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# FIELDIANA Geology

Published by Field Museum of Natural History

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VOLUME 22

## CATALOGUE OF TYPE SPECIMENS OF TRILOBITES IN FIELD MUSEUM OF NATURAL HISTORY

MATTHEW H. NITECKI  
AND  
JULIA GOLDEN

NOVEMBER 24, 1970

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# FIELDIANA: GEOLOGY

*A continuation of the*

GEOLOGICAL SERIES

*of*

FIELD MUSEUM OF NATURAL HISTORY

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VOLUME 22



FIELD MUSEUM OF NATURAL HISTORY  
CHICAGO, U.S.A.



CATALOGUE OF TYPE SPECIMENS OF TRILOBITES  
IN FIELD MUSEUM OF NATURAL HISTORY



# FIELDIANA

## Geology

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VOLUME 22

### CATALOGUE OF TYPE SPECIMENS OF TRILOBITES IN FIELD MUSEUM OF NATURAL HISTORY

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AND

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## INTRODUCTION

This is the sixth catalogue of types and referred specimens of invertebrate fossils housed with the collections of Field Museum of Natural History. The previous groups catalogued were foraminifers, radiolarians and eurypterids, sponges, conodonts, and ostracodes (Nitecki, 1961, 1963, 1965; Nitecki and Richardson, 1967, and Nitecki and Handler, 1968). The present paper lists the specimens and the artificial casts of trilobites deposited with the collections of the Walker Museum of Paleontology of the University of Chicago, now on permanent loan to Field Museum, and specimens in Field Museum collections. The depository and the number of the original fossil from which the casts were taken is indicated when known.

Consistent with the previous catalogues, only holotypes are recognized as valid types; all other so-called types are listed as referred specimens. The specimens that belong to the University of Chicago are prefixed UC; the Field Museum fossils bear the prefix P or PE. The entries are listed in their original form and are arranged alphabetically by genera and within each genus alphabetically by species. An attempt has been made to note all the published changes of names. When specimens in addition to ours were used for the original descriptions, their location, if known, is indicated.

Stratigraphic positions, geographic data, and catalogue numbers are listed as they appear in the Museum files, and are supplemented by the information published by respective authors. The sources of specimens and names of collectors or collections are given for most specimens. Specimens known as lost are listed as such; however, type specimens not located at the present time are omitted.

Financial support for this work was provided in part by the National Science Foundation Grant No. GB-7197.



## CATALOGUE OF TYPES

### **Achatella carleyi** (Meek, 1872)

See: *Dalmanites carleyi* Meek, 1872.

### **Achatella katharina** (Bradley, 1930)

See: *Dalmanites katharina* Bradley, 1930.

### **Acidaspis anchoralis** S. A. Miller, 1875

Holotype: not designated, to be selected from UC 8772, one cranidium, one pygidium.

S. A. Miller, 1875, pp. 349–350, figs. 23 and 24.

S. A. Miller, 1889, p. 526, text figs. 951 and 952.

Ordovician, Maysville Group.

Judge Collin's Quarry at 340 ft. elevation, Cincinnati, Ohio; Faber Collection.

See also: *Acidaspis* sp.

### **Acidaspis callicera** Hall and Clarke, 1888

Holotype: UC 6143, a cephalon with six thoracic segments.

Hall and Clarke, 1888, pp. 69–71, pl. 16B, figs. 1 and 2.

Devonian, Onondaga Limestone.

Near Camillus, Onondaga County, New York; Gurley Collection.

Referred specimens: UC 23161, two free cheeks.

Hall and Clarke, 1888, pp. 69–71, pl. 16B, figs. 11 and 12.

Devonian, Onondaga Limestone.

Cayuga, Ontario, Canada; Hall Collection.

Remarks: The museum catalogue indicates that UC 6143 was the manuscript type *Acidaspis dinocerata* Clarke and was used as the type specimen for *Acidaspis callicera* Hall and Clarke, 1888.

Shimer and Shrock, 1944, p. 651, refer *A. callicera* Hall and Clarke, 1888, to *Odontopleura? callicera* (Hall and Clarke, 1888).

**Acidaspis ceralepta** (Anthony, 1838)

Referred specimens: UC 732, two pygidia.

Meek, 1873, pp. 169–170, pl. 14, figs. 8 and 9.

Ordovician, Cincinnati Series.

15–20 feet above Meek's low water mark of the Ohio River at Cincinnati, Ohio.

See also: *Acidaspis* sp.

**Acidaspis cincinnatiensis** Meek, 1873

See: *Acidaspis rhyncocephalus* Meek, 1873.

**Acidaspis crosotus?** (Locke, 1842)

Referred specimens: UC 1006, a carapace and a free cheek mounted on a slide.

Meek, 1873, pp. 165–167, pl. 14, fig. 10b.

Ordovician, Cincinnati Series.

Cincinnati, Ohio; James Collection.

Remarks: Fringe of left cheek is not as prominent as in Meek's illustration. Free cheek mounted on slide belongs to another individual and is not referred to by Meek. Listed in museum catalogue as *Odontopleura crossata* (Locke, 1842).

**Acidaspis dinocerata** Clarke

See: *Acidaspis callicera* Hall and Clarke, 1888.

**Acidaspis fimbriata** Hall, 1879

Holotype: UC 11992, left free cheek.

Hall, 1879a, p. 76.

Hall, 1882, pp. 334–335, pl. 33, fig. 11.

Silurian, Niagara Group.

Waldron, Indiana; Hall Collection.

**Acidaspis rhyncocephalus** Meek, 1873

Holotype: not designated, to be selected from UC 731, two cranidia. Meek, 1873, p. 169, pl. 14, figs. 6 and 7.

Ordovician, Cincinnati Series.

“20–350 ft. below James's low water mark of the Ohio River” at Cincinnati, Ohio; James Collection.

Remarks: Meek's 1873 description of *A. cincinnatiensis* Meek, 1873, includes two specimens of *Acidaspis* sp. from the James Collection. Meek believes these to be a new species and he proposes the name *A. rhyncocephalus*. Miller, 1874, p. 131, refers *A. rhyncocephalus* to *A. cincinnatiensis* Meek, 1873. Listed in museum catalogue by S. Weller as *Ceratocephala ceralepta* (Anthony, 1838).

***Acidaspis vanhornei* S. Weller, 1907**

Holotype: original designation, UC 9886, a cephalon.

S. Weller, 1907, pp. 251–252, pl. 23, figs. 3 and 4.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Van Horne Collection.

***Acidaspis* sp.**

Referred specimen: UC 995, a right free cheek.

Meek, 1873, pp. 169–170, pl. 14, fig. 4.

Ordovician, Cincinnati Group.

Cincinnati, Ohio; James Collection.

Remarks: UC 995 tentatively figured by Meek, 1873, as *A. cincinnatiensis* Meek, 1873. Referred to *A. cincinnatiensis* Meek, 1837, by S. A. Miller, 1874, p. 131. Listed in museum catalogue by S. Weller as *A. ceralepta* (Anthony, 1838).

Referred specimens: UC 9581, three enrolled carapaces.

Foerste, 1912, pl. 8, fig. 7 and pl. 10, fig. 6.

Ordovician, Cincinnatian Series.

Cincinnati [catalogue]; Lowry [published]; Ohio; Faber Collection.

Remarks: UC 9581 listed in the museum catalogue by S. Weller as *A. anchoralis* S. A. Miller, 1875.

Referred specimen: UC 27548, a glabella.

Stewart, 1923, pp. 262–263, pl. 71, fig. 1.

Devonian, Little Saline Limestone, lower beds.

Little Saline Creek in Ste. Genevieve County, Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

Remarks: See also *Acidaspis rhyncocephalus* Meek, 1873.

***Acrolichas antiquarius* Bradley, 1930**

Holotype: original designation, UC 28933, a cranium.

Bradley, 1930, pp. 268–269, pl. 29, fig. 16.

Ordovician, Kimmswick Limestone.

R. R. station, at Glen Park, Missouri; collected by Bradley.

**Acrolichas aspratilis** Bradley, 1930

Holotype: original designation, UC 10775, a cranidium.

Bradley, 1930, pp. 265–267, pl. 29, figs. 14 and 15.

Ordovician, Kimmswick Limestone.

Goetz Lime Quarry, Glen Park, Missouri; collected by S. Weller, 1904.

Referred specimen: UC 20674, a cranidium.

Bradley, 1930, pp. 265–267, pl. 29, fig. 11.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimen: UC 28937, a pygidium.

Bradley, 1930, pp. 265–267, pl. 29, fig. 13.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by Bradley.

See also: *Acrolichas cucullus* (Meek and Worthen, 1866).

**Acrolichas clermontensis** (Slocum, 1913)

See: *Amphilichas clermontensis* Slocum, 1913.

**Acrolichas cucullus** (Meek and Worthen, 1866)

Referred specimen: UC 5865, a pygidium.

Bradley, 1930, p. 264, pl. 29, fig. 5.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by S. Weller, 1896.

Referred specimen: UC 10771, a pygidium.

Foerste, 1920, pp. 27–28, figured as *Hoplolichas(?) welleri* (Foerste), pl. 2, fig. 9.

Ordovician, Kimmswick Limestone.

Cape Girardeau, Missouri; Posey, donor.

Remarks: UC 10771 referred to *Acrolichas aspratilis* Bradley, 1930, by Bradley, 1930, pp. 265–267, pl. 29, fig. 12.

Referred specimen: UC 20673, a genal spine.

Foerste, 1920, p. 29, pl. 1, fig. 1D.

Bradley, 1930, p. 264, pl. 29, fig. 7.

Ordovician, Kimmswick Limestone.

Near Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 20675, four cranidia.

Bradley, 1930, p. 264, pl. 29, figs. 1 and 2.

Referred specimen: UC 20676, a hypostoma in two parts.

Foerste, 1920, p. 29, pl. 1, fig. 1G.

Bradley, 1930, p. 264, pl. 29, fig. 6.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 20681, three pygidia.

Bradley, 1930, p. 264, pl. 29, fig. 4.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois.

Remarks: UC 20681A, figured by Bradley, is now missing both posterior lateral ribs and the right middle lateral rib.

Referred specimens: UC 20714, two specimens, a cranidium figured.

Bradley, 1930, p. 264, pl. 29, figs. 8 and 9.

Ordovician, Kimmswick Limestone.

Valmeyer, Illinois; collected by J. M. Weller.

Referred specimens: UC 28927, three cranidia (not UC 28921).

Bradley, 1930, p. 264, pl. 29, fig. 3.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

Remarks: *A. cucullus* (Meek and Worthen, 1866) referred to *Amphilichas cucullus* (Meek and Worthen, 1866) by Tripp in Moore, 1959, p. 498.

### **Acrolichas rhinoceras** (Slocum, 1913)

See: *Amphilichas rhinoceras* Slocum, 1913.

### **Acrolichas subdisjunctus** Bradley, 1930

Holotype: original designation, UC 28934, a cranidium.

Bradley, 1930, pp. 267–268, pl. 29, fig. 26.

Ordovician, Kimmswick Limestone.

One-quarter mile north of Sulphur Springs, Missouri; collected by Bradley.

Referred specimens: UC 20677, 12 cranidia.

Bradley, 1930, pp. 267–268, pl. 29, fig. 25.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

**Acrolichas (?) sp.**

Referred specimen: UC 28940, a glabella.

Bradley, 1930, pl. 29, fig. 10.

Ordovician, Kimmswick Limestone, *Rafinesquina* Zone.

One and one-quarter miles south of Batchtown, Illinois; collected by Bradley.

**Ameura major** (Shumard, 1858)

Referred specimens: UC 6794, eight specimens.

Shimer and Shrock, 1944, p. 637, pl. 275, figs. 23 and 24 (a carapace).

Pennsylvanian.

Kansas City, Missouri; Gurley Collection.

**Ameura sangamonensis** (Meek and Worthen, 1866)

Referred specimen: UC 6796, a pygidium.

J. M. Weller, 1936, pp. 713–714.

Shimer and Shrock, 1944, p. 637, pl. 275, fig. 27.

J. M. Weller *in* Moore, 1959, p. 401, pl. 308, fig. 3b.

Pennsylvanian.

Ralls Ford, Sangamon County, Illinois; Gurley Collection.

Remarks: In the figure legend, Shimer and Shrock refer to the pygidium as a complete specimen.

**Amphilichas clermontensis** Slocum, 1913

Holotype: original designation, P 11257, a cranidium.

Slocum, 1913, pp. 59–60, pl. 15, fig. 7.

Slocum, 1916, pp. 207–209, pl. 16, fig. 7.



Ordovician, Maquoketa Shale, lower beds.

Clermont, Iowa; Slocom Collection, 1910.

Remarks: Referred to *Acrolichas clermontensis* (Slocom, 1913) by Foerste, 1920, p. 32.

**Amphilichas cucullus** (Meek and Worthen, 1866)

See: *Acrolichas cucullus* (Meek and Worthen, 1866).

**Amphilichas halli** (Foerste, 1888)

See: *Lichas faberi* S. A. Miller, 1889.

**Amphilichas rhinoceras** Slocom, 1913

Holotype: original designation, P 11181, a cranidium and first thoracic segment.

Slocom, 1913, pp. 58-59, pl. 15, figs. 5 and 6.

Slocom, 1916, pp. 206-207, pl. 16, figs. 5 and 6.

Walter, 1926, pp. 225-227, pl. 18, figs. 7 and 8.

Ordovician, Maquoketa Shale, lower beds.

Elgin, Iowa; Slocom Collection, 1910.

Remarks: Referred to *Acrolichas rhinoceras* (Slocom, 1913) by Foerste, 1920, pl. 2, fig. 4.

**Anchiopella anchiops** (Green, 1832)

See: *Dalmanites (Chasmops) anchiops* (Green, 1832).

**Anchiopsis anchiops** (Green, 1832)

See: *Dalmanites (Chasmops) anchiops* (Green, 1832).

**Anchiopsis tuberculatus** Stumm, 1954

See: *Dalmanites (Chasmops) anchiops* (Green, 1832).

**Arctinuroides chicagoensis** (S. Weller, 1907)

See: *Arctinurus chicagoensis* S. Weller, 1907.

**Arctinurus chicagoensis** S. Weller, 1907

Holotype: not designated, to be selected from UC 9860, three pygidia and two incomplete cephalata in two limestone slabs.

S. Weller, 1907, pp. 248-250, pl. 23, figs. 7 and 8.

Bretz, 1939, p. 79, pl. 5, fig. 6.

Silurian, Niagara Group.

Dolese-Shepard Quarry (formerly Hawthorn, Illinois), Chicago, Illinois; Van Horne Collection.

Referred specimen: UC 10744, a hypostoma.

S. Weller, 1907, pp. 248-250, pl. 22, fig. 14.

Silurian, Niagara Group.

Dolese-Shepard Quarry (formerly Hawthorn, Illinois), Chicago, Illinois; Van Horne Collection.

Remarks: Referred to *Arctinuroides chicagoensis* (S. Weller, 1907) by Phleger, 1936, p. 602, text figs. 11 and 14, and back to *Arctinurus chicagoensis* S. Weller, 1907, by Tripp in Moore, 1959, p. 496.

**Arctinurus occidentalis** (Hall, 1863)

Referred specimens: UC 6867, a pygidium.

S. Weller, 1907, pp. 247-248, pl. 20, fig. 10.

Shimer and Shrock, 1944, p. 637, pl. 271, fig. 18.

Silurian, Niagara Group, Joliet Dolomite.

Bonfield, Illinois; Gurley Collection.

Referred specimen: UC 10738, a pygidium.

S. Weller, 1907, pp. 247-248, pl. 20, fig. 11.

Silurian, Niagara Group, Joliet Dolomite.

Joliet, Illinois; Van Horne Collection.

Remarks: UC 6867 and UC 10738 referred to *Arctinurus thompsoni* A. K. Miller and Unklesbay, 1944, by A. K. Miller and Unklesbay, 1944, p. 364.

Referred specimen: UC 10739, incomplete cephalon.

S. Weller, 1907, pp. 247-248, pl. 20, fig. 12.

Shimer and Shrock, 1944, p. 637, pl. 271, fig. 17.

Silurian, Niagara Group.

Near Lemont, Illinois; S. Weller Collection.

Remarks: UC 10739 referred tentatively to this species by S. Weller, 1907, p. 248.

**Arctinurus thompsoni** A. K. Miller and Unklesbay, 1944

See: *Arctinurus occidentalis* (Hall, 1863).

**Arges tuberculatus** S. Weller, 1903

Holotype: UC 10265, a cranidium.

S. Weller, 1903, pp. 43, 199-200, pl. 15, figs. 11-13.

Ordovician, Trenton Limestone.

S. Weller's 1903, locality 137A<sup>1</sup>; two miles southeast of Newton and one-half mile northwest of Ilff's Pond, New Jersey; S. Weller Collection.

**Asaphus homalonotoides** Walcott, 1879

Holotype: not designated, to be selected from UC 12324, one cranidium, one pygidium and UC 12326, one pygidium.

Walcott, 1879, p. 71.

Ordovician, Trenton Limestone.

Two miles north of East Dubuque (formerly Dunleith), Illinois, north of State Line monument; Hall Collection.

Remarks: Referred to *Isoteloides homalonotoides* (Walcott, 1877) by Bradley, 1930, pp. 250-251, pl. 27, figs. 5-7.

**Asaphus (Isotelus) iowensis** Owen, 1852

Holotype: UC 6308, a carapace.

Owen, 1852, p. 577.

Ordovician, Maquoketa Shale, lower beds.

Mouth of Otter Creek, Turkey River, Elgin, Iowa; Gurley Collection.

Remarks: Referred to *Isotelus iowensis* (Owen, 1852) by Bassler, 1915, p. 678. Other types U. S. Nat. Mus. no. 17906.

**Brachymetopus armatus** Vogdes, 1892

Holotype: not designated, to be selected from UC 9657, eight pygidia, three free cheeks, one glabella.

Vogdes, 1892, pp. 617-618, pl. 15, figs. 4 and 5.

Branson and Andrews in Branson, 1938, p. 120, pl. 15, figs. 15 and 16.

Shimer and Shrock, 1944, p. 639, pl. 275, figs. 14 and 15.

Mississippian, Chouteau Limestone.

Pettis County, Missouri; Sampson Collection.

**Brachymetopus immaturus** (Herrick, 1888)

See: *Phaethonides ? immaturus* Herrick, 1888.

**Breviphillipsia sampsoni** (Vogdes, 1888)

Referred specimens: UC 9854, three pygidia and the anterior half of a carapace.

Hessler, 1963, pp. 556-557.

Mississippian, Chouteau Limestone.

Pettis County, Missouri; Sampson Collection.

Referred specimens: UC 35521 (not 382c), four cranidia, three pygidia.

Hessler, 1963, pp. 556-557.

Referred specimen: UC 51381 (not 382c), a cranidium.

Hessler, 1963, pp. 556-557.

Mississippian, Waverly Group.

Hall locality no. C/382; 108 ft. above Conglomerate II, Mohican Creek, Lyons Falls, Richland County, Ohio; Hall Collection.

Referred specimens: UC 51411 (not 396), two pygidia.

Hessler, 1963, pp. 556-557.

Mississippian, Waverly Group, nodular layer at the base of Cuyahoga Shale.

Hall locality no. 396; Lodi, Medina County, Ohio; Hall Collection.

Referred specimen: UC 51412 (not 385), a pygidium.

Hessler, 1963, pp. 556-557.

Mississippian, Waverly Group, nodular layer.

Hall locality no. 385; Moot's Run, on road to Jersey, St. Albans Township, Licking County, Ohio; Hall Collection.

Referred specimens: UC 51417 (not 395), two pygidia.

Hessler, 1963, pp. 556-557, pl. 61, figs. 13, 19, and 20.

Mississippian, Waverly Group, Cuyahoga Shale.

Hall locality no. 395; Burbank, Medina County, Ohio; Hall Collection.

Referred specimens: UC 51866 (not 385a), two pygidia.

Hessler, 1963, pp. 556-557.

Mississippian, Waverly Group, Bottom of Division III.

Hall locality no. a/385; Water Works, Newark, Ohio; Hall Collection.

Referred specimens: UC 51910, four pygidia, one free cheek, one incomplete carapace.

Hessler, 1963, pp. 556-557.

Mississippian, Middle Chouteau Limestone.

Alongside Illinois State Highway 100 in Jersey Hollow at Grafton, Jersey County, Illinois; collected by J. M. Weller.

Referred specimens: UC 15911, one cranidium, two pygidia.

Hessler, 1963, pp. 556-557.

Mississippian, Chouteau Limestone.

Providence, Boone County, Missouri; collected by J. M. Weller.

Referred specimen: UC 51913, a carapace.

Hessler, 1963, pp. 556-557.

Mississippian, Chouteau Limestone.

In creek bed next to road approaching Easely, SE $\frac{1}{4}$ , NW $\frac{1}{4}$ , NE $\frac{1}{4}$ , sec. 3, T46N, R13W, Boone County, Missouri; collected by Hessler, 1958.

Referred specimens: UC 51916, four specimens.

Hessler, 1963, pp. 556-557.

Mississippian, basal Chouteau Limestone.

15 ft. above floor of quarry at Easely, Boone County, Missouri; collected by Hessler, 1958.

Referred specimen: UC 51917, a cranidium.

Hessler, 1963, pp. 556-557.

Mississippian, Chouteau Limestone.

Pettis County, Missouri; collected by Hessler.

See also: *Griffithides* (?) *sedaliensis* Vogdes, 1888

*Phillipsia sampsoni* Vogdes, 1888

### **Breviphillipsia semiteretis** Hessler, 1963

Referred specimen: UC 8593, a pygidium.

Hessler, 1963, pp. 557-558.

Mississippian, Chouteau Limestone.

Near Springfield, Missouri; S. Weller Collection.

Referred specimens: UC 51921, four pygidia, one cephalon.

Hessler, 1963, pp. 557-558.

Mississippian, Chouteau Limestone.

Sweeney, Cooper County, Missouri; collected by Hessler.

Referred specimens: UC 51923, two incomplete pygidia.  
Hessler, 1963, pp. 557-558.

Mississippian, Osage Series, Upper Pierson Limestone.  
NW $\frac{1}{4}$ , NW $\frac{1}{4}$ , NW $\frac{1}{4}$ , sec. 23, T31N, R22W, Greene County,  
Missouri; Drury College Exchange, collected by Clark.

Referred specimen: UC 51924, a pygidium.  
Hessler, 1963, pp. 557-558.

Mississippian, Osage Series, Reids Spring Limestone.  
East edge of crane in Missouri Pacific Railroad cut, Stone County,  
Missouri; Drury College Exchange, collected by Clark.

Referred specimens: UC 51926, two pygidia.  
Hessler, 1963, pp. 557-558, pl. 62, figs. 8, 12, and 13.

Mississippian, Osage Series, Burlington Limestone.  
S. Weller's locality no. 5; main quarry level, Marblehead Quarry,  
Springfield, Greene County, Missouri; Drury College Exchange,  
collected by Clark.

### ***Breviphillipsia swallowi* (Shumard, 1855)**

Referred specimen: UC 51915, an incomplete pygidium.  
Hessler, 1963, pp. 558-560.

Mississippian, Chouteau Limestone.  
Easely, Boone County, Missouri; collected by J. M. Weller.

Referred specimens: UC 51920, one pygidium, three free cheeks.  
Hessler, 1963, pp. 558-560.

Mississippian, basal Chouteau Limestone.  
In creek bed next to road to Easely, SE $\frac{1}{4}$ , NE $\frac{1}{4}$ , NE $\frac{1}{4}$ , sec. 3,  
T46N, R13W, Boone County, Missouri; collected by Hessler.  
See also: *Phillipsia swallowi* (Shumard, 1855).

### ***Breviphillipsia trophis* Hessler, 1963**

Holotype: UC 51969, a pygidium.  
Hessler, 1963, p. 560, pl. 62, figs. 14, 15, and 19.

Mississippian, Chouteau Limestone.  
900 ft. up first tributary upstream from "Snake Den," NW $\frac{1}{4}$ ,  
SW $\frac{1}{4}$ , sec. 26, T60N, R10W, Knox County, Missouri; collected  
by Hessler.

**Bronteus acamas** Hall, 1865

Referred specimen: UC 10733, a pygidium.

S. Weller, 1907, pp. 232-233, pl. 20, fig. 1.

Silurian, Niagara Group.

Romeo, Illinois; J. H. Ferris, donor.

Remarks: Referred to *Scutellum acamas* (Hall, 1865) by Shimer and Shrock, 1944, p. 653, pl. 269, fig. 17.

**Bronteus lunatus** Billings, 1855

Referred specimens: UC 5879, two specimens, one figured.

S. Weller, 1903, pp. 198-199, pl. 15, fig. 14.

Ordovician, Kimmswick Limestone.

Glen Park (catalogue); Sulphur Springs (published), Missouri; collected by S. Weller, 1896.

Remarks: Bradley, 1930, pp. 257-259, pl. 29, fig. 31, figured UC 5879B as *Goldius slocomi* Bradley, 1930. Referred to *Scutellum lunatus* (Billings, 1855) by Shimer and Shrock, 1944, p. 653.

**Bronteus** sp.

Referred specimen: UC 7071, an incomplete pygidium.

Van Ingen, 1902, p. 35.

Silurian, St. Clair Limestone.

St. Clair Spring, Independence, Missouri; collected by S. Weller.

Remarks: Specimen only cited by Van Ingen, 1902, as *Bronteus* sp. nov. A description and figure of the specimen was to be published but that publication has not been located. Referred to *Scutellum* sp. by Shimer and Shrock, 1944, p. 653.

**Bumastus armatus** (Hall, 1865)

See: *Illiaenus armatus* Hall, 1865.

**Bumastus beckeri** Slocom, 1913

Holotype: UC 41154, an enrolled carapace.

Slocom, 1913, pp. 54-56, pl. 14, fig. 1.

Slocom, 1916, pp. 201-203, pl. 15, fig. 1.

Walter, 1926, pp. 220-222.

Ordovician, Maquoketa Shale, lower beds.

Clermont, Iowa; Becker, donor.

Referred specimen: P 16708, a pygidium with seven attached thoracic segments.

Slocom, 1913, pp. 54-56, pl. 14, fig. 4.

Slocom, 1916, pp. 201-203, pl. 15, fig. 4.

Walter, 1926, pp. 220-222.

Ordovician, Maquoketa Shale, lower beds.

Clermont, Iowa; collected by Slocom, 1910.

**Bumastus billingsi** Raymond and Narraway, 1908

Referred specimens: UC 5858, six specimens.

Bradley, 1930, pp. 254-256, pl. 28, fig. 5 (free cheek).

Ordovician, Kimmswick Limestone.

S. Weller locality 3B, Glen Park, Missouri; collected by S. Weller, 1896.

Referred specimen: UC 10776, a carapace.

Bradley, 1930, pp. 254-256, pl. 28, figs. 6 and 7.

Ordovician, Kimmswick Limestone.

S. Weller locality 4, abandoned government quarry,  $\frac{3}{4}$  mile below R. R. station at Glen Park, Missouri; collected by S. Weller, 1904.

Referred specimens: UC 20700, one cranium, one pygidium.

Bradley, 1930, pp. 254-256, pl. 28, figs. 1 and 4.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. of Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 20710, two pygidia.

Bradley, 1930, pp. 254-256, pl. 28, figs. 2 and 3.

Ordovician, Kimmswick Limestone.

Glen Park, Missouri; collected by S. Weller, 1896.

**Bumastus chicagoensis** (S. Weller, 1907)

See: *Illiaenus chicagoensis* S. Weller, 1907.

**Bumastus cuniculus** (Hall, 1868)

See: *Illiaenus cuniculus* Hall, 1868.

**Bumastus elongatus** S. Weller, 1903

Holotype: UC 10266A, a pygidium.



S. Weller, 1903, p. 195, pl. 14, fig. 15.

Referred specimen: UC 10266, a pygidium.

S. Weller, 1903, p. 195.

Ordovician, Trenton Limestone.

S. Weller, 1903, locality 156A, about three miles southwest of Newton near Springfield, New Jersey.

**Bumastus graftonensis** (Meek and Worthen, 1870)

Referred specimen: UC 18111, a cephalon.

Fisher, 1925, pl. 4, fig. 12.

Silurian, Niagara Group.

Lemont, Illinois; Van Horne Collection.

**Bumastus harrisi** (S. Weller, 1907)

See: *Illaenus harrisi* S. Weller, 1907.

**Bumastus imperator** (Hall, 1861)

See: *Illaenus imperator* Hall, 1861.

**Bumastus insignis** (Hall, 1865)

Referred specimen: UC 52009, a pygidium.

Bretz, 1939, pl. 5, fig. 2.

Silurian, Niagara Group.

Dolese-Shepard Quarry (formerly Hawthorn, Illinois); Chicago, Illinois; Van Horne Collection.

See also: *Illaenus insignis* Hall, 1865.

**Bumastus ioxus** (Hall, 1868)

See: *Illaenus ioxus* Hall, 1868.

**Bumastus niagarensis** (Whitfield, 1880)

See: *Illaenus niagarensis* Whitfield, 1880.

**Bumastus rowleyi** Foerste, 1920

Referred specimens: UC 20702, one cranium, one pygidium.

Bradley, 1930, pp. 253-254, pl. 28, figs. 15-17.

Ordovician, Kimmswick Limestone.

Near Batchtown, Illinois; Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 28883, one pygidium, one cranidium.

Bradley, 1930, pp. 253-254, pl. 28, fig. 18.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by S. Weller, 1896.

**Bumastus transversalis** S. Weller, 1903

Holotype: not designated, to be selected from UC 10263, two pygidia, one cranidium.

S. Weller, 1903, p. 195.

Ordovician, Trenton Limestone.

S. Weller, 1903, locality 192A, hill just east of the R. R. station at Hainesburg, New Jersey; S. Weller Collection.

**Bumastus** sp.

Referred specimen: UC 33408, a cranidium.

Anonymous, 1928, p. 88, pl. 5, fig. 10.

Ordovician, Plattin Limestone.

Ste. Genevieve County, Missouri; S. Weller Collection.

Referred specimens: P 28707, one pygidium, one cranidium.

Roy, 1941, p. 159, text figs. 121a and b.

Ordovician, Richmond Formation.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Calliops fredericki** (Slocom, 1913)

See: *Pterygometopus fredericki* Slocom, 1913.

**Calliops larrabeei** (Slocom, 1913)

See: *Pterygometopus larrabeei* Slocom, 1913.

**Calmonia** sp.

Referred specimens: P 21899, two cephalala.

Roy, 1929, p. 213, pl. 38, figs. 6 and 8.

Devonian, Red Sandstone.

Patacamaya, Bolivia; Field Museum Brazilian Expedition.

**Calymene camerata** Conrad, 1842

Referred specimen: UC 10421, a hypostoma.

S. Weller, 1903, pp. 250–251, pl. 22, fig. 25.

Silurian, Decker Ferry Formation.

S. Weller, 1903 locality 2A<sup>12</sup>, at William Nearpass Quarry, New Jersey, two miles south of Tri-States, New York; S. Weller Collection.

**Calymene celebra (niagarensis)** Raymond, 1916

Referred specimens: UC 22017, 10 carapaces, one cephalon.

Fisher, 1925, p. 24, pl. 4, fig. 13.

Silurian, Niagara Group.

Joliet, Illinois; Van Horne Collection.

**Calymene croneisi** Roy, 1941

Holotype: original designation, P 28709A, a cephalon.

Roy, 1941, pp. 160–161, text fig. 124a.

Referred specimen: P 28709, one pygidium.

Roy, 1941, pp. 160–161, text fig. 124d.

Referred specimens: P 28710, two cranidia figured, one pygidium, one cranidium.

Roy, 1941, pp. 160–161, text figs. 124b and c.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Calymene fayettensis** Slocum, 1913

Holotype: original designation, P 16755, an enrolled carapace.

Slocum, 1913, pp. 67–69, pl. 16, figs. 8 and 9.

Slocum, 1916, pp. 216–219, pl. 17, figs. 8 and 9.

Walter, 1926, pp. 236–237.

Ordovician, Lower Maquoketa Shale.

Clermont, Iowa; collected by Slocum, 1910.

**Calymene gracilis** Slocum, 1913

Holotype: original designation, P 17065, one cranidium, the figured pygidium is missing.

Slocum, 1913, pp. 69–70, pl. 18, fig. 9.

Slocum, 1916, pp. 219-221, pl. 19, fig. 9.

Walter, 1926, pp. 237-239.

Ordovician, Maquoketa Shale, upper beds.

Patterson's Springs, near Brainard, Iowa; collected by Slocum, 1910.

**Calymene macmillani** Roy, 1941

Holotype: original designation, P 28711, a pygidium.

Roy, 1941, pp. 161-162, text fig. 125.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Calymene niagarensis** Hall, 1843

Referred specimen: UC 10746, a carapace.

S. Weller, 1907, pp. 261-263, pl. 23, figs. 9 and 10.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by S. Weller.

**Calymene platys** Green, 1832

Referred specimen: UC 11749, a pygidium.

Hall and Clarke, 1888, pp. 1-4, pl. 25, fig. 1.

Devonian, Onondaga Limestone.

Falls of the Ohio; Hall Collection.

**Calymene senaria** Conrad, 1841

Referred specimens: UC 20687, four specimens.

Bradley, 1930, p. 273, pl. 29, figs. 40 and 41.

Ordovician, Kimmswick Limestone.

Near Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 37888, three specimens.

S. Weller, 1903, pp. 203-204, pl. 15, fig. 23.

Ordovician, Trenton Limestone.

A hill 580+ ft. high behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

Remarks: Referred to *Flexicalymene (Flexicalymene) senaria* (Conrad, 1841) by Whittington in Moore, 1959, p. 452.

**Calyptaulax (Calliops) callicephalus** (Hall, 1847)

See: *Pterygometopus callicephalus* (Hall, 1847).

**Calyptaulax lincolnensis** (Branson, 1909)

See: *Pterygometopus lincolnensis* Branson, 1909.

**Calyptaulax sillimani** Roy, 1941

Holotype: original designation, P 28719, a glabella.

Roy, 1941, pp. 167-168, text fig. 134.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Ceratocephala ceralepta** (Anthony, 1838)

See: *Acidaspis rhyncocephalus* Meek, 1873.

**Ceratocephala goniata** Warder, 1838

Referred specimen: UC 9885, a cephalon.

S. Weller, 1907, pp. 255-256, pl. 23, figs. 1 and 2.

Shimer and Shrock, 1944, p. 641, pl. 271, figs. 14 and 15.

Kindle, 1945, p. 531.

Silurian, Niagara Group.

Dolese-Shepard Quarry (formerly Hawthorn, Illinois), Chicago, Illinois; Van Horne Collection.

**Ceratolichas gryps** (Hall and Clarke, 1888)

Referred specimen: UC 5031, a cranidium.

Stewart, 1923, pp. 264-265, pl. 71, figs. 13 and 14.

Devonian, Grand Tower Limestone.

S. Weller, 1897 locality 5A<sup>11</sup>; the northern face of the "Devil's Bake Oven," which is the northern end of a rocky ridge, "Devil's Back Bone," which extends one-half mile along the east bank of the Mississippi River northward from Grand Tower, Illinois; collected by S. Weller, 1896.

Referred specimen: UC 27543, a glabella.

Stewart, 1923, pp. 264-265, pl. 71, fig. 15.

Devonian, Little Saline Limestone, upper beds.

Little Saline Creek in Ste. Genevieve County, Missouri; collected by Univ. of Chicago Ste. Genevieve County field classes.

**Ceraurinus icarus** (Billings, 1860)

See: *Eccoptochile? meekanus* (S. A. Miller, 1889).

**Ceraurinus icarus** var. **noduliferous** Roy, 1941

Holotype: original designation, P 28714, a glabella.

Roy, 1941, p. 163, text fig. 128.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Ceraurinus platycanthus** Bradley, 1930

Holotype: original designation, UC 20694, an incomplete cranium.

Bradley, 1930, pp. 276-278, pl. 30, figs. 29-31.

Referred specimens: UC 20693, one hypostoma, one thoracic segment, two incomplete thoracic segments.

Bradley, 1930, pp. 276-278, pl. 30, figs. 32 and 37.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; Univ. Chicago Calhoun County Expedition, 1906.

**Ceraurinus tenuisculptus** Bradley, 1930

Holotype: original designation, UC 20691, an incomplete cranium.

Bradley, 1930, pp. 278-279, pl. 30, fig. 14.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; Univ. Chicago Calhoun County Expedition, 1906.

**Ceraurus elginensis** Slocum, 1913

Holotype: original designation, P 16630A, a cephalon.

Referred specimen: P 16630B, a cephalon, not figured.

Slocum, 1913, pp. 73-75, pl. 17, fig. 4.

Slocum, 1916, pp. 224-226, pl. 18, fig. 4.

Walter, 1926, pp. 245-247.

Ordovician, Lower Maquoketa Shale.

Elgin, Iowa; collected by Slocum, 1912.

Referred specimen: P 17030, pleural spines of a pygidium.

Slocum, 1913, pp. 73-75, pl. 17, fig. 5.

Slocum, 1916, pp. 224-226, pl. 18, fig. 5.

Walter, 1926, pp. 245-247.

Ordovician, Lower Maquoketa Shale.

Bloomfield, Iowa; collected by Slocum, 1912.

### **Ceraurus globulobatus** Bradley, 1930

Holotype: original designation, UC 20709A, a cranidium.

Bradley, 1930, pp. 274-276, pl. 30, figs. 34-36.

Referred specimen: UC 20709B, a hypostoma.

Bradley, 1930, pp. 274-276, pl. 30, fig. 41.

Ordovician, Kimmswick Limestone.

Glen Park, Missouri; collected by S. Weller, 1896.

Referred specimens: UC 20695, two pygidia, two cranidia; UC 20695D not figured.

Bradley, 1930, pp. 274-276, pl. 30, figs. 38-40.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 20719, 15 cranidia.

Bradley, 1930, pp. 274-276, pl. 30, fig. 42.

Referred specimen: UC 28956, a cranidium.

Bradley, 1930, pp. 274-276, pl. 30, fig. 33.

Ordovician, Kimmswick Limestone.

R. R. station at Glen Park, Missouri; collected by Bradley.

### **Ceraurus cf. C. horridus** Troedsson, 1928

Referred specimens: P 28712, one glabella, one preoccipital ring.

Roy, 1941, p. 162, text fig. 126.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

### **Ceraurus icarus** (Billings, 1860)

Referred specimen: UC 2409, an enrolled carapace.

Meek, 1873, pp. 162-165, pl. 14, figs. 11b and c.

Barton, 1913, pp. 551-552.

Ordovician, Richmond Group.  
Cincinnati, Ohio; James Collection.

Referred specimen: UC 10837, a carapace.  
Meek, 1873, pp. 162-165, pl. 14, fig. 11a.  
Barton, 1913, pp. 551-552, fig. 7.  
Shimer and Shrock, 1944, p. 641, pl. 272, fig. 15.

Ordovician, Richmond Group.  
Richmond, Indiana; Haines Collection.

Remarks: UC 2409 and UC 10837 referred to *Ceraurus meekanus* S. A. Miller, 1889, by S. A. Miller, 1889, pp. 537-538.

Referred to *Eccoptochile meekanus* (S. A. Miller, 1889) by Slocum, 1913, pp. 75-77.

**Ceraurus meekanus** S. A. Miller, 1889  
See: *Ceraurus icarus* (Billings, 1860).

**Ceraurus milleranus** Miller and Gurley, 1894

Holotype: UC 6062, a carapace.  
Miller and Gurley, 1894, pp. 80-81, pl. 8, fig. 10.  
Slocum, 1913, pp. 71-73, pl. 17, fig. 3.  
Raymond and Barton, 1913, pp. 538-539.  
Slocum, 1916, pp. 221-224, pl. 18, fig. 3.  
Walter, 1926, pp. 243-245, pl. 20, fig. 7.

Ordovician, Maysville Group.  
Cincinnati, Ohio; Gurley Collection.

Referred specimen: P 16925, a pygidium with one pleural spine missing.

Slocum, 1913, pp. 71-73, pl. 17, fig. 2.  
Slocum, 1916, pp. 221-224, pl. 18, fig. 2.  
Walter, 1926, pp. 243-245.

Ordovician, Lower Maquoketa Shale.  
Clermont, Iowa; collected by Slocum, 1912.

**Ceraurus niagarensis** Hall, 1868

Referred specimen: UC 6653, a pygidium.  
Van Ingen, 1902, p. 35.  
Silurian, St. Clair Limestone.



St. Clair Springs, Independence County, Arkansas; collected by S. Weller, 1896.

Referred specimen: UC 9875, a pygidium.

S. Weller, 1907, pp. 263-264, pl. 24, fig. 21.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Hyde.

Remarks: UC 9875 referred to *Cheirurus welleri* Raymond, 1916, by Raymond, 1916, pp. 34-35, and by Shimer and Shrock, 1944, p. 641, pl. 272, fig. 12.

Referred specimens: UC 11990; two cranidia.

Hall, 1882, pp. 335-336, pl. 33, fig. 10 (UC 11990A).

Silurian, Niagara Group.

Waldron, Indiana: Hall Collection.

Referred specimen: UC 9874, a cranidium.

S. Weller, 1907, pp. 263-264, pl. 24, fig. 20.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Hyde.

Remarks: UC 9874 referred to *Cheirurus niagarensis* (Hall, 1868) by Shimer and Shrock, 1944, p. 641, pl. 272, fig. 13.

### **Ceraurus pleurexanthemus** Green, 1832

Referred specimens: UC 28951, nine glabella.

Bradley, 1930, pp. 273-274, pl. 30, fig. 43.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; Univ. Chicago Calhoun County Expedition, 1906.

### **Ceraurus rarus** Walcott, 1879

Holotype: UC 12322, a cranidium and left free cheek.

Walcott, 1879, p. 68.

Ordovician, Trenton Limestone, lower beds.

Beloit, Wisconsin.

Remarks: Referred to *Encrinurus rarus* (Walcott, 1879) by Raymond and Barton, 1913, pp. 541-542, pl. 2, fig. 3.

### **Ceraurus** sp.

Referred specimens: UC 28947, two glabella.

Bradley, 1930, p. 276, pl. 30, fig. 44.

Ordovician, Kimmswick Limestone.

One and one-quarter miles south of Batchtown, Illinois; collected by Bradley.

Referred specimens: P 28713, two caudal spines.

Roy, 1941, p. 162, text fig. 127 (P 28713A).

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Chasmops anchiops** (Green, 1832)

See: *Dalmanites (Chasmops) anchiops* (Green, 1832).

**Cheirurus hydei** S. Weller, 1907

Holotype: original designation, UC 9873, a carapace.

S. Weller, 1907, pp. 264-266, pl. 24, fig. 22.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Hyde.

**Cheirurus niagarensis** (Hall, 1868)

See: *Ceraurus niagarensis* Hall, 1868.

**Cheirurus welleri** Raymond, 1916

See: *Ceraurus niagarensis* Hall, 1868.

**Coronura aspectans** (Conrad, 1841)

See: *Dalmanites (Coronura) aspectans* (Conrad, 1841).

**Corycephalus dentatus** (Barrett, 1876)

See: *Dalmanites (Corycephalus) dentatus* (Barrett, 1876).

**Corydocephalus phlyctainodes** (Green, 1837)

Referred specimen: UC 10741, a cranidium, spines broken and segments lost since publication of Weller's figure.

S. Weller, 1907, pp. 234-237, pl. 22, fig. 1.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Handwerk.

Referred specimen: UC 10742, a cranium.

S. Weller, 1907, pp. 234-237, pl. 22, figs. 3 and 4.

Referred specimen: UC 10743, a pygidium.

S. Weller, 1907, pp. 234-237, pl. 22, fig. 2.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by S. Weller.

Remarks: Referred to *Trochurus phlyctainodes* (Green, 1837) by Foerste, 1917, p. 252, and by Shimer and Shrock, 1944, p. 654, pl. 270, figs. 1 (UC 10741), 2 (UC 10743), 3, and 4 (UC 10742).

See also: *Lichas hanoverensis* Miller and Gurley, 1894.

### **Crepicephalus iowensis** (Owen, 1852)

See: *Dikelocephalus iowensis* Owen, 1852.

### **Cryphaeus australis** Clarke, 1913

Referred specimens: P 21900, two cephalae, one carapace.

Roy, 1929, pp. 213-214, pl. 37, figs. 1, 2, and 4.

Devonian, Red Sandstone.

Patacamaya, Bolivia; Field Museum Brazilian Expedition.

Referred specimens: UC 21907, two pygidia.

Roy, 1929, pp. 213-214, pl. 37, figs. 3 and 5.

Devonian, Red Sandstone.

Patacamaya, Bolivia; Field Museum Brazilian Expedition.

Remarks: Referred to *Hadrorachus australis* (Clarke, 1913) by Delo, 1935, pp. 415-416, and to *Metacryphaeus australis* (Clarke, 1913) by Struve in Moore, 1959, p. 486.

### **Cryphaeus nicholsi** Roy, 1929

Holotype: not designated, to be selected from P 21906, two pygidia.

Roy, 1929, p. 214, pl. 37, figs. 6 and 7.

Devonian, Red Sandstone.

Patacamaya, Bolivia; Field Museum Brazilian Expedition; collected by Nichols.

### **Cybeloides iowensis** Slocum, 1913

Holotype: original designation, P 16631, a carapace.

Slocum, 1913, pp. 64-66, pl. 16, fig. 1.

Slocum, 1916, pp. 213-215, pl. 17, fig. 1.

Walter, 1926, pp. 233-235.

Ordovician, Lower Maquoketa Shale.

Clermont (catalogue); Elgin (published), Iowa; collected by Slocum, 1910.

Referred specimen: P 16633, a free cheek.

Slocum, 1913, pp. 64-66, pl. 16, fig. 4.

Slocum, 1916, pp. 213-215, pl. 17, fig. 4.

Walter, 1926, pp. 233-235.

Referred specimen: P 17039, cephalon with several thoracic segments.

Slocum, 1913, pp. 64-66, pl. 16, figs. 2 and 3.

Slocum, 1916, pp. 213-215, pl. 17, figs. 2 and 3.

Walter, 1926, pp. 233-235.

Ordovician, Lower Maquoketa Shale.

Bloomfield, Iowa; collected by Slocum, 1910.

### **Cyphaspis christyi** Hall, 1863

Referred specimen: P 6796.

Garrels, 1951, text fig. 22.6.

Silurian, Niagara Group.

Waldron, Indiana.

### **Cyphaspis globosus** Bradley, 1930

Holotype: original designation, UC 20679, a cranidium.

Bradley, 1930, p. 262, pl. 29, fig. 27.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 28914, two glabella.

Bradley, 1930, p. 262.

Ordovician, Kimmswick Limestone.

R. R. station at Glen Park, Missouri; collected by Bradley.

### **Cyphaspis intermedia** S. Weller, 1907

Holotype: not designated, to be selected from UC 10735, three cranidia.

S. Weller, 1907, pp. 231-232, pl. 20, figs. 3-5.

Savage, 1917, pp. 158-159.

Silurian, Edgewood Limestone.

Along Des Plaines River near Channahon, Illinois; collected by S. Weller.

**Cyphaspis trentonensis** S. Weller, 1903

Holotype: original designation, UC 10264, a cranidium.

S. Weller, 1903, pp. 197-198, pl. 15, figs. 8-10.

Ordovician, Trenton Limestone.

S. Weller, 1903, locality 174A<sup>50</sup>, a hill 580 ft. high behind the mill, at Jacksonburg, New Jersey; S. Weller Collection.

**Cyrtosymbole (Belgibole) belgica** Hahn, 1963

Referred specimens: UC 51582, three cranidia, three pygidia, one free cheek.

Hahn, 1963, pp. 213-222.

Mississippian, Unterkarbon II: Pericyclus-Stufe, Kohlenkalk hellgraue Mergelkalke.

Modave bei Huy, E-Belgien (Belgium); Hahn, donor.

**Dalmanella platycordata**

See: *Dalmanites platycaudatus* S. Weller, 1907.

**Dalmania pleuroptyx** Green, 1832

Referred specimen: UC 22187, a pygidium.

Hall, 1859c, pp. 356-358.

Hall, 1861, pl. 75, fig. 1.

Devonian, Helderberg Group.

Bald Eagle Valley, Pennsylvania; Hall Collection.

Remarks: Tentatively referred by Hall and Clarke, 1888, p. 30, to *Dalmanites (Hausmannia) pleuroptyx* (Green, 1832). Referred to *Odontochile micrurus* (Green, 1832) by Delo, 1940, pp. 58-59. Listed in museum catalogue by S. Weller as *Dalmanites pleuroptyx* (Green, 1832).

**Dalmanites arkansanus** Van Ingen, 1902

Referred specimen: UC 10748, a cephalon.

S. Weller, 1907, pp. 278-280, pl. 24, fig. 5.

Silurian, Niagara Group.

Romeo, Illinois; collected by Handwerk.

Remarks: Referred to *Dalmanitina arkansana* (Van Ingen, 1902) by Delo, 1940, p. 54.

**Dalmanites cf. aspinosus** S. Weller, 1903

Referred specimens: UC 27541, two pygidia.

Stewart, 1923, p. 265, pl. 71, figs. 10 and 11.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste Genevieve County field classes.

Remarks: UC 27541 designated as the "cotypes" for the new species *Dalmanites stewartae* Delo, 1940, pp. 49-50.

**Dalmanites bainbridgensis** Ball and Delo, 1940

Holotype: original designation, UC 34653A, a pygidium.

Ball and Delo, 1940, p. 407, pl. fig. 4.

Referred specimens: UC 34651, two specimens; UC 34653, a carapace.

Ball and Delo, 1940, p. 407, pl. fig. 7 (UC 34651A).

Silurian, Niagara Group, Bainbridge Formation.

Little Saline Creek in Missouri; Ball Collection.

Referred specimens: UC 34652, three pygidia.

Ball and Delo, 1940, p. 407, pl. fig. 3.

Silurian, Niagara Group, Bainbridge Formation.

Bainbridge Creek, Cape Girardeau County, Missouri; Ball Collection.

**Dalmanites cf. bisignatus** Clarke, 1903

Referred specimen: UC 27538, a pygidium.

Stewart, 1923, pp. 265-266, pl. 71, fig. 12.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri.

**Dalmanites carleyi** Meek, 1872

Referred specimen: UC 965, a cephalon.

Meek, 1872, pp. 424-426.

Meek, 1873, pp. 170–173, pl. 14, fig. 2a.

Ordovician, Cincinnati Group.

About 300 ft. above James' low water mark of Ohio River at Cincinnati, Ohio; James Collection.

Remarks: Meek gives the dimension of the specimen as larger than the specimen, however, the specimen is the same size as the figure. Referred to *Pterygometopus carleyi* (Meek, 1872) by Bassler, 1915, p. 1,066, and to *Achatella carleyi* (Meek, 1872) by Delo, 1940, p. 111, pl. 13, fig. 22. UC 965 is one of the specimens originally figured by Meek, 1872. It is not known if a holotype has been designated.

**Dalmanites carlwegi** Tansey, 1923

Holotype: UC 28504, a pygidium.

Tansey, 1923, pp. 209–210, pl. 56, fig. 2.

Delo, 1940, p. 39, pl. 3, fig. 34.

Devonian, Bailey Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

Referred specimens: UC 21143, two pygidia.

Delo, 1940, p. 39.

Devonian, Bailey Limestone.

Little Saline Creek in Missouri.

Referred specimens: UC 29141, two pygidia.

Tansey, 1923, pp. 209–210, pl. 56, figs. 3 and 4.

Devonian, Bailey Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Dalmanites (Chasmops) anchiops** (Green, 1832)

Referred specimen: UC 11748, a cephalon.

Hall and Clarke, 1888, pp. 59–61, pl. 10, fig. 1.

Devonian, Onondaga Limestone.

Falls of the Ohio; Hall Collection.

Remarks: Listed by S. Weller in museum catalogue as *Chasmops anchiops* (Green, 1832). Referred to *Anchiopsis anchiops* (Green, 1832) by Delo, 1935, p. 412, and by Shimer and Shrock, 1944,

p. 637. Referred to *Anchiopsis tuberculatus* Stumm, 1954, by Stumm, 1954, pp. 211–212, and to *Anchiopella anchiops* (Green, 1832) by Richter, Richter, and Struve in Moore, 1959, pp. 469–470.

Referred specimen: UC 11782, a pygidium.

Hall and Clarke, 1888, pp. 59–61, pl. 10, fig. 7.

Devonian, Oriskany Sandstone.

Near De Cewville, Ontario, Canada; Hall Collection.

Remarks: Listed by S. Weller in museum catalogue as *Chasmops anchiops* (Green, 1832). Referred to *Anchiopsis anchiops* (Green, 1832) by Delo, 1935, p. 412; by Shimer and Shrock, 1944, p. 637; and by Stumm, 1954, pp. 210–211. Referred to *Anchiopella anchiops* (Green, 1832) by Richter, Richter, and Struve in Moore, 1959, pp. 469–470.

#### **Dalmanites (Coronura) aspectans** (Conrad, 1841)

Referred specimen: UC 11739, a pygidium.

Hall and Clarke, 1888, pp. 33–37, pl. 13, fig. 10.

Referred specimen: UC 11740, a pygidium.

Hall and Clarke, 1888, pp. 33–37, pl. 13, fig. 6.

Devonian, Onondaga Limestone.

Columbus, Ohio; Hall Collection.

Remarks: Referred to *Coronura aspectans* (Conrad, 1841) by Delo, 1940, pp. 70–71.

#### **Dalmanites (Corycephalus) dentatus** (Barrett, 1876)

Referred specimen: UC 11768, a carapace.

Hall and Clarke, 1888, p. 58, pl. 11A, fig. 4.

Devonian, Lower Helderberg Group.

Near Port Jervis, Orange County, New York; Hall Collection.

Remarks: Listed in museum catalogue by S. Weller as a “cotype” of *Dalmanites dentatus* Barrett, 1876, but is not the specimen figured by Barrett, 1876, p. 200. Hall and Clarke do not indicate that it is one of Barrett’s specimens. Referred to *D. dentatus* Barrett, 1876, by S. Weller, 1903, pp. 339–340, pl. 44, fig. 1. Referred to *Corycephalus dentatus* (Barrett, 1876) by Delo, 1940, p. 72.



**Dalmanites croneisi** Ball and Delo, 1940

Holotype: original designation, UC 34689A, a pygidium.

Ball and Delo, 1940, pp. 405 and 410, pl. fig. 11.

Referred specimens: UC 34689, two pygidia.

Ball and Delo, 1940, pp. 405 and 410.

Silurian, Alexandrian Series, Brassfield Formation.

Little Saline Creek in Ste. Genevieve County, Missouri; Ball Collection.

**Dalmanites dentatus** Barrett, 1876

See: *Dalmanites (Corycephalus) dentatus* (Barrett, 1876).

**Dalmanites cf. griffoni** Clarke, 1908

Referred specimens: UC 21142, three cephalae.

Tansey, 1923, p. 209, pl. 55, fig. 1 (UC 21142A).

Devonian, Bailey Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Dalmanites (Hausmannia) phacoptyx** Hall and Clarke, 1888

Holotype: UC 13147, a pygidium.

Hall and Clarke, 1888, pp. 31–32, pl. 11A, fig. 25.

Devonian, Onondaga Formation.

North Cayuga, Ontario, Canada; Hall Collection.

Remarks: Referred to *Odontochile phacoptyx* (Hall and Clarke, 1888) by Delo, 1940, pp. 60–61.

**Dalmanites (Hausmannia) pleuroptyx** (Green, 1832)

See: *Dalmania pleuroptyx* Green, 1832.

**Dalmanites illinoisensis** S. Weller, 1907

Holotype: not designated, to be selected from UC 9913 and UC 6835, two pygidia. S. Weller, 1907, pp. 275–276, pl. 25, figs. 1 (UC 6835) and 2 (UC 9913).

Delo, 1940, p. 43.

Silurian, Niagara Group.

UC 9913, Lemont, Illinois; collected by S. Weller.

UC 6835, Bonfield, Illinois; Gurley Collection.

**Dalmanites katharina** Bradley, 1930

Holotype: original designation, UC 20685, a cephalon.

Bradley, 1930, pp. 286-288, pl. 30, figs. 19 and 20.

Referred specimens: UC 33780, five specimens.

Bradley, 1930, pp. 286-288, pl. 30, figs. 21, 22, 24-28.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimen: UC 28977, a pygidium.

Bradley, 1930, pp. 286-288, pl. 30, fig. 23.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by S. Weller, 1896.

Remarks: UC 20685, UC 28977, and UC 33780 referred to *Achattella katharina* (Bradley, 1930) by Delo, 1940, p. 112, pl. 13, figs. 26 (UC 20685), 27 (UC 33780B), 28 (UC 28977), and 29 (UC 33780E).

Referred specimen: UC 28974, a hypostoma.

Bradley, 1930, pp. 286-288.

Ordovician, Kimmswick Limestone.

One-quarter mile southeast of Batchtown, Illinois; collected by Bradley.

Referred specimens: UC 28975, two hypostomata.

Bradley, 1930, pp. 286-288.

Ordovician, Kimmswick Limestone.

One-quarter mile north of Sulphur Springs, Missouri; collected by Bradley.

**Dalmanites micrurus?** (Green, 1832)

Referred specimen: UC 27542, a cephalon.

Stewart, 1923, p. 266, pl. 71, fig. 22.

Devonian, Little Saline Limestone, upper beds.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Dalmanites missouriensis** Ball and Delo, 1940

Holotype: original designation, UC 34654A, a pygidium, the plaster cast of which is figured.

Ball and Delo, 1940, pp. 406–407, pl. fig. 1.

Referred specimen: UC 34654B, a pygidium.

Ball and Delo, 1940, pp. 406–407.

Silurian, Niagara Group, Bainbridge Formation.

Little Saline Creek in Ste. Genevieve County, Missouri; collected by Ball.

**Dalmanites (Odontocephalus) bifidus** (Hall, 1861)

Referred specimen: UC 11742, a pygidium.

Hall and Clarke, 1888, p. 53, pl. 11B, fig. 22.

Devonian, Onondaga Limestone.

Columbus, Ohio; Hall Collection.

Remarks: Referred to *Odontocephalus bifidus* (Hall, 1861) by Delo, 1940, p. 75.

**Dalmanites oklahomae** Richardson, 1949

Holotype: original designation, P 10435, a cephalon.

Richardson, 1949, pp. 43–45, figs. 14 and 15.

Amsden, 1956, p. 34.

Silurian?, Henryhouse Shale.

Bromide, Coal County, Oklahoma; gift of Newberry, 1908.

**Dalmanites phacoptyx** Hall and Clarke, 1888

See: *Dalmanites (Hausmannia) phacoptyx* Hall and Clarke, 1888.

**Dalmanites platycaudatus** S. Weller, 1907

Holotype: UC 9877, a carapace.

S. Weller, 1907, pp. 272–275, pl. 25, fig. 5.

Delo, 1940, p. 48.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Hyde.

Referred specimen: UC 9878, a pygidium.

S. Weller, 1907, pp. 272–275, pl. 25, fig. 4.

Fisher, 1925, pl. 4, fig. 11.

Delo, 1940, p. 48, pl. 3, fig. 15.

Referred specimen: UC 10752, a cephalon, plaster cast figured.

S. Weller, 1907, pp. 272-275, pl. 25, fig. 3.

Fisher, 1925, pl. 4, fig. 10.

Delo, 1940, p. 48, pl. 3, fig. 14.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Hyde and by S. Weller.

Remarks: Referred to *Dalmanella platycordata* by Bretz, 1939, pl. 5, figs. 3 (UC 10752) and 4 (UC 9878).

### **Dalmanites pleuroptyx** (Green, 1832)

See: *Dalmania pleuroptyx* Green, 1832.

### **Dalmanites** cf. **pleuroptyx** (Green, 1832)

Referred specimen: UC 27540, a pygidium.

Stewart, 1923, p. 266, pl. 71, fig. 16.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

### **Dalmanites praenuntia** Stewart, 1923

Holotype: original designation, UC 27536, a pygidium.

Stewart, 1923, pp. 267-268, pl. 71, fig. 19.

Delo, 1940, pp. 48-49, pl. 3, fig. 17.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

### **Dalmanites pratteni** Roy, 1933

Holotype: original designation, P 16704, an enrolled carapace.

Roy, 1933, pp. 67-82, text figs. 1-4.

Devonian.

Devil's Backbone, near Grand Tower, Jackson County, Illinois; purchased from Mrs. Pratten, 1912.

Remarks: Referred to *Odontochile pratteni* (Roy, 1933) by Delo, 1940, p. 62, pl. 6, figs. 2-4.

### **Dalmanites salinensis** Ball and Delo, 1940

Referred specimen: UC 45184, a pygidium.

Ball and Delo, 1940, pp. 407-410, pl. fig. 9.

Silurian, Niagara Group, Bainbridge Formation.

Little Saline Creek in Ste. Genevieve County, Missouri; Ball Collection.

**Dalmanites slocomi** Stewart, 1923

Holotype: original designation, UC 27535, a pygidium.

Stewart, 1923, pp. 266–267, pl. 71, fig. 20.

Delo, 1940, p. 49, pl. 3, fig. 33.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Dalmanites cf. stemmatus var. convergens** Clarke, 1900

Referred specimens: UC 27539, two pygidia.

Stewart, 1923, p. 267, pl. 71, fig. 17.

Devonian, Upper Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

Remarks: Delo, 1940, pp. 68–69 refers the species to the genus *Symphoria* Clarke, 1900, but does not consider Stewart's specimens conspecific.

**Dalmanites stewartae** Delo, 1940

Holotype: not designated, to be selected from UC 27541, two pygidia.

Delo, 1940, pp. 49–50, pl. 3, figs. 19 and 20.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

Remarks: Figured by Stewart, 1923, p. 265, pl. 71, figs. 10 and 11, as *Dalmanites cf. aspinosus* S. Weller, 1903.

**Dalmanites verrucosus** Hall, 1863

Referred specimen: UC 6833, a pygidium.

S. Weller, 1907, pp. 280–281, pl. 25, fig. 7.

Silurian, Niagara Group.

Jersey County, Illinois; Gurley Collection.

**Dalmanites vigilans** Hall, 1861

Referred specimen: UC 9879, a cephalon.

S. Weller, 1907, pp. 276-278, pl. 24, figs. 1 and 2.

Delo, 1940, pp. 51-52, pl. 3, figs. 3 and 4.

Shimer and Shrock, 1944, p. 643, pl. 273, figs. 14 and 15.

Silurian, Niagara Group.

Chicago Drainage Canal, near Lemont, Illinois; collected by Hyde.

Rererred specimen: UC 9909, a cephalon.

S. Weller, 1907, pp. 276-278, pl. 24, fig. 3.

Delo, 1940, pp. 51-52.

Shimer and Shrock, 1944, p. 643, pl. 273, fig. 13.

Silurian, Niagara Group.

Joliet, Illinois; Van Horne Collection.

Referred specimen: UC 10747, a pygidium.

S. Weller, 1907, pp. 276-278, pl. 24, fig. 4.

Delo, 1940, pp. 51-52, pl. 3, fig. 5.

Shimer and Shrock, 1944, p. 643, pl. 273, fig. 16.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by S. Weller.

**Dalmanites** sp.

Referred specimens: UC 21140, four specimens.

Tansey, 1923, p. 209, pl. 55, figs. 5 and 7, pl. 56, fig. 1.

Devonian, Bailey Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

Remarks: Specimens figured pl. 55, fig. 7 and pl. 56, fig. 1, referred to *Odontochile dunbari* Delo, 1940, by Delo, 1940, p. 56.

Referred specimens: UC 21141, three cephala.

Tansey, 1923, p. 209, pl. 55, figs. 2-4.

Referred specimen: UC 21144, a pygidium.

Tansey, 1923, p. 209, pl. 55, fig. 6.

Devonian, Bailey Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

Referred specimen: UC 27537, a cephalon.

Stewart, 1923, p. 267, pl. 71, fig. 18.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste.  
Genevieve County field classes.

**Dalmanitina arkansana** (Van Ingen, 1902)

See: *Dalmanites arkansanus* Van Ingen, 1902.

**Deiphon americanus** S. Weller, 1907

Holotype: original designation, UC 9899, a cephalon.

S. Weller, 1907, pp. 268-269, pl. 24, fig. 14.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by S. Weller.

**Denckmannites handwerki** (S. Weller, 1907)

See: *Phacops handwerki* S. Weller, 1907.

**Dicranopeltis decipiens** (Winchell and Marcy, 1865)

Referred specimen: UC 8610, a pygidium.

S. Weller, 1907, pp. 237-239, pl. 22, fig. 11.

Silurian, Niagara Group.

Dolese-Shepard Quarry (formerly Hawthorn, Illinois), Chicago,  
Illinois; collected by Harris.

Referred specimen: UC 9876, a cephalon.

S. Weller, 1907, pp. 237-239, pl. 22, fig. 10.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Hyde.

**Dikelocephalus iowensis** Owen, 1852

Referred specimen: UC 6382, a pygidium; the caudal spines are  
more angular than shown in Owen's figure.

Owen, 1852, p. 575, pl. 1A, fig. 13.

Cambrian, Potsdam Sandstone, "more than 500 ft. below the base  
of the Lower Magnesian Limestone F2" associated with *Lingula*  
and *Obolus*.

Below Mountain Island, near mouth of Black River, Wisconsin;  
Gurley Collection.

Remarks: Referred to *Crepicephalus iowensis* (Owen, 1852) by Walcott, 1916, pp. 207-208.

**Dikelocephalus vanhornei** Walcott, 1914

Holotype: original designation, UC 14393, a cranidium.

Walcott, 1914, p. 373, pl. 62, fig. 1.

Referred specimens: UC 14393, two thoracic segments, one pygidium.

Walcott, 1914, p. 373, pl. 62, figs. 2 and 3.

Upper Cambrian, St. Lawrence Formation.

Railroad dam at Hoka, Houston County, Minnesota; Van Horne Collection.

Remarks: Referred to *Walcottaspis vanhornei* (Walcott, 1914) by Ulrich and Resser, 1930, p. 66, pl. 20, figs. 3 and 4; and by Lochman-Balk in Moore, 1959, pp. 254-256, text figs. 191, 1a and 1b.

**Dolichoharpes uniserialis** (Raymond, 1925)

See: *Eoharpes uniserialis* Raymond, 1925.

**Eccoptochile meekanus** (S. A. Miller, 1889)

See: *Ceraurus icarus* (Billings, 1860).

**Eccoptochile? meekanus** (S. A. Miller, 1889)

Referred specimens: UC 41155, two specimens.

Slocum, 1913, pp. 75-77, pl. 17, figs. 6 and 7 (carapace).

Ordovician, Lower Maquoketa Shale.

Clermont, Iowa; Becker Collection.

Referred specimens: P 11150, one cranidium, one pygidium.

Slocum, 1913, pp. 75-77, pl. 17, figs. 8 and 9.

Ordovician, Maquoketa Shale, lower beds.

Clermont, Iowa; collected by Slocum, 1910.

Remarks: Referred to *Ceraurinus icarus* (Billings, 1860) by Barton, 1913, p. 551; by Slocum, 1916, pp. 227-229, pl. 18, figs. 6-7 (UC 41155A) and 8-9 (P 11150); and by Walter, 1926, pp. 251-254, figs. 10 (UC 41155A) and 12-13 (P 11150).

**Ectenaspis beckeri** (Slocum, 1913)

See: *Megalaspis beckeri* Slocum, 1913.



**Elliptophillipsia ellipticus** (Meek and Worthen, 1865)

Referred specimen: UC 6804, a carapace.

Hessler, 1963, pp. 560-561, pl. 62, figs. 22 and 23.

Mississippian, Kinderhook Group.

Jersey County, Illinois; Gurley Collection.

**Encrinurus egani** S. A. Miller, 1880

Referred specimen: UC 9901, a cranidium with two detached eye pedicles.

S. Weller, 1907, pp. 257-259, pl. 24, fig. 8.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Webb.

Referred specimen: UC 9905, a carapace.

S. Weller, 1907, pp. 257-259, pl. 24, fig. 9.

Silurian, Niagara Group.

Near Lemont, Illinois; Van Horne Collection.

Referred specimen: UC 10750, a pygidium.

S. Weller, 1907, pp. 257-259, pl. 24, figs. 10 and 11.

Silurian, Niagara Group.

Joliet, Illinois; Van Horne Collection.

**Encrinurus pernodosus** Slocum, 1913

Referred specimen: P 16930, a pygidium.

Slocum, 1913, pp. 61-63, pl. 16, fig. 7.

Slocum, 1916, pp. 209-211, pl. 17, fig. 7.

Walter, 1926, pp. 231-233, pl. 18, fig. 6.

Ordovician, Lower Maquoketa.

Clermont, Iowa; collected by Slocum.

**Encrinurus raricostatus** Walcott, 1877

Holotype: UC 12323, a pygidium.

Walcott, 1879, p. 69.

Ordovician, Trenton Limestone.

Wisconsin (catalogue); Mineral Point, Beloit and north of Janesville, Wisconsin (published); Hall Collection.

**Encrinurus rarus** (Walcott, 1879)

See: *Ceraurus rarus* Walcott, 1879.

**Encrinurus trentonensis** Walcott, 1877

Holotype: UC 12321, a pygidium.

Walcott, 1879, p. 68.

Bradley, 1930, pp. 272-273, pl. 29, fig. 34.

Ordovician, Trenton Limestone.

Clifton, Illinois or Grant County, Wisconsin; Hall Collection.

Referred specimens: UC 28964, two pygidia.

Bradley, 1930, pp. 272-273, pl. 29, fig. 35.

Ordovician, Kimmswick Limestone.

One and one-quarter miles south of Batchtown, Illinois; collected by Bradley.

**Encrinurus tuberculifrons** S. Weller, 1907

Holotype: not designated, to be selected from UC 10751, one cephalon, one pygidium, one cranidium.

S. Weller, 1907, pp. 259-260, pl. 24, figs. 12 and 13.

Silurian, Niagara Group.

Near Joliet, Illinois; collected by S. Weller.

**Encrinurus** sp.

Referred specimen: P 28708, a glabella.

Roy, 1941, p. 159, text fig. 122.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Eoharpes uniserialis** Raymond, 1925

Referred specimen: UC 20703, a pygidium.

Bradley, 1930, pp. 244-246, pl. 28, fig. 10.

Ordovician, Kimmswick Limestone.

Glen Park, Missouri; collected by S. Weller.

Referred specimen: UC 28913, a cephalon.

Bradley, 1930, pp. 244-246, pl. 28, fig. 9.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

Remarks: Referred to *Dolichoharpes uniserialis* (Raymond, 1925) by Whittington in Moore, 1959, p. 417.

**Eomonorachus deloi** Roy, 1941

Holotype: original designation, P 28720, a cephalon.

Roy, 1941, pp. 168-169, text fig. 135.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Eomonorachus intermedius** (Walcott, 1877)

See: *Pterygometopus intermedius* (Walcott, 1877).

**Eophacops handwerki** (S. Weller, 1907)

See: *Phacops handwerki* S. Weller, 1907.

**Flexicalymene (Flexicalymene) senaria** (Conrad, 1841)

See: *Calymene senaria* Conrad, 1841.

**Goldius barrandii** (Hall, 1859)

Referred specimen: UC 21151, a pygidium.

Tansey, 1923, p. 208, pl. 54, fig. 27.

Devonian, Bailey Limestone.

Little Saline Creek in Ste. Genevieve County, Missouri; Terry, donor.

Remarks: Referred to *Scutellum barrandi* (Hall, 1859) by Shimer and Shrock, 1944, p. 653.

**Goldius slocomi** Bradley, 1930

Holotype: original designation, UC 10774, a cranidium.

Bradley, 1930, pp. 257-259, pl. 29, fig. 30.

Ordovician, Kimmswick Limestone.

Glen Park, Missouri; collected by S. Weller, 1904.

Referred specimens: UC 20686, two pygidia.

Bradley, 1930, pp. 257-259, pl. 29, fig. 32.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimen: UC 29057, a hypostoma, "doubtfully referred to this species."

Bradley, 1930, pp. 257-259, pl. 29, fig. 33.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

See also: *Bronteus lunatus* Billings, 1855.

**Griffithidella depressus** var. **alternatus** (Girty, 1926)

Referred specimen: UC 51947, a pygidium.

Hessler, 1965, p. 255, pl. 38, fig. 3.

Mississippian, Darty Limestone.

In bed of Darty Creek, NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 11, T12S, R2W, Union County, Illinois; collected by Hessler.

**Griffithidella depressus** var. **depressus** (Girty, 1926)

Referred specimens: UC 51945, seven pygidia.

Hessler, 1965, p. 255.

Referred specimens: UC 51946, six pygidia.

Hessler, 1965, p. 255, pl. 38, figs. 2, 5, and 9.

Mississippian, Darty Limestone.

In bed of Darty Creek, NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 11, T12S, R2W, Union County, Illinois; collected by Hessler and J. M. Weller.

**Griffithidella doris** (Hall, 1860)

Referred specimens: UC 51948, seven pygidia.

Hessler, 1965, pp. 253-254, pl. 37, figs. 1, 2, and 7.

Referred specimens: UC 51949, 13 pygidia.

Hessler, 1965, pp. 253-254, pl. 37, fig. 11.

Referred specimen: UC 51950, a cranidium.

Hessler, 1965, pp. 253-254, pl. 37, fig. 8.

Referred specimens: UC 51951, 10 cranidia, two free cheeks, one pygidium in 10 pieces of limestone.

Hessler, 1965, pp. 253-254.

Referred specimens: UC 51953, five free cheeks.

Hessler, 1965, pp. 253-254, pl. 37, fig. 9.

Mississippian, Darty Limestone.

In bed of Darty Creek, NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 11, T12S, R2W, Union County, Illinois; collected by Hessler and by J. M. Weller.

**Griffithidella newarkensis** Hessler, 1965

Holotype: original designation, UC 51957A, a pygidium.

Hessler, 1965, pp. 255-256, pl. 38, figs. 12, 13, and 17.

Referred specimen: UC 51957, a pygidium.

Hessler, 1965, pp. 255-256.

Mississippian, Chouteau Limestone.

NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 26, T60N, R10W, Knox County, Missouri; collected by J. M. Weller.

Referred specimens: UC 51964, two pygidia.

Hessler, 1965, pp. 255-256.

Mississippian, Chouteau Limestone.

On Little Fabius River near Newark about 900 ft. up first tributary upstream from "Snake Den," NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 26, T60N, R10W, Knox County, Missouri; collected by Hessler.

**Griffithidella waverlyensis** Hessler, 1965

Referred specimen: UC 51914, a pygidium.

Hessler, 1965, p. 256.

Mississippian, Waverly Group, Cuyahoga Shale.

Hall locality no. 395, Burbank, Medina County, Ohio; Hall Collection.

**Griffithidella welleri** (Branson and Andrews, 1938)

Referred specimens: UC 51935, four carapaces on one limestone block; UC 51937, two pygidia, one carapace.

Hessler, 1965, p. 254.

Mississippian, Reeds Spring Limestone.

At type section, east portal of tunnel southeast of town of Reeds Spring, Stone County, Missouri; Drury College Exchange, collected by Clark.

Referred specimens: UC 51936, two carapaces.

Hessler, 1965, p. 254.

Mississippian, Reeds Spring Limestone.

On Missouri Route 112 in Roaring River State Park, Barry County, Missouri; Drury College Exchange, collected by Clark.

Referred specimens: UC 51938, two carapaces in one limestone chip.

Hessler, 1965, p. 254, pl. 37, fig. 16.

Mississippian, Reeds Spring Limestone.

NW $\frac{1}{4}$ , sec. 30, T26N, R24W, Stone County, Missouri; Drury College Exchange, collected by Clark.

Referred specimen: UC 51939, a carapace.

Hessler, 1965, p. 254.

Mississippian, Reeds Spring Limestone.

On Flat Creek, NW $\frac{1}{4}$ , SE $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 3, T23N, R27W, Barry County, Missouri; Drury College Exchange, collected by Clark.

Referred specimen: UC 51940, fragment of a pygidium.

Hessler, 1965, p. 254.

Mississippian, Reeds Spring Limestone.

At type section, 10 ft. above level of railroad, west portal of tunnel, east of Reeds Spring, Stone County, Missouri; Drury College Exchange, collected by Clark.

Referred specimen: UC 51941, a carapace.

Hessler, 1965, p. 254.

Mississippian, Reeds Spring Limestone.

At type section region, four miles west of Galena on Missouri Route 44, Stone County, Missouri; Drury College Exchange, collected by Clark.

Referred specimens: UC 51942, one carapace and three fragments.

Hessler, 1965, p. 254.

Mississippian, Reeds Spring Limestone.

One-quarter mile south of junction U. S. 65 and Reeds Spring Road, Stone County, Missouri; Drury College Exchange, collected by Clark.

### **Griffithides bufo** (Meek and Worthen, 1870)

Referred specimen: UC 18911, a carapace.

Shimer and Shrock, 1944, p. 647, pl. 275, fig. 9.

Mississippian, Osage group, Crawfordsville Beds.

Crawfordsville, Indiana; Gurley Collection.

### **Griffithides morrowensis** Mather, 1915

Holotype: original designation, UC 16174A, a cephalon.

Mather, 1915, pp. 244-246, pl. 16, figs. 13-13a.

Referred specimen: UC 16174B, a pygidium.

Mather, 1915, pp. 244-246, pl. 16, figs. 14-14a.

Pennsylvanian, Morrow Formation, Brentwood Limestone.

Mather station 210, Winslow Quadrangle, Brentwood Limestone lentil, Sawney Hollow, head of Indian Creek in Oklahoma, three and one-half miles south of Evansville, Arkansas; Mather Collection.

Remarks: Referred to *Paladin morrowensis* (Mather, 1915) by Shimer and Shrock, 1944, p. 651, pl. 275, figs. 7 (UC 16174A) and 8 (UC 16174B).

### **Griffithides pustulosus** Snider, 1915

Holotype: not designated, to be selected from UC 16233, two cranidia, one pygidium.

Snider, 1915, pp. 120-122, pl. 7, figs. 14-16.

Shimer and Shrock, 1944, p. 647, pl. 275, fig. 10.

Referred specimens: UC 17246, three pygidia, two cranidia.

Snider, 1915, pp. 120-122.

Shimer and Shrock, 1944, p. 647, pl. 275, fig. 11.

Mississippian, Mayes Formation.

Snider, 1915 locality M3, N $\frac{1}{2}$ , sec. 10, T17N, R20E, just south of Fourteen Mile Creek, one mile west and three miles north of Hulbert, Muskogee Quadrangle, Oklahoma; Snider, donor.

Referred specimens: UC 17247, one pygidium, one cranidium.

Snider, 1915, pp. 120-122.

Mississippian, Mayes Formation.

Snider, 1915 locality M4, SW $\frac{1}{4}$ , sec. 21, T15N, R20E, three miles east and three miles south of Ft. Gibson, Muskogee Quadrangle, Oklahoma; Snider, donor.

### **Griffithides (?) sedaliensis** Vogdes, 1888

Holotype: UC 6945, a pygidium.

Vogdes, 1888, p. 249.

Mississippian, Chouteau Limestone.

Sedalia, Missouri; Sampson Collection.

Remarks: Referred to *Phillipsia sampsoni* Vogdes, 1888, by Branson and Andrews in Branson, 1938, pp. 116-117, pl. 15, fig. 10; and by Shimer and Shrock, 1944, p. 651, pl. 276, fig. 3. Referred

to *Breviphillipsia sampsoni* (Vogdes, 1888) by Hessler, 1963, pp. 556-557.

**Griffithides** sp.

Referred specimen: UC 51976, a carapace.

Hessler, 1965, pl. 40, fig. 4.

Mississippian, Reeds Spring Limestone.

On Flat Creek, NW $\frac{1}{4}$ , SE $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 3, T23N, R27W, Barry County, Missouri; Drury College Exchange, collected by Clark.

Referred specimens: UC 51975, three specimens.

Hessler, 1965, pl. 40, figs. 5 and 6 (a pygidium).

Mississippian, Reeds Spring Limestone.

At type section, east portal of tunnel southeast of town of Reeds Spring, Stone County, Missouri; Drury College Exchange, collected by Clark.

**Griffithides?** sp.

Referred specimen: UC 16175, a free cheek.

Mather, 1915, p. 246, pl. 16, fig. 15.

Pennsylvanian, Brentwood Limestone.

Mather, 1915 station 210, Winslow Quadrangle, Brentwood Limestone lentil, Sawney Hollow, head of Indian Creek in Oklahoma, three miles south of Evansville, Arkansas; Mather Collection.

**Hadorachus australis** (Clarke, 1913)

See: *Cryphaeus australis* Clarke, 1913.

**Haploconus tumidus** Bradley, 1930

Holotype: original designation, UC 28916, a cranidium.

Bradley, 1930, p. 263, pl. 29, fig. 23.

Ordovician, Kimmswick Limestone.

R. R. station at Glen Park, Missouri; collected by Bradley.

Referred specimen: UC 20717, a cranidium.

Bradley, 1930, p. 263, pl. 29, fig. 29.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.



**Harpes telleri** S. Weller, 1907

Referred specimen: UC 12318, a fragment of a cranidium.

S. Weller, 1907, pp. 213-214.

Silurian, Niagara Group.

Milwaukee, Wisconsin; Teller, donor.

**Harpes** sp.

Referred specimen: UC 28697, a cephalic shield.

Roy, 1941, p. 154, text fig. 112.

Ordovician, Richmond.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, collected by Jaynes and Roy.

**Heliomera raymondi** Bradley, 1930

Holotype: original designation, UC 20692, a cranidium.

Bradley, 1930, pp. 282-283, pl. 30, fig. 3.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Remarks: Referred to *Heliomeroides raymondi* (Bradley, 1930) by Evitt, 1951, pp. 600-601, pl. 85, figs. 6-14.

**Heliomeroides raymondi** (Bradley, 1930)

See: *Heliomera raymondi* Bradley, 1930.

**Hemiarges bartoni** Raymond, 1925

Referred specimens: UC 5871, one cranidium, one pygidium.

Bradley, 1930, pp. 270-271, pl. 29, fig. 20.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by S. Weller, 1896.

Referred specimens: UC 20697, three cranidia.

Bradley, 1930, pp. 270-271, pl. 29, figs. 18 and 19.

Ordovician, Kimmswick Limestone.

Near Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 20716, two cranidia.

Bradley, 1930, pp. 270-271, pl. 29, fig. 21.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimen: UC 28935, a cranidium.

Bradley, 1930, pp. 270-271, pl. 29, fig. 24.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

Referred specimen: UC 28943, a pygidium.

Bradley, 1930, pp. 270-271, pl. 29, fig. 17.

Ordovician, Kimmswick Limestone.

R. R. station at Glen Park, Missouri; collected by Bradley.

**Hemiarges leviculus** Bradley, 1930

Holotype: not designated, to be selected from UC 28942, two cranidia.

Bradley, 1930, pp. 271-272, pl. 29, fig. 22.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois.

**Holia magnaspina** Bradley, 1930

Holotype: original designation, UC 20688, a cranidium.

Bradley, 1930, pp. 281-282, pl. 30, figs. 11-13.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 5881, three glabella.

Bradley, 1930, pp. 281-282.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri (published); near Sulphur Springs, Missouri, 3B (catalogue); collected by S. Weller, 1896.

**Homotelus laeviurus** Raymond, 1925

Referred specimen: UC 20739, a pygidium.

Bradley, 1930, p. 249, pl. 27, fig. 10.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimen: UC 28860, a pygidium.

Bradley, 1930, p. 249, pl. 27, fig. 8.

Ordovician, Kimmswick Limestone.

One and one-quarter miles south of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimen: UC 28861, a cranidium.

Bradley, 1930, p. 249, pl. 27, fig. 9.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

### **Hoploichas hylaeus** (Hall and Clarke, 1888)

See: *Lichas* (*Hoploichas*) *hylaeus* Hall and Clarke, 1888.

### **Hoploichas? welleri** (Foerste)

See: *Acrolichas cucullus* (Meek and Worthen, 1866).

### **Illaeonoides triloba** S. Weller, 1907

Holotype: not designated, to be selected from the following:

“Cotype:” UC 9871, a carapace.

S. Weller, 1907, pp. 226–227, pl. 17, fig. 6.

Raymond, 1916, p. 10.

Jaanusson *in* Moore, 1959, p. 374.

“Cotype:” UC 9872, a pygidium.

S. Weller, 1907, pp. 226–227, pl. 19, fig. 14.

Raymond, 1916, p. 10.

Jaanusson *in* Moore, 1959, p. 374, text fig. 283, 2b.

“Cotype:” UC 9897, a cranidium.

S. Weller, 1907, pp. 226–227, pl. 19, figs. 12 and 13.

Raymond, 1916, p. 10.

Jaanusson *in* Moore, 1959, p. 374, text fig. 283, 2a.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by S. Weller and by Hyde.

“Cotype:” UC 10732, a cephalon.

S. Weller, 1907, pp. 226–227, pl. 17, figs. 7–9.

Raymond, 1916, p. 10.

Jaanusson *in* Moore, 1959, p. 374.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Van Horne Collection.

**Illaeenus columbiana** S. Weller, 1903

Holotype: not designated, to be selected from UC 10250, one free cheek, one glabella, four pygidia.

S. Weller, 1903, pp. 133-134, pl. 5, figs. 1-4.

Ordovician, Beekmantown, Kittatinny Limestone.

Railroad cut of Delaware branch of New York, Susquehanna and Western Railroad at Columbia, New Jersey; Weller Collection.

Remarks: The original specimens were not figured; the casts UC 10217 of these specimens were figured.

**Illaeenus armatus** Hall, 1865

Referred specimens: UC 9896, a cephalon.

S. Weller, 1907, p. 222, pl. 18, figs. 4-6.

Silurian, Niagara Group.

Lockport, Illinois; Van Horne Collection.

Remarks: Listed by S. Weller in museum catalogue as *Bumastus armatus* (Hall, 1865).

**Illaeenus baffinlandicus** Roy, 1941

Holotype: original designation, P 28703 in two parts, a pygidium and a cranidium.

Roy, 1941, pp. 156-157, figs. 117a and b.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Illaeenus chicagoensis** S. Weller, 1907

Holotype: UC 9910, a cephalon.

S. Weller, 1907, pp. 220-222, pl. 16, figs. 10-12.

Silurian, Niagara Group.

Dolese-Shepard Quarry (formerly Hawthorn, Illinois), Chicago, Illinois; Van Horne Collection.

Remarks: Listed by S. Weller in museum catalogue as *Bumastus chicagoensis* (S. Weller, 1907).

**Illaeenus cuniculus** Hall, 1868

Referred specimen: UC 6853, a cephalon.

S. Weller, 1907, p. 219, pl. 19, figs. 4-6.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Gurley Collection.

Referred specimen: UC 10730, a cranidium.

S. Weller, 1907, p. 219, pl. 19, figs. 1-3.

Silurian, Niagara Group.

Wauwatosa, Wisconsin; Van Horne Collection.

Remarks: Listed in museum catalogue by S. Weller as *Bumastus cuniculus* (Hall, 1868).

***Illaenus danielsi* Miller and Gurley, 1894**

Holotype: UC 6063, a carapace.

Miller and Gurley, 1894, pp. 76-77, pl. 8, figs. 3-5.

Silurian, Niagara Group.

Bonfield, Illinois; Gurley Collection.

***Illaenus depressicapitatus* Bradley, 1930**

Holotype: original designation, UC 28895, a cranidium.

Bradley, 1930, pp. 252-253, pl. 28, fig. 12.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by S. Weller, 1896.

Referred specimens: UC 20701, two pygidia.

Bradley, 1930, pp. 252-253, pl. 28, fig. 13.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimens: UC 28897, two pygidia.

Bradley, 1930, pp. 252-253, pl. 28, fig. 14.

Ordovician, Kimmswick Limestone.

Between Sulphur Springs and Glen Park, Missouri; collected by Bradley.

Referred specimen: UC 28898, a pygidium.

Bradley, 1930, pp. 252-253, pl. 28, fig. 11.

Ordovician, Kimmswick Limestone.

One and one-quarter miles south of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

**Illaeus graftonensis** Meek and Worthen, 1870

Referred specimen: UC 6855, a cephalon.

S. Weller, 1907, pp. 223-224, pl. 16, figs. 4-6.

Silurian, Niagara Group.

Joliet, Illinois; Gurley Collection.

**Illaeus cf. I. groenlandicus** Troedsson, 1928

Referred specimens: P 28705, four pygidia.

Roy, 1941, p. 158, text fig. 119.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Illaeus harrisi** S. Weller, 1907

Holotype: original designation, UC 8613, a cephalon.

S. Weller, 1907, p. 218, pl. 16, figs. 1-3.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Harris, donor.

Remarks: Referred to *Bumastus harrisi* (S. Weller, 1907) by Bassler, 1915, p. 141.

**Illaeus imperator** Hall, 1861

Referred specimens: UC 10728, one pygidium, one cranidium.

S. Weller, 1907, pp. 225-226, pl. 16, figs. 13-16.

Silurian, Niagara Group.

Joliet, Illinois; Van Horne Collection.

Remarks: Referred to *Bumastus imperator* (Hall, 1861) by Bassler, 1915, p. 141.

**Illaeus insignis** Hall, 1865

Referred specimens: UC 9902, one cephalon, one pygidium.

S. Weller, 1907, pp. 215-217, pl. 17, figs. 1-5.

Silurian, Niagara Group.

Dolese-Shepard Quarry (formerly Hawthorn, Illinois), Chicago, Illinois; Van Horne Collection.

Remarks: Referred to *Bumastus insignis* (Hall, 1865) by Shimer and Shrock, 1944, p. 639, pl. 269, figs. 10-12.

**Iliaenus ioxus** Hall, 1868

Referred specimen: UC 10729, a cephalon.

S. Weller, 1907, pp. 222-223, pl. 18, figs. 1-3.

Silurian, Niagara Group.

Joliet, Illinois; Van Horne Collection.

Remarks: Referred to *Bumastus ioxus* (Hall, 1868) by Shimer and Shrock, 1944, p. 639, pl. 269, figs. 13 and 14.

**Iliaenus niagarensis** Whitfield, 1880

Referred specimen: UC 10731, a pygidium.

S. Weller, 1907, pp. 219-220, pl. 19, figs. 10 and 11.

Silurian, Niagara Group.

Lockport, Illinois; Van Horne Collection.

Remarks: Referred to *Bumastus niagarensis* (Whitfield, 1880) by Bassler, 1915, pp. 142-143.

**Iliaenus punctatus** Roy, 1941

Holotype: original designation, P 28704.

Roy, 1941, pp. 157-158, text fig. 118.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Iliaenus transversalis** S. Weller, 1907

Holotype: not designated, to be selected from UC 8614, one cephalon, one free cheek with eye.

S. Weller, 1907, pp. 224-225, pl. 16, figs. 7-9.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Harris, donor.

**Iliaenus** sp.

Referred specimen: P 28706, a cranidium.

Roy, 1941, p. 158, text fig. 120.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Ischyrotoma? raymondi** Roy, 1941

Holotype: original designation, P 28698, a cranidium.

Roy, 1941, pp. 154-155, text fig. 113.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Isoteloides homalonotoides** (Walcott, 1877)

See: *Asaphus homalonotoides* Walcott, 1879.

**Isoteloides kimmswickensis** Bradley, 1930

Holotype: not designated, to be selected from UC 28851A-C, two cranidia and one pygidium on a piece of limestone.

Bradley, 1930, pp. 249-252, pl. 27, fig. 11.

Referred specimen: UC 28851D, a free cheek.

Bradley, 1930, pp. 249-252, pl. 27, fig. 4.

Referred specimen: UC 28853, a pygidium.

Bradley, 1930, pp. 249-252, pl. 27, fig. 1.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by S. Weller, 1896, and by Bradley.

Referred specimens: UC 28854 (not UC 28844), two cranidia.

Bradley, 1930, pp. 249-252, pl. 27, fig. 3.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

Referred specimen: UC 28855, a pygidium.

Bradley, 1930, pp. 249-252, pl. 27, fig. 2.

Ordovician, Kimmswick Limestone.

One and one-quarter miles south of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

**Isotelus gigas** DeKay, 1824

Referred specimens: UC 28869, one cranidium, one pygidium.

Bradley, 1930, p. 248, pl. 26, figs. 1 and 2.

Ordovician, Kimmswick Limestone.

Glencoe Lime Co., Glen Park, Missouri; collected by Bradley.



Referred specimen: UC 28871, a free cheek.

Bradley, 1930, p. 248, pl. 25, fig. 25.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

**Isotelus gigas** var. **latior** Roy, 1941

Holotype: original designation, P 28700, a hypostoma, a small fragment is now broken off.

Roy, 1941, p. 156, text fig. 115a.

Referred specimen: P 28700A, a pygidium.

Roy, 1941, p. 156, text fig. 115b.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Isotelus iowensis** (Owen, 1852)

Referred specimen: P 11241, a cephalon with seven thoracic segments and part of the pygidium.

Slocom, 1913, pp. 48-50, pl. 13, fig. 1.

Slocom, 1916, p. 193, pl. 14, fig. 1.

Walter, 1926, pp. 215-218.

Ordovician, Maquoketa Shale, lower beds, "*Isotelus* Zone."

Clermont, Iowa; collected by Slocom, 1910.

See also: *Asaphus (Isotelus) iowensis* Owen, 1852.

**Isotelus** cf. **I. iowensis** (Owen, 1852)

Referred specimen: P 28701, a pygidium.

Roy, 1941, p. 156, text fig. 116.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Isotelus maximus** Locke, 1838

Referred specimen: UC 28872, a free cheek.

Bradley, 1930, p. 248, pl. 25, fig. 26.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

**Kaskia chesterensis** S. Weller and J. M. Weller *in* J. M. Weller, 1936.

Holotype: original designation, UC 34437, an enrolled carapace.

J. M. Weller, 1936, pp. 708-711, pl. 95, figs. 4a-d.

Shimer and Shrock, 1944, p. 649, pl. 275, figs. 31-33.

Referred specimens: UC 54000, two enrolled carapaces, one pygidium.

J. M. Weller, 1936, pp. 708-711.

Mississippian, Chester Group, Renault Formation, Shetlerville Member.

Four miles west of Marion, Crittendon County, Kentucky; collected by S. Weller, 1915.

Referred specimens: UC 25165, five specimens.

J. M. Weller, 1936, pp. 708-711, pl. 95, fig. 6 (a free cheek).

Shimer and Shrock, 1944, p. 649, pl. 275, fig. 30.

Mississippian, Chester Group, Lower Okaw Limestone, Marigold Member.

S. Weller locality W597, SW $\frac{1}{4}$ , SE $\frac{1}{4}$ , sec. 29, T5S, R8W, one and one-half miles south of Marigold, Randolph County, Illinois; collected by S. Weller, 1912.

Referred specimens: UC 25332, seven specimens.

J. M. Weller, 1936, pp. 708-711.

Mississippian, Lower Okaw Limestone.

S. Weller locality W594, Camp Creek, Randolph County, Illinois; collected by S. Weller, 1913.

Referred specimens: UC 30419, eight specimens.

J. M. Weller, 1936, pp. 708-711, pl. 95, fig. 5 (a pygidium).

Shimer and Shrock, 1944, p. 649, pl. 275, fig. 29.

Mississippian, Glen Dean Limestone.

Two and one-half miles southeast of Vienna, Johnson County, Illinois; collected by S. Weller, 1918.

Referred specimen: UC 48316, a cephalon.

Easton, 1942, pl. 12, fig. 6.

Mississippian, Pitkin Formation.  
Arkansas.

**Lichas byrnesanus** Miller and Gurley, 1894

Holotype: UC 6839, a cranidium.

Miller and Gurley, 1894, pp. 78–79, pl. 8, fig. 8.

Silurian, Niagara Group.

Madison, Indiana; Gurley Collection.

Remarks: Referred to *Trochurus byrnesanus* (Miller and Gurley, 1894) by Foerste, 1917, p. 253, pl. 12, figs. 3a–e.

**Lichas faberi** S. A. Miller, 1889

Holotype: not designated, to be selected from UC 8849, one carapace, one pygidium.

S. A. Miller, 1889, p. 554, text figs. 1024 and 1025.

Ordovician, Cincinnati.

Cincinnati, Ohio; Faber Collection.

Referred specimens: UC 23593, two pygidia.

S. A. Miller, 1889, p. 554.

Ordovician, Maysville Group.

Cincinnati, Ohio; Hall Collection.

Remarks: UC 23593 listed in museum catalogue as *Amphilichas halli* (Foerste, 1888).

**Lichas ferrisi** (S. Weller, 1907)

See: *Metopolichas ferrisi* S. Weller, 1907.

**Lichas hanoverensis** Miller and Gurley, 1894

Holotype: UC 6141, a cranidium.

Miller and Gurley, 1894, p. 78, pl. 8, figs. 6 and 7.

Silurian, Niagara Group.

Hanover, Indiana; Gurley Collection.

Remarks: Referred to *Corydocephalus phlyctainodes* (Green, 1837) by S. Weller, 1907, pp. 193, 234–237, and to *Trochurus hanoverensis* (Miller and Gurley, 1894) by Foerste, 1917, p. 253, pl. 12, figs. 2a–d.

**Lichas (Hopolichas) hylaeus** Hall and Clarke, 1888

Holotype: UC 11738, a cephalon.

Hall and Clarke, 1888, pp. 81-83, pl. 19B, figs. 1 and 2.

Devonian, Onondaga Limestone.

Ontario, Canada; Hall Collection.

Remarks: Listed in museum catalogue by S. Weller as *Hopolichas hylaeus* (Hall and Clarke, 1888).

**Lichas (Terataspis) grandis** Hall, 1861

Referred specimen: UC 11737, a cephalon.

Hall and Clarke, 1888, pp. 73-77, pl. 17, fig. 1, pl. 18, figs. 1 and 2.

Devonian, Onondaga Limestone.

Cayuga, Ontario, Canada.

Remarks: Referred to *Terataspis grandis* (Hall, 1861) by Shimer and Shrock, 1944, p. 654.

**Lichas** sp.

Referred specimens: UC 27544, four specimens.

Stewart, 1923, p. 264, pl. 71, figs. 8 and 9 (2 cephalala).

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Liostracus? jerseyensis** S. Weller, 1900

Holotype: not designated, to be selected from UC 10254, 18 specimens.

S. Weller, 1900, pp. 48, 50-51, pl. 1, figs. 1-8.

Cambrian, Kittatinny Limestone.

Carpentersville, New Jersey; S. Weller Collection.

Remarks: Referred to *Solenopleura jerseyensis* (S. Weller, 1900) by S. Weller, 1903, pp. 13, 119-120, pl. 2, figs. 1-8, and to *Welleraspis jerseyensis* (S. Weller, 1900) by Rasetti in Moore, 1959, p. 281. The original specimen figured by Weller, 1900, pl. 1, figs. 5 and 6, is missing and is represented by a plaster cast UC 10202B.

**Megalaspis beckeri** Slocum, 1913

Holotype: original designation, UC 41151, a carapace.

Slocum, 1913, pp. 50-52, pl. 14, fig. 5.

Slocum, 1916, pp. 196-198, pl. 15, fig. 5.

Ordovician, Maquoketa Shale, lower beds.

Clermont, Iowa; collected by Becker.

Referred specimen: P 16998, a cranidium.

Slocum, 1913, pp. 50-52.

Slocum, 1916, pp. 196-198.

Ordovician, Maquoketa Shale, lower beds.

Postville Junction, Iowa.

Remarks: Referred to *Ectenaspis beckeri* (Slocum, 1913) by Raymond, 1920, pp. 292-293; and by Walter, 1926, pp. 201-203, pl. 13, figs. 8 and 9 (UC 41151).

**Metacryphaeus australis** (Clarke, 1913)

See: *Cryphaeus australis* Clarke, 1913.

**Metopolichas ferrisi** S. Weller, 1907

Holotype: not designated, to be selected from UC 10737, three specimens.

S. Weller, 1907, pp. 244-246, pl. 22, figs. 12 and 13.

Savage, 1917, pp. 159-160.

Silurian, Edgewood Limestone.

Along Des Plaines River near Channahon, Illinois; collected by S. Weller, 1898.

Remarks: Referred to *Lichas ferrisi* (S. Weller, 1907) by Shimer and Shrock, 1944, p. 649, pl. 270, figs. 17 and 18.

**Metopolichas pugnax** (Winchell and Marcy, 1865)

Referred specimen: UC 9861, a pygidium and its plaster cast which is figured.

S. Weller, 1907, pp. 242-244, pl. 21, fig. 4.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Van Horne Collection.

**Nileus vigilans** (Meek and Worthen, 1870)

Referred specimens: UC 41152, two carapaces.

Slocum, 1913, pp. 52-54, pl. 14, figs. 9 and 12.

Slocum, 1916, pp. 199-200, pl. 15, figs. 9 and 12.

Referred specimen: UC 41153, an enrolled carapace.

Slocum, 1913, pp. 52-54, pl. 14, fig. 13.

Slocum, 1916, pp. 199-200, pl. 15, fig. 13.

Ordovician, Maquoketa Shale, lower beds.

Clermont, Iowa; Becker Collection.

Remarks: Referred to *Vogdesia vigilans* (Meek and Worthen, 1870) by Walter, 1926, pp. 203-205.

**Niobe? huberi** Roy, 1929

Holotype: original designation, P 21775, a pygidium with several thoracic segments.

Roy, 1929, pp. 212-213, pl. 35, figs. 6 and 7.

Ordovician, Normanskill Shale.

Railroad cut near Stuyvesant R. R. Station, New York; Roy Collection.

**Odontocephalus bifidus** (Hall, 1861)

See: *Dalmanites (Odontocephalus) bifidus* (Hall, 1861).

**Odontochile dunbari** Delo, 1940

See: *Dalmanites* sp.

**Odontochile micrurus** (Green, 1832)

See: *Dalmania pleuroptyx* Green, 1832.

**Odontochile phacoptyx** (Hall and Clarke, 1888)

See: *Dalmanites (Hausmannia) phacoptyx* Hall and Clarke, 1888.

**Odontochile pratteni** (Roy, 1933)

See: *Dalmanites pratteni* Roy, 1933.

**Odontopleura? callicera** (Hall and Clarke, 1888)

See: *Acidaspis callicera* Hall and Clarke, 1888.

**Odontopleura crossata** (Locke, 1842)

See: *Acidaspis crosotus?* (Locke, 1842)

**Odontopleura illinoisensis** S. Weller, 1907

Holotype: original designation, UC 10745, one cranidium, one pygidium.

S. Weller, 1907, pp. 253-254, pl. 23, figs. 5 and 6.

Silurian, Niagara Group.

Near Joliet, Illinois; collected by S. Weller, 1898.

**Paladin morrowensis** (Mather, 1915)

See: *Griffithides morrowensis* Mather, 1915.

**Paladin mucronatus** (Girty, 1910)

Referred specimen: UC 48313, a carapace.

Easton, 1943, p. 152, pl. 24, fig. 15.

Mississippian, Pitkin Formation.

Quarry three-tenths of a mile south of Leslie, Arkansas.

**Parabolina andina** (Hoek, 1912)

Referred specimens: PE 141, three carapaces, one cranidium, one pygidium.

Richardson, 1948, pp. 369-370.

Ordovician, Tremadocian.

Abra de Zenta, in the Cordillera de Santa Victoria, west of Orán, Province of Salta, northern Argentina; collected by Russo, 1947, gift of Universidad de Buenos Aires, 1947.

**Phacopina devonica** Ulrich, 1892

Referred specimen: P 21903, a pygidium with several thoracic segments.

Roy, 1929, pp. 214-215, pl. 38, fig. 5.

Referred specimens: P 21904, three cephalae.

Roy, 1929, pp. 214-215, pl. 38, figs. 1-4.

Devonian, Red Sandstone.

Patacamaya, Bolivia; Field Museum Brazilian Expedition, 1926.

**Phacops cristata** Hall, 1861

Referred specimens: UC 23909, seven specimens.

Branson and Williams, 1923, p. 163, pl. 39, fig. 1.

Devonian, Grand Tower Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

Referred specimens: UC 27531 (not UC 27541), one cephalon, one pygidium.

Stewart, 1923, pp. 268-269, pl. 71, figs. 24 and 25.

Referred specimens: UC 27532, two cephala.

Stewart, 1923, pp. 268-269, pl. 71, fig. 23.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

### **Phacops cristata** var. **pipa** Hall and Clarke, 1888

Referred specimen: UC 12258, a cephalon.

Hall and Clarke, 1888, pp. 18-19, pl. 8A, figs. 6 and 7.

Delo, 1940, p. 17, pl. 1, fig. 6.

Devonian, Onondaga Limestone.

North Cayuga, Ontario, Canada.

Remarks: UC 12258 is one of the specimens originally figured by Hall and Clarke, 1888.

"No holotype has been designated," Delo, 1940, p. 17.

### **Phacops handwerki** S. Weller, 1907

Holotype: UC 10749B (designated by Delo, 1940), a carapace.

S. Weller, 1907, pp. 271-272, pl. 24, fig. 7.

Referred specimen: UC 10749A, a cephalon.

S. Weller, 1907, pp. 271-272, pl. 24, fig. 6.

Silurian, Niagara Group.

Near Lemont, Illinois; Handwerk, donor.

Remarks: Referred to *Eophacops handwerki* (S. Weller, 1907) by Delo, 1940, pp. 26-27, pl. 2, figs. 1 and 2 (UC 10749B), 3 and 4 (UC 10749A); by Shimer and Shrock, 1944, p. 645, pl. 274, figs. 7 (UC 10749B) and 8 (UC 10749A); and by Richter, Richter, and Struve in Moore, 1959, p. 465, text figs. 386a (UC 10749B) and 386b (UC 10749A). Referred to *Denckmannites handwerki* (Weller, 1907) by Lespérance, 1968, p. 821, text-fig. 3, pl. 106, figs. 1-3 (UC 10749A).



**Phacops hudsonicus?** Hall, 1859

Referred specimens: UC 21147, seven cephalata, one pygidium.

Tansey, 1923, pp. 210–211, pl. 56, figs. 7–9, 14 and 15.

Referred specimens: UC 21148, three pygidia, two cephalata.

Tansey, 1923, pp. 210–211, pl. 56, figs. 5–6, 10–13.

Devonian, Bailey Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste.

Genevieve County field classes.

**Phacops logani** Hall, 1859

Referred specimen: UC 21150, a cephalon.

Tansey, 1923, pp. 211–212, pl. 56, figs. 16 and 17.

Devonian, Bailey Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste.

Genevieve County field classes.

**Phacops salteri** Kozłowski, 1923

Referred specimens: P 21898, one cephalon, one pygidium.

Roy, 1929, p. 214, pl. 38, figs. 9 and 10.

Devonian, Red Sandstone.

Patacamaya, Bolivia; Field Museum Brazilian Expedition, 1926.

**Phacops** sp.

Referred specimen: UC 27533, a pygidium.

Stewart, 1923, p. 269, pl. 71, fig. 26.

Devonian, Upper Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste.

Genevieve County field classes.

**Phaethonides arenicolus** Hall and Clarke, 1888

Referred specimen: UC 11753, a pygidium.

Hall and Clarke, 1888, p. 134, pl. 25, fig. 13.

Devonian, Onondaga Limestone.

North Cayuga, Ontario, Canada.

Remarks: Tentatively referred to this species by Hall and Clarke, 1888, in figure legend.

**Phaethonides immaturus** Herrick, 1888

See: *Phaethonides ? immaturus* Herrick, 1888.

**Phaethonides? immaturus** Herrick, 1888

Referred specimen: UC 54046, a pygidium.

Herrick, 1888, p. 59, pl. 1, fig. 9.

Mississippian, Waverly Group, top of Division II.

Hall locality 385, Newark, Ohio (specimen label); Cuyahoga Falls, Ohio (published); Hall Collection (purchased from Cooper, 1888).

Remarks: UC 54046 is one of the specimens originally figured by Herrick, 1888; the holotype has not been designated. Referred to *Phaethonides immaturus* Herrick, 1888, by Herrick, 1889, pl. 1, fig. 9, and by Herrick, 1895, pl. 14, fig. 9. Referred to *Brachymetopus immaturus* (Herrick, 1888) by S. Weller, 1898, p. 149.

**Phillibole conkini** Hessler, 1963

Holotype: original designation, UC 51907, an enrolled carapace.

Hessler, 1963, pp. 561-562, pl. 62, figs. 24, 25, 28, 29.

Mississippian, New Providence Shale, Coral Ridge Member.

28 ft. above top of Underwood Shale in east quarry of Coral Ridge Brick and Tile Company, Coral Ridge, southwest Jefferson County, Kentucky; collected by Conkin, 1927.

Referred specimens: UC 51908, one carapace, two pygidia.

Hessler, 1963, pp. 561-562, pl. 62, fig. 27 (carapace).

Mississippian, New Providence Shale, Coral Ridge Member.

85 ft. above top of Underwood Shale in east quarry of the Coral Ridge Brick and Tile Company, Coral Ridge, Jefferson County, Kentucky.

**Phillipsia brevicornus** Hessler, 1963

Holotype: original designation, UC 51930, a cranidium.

Hessler, 1963, p. 555, pl. 60, figs. 30, 36, and 40.

Mississippian, Middle Osage Group.

S. Weller station 3 (see Clark, 1952), residual chert from above limestone in railroad cut, NE $\frac{1}{4}$ , NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 22, T29N, R21W, Greene County, Missouri; Drury College Collection Exchange, Clark, collector.

**Phillipsia praecursor** Herrick, 1888

See: *Phillipsia (Proetus) praecursor* Herrick, 1888.

**Phillipsia (Proetus) praecursor** Herrick, 1888

Referred specimen: UC 54045, a cephalon.

Herrick, 1888, pp. 54-55.

Mississippian, Waverly Group, Nodular Layer.

Hall locality 385, Moot's Run, Licking County, Ohio; Hall Collection (purchased from Cooper, 1888).

Remarks: Referred to *Proetus (Phillipsia?) praecursor* (Herrick, 1888) by Herrick, 1888, p. 117 (plate explanation), pl. 1, figs. 1 and 3; by Herrick, 1889, pl. 1, figs. 1 and 3; and to *Proetus praecursor* (Herrick, 1888) by Herrick, 1895, pl. 14, figs. 1 and 3. Referred to *Phillipsia praecursor* Herrick, 1888, by S. Weller, 1898, p. 423.

**Phillipsia sampsoni** Vogdes, 1888

Holotype: UC 6944 (designated by Hessler, 1963), an enrolled carapace.

Vogdes, 1888, p. 247.

Branson and Andrews, 1938, p. 116, pl. 15, figs 2 and 8.

Mississippian, Chouteau Limestone.

Sedalia, Missouri.

Remarks: Referred to *Breviphillipsia sampsoni* (Vogdes, 1888) by Hessler, 1963, pp. 556-557, pl. 61, figs. 15-17, 21.

See also: *Griffithides (?) sedaliensis* Vogdes, 1888.

**Phillipsia swallowi** (Shumard, 1855)

Referred specimens: UC 9659 (not UC 9639), three carapaces; UC 9853, five pygidia, three carapaces.

Branson and Andrews, 1938, pp. 113-114.

Mississippian, Chouteau Limestone.

Pettis County, Missouri; Sampson Collection.

Remarks: Referred to *Breviphillipsia swallowi* (Shumard, 1855) by Hessler, 1963, pp. 558-560.

**Phillipsia tuberculata** Meek and Worthen, 1870

Referred specimens: UC 6800, two pygidia.

Hessler, 1963, pp. 553-554, pl. 61, figs. 10 and 14.

Mississippian, Kinderhook.

Le Grand, Marshall County, Iowa; Gurley Collection.

Referred specimens: UC 6799, two pygidia.

Hessler, 1963, pp. 553-554.

Mississippian, Burlington Limestone.

Louisiana, Pike County, Missouri; Gurley Collection.

Referred specimen: UC 51927, a pygidium.

Hessler, 1963, pp. 553-554.

Mississippian, Burlington Limestone.

S. Weller station 5 (see Clark, 1952), main quarry level, Marblehead Quarry, Springfield, Greene County, Missouri.

Referred specimens: UC 51928, two pygidia.

Hessler, 1963, pp. 553-554.

Mississippian, Reeds Spring Limestone.

Roaring River State Park, Barry County, Missouri; Drury College Collection Exchange.

Referred specimens: UC 51929, two pygidia, one free cheek.

Hessler, 1963, pp. 553-554.

Mississippian, Reeds Spring Limestone.

At type section, east portal of tunnel southeast of town of Reeds Spring, Stone County, Missouri; Drury College Collection Exchange.

### **Phillipsia sp.**

Referred specimen: UC 4987, a pygidium.

S. Weller, 1897b, p. 272, pl. 21, fig. 11.

Mississippian, Batesville Sandstone.

S. Weller locality 2A, Batesville, Arkansas; collected by S. Weller, 1896.

### **Piltonia kuehnei antoingensis** Hahn, 1964

Referred specimens: UC 51583, two cranidia, two pygidia.

Hahn, 1964, pp. 367-374.

Mississippian, Unterkarbon (?Pericyclus-Stufe), Kohlenkalk dunkler, brauner, poroser Kieselkalk.

Antoing, W-Belgien (Belgium); received from Hahn.

### **Proetides colemani** Hessler, 1962

Holotype: original designation, UC 51900, a cranidium.

Hessler, 1962, pp. 814-815, pl. 119, figs. 18, 21, and 22.

Referred specimens: UC 51901, one pygidium, two free cheeks, one glabella.

Hessler, 1962, pp. 814-815, pl. 119, figs. 14-17, 19, and 20.

Mississippian, basal Chouteau Limestone.

In creek bed next to road approaching Easley, SE $\frac{1}{4}$ , NE $\frac{1}{4}$ , NW $\frac{1}{4}$ , NE $\frac{1}{4}$ , sec. 3, T46N, R13W, Boone County, Missouri; collected by Hessler, 1958.

**Proetides insignis** (Winchell, 1863)

Referred specimen: UC 51918, a pygidium.

Hessler, 1962, pp. 813-814, pl. 119, figs. 11-13.

Mississippian, Chouteau Limestone.

McSorely Lime Quarry, near Newark, SE $\frac{1}{4}$ , NW $\frac{1}{4}$ , sec. 26, T60N, R10W, Knox County, Missouri; collected by Hessler, 1958.

Referred specimens: UC 51919, 22 specimens.

Hessler, 1962, pp. 813-814, pl. 119, figs. 1-4, and 6.

Referred specimens: UC 51967, 17 specimens.

Hessler, 1962, pp. 813-814, pl. 119, figs. 5, 7-10.

Mississippian, Chouteau Limestone.

About 900 ft. up first tributary upstream from "Snake Den" on Little Fabius River, near Newark, NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 26, T60N, R10W, Knox County, Missouri; collected by Hessler and by J. M. Weller, 1958.

**Proetus brevimarginatus** S. Weller, 1903

Holotype: not designated, to be selected from UC 10374, two cranidia, one free cheek, one pygidium.

S. Weller, 1903, p. 197, pl. 15, figs. 1-7.

Ordovician, Trenton Limestone.

S. Weller, 1903 locality 174A, on a 580+ ft. hill behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

**Proetus canalis** Bradley, 1930

Holotype: original designation, UC 28922, a cranidium.

Bradley, 1930, pp. 261-262, pl. 29, fig. 28.

Ordovician, Kimmswick Limestone.

R. R. station at Glen Park, Missouri; collected by Bradley.

**Proetus channahonensis** S. Weller, 1907

Holotype: not designated, to be selected from UC 10736, seven specimens.

S. Weller, 1907, p. 228, pl. 20, figs. 6 and 7.

Savage, 1917, pp. 157-158.

Silurian, Edgewood Limestone.

Along Des Plaines River, near Channahon, Illinois.

**Proetus clarus** Hall, 1861

Referred specimen: UC 11752, a pygidium.

Hall and Clarke, 1888, pp. 104-106, pl. 22, fig. 30.

Devonian, Onondaga Limestone.

Falls of the Ohio; Hall Collection.

**Proetus conradi** Hall, 1861

Referred specimen: UC 27550, a cranidium.

Stewart, 1923, p. 263, pl. 71, fig. 2.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Proetus corrugatus** Van Ingen, 1901

Holotype: original designation, UC 5275, a cranidium.

Van Ingen, 1902, pp. 54-57, text fig. 16.

Silurian, St. Clair Limestone.

Van Ingen, 1901 locality 427-41, St. Clair Spring, Independence County, Arkansas; collected by S. Weller, 1896.

**Proetus crassimarginatus** (Hall, 1843)

Referred specimens: UC 23907, two pygidia.

Branson and Williams, 1923, p. 161, pl. 39, fig. 4.

Devonian, Grand Tower Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Proetus delphinulus** Hall and Clarke, 1888

Holotype: UC 23160, a cephalon, on the same rock as the holotype of *Proetus tumidus* Hall and Clarke, 1888.

Hall and Clarke, 1888, pp. 111–112, pl. 23, figs. 1 and 2.  
Devonian, Onondaga Chert.  
Port Colborne, Ontario, Canada.

**Proetus? depressus** S. Weller, 1903

Holotype: UC 10418, a pygidium.

S. Weller, 1903, pl. 249, pl. 22, fig. 27.

Silurian, Decker Ferry Formation.

S. Weller, 1903 locality 2A<sup>3</sup>, William Nearpass Quarry, New Jersey, two miles south of Tri-States, New York; S. Weller Collection.

**Proetus fernglenensis** S. Weller, 1909

Holotype: original designation, UC 13909, a carapace.

S. Weller, 1909, pp. 320–321, pl. 15, figs. 20 and 21.

Mississippian, Fern Glen Formation.

S. Weller, 1909 locality 22, Fern Glen, Missouri; collected by S. Weller, 1908.

Referred specimen: UC 13915, a free cheek.

S. Weller, 1909, pp. 320–321, pl. 15, fig. 22.

Mississippian, Fern Glen Formation.

S. Weller, 1909 locality 9, near Kimmswick, Missouri; collected by S. Weller, 1898.

Remarks: Referred to *Proetus* (*Pudoproetus*) *fernnglenensis* S. Weller, 1909 by Hessler, 1963, p. 550, pl. 59, figs. 23 and 25 (UC 13909).

**Proetus haldemani** Hall, 1862

Holotype: original designation, UC 10878, a carapace.

Hall, 1862b, pp. 102–103.

Hall and Clarke, 1888, pp. 113–116, pl. 21, figs. 7 and 8, pl. 23, fig. 15.

Shimer and Shrock, 1944, p. 653, pl. 274, fig. 6.

Devonian, Hamilton Formation.

Southwestern Pennsylvania; Hall Collection.

Referred specimens: UC 23908, 13 specimens.

Branson and Williams, 1923, pp. 161–162, pl. 39, fig. 12.

Devonian, Grand Tower Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Proetus? handwerki** S. Weller, 1907

Holotype: original designation, UC 9911, a cephalon.

S. Weller, 1907, pp. 229-230, pl. 20, figs. 8 and 9.

Silurian, Niagara Group.

Chicago Drainage Canal, near Lemont, Illinois; Handwerk, donor.

**Proetus jejunus** Hall and Clarke, 1888

Holotype: UC 11750, a pygidium.

Hall and Clarke, 1888, pp. 124-125, pl. 25, fig. 7.

Devonian, Hamilton Formation.

Albany County, New York; Hall Collection.

**Proetus latimarginatus** S. Weller, 1903

Holotype: not designated, to be selected from UC 10373, one cranidium, one free cheek, two pygidia.

S. Weller, 1903, pp. 195-197, pl. 14, figs. 17-24.

Ordovician, Trenton Limestone.

On a 580+ ft. high hill behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

**Proetus pachydermatus** Barrett, 1878

Referred specimens: UC 10417, two cranidia, one free cheek, two pygidia, one hypostoma.

S. Weller, 1903, pp. 248-249, pl. 22, figs. 16-21.

Silurian, Decker Ferry Formation.

S. Weller, 1903 locality 2A<sup>12</sup>, William Nearpass Quarry, New Jersey, two miles south of Tri-States, New York.

**Proetus cf. pachydermatus** Barrett, 1878

Referred specimens: UC 27549, four cephalata.

Stewart, 1923, p. 263, pl. 71, fig. 3.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.



**Proetus (Phillipsia?) praecursor** (Herrick, 1888)

See: *Phillipsia (Proetus) praecursor* Herrick, 1888.

**Proetus praecursor** (Herrick, 1888)

See: *Phillipsia (Proetus) praecursor* Herrick, 1888.

**Proetus protuberans** Hall, 1859

Referred specimens: UC 27545, three pygidia.

Stewart, 1923, pp. 263-264, pl. 71, figs. 4 and 6.

Referred specimens: UC 27546, two cranidia, three pygidia.

Stewart, 1923, pp. 263-264, pl. 71, figs. 5 and 7.

Devonian, Little Saline Limestone.

Little Saline Creek in Missouri; collected by Univ. Chicago Ste. Genevieve County field classes.

**Proetus (Pudoproetus) auriculatus** Hall, 1861

Referred specimen: UC 35520, a cranidium.

Hessler, 1963, p. 549.

Mississippian, Waverly Group.

Hall locality 348, Newark, Licking County, Ohio; Hall Collection.

Referred specimens: UC 35527, 15 specimens.

Hessler, 1963, p. 549, pl. 54, figs. 1, 2, 5, 7, and 8.

Mississippian, Cuyahoga Formation, nodular layer.

Hall locality 385, Moots Run, St. Albans Township, Licking County, Ohio; Hall Collection.

Referred specimen: UC 51416 (not UC 382a), a cranidium.

Hessler, 1963, p. 549.

Mississippian, Waverly Group, top of Division II.

Hall locality 382a, Granville, Licking County, Ohio; Hall Collection.

**Proetus (Pudoproetus) chappelensis** Hessler, 1963

Referred specimens: UC 51959, five specimens.

Hessler, 1963, pp. 550-551, pl. 60, fig. 8 (free cheek).

Referred specimens: UC 51903, a glabella; UC 51958, a free cheek; UC 51906, five pygidia.

Hessler, 1963, pp. 550-551.

Mississippian, Darty Limestone.

SE $\frac{1}{4}$ , SE $\frac{1}{4}$ , sec. 10 or NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 11, T12S, R2W, Jonesboro Quadrangle, Union County, Illinois; collected by Hessler and by J. M. Weller, 1958.

**Proetus (Pudoproetus) fernglenensis** S. Weller, 1909

Referred specimens: UC 51902, five cranidia, two pygidia.  
Hessler, 1963, p. 550.

Mississippian, New Providence Shale.

Marion County, Kentucky; collected by Linney, 1880.

Referred specimens: UC 51960, three cranidia, three carapaces.  
Hessler, 1963, p. 550.

Mississippian, Fern Glen Formation.

"Kimmswick Locality," Jefferson County, Missouri.

Referred specimens: UC 51961, two cranidia, one carapace; UC 51962, two carapaces, one pygidium.  
Hessler, 1963, p. 550.

Mississippian, Fern Glen Formation.

Valley Park Station, St. Louis County, Missouri.

See also: *Proetus fernglenensis* S. Weller, 1909.

**Proetus (Pudoproetus) missouriensis** Shumard, 1855

Referred specimen: UC 6697, a free cheek.

Hessler, 1963, pp. 548-549, pl. 59, fig. 11.

Mississippian, Louisiana Limestone.

Louisiana, Pike County, Missouri; Gurley Collection.

**Proetus rowi** (Green, 1838)

Referred specimen: UC 11751, a carapace.

Hall and Clarke, 1888, pp. 119-122, pl. 23, fig. 28.

Devonian, Tully Limestone.

Near Ovid, Seneca County, New York; Hall Collection.

**Proetus tumidus** Hall and Clarke, 1888

Holotype: UC 23160, a cranidium, on the same rock as the holotype of *Proetus delphinulus* Hall and Clarke, 1888.

Hall and Clarke, 1888, p. 113, pl. 23, fig. 9.

Devonian, Onondaga Chert.

Port Colborne, Ontario, Canada; Hall Collection.

**Pseudosphaerexochus subcircularis** Bradley, 1930

Holotype: original designation, UC 28949, a cranidium.

Bradley, 1930, pp. 279-280, pl. 30, fig. 17.

Ordovician, Kimmswick Limestone.

R. R. station at Glen Park, Missouri; collected by Bradley.

Referred specimens: UC 28950, two cranidia.

Bradley, 1930, pp. 279-280, pl. 30, fig. 18.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

**Pterygometopus callicephalus** (Hall, 1847)

Referred specimens: UC 28970, two pygidia, one cephalon, one hypostoma.

Bradley, 1930, pp. 288-290, pl. 29, figs. 36-38.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

Referred specimen: UC 28971, two specimens.

Bradley, 1930, pp. 288-290, pl. 29, fig. 39.

Ordovician, Kimmswick Limestone.

One-quarter mile north of Sulphur Springs, Missouri; collected by Bradley.

Remarks: Referred to *Calyptaulax (Calliops) callicephalus* (Hall, 1847) by Struve in Moore, 1959, p. 492.

**Pterygometopus callicephalus** var. *brevis* Roy, 1941

Holotype: not designated, to be selected from P 28715, one cranidium, one pygidium.

Roy, 1941, p. 165, text figs. 131a and b.

Referred specimens: P 28716, one pygidium, one hypostoma.

Roy, 1941, p. 165.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Pterygometopus carleyi** (Meek, 1872)

See: *Dalmanites carleyi* Meek, 1872.

**Pterygometopus fredericki** Slocum, 1913

Holotype: original designation, P 17024, a carapace.

Slocum, 1913, pp. 79-81, pl. 18, figs. 1-3.

Slocum, 1916, pp. 232-235, pl. 19, figs. 1-3.

Walter, 1926, p. 256, pl. 20, fig. 1.

Ordovician, Lower Maquoketa Shale.

Bloomfield, Iowa; collected by Slocum, 1912.

Referred specimen: UC 41158, an enrolled carapace.

Slocum, 1913, pp. 79-81, pl. 18, figs. 4 and 5.

Slocum, 1916, pp. 232-235, pl. 19, figs. 4 and 5.

Walter, 1926, p. 256, pl. 20, figs. 2 and 3.

Ordovician, Lower Maquoketa Shale.

Clermont, Iowa; Becker Collection.

Remarks: Referred to *Calliops fredericki* (Slocum, 1913) by Delo, 1940, p. 96, pl. 11, figs. 22 and 23 (P 17024) and pl. 20, fig. 1 (P 17024).

**Pterygometopus intermedius** (Walcott, 1877)

Referred specimens: UC 11483, four cranidia.

Branson, 1909, p. 47.

Ordovician, "Residuary Auburn Chert."

Auburn, Lincoln County, Missouri; collected by S. Weller, 1896.

Remarks: Four of the original eight specimens including the figured specimen are missing. Species referred to *Eomonorachus intermedius* (Walcott, 1877) by Delo, 1940, pp. 107-108.

**Pterygometopus larrabeei** Slocum, 1913

Holotype: original designation, P 11256A, a cephalon.

Slocum, 1913, pp. 81-83, pl. 18, figs. 6 and 7.

Slocum, 1916, pp. 235-237, pl. 19, figs. 6 and 7.

Walter, 1926, pp. 259-261, pl. 20, fig. 8.

Referred specimen: P 11256B, a pygidium.

Slocum, 1913, pp. 81-83, pl. 18, fig. 8.

Slocum, 1916, pp. 235-237, pl. 19, fig. 8.

Walter, 1926, pp. 259-261, pl. 20, fig. 9.

Ordovician, Lower Maquoketa Shale.

Clermont, Iowa; collected by Slocom, 1910.

Remarks: Referred to *Calliops larrabeei* (Slocom, 1913) by Delo, 1940, p. 97.

**Pterygometopus lincolnensis** Branson, 1909

Holotype: not designated, to be selected from UC 11484, one carapace, one cephalon, eight cranidia; UC 11554, 19 specimens.

Branson, 1909, pp. 46-47, pl. 7, figs. 17-19 (UC 11484).

Ordovician, "Residuary Auburn Chert."

Auburn, Lincoln County, Missouri; collected by S. Weller, 1896.

Remarks: Referred to *Calyptaulax lincolnensis* (Branson, 1909) by Delo, 1940, pp. 104-105, pl. 13, figs. 5 and 6.

**Pterygometopus** sp.

Referred specimens: UC 10267, two free cheeks.

S. Weller, 1903, pp. 18, 21, pl. 14, figs. 26 and 27.

Ordovician, Trenton Limestone.

S. Weller, 1903 locality 174A<sup>13</sup>, on hill 580 + ft. behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

**Pterygometopus** sp. I

Referred specimen: P 28717, a pygidium.

Roy, 1941, p. 166, text fig. 132.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Pterygometopus** sp. II

Referred specimen: P 28718, left pleural lobe of a pygidium.

Roy, 1941, p. 166, text fig. 133.

Ordovician, Richmond Group.

Silliman's Fossil Mount, Frobisher Bay, Baffin Land; Field Museum Expedition, 1928.

**Remopleurides missouriensis** Foerste, 1920

Referred specimens: UC 28906, one cranidium, one pygidium, one hypostoma.

Bradley, 1930, pp. 246-247, pl. 30, figs. 4-7.

Referred specimens: UC 28907 (not UC 21907), two hypostomata.

Bradley, 1930, pp. 246-247, pl. 30, fig. 9.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley and by Univ. Chicago Calhoun County Expedition, 1906.

Referred specimen: UC 29102, a free cheek.

Bradley, 1930, pp. 246-247, pl. 30, fig. 8.

Ordovician, Kimmswick Limestone.

One-quarter mile north of Sulphur Springs, Missouri; collected by Bradley.

### **Richterella snakedenensis** Hessler, 1965

Holotype: original designation, UC 51933A, a cranidium.

Hessler, 1965, pp. 259-261, pl. 39, figs. 12, 13, and 17.

Referred specimens: UC 51933, three cranidia, five pygidia, one free cheek.

Hessler, 1965, pp. 259-261, pl. 39, figs. 10 and 16.

Referred specimens: UC 51965, six pygidia; UC 51966, one cranidium, one pygidium.

Hessler, 1965, pp. 259-261, pl. 39, figs. 14, 15, 18-20 (UC 51965).

Mississippian, Chouteau Limestone.

About 900 ft. up first tributary upstream from "Snake Den," on Little Fabius River near Newark, NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 26, T60N, R10W, Knox County, Missouri.

### **Scutellum acamas** (Hall, 1865)

See: *Bronteus acamas* Hall, 1865.

### **Scutellum barrandi** (Hall, 1859)

See: *Goldius barrandii* (Hall, 1859).

### **Scutellum lunatus** (Billings, 1855)

See: *Bronteus lunatus* Billings, 1855.

### **Scutellum** sp.

See: *Bronteus* sp.

**Solenopleura jerseyensis** (S. Weller, 1900)

See: *Liostracus? jerseyensis* S. Weller, 1900.

**Sphaerexochus romingeri** Hall, 1867

Referred specimens: UC 5270, three cranidia, one cephalon.

S. Weller, 1907, pp. 266–268, pl. 24, figs. 16–18.

Shimer and Shrock, 1944, p. 653, pl. 272, figs. 17–19.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by S. Weller.

**Sphaerocoryphe arachniformis** Bradley, 1930

Holotype: original designation, UC 20689, a cephalon.

Bradley, 1930, pp. 284–285, pl. 30, figs. 1 and 2.

Referred specimens: UC 20689, three cranidia.

Bradley, 1930, pp. 284–285.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Univ. Chicago Calhoun County Expedition, 1906.

**Sphaerocoryphe maquoketensis** Slocum, 1913

Holotype: original designation, P 11152A, a cephalon.

Slocum, 1913, pp. 77–79, pl. 15, figs. 1 and 2.

Slocum, 1916, pp. 229–231, pl. 16, figs. 1 and 2.

Walter, 1926, pp. 254–256.

Referred specimen: P 11152, 61 specimens.

Slocum, 1913, pp. 77–79.

Slocum, 1916, pp. 229–231.

Walter, 1926, pp. 254–256.

Ordovician, Lower Maquoketa Shale.

Bloomfield, Iowa; collected by Slocum, 1910.

Referred specimen: P 16954, a pygidium.

Slocum, 1913, pp. 77–79, pl. 15, fig. 3.

Slocum, 1916, pp. 229–231, pl. 16, fig. 3.

Walter, 1926, pp. 254–256.

Ordovician, Maquoketa Shale.

Clermont or Elgin, Iowa; collected by Slocum, 1912.

Referred specimen: P 17051, a pygidium.

Slocom, 1913, pp. 77-79, pl. 15, fig. 4.

Slocom, 1916, pp. 229-231, pl. 16, fig. 4.

Walter, 1926, pp. 254-256, pl. 20, fig. 6.

Ordovician, Maquoketa Shale, lower beds.

Elgin, Iowa; collected by Slocom, 1912.

**Staurocephalus obsoleta** S. Weller, 1907

Holotype: original designation, UC 9870, a cephalon.

S. Weller, 1907, p. 270, pl. 24, fig. 15.

Silurian, Niagara Group.

Near Lemont, Illinois; collected by Hyde.

**Terataspis grandis** (Hall, 1861)

See: *Lichas (Terataspis) grandis* (Hall, 1861).

**Thaelops ovata** Conrad, 1843

Referred specimen: UC 6900, a carapace.

Bradley, 1930, pp. 256-257, pl. 30, figs. 15 and 16.

Ordovician, Kimmswick Limestone.

Near Batchtown, Calhoun County, Illinois; Gurley Collection.

Referred specimen: UC 6901, two enrolled carapaces.

Slocom, 1913, pp. 56-57, pl. 14, fig. 7.

Slocom, 1916, pp. 204-205, pl. 15, fig. 7.

Walter, 1926, pp. 224-225.

Ordovician, Platteville Limestone.

Mineral Point, Wisconsin; Gurley Collection.

Referred specimen: UC 12584, a cephalon.

Slocom, 1913, pp. 56-57, pl. 14, fig. 8.

Slocom, 1916, pp. 204-205, pl. 15, fig. 8.

Ordovician, Platteville Limestone.

Dixon, Illinois; Decker, donor.

Referred specimen: P 11207, a cranidium.

Slocom, 1913, pp. 56-57.

Slocom, 1916, pp. 204-205.

Walter, 1926, pp. 224-225.

Ordovician, Maquoketa Shale, upper beds.

Patterson's Springs, Brainard, Iowa; collected by Slocom, 1910.



**Thigriffides roundyi** (Girty, 1926)

Referred specimens: UC 51943, three pygidia.

Hessler, 1965, pp. 257-258, pl. 38, figs. 15 and 16.

Referred specimens: UC 51944, 15 pygidia.

Hessler, 1965, pp. 257-258, pl. 38, figs. 24 and 27.

Referred specimens: UC 51952, 14 cranidia, one free cheek.

Hessler, 1965, pp. 257-258, pl. 39, figs. 2, 3, and 6.

Referred specimens: UC 51954, eight free cheeks; UC 51955, two free cheeks.

Hessler, 1965, pp. 257-258.

Referred specimen: UC 51956, a free cheek.

Hessler, 1965, pp. 257-258, pl. 39, fig. 1.

Mississippian, Darty Limestone.

Darty Creek, NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , sec. 11, T12S, R2W, Jonesboro Quadrangle, Union County, Illinois; collected by Hessler and by J. M. Weller.

**Thysanopyge argentina** Kayser, 1898

Referred specimen: PE 6164, a carapace.

Woodland, 1964, p. 243.

Ordovician

Argentina; gift of Kjellesvig-Waering, 1960.

**Trochurus byrnesanus** (Miller and Gurley, 1894)

See: *Lichas byrnesanus* Miller and Gurley, 1894.

**Trochurus hanoverensis** (Miller and Gurley, 1894)

See: *Lichas hanoverensis* Miller and Gurley, 1894.

**Trochurus phlyctainodes** (Green, 1837)

See: *Corydocephalus phlyctainodes* (Green, 1837).

**Vogdesia vigilans** (Meek and Worthen, 1870)

See: *Nileus vigilans* (Meek and Worthen, 1870).

**Walcottaspis vanhornei** (Walcott, 1914)

See: *Dikelocephalus vanhornei* Walcott, 1914.

**Welleraspis jerseyensis** (S. Weller, 1900)

See: *Liostracus? jerseyensis* S. Weller, 1900.

**Trilobite species**

## Pygidium

Referred specimen: UC 29056.

Bradley, 1930, p. 283, pl. 30, fig. 10.

Ordovician, Kimmswick Limestone.

One mile north of Batchtown, Illinois; collected by Bradley.

## "Species A"

Referred specimen: UC 51973, an exfoliated pygidium.

Hessler, 1965, pp. 262-263, pl. 40, figs. 1 and 2.

Mississippian, Upper Pierson Limestone.

NW $\frac{1}{4}$ , NW $\frac{1}{4}$ , NW $\frac{1}{4}$ , sec. 23, T31N, R22W, Greene County,  
Missouri.

## CATALOGUE OF CASTS

### **Acidaspis hamata** (Conrad, 1841)

Referred specimen: UC 15934.

Hall, 1859c, p. 371.

Hall, 1861, pl. 79, fig. 15.

Referred specimen: UC 22188, two specimens, original specimens  
New York State Museum nos. 13222/1 and 13222/2.

Hall, 1859c, p. 371.

Hall, 1861, pl. 79, figs. 16 and 17.

Devonian, Helderberg Group.

Helderberg Mountains, Albany and Schoharie Counties, New York;  
Hall Collection.

Remarks: Referred to *Dicranurus hamatus* (Hall, 1859) by Whittington, 1956, pp. 518-519.

### **Acidaspis ida** Winchell and Marcy, 1865

"Cotypes:" UC 770, three specimens.

Winchell and Marcy, 1865, pp. 81, 106-107, pl. 3, fig. 13.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Hall Collection.

Remarks: Referred to *Ceratocephala goniata* Warder, 1838, by S. Weller, 1907, p. 256.

### **Acidaspis tuberculatus** Conrad, 1840

Referred specimens: UC 15935, two free cheeks.

Hall, 1859c, pp. 368-370.

Hall, 1861, pl. 79, figs. 9 and 10.

Devonian, Helderberg Group.

Helderberg Mountains, New York; Hall Collection.

Referred specimens: UC 15936, two free cheeks, one cranidium,  
original specimen in New York State Museum no. 13224/3.

Hall, 1859c, pp. 368-370.

Hall, 1861, pl. 79, figs. 3, 5, and 7.

Devonian, Helderberg Group.

Helderberg Mountains, New York; Hall Collection.

Remarks: Localities published as Albany and Schoharie Counties, New York. Referred to *Odontopleura tuberculata* (Conrad, 1840) by Shimer and Shrock, 1944, p. 651, pl. 271, fig. 12 (UC 15936); and to *Leonaspis tuberculatus* (Hall, 1859) by Whittington, 1956, pp. 507-509, pl. 57, figs. 1-3 (UC 15936).

**Ameura major** (Shumard, 1858)

See: *Proetus longicaudus* Hall, 1861.

**Amphilichas halli** (Foerste, 1888)

See: *Platynotus trentonensis* (Conrad, 1842).

**Anchiopella anchiops** (Green, 1832)

See: *Dalmanites* cf. *D. anchiops* (Green, 1832).

*Dalmanites* (*Chasmops*) *anchiops* (Green, 1832).

**Anchiopsis anchiops** Green, 1832

See: *Dalmanites* cf. *D. anchiops* (Green, 1832).

*Dalmanites* (*Chasmops*) *anchiops* (Green, 1832).

**Anomocare parvula** S. Weller, 1903

Holotype: UC 10203, a cranidium.

S. Weller, 1903, pp. 120-121, pl. 3, fig. 12.

Cambrian, Kittatinny Limestone.

S. Weller, 1903 locality 136A, O'Donnell and MacManniman Quarry, Newton, New Jersey.

**Arctinurus boltoni** (Bigsby, 1825)

See: *Lichas boltoni* (Bigsby, 1825).

**Asaphellus gyracanthus** Raymond, 1910

See: *Isotelus canalis* (Whitfield, 1886).

**Barrandia vermontana** (Hall, 1859)

See: *Olenus vermontana* Hall, 1859.

**Bathynotus holopyga** (Hall, 1859)

See: *Peltura (Olenus) holopyga* Hall, 1859.

**Brachymetopus? spinosiformis** Williams, 1943

Holotype: UC 52023, a pygidium.

Williams, 1943, pp. 111–112, pl. 9, fig. 68.

Mississippian, Louisiana Limestone.

Williams, locality 599, NW $\frac{1}{4}$ , sec. 28, T54N, R1W, mouth of Buffalo Creek, one mile south of Louisiana, Pike County, Missouri; Williams, donor.

**Bronteus acamas** Hall, 1865

See: *Bronteus occasus* Winchell and Marcy, 1865.

**Bronteus lunatus** Billings, 1855

Referred specimen: UC 10224, a pygidium.

S. Weller, 1903, pp. 198–199, pl. 15, fig. 15.

Ordovician, Trenton Limestone.

S. Weller, 1903 locality 174A, a hill 580 + ft. high behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

Remarks: Referred to *Scutellum lunatus* (Billings, 1855) by Shimer and Shrock, 1944, p. 653.

**Bronteus occasus** Winchell and Marcy, 1865

Holotype: UC 775, a pygidium.

Winchell and Marcy, 1865, pp. 104–105, pl. 3, fig. 12.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois; Hall Collection.

Remarks: Figured as *Bronteus acamas* Hall, 1865, by Hall, 1868, p. 393; and Hall, 1870, pp. 422–423, pl. 25, fig. 21. Referred to *Scutellum occasus* (Winchell and Marcy, 1865) by Shimer and Shrock, 1944, p. 653.

**Bumastus barriensis** Hall, 1843 (not Murchison, 1839)

Referred specimen: UC 22192, a carapace.

Hall, 1852, pp. 302–303, pl. 66, fig. 5, figured as *Bumastis* [sic] *barriensis* Murchison, 1839.

Silurian, Rochester Shale.

Lockport, New York; Hall Collection.

Remarks: Referred to *Bumastus ioxus* (Hall, 1843) by Bassler, 1915, p. 142.

**Bumastus billingsi** Raymond and Narraway, 1908

See: *Bumastus trentonensis* Emmons, 1842.

**Bumastus ioxus** (Hall, 1843)

See: *Bumastus barriensis* Hall, 1843 (not Murchison, 1839).

**Bumastus transversalis** S. Weller, 1903

"Cotypes:" UC 10223, one pygidium with attached thoracic segments, one cranium.

S. Weller, 1903, p. 195, pl. 14, fig. 14.

Ordovician, Trenton Limestone.

S. Weller, 1903 locality 192A, just east of Hainesburg station, New Jersey; S. Weller Collection.

**Bumastus trentonensis** Emmons, 1842

Holotype: UC 701, a carapace.

Emmons, 1842, p. 390, text fig. 100-1.

Ordovician, Trenton Limestone.

Boulder at Hogansburgh, New York; Hall Collection.

Remarks: Referred to *Iliaenus trentonensis* (Emmons, 1842) by Hall, 1847, p. 230, pl. 60, fig. 5; and to *Bumastus billingsi* Raymond and Narraway, 1908, by Raymond and Narraway, 1908, pp. 250-252.

**Calymene rowii** Green, 1838

Holotype: UC 22217, a carapace.

Green, 1838, pp. 406-407.

Devonian, Hamilton Group.

Just outside of the village of Fly Creek, three miles from Coopers-town, Otsego County, New York; Hall Collection.

Remarks: Referred to *Proetus rowii* (Green, 1838) by Hall, 1862b, pp. 103-104, and by Hall and Clarke, 1888, pp. 119-122, pl. 21, fig. 4.

**Calymene senaria** Conrad, 1841

Referred specimen: UC 15923, a carapace.

Hall, 1847, pp. 238-239, pl. 64, figs. 3b and c.

Ordovician, Trenton Limestone.

Middleville, New York; Hall Collection.

Remarks: Referred to *Flexicalymene (Flexicalymene) senaria* (Conrad, 1841) by Whittington *in* Moore, 1959, p. 452.

**Ceratocephala goniata** Warder, 1838

See: *Acidaspis ida* Winchell and Marcy, 1865.

**Ceraurus pleurexanthemus** Green, 1832

Referred specimen: UC 15921, a cephalon with eight thoracic segments.

Hall, 1847, pp. 242-244, pl. 66, figs. 1a-g.

Ordovician, Trenton Limestone.

Near Cincinnati, Ohio; Hall Collection.

Referred specimen: UC 22196, one specimen.

Hall, 1847, pp. 242-244, pl. 66, fig. 1h.

Ordovician, Trenton Limestone.

Trenton Falls?, New York; Hall Collection.

Referred specimen: UC 22211, a pygidium with pleural spines.

Hall, 1847, pp. 242-244, pl. 65, figs. 1m and 1m\*.

Ordovician, Trenton Limestone.

Middleville?, New York.

**Chasmops anchiops** (Green, 1832)

See: *Dalmanites (Chasmops) anchiops* (Green, 1832).

*Dalmanites* cf. *D. anchiops* (Green, 1832).

**Chasmops anchiops** var. **armatus** (Hall, 1861)

See: *Dalmanites (Chasmops) anchiops* var. *armatus* (Hall, 1861).

**Conolichas pustulosus** (Hall, 1859)

See: *Lichas pustulosus* Hall, 1859.

**Coronura aspectans** (Conrad, 1841)

See: *Dalmanites (Coronura) aspectans* (Conrad, 1841).

**Coronura helena** (Hall, 1861)

See: *Dalmanites (Coronura) aspectans* (Conrad, 1841).

**Coronura myrmecophorus** (Green, 1835)

See: *Dalmanites (Coronura) myrmecophorus* (Green, 1835).

**Corycephalus regalis** (Hall, 1876)

See: *Dalmanites (Corycephalus) regalis* Hall and Clarke, 1888.

**Cryphaeus boothi** Green, 1837

See: *Dalmanites (Cryphaeus) boothi* (Green, 1837).

**Cyphaspis brandonensis** Walter, 1926

Holotype: UC 38114, a cranidium, original specimen Univ. Iowa no. 9114.

Walter, 1926, pp. 305-306, pl. 26, fig. 12.

Devonian, Independence Shale.

Brandon, Iowa.

**Cyphaspis christyi** Hall, 1863

Holotype: UC 23166, a carapace.

Hall, 1863a, p. 26.

Hall, 1879, p. 188, pl. 32, figs. 6 and 7.

Hall, 1882, p. 333, pl. 34, figs. 6 and 7.

Silurian, Niagara Group.

Waldron, Indiana; Hall Collection.

**Cyphaspis raripustulosus** Walter, 1926

Holotype: UC 38113, a cranidium, original specimen Univ. Iowa no. 9113.

Walter, 1926, pp. 304-305, pl. 26, fig. 11.

Devonian, Cedar Valley Limestone.

Midriver, Iowa.

**Dalmania (Cryphaeus) calliteles** Green, 1837

Referred specimen: UC 52047, a pygidium.

Ward, 1866, p. 101, no. 405, fig.

Devonian, Hamilton Group.

York, New York.



**Dalmania micrurus** (Green, 1832)

Referred specimens: UC 15840, two pygidia.

Hall, 1859c, pp. 359–362.

Hall, 1861, pl. 74, figs. 15–17.

Devonian, Helderberg Group.

Helderberg Mountains, New York; Hall Collection.

Remarks: Listed in museum catalogue as *Dalmanites micrurus* (Green, 1832). Referred to *Odontochile micrurus* (Green, 1832) by Delo, 1940, pp. 58–59.

**Dalmania myrmecophorus** (Green, 1835)

Referred specimen: P 1049, a pygidium.

Ward, 1866, p. 102, no. 409.

Devonian, Upper Helderberg Group.

Geneseo County, New York.

See also: *Dalmanites* (*Coronura*) *myrmecophorus* (Green, 1835).

**Dalmania nasutus** (Conrad, 1841)

Referred specimen: UC 15929, a pygidium.

Hall, 1859c, pp. 362–364.

Hall, 1861, pl. 75, fig. 2.

Referred specimen: UC 15930, a cephalon, original specimen New York State Museum 13887/4.

Hall, 1859c, pp. 362–364.

Hall, 1861, pl. 76, fig. 3.

Referred specimen: UC 15931, a cephalon.

Hall, 1859c, pp. 362–364.

Hall, 1861, pl. 76, fig. 2.

Referred specimen: UC 22185, a cephalon, original specimen New York State Museum 13387/2, the bifurcation of the frontal process has been reconstructed.

Hall, 1859c, pp. 362–364.

Hall, 1861, pl. 76, fig. 1.

Referred specimen: UC 52010, a pygidium, original specimen New York State Museum 13387/6, the caudal spine is shorter than in the illustration.

Hall, 1859c, pp. 362–364.

Hall, 1861, pl. 76, figs. 7 and 8.

Devonian, Helderberg Group.

Schoharie, New York; Hall Collection.

Remarks: Listed in museum catalogue as *Dalmanites nasutus* (Conrad, 1841). Referred to *Probolium nasutus* (Conrad, 1841) by Delo, 1940, p. 77, and to *Neoprobolium nasutus* (Conrad, 1841) by Struve in Moore, 1959, p. 472, text figs. 372, 2a (UC 22185) and 372, 2b (UC 52010).

### **Dalmania pleuroptyx** (Green, 1832)

Referred specimen: UC 15938, a carapace, original specimen New York State Museum 13385/3.

Hall, 1859c, pp. 356-358.

Hall, 1861, pl. 74, figs. 1 and 2.

Referred specimens: UC 15939, two pygidia.

Hall, 1859c, pp. 356-358.

Hall, 1861, pl. 74, figs. 7 and 8.

Devonian, Helderberg Group.

Helderberg Mountains, New York; Hall Collection.

Remarks: Referred to *Dalmanites (Hausmannia) pleuroptyx* (Green, 1832) by Hall and Clarke, 1888, pp. 28-30, and to *Odontochile micrurus* (Green, 1832) by Delo, 1940, pp. 58-59, pl. 5, fig. 2 (UC 15938).

### **Dalmania tridens** Hall, 1859

Lectotype: by Delo, 1940, UC 15932, a cephalon, original specimen New York State Museum 13396/1.

Hall, 1859c, p. 361.

Hall, 1861, pl. 75, fig. 3.

Referred specimens: UC 15933, two cephalata; UC 15933B, original specimen New York State Museum 13396/2.

Hall, 1859c, p. 361.

Hall, 1861, pl. 75, figs. 4 and 5.

Devonian, Helderberg Group.

Schoharie, New York; Hall Collection.

Remarks: Listed in museum catalogue as *Dalmanites tridens* (Hall, 1859). Referred to *Probolium tridens* (Hall, 1859) by Delo, 1940, p. 78, pl. 9, fig. 2 (UC 15932) and pl. 8, fig. 25 (UC 15933B).

**Dalmanites cf. *D. anchiops*** (Green, 1832)

Referred specimen: UC 20265, a pygidium.

S. Weller, 1903, p. 388, pl. 53, fig. 17.

Devonian, Hamilton Formation.

S. Weller, 1903 locality 87A, one and one-half miles from south end of Greenwood Lake at side of the road along west shore of the lake, New Jersey; S. Weller Collection.

Remarks: Listed in museum catalogue as *Chasmops anchiops* (Green, 1832). Referred to *Anchiopsis anchiops* (Green, 1832) by Delo, 1935, p. 412; by Shimer and Shrock, 1944, p. 637; and by Stumm, 1954, pp. 210–211. Referred to *Anchiopella anchiops* (Green, 1832) by Richter, Richter, and Struve in Moore, 1959, pp. 469–470.

**Dalmanites aspinosa** S. Weller, 1903

Holotype: UC 10242, a pygidium.

S. Weller, 1903, p. 252, pl. 22, fig. 15.

Delo, 1940, pp. 36–37, pl. 3, fig. 18.

Silurian, Decker Ferry Formation.

S. Weller, 1903 locality 2A<sup>3</sup>, William Nearpass Quarry, New Jersey, two miles south of Tri-States, New York; S. Weller Collection.

**Dalmanites (*Chasmops*) *anchiops*** (Green, 1832)

Referred specimens: UC 11745, one thorax, one pygidium.

Green, 1832, p. 35.

Hall and Clarke, 1888, pp. 59–61, pl. 9, fig. 12, pl. 10, fig. 13.

Devonian, Schoharie Grit.

Schoharie, New York; Hall Collection.

Remarks: Listed in museum catalogue as *Chasmops anchiops* (Green, 1832). Referred to *Anchiopsis anchiops* (Green, 1832) by Delo, 1935, p. 412; by Shimer and Shrock, 1944, p. 637; and by Stumm, 1954, pp. 210–211. Referred to *Anchiopella anchiops* (Green, 1832) by Richter, Richter and Struve in Moore, 1959, pp. 469–470.

**Dalmanites (*Chasmops*) *anchiops* var. *armatus*** (Hall, 1861)

Referred specimen: UC 11746, a cephalon, original specimen New York State Museum 13363/2.

Hall and Clarke, 1888, p. 62, pl. 9, fig. 8.

Devonian, Schoharie Grit.

Near Clarksville, Albany County, New York.

Referred specimen: UC 11747, a cephalon, original specimen New York State Museum 13363/1.

Hall and Clarke, 1888, p. 62, pl. 9, fig. 7.

Devonian, Schoharie Grit.

Schoharie County, New York; Hall Collection.

Remarks: Listed in museum catalogue as *Chasmops anchiops* var. *armatus* (Hall, 1861).

**Dalmanites (Coronura) aspectans** (Conrad, 1841)

Referred specimens: UC 11741, one pygidium, one free cheek.

Hall and Clarke, 1888, pp. 33-37, pl. 13, figs. 1 and 8.

Devonian, Onondaga Limestone.

Columbus, Ohio; Hall Collection.

Remarks: Listed as *Coronura aspectans* (Conrad, 1841) in museum catalogue. UC 11741B referred to *Coronura helena* (Hall, 1861) by Stumm, 1954, p. 205.

**Dalmanites (Coronura) myrmecophorus** (Green, 1835)

Referred specimen: UC 11744, a pygidium.

Hall and Clarke, 1888, pp. 37-40, pl. 14, fig. 3.

Devonian, Onondaga Limestone.

Schoharie, New York; Hall Collection.

Remarks: Referred to *Coronura myrmecophorus* (Green, 1835) by Delo, 1940, p. 71.

**Dalmanites (Corycephalus) regalis** Hall and Clarke, 1888

Holotype: UC 11743, a cephalon.

Hall and Clarke, 1888, pp. 55-56, pl. 11, fig. 4.

Devonian, Schoharie Grit.

Knox, Albany County, New York; Hall Collection.

Remarks: In their synonymy, Hall and Clarke, 1888, refer to *Dalmanites regalis* Hall, 1876, as described in *Illustrations of Devonian Fossils*, pl. 11; this appears to be an error. Referred to *Corycephalus regalis* (Hall, 1876) by Richter, Richter, and Struve in Moore, 1959, p. 470.

**Dalmanites (Cryphaeus) boothi** (Green, 1837)

Referred specimen: UC 22179, a pygidium.

Hall and Clarke, 1888, pp. 42-45, pl. 16A, fig. 5.

Devonian, Hamilton Formation.

Near Geneseo, Livingston County, New York; Hall Collection.

Remarks: Referred to *Greenops boothi* (Green, 1837) by Delo, 1935, p. 415, and by Delo, 1940, p. 88. Listed in museum catalogue as *Cryphaeus boothi* Green, 1837.

**Dalmanites dentata** Barrett, 1876

"Cotypes:" UC 52011, three specimens.

Barrett, 1876, p. 200, text photograph (cephalon).

Devonian, Lower Helderberg Group.

Port Jervis, New York; Hall Collection.

**Dalmanites (Hausmannia) pleuroptyx** (Green, 1832)

See: *Dalmania pleuroptyx* (Green, 1832).

**Dalmanites micrurus** (Green, 1832)

See: *Dalmania micrurus* (Green, 1832).

**Dalmanites nasutus** (Conrad, 1841)

See: *Dalmania nasutus* (Conrad, 1841).

**Dalmanites regalis** Hall, 1876

See: *Dalmanites (Corycephalus) regalis* Hall and Clarke, 1888.

**Dalmanites tridens** (Hall, 1859)

See: *Dalmania tridens* Hall, 1859.

**Dicranurus hamatus** (Hall, 1859)

See: *Acidaspis hamata* (Conrad, 1841).

**Dikelocephalus minnesotensis** Owen, 1852

Referred specimen: UC 15943, a pygidium.

Hall, 1863b, pp. 138-140, pl. 9, fig. 7.

Ordovician, Prairie du Chien Group.

Near Madison, Wisconsin; Hall Collection.

**Dikelocephalus newtonensis** S. Weller, 1903

"Cotypes:" UC 10204, seven specimens.

S. Weller, 1903, pp. 12, 13, 121-122, pl. 3, figs. 1-7.

Cambrian, Kittatinny Limestone.

O'Donnell and MacManniman Quarry, Newton, New Jersey;  
S. Weller Collection.

**Elliptocephala asaphoides** Emmons, 1844

Holotype: UC 12982, a cranidium with several thoracic segments.

Emmons, 1844, p. 21, text fig. 9.1.

Emmons, 1846, p. 65, text fig. 9.1.

Walcott, 1910, pp. 269-272.

Dark laminated micaceous slates at Greenwich, Washington  
County, New York; Hall Collection.

Remarks: Listed in museum catalogue as *Mesonacis asaphoides*  
(Emmons, 1844). Referred to *Olenus asaphoides* (Emmons,  
1844) by Hall, 1847, pp. 256-257, pl. 67, fig. 2a.

**Eoharpes ottawensis** (Billings, 1865)

See: *Harpina ottawensis* (Billings, 1865).

**Flexicalymene (Flexicalymene) senaria** (Conrad, 1841)

See: *Calymene senaria* Conrad, 1841.

**Greenops boothi** (Green, 1837)

See: *Dalmanites (Cryphaeus) boothi* (Green, 1837).

**Griffithidella depressus** var. **alternatus** (Girty, 1926)

See: *Proetus roundyi* var. *alternatus* Girty, 1926.

**Griffithidella depressus** var. **depressus** (Girty, 1926)

See: *Proetus roundyi* var. *depressus* Girty, 1926.

**Harpes telleri** S. Weller, 1907

Holotype: UC 10734, a cranidium.

S. Weller, 1907, pp. 213-214, pl. 20, fig. 2.

Silurian, Niagara Group.

Milwaukee, Wisconsin.

Remarks: The original specimen of the E. E. Teller Collection, acquired by Walker Museum, cannot be found.

**Harpina ottawensis** (Billings, 1865)

Referred specimens: UC 10228, two cephala.

S. Weller, 1903, pp. 191-192, pl. 14, figs. 1 and 2.

Ordovician, Trenton Limestone.

Hill 580+ ft. behind mill at Jacksonburg, New Jersey; S. Weller Collection.

Remarks: Referred to *Eoharpes ottawensis* (Billings, 1865) by Walter, 1926, p. 199.

**Homalonotus delphinocephalus** (Green, 1832)

Referred specimen: UC 15920, a carapace.

Hall, 1852, pp. 309-310, pl. 68, fig. 5.

Silurian, Rochester Shale.

Lockport, New York; Hall Collection.

Remarks: Referred to *Trimerus delphinocephalus* (Green, 1832) by Shimer and Shrock, 1944, p. 654, pl. 272, fig. 33, and by Sdzuy in Moore, 1959, p. 460, text fig. 360, 4.

**Illaenus trentonensis** (Emmons, 1842)

See: *Bumastus trentonensis* Emmons, 1842.

**Isotelus canalis** (Whitfield, 1886)

Referred specimens: UC 10218, one free cheek, one pygidium.

S. Weller, 1903, pp. 15, 132-133, pl. 5, figs. 5 and 6.

Ordovician, Kittatinny Limestone.

S. Weller, 1903 locality 210A, Railroad cut of the Delaware branch of the New York, Susquehanna and Western Railroad at Columbia, New Jersey; S. Weller Collection.

**Isotelus cyclops** Green, 1832

Holotype: UC 15919, a carapace.

Green, 1832, pp. 69-70, fig. 7 of plate.

Ordovician.

Western New York State, Hall Collection.

Remarks: Referred to *Isotelus gigas* DeKay, 1824, by Hall, 1847, pp. 231-234, pl. 61, fig. 4a-c.

**Isotelus gigas** DeKay, 1824

Referred specimen: UC 15918, a carapace.

Hall, 1847, pp. 231-234, pl. 61, figs. 3d and 3e.

Ordovician, Trenton Limestone.

Kentucky; Hall Collection.

Referred specimen: UC 22195, a hypostoma.

Hall, 1847, p. 254, pl. 66, fig. 5.

Ordovician, Utica Shale.

Mohawk Valley, New York; Hall Collection.

See also: *Isotelus cyclops* Green, 1832.

**Isotelus iowensis** (Owen, 1852)

Referred specimen: UC 14814, a carapace, original specimen Univ. Iowa no. 9140.

Walter, 1926, pp. 215-218, pl. 16, fig. 10.

Ordovician, Lower Maquoketa Shale.

Clermont, Iowa.

**Leonaspis tuberculatus** (Hall, 1859)

See: *Acidaspis tuberculatus* Conrad, 1840.

**Lichas boltoni** (Bigsby, 1825)

Referred specimen: UC 15924, a carapace.

Hall, 1852, pp. 311-313, pl. 69.

Silurian, Clinton Formation, Rochester Shale Member.

Lockport, New York; Hall Collection.

Remarks: Referred to *Arctinurus boltoni* (Bigsby, 1825) by Tripp *in* Moore, 1965, p. 496.

**Lichas halli** Foerste, 1888

See: *Platynotus trentonensis* (Conrad, 1842).

**Lichas pustulosus** Hall, 1859

Referred specimen: UC 10457, a pygidium.

S. Weller, 1903, p. 320, pl. 40, fig. 1.



Devonian, Becraft Limestone.

S. Weller, 1903 locality 2A<sup>31</sup>, in the low ridge in back of the Near-pass Quarry bluff, New Jersey; S. Weller Collection.

Referred specimens: UC 15914, a glabella; UC 15925, a pygidium; UC 15926, a pygidium; UC 15927, a pygidium; UC 15928, two free cheeks; UC 22186, a pygidium.

Hall, 1859c, pp. 366–368.

Hall, 1861, pl. 77, figs. 9 and 10 (UC 15914), pl. 78, figs. 2–3 (UC 15928), 4 (UC 15926), 5 (UC 15925), 6 (UC 22186), and 7 (UC 15927).

Devonian, Helderberg Group.

Albany or Schoharie Counties, New York.

Remarks: Listed in museum catalogue as *Conolichas pustulosus* (Hall, 1859).

**Liostracus? jerseyensis** S. Weller, 1900

“Cotypes:” UC 10202, four specimens.

S. Weller, 1900, pp. 48, 50–51, pl. 1, figs. 5 and 6.

Cambrian, Kittatinny Limestone.

Carpentersville, New Jersey; S. Weller Collection.

**Mesonacis asaphoides** (Emmons, 1844)

See: *Elliptocephala asaphoides* Emmons, 1844.

**Mesonacis vermontana** (Hall, 1859)

See: *Olenus vermontana* Hall, 1859.

**Metopolichas pugnax** (Winchell and Marcy, 1865)

Referred specimen: UC 10740, a free cheek.

S. Weller, 1907, pp. 242–244, pl. 21, fig. 3.

Silurian, Niagara Group.

Bridgeport Quarry, Chicago, Illinois.

Remarks: Original specimen, no. 17352, is in the Egan Collection of the Chicago Acad. Sci.

**Neoprobolium nasutus** (Conrad, 1841)

See: *Dalmania nasutus* (Conrad, 1841).

**Odontochile micrurus** (Green, 1832)

See: *Dalmania micrurus* (Green, 1832).

*Dalmania pleuroptyx* (Green, 1832).

**Odontopleura parvula?** (Walcott, 1879)

Referred specimen: UC 10227, a cranium.

S. Weller, 1903, pp. 18, 201–202, pl. 15, figs. 21 and 22.

Ordovician, Trenton Limestone.

S. Weller, 1903 locality 174A, on a 580+ ft. hill behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

**Odontopleura tuberculata** (Conrad, 1840)

See: *Acidaspis tuberculatus* Conrad, 1840.

**Olenellus thompsoni** (Hall, 1859)

Referred specimen: UC 10213, a cranium.

S. Weller, 1903, pp. 114–115, pl. 2, fig. 10.

Cambrian, Hardyston Quartzite.

Franklin Furnace, New Jersey; S. Weller Collection.

See also: *Olenus thompsoni* Hall, 1859.

**Olenellus vermontana** (Hall, 1859)

See: *Olenus vermontana* Hall, 1859.

**Olenellus vermontanus** (Hall, 1859)

See: *Olenus vermontana* Hall, 1859.

**Olenus asaphoides** (Emmons, 1844)

See: *Elliptocephala asaphoides* Emmons, 1844.

**Olenus thompsoni** Hall, 1859

Holotype: UC 15942, original specimen Amer. Mus. Nat. Hist. 244 is now missing.

Hall, 1859a, pp. 59–60, text fig. 1.

Hall, 1859b, pp. 525–526, text fig.

Ordovician, “Hudson-River Group” (Hall, 1859)

Lower Cambrian, Parker Slate (Resser and Howell, 1938).

Parker Quarry, Georgia, Vermont; Hall Collection.

Remarks: Referred to *Olenellus thompsoni* (Hall, 1859) by Hall, 1862a, p. 114, and by Resser and Howell, 1938, pp. 219-220, text fig. 1-1, and pl. 3, fig. 19.

***Olenus vermontana* Hall, 1859**

Holotype: UC 15941, the cranidium and thorax; original specimen Amer. Mus. Nat. Hist. 230.

Hall, 1859a, pp. 60-61, text fig. 2.

Hall, 1859b, p. 527, text fig.

Ordovician, "Hudson-River Group" (Hall, 1859).

Lower Cambrian, Parker Slate (Resser and Howell, 1938).

Parker Quarry, Georgia, Vermont; Hall Collection.

Remarks: Referred to *Barrandia vermontana* (Hall, 1859) by Hall, 1860, p. 117, text figs.; to *Olenellus vermontana* (Hall, 1859) by Hall, 1862b, p. 114; to *Mesonacis vermontana* (Hall, 1859) by Walcott, 1886, pp. 158-162, pl. 24, fig. 1; and to *Olenellus vermontanus* (Hall, 1859) by Resser and Howell, 1938, pp. 220-221, text fig. 1-2 on p. 219 and pl. 4, fig. 15.

***Paradoxides lamellatus* Hartt, 1868**

Referred specimen: UC 48, a carapace.

Matthew, 1891, pp. 135-136, pl. 11, fig. 9.

Shimer and Shrock, 1944, p. 615, pl. 276, fig. 19.

Cambrian, St. John Group, "lamellatus shale" of Division 1 Band C.

St. John, New Brunswick, Canada; Hall Collection.

***Paradoxides mic-mac* var. *pontificalis* (Matthew, 1883)**

Referred specimen: UC 23252, a cephalon with attached thorax.

Matthew, 1891, pp. 136-138, pl. 11, fig. 8.

Cambrian, St. John Group, "lamellatus shale" of Division 1 Band C.

St. John, New Brunswick, Canada; Hall Collection.

***Paradoxides regina* Matthew, 1888**

Holotype: UC 14407, a carapace, part of the cephalon is reconstructed.

Matthew, 1888, pp. 119-123, pl. 3.

Cambrian, St. John Group, Division 1 Band C.

Portland, New Brunswick, Canada; Hall Collection.

**Peltura (Olenus) holopyga** Hall, 1859

Holotype: UC 13272, a carapace.

Hall, 1859a, pp. 61-62, text fig. 3.

Hall, 1859b, pp. 528-529, text fig.

Cambrian.

Georgia, Vermont; Hall Collection.

Remarks: Referred to *Bathynotus holopyga* (Hall, 1859) by Hall, 1860, pp. 118-119, text fig., and by Walcott, 1886, pp. 191-193.

**Platymetopus trentonensis** (Conrad, 1842)

Referred specimen: UC 10226, a cranidium.

S. Weller, 1903, pp. 42, 200, pl. 15, figs. 17-19.

Ordovician, Trenton Limestone.

North end of Drake's Pond, one mile southeast of Newton, New Jersey; S. Weller Collection.

**Platynotus trentonensis** (Conrad, 1842)

Referred specimen: UC 15922, a carapace.

Hall, 1847, pp. 235-236, pl. 64, fig. 1e.

Ordovician, Cincinnati Group.

Near Cincinnati, Ohio.

Remarks: Referred to *Lichas halli* Foerste, 1888, by Foerste, 1888, pp. 118-120. Listed in museum catalogue as *Amphilichas halli* (Foerste, 1888).

**Probolium nasutus** (Conrad, 1841)

See: *Dalmania nasutus* (Conrad, 1841).

**Probolium tridens** (Hall, 1859)

See: *Dalmania tridens* Hall, 1859.

**Proetus auriculatus** Hall, 1861

Holotype: UC 51974, a cranidium.

Hall, 1862b, p. 107.

Hessler, 1963, p. 549.

Mississippian, Waverly Group.

Licking County, Ohio.

Remarks: Referred to *Proetus (Pudoproetus) auriculatus* Hall, 1861, by Hessler, 1963, p. 549.

**Proetus bumastoides** Walter, 1926

Holotype: UC 38109, a cranidium, original specimen Univ. Iowa no. 9115.

Walter, 1926, pp. 301-302, pl. 25, figs. 23 and 24.

Devonian, Cedar Valley Formation.

Iowa City, Iowa.

**Proetus crassimarginatus** (Hall, 1843)

Referred specimens: UC 38596, a cranidium, original specimen Univ. Mich. no. 15130, and a pygidium, original specimen Univ. Mich. no. 15127.

Bassett, 1935, p. 453, pl. 38, figs. 15 and 17.

Shimer and Shrock, 1944, p. 651, pl. 274, fig. 19.

Devonian, Dundee Limestone.

Sibley Quarry, Wayne County, Michigan; University of Michigan Exchange.

**Proetus longicaudus** Hall, 1861

Holotype: UC 21267, an enrolled carapace.

Hall, 1862b, pp. 108-109, pl. 10, figs. 7-9.

Hall and Clarke, 1888, pp. 131-133, pl. 20, figs. 32-34.

Pennsylvanian.

Iowa?

Remarks: Referred to *Ameura major* (Shumard, 1858) by Shimer and Shrock, 1944, p. 637.

**Proetus nortoni** Walter, 1926

Referred specimens: UC 38110, two cranidia, original specimens Univ. Iowa nos. 9098 and 9102(?).

Walter, 1926, pp. 286-289, pl. 25, fig. 9.

Devonian, Upper Wapsipinicon Beds.

Linn Junction, Iowa; Exchange Univ. Iowa.

**Proetus planimarginatus** Meek, 1871

Referred specimens: UC 38597, one cranidium, one cephalon, one pygidium, original specimens Univ. Mich. nos. 15126, 15133, and 15125.

Bassett, 1935, pp. 453-454, pl. 39, figs. 1, 2, and 4.  
Devonian, Dundee Limestone.

Sibley Quarry, Wayne County, Michigan; Univ. Michigan Exchange.

See also: *Proetus welleri* Stauffer, 1909.

**Proetus (Pudoproetus) auriculatus** Hall, 1861

See: *Proetus auriculatus* Hall, 1861.

**Proetus roundyi** Girty, 1926

"Cotypes": UC 51925, two pygidia, original specimens U. S. Nat. Mus. 3522 and 3523.

Girty, 1926, pp. 39-40, pl. 6, figs. 11a and b, 12a and b.

Mississippian, Chappel Limestone.

Girty station 2623, San Saba County, Texas.

Remarks: Referred to *Thigriffides roundyi* (Girty, 1926) by Hessler, 1965, pp. 257-258, pl. 38, figs. 19, 20, and 23.

**Proetus roundyi var. alternatus** Girty, 1926

"Cotypes": UC 52015, two pygidia, original specimens U. S. Nat. Mus. 3524 and 3525.

Girty, 1926, p. 40, pl. 6, figs. 13a and b, 15a and b.

Mississippian, Chappel Limestone.

Girty station 2623, San Saba County, Texas.

Remarks: Referred to *Griffithidella depressus* var. *alternatus* (Girty, 1926) by Hessler, 1965, p. 255, pl. 38, figs. 7, 8, and 11.

**Proetus roundyi var. depressus** Girty, 1926

Holotype: UC 52016B, a pygidium, original specimen U. S. Nat. Mus. 3527.

Girty, 1926, p. 40, pl. 6, figs. 16a and b.

Referred specimen: UC 52016A, a pygidium, original specimen U. S. Nat. Mus. 3528.

Girty, 1926, p. 40, pl. 6, figs. 17a and b.

Mississippian, Chappel Limestone.

Girty station 2623, San Saba County, Texas.

Remarks: Referred to *Griffithidella depressus* var. *depressus* (Girty, 1926) by Hessler, 1965, p. 255, figs. 1 and 4 (UC 52016B).

**Proetus rowii** (Green, 1838)

See: *Calymene rowii* Green, 1838.

**Proetus searighti** Walter, 1926

Holotype: UC 38108, original specimen Univ. Iowa 9106.

Walter, 1926, pp. 299–301, pl. 26, figs. 1 and 2.

Referred specimens: UC 38108, original specimens Univ. Iowa 9105, 6674, 9131, 9130, 9110, and 9107.

Walter, 1926, pp. 299–301, pl. 26, figs. 3–5, and 7.

Devonian, Cedar Valley Formation.

Iowa City, Iowa.

Referred specimens: UC 38111, two pygidia, original specimens Univ. Iowa 9109 and 9278.

Walter, 1926, pp. 299–301, pl. 26, figs. 8 and 9.

Devonian, Cedar Valley Formation.

Iowa City, Iowa.

**Proetus? spinosa** S. Weller, 1903

Holotype: UC 10247, a pygidium.

S. Weller, 1903, p. 250, pl. 22, fig. 26.

Silurian, Decker Ferry Formation.

S. Weller, 1903 locality 8A, south of William Nearpass Quarry, New Jersey, about two miles south of Tri-States, New York.

**Proetus welleri** Stauffer, 1909

Holotype: UC 38116, a cephalon.

Stauffer, 1909, pp. 195–196, pl. 17, figs. 12 and 13.

Devonian, Columbus Limestone.

Lake Shore Railroad Quarry, Venice, Ohio.

Remarks: Referred to *Proetus planimarginatus* Meek, 1871, by Bassett, 1935, pp. 453–454.

**Pseudosphaerexochus trentonensis** Clarke, 1897

Referred specimen: UC 10225, a glabella.

S. Weller, 1903, pp. 18, 21, 205–206, pl. 15, figs. 24 and 25.

Ordovician, Trenton Limestone.

S. Weller, 1903 locality 174A<sup>10</sup>, on a hill 580 + ft. high behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

**Ptychoparia blairi** S. Weller, 1903

"Cotypes:" UC 10201, two cranidia, one pygidium.

S. Weller, 1903, pp. 13, 116, pl. 1, figs. 10-13.

Cambrian, Kittatinny Limestone.

A limestone bed one foot thick in an abandoned quarry one-half mile north of Blairstown, New Jersey; S. Weller Collection.

**Ptychoparia calcifera?** (Walcott, 1879)

Referred specimen: UC 10211, a cranidium.

S. Weller, 1903, pp. 13, 117, pl. 1, fig. 14.

Cambrian, Kittatinny Limestone.

A limestone bed one foot thick in an abandoned quarry one-half mile north of Blairstown, New Jersey; S. Weller Collection.

**Ptychoparia newtonensis** S. Weller, 1903

Holotype: UC 10200, a cranidium.

S. Weller, 1903, pp. 12, 117, pl. 3, fig. 10.

Cambrian, Kittatinny Limestone.

O'Donnell and MacManniman Quarry at Newton, New Jersey; S. Weller Collection.

**Ptychopyge jerseyensis** S. Weller, 1903

Holotype: UC 10222, a pygidium.

S. Weller, 1903, pp. 18, 20, 193-194, pl. 14, fig. 16.

Ordovician, Trenton Limestone.

S. Weller, 1903 locality 174A<sup>6</sup>, on a hill 580+ ft. high behind the mill at Jacksonburg, New Jersey; S. Weller Collection.

**Scutellum lunatus** (Billings, 1855)

See: *Bronteus lunatus* Billings, 1855.

**Scutellum occasus** (Winchell and Marcy, 1865)

See: *Bronteus occasus* Winchell and Marcy, 1865.

**Sphaerexochus mirus** Beyrich, 1845

Referred specimen: UC 52048, an enrolled carapace.

Ward, 1866, p. 107, no. 447, fig.

Silurian.

Beraun, Bohemia.



**Thigriffides roundyi** (Girty, 1926)

See: *Proetus roundyi* Girty, 1926.

**Trimerus delphinocephalus** (Green, 1832)

See: *Homalonotus delphinocephalus* (Green, 1832).

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