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# CATALOGUE OF TYPE SPECIMENS

IN

CHICAGO NATURAL HISTORY MUSEUM

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PORIFERA

MATTHEW H. NITECKI

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FIELDIANA: GEOLOGY

VOLUME 13, NUMBER 6

*Published by*

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MATTHEW H. NITECKI

*Assistant Curator of Invertebrate Paleontology*

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# Type Specimens of Porifera

## INTRODUCTION

This part of the catalogue of type specimens includes fossil sponges, and those organisms that are customarily included in the Porifera as *incertae sedis*. However, no taxonomic judgment is implied, in respect to these forms, by this arrangement.

All fossils included are in the custody of the Chicago Natural History Museum. Former Walker Museum specimens are identified by the letters UC; the Chicago Natural History Museum specimens by the letters PE.

Only holotypes are recognized as types. All other "types," including cotypes, paratypes, plesiotypes, and other traditional types are designated as referred specimens. Holotypes are here designated for certain species for which no types were previously selected.

A very careful search of the old literature has been made, and as a result, some confusion relating to James Hall's publications has been clarified.

## CATALOGUE OF LOCALITIES

*Locality 64.*—James Hall collection. Roemer's (1860) locality. Found separate among the debris and decomposed rock upon the surface. The mound glades within a mile and a half of the Brownsport Landing, on the Tennessee River and about 5 miles southeast of Dixon Spring, and 3 miles north of Vice Landing. The mounds are conical hills capped by clays and limestones of the Brownsport Formation (Foerste, 1903, p. 574). Decatur County, Tennessee (prior to 1850 Perry County).

*Locality 65.*—James Hall collection. Chiefly in the shaly calcareous layers, but sometimes limestone. Cherry Valley, New York.

*Locality 66.*—As locality 65, but near Rondout, New York.

*Locality 67.*—Collected by Sharat K. Roy and Max Kopf in 1949, *in situ* from an exposure of limestone in an abandoned quarry off New York Route 5 (Buffalo to Batavia road), near Snyder, New York.

cont. 17 Dec 66

*Locality 68.*—Silliman's Fossil Mount. At the west side of the terminus of the bay, about 300 feet from high tide and two and one-half miles south of the Jordan River. It is a longitudinal mount of horizontally bedded limestone which lies unconformably on the rocks of the hills of Meta Incognita.  $63^{\circ} 43' N.$  Lat. and  $69^{\circ} 2' W.$  Long. Frobisher Bay, Baffin Land, Canada.

*Locality 69.*—Collected by Fenton. Bloody Run, near Charles City, Iowa.

*Locality 70.*—James Hall collection. Original number 751. Purchased in 1883 by Hall from Paul Mohr, of Cincinnati, Ohio. Near Crawfordsville, Indiana.

*Locality 71.*—James Hall collection. Steuben County, New York.

*Locality 72.*—James Hall collection. Compact and fine-grained greenish or rusty sandstone from the upper beds of the Chemung Group. In the vicinity of Owego, Tioga County, New York.

*Locality 73.*—James Hall collection. Purchased by Hall from Herzen. Near Crawfordsville, Indiana.

*Locality 74.*—James Hall collection. Crawfordsville, Indiana.

*Locality 75.*—James Hall collection. From Alfred, Allegany County, New York.

*Locality 76.*—James Hall collection. Collected by E. B. Hall, obtained by James Hall in 1889. Wellsville, Allegany County, New York.

*Locality 77.*—James Hall collection. Schoharie, New York.

*Locality 78.*—Gurley collection. Collected by M. N. Elrod near Hartsville, Indiana.

*Locality 79.*—James Hall collection. Collected in 1889 seven miles west of Mansfield, Charlestown Tp., Tioga County, Pennsylvania.

*Locality 80.*—James Hall collection. Obtained by Hall from Allen and students in 1888. Near Alfred, Allegany County, New York.

*Locality 81.*—James Hall collection. Collected by E. B. Hall at Crawfordsville, Indiana.

*Locality 82.*—Collected by University of Chicago Ste. Genevieve County, Missouri field classes. Little Saline Creek area, Ste. Genevieve County, Missouri.

*Locality 83.*—James Hall collection. Quarry in broken and amorphous limestone (probably dolomite). Lower portion of a bluish color, generally harder in its solid parts, but somewhat diversified with patches of an argillaceous character. Bridgeport, suburb of Chicago, Illinois.

*Locality 84.*—James Hall collection. Original number 376. Collected by C. S. Beachler in 1888. Crawfordsville, Indiana.

*Locality 85.*—F. E. Gurley collection. Near Dixon, Illinois.

*Locality 86.*—James Hall collection. From isolated loose blocks. Friendship, Allegany County, New York.

*Locality 87.*—James Hall collection. The precise locality is unknown, but it is probably from Steuben County, New York.

*Locality 88.*—James Hall collection. One-half mile from Brown Hill School House, near Cohocton, Steuben County, New York.

*Locality 89.*—James Hall collection. In loose arenaceous slabs. Near Howard, New York.

*Locality 90.*—James Hall collection. Collected by Thomas Cotton. Found loose in the vicinity of Avoca, Steuben County, New York.

*Locality 91.*—James Hall collection. Original Hall numbers 702 and 703. Jenks Quarry, one mile south-east of the Village of Bath, Steuben County, New York.

*Locality 92.*—James Hall collection. Indian Creek, Indiana.

*Locality 93.*—Collected by Stuart Weller, Glen Park, Missouri.

*Locality 94.*—James Hall collection. Moot's Run, Licking County, Ohio.

*Locality 95.*—James Hall collection. Blocks of sandstone. Wellsville, Allegany County, New York.

*Locality 96.*—James Hall collection. Original number 196(?). Purchased from Mr. J. T. Duty in 1878(?). On Conn's Creek, near the town of Waldron, Shelby County, Indiana.

*Locality 97.*—James Hall collection. Concord Station, Erie County, Pennsylvania.

*Locality 98.*—James Hall collection. Collected by J. Allen, obtained by Hall in 1888. Hall, 1863, and Hall and Clarke, 1898, state that the specimens came from Cohocton and Avoca, Steuben County, and from Lyndon, Cattaraugus County, New York. However, the Hall Catalog lists them as from Alfred, New York.

*Locality 99.*—Faber collection. Collected by C. E. Went. Near Frankfort, Kentucky.

*Locality 100.*—Faber collection. Collected by Charles Faber. About 350 feet above low-water mark at Cincinnati, Ohio.

*Locality 101.*—Faber collection. About two miles south of Maysville, Kentucky.

*Locality 102.*—James collection. In and around Cincinnati, Ohio.

*Locality 103.*—James Hall collection. Original number 702. Collected by J. Vandelloo, obtained by Hall in 1886. Brown Hill School House. Three and one-half miles northwest of Wallace, Steuben County, New York.

*Locality 104.*—James Hall collection. Near Bath, Steuben County, New York.

*Locality 105.*—C. L. Fenton collection. In the blue plastic clay some thirty or forty feet below the marly horizon at the pit of the Rockford Brick and Tile Company. Rockford, Iowa.

*Locality 106.*—James Hall collection. Southwestern New York?

*Locality 107.*—James Hall collection. Brown Hill, near Cohocton, New York; or locality 103. (University catalogs and specimen labels do not agree.)

*Locality 108.*—James Hall collection. Clinton County, Ohio.

*Locality 109.*—James Hall collection. Location unknown.

*Locality 110.*—James Hall collection. Near Clarksville, Albany County, New York.

*Locality 111.*—James Hall collection. On Conn's Creek, near the town of Waldron, Shelby County, Indiana.

*Locality 112.*—Purchased from Wards in 1895. Bath, Steuben County, New York.

*Locality 113.*—Gurley collection. Turkey River, Iowa.

*Locality 114.*—Gurley collection. Collected by Ella V. Shutt. Coal measures near Springfield, Illinois.

*Locality 115.*—Faber collection. Collected by William J. Patterson at Cincinnati, Ohio.

*Locality 116.*—James Hall collection. Warren, Pennsylvania.

*Locality 117.*—R. H. King collection. "A yellow sandy limestone approximately 1 foot thick between beds of yellow clays, the entire

section being about 20 feet in thickness. This exposure lies in the Brownwood shale from about 35 to 55 feet below the Rock Hill limestone of the Graford formation of the Canyon group of north-central Texas . . . on the banks of McCoy's Creek, 4 miles northwest of Bridgeport, Wise County, Texas. . . ." (King, 1933, pp. 75-76.)

## CATALOG OF TYPES

### *Acloeodictya* (?) *eccentrica* (Hall)

See: *Phragmodictya excentrica* Hall, 1882

### *Acloeodictya marsipus* Hall and Clarke, 1898

Referred specimens: the specimen UC 13185A described and illustrated by Hall and Clarke: 1898a, pp. 178-179, pl. 60, fig. 3; 1899a and 1899b, pp. 370-371, pl. 60, fig. 3. The specimen UC 13185C described and illustrated by Hall and Clarke: 1898a, pp. 178-179, pl. 55, fig. 4; 1899a and 1899b, pp. 370-371, pl. 55, fig. 4. Specimen UC 14275 described by Hall and Clarke: 1898a, pp. 178-179; 1899a and 1899b, pp. 370-371.

Stratigraphic position: Mississippian, Osage Group, calcareous shales of the Keokuk Formation. Locality 70.

Remarks: All Walker specimens bear labels indicating locality 70. However, Hall and Clarke caption their illustrations of UC 13185A as locality 92.

### *Actinodictya placenta* Hall, 1890

Holotype: here designated the specimen UC 13158A described by Hall: 1890a, p. 60; 1890b, p. 262; described and illustrated by Hall and Clarke: 1898a, p. 143, pl. 30, fig. 2; 1898b and 1898c, p. 883, pl. 30, fig. 2.

Referred specimens: UC 13158C described by Hall: 1890a, p. 60; 1890b, p. 262; described and illustrated by Hall and Clarke: 1898a, p. 143, pl. 30, fig. 1; 1898b and 1898c, p. 883, pl. 30, fig. 1. UC 13158D described by Hall: 1890a, p. 60; 1890b, p. 262; described and illustrated by Hall and Clarke: 1898a, p. 143, pl. 31, fig. 1; 1898b and 1898c, p. 883, pl. 31, fig. 1. UC 13157 described by Hall: 1890a, p. 60; 1890b, p. 262; described and illustrated by Hall and Clarke: 1898a, p. 143, pl. 30, fig. 3; 1898b and 1898c, p. 883, pl. 30, fig. 3. UC 13158B, UC 13193, UC 51842 (3 speci-

mens) described by Hall: 1890a, p. 60; 1890b, p. 262; by Hall and Clarke: 1898a, p. 143; 1898b and 1898c, p. 883.

Stratigraphic position: Upper Devonian, "lower or middle strata of the Chemung group" (Hall and Clarke, 1898). Localities 88 (UC 13158), 89 (UC 13157); 109 (UC 51842, UC 13193).

**Astraeospongia clauda** Richardson, 1950

Holotype: by original designation, the specimen PE 999 described and illustrated by Richardson, 1950, pp. 79-88, figs. 33-37.

Stratigraphic position: Middle Devonian, Onondaga Limestone. Locality 67.

**Astraeospongia meniscus** (Roemer)

Referred specimens: the specimens UC 32269 (9 slides); UC 51847 (5 slides) described by Hall and Gaertner, 1879, pp. 111-116. The specimen UC 22292 (1 slide) described and illustrated by Hall and Gaertner, 1879, pp. 111-116, pl. 3, fig. 1.

Stratigraphic position: Silurian, Niagaran, Brownsport Formation. Locality 64.

**Astylospongia inornata** Hall, 1863

Referred specimens: specimens UC 51843 (5 slides); UC 51844 (5 slides); UC 51845 (1 slide); UC 51846 (2 slides); UC 32266 (1 specimen and 5 slides); UC 32267 (2 specimens and 4 slides) described by Hall, 1863a, p. 70.

Stratigraphic position: Lower Devonian, Lower Helderberg. Localities 65 (UC 51843); 66 (UC 51844); 110 (UC 51845); 109 (UC 51846); 77 (UC 32266); 77? (UC 32267).

Remarks: referred by Bassler (1915) to *Hindia sphaeroidalis* Duncan, 1879.

**Astylospongia (Palaeomanon) bursa** Hall, 1876

Referred specimen: the specimen UC 11998 described by Hall, 1879, p. 105; described and illustrated by Hall, 1882a, p. 224, pl. 1, fig. 4.

Stratigraphic position: Silurian, Niagaran, in the calcareous shales of the Waldron Shale. Locality 96.

Remarks: referred by Bassler (1915) to *Palaeomanon bursa* (Hall).



**Astylospongia praemorsa** (Goldfuss)

Referred specimens: five specimens and seven thin-sections UC 32268 described by Hall: 1863c, p. 34; 1863d, p. 228; 1879, pp. 103–104; 1882a, pp. 222–223.

Stratigraphic position: Silurian, Niagaran, in the calcareous shales of the Waldron Shale. Locality 111.

Remarks: referred by Bassler (1915) to *Astylospongia praemorsa pusilla* Rauff, 1894.

**Astylospongia praemorsa pusilla** Rauff, 1894

See: *Astylospongia praemorsa* (Goldfuss)

**Botryodictya ramosa** (Lesquereux)

Referred specimens: specimens UC 14398A, UC 14398B, UC 14398C, 14398D and UC 13192 described by Hall and Clarke: 1898a, pp. 111–114; 1898b and 1898c, pp. 851–854. Illustrated by them 1898a, 1898b and 1898c, pl. 13: figs. 1, 3 UC 14398A; fig. 2 UC 14398B; fig. 4 UC 14398C; figs. 6, 7 UC 14398D.

Stratigraphic position: Upper Devonian, upper part of the Chemung Group. In greenish, sandy shales. Locality 79.

Remarks: the specimens are collected from the type locality by the same person that provided Lesquereux with his original specimens.

**Calamopora fibrosa** Goldfuss, 1826

See: *Hindia fibrosa* (Roemer)

**Calathospongia amphorina** Hall and Clarke, 1898

Holotype: the original specimen UC 13189 described and illustrated by Hall and Clarke: 1898a, p. 182, pl. 68, fig. 6; 1899a and 1899b, p. 374, pl. 68, fig. 6.

Stratigraphic position: Mississippian, Osage Group, calcareous shales of the Keokuk Formation. Locality 74.

Remarks: Laubenfels (1955) assigned the genus *Calathospongia* to *Ectenodictya*, thus assigning this species to *Ectenodictya amphorina* (Hall and Clarke).

**Calathospongia (?) magnifica** Hall and Clarke, 1898

Holotype: here designated the specimen UC 13175A described and illustrated by Hall and Clarke: 1898a, pp. 182-183, pl. 57, fig. 1; 1899a and 1899b, pp. 374-375, pl. 57, fig. 1.

Referred specimen: the other smaller specimen UC 13175B described and illustrated by Hall and Clarke: 1898a, pp. 182-183, pl. 56, fig. 5; 1899a and 1899b, pp. 374-375, pl. 56, fig. 5.

Stratigraphic position: Mississippian, Osage Group, calcareous shales of the Keokuk Formation. Locality 84.

Remarks: Laubenfels (1955) assigned the genus *Calathospongia* to *Ectenodictya*, thus assigning this species to *Ectenodictya magnifica* (Hall and Clarke).

**Chirospongia faberi** Miller, 1889

Holotype: the original specimen UC 8827 described and illustrated by Miller, 1889, pp. 156-157, fig. 99.

Stratigraphic position: Ordovician, Hudson River Group. Associated with *Pattersonia* and fragments of sponge filaments near the middle of the Hudson River Group. Locality 100.

**Chirospongia wenti** Miller, 1889

Holotype: the original specimen UC 8812 described and illustrated by Miller, 1889, pp. 156-157, fig. 98.

Stratigraphic position: Ordovician, Trenton Group. Locality 99.

**Clathrospongia (?) desmia** Hall and Clarke, 1898

Holotype: the original specimen UC 13169 described and illustrated by Hall and Clarke: 1898a, p. 125, pl. 25, fig. 3; 1898b and 1898c, p. 865, pl. 25, fig. 3.

Stratigraphic position: Upper Devonian, upper beds of the Chemung Group. Locality 80.

Remarks: the holotype is the impression; Hall and Clarke's illustration is a reconstruction (negative of the specimen).

**Clathrospongia (?) tomaculum** (Hall)

See: *Dictyophyton tomaculum* Hall, 1890

**Clathrospongia vascellum** (Hall)

See: *Dictyophyton vascellum* Hall, 1890

**Cleodictya gloriosa** Hall, 1884

Referred specimen: a smaller specimen UC 13181 described by Hall: 1884a, p. 17, 1884b, p. 479. Described and illustrated by Hall and Clarke: 1898a, pp. 183–184, pl. 70, fig. 2; 1899a and 1899b, pp. 375–376, pl. 70, fig. 2.

Stratigraphic position: Mississippian, Osage Group, Keokuk Formation, from the sandstone which comes above the shaly beds. Locality 81.

**Cleodictya Mohri** Hall, 1884

Holotype: the original specimen UC 13180 described by Hall: 1884a, p. 17; 1884b, p. 479; Hall and Clarke: 1898a, pp. 184–187, pl. 70, fig. 3; 1899a and 1899b, pp. 376–379, pl. 70, fig. 3.

Stratigraphic position: Mississippian, Osage Group, Keokuk Formation, in the calcareous shales. Locality 70.

Remarks: Hall and Clarke in their description omitted the generic question mark.

**Coelocladia spinosa** Girty, 1908

Referred specimens: two specimens, UC 37793 described by King, 1933, pp. 83–84.

Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

**Cryptodictya Alleni** Hall, 1890

Holotype: here designated the specimen UC 13153A described by Hall: 1890a, p. 60; 1890b, p. 262; described and illustrated by Hall and Clarke: 1898a, pp. 144–145, pl. 32, fig. 4; 1898b and 1898c, pp. 884–885, pl. 32, fig. 4.

Referred specimens: other specimens described by Hall: 1890a, p. 60; 1890b, p. 262; described by Hall and Clarke: 1898a, pp. 144–145; 1898b and 1898c, pp. 884–885; illustrated by Hall and Clarke 1898a, 1898b and 1898c, pl. 31, fig. 4 UC 13153E; pl. 31, fig. 5 UC 13153F; pl. 32, fig. 1 UC 13153C; pl. 32, fig. 3 UC 13153D; pl. 32, fig. 3 UC 13153B.

Stratigraphic position: Upper Devonian in the Chemung Sandstone. Locality 98.

**Dictyophyton filitextile** Hall, 1863

Holotype: plaster cast UC 13213. The original specimen was described and illustrated by Hall: 1863b, p. 88, pl. 4, fig. 5; described by Hall: 1884a, p. 8; 1884b, p. 470; described and illustrated by Hall and Clarke: 1898a, pp. 86–87, pl. 21, fig. 7; 1898b and 1898c, pp. 826–827, pl. 21, fig. 7.

Stratigraphic position: Upper Devonian, in the upper beds of the Chemung Group. Locality 71.

Remarks: referred by Hall and Clarke: 1898a, 1898b and 1898c to *Prismodictya filitextilis* (Hall).

**Dictyophyton (Phragmodictya) Halli** Hall, 1890

Holotype: here designated the specimen UC 13155A described by Hall: 1890a, p. 59; 1890b, p. 261. Described by Hall and Clarke: 1898a, pp. 126–127; 1898b and 1898c, pp. 866–867; illustrated by them on pl. 24, figs. 1, 2.

Referred specimens: other specimens UC 13191, UC 13155B, UC 13155C, UC 13155D, UC 13155E and UC 13155F described by Hall: 1890a, p. 59; 1890b, p. 261. Hall and Clarke: 1898a, pp. 126–127; 1898b and 1898c, pp. 866–867. Illustrated by them on pl. 24, fig. 4, UC 13155B; fig. 3, UC 13155C; fig. 5, UC 13155D; fig. 8, UC 13155E; and fig. 9, UC 13155F.

Stratigraphic position: Upper Devonian, in the upper arenaceous beds of the Chemung Group. Locality 76.

Remarks: Hall and Clarke: 1898a, 1898b and 1898c erroneously amended the name to *Thysanodictya Edwin-Halli* Hall and Clarke, 1898. This is *Thysanodictya halli* (Hall).

**Dictyophyton prismaticum** Hall, 1884

Referred specimens: eight specimens UC 38693 on a slab described by Hall: 1884a, pp. 7–8; 1884b, pp. 469–470; described by Hall and Clarke: 1898a, pp. 83–84; 1898b and 1898c, pp. 823–824.

Stratigraphic position: Upper Devonian, in the upper beds of the Chemung Group, in a light grey sandstone. Locality 97.

Remarks: referred by Hall and Clarke, 1898(a), 1898(b) and 1898(c) to *Prismodictya prismatica* (Hall).

**Dictyophyton sceptrum** Hall, 1890

Holotype: here designated the specimen UC 13148A described by Hall: 1890a, pp. 56–57; 1890b, pp. 258–259. Described by Hall and Clarke: 1898a, pp. 73–74; 1898b and 1898c, pp. 813–814, and illustrated by them in pl. 15, figs. 8, 9. “The best preserved and most robust . . . in which the aperture is retained but the basal portion lost, has a length of 206 mm., and a width across the aperture of 56 mm., greatest width, 69 mm.” (Hall, 1890a, p. 57).

Referred specimens: other specimens UC 13148B, UC 13148C, UC 13148D, UC 13170A, and UC 13170B described by Hall: 1890a, pp. 56–57; 1890b, pp. 258–259; by Hall and Clarke: 1898a, pp. 73–74; 1898b and 1898c, pp. 813–814. Illustrated by Hall and Clarke in pl. 14, fig. 3, UC 13148B; pl. 14, fig. 4, UC 13148C; pl. 14, fig. 5, UC 13170A; pl. 16, figs. 3, 4, UC 13148D; pl. 27, fig. 3, UC 13170B. UC 13170B is an impression illustrated by Hall and Clarke as a reconstructed specimen.

Stratigraphic position: Upper Devonian, in the shaly sandstones of the upper part of the Chemung Group. Localities 76(UC 13170) and 86 (UC 13148).

Remarks: Hall and Clarke: 1898a, 1898b and 1898c referred it to: *Dictyospongia sceptrum* (Hall).

**Dictyophyton tenue** Hall, 1882

Holotype: the original specimen, UC 13173 illustrated by Hall 1882b, pl. 18, fig. 5; described by Hall 1884a, p. 12; described and illustrated by Hall 1884b, p. 474, pl. (18)19, fig. 5; described and illustrated by Hall and Clarke: 1898a, pp. 152–153, pl. 53, figs. 4, 5; 1899a and 1899b, pp. 344–345, pl. 53, figs. 4, 5.

Stratigraphic position: Lower Mississippian, Waverly Sandstone. Locality 116.

Remarks: referred by Hall and Clarke 1898a and 1899b to *Tylodictya* (?) *tenuis* (Hall).

**Dictyophyton tomaculum** Hall, 1890

Holotype: the specimen UC 13163 described by Hall: 1890a, pp. 58–59; 1890b, pp. 260–261. Described by Hall and Clarke: 1898a, pp. 123–124; 1898b and 1898c, pp. 863–864, and illustrated by them on pl. 18, figs. 5, 6.

Referred specimen: the specimen UC 13164 described by Hall and Clarke: 1898a, pp. 123–124; 1898b and 1898c, pp. 863–864, and illustrated by them on pl. 21, fig. 11.

Stratigraphic position: Upper Devonian, from the upper part of the Chemung Group in a loose block. Locality 75.

Remarks: referred by Hall and Clarke: 1898a, 1898b and 1898c to: *Clathrospongia* (?) *tomaculum* (Hall).

### **Dictyophyton tuberosum** Conrad, 1842

Referred specimen: the specimen UC 13159 described by Hall: 1863b, p. 90; 1884a, p. 11; 1884b, p. 473; described and illustrated by Hall and Clarke: 1898a, pp. 97–101, pl. 4, fig. 3; 1898b and 1898c, pp. 837–841, pl. 4, fig. 3.

Stratigraphic position: Upper Devonian, in the upper part of the Chemung Group. Locality 103.

Remarks: referred by Hall and Clarke 1898a, 1898b and 1898c to: *Hydnoceras tuberosum* Conrad, 1842.

### **Dictyophyton vascellum** Hall, 1890

Holotype: here designated the specimen UC 13165, described by Hall: 1890a, p. 57; 1890b, p. 259; described by Hall and Clarke: 1898a, p. 123; 1898b and 1898c, p. 863. Illustrated by Hall and Clarke on pl. 21, fig. 12 and on pl. 25, fig. 4.

Stratigraphic position: Upper Devonian, a loose, somewhat water-worn fragment from drift from the upper portion of the Chemung Group. Locality 75.

Remarks: referred by Hall and Clarke: 1898a, 1898b, and 1898c to *Clathrospongia vascellum* (Hall).

### **Dictyospongia cylindrica** (Whitfield)

Referred specimen: the specimen UC 13188 described by Hall and Clarke: 1898a, p. 166; 1899a and 1899b, p. 358, and illustrated by them on pl. 61, fig. 6.

Stratigraphic position: Mississippian, Osage Group, Keokuk Formation, in the calcareous shales. Locality 70.

### **Dictyospongia (Mastodictya) osculata** Hall and Clarke, 1898

Holotype: the original specimen, UC 13182 described by Hall and Clarke: 1898a, pp. 167–168; 1899a and 1899b, pp. 359–360, and

illustrated by them on pl. 56, fig. 6, and text-fig. 23. Illustrated by Laubenfels, 1955, fig. 55.9.

Stratigraphic position: Mississippian, Osage Group, Keokuk Formation in the calcareous shale. Locality 74.

Remarks: referred by Laubenfels, 1955, to *Mastodictya osculata* (Hall and Clarke). Holotype consists of the specimen and its impression.

**Dictyospongia sceptrum** (Hall)

See: *Dictyophyton sceptrum* Hall, 1890

**Dictyospongia (?) stylina** Hall and Clarke, 1898

Holotype: the original specimen UC 13183 described by Hall and Clarke: 1898a, p. 167; 1899a and 1899b, p. 359, and illustrated by them on pl. 56, fig. 2.

Stratigraphic position: Mississippian, Osage Series, Keokuk Formation in the calcareous shales. Locality 74.

**Ectenodictya amphorina** (Hall and Clarke)

See: *Calathospongia amphorina* Hall and Clarke, 1898

**Ectenodictya eccentrica** (Hall)

See: *Phragmodictya excentrica* Hall, 1882

**Ectenodictya excentrica** (Hall)

See: *Phragmodictya excentrica* Hall, 1882

**Ectenodictya magnifica** (Hall and Clarke)

See: *Calathospongia (?) magnifica* Hall and Clarke, 1898

**Girtycoelia typica** King, 1933

Referred specimens: four specimens UC 37792 described by King, 1933, p. 80.

Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

**Griphodictya epiphanes** Hall and Clarke, 1898

Holotype: the original specimen UC 13186 described by Hall and Clarke: 1898a, pp. 180–181; 1899a and 1899b, pp. 372–373, and

illustrated by them on pl. 55, fig. 6, and text-fig. 33. Illustrated by Laubenfels, 1955, on figs. 55.3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, and 55. 3i.

Stratigraphic position: Mississippian, Osage Group, in calcareous shales of the Keokuk Group. Locality 70.

**Helicodictya (?) concordia** Hall and Clarke, 1898

Holotype: original specimen UC 13162 described by Hall and Clarke: 1898a, pp. 115–116; 1898b and 1898c, pp. 855–856, and illustrated by them on pl. 27, fig. 2.

Stratigraphic position: Upper Devonian, upper beds of the Upper Chemung Group; in the *Prismodictya prismatica* colony. Locality 97.

Remarks: holotype is an impression of the organism; Hall and Clarke's drawing is a reconstruction.

**Heliospongia excavata** King, 1933

Referred specimens: two specimens UC 37789 described by King, 1933, p. 85.

Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

**Heliospongia ramosa** Girty, 1908

Referred specimen: the specimen UC 37788 described by King, 1933, p. 84.

Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

**Heterocoelia beedei** Girty, 1908

Referred specimens: nine individual spheres, UC 37795 described by King, 1933, p. 78.

Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

**Heterocoelia sphaerica** King, 1933

Referred specimens: two specimens, UC 37794, described by King, 1933, p. 79.



Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

### **Hindia fibrosa** (Roemer)

Referred specimens: the specimens described and illustrated by Tansey, 1924, p. 176, pl. 40: fig. 1, UC 21060A; fig. 2, UC 21060B; fig. 3, UC 21060C; fig. 4, UC 21060D.

Stratigraphic position: Middle Devonian, Bailey Limestone. Locality 82.

Remarks: there is confusion in regard to the proper assignment of this species. Goldfuss in 1862 (1826 to 1844), p. 77, pl. 28, figs. 3, 4, described and illustrated *Calamopora fibrosa*. His description and his drawing, however, describe a coral. Roemer in 1860, pp. 20-21, pl. 2, figs. 2, 2a, and 2b described and illustrated what may be a sponge, but he misidentified it as *Calamopora fibrosa* Goldfuss, hence his specimens remain unnamed. Miller and Dyer in 1878, p. 37, pl. 11, fig. 2 described and illustrated a globular object from the Cincinnati Group and named it *Microspongia gregaria*. It is, however, very difficult to determine the nature of this fossil. Duncan in 1879 described and illustrated on pp. 84-91, pl. 9, *Hindia spheroidalis* from the Lower Helderberg of New Brunswick. This appears to be the first description and illustration which is correct according to the taxonomic rules. Hinde in 1883, pp. 57-58, pl. 13, figs. 1, 1a, and 1b, described and illustrated *Hindia fibrosa* Roemer. However, since Roemer's *Calamopora fibrosa* was misidentified, and since Hinde considered *Hindia fibrosa* to be synonymous with *Hindia spheroidalis*, his assignment of *Hindia fibrosa* is not correct. Therefore, Tansey's (1924) assignment to *Hindia fibrosa* is also incorrect. Laubenfel's (1955) assignment of *Hindia spheroidalis* to *Microspongia fibrosa* does not appear to be correct. Laubenfel illustrates Hinde's *Hindia fibrosa* under *Microspongia fibrosa* Roemer. This species is *Hindia spheroidalis* Duncan, 1879. The species, *spheroidalis*, is sometimes spelled *sphaeroidalis*.

### **Hindia sphaeroidalis** Duncan, 1879

See: *Astylospongia inornata* Hall, 1863

*Hindia fibrosa* (Roemer)

**Hydnoceras anthracis** Hall and Clarke, 1898

Referred specimen: the specimen UC 14400 described by Hall and Clarke: 1898a, pp. 109–110; 1898b and 1898c, pp. 849–850, and illustrated by them on pl. 2, fig. 8.

Stratigraphic position: Upper Devonian, higher beds of the Chemung Group in a very compact green sandstone. Locality 76.

**Hydnoceras Avoca** Hall and Clarke, 1898

Holotype: here designated, the specimen UC 14399, described by Hall and Clarke: 1898a, pp. 103–104; 1898b and 1898c, pp. 843–844 and illustrated by them on pl. 9, fig. 3.

Referred specimens: the other specimens described by Hall and Clarke: 1898a, pp. 103–104; 1898b and 1898c, pp. 843–844, and illustrated by them on pl. 2: fig. 3 (UC 13152), and fig. 1 (UC 13151).

Stratigraphic position: Upper Devonian, Chemung Group. Localities: 90 (UC 14399, UC 13151); 91 (UC 13152).

Remarks: Hall and Clarke's illustration of the holotype is that of the reconstructed specimen.

**Hydnoceras Bathense** Hall and Clarke, 1898

Referred specimens: five specimens UC 14272 described by Hall and Clarke: 1898a, pp. 101–102; 1898b and 1898c, pp. 841–842.

Stratigraphic position: Upper Devonian, Chemung Group, in thin shaly layers between two heavy compact beds of greenish sandstone. Locality 91.

**Hydnoceras eumeces** Hall and Clarke, 1898

Holotype: the original specimen UC 13156, described by Hall and Clarke: 1898a, pp. 110–111; 1898b and 1898c, pp. 850–851, and illustrated by them on pl. 12, figs. 1, 2 and 3.

Stratigraphic position: Upper Devonian, upper portion of the Chemung Group. Locality 75.

Remarks: in their explanation of pl. 12, figs. 1, 2, and 3, Hall and Clarke: 1898a, p. 222; 1898b and 1898c, p. 914 state that the figures represent “three fragments of one specimen which consists of a large cup greatly compressed along the vertical axis.”

**Hydnoceras hypastrum** Hall and Clarke, 1898

Holotype: the original specimen, UC 13154 described by Hall and Clarke: 1898a, p. 105; 1898b and 1898c, p. 845, and illustrated by them on pl. 7, fig. 1.

Stratigraphic position: Upper Devonian, Chemung Group, from a greenish sandstone in association with *Cryptodictya alleni*. Probably from the lower part of the series. Locality 71.

**Hydnoceras phymatodes** Hall and Clarke, 1898

Referred specimen: the specimen UC 14273 described by Hall and Clarke: 1898a, pp. 104-105; 1898b and 1898c, pp. 844-845.

Stratigraphic position: Upper Devonian, in the schistose Chemung Sandstones. Locality 104.

**Hydnoceras tuberosum** Conrad, 1842

Referred specimens: specimen P 821 illustrated by Garrels, 1951 in fig. A-111.2. Specimens UC 13194, UC 13149 and UC 14271 (four specimens) described by Hall and Clarke: 1898a, pp. 97-101; 1898b and 1898c, pp. 837-841, and specimen UC 13149 illustrated by them on pl. 8, fig. 1.

Stratigraphic position: Upper Devonian, in the upper part of the Chemung Group. Localities: 106 (UC 13194); 107 (UC 13149); 103 (UC 14271); 112 (P 821).

Remarks: see *Dictyophyton tuberosum* Conrad, 1842.

**Hydnoceras tuberosum var. glossema** Hall and Clarke, 1898

Holotype: here designated the specimen UC 13150A described by Hall and Clarke: 1898a, p. 101; 1898b and 1898c, p. 841, and illustrated by them on pl. 7, figs. 4 and 5.

Referred specimen: the other original specimen UC 13150B described by Hall and Clarke: 1898a, p. 101; 1898b and 1898c p. 841, and illustrated by them on pl. 9, fig. 2.

Stratigraphic position: Upper Devonian, probably from the middle portion of the Chemung Group. Locality 87.

**Hyphantaenia Chemungensis** (Vanuxem)

See: *Uphantaenia Chemungensis* Vanuxem, 1842

**Iowaspongia annulata** Thomas, 1923

Holotype: here designated the specimen UC 25881A described and illustrated by Thomas, 1923, pp. 87–88, pl. 1, fig. 5.

Referred specimen: the other specimen UC 25881B described and illustrated by Thomas, 1923, pp. 87–88, pl. 1, fig. 3.

Stratigraphic position: Upper Devonian, Lime Creek Shale. Locality 105.

Remarks: Laubenfels, 1955, p. E72, fig. 55.1 illustrated and described *Iowaspongia annulata*, but his illustration, however, appears to be a composite.

**Lebedictya crinita** Hall and Clarke, 1898

Referred specimens: the specimens UC 13184 and UC 14274 described by Hall and Clarke: 1898a, pp. 169–170; 1899a and 1899b, pp. 361–362, and the specimen UC 13184 illustrated by them on pl. 61, fig. 5.

Stratigraphic position: Mississippian, Osage Series, in the shales of the Keokuk Formation. Localities: 70 (UC 13184); 84 (UC 14274).

**Maeandrostia kansasensis** Girty, 1908

Referred specimens: two specimens UC 37791 described by King, 1933, p. 82.

Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

**Maeandrostia tortacloaca** King, 1933

Referred specimen: five specimens UC 37790 described by King, 1933, pp. 82–83.

Stratigraphic position: Pennsylvanian, Brownwood Shale of the Canyon Group. Locality 117.

**Mastodictya osculata** (Hall and Clarke)

See: *Dictyospongia (Mastodictya) osculata* Hall and Clarke, 1898

**Microspongia fibrosa** (Roemer)

See: *Hindia fibrosa* (Roemer)

**Microspongia gregaria** Miller and Dyer, 1878

See: *Hindia fibrosa* (Roemer)

**Palaeomanon bursa** (Hall)

See: *Astylospongia (Palaeomanon) bursa* Hall, 1876

**Phragmodictya catilliformis** (Whitfield)

Referred specimens: the specimens UC 13198, UC 13179B through 13179L described by Hall: 1884a, pp. 15–16; 1884b, pp. 477–478; Hall and Clarke: 1898a, pp. 173–176; 1899a and 1899b, pp. 365–368. Illustrated by Hall and Clarke: 1898a, 1899a and 1899b; specimens: UC 13179B, pl. 64, fig. 3; UC 13179C, pl. 64, fig. 4; UC 13179D, pl. 65, fig. 1; UC 13179E, pl. 66, fig. 1; UC 13179F, pl. 66, fig. 2; UC 13179G, pl. 66, fig. 3; UC 13179H, pl. 66, fig. 5; UC 13179I, pl. 66, fig. 6; UC 13179J, pl. 68, fig. 2; UC 13179K, pl. 68, fig. 4; UC 13179L, pl. 67, fig. 4.

Stratigraphic position: Mississippian, Osage Group, in the calcareous shales, and rarely in the overlying sandstone of the Keokuk Formation. Locality 70.

Remarks: also see *Phragmodictya scyphus* Hall, 1882.

**Phragmodictya excentrica** Hall, 1882

Referred specimen: one of the original specimens UC 13190, described by Hall, 1884a, p. 14; Hall, 1884b, p. 476; described and illustrated by Hall and Clarke: 1898a, p. 179, pl. 54, fig. 2; 1899a and 1899b, p. 371, pl. 54, fig. 2.

Stratigraphic position: Mississippian, Osage Group, in calcareous shales of the Keokuk Formation. Locality 70.

Remarks: the specimen UC 13190 bears a Hall label indicating that he assigned it to *Phragmodictya excentrica*. In his publication 1884a he assigned it to *Ectenodictya excentrica*; in 1884b to *Ectenodictya eccentrica*; in 1898a, 1899a and in 1899b to *Acloeo-dictya (?) eccentrica*.

**Phragmodictya patelliformis** Hall, 1884

Holotype: the original specimen UC 13178, described by Hall: 1884a, p. 16; 1884b, p. 478. Described by Hall and Clarke: 1898a, p. 176; 1899a and 1899b, p. 368, and illustrated by them on pl. 65, fig. 3.

Stratigraphic position: Mississippian, Osage Group, in the calcareous shales of the Keokuk Formation. Locality 70.

### **Phragmodictya scyphus** Hall, 1882

Referred specimen: the specimen UC 13179A illustrated by Hall, 1882a, pl. 20, figs. 3, 4. Described and illustrated by Hall: 1884a, pp. 15–16; 1884b, pp. 477–478, pl. (20) 21, figs. 3, 4. Described and illustrated by Hall and Clarke: 1898a, pp. 173–176, pl. 67, fig. 3; 1899a and 1899b, pp. 365–368, pl. 67, figs. 3.

Stratigraphic position: Mississippian, Osage Group, Keokuk Formation, in the calcareous shales, and rarely in the overlying sandstone. Locality 70.

Remarks: Hall, 1884a, 1884b, Hall and Clarke: 1898a, 1899a and 1899b referred it to *Phragmodictya catilliformis* (Whitfield).

### **Physospongia Colletti** Hall, 1884

Referred specimens: specimens described by Hall and Clarke: 1898a, pp. 193–195; 1899a and 1899b, pp. 385–387, and illustrated by them on pl. 63: figs. 1, 2 UC 13177A; figs. 3, 4 UC 13177B; fig. 7 UC 13196.

Stratigraphic position: Mississippian, Osage Group, in the calcareous shales of the Keokuk Group. Locality 70.

Remarks: Hall, 1884a, p. 18, and again in 1884b, p. 480, pl. (19) 20, fig. 7 described and illustrated *Physospongia Colletti*. Since his descriptions are not adequate, it is difficult to determine whether any of the above specimens are his original types.

### **Physospongia Dawsoni** (Whitfield)

Referred specimens: the specimens described and illustrated by Hall: 1882b, pl. 19, fig. 5 UC 13197, fig. 4 UC 13176A; 1884a, pp. 17–18, UC 13197, UC 13176A; 1884b, pp. 478–479, pl. (19) 20, fig. 5 UC 13197, fig. 4 UC 13176A. The specimens described by Hall and Clarke: 1898a, pp. 189–193; 1899a and 1899b, pp. 381–385, and illustrated by them on pl. 62: fig. 1 UC 13176B; fig. 2 UC 13176C; fig. 3 UC 13176D; fig. 5 UC 13176E; fig. 6 UC 13176A; fig. 7 UC 13176F and fig. 9 UC 13176G.

Stratigraphic position: Mississippian, Osage Group, in the calcareous shales of the Keokuk Group. Localities: 70 (UC 13197; UC 13176A, B, C, E, G); 73 (UC 13176D); 74 (UC 13176F).

**Physospongia sp.**

Referred specimen: the specimen UC 13187, illustrated by Hall and Clarke: 1898a, 1899a and 1899b, pl. 56, figs. 3 and 4.

Stratigraphic position: Mississippian, Osage Group, Keokuk Formation. Locality 74.

**Prismodictya aulophia** Hall and Clarke, 1898

Holotype: here designated the specimen UC 13168 described by Hall and Clarke: 1898a, p. 88; 1898b and 1898c, p. 828, and illustrated by them on pl. 20, fig. 7.

Stratigraphic position: Upper Devonian, a block of compact and fine-grained red sandstone, belonging to the upper beds of the Chemung Group. Locality 76.

Remarks: Hall and Clarke: 1898a, 1898b and 1898c described the fossil as "a small specimen which appears to be complete."

However, the specimen is a natural mold, and the drawing was probably made from the artificial cast.

**Prismodictya filitextilis** (Hall)

Holotype: see *Dictyophyton filitextile* Hall, 1863

Referred specimen: the specimen UC 13161 described and illustrated by Hall and Clarke: 1898a, pp. 86–87, pl. 27, fig. 4; 1898b and 1898c, pp. 826–827, pl. 27, fig. 4.

Stratigraphic position: Upper Devonian in the upper beds of the Chemung Group. Locality 76.

Remarks: the specimen UC 13161 is a natural mold. The illustration of Hall and Clarke on pl. 27, fig. 4 is of a cast of the specimen. Also see: *Dictyophyton filitextile* Hall, 1863.

**Prismodictya polyhedra** Hall and Clarke, 1898

Holotype: the original specimen UC 13174 described by Hall and Clarke: 1898a, pp. 168–169; 1899a and 1899b, pp. 360–361, and illustrated by them on pl. 55, figs. 1 and 2.

Stratigraphic position: Mississippian, Osage Group, in the calcareous shales of the Keokuk Formation. Locality 70.

**Prismodictya prismatica** (Hall)

See: *Dictyophyton prismaticum* Hall, 1884

**Prismodictya telum** (Hall)

Referred specimen: the specimen UC 13171 described by Hall and Clarke: 1898a, pp. 80–81; 1898b and 1898c, pp. 820–821, and illustrated by them on pl. 42, fig. 2.

Stratigraphic position: Upper Devonian, in the upper beds of the Chemung Group. Locality 95.

**Thamnodictya Ortoni** Hall and Clarke, 1898

Holotype: the original specimen UC 13172 described by Hall and Clarke: 1898a, p. 162; 1899a and 1899b, p. 354, and illustrated by them on pl. 53, figs. 1 and 2.

Stratigraphic position: Mississippian, Waverley Group, Cuyahoga Shale. Locality 94.

**Thysanodictya apleta** Hall and Clarke, 1898

Referred specimen: the specimen UC 13166 described by Hall and Clarke: 1898a, p. 135; 1898b and 1898c, p. 875, and illustrated by them on pl. 27, fig. 8.

Stratigraphic position: Upper Devonian, Upper Chemung Group, loose among the sandstone. Locality 80.

**Thysanodictya Edwin-Halli** Hall and Clarke, 1898

See: *Dictyophyton* ? (*Phragmodictya*) *Halli* Hall, 1890

**Thysanodictya halli** (Hall)

See *Dictyophyton* ? (*Phragmodictya*) *Halli* Hall, 1890

**Thysanodictya hermenia** Hall and Clarke, 1898

Referred specimen: the specimen UC 13167 described by Hall and Clarke: 1898a, pp. 133–134; 1898b and 1898c, pp. 873–874, and illustrated by them on pl. 27, fig. 7.

Stratigraphic position: Upper Devonian, Chemung Group, upper beds. Locality 75.

Remarks: the specimen is a natural mold of the exterior.

**Tylodictya (?) tenuis** (Hall)

See: *Dictyophyton tenue* Hall, 1882



**Uphantaenia Chemungensis** Vanuxem, 1842

Referred specimen: the specimen UC 18696, described by Hall: 1884a, p. 19; 1884b, p. 481. Described by Hall and Clarke: 1898a, pp. 139-140; 1898b and 1898c, pp. 879-880, and illustrated by them on pl. 29, fig. 1. Illustrated by Laubenfels, 1955, on fig. 57.3a.

Stratigraphic position: Upper Devonian, Chemung Group. Locality 72.

Remarks: Vanuxem's 1842 (p. 184) original spelling is *Uphantenia chemungensis*. Hall 1884a and 1884b changed the spelling to *Uphantaenia Chemungensis*. Hall and Clarke 1898a,b,c assigned this species to a new genus, *Hyphantaenia Chemungensis*. Laubenfels, 1955, changed it to *Uphantena chemungensis*. The correct spelling and the proper assignment of this species is: *Uphantenia chemungensis* Vanuxem, 1842.

**Uphantena chemungensis** Vanuxem, 1842

See: *Uphantaenia Chemungensis* Vanuxem, 1842

**Uphantenia chemungensis** Vanuxem, 1842

See: *Uphantaenia Chemungensis* Vanuxem, 1842

## CATALOGUE OF INCERTAE SEDIS

### **Astylospongia tumidus** James, 1878

Holotype: here designated, the original specimen UC 1222A described by U. P. James, 1878a, p. 1.

Referred specimens: the other specimens: UC 1222B, UC 1222D, UC 1222E, UC 1222F and UC 1222G, on which James, 1878a based his description on p. 1.

Stratigraphic position: Ordovician, Cincinnati Group. Locality 102.

Remarks: J. F. James, 1891, pp. 59–60, fig. 3, illustrated and described the specimens under the name, *Pasceolus (?) tumidus*. However, the very poor nature of the specimens does not warrant assignment of these forms to either of the two genera. These objects cannot be identified.

### **Cidarospongia Ella** Gurley, 1884

Holotype: here designated the specimen UC 6334A described by Gurley, 1884, pp. 4–5.

Referred specimen: the other specimen UC 6334B described by Gurley, 1884, pp. 4–5.

Stratigraphic position: Pennsylvanian. Locality 114.

### **Dictyocrinus squamifer** Hall, 1859

Holotype: the cast UC 567 of the specimen (holotype) described and illustrated by Hall, 1859, p. 135, pl. 7A, figs. 11 and 13; illustrated by Hall, 1883, pl. 23, figs. 1 and 2; illustrated and described by Hall, 1887, vol. 6, pl. 24, figs. 1 and 2.

Stratigraphic position: Lower Devonian, in the shaly limestone of the Lower Helderberg Group. Locality 77.

Remarks: Hall, 1883, referred it to *Receptaculites squamifer*; Hall, in 1887, referred it to *Ischadites squamifer* (Hall).

**Dictyospongia (?) bacteria** Hall and Clarke, 1898

Holotype: original specimen UC 13160 described by Hall and Clarke: 1898a, p. 77; 1898b and 1898c, p. 817, and illustrated by them on pl. 38, figs. 7, 8.

Stratigraphic position: Upper Devonian, from a calcareous sandstone in the Upper Chemung Formation. Locality 87.

Remarks: in their explanation of figures 7 and 8 on pl. 38, Hall and Clarke: 1898a, p. 275; 1898b and 1898c, p. 967 stated that "the fossil does not clearly show a structure which conclusively demonstrates it[s] spongeous nature."

**Dystactospongia insolens** Miller, 1882

Holotype: here designated, the specimen UC 8891A described by Miller: 1882, p. 43; 1889, pp. 158–159.

Referred specimen: the other specimen UC 8891B described by Miller, 1882, p. 43 and in 1889, pp. 158–159.

Stratigraphic position: Upper Ordovician. Hudson River Group. Locality 115.

Remarks: referred by Laubenfels, 1955, to family Eospongiidae.

**Ischadites bursiformis** (Hall)

See: *Receptaculites bursiformis* Hall, 1883

**Ischadites iowensis** (Owen)

Holotype: see *Selenoides iowensis* Owen, 1852.

Referred specimen: the specimen P 4737 cited and figured by Roy, 1941, p. 61, figs. 29B and 29d.

Stratigraphic position: Ordovician, Richmond. Locality 68.

**Ischadites squamifer** (Hall)

See: *Dictyocrinus squamifer* Hall, 1859

**Ischadites tessellatus** Winchell and Marcy, 1866

Referred specimens: two wax casts UC 763 of specimens described and illustrated by Winchell and Marcy, 1866, pp. 85–86, pl. 2, fig. 3.

Stratigraphic position: Silurian, Niagaran Limestone. Locality 83.

Remarks: referred by Bassler, 1915, to *Receptaculites tessellatus* (Winchell and Marcy).

**Pasceolus Claudei** Miller, 1874

Holotype: here designated the specimen UC 8837A described and illustrated by Miller, 1874b, pp. 6-7, fig. 3.

Referred specimens: other specimens UC 8837B, UC 8837C and UC 8837D described by Miller, 1874b, pp. 6-7.

Stratigraphic position: Ordovician, Cincinnati, Locality 101.

**Pasceolus Darwini** Miller, 1874

Holotype: here designated the specimen UC 8838A described and illustrated by Miller 1874a, pp. 5-6, figs. 1 and 2.

Referred specimens: other specimens UC 8838B, UC 8838C, UC 8838D and UC 8838E described by Miller, 1874a, pp. 5-6.

Stratigraphic position: Ordovician, Cincinnati, layer of marl, about two feet in thickness, between harder stratified rocks. Locality 101.

**Pasceolus globosus** Billings, 1857

Referred specimen: the specimen UC 1208 described by James, 1891, p. 58.

Stratigraphic position: Ordovician, Cincinnati. Locality 102.

**Pasceolus (?) tumidus** (James)

See: *Astylospongia tumidus* James, 1878

**Pattersonia difficilis** Miller, 1882

Holotype: here designated, the specimen UC 8828A described and illustrated by Miller, 1882, pp. 43-44, pl. 2, fig. 3, and 1889, p. 163, fig. 118.

Referred specimens: the other specimens described by Miller, 1882, pp. 43-44; UC 8828B; UC 8828C; and UC 9546, and illustrated on pl. 2, fig. 3a, UC 8828B.

Stratigraphic position: Upper Ordovician, Hudson River Group. Locality 115.

**Receptaculites bursiformis** Hall, 1883

Referred specimens: the specimens UC 12355A and UC 12355B, illustrated by Hall, 1883, pl. (XXIV) 23, figs. 14 and 13. Described and illustrated by Hall, 1887, pp. 291–292, pl. 24, figs. 14 and 13.

Stratigraphic position: Middle Devonian, Schoharie Grit. Locality 77.

Remarks: referred by Hall, 1887, to: *Ischadites bursiformis* (Hall).

**Receptaculites cornutiformis** Bradley, 1930

Holotype: the original specimen UC 21717 described and illustrated by Bradley, 1930, pp. 221–222, pl. 23, figs. 5 and 6.

Stratigraphic position: Middle Ordovician, near the base of the Kimmswick Limestone. Locality 93.

**Receptaculites dixonensis** Miller and Gurley, 1896

Holotype: the original specimen UC 6053 described and illustrated by Miller and Gurley, 1896, pp. 47–50, pl. 5, figs. 21 and 22. Illustrated by Miller, 1897, figs. 1267 and 1268.

Stratigraphic position: Middle Ordovician, Trenton, Galena Dolomite. Locality 85.

**Receptaculites elrodi** Miller, 1894

Holotype: the original specimen UC 6052 described and illustrated by Miller, 1894, pp. 257–258, on pl. 1, figs. 1, 2 and 3.

Stratigraphic position: Lower Devonian, in the Upper Helderberg Group. Locality 78.

**Receptaculites (?) fieldi** Roy, 1941

Holotype: by original designation the specimen P 28822 described and illustrated by Roy, 1941, pp. 66–67, figs. 32a, 32b and 32c.

Stratigraphic position: Ordovician, Richmond. Locality 68.

**Receptaculites infundibuliformis** (Eaton)

See: *Receptaculites monticulatus* Hall, 1883

**Receptaculites monticulatus** Hall, 1883

Holotype: here designated the specimen UC 12354A illustrated by Hall, 1883, pl. (XXIV) 23, figs. 8 and 9. Described and illustrated by Hall, 1887, p. 290, pl. 24, figs. 8 and 9.

Referred specimens: the other specimen UC 12354B illustrated by Hall, 1883, pl. (XXIV) 23, fig. 11. Described and illustrated by Hall, 1887, p. 290, pl. 24, fig. 11.

Stratigraphic position: Lower Devonian, in the shaly limestone of the Lower Helderberg Group. Locality 110.

Remarks: referred by Hall, 1887, to *Receptaculites infundibuliformis* (Eaton).

**Receptaculites squamifer** (Hall)

See: *Dictyocrinus squamifer* Hall, 1819

**Receptaculites tessellatus** (Winchell and Marcy)

See: *Ischadites tessellatus* Winchell and Marcy, 1866

**Receptaculites** sp.

Referred specimen: the specimen (one specimen, three fragments and two slides) P 28821 cited and illustrated by Roy, 1941, pp. 63-66, figs. 31a, 31b, 31c, 31d, 31e, 31f and 31g.

Stratigraphic position: Ordovician, Richmond. Locality 68.

**Rhombodictyon globosus** James, 1891

Holotype: the specimen UC 1223 described and illustrated by James, 1891, pp. 57-58, fig. 2.

Stratigraphic position: Ordovician, Cincinnati. Locality 102.

Remarks: this is a very poor specimen, and it cannot be identified.

**Selenoides iowensis** Owen, 1852

Holotype: the original specimen UC 6375, described and illustrated by Owen, 1852, p. 587, pl. 2B, fig. 13. Described by Winchell and Schuchert, 1893, p. 64.

Stratigraphic position: Middle Ordovician, Trenton, Galena Formation. Locality 113.

Remarks: referred by Winchell and Schuchert, 1893, and subsequent workers to: *Ischadites iowensis* (Owen).

**Topsentia devonica** Clarke, 1921

Referred specimens: the specimens UC 37036, UC 37037, UC 37038 and UC 37039 described by Fenton and Fenton, 1932, pp. 52-54, and illustrated by them on pl. 8, fig. 2 (UC 37037) and on pl. 9, fig. 2 (UC 37036).

Stratigraphic position: Devonian, numerous small cavities and canals on a stromatoporoid, 2d Stromatoporoid Bed of Cedar Valley age. Locality 69.

Remarks: referred by Laubenfels, 1955, to: *Topsentopsis devonica* (Clarke).

**Topsentopsis devonica** (Clarke)

See: *Topsentia devonica* Clarke, 1921

**Trachyum undosum** James, 1878

Holotype: The original specimen UC 2387 described by James, 1878b, pp. 9-10.

Stratigraphic position: Upper Silurian, Clinton Group. Locality 108.

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