsons and Company, Printers.

See 596–598, 608.

White and Nicholson, 1878, p. 38.  
Murray, 1884, p. 92, scientific papers item 187. Cited as 1873 (should be 1872).  
Murray, 1889, p. 92, scientific papers item 187. Cited as 1873 (should be 1872).  
Clarke, 1899, p. 447, scientific papers item 187. Cited as 1873 (should be 1872).  
Hovey, 1899, p. 163, scientific papers item 187. Cited as 1872.  
Royal Society of London, 1902, vol. XII, p. 306, Hall and Whitfield item 3.  
Ellis, 1903, p. 287.  
Nickles, 1923, p. 446, item 73.

648. Hall, James, and R[obert] P[arr] Whitfield. 1873. (F.) Notice of Three New Species of Fossil Shells from the Devonian of Ohio; pp. 240–241, figs. 25–27 on pl. 11. In *Twenty-Third Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature March 10, 1870. State of New York. No. 133. In Assembly, March 10, 1870. Albany: Weed, Parsons and Company, Printers.

See 586.

White and Nicholson, 1878, p. 37; 1879, p. 145.  
Murray, 1884, p. 92, scientific papers item 188. Cited as 1873 (should be 1872).  
Murray, 1889, p. 91, scientific papers item 188. Cited as 1873 (should be 1872).  
Clarke, 1899, p. 447, scientific papers item 188. Cited as 1873 (should be 1872).  
Hovey, 1899, p. 163, scientific papers item 188.  
Royal Society of London, 1902, vol. XII, p. 306, included in Hall and Whitfield item 3.  
Ellis, 1903, p. 287.  
Nickles, 1923, p. 446, item 73a.

649. Hall, James, and R[obert] P[arr] Whitfield. 1873. (F.) Notice of Two New Species of Fossil Shells from the Potsdam Sandstone of New York; pp. 241–242, figs. 1–5 on pl. 11. In *Twenty-Third Annual Report of the Regents of the University of*

*the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection Annexed Thereto*. Transmitted to the Legislature March 10, 1870. State of New York. No. 133. In Assembly, March 10, 1870. Albany: Weed, Parsons and Company, Printers.

See 495, 562.

White and Nicholson, 1878, p. 37; 1879, p. 145.  
Murray, 1884, p. 92, scientific papers item 189. Cited as 1873 (should be 1872).  
Murray, 1889, p. 91, scientific papers item 189. Cited as 1873 (should be 1872).  
Clarke, 1899, p. 447, scientific papers item 189. Cited as 1873 (should be 1872).  
Hovey, 1899, p. 163, scientific papers item 189.  
Ellis, 1903, p. 287.  
Nickles, 1923, p. 446, item 73b.

650. Woolworth, S. B., and James Hall. 1873. Untitled; p. 137. *Proceedings of the Albany Institute from March 1865 to September 1872*. February 15, 1870. Vol. 1. Albany: J. Munsell.

This copy of a receipt, dated February 16, 1870, is from the State Cabinet of Natural History for a boulder found in Onondaga County bearing an ancient inscription. The Institute had owned the boulder. James Hall was Curator of the State Cabinet, and Woolworth was Secretary of the Regents of the University.

651. Hall, James. 1874. Report of the Director; pp. 5–15. In *Twenty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature May 2, 1873. Albany: The Argus Company, Printers. State of New York. No. 109. In Senate, May 2, 1873.

Ellis, 1903, p. 287.

652. Hall, James. 1874. Descriptions of Bryozoa and Corals of the Lower Helderberg group; pp. 93–116. In *Twenty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State of New York. No. 109. In Senate, May 2, 1873. Albany: The Argus Company, Printers.

Hall (p. 93) notes that the Annual Report was delayed in publication until 1874, but no exact date within the year is cited. A reprint in the National Museum of Natural History has an imprint date of May 1874. See 153, 514.

White and Nicholson, 1878, p. 37.  
Murray, 1884, p. 93, scientific papers item 199.  
Murray, 1889, p. 92, scientific papers item 199.  
Clarke, 1899, p. 446, scientific papers item 167; p. 448, scientific papers item 199.

Hovey, 1899, p. 162, scientific papers item 167; p. 164, scientific papers item 199.  
 Royal Society of London, 1902, vol. XII, p. 306, item 95.  
 Ellis, 1903, p. 287.  
 Nickles, 1923, p. 446, item 74a.

- 653. Hall, James. 1874. Descriptions of Bryozoa and corals of the lower Helderberg Group; pp. 93–116. Albany: The Argus Company, Printers. Published May, 1874, in advance of the Report on the State Museum.**

In 1880, Hall noted that the full report was published in July 1874. No figures accompany the reprint, pagination is the same as in the State Museum edition, but an index of species is added to the reprint following the descriptions. See **153, 514.**

Clarke, 1899, p. 448, scientific papers item 199.

- 654. Hall, James. 1874. Celebration of the Semi-centennial of the Establishment of Rensselaer Polytechnic Institute. [Tribute to Eaton]. Semi-centennial of the Rensselaer Institute.**

Oration by James Hall at the Semi-centennial. Not seen. "In the progress of civilization it is not the slow uniform motion of the great masses that help it forward, but the few men who come out from them and strike a new key" (Clarke, 1921, p. 37).

- 655. Hall, James. 1874. On the Relations of the Niagara and Lower Helderberg Formations, and their Geographical Distribution in the United States and Canada; pp. 321–335. *Proceedings of the American Association for Advancement of Science. Part II, Section B, Natural History. Twenty-Second Meeting, Held at Portland, Maine, August 1873. Salem: Published by the Permanent Secretary.***

Reprint is paginated as in original volume and indicates: Printed at Salem Press, June 1874. Also published in Twenty-seventh Annual Report of the New York State Museum. See **665, 668, 669, 708.**

Royal Society of London, 1877, vol. VII, p. 891, item 53. Cited as 1873.

Murray, 1884, p. 93, scientific papers item 198.  
 Murray, 1889, p. 92, scientific papers item 198.  
 Darton, 1896, p. 453.  
 Clarke, 1899, p. 448, scientific papers item 198.  
 Hovey, 1899, p. 164, scientific papers item 198.  
 Ellis, 1903, p. 287.  
 Nickles, 1923, p. 446, item 74b.

- 656. Hall, James. 1874. Descriptions of new species of Goniatiidæ, with a list of previously described species. Printed May 1874, in advance of the 27th Report on the State Museum of Natural History; 4 pp.**

See **670.**

Murray, 1884, p. 93, scientific papers item 201.  
 Murray, 1889, p. 93, scientific papers item 201.  
 Clarke, 1899, p. 448, included in scientific papers item 201.  
 Hovey, 1899, p. 164, scientific papers item 201.  
 Ellis, 1903, p. 287.

- 657. Hall, James. 1874. *Palæontology*. Vol. V. Part II. Text. *Gasteropoda. Cephalopoda*; 192 pp. Natural History of New York, Geological Survey of New York. Albany: Van Benthuysen Printing House.**

- 658. Hall, James. [1874] 1964. Letter (June 8, 1874) to William A. Ingham, Esq.; 693–694. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.**

Hall gave his unqualified support for the appointment of Prof. J. P. Lesley as State Geologist of Pennsylvania. Ingham was a member of the board directed to appoint a State Geologist.

- 659. Hall, James. 1874? Estimate of the cost of making the drawings and lithographing the same, requisite for the completion of the *Palæontology* of the State, and statements in relation thereto. State of New York. In Senate No. 101, April 26, 1874; 7 pp.**

- 660. [Hall, James]. 1874. Record of Borings of Gardner Oil Well No. 3 at East Shamburg, Pennsylvania; pp. 31–33. In *Twenty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature May 2, 1873. Albany: The Argus Company, Printers. State of New York. No. 109. In Senate, May 2, 1873.**

This is cited as a Hall publication in Nickles (1923) and Darton (1896), but no name is assigned in the Annual Report, its table of contents, or the report of the director.

Darton, 1896, p. 453.

Nickles, 1923, p. 446, item 74.

- 661. [Hall, James]. 1874. Albany Institute. Field Meeting on the Steamer *Granite State*. September 10, 1874. [The Anderson School of Natural History and Geology of Penikese Island]. Field meeting Albany Institute. Albany; 4 pp.**

The James Hall Papers, New York State Archives (box 37, folder 1328). See **713.**

Murray, 1884, p. 93, scientific papers item 200.  
 Murray, 1889, p. 92, scientific papers item 200.  
 Clarke, 1899, p. 448, scientific papers item 200.  
 Hovey, 1899, p. 164, scientific papers item 200.

662. [Hall, James]. 1874. *Paleontology*. Vol. V. Part I. *Plates. Lamellibranchiata*; pls. I–XXXIV, XXXVI–XLI, XLIII–XLIV, without captions. Geological Survey of New York. Natural History of New York. Albany: Van Benthuysen Printing House.

A printer's error that has Plate XXVII, printed as XVII, is corrected in handwriting by James Hall to 27. The plates are headed "Palaeontology N.Y. Vol. V." Hardbound 4o. See 787.

663. [Hall, James]. [1874]. *Paleontology*. Vol. V. - Part 1. *Lamellibranchiata. I. Plates 81 to 92 Inc.*

No author, date, printer, publisher, or explanations of plates appear on this separate from Hall's volume on pelecypods. Subsequently, Hall (1883) indicated some copies of plates also had interleaved explanations of plates. See 787.

664. [Hall, James]. [1874]. *Paleontology*. Vol. V. - Part 1. *Lamellibranchiata. II. Plates 35–42, 93–96 Inc.*

No author, date, printer, or publisher appear on this separate from Hall's volume on pelecypods. Also, see note for preceding citation. See 787.

665. Hall, James. 1875. On the relations of the Niagara and Lower Helderberg Groups of Rocks, and their Geographical Distribution in the United States and Canada. Reports of the AAAS meeting at Portland. [Abstract]. *The Canadian Naturalist and Quarterly Journal of Science, with the Proceedings of the Natural History Society of Montreal*, n.s., Vol. VII, pp. 157–159.

See 655, 668, 669.

Royal Society of London, 1877, vol. VII, p. 891, included in James Hall item 53. Cited as 1873.

Darton, 1896, p. 453.

Nickles, 1923, p. 446, included in James Hall item 74b.

666. Hall, James. 1875. The Catskill Mountain region. *The Albany Daily Evening Times*, Wednesday, August 25, 1875.

See 689, 690, 698, 712, 715.

667. Hall, James. 1875. Report of the Director; pp. 5–21. *Twenty-Seventh Annual Report of the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 16, 1874. Albany: Weed, Parsons and Company, Printers. State of New York. No. 102. In Senate, April 17, 1874.

Ellis, 1903, p. 287.

668. Hall, James. 1875. The Niagara and lower Helderberg Groups: Their relations, and geographic distribution in the United States and Canada; pp.

- 117–131. *Twenty-Seventh Annual Report of the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 16, 1874. Albany: Weed, Parsons and Company, Printers. State of New York. No. 102. In Senate, April 17, 1874.

From the *Proceedings of the American Association for the Advancement of Science*, Portland Meeting, August 1873. This entry includes a paper by A. H. Worthen, "Remarks on the Relative Age of the Niagara and so-called Lower Helderberg Groups," from the *Proceedings at the Troy Meeting of the American Association*. See 655, 665, 669.

Murray, 1884, p. 93, included in scientific papers item 198.

Murray, 1889, p. 92, included in scientific papers item 198.

Clarke, 1899, p. 448, included in scientific papers item 198.

Hovey, 1899, p. 164, included in scientific papers item 198.

Ellis, 1903, p. 287.

Nickles, 1923, p. 446, included in James Hall item 74b.

669. Hall, James. 1875. Map Illustrating the Paper on the Relations of the Niagara & Lower Helderberg Formations and Their Geographic Distribution. 1874. *Twenty-Seventh Annual Report of the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 16, 1874. Albany: Weed, Parsons and Company, Printers. State of New York. No. 102. In Senate, April 17, 1874.

Size: 70X50cm. Issued with the Twenty-Seventh Annual Report.

See 655, 665, 668.

Murray, 1884, p. 93, included in scientific papers item 198.

Murray, 1889, p. 92, included in scientific papers item 198.

Clarke, 1899, p. 448, included in scientific papers item 198.

Ellis, 1903, p. 287.

670. Hall, James. 1875. Descriptions of New Species of Goniatitidæ, with a list of previously described species; pp. 132–136. *Twenty-Seventh Annual Report of the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 16, 1874. Albany: Weed, Parsons and Company, Printers. State of New York. No. 102. In Senate, April 17, 1874.

According to title page, preprint (not seen) was published in May 1874. See 656.

White and Nicholson, 1878, p. 37.

Murray, 1884, p. 93, scientific papers item 201.

Murray, 1889, p. 93, scientific papers item 201.

Clarke, 1899, p. 448, scientific papers item 201.

Hovey, 1899, p. 164, scientific papers item 201.

Royal Society of London, 1902, vol. XII, p. 306, item 96.



Ellis, 1903, p. 287.

Nickles, 1923, p. 446, item 75.

671. Hall, James. 1875. Explanation of plates; pls. IX–XIII. *Twenty-Seventh Annual Report of the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 16, 1874. Albany: Weed, Parsons and Company, Printers. State of New York. No. 102. In Senate, April 17, 1874.

According to Hall: “The following plates, 9–13, inclusive, are illustrative of a paper on *New Species of fossils from the Vicinity of Louisville, Kentucky, and the Falls of the Ohio*, in the 24th Report on the State Museum of Natural History, pp. 181–200a. The plates were omitted in the publication of the Report for want of time for their preparation. Explanations refer to pages of the 24th Report.” The plates are labeled “State Mus. Nat. Hist. 24” and numbered 9–13. See 700.

Murray, 1884, p. 92, scientific item 191.

Clarke, 1899, p. 447, included in scientific papers item 191.

Ellis, 1903, p. 287.

672. Hall, James. 1875. Report [on Hoosac tunnel]; pp. iii–xxiv. In Boston, Hoosac Tunnel, and Western Railroad Company, *Report of the Corporators, Appendix*. Boston. [Massachusetts House Doc. no. 9].

Nickles, 1923, p. 446, item 75d.

673. Hall, James. 1875. Illustrations of American Palæozoic life. In James D. Dana, *Manual of Geology: Treating of the Principles of the Science with Special Reference to American Geological History*. Second Edition. New York: Ivison, Blakeman, Taylor, and Co., Publishers.

On pages vii and viii of the Preface, Dana wrote that “The illustrations of American Palæozoic life have been largely copied from the Reports of Professor Hall.” There are no other acknowledgments of Hall in the book, nor are any of the illustrations identified as Hall’s.

674. Hall, James, and R[obert] P[arr] Whitfield. 1875. Descriptions of invertebrate fossils, mainly from the Silurian System. Fossils of the Hudson River Group. (Cincinnati Formations.); pp. 65–157, pls. 1–9. *Geological Survey of Ohio*. Volume II. Geology and Palæontology. Part II. Palæontology. Section I. Report of the Geological Survey of Ohio. Published by Authority of the Legislature of Ohio. Columbus: Nevins & Meyers, State Printers.

See 483, 577, 584, 677 (in German).

White and Nicholson, 1878, p. 38.

Murray, 1884, p. 81, books item 18. Cited as: Descriptions of Silurian fossils.

Murray, 1889, p. 78, books item 18. Cited as: Descriptions of Silurian fossils.

Clarke, 1899, p. 437, books item 18. Cited as: Descriptions of Silurian fossils.

Hovey, 1899, p. 150, books item 18. Cited as: Descriptions of Silurian fossils.

Royal Society of London, 1916, vol. XV, p. 584, Hall and Whitfield citation.

Nickles, 1923, p. 446, item 75a.

675. Hall, James, and R[obert] P[arr] Whitfield. 1875. Descriptions of invertebrate fossils, mainly from the Silurian System. Crinoids of the Genesee Slate and Chemung Group; pp. 158–161, 4 text-figs., pl. 13. *Geological Survey of Ohio*. Volume II. Geology and Palæontology. Part II. Palæontology. Section I. Report of the Geological Survey of Ohio. Published by Authority of the Legislature of Ohio. Columbus: Nevins & Meyers, State Printers.

White and Nicholson, 1878, p. 38, included in previous citation.

Murray, 1884, p. 81, included in books item 18. Cited as: Descriptions of Silurian fossils.

Murray, 1889, p. 78, included in books item 18. Cited as: Descriptions of Silurian fossils.

Clarke, 1899, p. 437, included in books item 18. Cited as: Descriptions of Silurian fossils.

Hovey, 1899, p. 150, included in books item 18. Cited as: Descriptions of Silurian fossils.

Nickles, 1923, p. 446, item 75b.

676. Hall, James, and R[obert] P[arr] Whitfield. 1875. Descriptions of invertebrate fossils, mainly from the Silurian System. Crinoidea of the Waverly group; pp. 162–179, pls. 11–12. *Geological Survey of Ohio*. Volume II. Geology and Palæontology. Part II. Palæontology. Section I. Report of the Geological Survey of Ohio. Published by Authority of the Legislature of Ohio. Columbus: Nevins & Meyers, State Printers.

See 437, 438, 549, 557, 558, 674–678, 787, 852.

White and Nicholson, 1878, p. 38.

Murray, 1884, p. 81, books item 19. Cited as: Descriptions of Crinoidea from the Waverly Group.

Murray, 1889, p. 78, books item 19. Cited as: Descriptions of Crinoidea from the Waverly Group.

Clarke, 1899, p. 437, books item 19. Cited as: Descriptions of Crinoidea from the Waverly Group.

Hovey, 1899, p. 150, books item 19. Cited as: Descriptions of Crinoidea from the Waverly Group.

Nickles, 1923, p. 446, item 75c.

677. Hall, James, and R[obert] P[arr] Whitfield. 1875. Beschreibung von fossilen wirbellosen Thieren,

vorwiegend aus dem silurischen System. Fossilien der Hudson Fluk-Gruppe; pp. 65–160, pls. 1–9, 11–13. *Geologische Aufnahme des Staates Ohio*. II. Band. - II. Theil. Paläontologie. Section I. Bericht über die Geologische Aufnahme von Ohio. II. Band. Geologie und Paläontologie. II. Theil. Paläontologie. Columbus, Ohio: G. J. Brand & Co., Staats-Drucker.

This is the German edition of the Ohio Geological Survey reports. See 676.

678. Hall, James, and R[obert] P[arr] Whitfield. 1875. Beschreibung von fossilen wirbellosen Thieren, vorwiegend aus dem silurischen System. Krinoiden der Waverly Gruppe; pp. 161–178, pls. 11–12. *Geologische Aufnahme des Staates Ohio*. II. Band. - II. Theil. Paläontologie. Section I. Bericht über die Geologische Aufnahme von Ohio. II. Band. Geologie und Paläontologie. II. Theil. Paläontologie. Columbus, Ohio: G. J. Brand & Co., Staats-Drucker.

This is the German edition of the Ohio Geological Survey reports. See 676.

679. Hall, James. [1875] 1876. The fauna of the Niagara Group in central Indiana; 32 pls. with explanations. *Twenty-Eighth Annual Report of the New York State Museum of Natural History by the Regents of the University of the State of New York*. Documentary Edition. Without text. Published by Authority of the State of New York. Albany: Weed, Parsons and Company.

*The American Journal of Science and Arts*, 1877, 3d ser., Vol. XIV, No. 83 (November 1877), p. 432 says under Scientific Intelligence: "Received Too Late for Further Notice Here." In the same journal, Vol. XIV, No. 84 (December 1877), p. 494, note is given of "*Twenty-Eighth Annual Report of the New York State Museum of Natural History by the Regents of the University of the State of New York*—100 pages, 8 vo., with 34 plates. Transmitted to the Legislature, March 30, 1875. Albany, 1875—. The chief article is by Prof. Hall, and consists of plates and their explanations illustrating 'the fauna of the Niagara Group in Central Indiana.' The number of plates is thirty-two." See 441.

White and Nicholson, 1878, pp. 34, 37. Cited as 1877.

Murray, 1884, p. 93, scientific papers item 203. Cited as 1876.

Murray, 1889, p. 93, scientific papers item 203. Cited as 1876.

Clarke, 1899, p. 448, scientific papers item 203. Cited as 1876.

Hovey, 1899, p. 163, scientific papers item 203.

Ellis, 1903, p. 288.

Nickles, 1923, p. 446, item 76.

680. Hall, James. [1875] 1876. The fauna of the Niagara Group in central Indiana; pp. 99–203; pls. III–XXXIV with explanations.

This separate is bound together with 1863, Notice of some New Species of Fossils from a Locality of the Niagara Group in Indiana, and 1879, Descriptions of New Species of Fossils from the Niagara Formation at Waldron, Indiana. Penciled in on the first page is: "from N.Y. St. Mus. Ann. Rep. 28," and "76" [Nickles number?]. No other publication data are given. The explanation of Plate II is included, but there is no Plate 2. Captions to plates are in Roman numerals, and the plates are numbered in Arabic, and are headed "State Mus. Nat. Hist. 28." See 415, 441.

681. Hall, James. 1876. *Illustrations of Devonian Fossils: Gasteropoda, Pteropoda, Cephalopoda, Crustacea and Corals of the Upper Helderberg, Hamilton and Chemung Groups*. Geological Survey of the State of New York. Palæontology. Published in advance of the *Palæontology of New York*, By Authority of the Legislature of the State of New York. Albany: Weed, Parsons and Company. New York: E. Bierstadt. 7 pp. Gasteropoda: Plates I–XX; XX–XXIX; XXXV–LXIV, LXIVA, LXV–LXXIV; Crustacea: Plates I–XIII, XVI–XXIII; Corals: Plates I, IIC, III–XVA, XVI–XXXIX.

Plate XXI of Gastropoda has been omitted to be given in Volume V, Pt. II, of the Palæontology of the State of New York. Plates XXX–XXXIV are to be given in the same volume with Illustrations of Gastropoda and Cephalopoda. Plates XIV and XV of Corals are omitted, to be given with Illustrations of *Dalmania myrmecophorus* in Volume V, Pt. II. See 330, 657, 681–687, 727, 875, 877, 888.

682. Hall, James. 1876. *Illustrations of Devonian Fossils: Gasteropoda, Pteropoda, Cephalopoda, Crustacea and Corals of the Upper Helderberg, Hamilton and Chemung Groups*. Geological Survey of the State of New York. Palæontology. Published in advance of the *Palæontology of New York*, By Authority of the Legislature of the State of New York. Albany: Weed, Parsons and Company. New York: E. Bierstadt. 7 pp.; pls. I–XIV, 15, XVI–XX, XXII–XXIX, with explanations.

This leather-bound hardcover, "Volume of Plates and Explanations is published in anticipation of the regular edition of the *Palæontology of New York*," has gold lettering on the spine. Plates have heading of "Palæontology of N. Y. Vol. V. Pt. II." A notation after plate XX says that Plate XXI is "Omitted from this Volume, to be given in Volume V, Pt. II, of the *Palæontology of the State of New York*." A notice of this book is in *The American Journal of Science and Arts*, 1877, 3d ser., Vol. XIV, No. 84 (December 1877), pp. 493–494, listed under Scientific Intelligence, II,

Geology and Mineralogy. The date is given as 1876. "Over 140 quarto plates." See **330, 681**.

Clarke, 1894, p. 561.

Clarke, 1899, p. 437, books item 20.

Ellis, 1903, p. 287.

- 683. Hall, James. 1876. *Illustrations of Devonian Fossils: Corals of the Upper Helderberg and Hamilton Groups*; pls. I–XXXIX. Geological Survey of the State of New York. Palæontology. Published in advance of the Palæontology of New York, by Authority of the Legislature of the State of New York. Albany: Weed, Parsons and Company, Printers.**

According to Hall's "Note" in this version, 100 copies were published in December 1876, as "Albertype Illustrations of Devonian Fossils of the classes Gastropoda, Pteropoda, Cephalopoda, Crustacea and Corals." Some plates are photographs of fossils. Plates are labeled "Palæontology of N. Y., vol." at the top, and "E. Bierstadt, Albertype" at the bottom, with some having also "G. B. Simpson, del." Discussed by Fisher (1978). *The American Journal of Science and Arts*, 1877, 3d ser., Vol. XIV, No. 84 (December 1877), p. 493–494, under Scientific Intelligence, II Geology and Mineralogy, gives the date of publication as 1876, with "Over 140 quarto plates."

A copy of this volume in the Rare Book Collection, Regenstein Library, University of Chicago, has a typed note attached to the first plate stating "with Holograph Notes by C. Rominger." These notes are on lined paper bound together with the plates, as part of the book. Rominger's notes are for plates I, II, VII, XIV, XVA, XVI–XXII, XXIV, XXVIII, XXXI, XXXIII, XXXV, XXXVI, XXXVIII, and XXXIX. According to a note at the beginning, the 100 copies published by order of the Legislature were dispersed to public entities. This version of the Corals was printed at the author's personal expense to circulate among those interested for comments and additional information. See **153, 681**.

White and Nicholson, 1878, p. 38.

- 684. Hall, James. 1876. *Illustrations of Devonian Fossils: Corals of the Upper Helderberg and Hamilton Groups*; pls. I, II, IIA, IIB, IIC, III–XXXIX. Palæontology. Geological Survey of the State of New York. Published in advance of the Palæontology of New York, by Authority of the Legislature of the State of New York. Albany: Weed, Parsons and Company, Printers.**

This copy in the Hall Collection, Indiana University, is unbound, with a one-page note. Various plates are copies, not original. See **153, 681**.

- 685. Hall, James. 1876. *Illustrations of Devonian fossils: corals of the Upper Helderberg and Hamilton groups*; 7 pp., 39 pls. and explanations. New York Geological Survey. Palæontology. Albany.**

See **153, 681**.

Murray, 1884, p. 81, books item 20.

Murray, 1889, p. 78, books item 20.

Hovey, 1899, p. 150, books item 20.

Nickles, 1923, p. 446, item 76a.

- 686. Hall, James. 1876? [*Illustrations of Devonian Fossils*]: Crustacea; plates I–XIII, XVI–XXIII.**

Plates XIV and XV are omitted, "to be given with Illustrations of *Dalmania myrmecophorus* in Vol. V, Pt. II of Palæontology of the State of New York." Plate XXIII has no caption. A copy of this in the Rare Book Collection, Regenstein Library, University of Chicago, has no title page and no publication data. A handwritten notation on the first page says "Illustrations of Devonian Fossils 1876." On this is written (in what appears to be Hall's handwriting) notes about how he wants to organize a book about Trilobites. This book also has lined paper interspersed between the plates, like in the volume on Corals (see preceding entry), but with no notes. The plates are headed Palæontology N. Y. vol., G. B. Simpson, del., and E. Bierstadt Albertype. There are some penciled corrections. See **153, 330, 681**.

- 687. Hall, James. 1876. *Plates and Explanations of Gasteropoda*; pls. I–XX, XXII–XXV. *Plates and Explanations of Pteropoda*; pls. XXVI–XXIX. *Illustrations of Devonian Fossils: Gasteropoda, Pteropoda, Cephalopoda, Crustacea and Corals of the Upper Helderberg, Hamilton and Chemung Groups*. Geological Survey of the State of New York. Palæontology. Published in advance of the *Paleontology of New York*, By Authority of the Legislature of the State of New York. Albany: Weed, Parsons and Company. New York: E. Bierstadt.**

This volume apparently is one of those published at the author's expense as it has the lined sheets interspersed between the plates. Most of the plates are headed: "Palæontology of N. Y. Vol. V. Pt. II." At the bottom is usually "G. B. Simpson, del." and "E. Bierstadt Albertype." Several are labeled "H. M. Martin, del." Leatherbound, quarto. See **153, 330, 681**.

- 688. Hall, James. 1876. Note upon the Geological Position of the Serpentine Limestone of Northern New York, and an inquiry regarding the relations of this Limestone to the Eozoon Limestones of Canada. [Abstract]. *The American Journal of Science and Arts*, 3d ser., Vol. XII, No. 70 (October 1876), pp. 298–300.**

Text is based on a report in the *Buffalo Courier*, August 25, 1876. See **701**.

Murray, 1884, p. 93, included in scientific papers item 204.

Murray, 1889, p. 93, included in scientific papers item 204.

Clarke, 1894, p. 561.

Darton, 1896, p. 453.

Clarke, 1899, p. 448, scientific papers item 204.



Hovey, 1899, p. 164, included in scientific papers item 204.  
Nickles, 1923, p. 446, item 76b.

689. Hall, James. 1876. On the Geology of the Southern Counties of New York and adjacent parts of Pennsylvania; especially with reference to the Age and Structure of the Catskill Mountain Range. [Abstract]; part 2, pp. 80–84. *Proceedings of the American Association for the Advancement of Science*. Twenty-Fourth Meeting, Held at Detroit, Michigan, August 1875. Salem: Published by the Permanent Secretary.

Title only. Hall definitely confirmed that the “Old Red” sandstone, also known as the Catskill formation, occurred in New York. Reprint is paginated as in original and indicates: Printed at Salem Press, March 1876. See 666, 690, 712, 715.

Murray, 1884, p. 93, scientific papers item 202.  
Murray, 1889, p. 93, scientific papers item 202.  
Royal Society of London, 1894, vol. X, p. 116, item 54. Cited as 1875.  
Clarke, 1894, p. 561.  
Darton, 1896, p. 453. Cited as 1875.  
Clarke, 1899, p. 448, scientific papers item 202.  
Hovey, 1899, p. 163, scientific papers item 202.  
Nickles, 1923, p. 446, item 76c.

690. Hall, James. 1876. On the Geology of the Southern Counties of New York and adjacent parts of Pennsylvania, especially with reference to the Age and Structure of the Catskill Mountain Range. [Abstract]. *The American Journal of Science and Arts*, 3d ser., Vol. XII, No. 70 (October 1876), pp. 300–304.

See 666, 689, 712, 715.

Murray, 1884, p. 93, included in scientific papers item 202.  
Murray, 1889, p. 93, included in scientific papers item 202.  
Clarke, 1894, p. 561.  
Darton, 1896, p. 453.  
Clarke, 1899, p. 448, included in scientific papers item 202.  
Hovey, 1899, p. 163, included in scientific papers item 202.  
Nickles, 1923, p. 446, included in James Hall item 76c.

691. Hall, James. [1876] 1921. Letter (January 10, 1876) to Clarence King, Director of the United States Geological Survey; pp. 332–333. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall responded to King that his general views on mountain building had not undergone any material change since his original presentation in 1857. See 251.

692. Hall, James. 1877. On some points in the geological structure of Southern Minnesota; p. 58, No. 82. *National Academy of Sciences. Proceedings* [1866–

1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in Northampton, Mass., August 7–12, 1866. See 489.

693. Hall, James. 1877. Remarks on the geological relations of the Mastodon and fossil Elephant suggested by the discovery of the Cohoes, NY, Mastodon; p. 62, No. 115. *National Academy of Sciences. Proceedings* [1866–1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in Hartford, Conn., August 13–17, 1867. See 487.

694. Hall, James. 1877. On the value of certain groups in the Geological Series when studied in their Geographical Extension; p. 63, No. 123. *National Academy of Sciences. Proceedings* [1866–1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in Hartford, Conn., August 13–17, 1867. See 710.

695. Hall, James. 1877. Remarks upon the condition of the skeleton of the Mastodon found at Cohoes, N. Y., and its relation to the geology of the surrounding country; p. 67, No. 139. *National Academy of Sciences. Proceedings* [1866–1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in Washington City, January 22–26, 1868. See 487.

696. Hall, James. 1877. Notice of a worn tooth and tusk of a mastodon indicating glacial action; p. 74, No. 196. *National Academy of Sciences. Proceedings* [1866–1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in Northampton, Mass., August 31–September 3, 1869. See 487.

697. Hall, James. 1877. On the structures of the Rocky Mountains as observed in the southern extension of the Black Hill range, the Sheep Mountain, and the eastern part of the Medicine Bow range; p. 74, No. 197. *National Academy of Sciences. Proceedings* [1866–1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in Northampton, Mass., August 31–September 3, 1869.

698. Hall, James. 1877. On the geological structure and topographical aspects of the Catskill Mountains; p. 117, No. 426. *National Academy of Sciences. Proceedings* [1866–1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in Philadelphia, October 17–19, 1876.

699. Hall, James. 1877. Note on the Hydraulic Limestone and associated strata at the falls of the Ohio; p. 128, No. 469. *National Academy of Sciences. Proceedings* [1866–1876]. Vol. I. Published by the Home Secretary. Washington City.

Title only. Read at the Meetings in New York City, October 23–25, 1877. See 700.

700. Hall, James. 1877. The Louisville limestones. Note on the Hydraulic Beds and Associated Limestones at the Falls of the Ohio; pp. 139–154. *Palaeontology of New York*, Vol. V, Part II.

Item R6280 in Doescher's unpublished listing of Hall brachiopod papers in the Springer Library, NMNH. See 603, 671, 699, 704, 718, 719, 740.

Murray, 1884, p. 93, scientific papers item 206. Cited as 1879.

Murray, 1889, p. 93, scientific papers item 206. Cited as 1879.

Darton, 1896, p. 453.

Clarke, 1899, p. 448, scientific papers item 206. Cited as 1879.

Hovey, 1899, scientific papers item 206. Cited as 1879.

701. Hall, James. 1877. Note upon the Geological Position of the Serpentine Limestone of Northern New York and an Inquiry Regarding the Relations of this Limestone to the Eozoon Limestone of Canada; p. 285. *Proceedings of the American Association for the Advancement of Science*. Twenty-Fifth meeting, Held at Buffalo, NY, August 1876. Salem: Published by the Permanent Secretary.

Title only. See 688.

Murray, 1884, p. 93, scientific papers item 204.

Murray, 1889, p. 93, scientific papers item 204.

Clarke, 1894, p. 561. Cited as 1876.

Clarke, 1899, p. 448, scientific papers item 204.

Hovey, 1899, p. 163, scientific papers item 204.

702. Hall, James, and R[obert] P[arr] Whitfield. 1877. Part II. Palaeontology; pp. 198–302, pls. I–VII. Index to Part II; pp. 649–651. In Clarence King, *Report of the Geological Exploration of the Fortieth Parallel, Made by order of the Secretary of War According to Acts of Congress of March 2, 1867, and March 3, 1869, under the Direction of Brig. and Bvt. Major General A. A. Humphreys, Chief of Engineers*. Volume IV. Ornithology and

Palaeontology. Professional Papers of the Engineer Department, U. S. Army. No. 18. Washington: Government Printing Office.

White and Nicholson, 1878, p. 38.

Murray, 1884, p. 81, books item 21.

Murray, 1889, p. 78, books item 21.

Clarke, 1899, p. 437, books item 21.

Hovey, 1899, p. 150, books item 21.

Nickles, 1923, p. 446, item 77.

703. Hall, James, and R[obert] P[arr] Whitfield. [1877]. Part II. Palaeontology; pp. 199–302, pls. I–VII; Index to Part II, pp. 649–651. Extract from Vol. IV, *Report of Geological Exploration of the Fortieth Parallel*. Clarence King, Geologist-in-Charge.

This separate of the preceding entry is undated, but was presumably published the same year. In the James Hall Papers, New York State Archives (box 36, no. 1313). See 702.

704. [Hall, James]. 1877. The Louisville limestones. Note on the hydraulic beds and associated limestones at the Falls of the Ohio; 16 pp. *Palaeontology of New York*, Vol. V, part 2. Advance sheets, November 1877.

Hall's name is not on the title page, but the article was subsequently published under his name. See 700.

White and Nicholson, 1879, p. 145.

705. Hall, James. 1878. Note upon the History and Value of the Term Hudson River Group in American Geological Nomenclature; pp. 259–265. *Proceedings of the American Association for the Advancement of Science*. Twenty-Sixth Meeting, Held at Nashville, Tenn., August 1877. Salem: Printed by the Permanent Secretary.

Reviewed in *The American Journal of Science and Arts*, 1878, 3d ser., Vol. XVI, No. 96, p. 482, under Scientific Intelligence. Reprint is paginated as in original and indicates: Printed at the Salem Press, June 1878. See 278–281, 343, 356, 372, 377, 379, 381–383, 539, 575–577, 586, 674, 717, 719.

Murray, 1884, p. 91, scientific papers item 172; p. 93, scientific papers item 205.

Murray, 1889, p. 93, scientific papers item 205.

Royal Society of London, 1894, vol. X, p. 116, item 55.

Clarke, 1894, p. 563.

Darton, 1896, p. 453.

Clarke, 1899, p. 446, scientific papers item 172; p. 448, scientific papers item 205.

Hovey, 1899, p. 162, item 172; p. 164, scientific papers item 205.

Nickles, 1923, p. 446, item 78a.

706. Hall, James. 1878. The Scientific Museums of Europe. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. January 21, 1873. Vol. II, p. 15. Albany: J. Munsell.

Title only. Even though the title of the volume indicates proceedings beginning in October 1874, the actual contents begin with January 1873.

707. Hall, James. 1878. Remarks on the rock formations [at Watkins Glen]. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. Field Excursion to Watkins Glen [New York], June 27, 1873. Vol. II, pp. 70–72. Albany: J. Munsell.

These remarks were probably paraphrased by the Secretary [D. J. Pratt].

708. Hall, James. 1878. The Relations of the Niagara and the Lower Helderberg Formations, and their geographical distribution in the United States and Canada. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. December 2, 1873. Vol. II, p. 89. Albany: J. Munsell.

Hall apologized for reading a paper already given elsewhere. Title only. See 655, 665, 668.

709. Hall, James. 1878. Tribute to Professor Louis Agassiz. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. December 16, 1873. Vol. II, pp. 90–93. Albany: J. Munsell.

Hall, speaking as both personal friend and colleague, gave a very warm tribute to Agassiz, who had recently died.

710. Hall, James. 1878. Remarks on the geographical extension of some of the higher groups of the Palæozoic formations. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. February 17, 1874. Vol. II, p. 99. Albany: J. Munsell.

Title only. Hall was requested to furnish the substance of his remarks for the publishing committee. See 694.

711. Hall, James. 1878. Remarks about and eulogy for Professor De Verneuil. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. March 17 and April 7, 1874. Vol. II, pp. 101, 103. Albany: J. Munsell.

Hall read a translation of a eulogy given before the French Academy of Sciences, and commented about his own friendship with De Verneuil. Paraphrased probably by the Secretary [D. J. Pratt].

712. Hall, James. 1878. Geology of the Catskill Region. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. Field Meeting at Catskill Mountain House, June 26, 1874. Vol. II, pp. 126–130. Albany: J. Munsell.

Hall was not present at this meeting. The minutes stated that this paper “appeared in the daily papers as part of the proceedings.” See 666, 689, 690, 715.

Darton, 1896, p. 453.

Nickles, 1923, p. 446, item 78b.

713. Hall, James. 1878. The establishment and operation of the Anderson School of Natural History, on Penikese Island. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. Albany Institute Field Meeting aboard the Steamer *Granite State* on a trip to Martha’s Vineyard and Nantucket, September 7–10, 1874. Vol. II, pp. 146–148. Albany: J. Munsell.

The Anderson School was founded by Prof. L. Agassiz to provide something other than textbook instruction for teachers and professors of Natural History. Paraphrased probably by the Secretary [D. J. Pratt]. See 661.

714. Hall, James. 1878. Observations on the geological structure of Martha’s Vineyard and adjacent islands, Mass. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. Albany Institute Field Meeting aboard the Steamer *Granite State* on a trip to Martha’s Vineyard and Nantucket, September 7–10, 1874. Vol. II, pp. 148–149. Albany: J. Munsell.

Paraphrased, probably by the Secretary [D. J. Pratt].

Nickles, 1923, p. 446, item 78c.

715. Hall, James. 1878. The geology and topography of the Catskill mountain region. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. June 1, 1875. Vol. II, Part II, pp. 213–217. Albany: J. Munsell.

Probably paraphrased by the Secretary [D. J. Pratt]. See 666, 689, 690, 712.

Darton, 1896, p. 453.

716. Hall, James. 1878. Prof. Hall on the geology of the Au Sable region and vicinity. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. Field Meeting at Au Sable Chasm, N. Y., September 17, 1875. Vol. II, Part II, pp. 247–250. Albany: J. Munsell.

Hall’s paper was read by the Secretary, D. J. Pratt. The separate is paginated as in the *Proceedings*, but has no imprint date. Walcott’s separate is in the Springer Library, NMNH.

Darton, 1896, p. 453. Cited as: Remarks on geology of Lake Champlain region.

Nickles, 1923, p. 446, item 78d. Cited as: On the geology of the Au Sable region.



717. Hall, James. 1878. The Hudson River group of the New York Geologists; its character and limits within the state, and its extension westward; p. 339. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. June 5, 1877. Vol. II, Part II. Albany: J. Munsell.

Title only. A copy of the presentation was requested for publication. See 705.

718. Hall, James. 1878. The Limestones of the Falls of the Ohio, and their relations to the Geological formations of New York; p. 344. *Proceedings of the Albany Institute from October 1874 to December 30, 1877*. December 4, 1877. Vol. II, Part II. Albany: J. Munsell.

Title only. See 700.

719. Hall, James. 1878. Abstract: On the Limestones of the Falls of the Ohio; 16 pp. Advance Sheets of vol. v, part 2, of Paleontology of New York. *American Journal of Science and Arts*, 3d ser., Vol. XV, No. 89 (May 1878), p. 395.

See 700.

Darton, 1896, p. 453. Cited as: Geological Survey of the State of New York, paleontology.

720. Hall, James. 1878. Report of the Director; pp. 11–18. *Twenty-Ninth Annual Report on the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 17, 1876. State of New York. No. 64. In Senate, April 18, 1876. Jerome B. Parmenter, State Printer.

Ellis, 1903, p. 287.

721. Hall, James. 1878. De la nomenclature des Terrains Paléozoïques aux États-Unis; pp. 1–8. *Extrait du Congrès International de Géologie, tenu à Paris, du 29 au 31 Août et du 2 au 4 Septembre 1878*. N° 21 de la Série.

Hall was the organizing President of the Committee of an International Geological Congress and in this capacity gave his talk at the opening session, August 29, 1878. Clarke (1921, p. 480) wrote that the paper was translated into French by Charles Barrois and at that time [1921] had not appeared in English. See 724, 750, 751.

Murray, 1884, p. 94, scientific papers item 210. Cited as 1880.

Murray, 1889, p. 93, scientific papers item 210.

Clarke, 1894, p. 563.

Clarke, 1899, p. 448, scientific papers item 210.

Hovey, 1899, p. 165, scientific papers item 210.

Nickles, 1923, p. 447, item 80.

722. Hall, James. [1878] 1879. Report of the Director; pp. 5–12. *Thirtieth Annual Report on the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 13, 1877. State of New York. No. 63. In Senate, April 13, 1877. Jerome B. Parmenter, State Printer.

The title page reads 1878 and the wrapper 1879.

Ellis, 1903, p. 287.

723. Hall, James. [1878] 1879. Note on the Genus *Plumalina*; pp. 255–256, pl. 4. *Thirtieth Annual Report on the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature April 13, 1877. State of New York. No. 63. In Senate, April 13, 1877. Jerome B. Parmenter, State Printer.

This note is not cited in the index to the volume. See 726, 799.

Murray, 1884, p. 93, scientific papers item 207.

Murray, 1889, p. 93, scientific papers item 207.

Clarke, 1894, p. 563.

Clarke, 1899, p. 448, scientific papers item 207. Cited as: Museum Edition, 1879.

Hovey, 1899, p. 164, scientific papers item 207.

Royal Society of London, 1902, vol. XII, p. 306, item 97.

Ellis, 1903, p. 287.

Nickles, 1923, p. 446, item 78a.

724. Hall, James. [1878] 1921. Remarks at the International Geological Congress in Paris, August 29, 1878; pp. 480–481. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

A short quotation, from remarks made after the close of Hall's opening talk, gave a short history of the events leading to the organization of the meeting in Paris. Hall was the organizing president of this first meeting. See 721, 750, 751.

725. Hall, James. [1878] 1921. Letter to Mrs. Joseph Henry; pp. 488–489. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

This letter, written shortly after Prof. Henry's death on May 13, 1878, was of sympathy for Mrs. Henry and a tribute to Henry, the first Secretary of the Smithsonian Institution. See 747–749.

726. Hall, James. 1879. Note on the genus *Plumalina*. From the Thirtieth Report on the State Museum of Natural History—April 1879.

Two unnumbered pages, plus plate 4 with explanations. See 723, 799.

727. Hall, James. 1879. *Palaeontology*. Vol. V. Part II. *Text. Containing Descriptions of the Gasteropoda, Pteropoda, and Cephalopoda of the Upper Helderberg, Hamilton, Portage and Chemung Groups*. Geological Survey of the State of New York. Albany, NY: Charles van Benthuyssen & Sons; xv + 492 pp.

A lengthy and generally favorable review of this book by Dr. Ch. Barrois (translated from the French from *Revue Scientifique* (Paris), September 1880), is in *The American Journal of Science and Arts*, 1881, 3d ser., Vol. XXI, No. 121 (January 1881), pp. 44–52. Plates were published in a separate volume. See 728.

Murray, 1884, p. 81, books item 22.

Murray, 1889, p. 78, books item 22.

Clarke, 1894, p. 564.

Darton, 1896, p. 453.

Clarke, 1899, p. 437, books item 22.

Hovey, 1899, p. 150, books item 22.

Ellis, 1903, p. 284.

Nickles, 1923, p. 447, item 79.

728. Hall, James. 1879. *Palaeontology*. Vol. V. Part II. *Plates. Containing Figures of the Gasteropoda, Pteropoda and Cephalopoda of the Upper Helderberg, Hamilton, Portage and Chemung Groups*. Geological Survey of the State of New York. Albany, NY: Charles Van Benthuyssen & Sons; 118 pls.

Plates are numbered as follows 1–30, 31A, 32, 32A, 33–34, 34A, 35, 35A, 36–52, 52A, 53–78, 78A, 78B, 79–113. Plate 59 is mislabeled 61. See 727.

Murray, 1884, p. 81, included in books item 22.

Murray, 1889, p. 78, included in books item 22.

Clarke, 1894, p. 564.

Clarke, 1899, p. 437, included in books item 22.

Hovey, 1899, p. 150, included in books item 22.

Ellis, 1903, p. 284.

Nickles, 1923, p. 447, included in James Hall item 79.

729. Hall, James. 1879. Report of the Director; pp. 5–16. *Twenty-Eighth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State Museum Edition. State of New York. Transmitted to the Legislature March 30, 1875. No. 71. In Senate, March 30, 1875. Albany: Weed, Parsons and Company Printers.

An unsigned Prefatory Note to the State Museum Edition of the Twenty-Eighth Report, 1879, p. 4, dated Albany, December, 1879, states: "This report was originally communicated to the Legislature in 1875, and printed as a Legislative Document in 1876."

Ellis, 1903, p. 287.

730. Hall, James. 1879. The Fauna of the Niagara Group, in Central Indiana; pp. 99–199, pls. 3–34, 8 text-figs., including 2 unnumbered. *Twenty-Eighth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State Museum Edition. State of New York. Transmitted to the Legislature March 30, 1875. No. 71. In Senate, March 30, 1875. Albany: Weed, Parsons and Company Printers.

A separate of this is bound with Notice of Some Remarkable Crinoidal Forms from the Lower Helderberg Group; pp. 205–210. See notice of its publication in *The American Journal of Science and Arts*, 1877, 3d ser., Vol. XIV, p. 494. See 441, 731–736.

Murray, 1884, p. 94, scientific papers item 208.

Murray, 1889, p. 93, scientific papers item 208.

Clarke, 1899, p. 448, scientific papers item 208. Cited as Museum Edition.

Hovey, 1899, p. 164, scientific papers item 208.

Royal Society of London, 1902, vol. XII, p. 306, item 98.

Ellis, 1903, p. 288.

Nickles, 1923, p. 446, item 76.

731. Hall, James. 1879. Index to the fauna of the Niagara Group; pp. 201–203. *Twenty-Eighth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State Museum Edition. State of New York. Transmitted to the Legislature March 30, 1875. No. 71. In Senate, March 30, 1875. Albany: Weed, Parsons, and Company Printers.

See 441.

Clarke, 1899, p. 448, included in scientific papers item 208. Cited as Museum Edition.

Ellis, 1903, p. 288.

Nickles, 1923, p. 446, included in James Hall item 76.

732. Hall, James. 1879. Descriptions of new species of fossils, from the Niagara Formation at Waldron, Indiana. Albany, NY: J. Munsell, Printer, 20 pp. Advance sheets of Hall (1882). See 415, 441.

733. Hall, James. 1879. Descriptions of New Species of Fossils from the Niagara Formation at Waldron, Indiana; pp. 1–20, 1 unnumbered text-fig. [Read Before the Albany Institute, March 18, 1879.] Albany, NY: J. Munsell, Printer.

This separate has an attached slip of paper with the following: "With Compliments of James Hall. N. Y. State Museum Natural History, Albany, N.Y., U. S. A." Another copy, with #83k penciled in on the cover and with the attached printed slip, is bound together with Hall, 1863, Notice of some New Species of Fossils from a Locality of the Niagara Group, in Indiana,

and Hall, 1876—The Fauna of the Niagara Group, in Central Indiana. See 415, 440, 680.

734. Hall, James. 1879. Descriptions of New Species of Fossils, from the Niagara Formation at Waldron, Indiana. Read before the Albany Institute, March 18, 1879. Albany, NY: J. Munsell, Printer. 14 pp. 8vo.

#83k is penciled in on a soft-cover copy in the Library, Field Museum of Natural History. See 441.

Murray, 1884, p. 94, scientific papers item 216. Cited as 1882.

Murray, 1889, p. 94, scientific papers item 216. Cited as 1882.

Clarke, 1899, p. 449, scientific papers item 216. Cited as 1881.

Hovey, 1899, p. 165, scientific papers item 216. Cited as 1881.

Ellis, 1903, p. 288.

735. Hall, James. 1879. Notice of Some Remarkable Crinoidal Forms from the Lower Helderberg Group; pp. 205–210; pls. 35–37, one unnumbered figure. *Twenty-Eighth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State Museum Edition. State of New York. Transmitted to the Legislature March 30, 1875. No. 71. In Senate, March 30, 1875. Albany: Weed, Parsons and Company, Printers.

See 736, 755, 759.

Murray, 1884, p. 94, scientific papers item 209. Cited as 1882.

Murray, 1889, p. 93, scientific papers item 209. Cited as 1882.

Clarke, 1894, p. 564.

Clarke, 1899, p. 448, scientific papers item 209. Cited as 1880.

Hovey, 1899, p. 164, scientific papers item 209.

Royal Society of London, 1902, vol. XII, p. 306, item 99.

Ellis, 1903, p. 288.

Nickles, 1923, p. 446, item 1879a.

736. Hall, James. 1879. Notice of Some Remarkable Crinoidal Forms from the Lower Helderberg Group; pp. 205–210; pls. 35–37, one unnumbered figure. *Twenty-Eighth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State Museum Edition. State of New York. Transmitted to the Legislature March 30, 1875. No. 71. In Senate, March 30, 1875. Albany: Weed, Parsons and Company, Printers.

One separate of this is bound with The Fauna of The Niagara Group, in Central Indiana, pp. 99–203, from the Twenty-Eighth Annual Report, 1879. See 441, 730.

737. Hall, James. 1879. Report of the Director; pp. 5–10. *Thirty-First Annual Report on the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted

to the Legislature April 17, 1878. State of New York. No. 42. In Senate, April 18, 1878. Albany: Charles Van Benthuysen & Sons.

Ellis, 1903, p. 287.

738. Hall, James. 1879. Report of the Director; pp. 5–9. *Thirty-Second Annual Report on the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature March 10, 1879. State of New York. No. 89. In Assembly, March 10, 1879. Albany: Charles Van Benthuysen & Sons.

Ellis, 1903, p. 287.

739. Hall, James. 1879. Corals and Bryozoans of the Lower Helderberg Group; pp. 141–176. *Thirty-Second Annual Report on the New York State Museum of Natural History by the Regents of the University of the State of New York*. Transmitted to the Legislature March 10, 1879. State of New York. No. 89. In Assembly, March 10, 1879. Albany: Charles Van Benthuysen & Sons.

Plates cited in the text were not published until 1887 in Hall and Simpson. See 153, 514.

Murray, 1884, p. 94, scientific papers item 214.

Murray, 1889, p. 94, scientific papers item 214.

Clarke, 1894, p. 564.

Clarke, 1899, p. 448, scientific papers item 214.

Hovey, 1899, p. 165, scientific papers item 214.

Royal Society of London, 1902, vol. XII, p. 306, item 95.

Ellis, 1903, p. 287.

Nickles, 1923, p. 447, item 1879b.

740. Hall, James. 1879. The Hydraulic Beds and Associated Limestones at the Falls of the Ohio. *Transactions of the Albany Institute*. Vol. IX, pp. 169–180.

Read before the Institute, December 4, 1877. Reprints exist, with separate pagination 1–12 and with *Transactions* pagination. See 700.

Murray, 1884, p. 93, scientific papers item 206.

Murray, 1889, p. 93, scientific papers item 206.

Royal Society of London, 1894, vol. X, p. 116, item 56.

Darton, 1896, p. 453.

Clarke, 1899, p. 448, scientific papers item 206.

Hovey, 1899, p. 164, scientific papers item 206.

Ellis, 1903, p. 287.

Nickles, 1923, p. 447, item 79c.

741. Hall, James. 1879. On some new and remarkable forms of Crinoidea from the lower Helderberg Formation; p. 166, No. 538. *Proceedings of the National Academy of Sciences*. Part II. Volume I.

Title only. Read at the Meetings in New York City, October 28–30, 1879. See 741, 759.



742. Hall, James. 1879. Notes on the *Locopæditis Vanuxemi* and allied forms; p. 166, No. 539. *Proceedings of the National Academy of Sciences*. Part II. Volume I.

Title only. Read at the Meetings in New York City, October 28–30, 1879.

743. Hall, James. 1879. Letter to Professor Henry; pp. 148–149. In Rhees, William J., ed., *The Smithsonian Institution: Journals of the Board of Regents, Reports of Committees, Statistics, Etc.* Smithsonian Miscellaneous Collections. 329. Washington: Published by the Smithsonian Institution.

This letter, written January 19, 1856, described a visit to Professor Henry's laboratory in August 1832. It was published in the *Journal of Proceedings of the Board of Regents of the Smithsonian Institution*, May 19, 1858. Part of this letter was published in *A Memorial of Joseph Henry*, 1880. See 442, 725, 747–749.

744. Hall, James. [1879] 1921. Letter (February 15, 1879) to Clarence King; p. 473. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall recommended Charles D. Walcott to be an assistant on the staff of King, Director of the Survey of the 40<sup>th</sup> Parallel.

745. Hall, James. No date [1879]. The fauna of the Niagara Group, in central Indiana; pp. 99–203; 8 text-figs.; pls. 3–34 (Arabic numbers) with Explanation to Plates (Roman numerals); pl. II has explanation only. 8vo.

Penciled in on page 1, apparently not in Hall's hand is: "from N.Y. St. Mus. Ann. Rept. 28." Headings on plates are: "Niagara Group, State Mus. Nat. Hist. 28." No publication data is included. This separate is undated but presumably is the same year as the 28th Annual Report (1879). Note that the New York Reports did not always appear in chronological order consistent with their sequence number. Hall discusses the history of this work in his introduction as follows: "A paper upon this subject was read before the Albany Institute, April 29th, 1862, and published in Volume IV of its Transactions. An abstract was issued, as a separate pamphlet under the date of May 2d, 1863, entitled, 'Notice of some New Species of Fossils from a Locality of the Niagara group in Indiana, with a List of Identified Species from the Same Place.'

"A revision of this paper, with description of additional species, was in preparation at the time the Documentary edition of this report was being printed, but owing to the requirement for publishing the volume of 'Illustrations of Devonian Fossils' during the same year (1876), it was impossible to complete this paper in time for the publication of that report. The plates illustrating the fossils, with names of species, and explanations of figures having been prepared, were issued with that edition. Since no copies of

that report were ordered for the State museum until 1878, it has given an opportunity of revising the published matter of 1863, with additional knowledge derived from subsequent collections, and of adding descriptions of the Corals and Bryozoa not included in the original paper." See 441.

746. [Hall, James?] 1879. Prefactory Note. The State Museum Edition of 28th Annual Report.

747. Hall, James. 1880. Letter to Orlando Meads, Esq.; p. 13–14. *Proceedings of the Albany Institute*. May 28, 1878. Vol. III – Part I. January 2, 1878 – March 2, 1880. Published May 1, 1880.

This is a letter of tribute to Prof. Joseph Henry, who died on May 13, 1878. Meads was Chairman of the Memorial Committee for Henry for the *Albany Institute*, of which Hall was then President. See 442, 725, 743, 748, 749.

748. Hall, James. 1880. Letter to Orlando Meads, Esq.; p. 129. In *A Memorial of Joseph Henry*. Published by order of Congress. Washington. Government Printing Office.

This testimonial letter to Prof. Joseph Henry, who had died on May 13, 1878, was written May 27, 1878, and published in the *Proceedings of the Albany Institute* for May 28, 1878. Meads was Chairman of the Memorial Committee for Henry. See 442, 725, 743, 747, 749.

749. Hall, James. 1880. Letter to Professor Henry; p. 381. In *A Memorial of Joseph Henry*. Published by order of Congress. Washington: Government Printing Office.

Part of a letter, written January 19, 1856, when Hall was President of the American Association for the Advancement of Sciences, is quoted here. It relates the circumstances of a visit by Hall to the Albany Academy in August 1832, to observe the work of Henry. The complete letter is published in the *Journal of Proceedings of the Board of Regents of the Smithsonian Institution*, May 19, 1858. See 442, 725, 743, 747, 748.

750. Hall, James. 1880. Sur la nomenclature des Terrains Paléozoïques aux États-Unis; pp. 60–67. *Comptes Rendus Sténographiques. Congrès International de Géologie, tenu à Paris, du 29 au 31 Août et du 2 au 4 Septembre 1878*. N° 21 de la Série.

Reprint is separately paginated, 1–8. See 721, 724, 751.

Darton, 1896, p. 453.

Royal Society of London, 1916, vol. XV, p. 583.

751. Hall, James. 1880. Some account of the International Geological Congress at Paris in August–September 1878; p. 43. February 18, 1879. *Proceedings of the*

***Albany Institute. Vol. III – Part I. January 2, 1878 – March 2, 1880. Published May 1, 1880.***

Hall included “observations on other subjects noticed in connection therein.” After the presentation of the paper, Hall, as President of the Institute, was given profuse thanks and recognition by the members of the Institute. See 721, 724, 750.

752. Hall, James. 1880. Descriptions of new species of Fossils, from the Niagara Formation at Waldron, Ind.; p. 46. *Proceedings of the Albany Institute. March 18, 1879. Vol. III – Part I. January 2, 1878 – March 2, 1880. Published May 1, 1880.*

Title only. Published in the *Transactions of the Albany Institute*, 1883, Vol. X, pp. 57–76. See 441.

753. Hall, James. 1880. Death of Prof. Isaac Edwards; p. 48. *Proceedings of the Albany Institute. March 27, 1879. Vol. III – Part I. January 2, 1878 – March 2, 1880. Published May 1, 1880.*

This announcement was read by Hall, then president of the *Institute*. Edwards was a vice-president of the *Institute* who had died suddenly.

754. Hall, James. 1880. Some new and remarkable forms of Crinoidea, or “stone lilies”; pp. 58–59. *Proceedings of the Albany Institute. October 7, 1879. Vol. III – Part I. January 2, 1878 – March 2, 1880. Published May 1, 1880.*

Title only.

755. Hall, James. 1880. The Fauna of the Lower Helderberg Group, in relation to the Corals, Bryozoa and Echinodermata; p. 488. *Proceedings of the American Association for the Advancement of Science. Twenty-Eighth Meeting, Held at Saratoga Springs, NY. August 1879. Salem: Published by the Permanent Secretary.*

Title only. See 153, 514, 735, 736.

Murray, 1884, p. 94, scientific papers item 211.  
Murray, 1889, p. 93, scientific papers item 211.  
Clarke, 1899, p. 448, scientific papers item 211.  
Hovey, 1899, p. 165, scientific papers item 211.

756. Hall, James. 1880. Notes upon the Genera *Fenestella*, *Hemitrypa*, etc.; p. 488. *Proceedings of the American Association for the Advancement of Science. Twenty-Eighth Meeting, Held at Saratoga Springs, NY. August 1879. Salem: Published by the Permanent Secretary.*

Title only. See 791.

Murray, 1884, p. 94, scientific papers item 212.  
Murray, 1889, p. 94, scientific papers item 212.

Clarke, 1899, p. 448, scientific papers item 212.  
Hovey, 1899, p. 165, scientific papers item 212.

757. Hall, James. 1880. On the Present Condition of the Work upon the *Palaeontology of New York*; p. 488. *Proceedings of the American Association for the Advancement of Science. Twenty-Eighth Meeting, Held at Saratoga Springs, NY. August 1879. Salem: Published by the Permanent Secretary.*

Title only.

Murray, 1884, p. 94, scientific papers item 213.  
Murray, 1889, p. 93, scientific papers item 213.  
Clarke, 1899, p. 448, scientific papers item 213.  
Hovey, 1899, p. 165, scientific papers item 213.

758. Hall, James. 1880. Report; pp. 5–10. *Thirty-Third Annual Report of the State Museum of Natural History by the Regents of the University of the State of New York. State of New York. No. 120. In Assembly, February 7, 1880. Albany: Weed, Parsons & Company, Legislative Printers.*

759. Hall, James. 1880. Notice of some new and remarkable forms of Crinoidea from the Lower Helderberg Group of New York and Tennessee; 8 pp., pls. 35–37. Extract from the *Twenty-Eighth Annual Report of the State Museum of Natural History of the State of New York, State Museum Edition, 1879. Albany: Weed, Parsons and Company, Printers.*

Title from cover page. Title on page 3 stops after “Group.”

Original paper was published previously in the *Twenty-Eighth Annual Report of the New York State Museum*. See 735, 736.

Murray, 1884, p. 94, included in scientific papers item 209.  
Murray, 1889, p. 93, included in scientific papers item 209.  
Clarke, 1899, p. 448, scientific papers item 209.  
Hovey, 1899, p. 164, included in scientific papers item 209.  
Ellis, 1903, p. 288.

760. Hall, James. 1880. Corals and bryozoans of the Lower Helderberg group; 38 pp. Reprinted from *Thirty-Second Annual Report on the State Museum of Natural History. March 1880. Albany: Charles Van Benthuyssen & Sons.*

This version is separately paginated from article in *Thirty-Second Annual Report*. See 153, 514.

Murray, 1884, p. 94, included in scientific papers item 214.  
Murray, 1889, p. 94, included in scientific papers item 214.  
Clarke, 1899, p. 448, included in scientific papers item 214.  
Hovey, 1899, p. 165, included in scientific papers item 214.  
Ellis, 1903, p. 287.  
Royal Society of London, 1916, vol. XV, p. 583.

761. Hall, James. 1880. Note upon the Relations of the Oneonta and Montrose Sandstones of Vanuxem,

**and Their Relation to the Sandstones of the Catskill Mountains. *Science: A Weekly Record of Scientific Progress*, vol. I, p. 290.**

A note at the bottom of the page says: "Read before the National Academy of Sciences, N. Y., 1880." This weekly journal was published from 1880 to 1883 in New York City, edited by John Michels, and had no connection with the later *Science* first published in Cambridge. A reprint in the Springer library, NMNH, has an inked date of December 11, 1880. The James Hall Papers, New York State Archives, contain copies of the reprint and the original manuscript. *Proceedings of the National Academy of Science*, 1880, Part II, Volume I, p. 177, lists this paper as given in November 1880. It is not listed in the report of November 1882, NAS. See 559, 560, 572, 762, 965.

Murray, 1884, p. 94, scientific papers item 215. Cited as: Read before NAS, NY meeting, November 1882.

Murray, 1889, p. 94, scientific papers item 215. Cited as: Read before NAS, NY meeting, November 1882.

Clarke, 1894, p. 566.

Darton, 1896, p. 453. Cited as: Read to National Acad. Sci., 1880.

Clarke, 1899, p. 449, scientific papers item 215. Cited as: Read before NAS, NY meeting, November 1882.

Hovey, 1899, p. 165, scientific papers item 215. Cited as: Read before NAS, NY meeting, November 1882.

Nickles, 1923, p. 447, item 80a.

762. Hall, James. 1880. Note on the relations of the Oneonta and Montrose Sandstones with the Sandstones of the Catskill Mountains; p. 177, No. 580. *Proceedings of the National Academy of Sciences*. Part II. Volume I.

Title only. Read at the Meetings in New York City, November 16–19, 1880. See 559, 560, 572, 761, 965.

763. Hall, James. 1880. Illustrations of American Palæozoic life. In James D. Dana, *Manual of Geology: Treating of the Principles of the Science with Special Reference to American Geological History*. Third Edition. New York. Cincinnati. Chicago: American Book Company. From the Press of Ivison, Blakeman, and Company.

On page vi of the Preface, Dana wrote that "The illustrations of American Palæozoic life have been largely copied from the Reports of Professor Hall." There are no other acknowledgments of Hall in the book, nor are any of the illustrations identified as Hall's.

764. Hall, James. 1881. Descriptions of New Species of Bryozoans, from the Upper Helderberg and Hamilton Groups; 36 pp. Read before the Albany Institute March 29th, 1881. Albany: Weed, Parsons and Company, Printers.

See 515.

Murray, 1884, p. 94, scientific papers item 217.

Murray, 1889, p. 94, scientific papers item 217.

Clarke, 1899, p. 449, scientific papers item 217.

Hovey, 1899, p. 165, scientific papers item 217.

765. Hall, James. 1881. Descriptions of New Species of Bryozoans, from the Upper Helderberg and Hamilton Groups; pp. 145–197. Read before the Albany Institute, March 29th, 1881. Albany: Weed, Parsons & Company, Printers.

Preprint of 1883 article is in the *Transactions of the Albany Institute*. See 515.

Murray, 1884, p. 94, included in scientific papers item 218. Cited as 1882.

Murray, 1889, p. 94, included in scientific papers item 218. Cited as 1882.

Clarke, 1899, p. 449, scientific papers item 218; included in p. 446, scientific papers item 168. Both cited as 1882.

Hovey, 1899, p. 165, included in scientific papers item 218. Cited as 1882.

Ellis, 1903, pp. 286, 288.

766. Hall, James. 1881. Report of the Director; pp. 5–12. *Thirty-Fourth Annual Report on the State Museum of Natural History by the Regents of the University, Ex-Officio Trustees of the Museum*. State of New York. No. 127. In Assembly, March 7, 1881. Albany: Weed, Parsons & Company, Legislative Printers.

Ellis, 1903, p. 287.

767. Hall, James. [1881]. Descriptions of species of fossils found in the Niagara Group at Waldron, Indiana; pp. 217–220, 253–282; pls. 12–22, 36. *Eleventh Annual Report of the State Geology [Indiana]*.

There was no date on the copy we examined. See 441, 487, 778, 785.

Murray, 1884, p. 94, cited in scientific papers item 220. Cited as 1882.

Murray, 1889, p. 94, cited in scientific papers item 220. Cited as 1882.

Clarke, 1899, p. 449, scientific papers item 220.

Hovey, 1899, p. 165, scientific papers item 220.

768. Hall, James. 1882. Memorial [*in re* Paleontology of New York] of James Hall, State Geologist, to the legislature of the State of New York; 5 pp. State of New York. No. 88. In Senate, April 5, 1882.

Hall's text is pages 1–4. [In Albany].

Nickles, 1923, p. 447, item 82.

769. Hall, James. 1882. Memorial of James Hall, State Geologist, to the legislature of the State of New



**York; 17 pp. State of New York. No. 88. In Senate, April 5, 1882.**

Nickles, 1923, p. 447, included in James Hall item 82.

- 770. Hall, James. 1882. On the microscopic structure of some of the Brachiopoda with reference to their generic relations; p. 210, No. 702. *Proceedings of the National Academy of Sciences. Part II. Volume I.***

Title only. Read at the Meetings in New York City, November 14–17, 1882. See 564.

- 771. Hall, James. 1882. Plates 6–9, following page 97. In R. P. Whitfield, On the Fauna of the Lower Carboniferous Limestones of Spargen Hill, Ind., with a revision of the descriptions of its Fossils hitherto published, and illustrations of the species from the original type series. *Bulletin of the American Museum of Natural History, Volume I, 1881–86, No. 3, October 1882, pp. 39–98.***

Whitfield wrote that most of these fossils were originally described and published, without illustration, in 1864, Description of New Species of Fossils from the Carboniferous Limestones of Indiana and Illinois, *Transactions of the Albany Institute*, Vol. IV, 1858–1864, pp. 1–36. See 230, 272, 439, 796, 797.

- 772. Hall, James. 1882. Fossil corals of the Niagara and Upper Helderberg Groups; 59 pp. Published in Advance of the Annual Report of the State Museum on Natural History, August 1882. Albany: Weed, Parsons and Company, Printers.**

The separate in the Crerar Library, University of Chicago, has no plates, but has handwritten corrections in ink, and plate numbers inserted in the text. Contains: Descriptions of Fossils from the Niagara and Upper Helderberg Groups, pp. 3–4; Fossil Corals of the Niagara Group, pp. 5–16; Corals of the Upper Helderberg Group, pp. 17–59. See 153, 441.

Murray, 1884, p. 94, scientific papers item 219.

Murray, 1889, p. 94, scientific papers item 219; p. 95, scientific papers item 225.

Clarke, 1899, p. 449, scientific papers items 219, 225.

Hovey, 1899, p. 165, scientific papers item 219; p. 166, scientific papers item 225.

Ellis, 1903, p. 288.

- 773. Hall, James. 1882. Contributions to the Geological History of the American Continent; pp. 29–71. The Address of the Retiring President, Delivered Before the First Montreal Meeting of the American Association for the Advancement of Science, August 1857. Salem: Printed at the Salem Press.**

This separate, in a brown wrapper, has the same pagination as in the *Proceedings of the American Association for the Advancement of Science* (1883), but was published earlier. It includes a review,

pages 69–71, by T. Sterry Hunt, “Notes on Prof. James Hall’s address.” The address is about mountain building. See 251, 798.

Murray, 1889, p. 94, scientific papers item 221.

Clarke, 1894, p. 568.

Darton, 1896, p. 453.

Clarke, 1899, p. 449, scientific papers item 221.

Hovey, 1899, p. 165, scientific papers item 221.

- 774. Hall, James. 1882. The Method of Cutting Sections of Fossils, and the machinery used for this purpose at the State Museum of Natural History; p. 91. *Proceedings of the Albany Institute. November 9, 1880. Vol. III – Part 2. March 2, 1880 – June 20, 1882. Published Oct. 1, 1882.***

Title only. See 825.

- 775. Hall, James. 1882. Descriptions of New Species of Bryozoans, from the Upper Helderberg and Hamilton Groups; p. 99. *Proceedings of the Albany Institute. March 29, 1881. Vol. III – Part 2. March 2, 1880 – June 20, 1882. Published Oct. 1, 1882.***

Title only. This paper was published in the *Transactions of the Albany Institute*, 1883, Vol. X, pp. 145–197. See 515.

- 776. Hall, James. 1882. History of The Geological Survey of New York; p. 113. *Proceedings of the Albany Institute. February 14, 1882. Vol. III – Part 2. March 2, 1880 – June 20, 1882. Published Oct. 1, 1882.***

Title only. Hall’s paper was read, at his request, by Mr. [Stephen] Hutchins, member of the publishing committee. A discussion followed. See 785.

- 777. Hall, James. 1882. The Geological Survey; pp. 367–376, 3 pls. In Paul A. Chadbourne, ed., *State of New York. The Public Service of the State of New York. Historical, Statistical, Descriptive and Biographical. Illustrated with Views and Portraits. Volume II. New York: The Photo-Gravure Company.***

The plates are two photographs of the Cohoes mastodon and one of a pothole. A footnote on page 375 states that no reports have been printed for three years (since 1879), and were suspended from 1850–1856. The text of this article is identical to Hall, 1883, *Popular Science*. See 487, 778, 785.

Ellis, 1903, p. 288.

- 778. Hall, James. 1882. Geological Map of New York; pp. 377–380, 1 map. In Paul A. Chadbourne, ed., *State of New York. The Public Service of the State of New York. Historical, Statistical, Descriptive and Biographical. Illustrated with Views and***

**Portraits. Volume II. New York: The Photo-Gravure Company.**

No author is listed, but the article seems to be a subheading of the previous entry. The map is full page. See 777.

Ellis, 1903, p. 288.

779. Hall, James. 1882. State Museum of Natural History; pp. 482–488, 5 photographs. In Paul A. Chadbourne, ed., *State of New York. The Public Service of the State of New York. Historical, Statistical, Descriptive and Biographical. Illustrated with Views and Portraits. Volume III. New York: The Photo-Gravure Company.*

The photographs are of the exterior and interior of the Museum.  
Ellis, 1903, p. 288.

780. Hall, James. No date [1882]. Notes on the family Dictyospongiae [*sic*] [cover page]. Observations on the genera *Cyathophycus*, *Dictyophyton*, *Phragmodictya*, *Clathrosporgia*, *Physospongia*, and their relations to *Uphantaenia* [title page]; pls. 17–20.

C. D. Walcott's copy of this separate has the inked date of 1882. The only text is the plate descriptions that also contain the notation: "Subject to revision." The format of the pages and plates is on their side relative to their publication in final form. See 831.

781. Hall, James. [1882] 1883. Descriptions of the species of fossils found in the Niagara group at Waldron, Indiana; pp. 217–345, pls. 1–36, 4 figs. + 8 unnumbered figs. in text. *Indiana Department of Geology and Natural History. Eleventh Annual Report, 1881.* Indianapolis: Wm. B. Burford, State Printer.

One version of the separate is undated and paginated as in the Eleventh Annual Report; another version in the collections of the Springer Library, NMNH, contains only pages 217–245. See Hall 415.

Murray, 1884, p. 94, scientific papers item 220. Cited as 1882.  
Murray, 1889, p. 94, scientific papers item 220. Cited as 1882.  
Clarke, 1899, p. 449, scientific papers item 220. Cited as 1882.  
Hovey, 1899, p. 165, scientific papers item 220. Cited as 1882.  
Nickles, 1923, p. 447, item 82a.

782. Murray, David, James Hall, J. S. Mosher, T. J. Van Alstyne and E. J. Miller. 1882. Report of the Committee "to inquire into the organization and methods of the Albany Institute, with a view to ascertain whether it cannot be made more efficient in its work and satisfactory in its results"; pp. 117–123. *Proceedings of the Albany Institute. Vol. III –*

**Part 2. March 2, 1880 – June 20, 1882. Published Oct. 1, 1882.**

Hall was a member of the Committee which submitted this report at the meeting of April 25, 1882. The report, with a few revisions, was adopted on May 23, 1882.

783. Hall, James. 1883. Descriptions of New Species of Fossils from the Niagara Formation at Waldron, Indiana. *Transactions of the Albany Institute, Vol. X, pp. 57–76, 1 text-figure.*

Read before the Institute on March 18, 1879, as noted in the *Proceedings of the Albany Institute*, 1880, Vol. III, Part I, p. 46. See 415.

Murray, 1884, p. 94, scientific papers item 216. Cited as 1882.  
Murray, 1889, p. 94, scientific papers item 216. Cited as 1882.  
Royal Society of London, 1894, vol. X, p. 116, item 58.  
Clarke, 1899, p. 449, scientific papers item 216. Cited as 1882; published separately in 1881.  
Hovey, 1899, p. 165, scientific papers item 216. Cited as 1882.  
Ellis, 1903, pp. 286, 288.  
Nickles, 1923, p. 447, item 83k.

784. Hall, James. 1883. Descriptions of New Species of Bryozoans, from the Upper Helderberg and Hamilton Groups. *Transactions of the Albany Institute, Vol. X, pp. 145–197.*

Read before the *Albany Institute*, March 29, 1881, as noted in the *Proceedings of the Albany Institute*, Vol. III - Part 2, 1882, p. 99. See 515.

Murray, 1884, p. 94, scientific papers item 218. Cited as 1882.  
Murray, 1889, p. 94, scientific papers item 218. Cited as 1882.  
Royal Society of London, 1894, vol. X, p. 116, item 59.  
Clarke, 1899, p. 446, scientific papers item 168; p. 449, scientific papers item 218. Both cited as 1882.  
Hovey, 1899, p. 162, item 168; p. 165, scientific papers item 218. Both cited as 1882.  
Ellis, 1903, pp. 286, 288.  
Nickles, 1923, p. 447, item 83l.

785. Hall, James. 1883. The New York Geological Survey. *The Popular Science Monthly, Vol. XXII, No. 46 (April 1883), pp. 815–825.*

The James Hall Papers, New York State Archives, contain the galley of this paper. A footnote on page 815 reads: From advance sheets of "*The Public Service of the State of New York.*" The text is identical to that article published in Chadbourne, 1882. One paragraph about the cost of the Survey is quoted in G. P. Merrill, 1920, *Contributions to a History of American State Geological and Natural History Surveys*, page 352. See 777.

Clarke, 1894, p. 570.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, item 83o.

786. Hall, James. 1883. Preliminary note on the microscopic shell-structure of the Paleozoic

**Brachiopoda. Paleontological Papers. *Science*, Vol. II, No. 31, September 7, 1883, pp. 325–326.**

See 564.

Nickles, 1923, p. 447, included in James Hall item 83n.

787. Hall, James. 1883. *Palaeontology [of New York]. Vol. V. - Part I. Lamellibranchiata. Plates and Explanations*; 20 pp., 96 pls. Natural History of New York, Geological Survey of New York. Albany: Van Benthuysen Printing House.

Hall (p. 1) notes that his "Preliminary notice of the lamellibranchiate shells of the Upper Helderberg, Hamilton and Chemung Groups, with others from the Waverly sandstones [preparatory for the Palaeontology of New York]" was published in January 1870, and that in 1874 plates were distributed to S. A. Miller and [?]later to J. J. Bigsby, J. Barrande, and H. Nettleroth. Hall's prefatory note to the volume is dated January 1883. The Hall Collection, Indiana University, also contains bound copies without text, explanation of plates, or imprint dates of plates 81–92 (on cover: Lamellibranchiata. I.) and of plates 35, 42, 93–96 (on cover: Lamellibranchiata. II.). 549, 557, 558, 662–664, 788, 818–820, 827, 837–839, 849, 851, 858.

Murray, 1889, p. 95, books item 25.

Clarke, 1899, p. 437, books item 25.

Hovey, 1899, p. 95, books item 25.

788. Hall, James. 1883. *Palaeontology [of New York]. Vol. V, Part I. Lamellibranchiata. Plates and Explanations*; pp. 1–20; pls. 1–41, 43–80. Natural History of New York, Geological Survey of New York.

Copies of this version, lacking some of the plates of the final published volume, are in the Hall Collection, Indiana University. See 787.

789. Hall, James, ed. 1883. *Report of the State Geologist for the Year 1882*. State of New York. Transmitted to the Legislature February 28, 1883. Albany, NY: Weed, Parsons & Company, Legislative Printers. 17 pp., plus 61 plates.

This is the second Annual Report of the State Geologist although, based on its imprint date, it was apparently published before the first report and reports were not numbered until the Fifth Annual Report 1886. This report and many of the subsequent annual reports issued while Hall was State Geologist were published in octavo and quarto editions. One quarto softcover book in the Hall Collection, Indiana University, has the notation on the cover in James Hall's handwriting: "Private [*sic*] Copy Table." A second quarto softcover copy in the Crerar Library, University of Chicago, has on the cover in Hall's handwriting: "Brachiopod portion of the report with notes by Schuchert."

Nickles, 1923, p. 447, included in James Hall item 83.

790. Hall, James. 1883. Report of the State Geologist; pp. 1–3. In James Hall, ed., *Report of the State Geologist for the Year 1882*. Transmitted to the Legislature February 28, 1883. State of New York. No. 178. In Assembly, February 28, 1883. Albany, NY: Weed, Parsons & Company, Legislative Printers.

791. Hall, James. 1883. Discussion upon the Manner of Growth, Variation of Form and Characters of the Genus *Fenestella*, and its relations to *Hemitrypa*, *Polypora*, *Retepora*, *Cryptopora*, etc.; pp. 5–16, 36 figs. In James Hall, ed., *Report of the State Geologist for the Year 1882*. Transmitted to the Legislature February 28, 1883. State of New York. No. 178. In Assembly, February 28, 1883. Albany, NY: Weed, Parsons & Company, Legislative Printers.

Separate is undated and paginated as in the Annual Report. A note states: These discussions were presented before the American Association for the Advancement of Science, at the Saratoga meeting in 1879, under the title of "Notes upon the Genera *Fenestella*, *Hemitrypa*, etc." See 756.

Murray, 1889, p. 95, scientific papers item 227.

Clarke, 1894, p. 570.

Clarke, 1899, p. 449, scientific papers item 227; p. 450, scientific papers item 243.

Hovey, 1899, p. 166, scientific papers item 227.

Ellis, 1903, p. 288.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 447, item 83a.

792. Hall, James. 1883. Fossil Corals and Bryozoans of the Lower Helderberg Group, and Fossil Bryozoans of the Upper Helderberg Group; p. 17, pls. I–XXII; XXIV, XXVI, XXVII, XXXIII–XXXIX, XLII are the same as pls. 1–33. In James Hall, ed., *Report of the State Geologist for the Year 1882*. Transmitted to the Legislature February 28, 1883. State of New York. No. 178. In Assembly, February 28, 1883. Albany, NY: Weed, Parsons & Company, Legislative Printers.

The plate descriptions contain Roman numeral headings, including early unpublished designations by Hall's assistants. The plates themselves carry both Roman and Arabic numerals, and the Arabic numerals are in sequence here. The headings on the plates are: Report State Geologist. 1883. (Pal. N. Y. Vol. VI.). See 153, 514, 515.

Murray, 1889, p. 95, scientific papers item 228.

Clarke, 1894, p. 570.

Clarke, 1899, p. 449, scientific papers item 228.

Hovey, 1899, p. 166, scientific papers item 228.

Ellis, 1903, p. 287.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 447, item 83b.



793. Hall, James. 1883. Brachiopoda: Plates and Explanations; 2 unnumbered pp., pls. AV, V–XI, XIA, XII–XIX, XXI–XXIV, XXX–XXXVI are the same as pls. 34–61. In James Hall, ed., *Report of the State Geologist for the Year 1882*. Transmitted to the Legislature February 28, 1883. State of New York. No. 178. In Assembly, February 28, 1883. Albany, NY: Weed, Parsons & Company, Legislative Printers.

This entry follows the preceding entry. The plate descriptions contain Roman numeral headings, including early unpublished designations by Hall's assistants. The plates themselves carry Roman and Arabic numerals, and the Arabic numerals are in sequence for this publication. The plates have the heading: Report State Geologist. 1883. (Pal. NY Vol. IV, pt. ii). The copy in the Crerar Library, University of Chicago, of the *Report of the State Geologist for the Year 1882* has, handwritten (probably by James Hall) on the cover, "Brachiopod portion of this report with handwritten notes by Schuchert." See 564.

Murray, 1889, p. 95, scientific papers item 229.  
Clarke, 1894, p. 570.  
Clarke, 1899, p. 449, scientific papers item 229.  
Hovey, 1899, p. 166, scientific papers item 229.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, included in James Hall item 83.

794. Hall, James. 1883. Paleontology: Van Cleve's Fossil Corals; pp. 239–270; pls. 1–14. In John Collett, State Geologist, *Indiana. Department of Geology and Natural History (Twelfth Annual Report). 1882*. Indianapolis: Wm. B. Burford, State Printer. 1883.

Murray, 1889, p. 95, scientific papers item 224.  
Clarke, 1899, p. 449, scientific papers item 224.  
Hovey, 1899, pp. 165–166, scientific papers item 224.  
Nickles, 1923, p. 447, item 83h.

795. Hall, James. 1883. Descriptions of Fossil Corals from the Niagara and Upper Helderberg Groups of Indiana; pp. 271–318, pls. 15–28. In John Collett, State Geologist, *Indiana. Department of Geology and Natural History (Twelfth Annual Report). 1882*. Indianapolis: Wm. B. Burford, State Printer. 1883.

See 153.

Murray, 1889, p. 94, scientific papers item 219; p. 95, scientific papers item 225.  
Clarke, 1899, p. 449, scientific papers items 219, 225.  
Hovey, 1899, p. 165, scientific papers item 219; p. 166, scientific papers item 225.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, item 83i.

796. Hall, James. 1883. [Spergen Hill fossils]; pp. 319–375, pls. 29–32. In John Collett, State Geologist, *Indiana. Department of Geology and Natural History (Twelfth Annual Report). 1882*. Indianapolis: Wm. B. Burford, State Printer. 1883.

Captions at bottom of plates state that they are reproduced from Bulletin No. 3, A.M.N.H. [American Museum of Natural History, 1882]. See 230, 272, 439, 771, 797.

Murray, 1889, p. 95, scientific papers item 226.  
Clarke, 1899, p. 445, scientific papers item 131; p. 449, scientific papers item 226.  
Hovey, 1899, p. 160, scientific papers item 131; p. 166, scientific papers item 226.  
Nickles, 1923, p. 447, item 83j.

797. Hall, James. 1883. Description of Spergen Hill fossils; pp. 321–375. Indianapolis: Wm. B. Burford, contractor for State printing.

This reprint does not contain pages 319–320 of the bound published report. Title is that on cover of separate. Pages are duplicates of a published report and are bound with the article on diatoms by G. L. Custis that follows in the same report. See 230, 272, 439, 771, 796.

798. Hall, James. 1883. Contributions to the Geological History of the American Continent; pp. 29–71. [The address of the retiring President, delivered before the Montreal Meeting of the American Association for the Advancement of Science, 1857.] *Proceedings of the American Association for the Advancement of Science. Thirty-First Meeting, Held at Montreal, Canada, August 1882*. Salem: Published by the Permanent Secretary.

Includes pages 69–71 by T. Sterry Hunt, "Notes on Prof. James Hall's address." Separate (1882) with same pagination also has Hunt's text. The address is about mountain building. See 251, 773.

Murray, 1884, p. 86, scientific papers item 69.  
Murray, 1889, p. 94, scientific papers item 221.  
Royal Society of London, 1894, vol. X, p. 116, item 57.  
Clarke, 1899, p. 442, scientific papers item 69.  
Hovey, 1899, p. 156, scientific papers item 69.  
Nickles, 1923, p. 447, item 83m.

799. Hall, James. 1883. Note upon the genus *Plumalites* [*sic*]; p. 419. *Proceedings of the American Association for the Advancement of Science. Thirty-First Meeting, Held at Montreal, Canada, August 1882*. Salem: Published by the Permanent Secretary.

Title only. See 723, 726.

Murray, 1884, p. 94, scientific papers item 221.  
Murray, 1889, p. 94, scientific papers item 222.  
Clarke, 1899, p. 449, scientific papers item 222.  
Hovey, 1899, p. 165, scientific papers item 222.

800. Hall, James. 1883. On the Relations of *Dictyophyton*, *Phragmodictyum* and similar forms with *Uphantænia*; p. 419. *Proceedings of the American Association for the Advancement of Science*. Thirty-First Meeting, Held at Montreal, Canada, August, 1882. Salem: Published by the Permanent Secretary.

Title only.

Murray, 1884, p. 94, scientific papers item 222.  
Murray, 1889, p. 94, scientific papers item 223.  
Clarke, 1899, p. 449, scientific papers item 223.  
Hovey, 1899, p. 165, scientific papers item 223.

801. Hall, James. 1883. Note upon the physical aspects of the higher members of the Chemung Group, and the development and distribution of the fossil genera *Ptychopteria* and *Leptodesma*, preceded by a review of the Pectenidæ and Aviculidæ of the Devonian system; p. 229, No. 739. *Proceedings of the National Academy of Sciences*. Part II. Volume I.

Title only. Read at the Meetings in New Haven, Conn., November 13–16, 1883. See 839, 851.

802. Hall, James. 1883. Report of the director; pp. 9–15. In *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.

803. Hall, James. 1883. Appendix A. List of Niagara Fossils from Waldron, Indiana, Arranged in Table Cases in the State Museum of Natural History. September 1882; pp. 21–25. In *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. Published by Authority of the State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.

See 415.

Nickles, 1923, p. 447, item 83c.

804. Hall, James. 1883. Bryozoa (Fenestellidæ) of the Hamilton Group; pp. 57–72. In *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.

See 515, 756.

Murray, 1889, p. 96, scientific papers item 232. Cited as 1884.  
Clarke, 1894, p. 570.  
Clarke, 1899, p. 450, scientific papers item 232. Cited as 1884.  
Hovey, 1899, p. 166, scientific papers item 232. Cited as 1884.  
Royal Society of London, 1902, vol. XII, p. 306, item 100.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, item 83d.

805. Hall, James. 1883. On the Structure of the Shell in the Genus *Orthis*; pp. 73–75, pls. 3–4. In *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.

Separate is paginated as in Annual Report, but dated 1884 and bound with next citation. See 335, 423, 605, 811, 915, 939.

Murray, 1889, p. 96, scientific papers item 233. Cited as 1884.  
Clarke, 1894, p. 570.  
Clarke, 1899, p. 450, scientific papers item 233. Cited as 1884.  
Hovey, 1899, p. 166, scientific papers item 233.  
Royal Society of London, 1902, vol. XII, p. 305, item 60.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, item 1883e.

806. Hall, James. 1883. Description of a new species of *Stylonurus* from the Catskill Group; pp. 76–77, pl. V. In *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.

Separate is paginated as in Annual Report, but dated 1884 and bound with preceding citation. See 812, 854, 855.

Murray, 1889, p. 96, scientific papers item 234. Cited as 1884.  
Clarke, 1894, p. 570.  
Clarke, 1899, p. 450, scientific papers item 234.  
Hovey, 1899, p. 166, scientific papers item 234. Cited as 1884.  
Royal Society of London, 1902, vol. XII, p. 306, item 101.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, item 1883f.

807. Hall, James. 1883. Illustration of Cryptozoön, N. G. from Saratoga County, NY; 1 unnumbered page with plate VI and its explanation. In *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.

Separate is as in Annual Report but dated 1884. See 813.

Murray, 1889, p. 96, scientific papers item 235. Cited as 1884.  
 Clarke, 1894, p. 570.  
 Clarke, 1899, p. 450, scientific papers item 235. Cited as 1884.  
 Hovey, 1899, p. 166, scientific papers item 235.  
 Ellis, 1903, p. 288.

- 808. Hall, James. [1883]. Bryozoa (Fenestellidae) of the Hamilton Group; pp. 57–72. State of New York in Senate, Document No. 53.**

Headings on pages of this separate indicate it is from the 36th Annual Report of the New York State Museum. Reprint in the Boardman Collection, NMNH, contains the inked date: January 12, 1883. Another separate is paginated as in Annual Report, but dated 1884. See **515, 756**.

Murray, 1889, p. 96, scientific papers item 232. Cited as 1884.  
 Clarke, 1899, p. 450, scientific papers item 232. Cited as 1884.  
 Hovey, 1899, p. 166, scientific papers item 232.  
 Ellis, 1903, p. 288.

- 809. Hall, James. 1884. Bryozoa (Fenestellidae) of the Hamilton Group; pp. 57–72. State of New York in Senate, Document No. 53.**

Headings on pages of this separate indicate it is from the 36th Annual Report of the New York State Museum. This separate is paginated as in the Annual Report but dated 1884. See **515, 756**.

- 810. Hall, James. 1884. The “Hudson River” age of the Taconic slates. *The American Journal of Science and Arts*, 3d ser., Vol. XXVIII, pp. 311–312.**

J. D. D. [James D. Dana] summarized remarks made by Hall beginning 40 years previously at a meeting of the American Association of Geologists and Naturalists, from letters received from Hall September 13, [1884?], and from remarks by Hall at the meeting of the British Association for the Advancement of Science, at Montreal in August and September 1884. See **80**.

Darton, 1896, p. 454.

- 811. Hall, James. 1884. On the Structure of the Shell in the Genus *Orthis*; pp. 73–75, pls. 3–4. From *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.**

Separate is paginated as in Annual Report, but dated 1884 and bound with next citation. See **335, 423, 605, 805, 915, 939**.

Murray, 1889, p. 96, scientific papers item 233.  
 Clarke, 1899, p. 450, scientific papers item 233.  
 Hovey, 1899, p. 166, scientific papers item 233.  
 Ellis, 1903, p. 288.

- 812. Hall, James. 1884. Description of a new species of *Stylonurus* from the Catskill Group; pp. 76–77, pl. V. From *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.**

Separate is paginated as in Annual Report, but dated 1884 and bound with preceding citation. See **806, 854, 855**.

Murray, 1889, p. 96, scientific papers item 234.  
 Clarke, 1899, p. 450, scientific papers item 234.  
 Hovey, 1899, p. 166, scientific papers item 234.  
 Ellis, 1903, p. 288.

- 813. Hall, James. 1884. Illustration of Cryptozoön, N. G. from Saratoga County, NY; 1 unnumbered page with plate VI and its explanation. From *Thirty-Sixth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1883. State of New York. No. 53. In Senate, January 12, 1883. Albany: Weed, Parsons & Company.**

Separate is as in Annual Report, but dated 1884. See **807**.

Murray, 1889, p. 96, scientific papers item 235.  
 Clarke, 1899, p. 450, scientific papers item 235.  
 Hovey, 1899, p. 166, scientific papers item 235.  
 Ellis, 1903, p. 288.

- 814. Hall, James. 1884. The Peach Bottom slates of southeastern York and southern Lancaster Counties; pp. 357–358; pls. A–C. In Persifor Frazer, *Transactions of the American Institute of Mining Engineers*, vol. XII, June 1883, to February 1884. New York City: Published by the Institute at the office of the Secretary.**

Hall's contribution is a published letter (and 3 plates) dated: Albany, September 18th, 1883. See **843**.

Murray, 1889, p. 96, scientific papers item 236.  
 Clarke, 1899, p. 450, scientific papers item 236.  
 Hovey, 1899, p. 166, scientific papers item 236.

- 815. Hall, James. 1884. Preliminary Note on the Microscopic Shell-structure of the Paleozoic Brachiopoda. [Abstract]; pp. 266–268. *Proceedings of the American Association for the Advancement of Science*. Thirty-Second Annual Meeting, Held at Minneapolis, Minn., August 1883. Salem: Published by the Permanent Secretary.**

Separate is paginated as in published volume and is dated on page 268 as Salem Press, May 1884. See **564**.

Murray, 1889, p. 96, scientific papers item 237.  
 Clarke, 1894, p. 572.



Royal Society of London, 1894, vol. X, p. 116, item 60.  
 Clarke, 1899, p. 450, scientific papers item 237.  
 Hovey, 1899, p. 166, scientific papers item 237.  
 Nickles, 1923, p. 447, included in James Hall item 83n.

- 816. Hall, James, ed. 1884. *Report of the State Geologist, Giving an Account of the Condition of the Work upon Which He Is Engaged*. State of New York. No. 32. In Assembly, February 27, 1882. Albany: Weed, Parsons & Company, Printers. 15 pp.**

This is the first Annual Report of the State Geologist, although it is not labeled as such within the volume. These annual reports were not numbered internally until the Fifth Annual Report, 1886. See page 5 for numbers of copies of plates printed for several volumes. See **817–819**.

Ellis, 1903, p. 288.  
 Nickles, 1923, p. 447, James Hall item 84a.

- 817. Hall, James. 1884. Report of the State Geologist; pp. 5–7. In James Hall, ed., *Report of the State Geologist, Giving an Account of the Condition of the Work upon Which He Is Engaged*. State of New York. No. 32. In Assembly, February 27, 1882. Albany: Weed, Parsons & Company, Printers.**

Ellis, 1903, p. 288.

- 818. Hall, James. 1884. Classification of the Lamellibranchiata; pp. 8–9. In James Hall, ed., *Report of the State Geologist, Giving an Account of the Condition of the Work upon Which He Is Engaged*. State of New York. No. 32. In Assembly, February 17, 1882. Albany: Weed, Parsons & Company, Printers.**

Murray, 1889, p. 96, scientific papers item 239.  
 Clarke, 1899, p. 450, scientific papers item 239.  
 Hovey, 1899, p. 167, scientific papers item 239.  
 Ellis, 1903, p. 288.  
 Nickles, 1923, p. 447, included in James Hall item 84b.

- 819. Hall, James. 1884. Preliminary classification of the principal American Devonian genera; including a few Silurian forms; pp. 10–11. In James Hall, ed., *Report of the State Geologist, Giving an Account of the Condition of the Work upon Which He Is Engaged*. State of New York. No. 32. In Assembly, February 17, 1882. Albany: Weed, Parsons & Company, Printers.**

Murray, 1889, p. 96, included in scientific papers item 239. Cited as: Classification of the Lamellibranchiata.  
 Clarke, 1899, p. 450, included in scientific papers item 239. Cited as: Classification of the Lamellibranchiata.  
 Hovey, 1899, p. 167, included in scientific papers item 239. Cited as: Classification of the Lamellibranchiata.  
 Ellis, 1903, p. 288. Cited as: Classification of the Lamellibranchiata.

Royal Society of London, 1916, vol. XV, p. 583. Cited as: Classification of the Lamellibranchiata, 1881.  
 Nickles, 1923, p. 447, included in James Hall item 84b.

- 820. Hall, James. 1884. Synopsis of the Characters of new genera [of Lamellibranchiata] which have been proposed, with remarks upon others of the same order; pp. 12–15; 11 pls. In James Hall, ed., *Report of the State Geologist, Giving an Account of the Condition of the Work upon Which He Is Engaged*. State of New York. No. 32. In Assembly, February 27, 1882. Albany: Weed, Parsons & Company, Printers.**

Murray, 1889, p. 96, included in scientific papers item 239. Cited as: Classification of the Lamellibranchiata.  
 Clarke, 1894, p. 572.  
 Clarke, 1899, p. 450, included in scientific papers item 239. Cited as: Classification of the Lamellibranchiata.  
 Hovey, 1899, p. 167, included in scientific papers item 239. Cited as: Classification of the Lamellibranchiata.  
 Ellis, 1903, p. 288. Cited as: Classification of the Lamellibranchiata.  
 Nickles, 1923, p. 447, included in James Hall item 84b.

- 821. Hall, James, ed. 1884. *Report of the State Geologist for the year 1883*. State of New York. No. 111. In Assembly, March 6, 1884. Albany: Weed, Parsons and Company, Legislative Printers. 61 pp.**

This is the third Annual Report of the State Geologist, but these reports were not numbered until the Fifth Annual Report in 1886. See **822, 823**.

Ellis, 1903, p. 288.  
 Nickles, 1923, p. 447, item 84c.

- 822. Hall, James. 1884. Report; pp. 1–3. In James Hall, ed., *Report of the State Geologist for the year 1883*. State of New York. No. 111. In Assembly, March 6, 1884. Albany: Weed, Parsons and Company, Legislative Printers.**

Ellis, 1903, p. 288.

- 823. Hall, James. 1884. Descriptions of the Bryozoans of the Hamilton Group [Fenestellidae excepted]; pp. 5–61. In James Hall, ed., *Report of the State Geologist for the year 1883*. State of New York. No. 111. In Assembly, March 6, 1884. Albany: Weed, Parsons and Company, Legislative Printers.**

Murray, 1889, p. 96, scientific papers item 240.  
 Clarke, 1894, p. 571.  
 Clarke, 1899, p. 450, scientific papers item 240.  
 Hovey, 1899, p. 167, scientific papers item 240.  
 Royal Society of London, 1916, vol. XV, p. 583.  
 Nickles, 1923, p. 447, item 84d.

- 824. Hall, James. 1884. Report of the Director; pp. 7–11. In James Hall, ed., *Thirty-Fifth Annual Report on***

*the New York State Museum of Natural History, by the Regents of the University of the State of New York.* Transmitted to the Legislature January 12, 1882. State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

Ellis, 1903, p. 287.

825. Hall, James. 1884. Notice of the machinery and methods of cutting rocks and fossils at the New York State Museum of Natural History; pp. 121–124, pls. 1, 2, 16, figs 1–11. In *Thirty-Fifth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York.* Transmitted to the Legislature January 12, 1882. State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

826. Hall, James. 1884. Preliminary Notice of the Lamellibranchiate Shells of the Upper Helderberg, Hamilton and Chemung Groups [Preparatory for the *Paleontology of New York*, Vol. V, Part 1, Lamellibranchiata I]. Part 1; pp. 215–406g. In *Thirty-Fifth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York.* Transmitted to the Legislature January 12, 1882. State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

See 787.

Murray, 1889, p. 95, scientific papers item 230.  
Clarke, 1894, p. 572.  
Clarke, 1899, p. 449, scientific papers item 230.  
Hovey, 1899, p. 166, scientific papers item 230.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, item 84e.

827. Hall, James. 1884. Preliminary Notice of the Lamellibranchiate Shells of the Upper Helderberg, Hamilton and Chemung Groups; pp. 215–406g. Part I. With five plates. Extracted from the *Thirty-Fifth Annual Report*, New York State Museum of Natural History, Albany, NY: Weed Parsons & Company, Printers.

Some versions of the separate contain no cover pages and are undated, but have pages 215–216 and an indication that it is [New York] Sen. Doc. 38. One separate in the Crerar Library, University of Chicago, has no plates. See 787.

Murray, 1889, p. 95, scientific papers item 230.  
Clarke, 1899, p. 449, scientific papers item 230.  
Hovey, 1899, p. 166, scientific papers item 230.  
Ellis, 1903, p. 288.

828. Hall, James. 1884. Descriptions of Fossil Corals from the Niagara and Upper Helderberg Groups; pp. 407–464; pls. 16, 23–30. In *Thirty-Fifth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York.* Transmitted to the Legislature January 12, 1882. State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

See 153.

Murray, 1889, p. 94, scientific papers item 219; p. 95, scientific papers item 225.  
Clarke, 1894, p. 572.  
Clarke, 1899, p. 449, scientific papers items 219, 225.  
Hovey, 1899, p. 165, scientific papers item 219; p. 166, scientific papers item 225.  
Royal Society of London, 1902, vol. XII, p. 306, item 102.  
Ellis, 1903, p. 288.  
Nickles, 1923, p. 447, items 83i, 84f.

829. Hall, James. 1884. Descriptions of Fossil Corals from the Niagara and Upper Helderberg Groups; pp. 407–464; pls. 16, 23–30. *Thirty-Fifth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York.* State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

Separate has headings of “Thirty-Fifth Report on the State Museum” and Plates 23–30, with headings of State Mus. Nat. Hist. 35. [Ser. Doc. No 38], and a page of Addenda, etc., on page 482. It is bound with a copy of “Descriptions of the Species of Fossil Reticulate Sponges, Constituting the Family Dictyospongidae,” [Sen. Doc. No. 38], pp. 465–481. See 153, 831.

830. Hall, James. 1884. Descriptions of Fossil Corals from the Niagara and Upper Helderberg Groups; pp. 407–481; pls. 23–30 (XXIII–XXX, expl.).

“By James Hall” is written in by hand after the title. Headings on some pages are “Thirty-Fifth Annual Report of the State Museum.” This separate contains: Descriptions of Fossils from the Niagara and Upper Helderberg Groups, pp. 407–408; Fossil Corals of the Niagara Group, pp. 409–420; Corals of the Upper Helderberg Group, pp. 421–464, pls. XXIII–XXX; and Descriptions of the Species of Fossil Reticulate Sponges, Constituting the Family Dictyospongidae, pp. 465–481. The last article appears to be a reprint from the Thirty-Fifth Report on the State Museum, Sen Doc. 38, with page numbers from 59–61, and no illustrations, although plates 18–21 are mentioned in the text. See 153, 441, 831.

831. Hall, James. 1884. Descriptions of the Species of Fossil Reticulate Sponges, Constituting the Family

Dictyospongidae; pp. 464–481; pls. 18–21 (also numbered in parentheses 17–20). In *Thirty-Fifth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1882. State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

See 780, 800, 829–832, 850, 881, 916, 921, 926, 927, 1035, 1042, 1046–1048, 1060, 1061.

Murray, 1889, p. 95, scientific papers item 231.

Clarke, 1894, p. 572.

Clarke, 1899, p. 450, scientific papers item 231.

Hovey, 1899, p. 166, scientific papers item 231.

Ellis, 1903, p. 288.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 447, item 84g.

832. Hall, James. 1884. Descriptions of the species of fossil reticulate sponges, constituting the family Dictyospongidae; 19 pp. [Abstracts of a paper to be issued in the 35th Museum Report], New York State Museum of Natural History, Albany: Weed, Parsons & Company, Printers.

Separate is also issued with same pagination and with plates as in *Thirty-Fifth Annual Report*. See 831.

833. Hall, James. 1884. Illustrations of the microscopic structure of the Brachiopoda; pl. 22. In *Thirty-Fifth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1882. State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

Text is represented by explanation to plate. See 564, 770.

Clarke, 1894, p. 572.

834. Hall, James. 1884. Addenda et Corrigenda; p. 482. In *Thirty-Fifth Annual Report of the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 12, 1882. State of New York. No. 38. In Senate, January 13, 1882. Albany: Weed, Parsons and Company, Printers.

According to Hall, 700 copies of the Document Edition of the 35th Annual Report were published without pages 406A–G.

835. Hall, James. 1884. Note on the Eurypteridae of the Devonian and Carboniferous Formations of Pennsylvania; pp. 23–39, figs. 2–4, pls. III–VIII. In *Second Geological Survey of Pennsylvania. Report of Progress. PPP*. Harrisburg: Published by the

# Board of Commissioners for the Second Geological Survey. 1884. Lane S. Hart, State Printer.

The title page is as follows: “*Second Geological Survey of Pennsylvania. Report of Progress. PPP. Ceratiocaridae from the Upper Devonian Measures in Warren County*, by Chas. E. Beecher. With two plates. *Eurypteridae from the Productive Coal Measures in Beaver County, and the Lower Carboniferous, Pithole Shale, in Venango County*. With 6 plates.” This has caused some libraries to list this as Beecher and Hall. See 578.

Murray, 1889, p. 96, scientific papers item 238.

Clarke, 1899, p. 450, scientific papers item 238.

Hovey, 1899, p. 166, scientific papers item 238.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 447, item 84h.

836. Hall, James. 1884. Note on the Eurypteridae of the Devonian and Carboniferous Formations of Pennsylvania; pp. 23–39, figs. 2–4, pls. 3–8. *Report of Progress PPP, Second Geological Survey of Pennsylvania*. Harrisburg: Lane S. Hart, Printer.

Cover page title for separate reads: “Eurypteridae from the Devonian and Carboniferous formations of Pennsylvania.” Separates have same pagination as Report of Progress. The James Hall Papers, New York State Archives (box 37, folders 1338–1339), contain the corrected galley, manuscript, and original drawings for this paper. See 578.

Murray, 1889, p. 96, scientific papers item 238.

Clarke, 1899, p. 450, scientific papers item 238.

Hovey, 1899, p. 166, scientific papers item 238.

837. Hall, James. 1884. *Palaeontology*. Vol. V. Part I. *Lamellibranchiata*. I. Text and Plates. Containing Descriptions and Figures of the Monomyaria of the Upper Helderberg, Hamilton and Chemung Groups. Geological Survey of the State of New York, Albany, NY: Charles Van Benthuysen & Sons; xviii + 268 pp.; pls. 1–33, 81–92.

This volume does not contain a Natural History of New York title page although it was intended for that series as indicated by Hall in his covering letter. The plates are numbered in Roman numerals and contain a numbering gap between 33 and 81. See 787.

Murray, 1889, p. 95, books item 23.

Clarke, 1894, p. 572.

Clarke, 1899, p. 437, books item 23.

Hovey, 1899, p. 150, books item 23.

Ellis, 1903, p. 284.

Nickles, 1923, p. 447, item 84.

838. Hall, James. 1884. *Palaeontology*. Vol. V. Part I. *Lamellibranchiata*. I. Text and Plates. Containing Descriptions and Figures of the Monomyaria of the Upper Helderberg, Hamilton and Chemung Groups. Geological Survey of the State of New York, Albany,



**NY: Charles Van Benthuysen & Sons; xviii + 268 pp.**

This version is the same as the preceding entry, but contains only the explanations of plates 1–33, 81–92, not the plates themselves. See 787.

- 839. Hall, James. 1884. On the Lamellibranchiate Fauna of the Upper Helderberg, Hamilton, Portage, Chemung, and Catskill Groups (Equivalent to the Lower, Middle and Upper Devonian of Europe), with Especial Reference to the Arrangement of the *Monomyaria* and the Development and Distribution of the Species of the Genus *Leptodesma* [Abstract]. *Geological Magazine*, 3d ser., vol. 1, pp. 559–560.**

Read on September 1, 1884, before the British Association for the Advancement of Science. Fifty-fourth Meeting, Montreal, 1884. See 787, 801.

Nickles, 1923, p. 448, included in James Hall item 84j.

- 840. Hall, James. 1884. On the Fossil Reticulate Sponges Constituting the Family Dictyospongidae [Abstract]. *Geological Magazine*, 3d ser., vol. 1, pp. 557–558.**

Read on September 1, 1884, before the British Association for the Advancement of Science. Fifty-fourth Meeting, Montreal, 1884. See 780, 831.

Nickles, 1923, p. 447, included in James Hall item 84i.

- 841. Hall, James. 1884. Letter to the editor: A Statement from Prof. James Hall [dated September 20, 1884]. [Albany] *Argus: Sunday Morning*, September 21, 1884.**

Comments about a paper read at the American Association for the Advancement of Science meeting in September 1884 at Philadelphia by Prof. H. S. Williams, Cornell University, regarding sections across Southern New York and adjacent parts of Pennsylvania. Hall had objected to the term “mongrel fauna” used by Williams for finding two Spirifers from different horizons in one layer. Hall was quoted regarding the mongrel fauna: “If anyone will show me these two Spirifers side by side in the same rock, I will sacrifice my life’s work. I will give up my reputation, eat my hat and make the person who shows me the rock a present of my coat and boots.” This same quotation is in Clarke, 1921, pages 512–514. Copy is in the James Hall Papers, New York State Archives. See 845.

- 842. Hall, James. 1884. [Remarks on classification of upper Devonian of New York and Pennsylvania.] *Science*, Vol. IV, No. 86, September 26, 1884, p. 327.**

Hall’s remarks in a discussion about Chemung-Catskill relations at the American Association for the Advancement of Science are

noted. The relation to two papers read by him two days later—on the intimate relations of the Chemung and Waverley groups, and on the recent discovery of Eurypteridae in Carboniferous beds—were noted. See 578.

Darton, 1896, p. 453.

- 843. Hall, James. [1884]. Some new plant forms lately found in the Peach-bottom Slates of south-eastern York and southern Lancaster Counties; 2 pp., pls. A–C. Extract from a paper read at the Troy Meeting, October 1883. *Transactions of the American Institute of Mining Engineers*.**

This separate has its own pagination. It is not clear if this was a preprint issued the previous year. See 630, 814, 869.

- 844. Hall, James. [1884] 1920. Letter (May 20, 1884) to His Excellency Grover Cleveland, Governor of New York; pp. 359–360. In George P. Merrill, ed., *Contributions to a History of American State Geological and Natural History Surveys*. Smithsonian Institution. United States National Museum. Bulletin 109. Washington: Government Printing Office.**

Hall was concerned about lack of space and money, and the lack of support from the State.

- 845. Hall, James. [1884] 1964. Quotation from Hall in the *Philadelphia Press*; p. 513. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.**

Hall was quoted regarding the mongrel fauna: “If anyone will show me these two Spirifers side by side in the same rock, I will sacrifice my life’s work. I will give up my reputation, eat my hat and make the person who shows me the rock a present of my coat and boots.” The story was apparently also printed in the New York *Tribune*. See 841, which was Hall’s response to the newspaper stories. See also 481.

- 846. [Hall, James?] 1884. Report of the Director; pp. 19–24. In *Thirty-Seventh Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 10, 1884. State of New York. No. 60. In Senate, January 10, 1884. Albany: Weed, Parsons & Company.**

This report is not signed by Hall as in previous years.

Ellis, 1903, p. 287.

- 847. J. D. D. [James D. Dana]. 1884. The “Hudson River” age of the Taconic slates. *The American Journal of Science and Arts*, 3d ser., Vol. XXVIII, pp. 311–312.**

J. D. D. [James D. Dana] summarized remarks made by Hall beginning 40 years previously at a meeting of the American Association of Geologists and Naturalists; from letters received from Hall September 13, [1884?]; and from remarks by Hall at the meeting of the British Association for the Advancement of Science, at Montreal in August and September 1884. See **80, 810**.

Darton, 1896, p. 454.

- 848. Pierson, H. R., David Murray, and James Hall. 1884. Contract between the State of New York, by the Trustees of the State Museum of Natural History, and James Hall, State Geologist; pp. 16–18. In *Thirty-Seventh Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. State of New York. No. 60. In Senate, January 10, 1884. Albany: Weed, Parsons & Company.**

- 849. Hall, James. 1885. *Paleontology*. Vol. V. Part I. *Lamellibranchiata*. II. *Text and Plates. Containing Descriptions and Figures of the Dimyria of the Upper Helderberg, Hamilton, Portage and Chemung Groups*; lxii + pp. 269–561; pls. 34–80, 93–96. Geological Survey of the State of New York. Albany, NY: Charles Van Benthuyssen & Sons.**

The Appendix to the Synopsis of Genera (pp. lvii–lxii) contains 5 figures. Two numbered figures appear on an unnumbered page (?562) following the index to the volume. The plates are numbered by Roman numerals and fill in the gaps in plate numbers in Hall **837** plus four additional plates added to the numbering sequence of the plates. See **787, 837**.

Murray, 1889, p. 95, books item 24.

Clarke, 1894, p. 574.

Clarke, 1899, p. 437, books item 24.

Hovey, 1899, p. 150, books item 24.

Ellis, 1903, p. 284.

Nickles, 1923, p. 448, item 85.

- 850. Hall, James. 1885. On the fossil reticulate sponges constituting the family Dictyospongidae; pp. 725–726. *Report of the Fifty-fourth Meeting of the British Association for the Advancement of Science; held at Montreal in August and September 1884, Transactions of Section C*. London: John Murray, Albemarle Street.**

See **831**.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 447, item 84i.

- 851. Hall, James. 1885. On the lamellibranchiata fauna of the Upper Helderberg, Hamilton, Portage, Chemung, and Catskill groups (equivalent to the**

**Lower, Middle and Upper Devonian of Europe), with especial reference to the arrangement of the *Monomyaria* and the development and distribution of the species of the genus *Leptodesma*; pp. 726–727. *Report of the Fifty-fourth Meeting of the British Association for the Advancement of Science; Held at Montreal in August and September 1884, Transactions of Section C*. London: John Murray, Albemarle Street.**

See **787, 801, 851**.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 84j.

- 852. Hall, James. 1885. Note on the intimate relations of the Chemung Group and Waverly sandstone in northwestern Pennsylvania and southwestern New York; pp. 416–419. *Proceedings of the American Association for the Advancement of Science. Thirty-Third Meeting, Held at Philadelphia, Penn., September 1884*. Salem: Published by the Permanent Secretary.**

This paper was noted in *Science*, Vol. IV, No. 86, September 26, 1884, p. 327. See **676**.

Murray, 1889, p. 96, scientific papers item 241.

Clarke, 1894, p. 574.

Darton, 1896, p. 454.

Clarke, 1899, p. 450, scientific papers item 241.

Hovey, 1899, p. 167, scientific papers item 241.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 85f.

- 853. Hall, James. 1885. Note on the intimate relations of the Chemung Group and Waverly sandstone in northwestern Pennsylvania and southwestern New York; pp. 1–4. Abstract. From the *Proceedings of the American Association for the Advancement of Science, Philadelphia Meeting, September 1884*. Salem Press, July, 1885.**

Separate of preceding citation has its own pagination and was published together with separate of next citation. Copy is in the James Hall Papers, New York State Archives. See **676**.

- 854. Hall, James. 1885. Note on the Eurypteridæ of the Devonian and Carboniferous Formations of Pennsylvania; with a supplementary note on *Stylonurus Excelsior*; pp. 420–422. *Proceedings of the American Association for the Advancement of Science. Thirty-Third Meeting, Held at Philadelphia, Penn., September 1884*. Salem: Published by the Permanent Secretary.**

This paper was noted in *Science*, Vol. IV, No. 86, September 26, 1884, p. 327. See **578, 806, 812**.

Murray, 1889, p. 96, scientific papers item 242.

Clarke, 1894, p. 575.  
 Clarke, 1899, p. 450, scientific papers item 242.  
 Hovey, 1899, p. 167, scientific papers item 242.  
 Royal Society of London, 1916, vol. XV, p. 583. Cited as 1884.  
 Nickles, 1923, p. 448, item 85g.

855. Hall, James. 1885. Note on the Eurypteridæ of the Devonian and Carboniferous formations of Pennsylvania; with a supplementary note on *Stylonurus excelsior*; pp. 5–7. From the *Proceedings of the American Association for the Advancement of Science*, Philadelphia Meeting, September 1884. Salem Press, July 1885.

Separate is paginated differently from published article and is bound with preceding citation from same volume. See 578, 806, 812.

856. Hall, James. 1885. Remarks upon the International Geological Congress at Berlin, with a brief Historical Notice of the Origin of this Congress; p. 265, No. 823. *Proceedings of the National Academy of Sciences*. Part III. Volume I. [1885–1894].

Title only. Read at the Meetings in Albany, New York, November 10–13, 1885.

857. Hall, James. 1885. Notes on some Points in the Geology of the Mohawk Valley; p. 266, No. 830. *Proceedings of the National Academy of Sciences*. Part III. Volume I. [1885–1894].

Title only. Read at the Meetings in Albany, New York, November 10–13, 1885. See 879, 978, 1018, 1022.

858. Hall, James. 1885. Remarks upon the Lamellibranchiata Fauna of the Devonian Rocks of the State of New York, and the Results of Investigations made for the Palæontology of the State; p. 266, No. 841. *Proceedings of the National Academy of Sciences*. Part III. Volume I. [1885–1894].

Title only. Read at the Meetings in Albany, New York, November 10–13, 1885. See 787.

859. Hall, James, ed. 1885. *Report of the State Geologist for the Year 1884, accompanied by a geological map of the state*. State of New York. No. 161. In Assembly, February 27, 1885. Albany: Weed, Parsons and Company, Legislative Printers. 47 pp.

This is the Fourth Annual Report of the State Geologist. These reports were not numbered internally until the Fifth Annual Report 1886. See 860–863.

Ellis, 1903, p. 288.  
 Royal Society of London, 1916, vol. XV, p. 583.  
 Nickles, 1923, p. 448, item 85a.

860. Hall, James. 1885. Report of the State Geologist for the year 1884; pp. 3–8, 1 map. In James Hall, ed., *Report of the State Geologist for the Year 1884, accompanied by a geological map of the state*. State of New York. No. 161. In Assembly, February 27, 1885. Albany: Weed, Parsons and Company, Legislative Printers.

861. Hall, James. 1885. On the mode of Growth and Relations of the Fenestellidæ [continued from page 14 of the Report of the State Geologists for 1882]; pp. 35–45, 2 pls., 10 figs. In James Hall, ed., *Report of the State Geologist for the Year 1884, accompanied by a geological map of the state*. State of New York. No. 161. In Assembly, February 27, 1885. Albany: Weed, Parsons and Company, Legislative Printers.

This paper contains reproductions of some bryozoan figures by H. A. Nicholson and variable designations of other figures. See 515, 756.

Murray, 1889, p. 86, scientific papers item 243.  
 Clarke, 1894, p. 574.  
 Clarke, 1899, p. 450, scientific papers item 243.  
 Hovey, 1899, p. 167, scientific papers item 243.  
 Ellis, 1903, p. 288.  
 Royal Society of London, 1916, vol. XV, p. 583.  
 Nickles, 1923, p. 448, item 85b.

862. Hall, James. 1885. On the relations of the genera *Stictopora*, *Ptilodictya*, *Acrogenia* and allied forms in Palæozoic rocks of New York; p. 46, 3 figs. In James Hall, ed., *Report of the State Geologist for the year 1884, accompanied by a geological map of the state*. State of New York. No. 161. In Assembly, February 27, 1885. Albany: Weed, Parsons and Company, Legislative Printers.

Murray, 1889, p. 97, scientific papers item 245.  
 Clarke, 1899, p. 450, scientific papers item 245.  
 Hovey, 1899, p. 167, scientific papers item 245.  
 Ellis, 1903, p. 289.  
 Nickles, 1923, p. 448, item 85c.

863. Hall, James. 1885. Note [on some Palæozoic pectinoid shells]; pp. 47–48, 6 figs. In James Hall, ed., *Report of the State Geologist for the year 1884, accompanied by a geological map of the state*. State of New York. No. 161. In Assembly, February 27, 1885. Albany: Weed, Parsons and Company, Legislative Printers.

Murray, 1889, p. 97, scientific papers item 244.  
 Clarke, 1899, p. 450, scientific papers item 244.  
 Hovey, 1899, p. 167, scientific papers item 244.  
 Ellis, 1903, p. 289.  
 Nickles, 1923, p. 448, item 85d. Cited as: On the characters of pectinoid shells.



864. Hall, James. 1885. Report of the Director; pp. 7–15. In *Thirty-Eighth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 15, 1885. State of New York. No. 23. In Assembly, January 15, 1885. Albany: Weed, Parsons & Company.

Ellis, 1903, p. 287.

865. Hall, James. 1885. Report of the State Geologist; pp. 61–65. In *Thirty-Eighth Annual Report on the New York State Museum of Natural History, by the Regents of the University of the State of New York*. Transmitted to the Legislature January 15, 1885. State of New York. No. 23. In Assembly, January 15, 1885. Albany: Weed, Parsons & Company.

Ellis, 1903, p. 288.

Nickles, 1923, p. 448, item 85e.

866. Hall, James. 1886. Notes and Observations; pp. 19–21. In G. R. Howell and J. Tenney, eds. Assisted by Local Writers, *Bi-Centennial History of Albany. History of the County of Albany, N. Y., from 1609 to 1886. With Portraits, Biographies and Illustrations*. New York: W. W. Munsell & Co., Publishers.

This is about the Cohoes mastodon, and appears to be identical to the report from the 21<sup>st</sup> Annual Report, 1871. See 487.

867. Hall, James. 1886. Bryozoa of the Upper Helderberg Group. Plates and explanations. Published in advance of the Report of the State Geologist for 1886, and of Volume VI, *Palaeontology of New York*, 29 pp. of plate descriptions, pls. 25, 27, 29, 30, 40, 41, 44, 45, 48, 50, 51, 53.

Copies are in the Hall Collection, Indiana University, and in the James Hall Papers, New York State Archives. See 515.

868. Hall, James. 1886. Report of the Director; pp. 9–14. In *Thirty-Ninth Annual Report of the Trustees of the State Museum of Natural History for the Year 1885*. Transmitted to the Legislature January 14, 1886. State of New York. No. 104. In Assembly, January 14, 1886. Albany: Weed, Parsons and Company, Printers.

Ellis, 1903, p. 287.

869. Hall, James. 1886. Note on Some Obscure Organisms in the Roofing Slates of Washington County, New York [*Dactyloidites bulbosus*]; p. 160, figs. 1, 2 on pl. 11. In *Thirty-Ninth Annual Report of the Trustees of the State Museum of Natural History for the Year 1885*. Transmitted to the

Legislature January 14, 1886. State of New York. No. 104. In Assembly, January 14, 1886. Albany: Weed, Parsons and Company, Printers.

Clarke, 1894, p. 577.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 86b.

870. Hall, James. 1886. Report on Building Stones; pp. 186–225. In *Thirty-Ninth Annual Report of the Trustees of the State Museum of Natural History for the Year 1885*. Transmitted to the Legislature January 14, 1886. State of New York. No. 104. In Assembly, January 14, 1886. Albany: Weed, Parsons & Company, Printers.

This was first published in 1868 as a report to the Commissioners of the New Capitol. See 542, 871.

Murray, 1889, p. 97, scientific papers item 246.

Clarke, 1894, p. 577.

Darton, 1896, p. 454.

Clarke, 1899, p. 450, scientific papers item 246.

Hovey, 1899, p. 167, scientific papers item 246.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 86c.

871. Hall, James. 1886. Report on building stones; 44 pp. [Communicated to the Commissioners of the New Capitol in 1868.] Extracted from the Thirty-ninth Annual Report of the NY State Museum, New York State Museum of Natural History. Albany: Weed, Parsons & Company, Printers.

Reprint is paginated separately from 39th Report. See 542, 870.

Murray, 1889, p. 97, scientific papers item 246.

Clarke, 1899, p. 450, included in scientific papers item 246.

Hovey, 1899, p. 167, scientific papers item 246.

Ellis, 1903, p. 289.

872. Hall, James. 1886. Report of the State Geologist; pp. 226–229. In *Thirty-Ninth Annual Report of the Trustees of the State Museum of Natural History for the Year 1885*. Transmitted to the Legislature January 14, 1886. State of New York. No. 104. In Assembly, January 14, 1886. Albany: Weed, Parsons and Company, Printers.

Darton, 1896, p. 454.

Ellis, 1903, p. 288.

Nickles, 1923, p. 448, item 86d.

873. Hall, James, ed. 1886. *Fifth Annual Report of the State Geologist for the Year 1885, Accompanied by a Geological Map of the State*. State of New York. No. 105. In Assembly, February 16, 1886. Albany: Weed, Parson, and Company, Printers. 47 pp., ill., map.

See next entries.

Ellis, 1903, p. 288.

Nickles, 1923, p. 448, item 86.

- 874. Hall, James. 1886. Report of the State Geologist; pp. 3–7. In James Hall, ed., *Fifth Annual Report of the State Geologist for the Year 1885, Accompanied by a Geological Map of the State*. State of New York. No. 105. In Assembly, February 16, 1886. Albany: Weed, Parson, and Company, Printers.**

Ellis, 1903, p. 288.

- 875. Hall, James. 1886. Report of the State Geologist; pp. 3–7; 28 pls. In James Hall, ed., *Fifth Annual Report of the State Geologist for the Year 1885, Accompanied by a Geological Map of the State*. State of New York. No. 105. In Assembly, February 16, 1886. Albany: Weed, Parsons and Company, Printers.**

This separate contains (in Roman numerals) plates 1–14, 25, 27, 29–32, 40, 41, 44, 45, 47, 50, 51, 53. There are explanations of plates, but no text descriptions for Cephalopoda (pls. 1–14) and Bryozoa (pls. 25–53) of the Upper Helderberg Group. See **514, 681**.

- 876. Hall, James. 1886. [Plates and Explanations; pls. 25, 27, 29–32, 40–41, 44–45, 48, 50–51, 53]. In James Hall, ed., *Fifth Annual Report of the State Geologist for the Year 1885, Accompanied by a Geological Map of the State*. State of New York. No. 105. In Assembly, February 16, 1886. Albany: Weed, Parsons, and Company, Printers.**

Published in advance of *Paleontology of New York*. The plates of Bryozoa were published as part of Volume VI of the *Paleontology of New York* (1887). See **886, 877**.

Murray, 1889, p. 97, scientific papers item 247.

Clarke, 1899, p. 450, scientific papers item 247.

Hovey, 1899, p. 167, scientific papers item 247.

Ellis, 1903, p. 289.

Nickles, 1923, p. 448, item 86a.

- 877. Hall, James. 1886. [Plates and Explanations of Cephalopoda, Supplementary to *Paleontology of New York*, Vol. V, Part II.]; pp. 117–129, 14 pls. In James Hall, ed., *Fifth Annual Report of the State Geologist for the Year 1885, Accompanied by a Geological Map of the State*. State of New York. No. 105. In Assembly, February 16, 1886. Albany: Weed, Parsons, and Company, Printers.**

Plates and plate explanations are for the Palæontology of New York, Vol. V, pt. II. Supplement, Cephalopods and vol. VI. Plates doubly numbered 1–14 and CXVII–CXXIX are of cephalopods and remaining plates are of bryozoans. The Springer Library,

NMNH, contains a separate of the plates without text or plate explanations. This and the preceding citation are one of the many examples of variations caused by printing of text and plates as they were completed and sent out prior to final publication of the final monograph or paper. See **515, 681**.

Murray, 1889, p. 87, scientific papers item 248.

Clarke, 1899, p. 450, scientific papers item 248.

Hovey, 1899, p. 167, scientific papers item 248.

Ellis, 1903, p. 289.

Nickles, 1923, p. 448, included in James Hall item 86a. Cited as: Illustrations with explanations of Upper Helderberg fossils.

- 878. [Beecher, C. E., C. E. Hall and James Hall]. 1886. Field notes on the geology of the Mohawk Valley with a map; pp. 8–10, 3 unnumbered figures, map. In James Hall, ed., *Fifth Annual Report of the State Geologist for the Year 1885, Accompanied by a Geological Map of the State*. State of New York. No. 105. In Assembly, February 16, 1886. Albany: Weed, Parson, and Company, Printers.**

Authors are not listed, but Hall (p. 4) gives credit to Beecher and C. E. Hall as well as to himself. See **857, 978, 1018, 1022**.

Murray, 1889, p. 97, scientific papers item 249. James Hall cited as only author.

Clarke, 1899, p. 450, scientific papers item 249. James Hall cited as only author.

Hovey, 1899, p. 167, scientific papers item 249. James Hall cited as only author.

Royal Society of London, 1916, vol. XV, p. 583. James Hall cited as only author.

- 879. Hall, James, ed. 1887. *Sixth Annual Report of the State Geologist for the Year 1886*. Transmitted to the Legislature March 1, 1887. State of New York. No. 72. In Assembly, February 26, 1887. Albany: The Argus Company, Printers. 70 pp.**

See **880–883**.

Ellis, 1903, p. 288.

Nickles, 1923, p. 448, item 87a.

- 880. Hall, James. 1887. Report of the State Geologist; pp. 5–9. In James Hall, ed., *Sixth Annual Report of the State Geologist for the Year 1886*. Transmitted to the Legislature March 1, 1887. State of New York. No. 72. In Assembly, February 26, 1887. Albany: The Argus Company, Printers.**

Ellis, 1903, p. 288.

- 881. Hall, James. 1887. Note on the occurrence of the Dictyospongidae in the State of New York; pp. 36–38, 1 map. In James Hall, ed., *Sixth Annual Report of the State Geologist for the Year 1886*. Transmitted to the Legislature March 1, 1887. State of New York. No. 72. In Assembly, February 26, 1887. Albany: The Argus Company, Printers.**

Map, 33 x 26 cm, shows geographic distribution of Dictyospongiidae in Steuben and adjoining counties. See 780.

Murray, 1889, p. 97, scientific papers item 252. Cited as 1886.

Clarke, 1894, p. 580.

Clarke, 1899, p. 451, scientific papers item 252. Cited as 1886.

Hovey, 1899, p. 167, scientific papers item 252. Cited as 1886.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 87b.

882. Hall, James. 1887. Note on the Discovery of a Skeleton of an (*Elaphus Canadensis*) in the town of Farmington, Ontario County, New York; p. 39. In James Hall, ed., *Sixth Annual Report of the State Geologist for the Year 1886*. Transmitted to the Legislature March 1, 1887. State of New York. No. 72. In Assembly, February 26, 1887. Albany: The Argus Company, Printers.

Murray, 1889, p. 97, scientific papers item 251. Cited as 1886.

Clarke, 1894, p. 580.

Clarke, 1899, p. 451, scientific papers item 251. Cited as 1886.

Hovey, 1899, p. 167, scientific papers item 251. Cited as 1886.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 87c.

883. Hall, James. 1887. Descriptions of Fenestellidae of the Hamilton Group of New York; pp. 41–70; 7 pls. In James Hall, ed., *Sixth Annual Report of the State Geologist for the Year 1886*. Transmitted to the Legislature March 1, 1887. State of New York. No. 72, in Assembly, February 26, 1887. Albany: The Argus, Company, Printers.

Murray, 1889, p. 97, scientific papers item 253. Cited as 1886.

Clarke, 1894, p. 580.

Clarke, 1899, p. 451, scientific papers item 253. Cited as 1886.

Hovey, 1899, p. 167, scientific papers item 253. Cited as 1886.

Ellis, 1903, p. 288.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 87d.

884. Hall, James. 1887. Report of the Director; pp. 11–19. In *Fortieth Annual Report of the New York State Museum of Natural History, for the Year 1886*. Transmitted to the Legislature January 14, 1887. State of New York. No. 115. In Assembly, January 14, 1887. Albany: The Argus Company, Printers.

Ellis, 1903, p. 288.

885. Hall, James. 1887. Report of the State Geologist; pp. 155–163. In *Fortieth Annual Report on the New York State Museum of Natural History for the Year 1886*. Transmitted to the Legislature January 15, 1887. State of New York. No. 115. In Assembly,

January 14, 1887. Albany: The Argus Company, Printers.

Ellis, 1903, p. 288.

886. Hall, James, and G. B. Simpson. 1887. *Palaeontology of New York*. Vol. VI. *Corals and Bryozoa: Text and Plates. Containing Descriptions and Figures of Species from the Lower Helderberg, Upper Helderberg and Hamilton Groups*; xxvi + 298 pp.; pls. 1–23, 23A, 24–66. Geological Survey of the State of New York. Albany, NY: Charles Van Benthuyssen & Sons.

Plates are numbered with Roman numerals. Reviewed in *Neues Jahrbuch für Mineralogie, Geologie und Palaeontologie*, Jahrgang 1892, I. Band, pp. 183–184, by “Frech.” [in German]. See 153, 514, 515.

Murray, 1889, p. 96, books item 26.

Clarke, 1894, p. 580. Cited as: Assisted by George B. Simpson.

Clarke, 1899, p. 437, books item 26. Cited as: Assisted by George B. Simpson.

Hovey, 1899, pp. 150–151, books item 26.

Royal Society of London, 1916, vol. XV, p. 583, James Hall.

Ellis, 1903, p. 284.

Nickles, 1923, p. 448, item 87.

887. Hall, James? No date [1887]. *Corals and Bryozoa of the Lower Helderberg Group*; 298 pp.

This is an undated soft-cover version of the text of Hall and Simpson, 1887, possibly printed as early as 1885. 1887 is written in pencil on inside cover. No plates or figures. See 153, 514.

888. Hall, James. 1888. *Palaeontology*. Vol. V, Part II. *Supplement, containing descriptions and illustrations of Pteropoda, Cephalopoda and Annelida*; 42 pp.; pls. 114–116, 116A, 117–121, 121A, 122–129. Geological Survey of the State of New York, Albany, NY: Charles Van Benthuyssen & Sons.

This supplement is appended to Vol. VII of the *Palaeontology of New York*. This was noted under Review of Recent Geological Literature in *The American Geologist*, Vol. III, No. 2 (February, 1889), pp. 147–148. See 681.

Keyes, 1894, pp. 101–102. Lists described and figured species.

Clarke, 1899, p. 438, books item 29.

Hovey, 1899, p. 151, books item 29.

Ellis, 1903, p. 284.

Nickles, 1923, p. 448, item 88.

889. Hall, James. 1888. *Palaeontology*. Vol. V, Part II. *Extract from Supplement, Containing Descriptions and Illustrations of Pteropoda and Annelida*; 24 pp.; pls. XCIV–XCVIA. Geological Survey of the State of New York. Albany, NY: Charles Van Benthuyssen & Sons.



Prefatory Note is dated March, 1888. See **888**.

Murray, 1889, p. 97, scientific papers item 254. Cited as vol. VII.

Clarke, 1899, p. 451, scientific papers item 254. Cited as vol. VII.

Hovey, 1899, p. 167, scientific papers item 254. Cited as vol. VII, 1880.

Nickles, 1923, p. 448, item 88.

- 890. Hall, James. 1888. Report of the Director; pp. 15–25. In *Forty-First Annual Report of the Trustees of the State Museum of Natural History for the Year 1887*. Transmitted to the Legislature May 7, 1888. State of New York. No. 19. In Senate, May 7, 1888. The Troy Press Company, Printers.**

Ellis, 1903, p. 288.

- 891. Hall, James. 1888. Report of the State Geologist, for the Year 1887; pp. 359–382. In *Forty-First Annual Report of the Trustees of the State Museum of Natural History for the Year 1887*. Transmitted to the Legislature May 7, 1888. State of New York. No. 19. In Senate, May 7, 1888. The Troy Press Company, Printers.**

Ellis, 1903, p. 288.

Royal Society of London, 1916, vol. XV, p. 583, James Hall.

Nickles, 1923, p. 448, item 88b.

- 892. Hall, James. 1888. Description of New Species of Fenestellidæ of the Lower Helderberg, with Explanations of Plates Illustrating Species of the Hamilton Group, Described in the Report of the State Geologist for 1886; unnumbered pp. 393–396; pls. 8–15. In *Forty-First Annual Report of the Trustees of the State Museum of Natural History for the Year 1887*. Transmitted to the Legislature May 7, 1888. State of New York. No. 19. In Senate, May 7, 1888. The Troy Press Company, Printers.**

Figures on the plates were intended for publication in Volume VI of the *Palæontology of New York*. Descriptions of the new subgenus *Tectulipora* and a new species of *Fenestella* are presented at the end of the Report, with the explanation to plates 8–15 not otherwise cited in the text. See **756**.

Clarke, 1894, p. 583.

Clarke, 1899, p. 451, scientific papers item 255.

Hovey, 1899, p. 151, books item 30.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583, James Hall.

Nickles, 1923, p. 448, item 88c.

- 893. Hall, James. 1888. Communication from Prof. James Hall on the nomenclature of the American lower Paleozoic; p. 200. In N. H. Winchell, Report of the Sub-Committee on the Lower Paleozoic. *The American Geologist*, Vol. II, July to December, 1888, pp. 193–224.**

Darton, 1896, p. 454.

- 894. Hall, James. [1888] 1964. Letter (March 25, 1888) to J. D. Dana; pp. 728–729. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.**

Hall wrote about the history of the Taconic question, especially in the 1840s and in regard to Emmons. Dana was a professor at Yale University. See **80**.

- 895. Hall, James. [1888] 1964. Letter (March 25, 1888) to Prof. Dana; p. 732. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.**

Hall wrote a complaining letter about Dr. Emmons regarding Emmons's geologic map of New York, which Emmons said had been suppressed. Hall also alluded to Emmons's complaints about his treatment "received on account of his advocacy of the Taconic system." See **80**.

- 896. Hall, James, and J. M. Clarke. 1888. *Palæontology of New York*. Vol. VII; lxiv + 236 pp., 46 pls. With supplement to Vol. V, Part II, 42 pp., pls. 114–129. Albany.**

Murray, 1889, p. 97, books item 27. Cited as: Assisted by John M. Clarke.

Clarke, 1899, p. 438, books item 27. Cited as: Assisted by John M. Clarke.

Hovey, 1899, p. 151, books item 27.

- 897. Hall, James, and J. M. Clarke. 1888. *Palæontology*. Vol. VII. *Text and Plates. Containing Descriptions of the Trilobites and other Crustacea of the Oriskany, Upper Helderberg, Hamilton, Portage, Chemung and Catskill Groups*; lxiv + 236 pp., 46 pls. With supplement to Vol. V, Part II. Geological Survey of the State of New York. Albany, NY: Charles Van Benthuysen & Sons.**

Plate numbers are in Roman numerals: 1–5, 5A, 5B, 6–8, 8A, 9–11, 11A, 11B, 12–16, 16A, 16B, 17–19, 19A, 19B, 20–26, 26A, 27–36. This was reviewed in *The American Geologist*, Vol. III, No. 2 (February 1889), p. 147, and in *Neues Jahrbuch für Mineralogie, Geologie und Palæontologie*, Jahrgang 1889, II. Band, pp. 186–190, by Kayser [in German]. A one-paragraph review is in *The American Naturalist*, Vol. XXII, No. 260 (August 1888), p. 714, signed by P. See **330**.

Clarke, 1894, p. 582. Cited as: Assisted by J. M. Clarke.

Keyes, 1894, pp. 98–100. Contains list of described species and genera.

Clarke, 1899, p. 438, books item 28. Cited as: Assisted by J. M. Clarke.

Hovey, 1899, p. 151, books item 28.

Ellis, 1903, p. 284.

Nickles, 1923, p. 448, item 88a.

898. Hall, James. 1889. Description of *Linnarssonina cf. pretiosa*, Billings. *Proceedings and Transactions of the Royal Society of Canada for the Year 1889*. Vol. VII, p. 55. Section IV. Geological and Biological Sciences. Papers for 1889.

A note says: (The above description has been kindly supplied by Prof. Hall from specimens sent to him from the Redpath Museum. J. W. D. [J. William Dawson?]).

Keyes, 1894, p. 101.

Nickles, 1923, p. 448, item 89c.

899. Hall, James. 1889. Report of the Director; pp. 15–36, 1 pl. In *Forty-Second Annual Report of the Trustees of the State Museum of Natural History for the Year 1888*. State of New York. No. 65. In Senate, February 28, 1889. Albany: The Troy Press Company Printers.

Contains the republication of an article (pp. 30–34) by Sir W. E. Logan, "On the Track of an Animal Lately Found in the Potsdam Formation," including the plate of crustacean tracks. [Read before the Natural History Society of Montreal, June 1860]. See 107, 108, 495, 904.

Ellis, 1903, p. 288.

900. Hall, James. 1889. [Crustacean Tracks in the Potsdam Sandstone]; pp. 27–35, 1 pl. In *Forty-Second Annual Report of the Trustees of the State Museum of Natural History for the Year 1888*. Transmitted to the Legislature February 28, 1889. State of New York. No. 65. In Senate, February 28, 1889. Albany: The Troy Press Company Printers.

This citation is part of the Report of the Director in the Forty-Second Annual Report (preceding entry), but is not delineated as a separate article. See 330, 495.

Clarke, 1894, p. 585.

Keyes, 1894, p. 100.

Clarke, 1899, p. 451, scientific papers item 256.

Hovey, 1899, p. 151, books item 31.

Ellis, 1903, p. 289.

Nickles, 1923, p. 448, item 89b.

901. Hall, James, ed. 1889. Report of the State Geologist, for the Year 1888; pp. 349–496. In *Forty-Second Annual Report of the Trustees of the State Museum of Natural History for the Year 1888*. Transmitted to the Legislature February 28, 1889. State of New York. No. 65. In Senate, February 28, 1889. Albany: The Troy Press Company Printers.

See 904.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, included in item 89.

902. Hall, James. 1889. Report [of the State Geologist]; pp. 349–388. In *Forty-Second Annual Report of the*

*Trustees of the State Museum of Natural History for the Year 1888*. Transmitted to the Legislature February 28, 1889. State of New York. No. 65. In Senate, February 28, 1889. Albany: The Troy Press Company Printers.

See 904.

903. Hall, James. 1889. Record of Locality Numbers; pp. 451–496. In *Forty-Second Annual Report of the Trustees of the State Museum of Natural History for the Year 1888*. Transmitted to the Legislature February 28, 1889. State of New York. No. 65. In Senate, February 28, 1889. Albany: The Troy Press Company Printers.

Darton, 1896, p. 454.

904. Hall, James, ed. 1889. *Eighth Annual Report of the State Geologist for the Year 1888*. State of New York. No. 66. In Senate, February 28, 1889. Albany: The Troy Press Company, Printers. 150 pp.

See 107, 108, 899, 905, 906.

Ellis, 1903, p. 288.

Nickles, 1923, p. 448, item 89.

905. Hall, James. 1889. Report; pp. 5–56. In James Hall, ed., *Eighth Annual Report of the State Geologist for the year 1888*. State of New York. No. 66. In Senate, February 28, 1889. Albany: The Troy Press Company, Printers.

See 107, 108.

906. Hall, James. 1889. Paleontology of New York, Volume VII; pp. 7–24. In James Hall, ed., *Eighth Annual Report of the State Geologist for the year 1888*. State of New York. No. 66. In Senate, February 28, 1889. Albany: The Troy Press Company, Printers.

A brief preliminary synopsis of the report. Reviewed under Scientific Intelligence in *The American Journal of Science*, 3d Ser., Vol. XXXIX, No. 230 (February 1890), p. 155, by C. D. W. (Walcott?).

Keyes, 1894, p. 102.

907. Hall, James. 1889. Type Specimens of Devonian Crustacea Described in Paleontology of New York, Vol. VII, in the Possession of the New York State Museum of Natural History. pp. 24–27. In James Hall, ed., *Eighth Annual Report of the State Geologist for the year 1888*. State of New York. No. 66. In Senate, February 28, 1889. Albany: The Troy Press Company, Printers.

See 330, 899.

Keyes, 1894, p. 102.

908. Hall, James. 1889. Remarks upon the Present State of our Knowledge in reference to a Revision of the Genera of Brachiopoda for the *Paleontology of New York*, Volume VIII; p. 331, No. 1015. *Proceedings of the National Academy of Sciences*. Part III. Volume I. [1885–1894].  
Title only. Read at the Meetings in Philadelphia, Pa., November 12–14, 1889. See 564.
909. Hall, James. [1889] 1964. Letter (March 17, 1889) to Prof. R. Ellsworth Call; pp. 732–733. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.  
Hall wrote to Prof. Call about where he could get the Emmons Geology Map of New York.
910. [Hall, James]. 1889. Catalogue of the Specimens Arranged by Prof. E. Emmons, as Representatives of the Taconic System, in the State Cabinet of Natural History, at the close of the Geological Survey of New York in 1843; pp. 441–444. In *Forty-Second Annual Report of the Trustees of the State Museum of Natural History for the Year 1888*. State of New York. No. 65. In Senate, February 28, 1889. Albany: The Troy Press Company Printers.  
No author is listed for this compilation although it is credited to Hall in Nickles. This was originally published in the First Report upon the State Cabinet of Natural History by the Regents of the University in 1848. See 80, 107, 108, 904, 911.  
Nickles, 1923, p. 448, item 89a.
911. [Hall, James]. 1889. Catalogue of the Specimens Arranged by Prof. E. Emmons, as Representatives of the Taconic System, in the State Cabinet of Natural History, at the close of the Geological Survey of New York in 1843; pp. 95–98. In James Hall, ed., *Eighth Annual Report of the State Geologist for the year 1888*. State of New York. No. 66. In Senate, February 28, 1889. Albany: The Troy Press Company, Printers.  
No author is listed for this compilation although it is credited to Hall in Nickles. See 80, 107, 108, 899, 910.
912. Hall, James, and John Mason Clarke. 1889. [On the Genus *Orbiculoidea*]; pp. 120–160, pls. IVe–IVf. Published in advance of the *Paleontology of New York*, Vol. VIII, Part I.  
Clarke, 1894, p. 588. Cited as: Assisted by J. M. Clarke.  
Clarke, 1899, p. 451, scientific papers item 260.  
Hovey, 1899, p. 151, books item 32.
913. Hall, James. 1890. [Address of The President-elect]. In: A[lexander] Winchell, Organization of the Geological Society of America. *Bulletin of the Geological Society of America*. Vol. I, pp. 1–6.  
An account of Hall's presidential address, prepared by Alexander Winchell, is on page 6.
914. Hall, James. 1890. Opening address by the President [read August 29, 1889, at the Toronto Meeting]. *Bulletin of the Geological Society of America*. Vol. I, pp. 15–18 [February 15, 1890].  
Galley of this address is in the James Hall Papers, New York State Archives.  
Royal Society of London, 1916, vol. XV, p. 583.
915. Hall, James. 1890. Some suggestions regarding the subdivision and grouping of the species usually included under the generic term *Orthis*, in accordance with external and internal characters and microscopic shell structure. Abstract, read August 29, 1889, at the Toronto Meeting. *Bulletin of the Geological Society of America*. Vol. I, pp. 19–21 [February 15, 1890].  
Clarke, 1894, p. 588.  
Keyes, 1894, p. 102.  
Clarke, 1899, p. 451, scientific papers item 258.  
Hovey, 1899, p. 168, scientific papers item 256.  
Royal Society of London, 1916, vol. XV, p. 583.  
Nickles, 1923, p. 448, item 90b.
916. Hall, James. 1890. On New Genera and Species of the Family Dictyospongidae. New Forms of Dictyospongidae from the Rocks of the Chemung Group. Abstract, read August 29, 1889, at the Toronto Meeting. *Bulletin of the Geological Society of America*. Vol. I, pp. 22–23, [February 15, 1890].  
Page 23 has a discussion by Wm. Dawson. M. Ellis (1903, p. 289) stated that this is the first published notice of species in the *Proceedings of the Geological Society of America*. See 831, 919.  
Clarke, 1894, p. 588.  
Keyes, 1894, p. 101.  
Clarke, 1899, p. 451, included in scientific papers item 259.  
Hovey, 1899, p. 168, scientific papers item 257.  
Ellis, 1903, p. 289.  
Royal Society of London, 1916, vol. XV, p. 583.  
Nickles, 1923, p. 448, included in James Hall item 90a.
917. Hall, James. 1890. [Remarks on the Hudson River Group]. *Bulletin of the Geological Society of America*. Vol. I, p. 354.
918. Hall, James. 1890. On the genus *Spirifera*, and its interrelations with the genera *Spiriferina*, *Syringothyris*, *Cyrtia*, and *Cyrtina*. [Abstract].



***Bulletin of the Geological Society of America. Vol. I, pp. 567–568 [May 27, 1890].***

Presented at the meeting of December 28, 1889, probably by Hall, as he presided at that session. It is a synopsis of a study of the characters and relations of the group. See 481.

Clarke, 1894, p. 588.

Keyes, 1894, p. 101.

Clarke, 1899, p. 451, scientific papers item 257. Cited as 1889.

Hovey, 1899, p. 168, scientific papers item 255. Cited as 1889.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, item 90c.

919. Hall, James, ed. 1890. *Ninth Annual Report of the State Geologist for the Year 1887*. State of New York. No. 60. In Senate, March 21, 1890. Albany: James B. Lyon, State Printer. 104 pp.

See 920–922.

Ellis, 1903, p. 288.

920. Hall, James. 1890. Report for 1889; pp. 7–27. In James Hall, ed., *Ninth Annual Report of the State Geologist for the Year 1887*. State of New York. No. 60. In Senate, March 21, 1890. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 288.

Royal Society of London, 1916, vol. XV, p. 583. Includes only Hall's discussion of the New York State geological map, pp. 16–25.

921. Hall, James. 1890. Fossil Dictyospongidae of the Devonian and Carboniferous formations. New forms of Dictyospongidae from the rocks of the Chemung Group; pp. 56–60. In James Hall, ed., *Ninth Annual Report of the State Geologist for the year 1889*. State of New York. No. 60. In Senate, March 21, 1890. Albany: James B. Lyon, State Printer.

See 831.

Clarke, 1899, p. 451, scientific papers item 259.

Hovey, 1899, p. 168, scientific papers item 257.

Ellis, 1903, p. 289.

Nickles, 1923, p. 448, item 90a.

922. Hall, James. 1890. Report of the State Geologist for the year 1887; pp. 74–96. In James Hall, ed., *Ninth Annual Report of the State Geologist for the year 1889*. State of New York. No. 60. In Senate, March 21, 1890. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 288.

Nickles, 123, p. 448, included in James Hall item 88b.

923. Hall, James. 1890. Review of "A Catalogue of North American Crustacea confined to the Non-trilobite genera and species, by A. W. Vogdes." *The Financial and Mining Record*, February 22, 1890.

Clarke, 1899, p. 451, scientific papers item 263.

Hovey, 1899, p. 168, scientific papers item 258.

924. Hall, James. 1890. Brachiopoda; pp. 119–160, pls. IVe, IVf. From Volume VIII. *Paleontology of New York*. Published July, 1890. 4to.

Hall wrote in *Paleontology of New York*, 1894, Vol. VII, Part II, page 320, that this printed excerpt from Volume VIII "relating to the structure and development of the pedicle-passage in Orbiculoidea, *Schizocrania*, *Trematis*, etc." was distributed to students of Brachiopoda and the general scientific public. Harvard University Library. See 564.

925. Hall, James. 1890. Report of the State Geologist, for the Year 1889; pp. 209–227. In *Forty-Third Annual Report of the Regents for the Year 1889*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 25, 1890. State of New York. No. 51. In Senate, March 25, 1890. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 288.

Nickles, 1923, p. 448, included in James Hall item 90.

926. Hall, James. 1890. Fossil Dictyospongidae of the Devonian and Carboniferous Formations; pp. 227–229. In *Forty-Third Annual Report of the Regents for the Year 1889*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 25, 1890. State of New York. No. 51. In Senate, March 25, 1890. Albany: James B. Lyon, State Printer.

Nickles, 1923, p. 448, included in James Hall item 90a.

927. Hall, James. 1890. Fossil Dictyospongidae of the Devonian and Carboniferous formations. New forms of Dictyospongidae from the Rocks of the Chemung Group; pp. 258–262. In *Forty-third Annual Report of the Regents for the year 1889*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 25, 1890. State of New York. No. 51. In Senate, March 25, 1890. Albany: James B. Lyon, State Printer.

See 831.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 448, included in James Hall item 90a.

928. Hall, James. 1890. Report of the State Geologist, for the Year 1887; pp. 275–298. In *Forty-Third Annual Report of the Regents for the Year 1889*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 25,

1890. State of New York. No. 51. In Senate, March 25, 1890. Albany: James B. Lyon, State Printer.

See 919.

Ellis, 1903, p. 288.

929. [Hall, James]. 1890. Genera *Discina*, Lamarck, 1819; *Orbicula*, Sowerby, 1822; *Orbiculoidea*, D'Orbigny, 1847; *Schizotreta*, Kutorga, 1848; *Orbiculoidea*, Davidson, 1856; *Disciniscia*, Dall, 1871; *Lindstroemella*, sub-gen. nov.; *Oehlertella*, sub-gen. nov.; *Roemerella*, sub-gen. nov.; *Discina*, of authors generally; pp. 120–137, 160 [also paginated 1–20]; pls. IV<sub>E</sub>, IV<sub>F</sub>; text-figs. 63–65. Extract from Volume VIII, *Palaeontology of New York*. Printed February, 1890; State Museum Publication July 1890.

See 934, 962, 973, 974, 1002.

930. Hall, James, ed. 1891. *Tenth Annual Report of the State Geologist, for the Year 1890*. State of New York. No. 76. In Senate, January 31, 1891. Albany: James B. Lyon, State Printer. 155 pp.

This includes the next six entries.

Ellis, 1903, p. 288.

Nickles, 1923, p. 448, included in James Hall item 91.

931. Hall, James. 1891. Report; pp. 7–25. In James Hall, ed., *Tenth Annual Report of the State Geologist, for the Year 1890*. State of New York. No. 76. In Senate, January 31, 1891. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 288.

932. Hall, James. 1891. The genera of the Palaeozoic Brachiopoda; pp. 15–17. In James Hall, ed., *Tenth Annual Report of the State Geologist, for the Year 1890*. State of New York. No. 76. In Senate, January 31, 1891. Albany: James B. Lyon, State Printer.

A tabulated list of Palaeozoic Brachiopoda discussed in *Palaeontology of New York*, Vol. VIII. See 564, 929.

Keyes, 1894, p. 101.

Nickles, 1923, p. 448, item 91a.

933. Hall, James. 1891. Original drawings for the *Palaeontology of New York*, Volume VIII; p. 19. In James Hall, ed., *Tenth Annual Report of the State Geologist, for the Year 1890*. State of New York. No. 76. In Senate, January 31, 1891. Albany: James B. Lyon, State Printer.

See 946, 973, 1007.

934. Hall, James. 1891. *Palaeontology of New York*, Volume VIII; pp. 19–21. In James Hall, ed., *Tenth*

*Annual Report of the State Geologist, for the Year 1890*. State of New York. No. 76. In Senate, January 31, 1891. Albany: James B. Lyon, State Printer.

Included is a list of the shells of genera and species of Brachiopoda prepared for the study of the microscopic structure. See 564, 929.

935. Hall, James. 1891. Continuation of descriptions of Bryozoa, not printed in volume VI, *Palaeontology of New York*, for the Report of the State Geologist, 1890; pp. 35–57. In James Hall, ed., *Tenth Annual Report of the State Geologist, for the year 1890*. State of New York. No. 76. In Senate, January 31, 1891. Albany: James B. Lyon, State Printer.

Separate of this paper has no date but carries same pagination as in Tenth Annual Report. Keyes (1894) reported that this was reviewed in Ann. Soc. géol. Du Nord, t. xv, 123, 1888(?). See 514, 515.

Keyes, 1894, p. 101. Lists species described.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583. Cited as 1890.

Nickles, 1923, p. 449, item 91b.

936. Hall, James. 1891. Preliminary notice of *Newberria*, a new genus of brachiopods; with remarks on its relations to *Rensselaeria* and *Amphigenia*; pp. 91–99; pls. 5–6. In James Hall, ed., *Tenth Annual Report of the State Geologist, for the year 1890*. State of New York. No. 76. In Senate, January 31, 1891. Albany: James B. Lyon, State Printer.

Reviewed under “Molluskoiden” in *Neues Jahrbuch für Mineralogie, Geologie und Palaeontologie*, 1892, II. Band, pp. 155–156 by “Kayser” [in German]. See 938, 940.

Keyes, 1894, p. 102. Lists species described.

Clarke, 1899, p. 451, scientific papers item 261.

Hovey, 1899, p. 151, books item 33.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 449, item 91c.

937. Hall, James. 1891. Difficulties Encountered in the Earliest Attempts at Correlation of Rocks. *The American Geologist, A Monthly Journal of Geology and Allied Sciences*. Vol. VIII, July to December 1891, p. 253.

This was a brief comment on August 29, 1891, at the International Congress of Geologists, Washington Meeting.

938. Hall, James. 1891. *Newberria*, Hall (Gen. Nov.); pp. 236–237. In J. F. Whiteaves, The Fossils of the Devonian rocks of the MacKenzie River Basin. *Contributions to Canadian Palaeontology*, Vol. 1, Part III, No. 5, pp. 197–253, pls. XXVII–XXII. Geological Survey of Canada. Printed for the

Government of Canada. Montreal: William Foster Brown & Co., Publishers.

Hall sent this in a letter dated February 5, 1891. See 936, 940.

939. Hall, James. 1891. On the family Orthidæ of the Brachiopoda. [Abstract]. *Bulletin of the Geological Society of America*. Vol. II (August 7, 1891), p. 636.

This communication was presented by title, December 31, 1890. See 335, 423, 564, 605, 805, 811, 915.

Nickles, 1923, p. 449, item 91d.

940. Hall, James. [1891]. Preliminary notice of *Newberria*, a new genus of brachiopods; with remarks on its relations to *Rensselaeria* and *Amphigenia*; 11 pp., pls. 5–6. From the *Tenth Annual Report of the New York State Geologist*, 1891.

This reprint is undated and separately paginated, but on page 11 Hall refers to a paper by himself in the September 1891 issue of the *American Geologist* [no such paper, ed.], and this reprint was presumably published after that date. See 936, 938.

Ellis, 1903, p. 289.

941. Hall, James. 1892. [Note following a paper entitled: "Preliminary Notes on the Discovery of a Vertebrate Fauna in Silurian (Ordovician) Strata," by C. D. Walcott]. *Bulletin of the Geological Society of America*. Vol. III (March 15 1892), pp. 170–171.

This was a note by Hall communicated to the author.

942. Hall, James. 1892. [Note on the genus *Chonophyllum*, following the paper by W. H. Sherzer entitled "A Revision and Monograph of the Genus *Chonophyllum*"]. *Bulletin of the Geological Society of America*. Vol. III (May 24, 1892), p. 281.

The paper by Sherzer was read before the Society on December 30, 1891. The quoted letter [note] is dated December 26, 1892 [1891], which must be an error, as the letter was published May 24, 1892.

943. Hall, James. 1892. Report of Director; pp. 11–16. In *Forty-Fourth Annual Report of the Regents for the Year 1890*. University of the State of New York. New York State Museum. Transmitted to the Legislature January 30, 1891. State of New York. No. 75. In Senate January 30, 1891. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 287.

944. Hall, James. 1892. Report of the State Geologist, 1890; pp. 35–55. In *Forty-Fourth Annual Report of the Regents for the Year 1890*. University of the State

of New York. New York State Museum. Transmitted to the Legislature January 30, 1891. State of New York. No. 75. In Senate January 30, 1891. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 288.

945. Hall, James. 1892. The genera of Palæozoic Brachiopoda; pp. 45–48. In *Forty-Fourth Annual Report of the Regents for the Year 1890*. University of the State of New York. New York State Museum. Transmitted to the Legislature January 30, 1891. State of New York. No. 75. In Senate January 30, 1891. Albany: James B. Lyon, State Printer.

See 564.

Nickles, 1923, p. 448, included in James Hall item 91a.

946. Hall, James. 1892. Original Drawings for the *Palæontology of New York*, Volume VIII; p. 49. In *Forty-Fourth Annual Report of the Regents for the Year 1890*. University of the State of New York. New York State Museum. Transmitted to the Legislature January 30, 1891. State of New York. No. 75. In Senate January 30, 1891. Albany: James B. Lyon, State Printer.

See 933, 973, 1007, 1009, 1010.

947. Hall, James. 1892. *Palæontology of New York*, Volume VIII; pp. 49–51. In *Forty-Fourth Annual Report of the Regents for the Year 1890*. University of the State of New York. New York State Museum. Transmitted to the Legislature January 30, 1891. State of New York. No. 75. In Senate January 30, 1891. Albany: James B. Lyon, State Printer.

This is a "List of Figures upon the Lithographic Plates Accompanying Part I of Vol. VIII Brachiopoda Inarticulata, with their Authorship." See 1007.

948. Hall, James. 1892. List of Sections of the Shells of Genera and Species of Brachiopoda Prepared for the Study of the Microscopic Structure; pp. 52–53. In *Forty-Fourth Annual Report of the Regents for the Year 1890*. University of the State of New York. New York State Museum. Transmitted to the Legislature January 30, 1891. State of New York. No. 75. In Senate January 30, 1891. Albany: James B. Lyon, State Printer.

Nickles, 1923, p. 448, included in James Hall item 91.

949. Hall, James. 1892. Continuation of Descriptions of Bryozoa, Not Printed in Volume VI, *Palæontology of New York*, for the Report of the State Geologist, 1890; pp. 65–87. In *Forty-Fourth Annual Report of*



*the Regents for the Year 1890*. University of the State of New York. New York State Museum. Transmitted to the Legislature January 30, 1891. State of New York. No. 75. In Senate January 30, 1891. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 449, included in James Hall item 91b.

950. Hall, James. 1892. Report of Director [of the State Museum]; pp. 11–13. In *Forty-Fifth Annual Report of the Regents for the Year 1891*. University of the State of New York. New York State Museum. Transmitted to the Legislature February 3, 1892. State of New York. No. 64. In Senate, February 3, 1892. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 287.

951. Hall, James, ed. 1892. Report of the State Geologist for the Year 1891; pp. 323–616. In *Forty-Fifth Annual Report of the Regents for the Year 1891*. University of the State of New York. New York State Museum. Transmitted to the Legislature February 3, 1892. State of New York. No. 64. In Senate, February 3, 1892. Albany: James B. Lyon, State Printer.

See 954.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 92.

952. Hall, James. 1892. Report [of the State Geologist]; pp. 323–345. In *Forty-Fifth Annual Report of the Regents for the Year 1891*. University of the State of New York. New York State Museum. Transmitted to the Legislature February 3, 1892. State of New York. No. 64. In Senate, February 3, 1892. Albany: James B. Lyon, State Printer.

See 954.

953. Hall, James. 1892. Preliminary Note; pp. 444–447. In *Forty-Fifth Annual Report of the Regents for the Year 1891*. University of the State of New York. New York State Museum. Transmitted to the Legislature February 3, 1892. State of New York. No. 64. In Senate, February 3, 1892. Albany: James B. Lyon, State Printer.

Hall writes about the difficulties of getting money for publishing catalogues and handbooks, specifically, Introduction to the Study of the Brachiopoda. See 954.

954. Hall, James, ed. 1892. *Eleventh Annual Report of the State Geologist for the Year 1891*. Transmitted

to the Legislature, January 1892. State of New York. No. 65. In Senate, January 1892. Albany: James B. Lyon, State Printer. 223 pp.

The same text and pagination for the Eleventh Annual Report of the State Geologist occurs in both large (quarto) and small (octavo) page format. Text appears to be the same in both versions. Title page of quarto version in the Hall Collection, Indiana University, has an additional imprint: Author's Edition. A copy is also in the Crerar Library, University of Chicago. See 951, 955–957.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 92.

955. Hall, James. 1892. Report [of the State geologist]; pp. 7–29. In James Hall, ed., *Eleventh Annual Report of the State Geologist for the Year 1891*. Transmitted to the Legislature, January 1892. State of New York. No. 65. In Senate, January 1892. Albany: James B. Lyon, State Printer.

See 951.

956. Hall, James. 1892. Preliminary Note; pp. 128–131. In James Hall, ed., *Eleventh Annual Report of the State Geologist for the Year 1891*. Transmitted to the Legislature, January 1892. State of New York. No. 65. In Senate, January 1892. Albany: James B. Lyon, State Printer.

See 951.

957. Hall, James. 1892. An Introduction to the Study of the Brachiopoda Intended as A Hand Book for the Use of Students; pp. 133–300 (top), 1–223 (bottom), 286 figs., 22 pls., 1 map. In James Hall, ed., *Eleventh Annual Report of the State Geologist for the Year 1891*. Transmitted to the Legislature, January 1892. State of New York. No. 65. In Senate, January 1892. Albany: James B. Lyon, State Printer.

See 564, 951.

Clarke, 1899, p. 451, scientific papers item 264. Cited as Hall, assisted by J. M. Clarke.

Hovey, 1899, p. 151, books item 37. Cited as Hall and J. M. Clarke. Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 584. Cited as James Hall and John Mason Clarke.

Nickles, 1923, p. 449, item 92a. Cited as Hall and J. M. Clarke.

Bassett and Cocks, 1974. Cited as June 1892.

958. Hall, James. [1892]. A geological map of the state of New York. Remarks made upon invitation of the Council, at the Lake Champlain, Plattsburgh, Meeting, October, 1892. *Transactions of the American Institute of Mining Engineers*, October; 10 pp.

This reprint includes: Discussion, pp. 7–8, and list of publications of the State Museum, pp. 8–10. It is not clear that this was a preprint. Copy is in the James Hall Papers, New York State Archives. See **963, 970, 975–979, 1008**.

Clarke, 1899, p. 451, scientific papers item 262. Cited as 1892.

Hovey, 1899, p. 168, scientific papers item 259.

- 959. Hall, James. [1892] 1921. Concern about being in charge of the State Museum in 1843; pp. 133–134. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.**

This quotation (source unknown) in Clarke is regarding Hall's frustration in 1843 about being named to head the State Museum and prepare the *Palaeontology of New York*.

- 960. Hall, James. [No date] 1892. Niagara Falls, its past, present and prospective condition; pp. 67–89. Tenth Annual Report of the Commissioners of the Niagara Reservation.**

This separate has pagination as indicated, but the title page indicates it is extracted from the *Tenth Annual Report of the Commissioners of the Niagara Reservation*, although the pages in the text are headed Eighth Annual Report. The paper is a reprint of Hall's work published in *Geology of New-York*, Part IV, 1843. See **10, 12, 24, 41, 42, 46, 49, 64, 65, 238**.

Dow, 1921, Vol. I, p. 561.

Dow, 1921, Vol. II, p. 1330.

- 961. Hall, James, assisted by John Mason Clarke. 1892. An Introduction to the Study of the Brachiopoda Intended as A Hand Book for the Use of Students; pp. 449–616, 286 figs., 1 map. In *Forty-Fifth Annual Report of the Regents for the Year 1891*. University of the State of New York. New York State Museum. Transmitted to the Legislature February 3, 1892. State of New York. No. 64. In Senate February 3, 1892. Albany: James B. Lyon, State Printer.**

See **564, 957, 1003–1006**.

Hovey, 1899, p. 151, books item 37.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 449, included in James Hall item 92a.

Bassett and Cocks, 1974. Cited as June, 1892.

- 962. Hall, James, assisted by John Mason Clarke. 1892. *Palaeontology of New York: Volume VIII. An Introduction to the Study of the Genera of Palaeozoic Brachiopoda*. Part I; xvi + 367 pp.; Tables I, II [Reproduction of Dalman's Petrefacta Suecana]; 39 figs.; pls. I–IV; IVA–IVK, VA–VC, VI, VIA, VII, VIIA, VIII, IX, IXA, X, XI, XIA–C, XII–XV, XVA, XVI, XVII, XVIII, XIX and XX. Geological Survey of the State of New York, Albany, NY: Charles Van Benthuysen & Sons.**

Headings on the plates are: Paleont. N. Y. vol. IV, Pt. ii = Vol. VIII. This was reviewed in *The American Journal of Science and Arts*, 3d ser., Vol. XLIV, No. 262 (October 1892), pp. 330–332, by C. E. B. (Charles E. Beecher?), who wrote that Hall was the “highest authority on the genera of Palaeozoic Brachiopoda.” An unsigned review in *The American Geologist*, 1892, Vol. X, No. 4, pp. 251–253, was generally descriptive and ended with thanks and congratulations to Hall for his *Palaeontology of New York* volumes. See **564, 961, 986, 987, 1003–1006**.

Clarke, 1894, p. 592.

Keyes, 1894, pp. 97–98. Contains list of described genera and species.

Clarke, 1899, p. 438, books item 30.

Hovey, 1899, p. 151, books item 34.

Ellis, 1903, p. 284.

Nickles, 1923, p. 449, item 93.

- 963. Hall, James, and W. J. McGee. 1892. *Preliminary Copy of Part of a Geologic Map of New York, Exhibiting the Structure of the State so far as Known*. Prepared under the Direction of James Hall, State Geologist, by W. J. McGee. Scale 1: 300,000. 71 x 106 cm.**

This appears to be a hand-drawn and colored map of part of New York, with no publication data. The Map Collection in the Regenstein Library, University of Chicago, has two maps, which are identical. See **958, 964, 970, 975–979**.

- 964. Hall, James, and W. J. McGee. 1892. *Preliminary Geologic Map of New York, Exhibiting the Structure of the State so far as Known*. Prepared under the Direction of James Hall, State Geologist, by W. J. McGee. Published by the Authority of the Legislature of the State of New York under the Supervision of the University of the State of New York. John H. Klemroth and John B. Torbert, Dels. Engraved by Evans & Bartle, Wash'n, D. C. Scale: 1:326,800.**

This is not a geologic map, and not colored. One map on six sheets, 82 x 88 cm or smaller. Every sheet is stamped in red as follows: Sheet 1: U.S. Geological Survey Jul 18 1893 Engraving Division and Jul 14; Sheets 2, 4, 5 and 6 are dated Jul 11, and Sheet 3 is dated Jul 14. On every sheet is a handwritten statement by John Torbert that he certifies this is a true copy of all corrections and additions by James Hall. The folder containing the above in the Map Collection in the Regenstein Library, University of Chicago, has also one printed page that appears to be a copy of one sheet of the above, and a note saying that it probably is from the listed map. See **958, 963, 970, 975–979**.

- 965. Hall, James. 1893. The Oneonta Sandstone and its Relations to the Portage, Chemung and Catskill Groups. [Abstract]. *Bulletin of the Geological***

***Society of America. Vol. IV (December 27, 1892), p. 8.***

This paper was presented by the author, and illustrated with maps and drawings, on August 16, 1892, followed by a discussion. Comments on this paper as being of special interest to many were under Personal and Scientific News in *The American Geologist*, 1892, Vol. X, p. 194. See 559, 560, 572, 761, 762.

Nickles, 1923, p. 449, item 92b.

966. Hall, James. 1893. Report of the Director; p. 11. In *Forty-Sixth Annual Report of the New York State Museum*. Transmitted to the Legislature January 18, 1893. State of New York. No. 39. In Senate, January 18, 1893. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 287.

967. Hall, James. 1893. Collections of Fossils made for the *Paleontology of New York* Previous to 1883; pp. 62–74. In *Forty-Sixth Annual Report of the New York State Museum*. Transmitted to the Legislature January 18, 1893. State of New York. No. 39. In Senate, January 18, 1893. Albany: James B. Lyon, State Printer.

This is unsigned, but attributed to Hall.

Ellis, 1903, p. 290. Cites Hall as author.

968. Hall, James. 1893. Additions to the Museum Collections, in Geology and Palæontology, made in connection with work on the Geological map; pp. 75–81. In *Forty-Sixth Annual Report of the New York State Museum*. Transmitted to the Legislature January 18, 1893. State of New York. No. 39. In Senate, January 18, 1893. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 290.

969. Hall, James, ed. 1893. Report of the State Geologist for the Year 1892; pp. 151–288. In *Forty-Sixth Annual Report of the New York State Museum*. Transmitted to the Legislature January 18, 1893. State of New York. No. 39. In Senate, January 18, 1893. Albany: James B. Lyon, State Printer.

See 954.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, included in James Hall item 93a.

970. Hall, James. 1893. Report [of the State Geologist]; pp. 153–187. In *Forty-Sixth Annual Report of the New York State Museum*. Transmitted to the Legislature January 18, 1893. State of New York. No. 39. In Senate, January 18, 1893. Albany: James B. Lyon, State Printer.

This includes progress reports on the *Paleontology of New York*. Volume VIII, Part II, pp. 160–168; on the Geological Map of the State, pp. 169–184; and on Geological Surveys and Maps of parts of the State of New York, including a list of those already published, pp. 184–185. See 958, 963, 964, 975–979.

971. Hall, James, ed. 1893. *Twelfth Annual Report of the State Geologist for the Year 1892*. State of New York. Transmitted to the Legislature, January 1893. No. 40. In Senate, January 1893. Albany: James B. Lyon, State Printer. 142 pp.

See 972–977.

Nickles, 1923, p. 449, item 93a.

972. Hall, James. 1893. Twelfth Annual Report of the State Geologist; pp. 7–13. In James Hall, ed., *Twelfth Annual Report of the State Geologist for the Year 1892*. State of New York. Transmitted to the Legislature, January 1893. No. 40. In Senate, January 1893. Albany: James B. Lyon, State Printer.

See 966.

973. Hall, James. 1893. *Paleontology of New York*, Volume VIII, Part 1; pp. 14–22. In James Hall, ed., *Twelfth Annual Report of the State Geologist for the Year 1892*. State of New York. Transmitted to the Legislature, January 1893. No. 40. In Senate, January 1893. Albany: James B. Lyon, State Printer.

See 933, 946, 1007, 1009, 1010.

974. Hall, James. 1893. *Paleontology of New York*, Volume VIII, Part 2; pp. 23–25. In James Hall, ed., *Twelfth Annual Report of the State Geologist for the Year 1892*. State of New York. Transmitted to the Legislature, January 1893. No. 40. In Senate, January 1893. Albany: James B. Lyon, State Printer.

See 929, 1009.

975. Hall, James. 1893. Geological map of the state; pp. 25–29. In James Hall, ed., *Twelfth Annual Report of the State Geologist for the Year 1892*. State of New York. Transmitted to the Legislature, January 1893. No. 40. In Senate, January 1893. Albany: James B. Lyon, State Printer.

Royal Society of London, 1916, vol. XV, p. 583. Cited as 1892.

976. Hall, James. 1893. Description of the geological map to accompany report of Dr. E. Emmons; pp. 30–38. In James Hall, ed., *Twelfth Annual Report of the State Geologist for the Year 1892*. State of New York. Transmitted to the Legislature, January 1893.



No. 40. In Senate, January 1893. Albany: James B. Lyon, State Printer.

Royal Society of London, 1916, vol. XV, p. 583. Cited as 1892.

977. Hall, James. 1893. Geological survey and maps of parts of the state of New York; pp. 38–41. In James Hall, ed., *Twelfth Annual Report of the State Geologist for the Year 1892*. State of New York. No. 40. In Senate, January 1893. Albany: James B. Lyon, State Printer.

Nickles, 1923, p. 449, item 1893a.

978. Hall, James. 1893. Preliminary Geologic Map of Portions of Herkimer, Fulton, Montgomery, Saratoga and Adjacent Counties, Showing the distribution of Laurentian, Cambrian and Lower Silurian Formations and the Faults of the Mohawk Valley. 16½ x 28½ cm. G. W. & C. B. Colton & Co. New York.

The caption states that the map was prepared under the direction of James Hall, State Geologist, by N. H. Darton, Assistant. 1893. See 878, 958, 975–977, 1008, 1018, 1022.

979. Hall, James. 1893. A geological map of the state of New York; pp. 566–572. (Remarks made upon invitation of the Council, at the Lake Champlain, Plattsburgh, Meeting, October, 1892). *Transactions of the American Institute of Mining Engineers*, Vol. XXI. February, 1892, to February, 1893, inclusive. New York City: Published by the Institute at the office of the secretary.

Reprint cited previously is separately paginated. See 978.

Nickles, 1923, p. 449, item 93b.

980. Hall, James. 1893. Letter (March 24, 1893) to Prof. Stevenson; pp. 14–15. In John J. Stevenson, John Strong Newberry. *The American Geologist, A Monthly Journal of Geology and Allied Sciences*, Vol. XII, No. 1 (July 1893), pp. 1–15.

This letter of remembrance about Newberry, who had recently died, was included in Stevenson's Memorial for Newberry. Hall considered Newberry a good friend and expressed his sadness about living longer than many of his friends, leaving him isolated. Part of this letter is quoted in Clarke 1921, p. 96.

981. Hall, James. 1893. Letter from Prof. Hall. His Reply to the Communication of the Regents. Albany, NY, July 17, 1893. To the Editors of *The Argus*. *The Argus*, July 23, 1893.

Hall's defense of his position versus that of the Regents. Copy is in the James Hall Papers, New York State Archives (box 52, folder 1454).

982. Hall, James. 1893. The Geological Map of the State of New York; p. 385, No. 1159. *Proceedings of the National Academy of Sciences*. Part III. Volume I. [1885–1894].

Title only. Read at the Meetings in Albany, New York, November 7–9, 1893.

983. Hall, James. 1893. The Palæontology of the State of New York, the Present Condition of the Work; p. 385, No. 1168. *Proceedings of the National Academy of Sciences*. Part III. Volume I. [1885–1894].

Title only. Read at the Meetings in Albany, New York, November 7–9, 1893.

984. Hall, James. [1893] 1921. Letter to Mr. William McInnes, Secretary of the Logan Club; p. 305. In John M. Clarke, James Hall of Albany, *Geologist and Palaeontologist, 1811–1898*. Albany.

For a Logan commemorative event in Ottawa, Hall wrote of his long acquaintance and friendship with Sir William Logan, and his regret that he did not join the [Canadian] Survey in 1854.

985. Hall, James, and John M[ason] Clarke. 1893. *Palaeontology of New York*. Volume VIII, Part 2, Fascicle 1. *An Introduction to the Study of the Genera of the Palaeozoic Brachiopoda*; 176 pp., 155 text-figs. Albany, N. Y.: Charles Van Benthuysen & Sons, July, 1893.

This fascicle has descriptions of spire-bearing genera. A copy is in the James Hall Papers, New York State Archives. See 924, 929, 961, 973, 974, 986, 987, 1002.

Clarke, 1894, p. 595. Cited as: Assisted by J. M. Clarke.

Clarke, 1899, p. 438, books item 31. Cited as: Assisted by J. M. Clarke.

Hovey, 1899, p. 151, books item 35.

Nickles, 1923, p. 449, item 93.

Bassett and Cocks, 1974.

986. Hall, James, and John M[ason] Clarke. 1893. *Palaeontology of New York*, Volume VIII, Part 2, Fascicle 2. *An Introduction to the Study of the Genera of the Palaeozoic Brachiopoda*; pp. 177–317, text-figs. 156–251. Albany, N. Y.: Charles Van Benthuysen & Sons, December 1893.

This part includes descriptions of rhynchonelloids, pentameroids and terebratuloids. A copy with this pagination is in the James Hall Papers, New York State Archives. See 564, 924, 929, 961, 962, 985, 987.

Clarke, 1894, p. 595. Cited as: Assisted by J. M. Clarke.

Clarke, 1899, p. 438, books item 32. Cited as: Assisted by J. M. Clarke.

Hovey, 1899, p. 151, books item 36.

Nickles, 1923, p. 449, item 93.

Bassett and Cocks, 1974.

987. [Hall, James, and John Mason Clarke]. No date [1893]. An introduction to the study of the genera of Paleozoic Brachiopoda. I. Brachiopoda Inarticulata; 176 pp., pls. 1–4, 4A–I, K.

Copy of this version of Vol. VIII, Part I, of *Paleontology of New York*, is in the Hall Collection, Indiana. See 564, 961, 962, 985, 986.

Bassett and Cocks, 1974. Cited as July 1893.

988. Whitfield, R. P. 1893. Republication of Descriptions of Lower Carboniferous Crinoidea from the Hall Collection now in the American Museum of Natural History; with Illustrations of the Original Type Specimens not Heretofore Figured. *Memoirs of the American Museum of Natural History*. Volume I, Part I. 37 pp., 12 pls.

Whitfield stated that “In republishing these species the original description is copied entire, and in the comments made on them the same system of nomenclature is used as in the original description . . .” The descriptions were taken from the following sources: *Iowa Geological Survey*, Supplement to Volume I, Part II, 1859; Report . . . in relation to the geological survey of the State of Iowa, 1860; *Boston Journal of Natural History*, 1861, Vol. VII, No. 1; and Descriptions of New Species of Crinoidea; From Investigations of the Iowa Geological Survey, 1861. See 348, 351.

989. Hall, James. 1894. Report of the Director; pp. 9–19. In *Forty-Seventh Annual Report of the Regents For the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.

Ellis, 1903, p. 287.

990. Hall, James, ed. 1894. Report of the State Geologist for the Year 1893. In *Forty-Seventh Annual Report of the Regents For the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer. Pp. 199–1137.

See 995.

Ellis, 1903, p. 288.

991. Hall, James. 1894. Report of the State Geologist for the Year 1893; pp. 199–201. In *Forty-Seventh Annual Report of the Regents For the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1,

1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.

See 995.

992. Hall, James. 1894. The Livonia Salt Shaft, its History and Geological Relations, Etc.; pp. 203–216, 4 diagrams, 1 map. In *Forty-Seventh Annual Report of the Regents for the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.

See 994–996.

Ellis, 1903, p. 290.

Royal Society of London, 1916, vol. XV, pp. 583–584, James Hall.

Nickles, 1923, p. 449, included in James Hall item 94a.

993. Hall, James. 1894. Geological Survey of the State of New York. (Geological Map.) 1892–1893; pp. 385–388. In *Forty-Seventh Annual Report of the Regents For the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.

This is a statement on the progress being made on the State Geological Map. See 997.

994. Hall, James, ed. 1894. *Thirteenth Annual Report of the State Geologist For the Year 1893*. Vol. I. - *Geology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist. 597 pp.

Issued in both large (quarto) and small (octavo) page sizes with same text and pagination for both volumes 1 and 2 of Annual Report of the State Geologist. The spine reads: Report of the State Geologist. Vol. I. *Geology*. New York. 1893. See 995–997.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 94.

995. Hall, James. 1894. Report [of the State Geologist]; pp. 7–8. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. I. - *Geology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.

See 991.

996. Hall, James. 1894. The Livonia Salt Shaft, its History and Geological Relations, Etc.; pp. 9–22, 2 diagrams, 2 maps. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. I. - *Geology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.

Map of area of New York covered by Onondaga salt group, 36 x 14.5 cm; map showing the salt-producing district of western New York, 34.5 x 21.5 cm, both apparently drawn by J. M. Clarke. See 992.

Ellis, 1903, p. 290.

Royal Society of London, 1916, vol. XV, pp. 583–584.

Nickles, 1923, p. 449, item 94a.

997. Hall, James. 1894. Geological Survey of the State of New York. (Geological Map.). 1892–1893; pp. 193–194. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. I. - *Geology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.

This is a report on the progress of the map, but not a map. See 993.

Nickles, 1923, p. 449, included in James Hall item 94.

998. Hall, James, ed. 1894. *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. II. - *Palaeontology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist; pp. 601–943, 54 pls.

Issued in both large (quarto) and small (octavo) page sizes with same text and pagination for both volumes 1 and 2 of Annual Report of the State Geologist. See 999–1005.

999. [Hall, James]. 1894. Palaeontology; pp. 797–798. In Geological Survey of the State of New York. Department of Palaeontology. In *Forty-Seventh Annual Report of the Regents for the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.

This note contains information on the distribution dates of some of Hall's brachiopod works. Authorship is not attributed in the Annual Report. See 998, 1001.

Nickles, 1923, p. 449, included in James Hall item 94b. Cited as Hall and Clarke.

1000. [Hall, James]. 1894. Descriptions of New Species figured in Volume VIII, Part 2; pp. 841–851. In *Forty-Seventh Annual Report of the Regents for the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.

Authorship is not attributed in the Annual Report. See 1009, 1013.

Royal Society of London, 1916, vol. XV, p. 584.

1001. [Hall, James]. 1894. Palaeontology; pp. 601–602. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. II. - *Palaeontology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist. Pp. 601–943, 54 pls.

Authorship is not attributed in the Annual Report. See 999.

Nickles, 1923, p. 449, included in James Hall item 94b. Cited as Hall and Clarke.

1002. [Hall, James]. 1894. *Palaeontology of New York*. Volume VIII, Part II. Synopsis of contents; pp. 603–608. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. II. - *Palaeontology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.

Authorship is not attributed in the Annual Report. See 1009.

Nickles, 1923, p. 449, included in James Hall item 94b. Cited as Hall and Clarke.

1003. Hall, James, assisted by John M. Clarke. 1894. *An Introduction to the Study of the Brachiopoda Intended as A Hand Book for the Use of Students*; pp. 135–300, top (3–168, bottom); 1 map facing page 148 (16); text-figs. 1–286. *Explanations of Plates*; pp. 169–223; pls. 1–22. [From the Report of the State Geologist for 1891.] Albany: James B. Lyon, State Printer.

“Author's Edition” is stamped on the bottom of the title page with a hand stamp. This hardcover quarto copy has “Report of the State Geologist. 1891. Hand Book of the Brachiopoda. State of New York.” on the spine. On the cover of the book is the seal of the “State of New York Geological Survey.” Heading in text:



Report of the State Geologist. Heading on plates: Report State Geologist, 1891. See **564, 961**.

Ellis, 1903, p. 289.

- 1004. Hall, James, assisted by John M. Clarke. 1894. *An Introduction to the Study of the Brachiopoda Intended as a Hand Book for the Use of Students. Part II*; pp. 751–943, top (3–195, bottom); text-figs. 287–669. *Explanation of Plates*, pp. 197–267, pls. 23–54. [From the Report of the State Geologist for 1893.] Albany: James B. Lyon, State Printer.**

This is a hardcover quarto copy with “Report of the State Geologist. Part II. 1894. Hand Book of the Brachiopoda. State of New York.” on the spine. On the cover of the book is the seal of the “State of New York Geological Survey.” This is considered to be an author’s edition, although it is not stamped as such. Heading in text: Report of the State Geologist. Heading on plates: Report State Geologist, 1893. See **564, 961**.

Hovey, 1899, p. 151, books item 38.

Ellis, 1903, p. 289.

- 1005. Hall, James, assisted by John M[ason] Clarke. 1894. *An Introduction to the Study of the Brachiopoda Intended as a Hand Book for the Use of Students. Part II*; pp. 943–1137, figs. 287–669. In *Forty-Seventh Annual Report of the Regents for the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.**

Doubly paginated: 3–195 at the bottom of pages, and 943–1137 at the top. This version is without plates. See **564, 1006**.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 583.

Nickles, 1923, p. 449, included in James Hall item 94c.

- 1006. Hall, James, and John M[ason] Clarke. 1894. *An Introduction to the Study of the Brachiopoda Intended as A Hand Book for the Use of Students. Part I*; pp. 749–943, pls. 23–54, figs. 287–669. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. II. – *Palæontology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.**

Explanation of plates is on pages numbered 197–267. See **564, 1005**.

Clarke, 1899, p. 451, scientific papers item 265.

Ellis, 1903, p. 289.

Royal Society of London, 1916, vol. XV, p. 584, Hall and Clarke.

Nickles, 1923, p. 449, item 94c.

- 1007. Hall, James, and John M[ason] Clarke. 1894. *Palæontology: Volume VIII. An Introduction to the Study of the Genera of Palæozoic Brachiopoda. Part II*; xvi + 394 pp., figs. 40–271, pls. XXI–LXXXIV. Geological Survey of the State of New York, Albany, N. Y.: Charles Van Benthuysen & Sons.**

Hall and Clarke note on page xiv that the pages to 317 were printed in the autumn of 1893, and that fascicles of the text for pages 1–176 were printed in July 1893, and for pages 177–317 in December 1893, respectively. It is not clear, however, how widely distributed these separates were. Plates are headed: Palæont. N. Y. Vol. IV. Pt. ii = Vol. VIII. See Hall 1840 (17); a letter to the Governor from this report is mentioned on page ix. See **17, 564, 933, 946, 947, 973, 985**.

Clarke, 1899, p. 438, books item 33. Cited as: Assisted by J. M. Clarke.

Hovey, 1899, p. 151, books item 39.

Ellis, 1903, p. 284.

Bassett and Cocks, 1974. Final version issued November 1894.

- 1008. Hall, James, and W. J. McGee. 1894. *Preliminary Geological Map of New York Exhibiting the Structure of the State So Far as Known*. Prepared under the direction of James Hall, State Geologist, by W. J. McGee. Published by authority of the Legislature of the State of New York. [Washington, D.C.?]: Printed by the United States Geological Survey.**

This is one map on six sheets, colored; 82 x 88 cm or smaller. See **963, 975–979**.

Clarke, 1899, p. 451, scientific papers item 266.

Hovey, 1899, p. 168, scientific papers item 260.

- 1009. [Hall, James, and John Mason Clarke]. 1894. *Palæontology of New York* [Extract from *Palæontology of New York*. Vol. VIII, Part 2.]; pp. 799–802. Volume VIII, Part II. In *Forty-Seventh Annual Report of the Regents for the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.**

Authorship is not attributed in the Annual Report. This is a synopsis of *Palæontology of New York*, including the Table of Contents. See **973, 974, 1000, 1002, 1010**.

Nickles, 1923, p. 449, included in James Hall item 94b. Cited as Hall and Clarke.

- 1010. [Hall, James, and John Mason Clarke]. 1894. *The Evolution of the Genera of the Palæozoic Brachiopoda* [Extract from *Palæontology of New York*, Vol. VIII, Part 2.]; pp. 803–840, figs. 252–271. In *Forty-Seventh Annual Report of the Regents***

*for the Year 1893*. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1894. State of New York. No. 87. In Senate March 1, 1894. Albany: James B. Lyon, State Printer.

Authorship is not attributed in the Annual Report. See 564, 973, 974, 1009.

Royal Society of London, 1916, vol. XV, p. 584. Hall cited as author.  
Nickles, 1923, p. 449, included in James Hall item 94b. Cited as Hall and Clarke.

1011. [Hall, James, and John Mason Clarke]. 1894. The evolution of the genera of the Palaeozoic Brachiopoda; pp. 609–640, figs. 252–271. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. II. - *Palaeontology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.

Authorship is not attributed in the Annual Report, but authorship is clear from other published versions of text. See 564, 1010.

Nickles, 1923, p. 449, included in James Hall item 94b.

1012. [Hall, James, and John Mason Clarke]. 1894. Table of classification; pp. 641–646. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. II. - *Palaeontology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.

Authorship is not attributed in the Annual Report, but authorship is clear from other published versions of text.

Nickles, 1923, p. 449, included in James Hall item 94b.

1013. [Hall, James, and John Mason Clarke]. 1894. Descriptions of new species figured in Volume VIII, Part 2; pp. 647–657. In James Hall, ed., *Thirteenth Annual Report of the State Geologist for the Year 1893*. Vol. II. - *Palaeontology*. Transmitted to the Legislature March 1, 1894. Albany: James B. Lyon, State Printer. 1894. [Letter of Transmission page]: State of New York. No. 88. In Senate, March 1, 1894. Annual Report of the State Geologist.

Authorship is not attributed in the Annual Report, but authorship is clear from other published versions of text. See 1000.

Royal Society of London, 1916, vol. XV, p. 584. Cited as Hall, 1893.  
Nickles, 1923, p. 449, included in James Hall item 94b.

1014. Hall, James. 1895. Report to the Regents of the University of the State of New York; pp. 41–44. In

*48th Annual Report of the Regents. 1894*. [Vol. I]. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1895. State of New York. No. 66. In Senate March 1, 1895. Albany: University of the State of New York.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 95.

1015. Hall, James. 1895. Report [of the State Geologist]; pp. 9–20. In Report of the State Geologist. *48th Annual Report of the Regents. 1894*. Volume II. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1895. State of New York. No. 66. In Senate March 1, 1895. Albany: University of the State of New York.

This is identical to Hall [1895] 1896, from the 14<sup>th</sup> Report of the State Geologist. See 1019, 1020.

Ellis, 1903, p. 288.

1016. Hall, James. 1895. *Palaeontology of New York*. Volume VIII, Part II; pp. 21–29. In Report of the State Geologist. *48th Annual Report of the Regents. 1894*. Volume II. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1895. State of New York. No. 66. In Senate March 1, 1895. Albany: University of the State of New York.

This is identical to Hall [1895] 1896, from the 14<sup>th</sup> Report of the State Geologist. See 1021.

1017. Hall, James. 1895. Pp. 39–74, pls. iv–xii. In R. P. Whitfield, *Republication of Descriptions of Fossils from the Hall Collection in the American Museum of Natural History, from the Report of Progress for 1861 of the Geological Survey of Wisconsin, by James Hall, with Illustrations from the Original Type Specimens Not Heretofore Figured*. Memoirs of the American Museum of Natural History, vol. I, part II.

These descriptions are taken from Hall, 1861, *Report of Progress for 1861 of the Geological Survey of Wisconsin*; although they are not in the same order, they appear to be identical. See 366–368.

1018. Hall, James. [1895] 1896. Preliminary Geologic Map of Portions of Herkimer, Fulton, Montgomery, Saratoga and Adjacent Counties, Showing the distribution of Laurentian, Cambrian and Lower Silurian Formations and the Faults of the Mohawk Valley; pp. 31–32. 16½ x 28½ cm. In James Hall, ed., *48th Annual Report of the Regents. 1894*. Vol.

II. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1895. State of New York. No. 66. In Senate March 1, 1895. Albany: University of the State of New York.

The caption states that the map was "Prepared under the direction of James Hall, State Geologist. By N. H. Darton, Assistant. 1893". This is identical to Hall 1022 from the 14<sup>th</sup> Report of the State Geologist. Volume was issued in 4o and 8vo. See 857, 878, 978, 1008, 1022.

1019. Hall, James, ed. [1895] 1896. *Fourteenth Annual Report of the State Geologist For the Year 1894*. Transmitted to the Legislature March 1, 1895. Albany: James B. Lyon, State Printer. 1895. [Letter of Transmission page]: State of New York. No. 69. In Senate, March 1, 1895. Annual Report of the State Geologist. 669 pp. 4o.

The spine of the hardcover book has Report of the State Geologist. New York. 1894. This is identical to Hall 1022. See 1020–1023. Nickles, 1923, p. 449, item 97.

1020. Hall, James. [1895] 1896. Report [of the State Geologist]; pp. 9–20. In James Hall, ed., *Fourteenth Annual Report of the State Geologist For the Year 1894*. Transmitted to the Legislature March 1, 1895. Albany: James B. Lyon, State Printer. 1895. [Letter of Transmission page] State of New York. No. 69. In Senate, March 1, 1895. Annual Report of the State Geologist.

Included is an update on the "Preliminary Geologic Map of the State of New York," pp. 9–11. Volume was issued in 4o and 8vo. This is identical to Hall 1015 from the 48<sup>th</sup> Report of the State Museum. See 1015, 1019, 1021, 1022.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 97.

1021. Hall, James. [1895] 1896. *Palæontology of New York*. Volume VIII, Part II; pp. 21–29. In James Hall, ed., *Fourteenth Annual Report of the State Geologist For the Year 1894*. Transmitted to the Legislature March 1, 1895. Albany: James B. Lyon, State Printer. 1895. [Letter of Transmission page]: State of New York. No. 69. In Senate, March 1, 1895. Annual Report of the State Geologist.

This is part of the Report of the State Geologist. The history of the publication of the "Palæontology of New York" is here, indicating that it is completed. On page 29, Hall dates his final report as March 5<sup>th</sup>, 1896. This is identical to Hall 1016 from the 48<sup>th</sup> Report of the State Museum. Volume was issued in 4o and 8vo. See 1014, 1016, 1019, 1020, 1022.

Nickles, 1923, p. 449, item 97.

1022. Hall, James. [1895] 1896. Preliminary Geologic Map of Portions of Herkimer, Fulton, Montgomery, Saratoga and Adjacent Counties, Showing the distribution of Laurentian, Cambrian and Lower Silurian Formations and the Faults of the Mohawk Valley; pp. 31–32. 16½ x 28½ cm. In James Hall, ed., *Fourteenth Annual Report of the State Geologist For the Year 1894*. Transmitted to the Legislature March 1, 1895. Albany: James B. Lyon, State Printer. 1895. [Letter of Transmission page]: State of New York. No. 69. In Senate, March 1, 1895. Annual Report of the State Geologist.

The caption states that the map was "Prepared under the direction of James Hall, State Geologist. By N. H. Darton, Assistant. 1893." This is identical to Hall 1018 from the 48<sup>th</sup> Report of the State Museum. Volume was issued in 4o and 8vo. See 857, 878, 978, 1008, 1018, 1023.

1023. Hall, James. 1895 [1896?, 1897?]. Report of the State Geologists; pp. 7–29. In James Hall, ed., *48th Annual Report of the Regents 1894*. Volume II. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1895. Albany: University of the State of New York.

Text is same as in a preceding citation. See 1014, 1015.

Nickles, 1923, p. 449, item 97.

1024. Hall, James. [1895] 1897. The new species of Brachiopoda described in Palæontology of New York; vol. 2. Volume VIII, Parts 1 and 2, 1892–1894. With Fourteen Plates; pp. 323–402, 14 pls., 4 text-figs. In James Hall, ed., *48th Annual Report of the Regents 1894*. Volume II. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1895. Albany: University of the State of New York. [Additional title] State of New York. No. 66 in Senate March 1, 1895.

See 564.

Ellis, 1903, p. 290. Cited as Hall & J. M. Clarke.

Royal Society of London, 1916, vol. XV, p. 584.

Nickles, 1923, p. 449, included in James Hall item 97a.

1025. [Hall, James]. 1895 [1896]. The New Species of Brachiopoda Described in *Palæontology of New York*, Volume VIII, Parts 1 and 2. 1892–1894. With Fourteen Plates; pp. 323–403, 4 text-figs., 14 pls. In James Hall, ed., *Fourteenth Annual Report of the State Geologist For the Year 1894*. Transmitted to the Legislature March 1, 1895. Albany: James B. Lyon, State Printer. 1895. [Letter of Transmission page]: State of New York. No. 69. In Senate, March 1, 1895. Annual Report of the State Geologist.



Volume was issued in 4o and 8vo. Imprint date is 1895, but the actual date of publication is generally cited as 1897. The plates are headed: Report State Geologist, 1894. This is identical to [Hall?] 1026 from the 48<sup>th</sup> Report of the State Museum. See 564, 1026.

Clarke, 1899, p. 451, scientific papers item 267. Cited as: Hall, assisted by J. M. Clarke, 1895.

Hovey, 1899, p. 151–152, books item 40.

Ellis, 1903, p. 290. Cited as Hall & J. M. Clarke.

Nickles, 1923, p. 449, item 97a.

1026. [Hall, James?]. 1895. The New Species of Brachiopoda Described in *Palaeontology of New York*, Volume VIII, Parts 1 and 2, 1892–1894. With Fourteen Plates; pp. 323–401. In James Hall, ed., Report of the State Geologist. 48<sup>th</sup> Annual Report of the Regents. 1894. Vol. II. University of the State of New York. New York State Museum. Transmitted to the Legislature March 1, 1895. State of New York. No. 66. In Senate March 1, 1895. Albany: University of the State of New York.

This is identical to [Hall] 1025 from the 14<sup>th</sup> Report of the State Geologist. See 564, 1025.

Ellis, 1903, p. 290. Cited as Hall & J. M. Clarke.

Royal Society of London, 1916, vol. XV, p. 584.

1027. [Hall, James, and John Mason Clarke]. No date [1895]. The new species of Brachiopoda described in *Palaeontology of New York*, Volume VIII, Parts 1 and 2, 1892–1894, with fourteen plates. From Report of the State Geologist; pp. 325–372, 14 pls., 1 fig.

Copy of this separate is in the Springer Library, NMNH. See 564.

1028. [Hall, James, and John Mason Clarke]. No date [1895]. The new species of Brachiopoda described in *Palaeontology of New York*, Volume VIII, Parts 1 and 2, 1892–1894, with fourteen plates. From Report of the State Geologist; pp. 321–402, 14 pls., 4 figs.

No text, only plates and explanation of plates. See 564.

1029. Hall, James. [1896] 1921. Trip to Lake Superior and Isle Royale; pp. 145–148. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

In 1896, Hall wrote an account of his trip to the Lake Superior region in 1845 for Dr. Alfred C. Lane, assistant to the state geologist of Michigan. Hall had been employed in 1845 by the Lake Superior Copper Company to examine their holdings.

1030. Hall, James. [1896] 1964. Letter to B. W. Kumler; p. 297. In George P. Merrill, *The First One Hundred Years of American Geology*. 1964. New York and London: Hafner Publishing Company.

Hall's response to Kumler gives his ideas about what are the duties of a State Geologist.

1031. Hall, James. 1897. [Letter (November 28th, 1896) of James Hall for the Thomas Tracy Bouvé Memorial Meeting]. *Proceedings of the Boston Society of Natural History*, Vol. XXVII, pp. 239–241.

Hall's letter to W. H. Niles, the President of the Boston Society of Natural History, is a moving memorial to Hall's old friends and teachers in Boston and Hingham, to his teachers of Nature, chemistry, conchology, minerals, and Mr. Bouvé, under whose influence Hall learned "to worship Nature." Hall recollects the "shells upon the sea beach, and flowers in the swamps and woods; — flowers for which in that former time no names were known nor means of learning how to know them."

1032. Hall, James, ed. 1897. *Fifteenth Annual Report of the State Geologist for the Year 1895*. Volume I. Transmitted to the Legislature April 27, 1896. State of New York. No. 66. In Senate, April 27, 1896. Wynkoop Hallenbeck Crawford Co., State Printers, Albany and New York. 738 pp.

See 1033–1036, 1044.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 97c.

1033. Hall, James. 1897. Report [of State Geologist]; pp. 7–8. In James Hall, ed., *Fifteenth Annual Report of the State Geologist for the Year 1895*. Volume I. Transmitted to the Legislature April 27, 1896. State of New York. No. 66. In Senate, April 27, 1896. Wynkoop Hallenbeck Crawford Co., State Printers, Albany and New York.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 97c.

1034. Hall, James. 1897. A Discussion of *Streptelasma* and Allied Genera of Rugose Corals; pp. 24–25. In James Hall, ed., *Fifteenth Annual Report of the State Geologist for the Year 1895*. Volume I. Transmitted to the Legislature April 27, 1896. State of New York. No. 66. In Senate, April 27, 1896. Wynkoop Hallenbeck Crawford Co., State Printers, Albany and New York.

See 153, 1041.

Ellis, 1903, p. 290.

Nickles, 1923, p. 449, item 97d.

1035. Hall, James. 1897. The Paleozoic hexactinellid sponges constituting the family Dictyospongidae; pp. 25–26. Part I. In James Hall, ed., *Fifteenth Annual Report of the State Geologist for the Year 1895*. Volume I. Transmitted to the Legislature April 27, 1896. State of New York. No. 66. In Senate, April 27, 1896. Wynkoop Hallenbeck Crawford Co., State Printers, Albany and New York.

See 831, 1042.

Nickles, 1923, p. 449, item 97e.

1036. Hall, James. 1897. Preliminary Geologic Map of Albany County, New York. Prepared under the Supervision of James Hall, State Geologist. In James Hall, ed., *Fifteenth Annual Report of the State Geologist for the Year 1895*. Volume I. Transmitted to the Legislature April 27, 1896. State of New York. No. 66. In Senate, April 27, 1896. Wynkoop Hallenbeck Crawford Co., State Printers, Albany and New York.

The map is pasted in the back of the volume. See 1032–1035.

1037. Hall, James, ed. 1897. Vol. I. Reports of Director, Entomologist, and Botanist. *Forty-Ninth Annual Report of the Regents. 1895*. University of the State of New York. New York State Museum. Transmitted to the Legislature February 11, 1896. State of New York. No. 53. In Senate February 11, 1896. Albany: University of the State of New York.

Ellis, 1903, p. 288.

1038. Hall, James. 1897. Report [of the State Geologist and Paleontologist, 1895]; pp. 11–15. In James Hall, ed., Vol. I. Reports of Director, Entomologist, and Botanist. *Forty-Ninth Annual Report of the Regents. 1895*. University of the State of New York. New York State Museum. Transmitted to the Legislature February 11, 1896. State of New York. No. 53. In Senate February 11, 1896. Albany: University of the State of New York.

Ellis, 1903, p. 288.

Nickles, 1923, p. 449, item 97b.

1039. Hall, James. [1897] 1921. Letter to John Clarke; p. 544. In John M. Clarke, *James Hall of Albany, Geologist and Palaeontologist, 1811–1898*. Albany. 1921.

Hall wrote, after a visit to the island of Gotland, that he wished he could have seen these rocks much earlier, which would have helped in their interpretation.

1040. Hall, James, ed. 1898. Vol. 2. Report of State Geologist and Field Assistants. *Forty-Ninth Annual Report of the Regents. 1895*. University of the State of New York. New York State Museum. Albany: University of the State of New York.

Some title pages have publisher as New York and Albany: Wynkoop Hallenbeck Crawford Co.

1041. Hall, James. 1898. A Discussion of *Streptelasma* and Allied Genera of Rugose Corals; pp. 24–25. In James Hall, ed., Vol. 2. Report of State Geologist and Field Assistants. *Forty-Ninth Annual Report of the Regents. 1895*. University of the State of New York. New York State Museum. Albany: University of the State of New York.

See 1034.

Ellis, 1903, p. 290.

Nickles, 1923, p. 449, item 97d.

1042. Hall, James. 1898. The Palaeozoic Hexactinellid Sponges Constituting the Family Dictyospongidae; pp. 25–26. In James Hall, ed., Vol. 2. Report of State Geologist and Field Assistants. *Forty-Ninth Annual Report of the Regents. 1895*. University of the State of New York. New York State Museum. Albany: University of the State of New York.

See 1035.

Nickles, 1923, p. 449, item 97e.

1043. James Hall, ed. 1898. Vol. 3. Report of State Geologist and Field Assistants. *Forty-ninth Annual Report of the Regents. 1895*. University of the State of New York. New York State Museum. New York and Albany: Wynkoop Hallenbeck Crawford Co., State Printers.

Publisher for one version reads: Albany University of the State of New York. This version also includes a notice after the Preface that Hall had died on August 7, 1898, signed by John M. Clarke.

1044. Hall, James, ed. [1898] 1899. *Fifteenth Annual Report of the State Geologist for the Year 1895*. Volume II. Transmitted to the Legislature April 27, 1896. State of New York. No. 66. In Senate, April 27, 1896. Wynkoop Hallenbeck Crawford Co., State Printers, Albany and New York. 1898.

This version also includes a notice after the Preface (signed by John M. Clarke) that Hall died on August 7, 1898. See 1046–1048, 1055.

1045. [Hall, James]. [1898]. Report [of the State Geologist]; pp. 7–8. In James Hall, ed., Vol. 2. Report of State Geologist and Field Assistants.

*Forty-Ninth Annual Report of the Regents. 1895.* University of the State of New York. New York State Museum. Albany: University of the State of New York.

1046. Hall, James, in collaboration with John M[ason] Clarke. 1898. *A Memoir on the Palaeozoic Reticulate Sponges Constituting the Family Dictyospongidae*; 350 pp., 45 text-figs., pls. I–LXX. University of the State of New York. [New York State Museum Memoir 2.] New York and Albany: Wynkoop Hallenbeck Crawford Co., State Printers.

This is the folio edition in which the plates are not folded. The designation as a New York State Museum Memoir does not occur on the title page. A Notice following the preface written by Hall reads: "Professor JAMES HALL died on August 7<sup>th</sup>, 1898, at the great age of nearly eighty-seven years. At the time of this lamentable event only a few pages of this memoir had been printed, but his lively interest in the work which owes to him its inception, and his pride in its accomplishment, will always associate his name with present and future knowledge of these remarkable organisms, the DICTYOSPONGIDÆ. John M. Clarke." See 831.

Ellis, 1903, p. 290.

Royal Society of London, 1916, vol. XV, p. 584, Hall and Clarke.

Nickles, 1923, p. 449, included in James Hall item 98.

1047. Hall, James, in collaboration with John M[ason] Clarke. 1898. *A Memoir on the Palaeozoic Reticulate Sponges Constituting the Family Dictyospongidae*. Part I; pp. 741–984, text-figs. 1–17, pls. I–XLVII (folded). In James Hall, ed., Vol. 3. Report of State Geologist and Field Assistants. *Forty-ninth Annual Report of the Regents. 1895.* University of the State of New York. New York State Museum. New York and Albany: Wynkoop Hallenbeck Crawford Co., State Printers.

See 831.

Ellis, 1903, p. 290.

Royal Society of London, 1916, vol. XV, p. 584, Hall and Clarke.

Nickles, 1923, p. 449, included in James Hall item 98.

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This book has listed and reproduced figures from plates in volumes I–VI (1847–1888) of *Paleontology of New York* by Hall, Vols. VII and VIII (1888–1894) by Hall and Clarke, and from Eurypteridæ of Pennsylvania (1884) by Hall. The reproductions are not of the best quality, and there are numerous errors in spelling and dates.

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This index is assembled using primarily information gleaned directly from the titles and annotations in the *Bibliography of James Hall (1811–1898)*. For example, “New York” is included only if it is part of the title of a contribution. Exceptions to the strict usage of Hall include the following: “plants” for all plant fossils, “sedimentary structures” for all types of sedimentary structures, and “vertebrates” for all vertebrate fossils. Instead of using page numbers, as in most indices, we identify material relevant to a given topic by providing the reference numbers used throughout this work.

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