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**Catalog of Fossil Type and
Figured Specimens in the
Milwaukee Public Museum**

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Laney Watkins, Editor

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Introduction

This publication lists all of the known type and figured specimens in the Milwaukee Public Museum Geology collections as of October, 1991. It supersedes Munthe (1980). The data are arranged systematically in the order listed in the table of contents. The text includes data for all specimens that have been located in the MPM collection. Data for cataloged MPM specimens which have not been located in the collections are included in Appendix I.

The data in the original MPM catalog of type and figured specimens were assembled without the aid of computer technology. This revision of the catalog reflects changes in the type collection due to additions since 1980 as well as the computerized curation of the fossil invertebrate collections (funded by NSF grants BSR-8411571, BSR-8617390, and BSR-8906051) over the past seven years. The verification and documentation of individual specimens required for computerization has uncovered additional, more accurate data than was previously available. The subsequent arrangement of specimens resulting from the automation has made it possible to locate type and figured specimens that were previously intermingled with the regular collection. The combination of these factors has rendered the previous catalog obsolete.

Using the Catalog

The entries include the specimen names listed in alphabetical order within their major taxon, followed by a citation for each publication in which they are represented. Full bibliographic citations are contained in the References at the end of this publication. Indication of the nature of type precedes the specimen number. Plate and figure numbers are listed after each specimen number. Inconsistencies between specimen numbers in the publications and the actual specimens are explained in the remarks. Revisions that have been made to specimens listed in this catalog are indicated with "see also" references.

Locality and stratigraphic data have been limited to system, formation, member, county and state. Additional data for invertebrate specimens and Devonian fish can be obtained from the MPM Geology Section's SAS® database. The specimen numbers in this catalog and the full locality, stratigraphic and taxonomic data are cross-indexed in the database.

The prefix MPM is assumed for all specimen numbers used here. Additional prefixes of VP (vertebrate paleontology) and PB (paleobotany) are also used. On rare occasion authors have published numbers which they assigned to MPM specimens without permission. The original form of those numbers is included here to avoid confusion.

Requests For Specimens and Data

The MPM Geology Section encourages research on its collections. Interested persons should contact the Collections Manager, Department of Geology for copies of locality, stratigraphic and taxonomic data associated with the type and figured collection. Additional data will be provided to interested persons upon request. Additional data for vertebrate and plant specimens have not been automated, but will be provided in the form of photocopies of the specimen cards and/or catalog entries. To avoid damage and loss of these important collections, it is

MPM policy not to loan type and figured specimens. Interested persons are, however, encouraged to study these specimens at MPM.

Acknowledgements

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Phylum Protista

Chitinodendron franconianum Ruedemann and Shrock, 1939

Ruedemann and Schrock, 1939.

Holotype: 22347 fig. 1.

Paratype: 22348 fig. 2.

Upper Cambrian; Franconia Formation; Monroe Co., WI.

Phylum Coelenterata

Agetolites budgei n. sp.

Pandolfi, 1985.

Holotype: 27814 pl. 13, fig. 1; pl. 18, fig. 2.

Paratype: 27808 pl. 9, fig. 2.

27812 pl. 11, fig. 2.

27816 pl. 12, fig. 1.

27817 pl. 13, fig. 2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member; Silver Island Range, UT.

?*Billingsaria parvituba* (Troedsson), 1928

Pandolfi, 1985.

Figured specimen: 27793 pl. 4, fig. 2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member; Northern Egan Range, NV.

Calapoecia anticostiensis Billings, 1865

Pandolfi, 1985.

Figured specimen: 27785 pl. 2, fig. 1.

27787 pl. 1, fig. 1.

27788 pl. 2, fig. 2.

27827 pl. 18, fig. 1.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern Egan Range, Nevada.

Catenipora sp. cf. *C. foerstei* Nelson, 1963

Pandolfi, 1985.

Figured specimen: 27803 pl. 7, fig. 4.

27810 pl. 10, fig. 2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member;
Northern Egan Range, NV.

Catenipora sheehani n. sp.

Pandolfi, 1985.

Holotype: 27828 pl. 20, fig. 1-2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member;
Northern Egan Range, NV.

Catenipora workmanae Flower, 1961

Pandolfi, 1985.

Figured specimen: 27818 pl. 13, fig. 3; pl. 21, fig. 1-2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member; Silver
Island Range, UT.

Conularia congregata var. *milwaukeensis* var. nov. Cleland, 1911

Cleland, 1911.

Syntype: 244 pl. 26, fig. 6.

245 pl. 26, fig. 4.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Cyathophylloides sp. A

Pandolfi, 1985.

Figured specimen: 27825 pl. 17, fig. 1.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member; Silver
Island Range, UT.

Cyathophylloides sp. B

Pandolfi, 1985.

Figured specimen: 27826 pl. 17, fig. 2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member; Silver
Island Range, UT.

Nyctopora sp.

Pandolfi, 1985.

Figured specimen: 27790 pl. 3, fig. 1.

27791 pl. 3, fig. 2.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern
Egan Range, NV.

Palaeophyllum gracile Flower, 1961

Pandolfi, 1985.

Figured specimen: 27831 pl. 15, fig. 1, pl 23, fig. 1-2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member;
Northern Egan Range, NV.

Palaeophyllum humei Sinclair, 1961

Pandolfi, 1985.

Figured specimen: 27819 pl. 14, fig. 1-2; pl. 24, fig. 1-2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member;
Northern Egan Range, NV.

Palaeophyllum sp. cf. *P. raduguini* Nelson, 1963

Pandolfi, 1985.

Figured specimen: 27821 pl. 15, fig. 2.

27822 pl. 16, fig. 1.

27823 pl. 16, fig. 2.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member;
Northern Egan Range, NV.

Paleofavosites okulitchi Stearn, 1956

Pandolfi, 1985.

Figured specimen: 27802 pl. 7, fig. 2.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern
Egan Range, NV.

Paleofavosites mccullochae Flower, 1961

Pandolfi, 1985.

Figured specimen: 27805 pl. 8, fig. 2.

27806 pl. 9, fig. 1.

27807 pl. 9, fig. 3.

27809 pl. 10, fig. 1.

Upper Ordovician; Ely Springs Formation, Lost Canyon and Floride
Members; Northern Egan and Silver Island Ranges, UT.

Paleofavosites poulseni Teichert, 1937

Pandolfi, 1985.

Figured specimen: 27795 pl. 5, fig. 1.

27796 pl. 5, fig. 2.

27797 pl. 5, fig. 3.

27798 pl. 6, fig. 1-2.

27799 pl. 7, fig. 1.

27800 pl. 7, fig. 3.

27829 pl. 22, fig. 1.

27830 pl. 16, fig. 3.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern
Egan Range, NV.

Paleofavosites sp. cf. *P. transiens* Stearn, 1956

Pandolfi, 1985.

Figured specimen: 27813 pl. 11, fig. 3.

27824 pl. 16, fig. 3.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern
Egan Range, NV.

Saffordophyllum crenulatum (Bassler), 1950

Pandolfi, 1985.

Figured specimen: 27794 pl. 4, fig. 3.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member;
Northern Egan Range, NV.

Solenastrea fairbanksi (Vaughan), 1900

Watkins, 1990b.

Figured specimen: 28230 fig. 4 B.
Pliocene; Imperial Formation; Coyote Mountains, CA.
See also: *Lithophaga* sp.

Tollina sp.

Pandolfi, 1985.

Figured specimen: 27811 pl. 11, fig. 1; pl. 19, fig. 1.
27815 pl. 12, fig. 2; pl. 19, fig. 2.
Upper Ordovician; Ely Springs Formation, Lost Canyon Member; Silver
Island Range, UT.

Phylum Bryozoa

Cheilostome Bryozoa

Watkins, 1990a.

Figured specimen: 28222 fig. 10 A.

Remarks: on *Lopha vespertina* (Conrad).

Pliocene; Imperial Formation; Coyote Mountains, CA.

Phylum Brachiopoda

Atrypa sp. A

Griesemer, 1965.

Figured specimen: 16473 (1) pl. 4, fig. 4.
19792 pl. 4, fig. 1-3.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Atrypa sp. B

Griesemer, 1965.

Figured specimen: 16473 (2) pl. 4, fig. 8.
19792 pl. 4, fig. 5-7.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee
Co., WI.

Athyris vittata randalia Stainbrook, 1942

Griesemer, 1965.

Figured specimen: 16602 pl. 6, fig. 1-6.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee
Co., WI.

Chonetes schucherti Cleland, 1911

Griesemer, 1965.

Figured specimen: 16393 pl. 3, fig. 13-15.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee
Co., WI.

Craniella hamiltoniae (Hall, 1867)

Cleland, 1911.

Figured specimen: 233 pl. 12, fig. 8.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee
Co., WI.

Cupularostrum depressa (Kindle), 1901

Griesemer, 1965.

Figured specimen: 378 pl. 3, fig. 17-20.

14825 pl. 3, fig. 17-20.

16450 pl. 3, fig. 17-20.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Cyrtina triquetra (Hall), 1858

Griesemer, 1965.

Figured specimen: 365 pl. 6, fig. 7-9.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Cyrtina umbonata (Hall), 1858

Griesemer, 1965.

Figured specimen: 16491 (5) pl. 6, fig. 10-11.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Cryptonella? aff. *C. reimanni* Cloud, 1942

Griesemer, 1965.

Figured specimen: 16452 (13) pl. 6, fig. 12-13.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Cranaena cooperi Cloud, 1941

Griesemer, 1965.

Figured specimen: 385 (4) pl. 6, fig. 14-16.

16453 (5) pl. 6, fig. 17.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Cranaena cf. C. lincklaeni (Hall), 1860

Griesemer, 1965.

Figured specimen: 16453 (8) pl. 6, fig. 18-19.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Cranaena subovata Savage, 1921

Griesemer, 1965.

Figured specimen: 16453 (9) pl. 6, fig. 20-21.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Cranaena thomasi Stainbrook, 1941

Griesemer, 1965.

Figured specimen: 385 (2) pl. 6, fig. 22-25.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Eosyringothyris occidentalis (Swallow), 1860

Griesemer, 1965.

Figured specimen: 355 pl. 4, fig. 19-21.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Eosyringothyris sp. A

Griesemer, 1965.

Figured specimen: 16507 pl. 4, fig. 22-23.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Gypidula cf. *G. papyracea* Belansky, 1928

Griesemer, 1965.

Figured specimen: 15031 pl. 2, fig. 10.

19043 pl. 2, fig. 8-9.

Middle Devonian; Lake Church Formation; Milwaukee Co., WI.

Leiorhynchus greeni Cleland, 1911

Griesemer, 1965.

Figured specimen: 387 pl. 3, fig. 27.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Lingula sp.

Cleland, 1911.

Figured specimen 236 pl. 12, fig. 5.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Lingulodiscina marginalis (Whitfield, 1862)

Cleland, 1911.

Figured specimen: 230 pl. 12, fig. 12-13.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Longispina? cf. *L. vincinus* (Castelnau), 1943

Griesemer, 1965.

Figured specimen: 15070 pl. 3, fig. 16.

Middle Devonian; Lake Church Formation; Ozaukee Co., WI.

Mucrospirifer sp. A

Griesemer, 1965.

Figured specimen: 358 pl. 5, fig. 1-2.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Orbiculoides telleri Cleland, 1911

Cleland, 1911.

Syntype: 225 pl. 12, fig. 10.

227 pl. 12, fig. 9.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Orbiculoides wardi Cleland, 1911

Cleland, 1911.

Syntype: 224 pl. 12, fig. 14-15.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Pentameroides (*Pentameroides*) sp.

Boucot and Johnson, 1979.

Figured specimen: 18119 pl. 5, fig. 1-6.

Silurian; Racine Formation; Calumet Co., WI.

Pholidostrophia (*Pholidostrophia*) *iowensis obscura* Griesemer, 1965

Griesemer, 1965.

Holotype: 5021 pl. 2, fig. 14-15.

Figured specimen: 16352 pl. 2, fig. 13.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Protoleptostrophia serrata Griesemer, 1965

Griesemer, 1965.

Figured specimen: 321 pl. 2, fig. 16.

C541 pl. 2, fig. 17.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Schizophoria iowensis musculosa Griesemer, 1965

Griesemer, 1965.

Holotype: 16435 pl. 2 fig. 1-2.

Figured specimen: 20445 pl. 2, fig. 4.

20446 pl. 2, fig. 3.

Remarks: Figure numbers in publication are reversed.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Schizophoria cf. *S. lata* Stainbrook, 1940

Griesemer, 1965.

Figured specimen: 16436 pl. 2, fig. 5-7.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Schuchertella artostriata (Hall), 1843

Griesemer, 1965.

Figured specimen: 16371 pl. 3, fig. 5.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Spinocyrtia clelandi sp. n.

Griesemer, 1965.

Holotype: 16580 pl. 5, fig. 4-7.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Spinocyrtia milwaukeensis (Cleland), 1911

Griesemer, 1965.

Figured specimen: 341 pl. 5, fig. 10-11.

342 pl. 5, fig. 12.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Spinulicosta spinulicosta (Hall), 1867

Griesemer, 1965.

Figured specimen: 15088 pl. 3, fig. 7-9.

Middle Devonian; Lake Church Formation; Ozaukee Co., WI.

Spinatrypa spinosa milwaukeensis Griesemer, 1965

Griesemer, 1965.

Holotype: 20442 pl. 4, fig. 16.

Figured specimen: 15251 (1) pl. 4, fig. 15.

15251 (2) pl. 4, fig. 17.

20004 pl. 4, fig. 18.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Spinulicosta spinulicosta subsp. A

Griesemer, 1965.

Figured specimen: 23088 pl. 3, fig. 10-12.

Middle Devonian; Lake Church Formation; Ozaukee Co., WI.

Spirifer iowensis Owen, 1882

Cleland, 1911.

Figured specimen: 334 pl. 17, fig. 4.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Stropheodonta halli Cleland, 1911

Cleland, 1911.

Griesemer, 1965.

Figured specimen: 310 Griesemer, pl. 2, fig. 23.

10987 Griesemer, pl. 2, fig. 24.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Stropheodonta sp.

Griesemer, 1965.

Figured specimen: 14971 pl. 3, fig. 4.

Middle Devonian; Lake Church Formation; Milwaukee Co., WI.

Tylothyris cf. *T. bimesialis* (Hall), 1858

Griesemer, 1965.

Figured specimen: 359 pl. 5, fig. 13-15.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

**Phylum Mollusca
Class Hyolitha**

Hyolithes acris? Hall, 1876

Cleland, 1911.

Figured specimen: 272 pl. 26, fig. 8.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Class Gastropoda

Bellerophon (Ptomatis) patulus Hall, 1879

Cleland, 1911.

Figured specimen: 394 pl. 28, fig. 13.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Bellerophon pelops Hall, 1879

Cleland, 1911.

Figured specimen: 395 pl. 28, fig. 12.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Cyclonema? subglobosa Cleland, 1911

Cleland, 1911.

Syntype: 398 pl. 28, fig. 7.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Loxonema hamiltoniae Hall, 1862

Cleland, 1911.

Figured specimen: 396 pl. 27, fig. 5-6.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Platyceras honefferi Cleland, 1911

Cleland, 1911.

Syntype: 393 pl. 28, fig. 4-5.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Pterotheca expansa (Emmons, 1842)

Shrock and Raasch, 1937.

Figured specimen: 23069 pl. 5, fig. 9.
Middle Ordovician; Platteville Formation, Mifflin Member; Dane Co., WI.

Class Bivalvia

Actinopteria convexa Pohl, 1929

Pohl, 1929.

Holotype: 18590 fig. 5.
Middle Devonian; Lake Church Formation; Ozaukee Co., WI.

Actinopteria pauciradiata Pohl, 1929

Pohl, 1929.

Holotype: 2302 pl. 7, fig. 14.
Paratype: 5149 pl. 7, fig. 15.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Actinopteria rhombolineare Pohl, 1929

Pohl, 1929.

Syntype: 455 pl. 7, fig. 13.
456 pl. 7, fig. 12.

13745 pl. 7, fig. 11.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Actinopteria singularis Pohl, 1929

Pohl, 1929.

Holotype: 2301 pl. 7, fig. 16.

Paratype: 5150 pl. 7, fig. 17.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Aviculopecten duplicitostatus Pohl

Pohl, 1929.

Holotype: 13529 pl. 8, fig. 4.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Aviculopecten hystriculus Pohl, 1929

Pohl, 1929.

Syntype: 13734 pl. 8, fig. 1.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Aviculopecten sp.

Pohl, 1929.

Figured specimen: 13730 pl. 8, fig. 5.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Cimitaria obtusiloba (Cleland, 1911)

Pohl, 1929.

Holotype: 10225 pl. 2, fig. 7.

Figured specimen: 10224 pl. 2, fig. 4.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee

Co., WI.

See also: *Goniophora obtusiloba* Cleland, 1911.

Conocardium truncatum Pohl, 1929

Pohl, 1929.

Syntype: 13593 pl. 7, fig. 6.

Middle Devonian; Lake Church Formation; Ozaukee Co., WI.

Goniophora obtusiloba Cleland, 1911

Cleland, 1911.

Holotype (monotype): 10225 pl. 25, fig. 11.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee

Co., WI.

See also: *Cimitaria obtusiloba* (Cleland, 1911).

Grammysia marginata Pohl, 1929

Pohl, 1929.

Syntype: 477 pl. 1, fig. 6.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Grammysia nodocostata* Hall, 1885.

Grammysia nodocostata Hall, 1885

Cleland, 1911.

Figured specimen: 477 pl. 23, fig. 3
478 pl. 23, fig. 1-2.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.
See also: *Grammysia marginata* Pohl, 1929.

Ilionia tenuistriata Pohl, 1929
Pohl, 1929.
Syntype: 13590 pl. 14, fig. 21.
13591 pl. 14, fig. 22.
Middle Devonian; Lake Church Formation; Ozaukee Co., WI.

Leiopteria acutilaris Pohl, 1929
Pohl, 1929.
Syntype: 13739 pl. 5, fig. 9.
13740 pl. 5, fig. 10.
Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Lithophaga sp.
Watkins, 1990b.
Figured specimen: 28229 fig. 4 A.
28230 fig. 4 B.
Pliocene; Imperial Formation; Coyote Mountains, CA.
Remarks: In *Solenastrea fairbanksi* (Vaughan), 1900 (fig. 4 A).
Fig. 4 B extracted from *Gastrochaenolites* within "Ostrea" heermannii.

Lopha vespertina (Conrad),
Watkins, 1990a.
Figured specimen: 28212 fig. 2 A.
28213 fig. 2 B.
28214 fig. 2 C.
28215 fig. 2 D.
28216 fig. 2 E.
28217 fig. 2 F.
28224 fig. 10 C.
Pliocene; Imperial Formation; Coyote Mountians, CA.

Modiomorpha concentrica Conrad, 1885
Cleland, 1911.
Figured specimen: 458 pl. 24, fig. 7.
Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.
See also: *Modiomorpha saccula* Pohl, 1929.

Modiomorpha diffidens Pohl, 1929
Pohl, 1929.
Holotype: 13569 pl. 14, fig. 5.
Paratype: 13531 pl. 14, fig. 11.
13549 pl. 14, fig. 10.
13578 pl. 14, fig. 16.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Modiomorpha elongata (Cleland, 1911)

Pohl, 1929.

Holotype: 460 pl. 11, fig. 5.

Figured: 18599 pl. 11, fig. 6.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

See also: *Nyassa elongata* Cleland, 1911 (pl. 22, fig. 10-12).

Modiomorpha saccula Pohl, 1929.

Pohl, 1929.

Syntype: 458 pl. 10, fig. 14.

2451 pl. 11, fig. 3.

13575 pl. 10, fig. 12.

27637 pl. 11, fig. 2.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Modiomorpha concentrica* Conrad, 1885.

Remarks: Two syntypes were originally numbered 458. One has been recataloged as 27637 and the other referred to *Modiomorpha concentrica* by Cleland, 1911 (pl. 24, fig. 7).

Modiomorpha schucherti nov. Cleland, 1911.

Cleland, 1911.

Pohl, 1929.

Syntype: 495 Cleland, pl. 24, fig. 3.

Pohl, pl. 13, fig. 6.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Mytilarca cingulosa Pohl, 1929

Pohl, 1929.

Syntype: 498 pl. 5, fig. 16.

13537 pl. 5, fig. 19.

13580 pl. 5, fig. 15

13538 pl. 5 fig. 17-18.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

See also: *Mytilarca* sp.

Remarks: 498 referred to *Mytilarca* by Cleland.

Mytilarca dentata Pohl, 1929

Pohl, 1929.

Syntype: 13539 pl. 5, fig. 21

13574 pl. 5, fig. 20

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Mytilarca oviformis? Conrad, 1885

Cleland, 1911.

Figured specimen: 497 pl. 22, fig. 2.
Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee, WI.
See: *Plethomytilus suberectus* Pohl, 1929.

Mytilarca sp.

Cleland, 1911.

Figured specimen: 498 pl. 22, fig. 3.
Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.
See also: *Mytilarca cingulosa* Pohl, 1929.

Nuculana gibbosa Pohl, 1929

Pohl, 1929.

Syntype: 5154 pl. 4, fig. 39.
13612 pl. 4, fig. 41.
13613 pl. 4, fig. 45.
13616 pl. 4, fig. 38, 43.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Nuculites milwaukeensis Cleland, 1911

Cleland, 1911.

Holotype (designated): 461 pl. 20, fig. 5.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.
See also: *Palaeoneilo milwaukeensis* (Cleland, 1911).

Nyassa elongata Cleland, 1911

Cleland, 1911.

Holotype (monotype): 460 pl. 22, fig. 10-12.
Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.
See also: *Modiomorpha elongata* (Cleland, 1911).

Palaeoneilo brevis Hall, 1885

Cleland, 1911.

Figured specimen: 464a pl. 20, fig. 6.
464b pl. 20, fig. 7.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.
See also: *Palaeoneilo dentata* Pohl, 1929.

Palaeoneilo cf. *P. constricta* Conrad, 1882

Cleland, 1911 pl. 20, fig. 22.

Pohl, 1929, pl. 4, fig. 2-4, 7-8, 14-15.

Figured specimen: 463 Cleland, 1911, pl. 20, fig. 22.
13532 Pohl, 1929, pl. 20, fig. 3.
13540 Pohl, 1929, pl. 20, fig. 14.
13555 Pohl, 1929, pl. 20, fig. 2.
13556 Pohl, 1929, pl. 20, fig. 15.
13559 Pohl, 1929, pl. 20, fig. 4.
18580 Pohl, 1929, pl. 20, fig. 8.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Palaeoneilo corrugata Pohl, 1929

Pohl, 1929.

Syntype: 13546 pl. 4, fig. 30.

Paratype: 466 pl. 4, fig. 32.

468 pl. 4, fig. 29.

471 pl. 4, fig. 33.

13579 pl. 4, fig. 28.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Palaeoneilo emarginata* Conrad, 1882

Palaeoneilo dentata Pohl, 1929

Pohl, 1929.

Syntype: 464a pl. 4, fig. 17, 23.

464b pl. 4, fig. 18, 22.

464c pl. 4, fig. 21.

465 pl. 4, fig. 16, 20.

5157 pl. 4, fig. 25.

13619 pl. 4, fig. 19, 24.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Palaeoneilo brevis* Hall, 1885; *Palaeoneilo* sp.

Palaeoneilo devexa Pohl, 1929

Pohl, 1929.

Syntype: 13621 pl. 5, fig. 3.

Paratype: 13544 pl. 5, fig. 5.

13576 pl. 5, fig. 4.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Palaeoneilo emarginata Conrad, 1882

Cleland, 1911.

Figured specimen: 466 pl. 20, fig. 12.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Palaeoneilo corrugata* Pohl, 1929.

Palaeoneilo fecunda Hall, 1885

Cleland, 1911.

Figured specimen: 473a pl. 20, fig. 13.

473b pl. 20, fig. 14.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Palaeoneilo pulchella* Pohl, 1929.

Palaeoneilo impressa Pohl, 1929

Pohl, 1929.

Holotype (designated): 13592 pl. 3, fig. 15.

Paratype: 13595 pl. 3, fig. 14.

Middle Devonian; Lake Chruch Formation; Ozaukee Co., WI.

Palaeoneilo milwaukeensis (Cleland, 1911)

Pohl, 1929.

Paratype: 476 pl. 3, fig. 18.

5012 pl. 3, fig. 22.

Figured specimen: 461 pl. 3, fig. 16-25.
2399 pl. 3, fig. 20.
2400 pl. 3, fig. 18.
5011 pl. 3, fig. 19.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Nuculites milwaukeensis* Cleland, 1911.

Palaeoneilo persinuata Pohl, 1929

Pohl, 1929.

Holotype (designated): 13757 pl. 4, fig. 35-37.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Palaeoneilo cf. P. plana Hall, 1885

Cleland, 1911.

Figured specimen: 476 pl. 20, fig. 16.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Palaeoneilo pulchella Pohl, 1929

Pohl, 1929.

Syntype: 473 pl. 4, fig. 48.

5159 pl. 4, fig. 47.

5160 pl. 4, fig. 47.

Paratype: 13581 pl. 4, fig. 49.

13582 pl. 4, fig. 49.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Palaeoneilo fecunda* Hall, 1885.

Palaeoneilo sp.

Cleland, 1911.

Figured specimen: 465 pl. 20, fig. 8.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

See also: *Palaeoneilo dentata* Pohl, 1929.

Paracyclas elliptica incerta Pohl, 1929

Pohl, 1929.

Holotype (designated): 2760 pl. 14, fig. 19-20.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Paracyclas lirata var.

Cleland, 1911.

Figured specimen: 501 pl. 25, fig. 6-7.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

See also: *Paracyclas* sp.

Paracyclas obesaumbonata Pohl, 1929

Pohl, 1929.

Syntype: 10991 pl. 14, fig. 17.

Middle Devonian; Lake Church Formation; Ozaukee Co., WI.

Remarks: Published as *Paracyclas obesa-umbonata*. Error in publication indicates syntype is fig. 18.

Paracyclas paradoxica Pohl, 1929
Pohl, 1929.

Holotype (designated): 13622 pl. 10, fig. 5.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Paracyclas sp.

Cleland, 1911.

Pohl, 1929.

Figured specimen: 500 Cleland, 1911, pl. 25, fig. 8.

Pohl, 1929, pl. 14, fig. 24.

501 Cleland, 1911, pl. 25, fig. 6-7.

Pohl, 1929, pl. 14, fig. 23.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

See also: *Paracyclas lirata* "var."

Plethomytilus suberectus Pohl, 1929
Pohl, 1929.

Syntype: 497 pl. 6, fig. 3.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

See also: *Mytilarca oviformis?* Conrad, 1885.

Schizodus dubius Pohl, 1929
Pohl, 1929.

Holotype (designated): 13572 pl. 10, fig. 4.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Schizodus sp.

Pohl, 1929.

Figured specimen: 13611 pl. 10, fig. 7.

Middle Devonian; Thiensville Formation; Milwaukee Co., WI.

Vertumnia barretti Pohl, 1929
Pohl, 1929.

Holotype (designated): 5156 pl. 9, fig. 3-4.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Vertumnia edwardsi Pohl, 1929
Pohl, 1929.

Syntype: 13729 pl. 9, fig. 2.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Vertumnia intercalaris Pohl, 1929
Pohl, 1929.

Holotype (designated): 13737 pl. 9, fig. 5.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Vertumnia raaschi Pohl, 1929

Pohl, 1929.

Syntype: 13543 pl. 10, fig. 2.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Class Cephalopoda

Buehleroceras compressum Ulrich et al., 1943

Ulrich et al., 1943.

Paratype: 25113 p. 61.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Clarkoceras luthei (Calvin, 1892)

Ulrich et al., 1943.

Figured specimen: 326 pl. 48, fig. 1-2.

791 pl. 47, fig. 1-2.

25133 pl. 48, fig. 1-2.

25134 pl. 47, fig. 1-2.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Remarks: Specimens have been recataloged, 326 is now 25133, 791 is now 25134.

Conocerina beani Ulrich et al., 1943

Ulrich et al., 1943.

Holotype (designated): 25125 pl. 53, fig. 13-14.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Conocerina raaschi Ulrich et al., 1943

Ulrich et al., 1943.

Holotype (designated): 25126 pl. 53, fig. 1-2.

Paratype: 25127 pl. 53, fig. 3-4.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Eremoceras? difficile Ulrich et al., 1943

Ulrich et al., 1943.

Holotype (designated): 25112 pl. 61, fig. 1.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Eremoceras teres Ulrich et al., 1943

Ulrich et al., 1943.

Holotype (designated): 25110 pl. 60, fig. 10-11.

Paratype: 25111 pl. 60, fig. 7-8, 12.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Geisonoceras wauwatosense (Whitfield), 1882

Foerste, 1928.

Neotype: 611 pl. 53, fig. 3.

Middle Silurian, Racine Formation, Milwaukee Co., WI.

Gomphoceras calvini
Cleland, 1907.

Plaster reproduction: 11463 fig. 7.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Remarks: Plaster reproduction is listed because it is numbered differently from the original specimen and is figured separately.

Gomphoceras fusiforme Whitfield, 1882
Cleland, 1907.
Cleland, 1911.

Figured specimen: 432 Cleland 1907, fig. 11.

Cleland 1911, pl. 41, fig. 1.

Plaster reproduction: 11475 Cleland, 1907 fig. 12.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Remarks: *Acleistoceras? clelandi* Miller, 1932, replacement name.

Plaster reproduction is listed because it is numbered differently from the original specimen and is figured separately.

Gomphoceras whitfieldi Cleland, 1907
Cleland, 1907.

Holotype (monotype): 427 fig. 10.

Plaster reproduction: 11479 fig. 9.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Remarks: Plaster reproduction is listed because it is numbered differently from the original specimen and is figured separately.

Gomphoceras wisconsinense Cleland, 1907
Cleland, 1907.
Cleland, 1911.

Syntype: 407 Cleland 1907, fig. 3.

Cleland 1911, pl. 31.

411 Cleland 1907, fig. 1.

Cleland 1911, pl. 29.

Plaster reproduction: 11462 Cleland, 1907, fig. 2.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Remarks: Plaster reproduction is listed because it is numbered differently from the original specimen and is figured separately.

Gyroceras clarkei Cleland, 1907
Cleland, 1907.

Holotype (monotype): 437 fig. 14

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Remarks: "Gyroceras eryx Hall n. sp." in text, "G. clarkei n. sp." in figure caption. Cleland presumably removed this specimen from *G. eryx* and founded *G. clarkei* on it, but the same specimen is called *G. eryx* by Cleland, 1911, pl. 33.

See also: *Gyroceras eryx* Hall, 1879.

Gyroceras eryx Hall, 1879

Cleland, 1911.

Figured specimen: 437 pl. 33.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

See also: *Gyroceras clarkei* Cleland, 1907.

Kionoceras multiseptatum Foerste, 1928

Foerste, 1928.

Holotype: 621 pl. 67, fig. 5.

Middle Silurian, Waukesha Formation, Waukesha Co., WI.

Levisoceras complantum Ulrich et al., 1943

Ulrich et al., 1943.

Figured specimen: 27641 pl. 63, fig. 17-18.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Levisoceras edwardsi Ulrich et al., 1943

Ulrich et al., 1943.

Holotype (designated): 27642 pl. 65, fig. 8-9.

Lower Ordovician; Oneota Formation; Vernon Co., WI.

Orthoceras cf. O. bebryx Hall, 1879

Cleland, 1911.

Figured specimen: 490 pl. 43, fig. 1-2.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

**Phylum Arthropoda
Class Trilobita**

Balizoma indianensis (Kindle and Breger, 1904)

Gass, et al., 1992.

Figured specimen: 26014 fig. 1, no. 1-5, 12-13.

Middle Silurian; Racine Formation; Cook Co., IL.

Briscoia lodensis Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Holotype: 18692 pl. 22, fig. 11.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Vernon Co., WI.

Calvinella wisconsinensis Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Syntype: 19411 pl. 40, fig. 25.

19412 pl. 40, fig. 32.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Crepicephalus oweni Raasch, 1943
Raasch and Lochman, 1943.
Holotype: 25050 pl. 35, fig. 14-15.
Paratype: 25048 not figured.
25049 pl. 35, fig. 11-12.
25051 pl. 35, fig. 13, 16.

Upper Cambrian; Eau Claire Formation; Trempealeau Co., WI.

Dikelocephalus barretti Ulrich and Resser, 1930
Ulrich and Resser, 1930.

Syntypes: 11176 pl. 16, fig. 1-2.
18686 pl. 16, fig. 3-4.
18687 pl. 16, fig. 5.
18688 pl. 16, fig. 7.
18689 pl. 16, fig. 6.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Dikelocephalus brevis Ulrich and Resser, 1930

Ulrich and Resser, 1930.
Syntype: 18656 pl. 1, fig. 3.
18657 pl. 1, fig. 4.
18658 pl. 1, fig. 5.
18681 pl. 14, fig. 1.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Dikelocephalus edwardsi Ulrich and Resser, 1930

Ulrich and Resser, 1930.
Syntype: 18662 pl. 9, fig. 1.
18663 pl. 9, fig. 2.
18664 pl. 9, fig. 3.
18665 pl. 9, fig. 4.
18666 pl. 9, fig. 5.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland and Sauk Co., WI.

Dikelocephalus gracilis Ulrich and Resser, 1930

Ulrich and Resser, 1930.
Syntype: 18675 pl. 13, fig. 1.
18667 pl. 9, fig. 6.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Dikelocephalus marginatus Ulrich and Resser, 1930

Ulrich and Resser, 1930.
Syntype: 11186 pl. 15, fig. 6.
11904 pl. 15, fig. 7.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Dikelocephalus cf. D. orbiculatus Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Figured specimen: 18690 pl. 17, fig. 1.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Columbia Co., WI.

Dikelocephalus ovatus Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Syntype: 18676 pl. 13, fig. 3.
18677 pl. 13, fig. 4.
18679 pl. 13, fig. 6.

Paratype: 18678 pl. 13, fig. 5.
18680 pl. 13, fig. 7.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Dikelocephalus oweni Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Paratype: 18659 pl. 8, fig. 2.
18660 pl. 8, fig. 3.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk and Richland Co., WI.

Dikelocephalus postrectus Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Holotype: 18691 pl. 20, fig. 1-2.

Upper Cambrian; Franconia Formation, Mazomanie Member; Sauk Co., WI.

Dikelocephalus raaschi Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Syntype: 18661 pl. 8, fig. 4.
18672 pl. 10, fig. 1.
18673 pl. 10, fig. 2.

Paratype: 18674 pl. 10, fig. 3.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk and Richland Co., WI.

Dikelocephalus retrorsus Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Syntype: 18685 pl. 14, fig. 6.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Dikelocephalus subplanus Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Syntype: 18682 pl. 14, fig. 3.
18683 pl. 14, fig. 4.
18684 pl. 14, fig. 5.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Dikelocephalus weidmani Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Holotype: 9557 pl. 17, fig. 2.
Paratype: 9558 pl. 17, fig. 5.
9559 pl. 17, fig. 4.
Upper Cambrian; Jordan Formation, Norwalk Member; Buffalo Co., WI.

Dikelocephalus wisconsinensis Ulrich and Resser, 1930

Ulrich and Resser, 1930.
Syntype: 18668 pl. 9, fig. 7.
18669 pl. 9, fig. 8
18670 pl. 9, fig. 9.
18671 pl. 9, fig. 10.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Dikelocephalus sp.

Ulrich and Resser, 1930.
Figured specimen: 11179 pl. 14, fig. 9.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Encrinurus egani Miller, 1880

Gass, et al., 1992.
Figured specimen: 28332 fig. 4, no. 6.
Middle Silurian; Racine Formation; Milwaukee Co., WI.

Encrinurus nereus Hall, 1867

Gass et al., 1992.
Figured specimen: 18786 fig. 3, no. 1-3.
Middle Silurian; Racine Formation; Racine Co., WI.

Encrinurus reflexus Raymond, 1916

Gass et al., 1992.
Figured specimen: 25763 fig. 4, no. 9.
Middle Silurian; Racine Formation; Milwaukee Co., WI.

Encrinurus sp.

Tripp et al., 1977.
Figured specimen: 26242 pl. 114, fig. 11-12.
26515 pl. 114, fig. 8-9.
26516 pl. 114, fig. 13.
26522 pl. 114, fig. 10.
26242 pl. 114, fig. 11-12.

Middle Silurian; Racine Formation; Milwaukee Co., WI.

See also: *Mackenziurus lauriae* n. sp.

Komaspidella thea Raasch, 1943

Raasch and Lochman, 1943.
Figured specimen: 25044 pl. 34, fig. 21, 24.
25045 pl. 34, fig. 22, 25.
25046 pl. 34, fig. 18.
25047 pl. 34, fig. 19-20, 23.

Upper Cambrian; Eau Claire Formation; Trempealeau Co., WI.

Mackensiurus lauriae Gass, et al., 1992

Gass, et al., 1992.

Paratype: 28239 fig. 5, no. 8.

26521 fig. 5, no. 9.

26241 fig. 5, no. 13, 17-18.

28242 fig. 5, no. 14-16.

26519 fig. 5, no. 19.

26522 not figured.

26515 not figured.

26516 not figured.

See also: *Encrinurus* sp.

Middle Silurian; Racine Formation; Milwaukee Co., WI.

Prosaukia acclivis Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Syntype: 19371 pl. 31, fig. 1.

19372 pl. 31, fig. 2.

19373 pl. 31, fig. 3-4.

19374 pl. 31, fig. 5.

Upper Cambrian; Franconia Formation, Mazomanie Member; Vernon Co., WI.

Prosaukia? ambigua Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Holotype: 19375 pl. 31, fig. 6.

Paratype: 19376 pl. 31, fig. 7.

19377 pl. 31, fig. 8.

Upper Cambrian; Franconia Formation; Vernon Co., WI.

Prosaukia granosa Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Holotype: 19370 pl. 28, fig. 18.

Upper Cambrian; Franconia Formation; Juneau Co., WI.

Prosaukia lodensis Ulrich and Resser, 1933

Ulrich and Resser, 1930

Holotype (designated): 19369 pl 28, fig. 9.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Prosaukia miniscula Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Syntype: 19378 pl. 31, fig. 12.

19396 pl. 31, fig. 13.

Upper Cambrian; Franconia Formation, Mazomonie Member; Vernon Co., WI.

Prosaukia misa (Hall, 1863)

Ulrich and Resser, 1933.

Figured specimen: 5968 pl. 24, fig. 7.
Upper Cambrian; Franconia Formation; Jackson Co., WI.
Remarks: Figured cast.

Saukia curvata Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Holotype: 19388 pl. 30, fig. 5.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Saukia granilineata Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Holotype: 19395 pl. 31, fig. 11.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Saukia levigenata Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Holotype: 19389 pl. 30, fig. 6.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Columbia Co., WI.

Saukia lodensis (Whitfield, 1880)

Ulrich and Resser, 1933.
Figured specimen: 19397 pl. 31, fig. 26.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Saukia nitida Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Syntype: 19385 pl. 30, fig. 1.
19386 pl. 30, fig. 2.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Saukia ornata Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Holotype: 19387 pl. 30, fig. 3.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Columbia Co., WI.

Saukia parva Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Holotype: 19394 pl. 30, fig. 26.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Saukia separatoidea Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Syntype: 19391 pl. 30, fig. 8.
19392 pl. 30, fig. 9.
19393 pl. 30, fig. 10.

Upper Cambrian; St Lawrence Formation, Lodi Member; Richland Co., WI.

Saukia subgranosa Ulrich and Resser, 1933
Ulrich and Resser, 1933.

Holotype: 19390 pl. 30, fig. 7.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Saukia sublonga Ulrich and Resser, 1933
Ulrich and Resser, 1933.

Holotype: 19382 pl. 29, fig. 7.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Saukia subrecta Ulrich and Resser, 1933
Ulrich and Resser, 1933.

Holotype: 19384 pl. 29, fig. 19.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Saukiella indenta intermedia Ulrich and Resser, 1933
Holotype: 19399 pl. 36, fig. 4.

Upper Cambrian; Jordan Formation, Norwalk Member; Juneau Co., WI.

Saukiella minor Ulrich and Resser, 1933
Ulrich and Resser, 1933.

Syntype: 19400 pl. 37, fig. 6.

19401 pl. 37, fig. 7.

19402 pl. 37, fig. 8.

19403 pl. 37, fig. 9.

19404 pl. 37, fig. 10.

19405 pl. 37, fig. 11.

19406 pl. 37, fig. 12.

19407 pl. 37, fig. 13.

19408 pl. 37, fig. 14.

Upper Cambrian; Franconia Formation, Mazomanie Member; Vernon Co., WI.

Saukiella subgracilis Ulrich and Resser, 1933
Ulrich and Resser, 1933.

Syntype: 6671 pl. 33, fig. 18.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Wabasha Co., MN.

Saukiella subgracilis parallela Ulrich and Resser, 1933
Ulrich and Resser, 1933.

Syntype: 3550 pl. 33, fig. 27.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Goodhue Co., MN.

Saukiella transita Ulrich and Resser, 1933
Ulrich and Resser, 1933.

Holotype: 19379 pl. 25, fig. 20.
Upper Cambrian; St. Lawrence Formation; Columbia Co., WI.

Tellerina gothamensis Ulrich and Resser, 1933

Ulrich and Resser, 1933.
Syntype: 19413 pl. 42, fig. 4.
19414 pl. 42, fig. 5.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Terranovella dorsalis (Hall, 1863)

Raasch and Lochman, 1943.
Neotype: 25053 pl. 35, fig. 5, 10.
Paratype: 25052 not figured.
25054 not figured.
25056 pl. 35, fig. 6, 9.
25057 pl. 35, fig. 4.
25058 pl. 35, fig. 17.
25059 pl. 35, fig. 3, 7.
25060 not figured.

Upper Cambrian; Eau Claire Formation; Trempealeau Co., WI.

Uncaspis limbata Raasch, 1943

Raasch and Lochman, 1943.
Holotype: 25004 pl. 34, fig. 8-9.
Paratype: 25005 pl. 34, fig. 6.
25006 pl. 34, fig. 12.
25007 pl. 34, fig. 13.
25010 pl. 34, fig. 10.
25011 pl. 34, fig. 7, 11.

Upper Cambrian; Eau Claire Formation; Eau Claire Co., WI.

Unicaspis unca (Walcott, 1916)

Raasch and Lochman, 1943.
Figured specimen: 25013 pl. 34, fig. 2.
25014 pl. 34, fig. 3.
Upper Cambrian; Eau Claire Formation; Trempealeau Co., WI.

Class Crustacea

Balanid barnacle

Watkins, 1990a.
Figured specimen: 28223 fig. 10 B.
Remarks: on *Lopha vespertina* (Conrad).
Pliocene; Imperial Formation; Coyote Mountains, CA.

Class Trilobitomorpha

Agelasella granulifera Raasch, 1939

Raasch, 1939.
Syntype: 11166 pl. 9, fig. 1-3.

11173 pl. 9, fig. 6.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Aglaspis barrandei Hall, 1863

Raasch, 1939.

Figured specimen: 12161 pl. 6, fig. 9-10.

18570 pl. 6, fig. 5.

18578 pl. 5, fig. 1-4.

22764 pl. 6, fig. 8.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Columbia, Dane and Sauk Co., WI.

Aglaspis dorsetensis Raasch, 1939

Raasch, 1939.

Holotype: 12162 pl. 7, fig. 6.

22861 pl. 7, fig. 6.

Upper Cambrian; St. Lawrence Formation; Monroe Co., WI.

Remarks: 12162 recataloged to 22861.

Aglaspis simplex Raasch, 1939

Raasch, 1939.

Paratype: 11903 pl. 8, fig. 2.

18576 pl. 8, fig. 5-6.

22753 pl. 8, fig. 4.

22813 pl. 8, fig. 10.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland and Sauk Co., WI.

Aglaspis spinifer Raasch, 1939

Raasch, 1939.

Briggs et al., 1979.

Raasch, pl. 1-4, pl. 9, fig. 9-10; pl. 10, fig. 9-10.

Briggs, pl. 22-25, fig. 1-2.

Holotype: 11152 Raasch, 1939, pl. 1; pl. 4, fig. 1-3.

11154 Briggs et al., 1979 pl. 22, fig. 1-3; pl. 23, fig. 2; pl. 24, fig. 1; pl. 25, fig. 2.

11155 Briggs et al., 1979, pl. 23, fig. 1; pl. 25, fig. 1.

Syntype: 11152 Raasch, 1939, pl. 1; pl. 4 fig. 1-3.

11153 Raasch, 1939, pl. 2, fig. 12; pl. 9, fig. 10.

11154 Raasch, 1939, pl. 1; pl. 4 fig. 1-3.

11156 Raasch, 1939, pl. 2, fig. 4.

11271 Raasch, 1939, pl. 2, fig. 1; pl. 3, fig. 2.

11274 Raasch, 1939, pl. 2, fig. 9.

11275 Raasch, 1939, pl. 2, fig. 9.

11276 Raasch, 1939, pl. 2, fig. 6; pl. 10, fig. 10.

11280 Raasch, 1939, pl. 2, fig. 7.

11283 Raasch, 1939, pl. 2, fig. 2.

11286 Raasch, 1939, pl. 2, fig. 3.

11287 Raasch, 1939, pl. 2, fig. 5.

11288 Raasch, 1939, pl. 3, fig. 1.

11401 Raasch, 1939, pl. 9, fig. 9.
22871 Raasch, 1939, pl. 10, fig. 9.

Paratype: 11276 Raasch, 1939, pl. 10, fig. 10.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Monroe and Richland Co., WI.

Remarks: Raasch, 1939 lists 11152 as holotype for appendages, but remainder of specimen as syntype. Manuscript indicates number 11152 in error, number is actually 11154. Manuscript indicates number 11276 in error, pl. 3, fig. 2 is actually 11271.

Aglaspoides sculptilis Raasch, 1939

Raasch, 1939.

Holotype: 11168 pl. 11, fig. 10-12.

Paratype: 12164 pl. 11, fig. 13.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Aglaspoides semicircularis Raasch, 1939

Raasch, 1939.

Syntype: 11910 pl. 11, fig. 5-6.

11918 pl. 11, fig. 8.

22721 pl. 11, fig. 7.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland and Sauk Co., WI.

Remarks: 11918 is listed as fig. 5-6 in the publication in error.

Aglaspoides? Raasch, 1939

Raasch, 1939.

Paratype: 28387 pl. 18, fig. 12.

Upper Cambrian; Fox Glen Formation; Columbia Co., WI.

Remarks: Specimen also has UW Madison specimen number L138.28.

Beckwithia? major (Graham, 1931)

Raasch, 1939.

Hesselbo, 1989.

Topotype: MPM fl, Hesselbo, 1989, fig. 2.

MPM f2, Hesselbo, 1989, fig. 1.

Upper Cambrian; Eau Claire Formation; Jackson Co., WI.

Chraspedops fragilis Raasch, 1939

Raasch, 1939.

Holotype: 22796 pl. 15, fig. 14.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Chraspedops modesta Raasch, 1939

Raasch, 1939.

Syntype: 11158 pl. 16, fig. 4.

11159 pl. 16, fig. 13.

11275 pl. 17, fig. 6.

11278 pl. 16, fig. 9.

11312 pl. 16, fig. 2.

- 11318 pl. 17, fig. 3.
11326 pl. 17, fig. 2.
11351 pl. 16, fig. 8.
11354 pl. 15, fig. 13; pl. 12, fig. 4.
11357 pl. 16, fig. 7.
11358 pl. 16, fig. 10.
11359 pl. 16, fig. 6, 11-12.
11361 pl. 16, fig. 3.
11369 pl. 16, fig. 1.
11371 pl. 16, fig. 5.
11938 pl. 17, fig. 5.
Paratype: 11363 pl. 17, fig. 7
11915 pl. 16, fig. 16.
22788 pl. 17, fig. 4.
22872 pl. 16, fig. 14.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Cyclopina vulgaris Raasch, 1939

Raasch, 1939.

- Syntype: 11169 pl. 14, fig. 5.
11171 pl. 14, fig. 1-3.
22729 pl. 15, fig. 1.
22768 pl. 15, fig. 11.
22802 pl. 15, fig. 7.
22833 pl. 15, fig. 6.

- Paratype: 11926 pl. 14, fig. 6.
22820 pl. 15, fig. 12.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland and Sauk Co., WI.

Glypharthus thomasi (Walter, 1924)

Raasch, 1939.

- Figured specimen: 11163 pl. 11, fig. 2.
11164 pl. 20, fig. 1; pl. 11, fig. 1.
22815 pl. 11, fig. 3.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Remarks: Error in publication indicates pl. 20, fig. 1 for 11163.

Setaspis regularis Raasch, 1939

Raasch, 1939.

Holotype: D23 pl. 13, fig. 5.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Setaspis spinulosus Raasch, 1939

Raasch, 1939.

- Syntype: 22837 pl. 18, fig. 7.
22839 pl. 13, fig. 8.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Dane, Sauk and Richland Co., WI.

Remarks: Error in publication lists 11918 as pl. 18, fig. 6. Specimen 11918 is not the specimen figured.

Uarthrus instabilis Raasch, 1939

Raasch, 1939.

Syntype: 11171 pl. 12, fig. 6.

11354 pl. 12, fig. 4.

11921 pl. 12, fig. 12.

12169 pl. 12, fig. 1-2.

W159 pl. 12, fig. 3.

Paratype: 11405 pl. 12, fig. 8-9.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Merostomata?

Raasch, 1939.

Figured specimen: 11162 pl. 21, fig. 2.

11377 pl. 21, fig. 1.

11378 pl. 21, fig. 3.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Phylum Echinodermata

Holocystites alternatus Hall, 1868

Foerste, 1920.

Figured specimen: 839 pl. 4, fig. 1.

Middle Silurian; Racine Formation; Racine Co., WI.

Nucleocrinus obovatus (Barris, 1883)

Cleland, 1911.

Figured specimen: 5282 pl. 3, fig. 2.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Pentremitidea milwaukeensis Weller, 1898

Cleland, 1911.

Figured specimen: 284 pl. 3, fig. 1.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Phylum Chordata
Class Graptolithina

Callograptus sp.

Ruedemann, 1933.

Figured specimen: 19457 pl. 52, fig. 1, 11.

Upper Cambrian; Trempealeau Formation; Monroe Co., WI.

Dendrograptus edwardsi Ruedemann, 1933

Ruedemann, 1933.

Holotype: 11510 pl. 47, fig. 4, 8.

Paratype: 19452 pl. 47, fig. 2, 5.

Upper Cambrian; Trempealeau Formation; Monroe Co., WI.

Remarks: Error in publication lists 19542 as 19452.

Dendrograptus hallianus (Prout, 1851)

Ruedemann, 1933.

Figured specimen: 11508 pl. 46, fig. 1; pl. 47, fig. 3.

19445 pl. 46, fig. 6, 10.

19456 pl. 46, fig. 2, 9.

19458 pl. 46, fig. 4, 12.

19449 pl. 46, fig. 7, 11.

19451 pl. 46, fig. 5; pl. 46, fig. 1.

19548 pl. 46, fig. 3, 8.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Monroe and Richland Co., WI.

Remarks: Error in publication lists 19449 as 19450.

Dendrograptus hallianus spissus Ruedemann, 1933

Ruedemann, 1933.

Holotype: 19453 pl. 46, fig. 13-14.

Upper Cambrian; Trempealeau Formation; Monroe Co., WI.

Dendrograptus sprarsus Ruedemann, 1933

Ruedemann, 1933.

Holotype: 19454 pl. 47, fig. 1, 9.

Upper Cambrian; Trempealeau Formation; Monroe Co., WI.

Dictyonema sp.

Ruedemann, 1933.

Figured specimen: 19459 pl. 52, fig. 3, 10.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Haplograptus wisconsinensis Ruedemann, 1933

Ruedemann, 1933.

Holotype: 19444 pl. 52, fig. 9, 13.

Paratype: 19447 pl. 52, fig. 4, 14.

19448 pl. 52, fig. 5, 12.

19450 pl. 52, fig. 8, 15.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Remarks: Error in publication lists 19450 as 19449.

Mastigograptus sp.

Ruedemann, 1933.

Figured specimen: 19446 pl. 52, fig. 6-7.

19455 pl. 52, fig. 2.

pl. 48, fig. 2.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Monroe and Richland Co., WI.

Class Placodermi

Dinichthyes pustulosus Eastman, 1897

Eastman, 1900.

Cleland, 1911.

Figured specimen: 468 Eastman, 1900, fig. 1.

Cleland, 1911, pl. 45, fig. 1.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Onychodus sp. undet.

Cleland, 1911.

Figured specimen: 477 pl. 47, fig. 5.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Class Osteichthyes

Esox sp.

Teller-Marshall and Bardack, 1978.

Figured specimen: VP2693 pl. 2.

Holocene; Milwaukee Co., WI.

Ictalurus melas Rafinesque, 1820

Teller-Marshall and Bardack, 1978.

Figured specimen: VP2697 pl. 4, fig. B.

VP2697 pl. 4, fig. C.

VP2704 pl. 4, fig. A.

Holocene; Milwaukee Co., WI.

Lepomis cyanellus Rafinesque, 1819

Teller-Marshall and Bardack, 1978.

Figured specimen: VP2718 pl. 6.

Holocene; Milwaukee Co., WI.

Lepomis gibbosus Linnaeus, 1758

Teller-Marshall and Bardack, 1978.

Figured specimen: VP2720 pl. 7.

Holocene; Milwaukee Co., WI.

Micropterus dolomieu Lacapede, 1802

Teller-Marshall and Bardack, 1978.

Figured specimen: VP2714 pl. 5.

Holocene; Milwaukee Co., WI.

Umbra limi (Kirtland, 1841)

Teller-Marshall and Bardack, 1978.

Figured specimen: VP2689 pl. 1.

Holocene; Milwaukee Co., WI.

Catostomidae

Teller-Marshall and Bardack, 1978.

Figured specimen: VP2694 pl. 3.

Holocene; Milwaukee Co., WI.

Class Reptilia

Stenotholus kohleri Giffen et al., 1987

Giffen et al., 1987.

Holotype: 7111 fig. 2.

Figured specimen: 3850 fig. 6.

Upper Cretaceous; Hell Creek Formation; McCone Co., MT.

Class Mammalia

Antiacodon pygmaeus (Cope, 1872)

West, 1984.

Figured specimen: 5896 fig. 3-5.

Middle Eocene; Bridger Formation; Green River Basin, WY.

Bison occidentalis Lucas, 1898

Palmer, 1954.

Figured specimen: VP5851 pl. 2, no. 1.

VP5852 pl. 2, no. 2.

VP5853 pl. 2, no. 3.

VP5854 pl. 1.

VP6400 pl. 2. fig. 1 B.

Pleistocene; Polk Co., WI.

Harpagolestes macrocephalus Wortman, 1901

West, 1981.

Figured specimen: 4595 fig. 3-5.

Eocene; Bridger Formation; Green River Basin, WY.

Hyopsodus lepidus Matthew, 1909

West, 1979.

Figured specimen: VP3973 fig. 10D.

Middle Eocene; Bridger Formation; Uinta Co., WY.

Hyopsodus paulus Leidy, 1870

West, 1979.

Figured specimen: VP3966 fig. 10 B.

VP3975 fig. 10 A.

VP3982 fig. 11 B.

VP3984 fig. 11 A.

Middle Eocene; Bridger Formation; Uinta Co., WY.

Mammut americanum (Kerr, 1792)-

West and Dallman, 1980.

Figured specimen: 2 fig. 4.

Pleistocene; Fond du Lac Co., WI.

Protungulatum gorgon

Lupton et al., 1980.

Figured specimen: 4446 fig. 5 B.

Upper Cretaceous; Hell Creek Formation; McCone Co., MT.

Rangifer tarandus (Linnaeus, 1758)

West, 1978.

Figured specimen: VP858 fig. 1.

Late Pleistocene; Milwaukee Co., WI.

Remarks: three antler fragments.

Trace Fossils

Caulostrepsis sp.

Watkins, 1990a.

Figured specimen: 28227 fig. 10 F.

Pliocene; Imperial Formation; Imperial Co., CA.

Echinoid pits

Watkins, 1990b.

Figured specimen: 28231 fig. 6 B.

Pliocene; Imperial Formation; Imperial Co., CA.

Entobia

Watkins, 1990a.

Watkins, 1990b.

Figured specimen: 28226 Watkins, 1990a, fig. 10 E.

28232 Watkins, 1990b, fig. 6 C.

28233 Watkins, 1990b, fig. 6 D.

Remarks: 28226 on *Lopha vespertina* (Conrad).

Pliocene; Imperial Formation; Imperial Co., CA.

Gastrochaenolites

Watkins, 1990a.

Watkins, 1990b.

Figured specimen: 28225 Watkins, 1990a, fig. 10 D.

28228 Watkins, 1990b, fig. 3 D.

Remarks: 28225 on *Lopha vespertina* (Conrad).

Pliocene; Imperial Formation; Imperial Co., CA.

Plantae

Fucus bertheletensis Penhallow, 1908

Penhallow, 1908.

Cleland, 1911.

Holotype (monotype): 399 Penhallow, pl. 2.

Cleland, pl. 53.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Nematophycus milwaukeensis Penhallow, 1908

Penhallow, 1908.

Cleland, 1911.

Holotype (monotype): 402 Penhallow pl. 1

Cleland, pl. 52, fig. 2.

Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Class Chlorophyceae

Cyclocrinites sp.

Johnson and Sheehan, 1985.

Figured specimen: 2831 fig. 3I.
2832 fig. 3J.
2833 fig. 3K.
2834 fig. 3L.
2835 fig. 3M.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern Egan Range, NV.

Rhabdoporella sp.

Johnson and Sheehan, 1985.

Figured specimen: 2823 fig. 3A.
2824 fig. 3B.
2825 fig. 3C.
2826 fig. 3D.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern Egan Range, NV.

Vermiporella sp.

Johnson and Sheehan, 1985.

Figured specimen: 2827 fig. 3E.
2828 fig. 3F.
2829 fig. 3G.
2830 fig. 3H.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern Egan Range, NV.

Class Angiospermae

Aralia sp.

MacGinitie, 1953.

Holotype: P2090 pl. 69, fig. 5.

Oligocene; Florissant Beds; Florissant, CO.

Cyperacites lacustris MacGinitie, 1953

MacGinitie, 1953.

Holotype: P1798 pl. 17, fig. 2.

Oligocene; Florissant beds; Florissant, CO.

Morus symmetrica Cockerell, 1908

MacGinitie, 1953.

Figured specimen: P1369 pl. 25, fig. 9.

Oligocene; Florissant beds; Florissant, CO.

Appendix I

Cataloged Specimens Not Found

The following is a list of cataloged MPM specimens, either type or figured, that could not be located at the time of this publication. It is possible these may have been loaned prior to the inception of the computerized loan process and the records have been misplaced. It is also possible that these specimens are intermixed with the regular collection and have been separated from their original labels, making them difficult to account for. MPM staff will continue to look for these specimens when working in collections where they might be present. Persons interested in viewing these specimens should contact the Collections Manager, Department of Geology to determine if they have been located.

Phylum Coelenterata

?*Billingsaria parvituba* (Troedsson), 1928

Pandolfi, 1985.

Figured specimen: 27792 pl. 4, fig. 1.

Upper Ordovician; Ely Springs Formation, Lost Canyon Member; Northern Egan Range, NV.

Calapoecia anticostiensis Billings, 1865

Pandolfi, 1985.

Figured specimen: 27786 pl. 1, fig. 2.

Upper Ordovician; Ely Springs Formation, Ibex and Floride Members; Northern Egan Range, NV.

Calapoecia sp. cf. *C. coxi* Bassler, 1961

Pandolfi, 1985.

Figured specimen: 27787 pl. 1, fig. 3.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern Egan Range, NV.

Paleofavosites poulseni Teichert, 1937

Pandolfi, 1985.

Figured specimen: 27801 pl. 7, fig. 5.

27804 pl. 8, fig. 1.

Upper Ordovician; Ely Springs Formation, Floride Member; Northern Egan Range, NV.

Phylum Brachiopoda

Protoleptostrophia serrata sp. n.

Griesemer, 1965.

Holotype: 16297 pl. 2, fig. 18-19.

Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Schuchertella artostriata (Hall), 1843

Griesemer, 1965.

Figured specimen: 16366 pl. 3, fig. 6.
Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Spinocyrtia clelandi sp. n.
Griesemer, 1965.

Figured specimen: 20499 pl. 5, fig. 3.
Middle Devonian; Milwaukee Formation, Berthelet Member; Milwaukee Co., WI.

Spinocyrtia iowensis (Owen), 1852
Griesemer, 1965.

Figured Specimen: 16297 pl. 5, fig. 8-9.
Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Tylothyris subvaricosa umbonata subsp. n.
Griesemer, 1965.

Holotype: MPM M3 pl. 5, fig. 16, 18.
Figured specimen: MPM M2 pl. 5, fig. 17, 19.
Middle Devonian; Milwaukee Formation, Lindwurm Member; Milwaukee Co., WI.

Class Gastropoda

Wisconsinella clelandi Blodgett, 1988
Blodgett, 1988.
Holotype: 22477 fig. 1.
Middle Devonian; Lake Church Formation; Milwaukee Co., WI.

Class Bivalvia

Palaeoneilo milwaukeensis (Cleland, 1911)
Pohl, 1929.
Holotype: 18579 pl. 3, fig. 17.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.
See also: *Nuculites milwaukeensis* Cleland, 1911.

Class Cephalopoda

Kionoceras mchesneyi Foerste, 1928
Foerste, 1928.
Holotype: 4706 pl. 65, fig. 1.
Middle Silurian; Waukesha Formation; Waukesha Co., WI.

Class Trilobita

Calvinella pustulosa Ulrich and Resser, 1933
Ulrich and Resser, 1933.
Paratype: 19409 pl. 39, fig. 5.
19410 pl. 39, fig. 7-8.

Upper Cambrian; Jordan Formation, Norwalk Member; Vernon Co., WI.

Dikelocephalus weidmani Ulrich and Resser, 1930

Ulrich and Resser, 1930.

Paratype: 9560 pl. 17, fig. 3.

Upper Cambrian; Jordan Formation, Norwalk Member; Buffalo Co., WI.

Prosaukia sp.

Ulrich and Resser, 1933.

Figured specimen: 19380 pl. 28, fig. 10.

19381 pl. 28, fig. 11.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Richland Co., WI.

Saukia cf. *S. whitfieldi* Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Figured specimen: 19383 pl. 29, fig. 18.

Upper Cambrian; St Lawrence Formation, Lodi Member; Richland Co., WI.

Saukiella cf. *S. pyrene* Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Figured specimen: 19398 pl. 35, fig. 9.

Upper Cambrian; Jordan Formation, Norwalk Member; Juneau Co., WI.

Saukiella typicalis subrecta Ulrich and Resser, 1933

Ulrich and Resser, 1933.

Syntype: 6105 pl. 33, fig. 6.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Buffalo Co., WI.

Tellerina leucosia (Walcott, 1914)

Ulrich and Resser, 1933

Figured specimen: 6099 pl. 44, fig. 18.

6115 pl. 44, fig. 19.

6116 pl. 44, fig. 20.

Upper Cambrian; Jordan Formation, Norwalk Member; Polk Co., WI.

Class Trilobitomorpha

Aglaspella granulifera Raasch, 1939

Raasch, 1939.

Syntype: 11908 pl. 9, fig. 5.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Aglaspoides semicircularis Raasch, 1939

Raasch, 1939.

Syntype: 11905 pl. 11, fig. 9.

Upper Cambrian; St. Lawrence Formation, Lodi Member; Sauk Co., WI.

Class Mammalia

Antiacodon pygmaeus (Cope, 1872)

West, 1984.

Figured specimen: 6713 fig. 2 B.
6721 fig. 6-13.

Middle Eocene; Bridger Formation; Green River Basin, WY.

Centetodon pulcher Marsh, 1872

Krishtalka and West, 1979.

Figured specimen: VP3943 fig. 1.
VP3944 fig. 3a.

Middle Eocene; Bridger Formation; Uinta Co., WY.

Centetodon sp.

Krishtalka and West, 1979.

Figured specimen: VP3918 fig. 4.
Middle Eocene; Bridger Formation; Uinta Co., WY.

Cervus canadensis Borowski, 1780

Palmer, 1954.

Figured specimen: VP5855 pl. 2, fig. 1.
Pleistocene; Polk Co., WI.

Helohyus latus Marsh, 1872

West, 1984.

Figured specimen: 6701 fig. 2 D.
Middle Eocene; Bridger Formation; Green River Basin, WY.

Helohyus plicodon Marsh, 1872

West, 1984.

Figured specimen: 6706 fig. 18 B.
6707 fig. 18 A.

Middle Eocene; Bridger Formation; Green River Basin, WY.

Homacodon vagans Marsh, 1872

West, 1984.

Figured specimen: 6697 fig. 15-16
6716 fig. 2 C.

Middle Eocene; Bridger Formation; Green River Basin, WY.

Hyopsodus paulus Leidy, 1870

West, 1979.

Figured specimen: VP3906 fig. 10 A-C.
VP3954 fig. 12-13.

Middle Eocene; Bridger Formation; Uinta Co., WY.

Microsus cuspidatus Leidy, 1870

West, 1984.

Figured specimen: 6709 fig. 1.
Middle Eocene; Bridger Formation; Green River Basin, WY.

Protungulatum gorgon

Lupton et al., 1980.

Figured specimen: 4445 fig. 5 A.

Upper Cretaceous; Hell Creek Formation; McCone Co., MT.

Protungulatum donnae

Lupton et al., 1980.

Figured specimen: 4581 fig. 5 C.

Upper Cretaceous; Hell Creek Formation; McCone Co., MT.

Appendix II

Uncataloged Specimens Not Found

The following is a list of specimens believed to be in the MPM collections. Because the publications that refer to these specimens have indicated no specimen numbers, MPM cannot use the database to search for them in the regular collection. Without specimen numbers it is impossible to verify if these specimens did indeed ever reside in the MPM collection. A computer search was conducted to determine localities where specimens of these genera have been cataloged. A visual search of specimens from these localities has been made. MPM staff will continue to look for these specimens when working in collections where they might be present. Persons interested in viewing these specimens may visit the collection and conduct their own search if they wish, however, they should keep in mind the results so far have not been encouraging.

The most prominent of the missing specimens are those from the Devonian fish collection from Milwaukee County. This collection occupies several large drawers and has not been worked on in recent memory. The illustrations in Cleland, 1911 are not photographs but artist's renderings. This has made positive identification of these specimens difficult. It is quite possible the specimens are indeed in the MPM collection. Because MPM does not have a staff member with expertise in this area, interested persons are encouraged to pursue work in this collection.

Phylum Brachiopoda

Camarotoechia contracta saxatilis (Hall, 1867)

Cleland, 1911.

Figured specimen: pl. 13, fig. 3-5.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Cranaena iowensis (Calvin, 1890)

Cleland, 1911.

Figured specimen: 2 specimens pl. 13, fig. 8-11.

Middle Devonian; Milwaukee Formation; Milwaukee Co. WI.

Lingula milwaukeensis Cleland, 1911

Cleland, 1911.

Syntype: 2 specimens pl. 12, fig. 3-4.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Orbiculoides wardi Cleland, 1911
Cleland, 1911.
Syntype: pl. 12, fig. 16.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Pentremitidea filosa Whiteaves, 1891
Cleland, 1911.
Figured specimen: pl. 3, fig. 3.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Spirifer asper Hall, 1858
Cleland, 1911.
Figured specimen: pl. 16, fig. 1, 2, 4.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Stropheodonta halli Cleland, 1911
Cleland, 1911.
Griesemer, 1965.
Syntype: Cleland, pl. 14, fig. 8.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Class Bivalvia

Coleolus? tenuis Cleland, 1911
Cleland, 1911.
Syntype: pl. 26, fig. 11.
Middle Devonian; Lake Church Formation; Milwaukee Co., WI.

Palaeoneilo cf. plana Hall, 1885
Cleland, 1911.
Figured specimen: pl. 20, fig. 15.
Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Class Trilobitomorpha

Beckwithia? major (Graham, 1931)
Raasch, 1939.
Hesselbo, 1989.
Figured specimen: Raasch, 1939 pl. 18, fig. 5.
Upper Cambrian; Eau Claire Formation; Jackson Co., WI.

Setaspis spinulosus Raasch, 1939
Raasch, 1939.
Syntype: pl. 18, fig. 6.
Upper Cambrian; St. Lawrence Formation, Lodi Member; Dane, Sauk and Richland Co., WI.

Aglaspididae
Raasch, 1939.
Figured specimen: pl. 9, fig. 8.
Upper Cambrian; Trempealeau Formation; Monroe Co., WI.

Merostomata?

Raasch, 1939.

Figured specimen: pl. 21, fig. 4.

Upper Cambrian; St. Lawrence Formation; Richland Co., WI.

Class Chondrichthyes

Cladodus monroei Eastman, 1900

Eastman, 1900.

Cleland, 1911.

Holotype (monotype): Eastman, 1900, fig. 2.

Cleland, 1911, pl. 47, fig. 3.

Middle Devonian; Milwaukee Formation; Milwaukee Co., WI.

Class Mammalia

Bison occidentalis Lucas, 1898

Palmer, 1954.

Figured specimen: pl. 2, fig. 1 A.

Pleistocene; Polk Co., WI.

Elephas primigenius Blumenbach, 1799

Hay, 1914.

Figured specimen: pl. 59.

Pleistocene, Milwaukee Co., WI.

References

- Blodgett, R.B. 1988. *Wisconsinella*, a new raphistomatinid gastropod genus from the middle Devonian of Wisconsin. *Journal of Paleontology*, 62(3):442-444.
- Boucot, A.J. and J.G. Johnson. 1979. Pentamerinae (Silurian Brachiopoda). *Palaeontographica*, Abt. A, Bd. 163.
- Briggs, D.E.G., D.L. Bruton and H.B. Whittington. 1979. Appendages of the arthropod *Aglaspis spinifer* (upper Cambrian, Wisconsin) and their significance. *Palaeontology*, 22(1):167-180.
- Cleland, H.F. 1907. Restorations of certain Devonian cephalopods with descriptions of new species. *Journal of Geology*, 15(5):459-469.
- 1911. The fossils and stratigraphy of the middle Devonian of Wisconsin. *Bulletin of the Wisconsin Geological and Natural History Survey*, No. 21, Sci. Ser. No. 6, 222 pp.
- Eastman, C.R. 1898. Dentition of Devonian Ptyctodontidae. *American Naturalist*, 32:546-560.
- 1900. Dentition of some Devonian fishes. *Journal of Geology*, 8(1):32-41.
- Foerste, A.F. 1920. Racine and Cedarville cystoids and blastoids with notes on other echinoderms. *Ohio Journal of Science*, 21(2):33-82.
- 1928. A restudy of American orthoconic Silurian cephalopods. *Bulletin of the Scientific Laboratories*, Denison University, 23:236-320.
- Gass, K.C. et al. 1992. Silurian Encrinurinae (Trilobita) from the central United States. *Journal of Paleontology*, 66(1):in press.
- 560, 5
P 172

- Giffen, E.B., D.L. Gabriel and R.E. Johnson. 1987. A new pachycephalosaurid skull (Ornithischia) from the Cretaceous Hell Creek Formation of Montana. *Journal of Vertebrate Paleontology*, 7(4):398-407.
- Griesemer, A.D. 1965. Middle Devonian brachiopods of southeastern Wisconsin. *Ohio Journal of Science*, 65(5):245-295.
- Hesselbo, S.P. 1989. The aglaspidid arthropod Beckwithia from the Cambrian of Utah and Wisconsin. *Journal of Paleontology*, 63(5):636-642.
- Hay, O.P. 1914. The Pleistocene mammals of Iowa. *Iowa Geological Survey*, v. 23, Annual Report 1912, 662 pp.
- Johnson, R.E. and P.M. Sheehan. 1985. Late Ordovician Dasyclad algae of the eastern Great Basin. In *Paleoalgology: contemporary research and applications*, eds. D.F. Toomey and H.H. Nitecki. Springer-Verlag, Berlin, Heileberg, p. 79-84.
- Krishtalka, L. and R.M. West. 1979. Paleontology and geology of the Bridger Formation, southern Green River Basin, southwestern Wyoming. Part 4. The Geolabididae (Mammalia, Insectivora). Milwaukee Public Museum, Contributions in Biology and Geology, 27:1-10.
- Lupton, C., D. Gabriel, R.M. West. 1980. Paleobiology and depositional setting of a late Cretaceous vertebrate locality, Hell Creek, Montana. University of Wyoming, Contributions in Geology, 18(2):117-126.
- MacGinitie, H.D. 1953. Fossil plants of the Florissant beds, Colorado. Carnegie Institute, Washington, Publ. 599, 198 pp.
- Palmer, H.A. 1954. A review of the Interstate Park, Wisconsin, bison find. *Iowa Academy of Science, Proceedings* 61:313-319.
- Pandolfi, J.M. 1985. Late Ordovician and Silurian of the eastern Great Basin, Part 5. Colonial corals from the Ely Springs Dolomite. Milwaukee Public Museum Contributions in Biology and Geology, No. 61, 95 pp.
- Penhallow, D.P. 1908. Some fossil plants from the middle Devonian of Milwaukee, Wisconsin. *Bulletin of the Wisconsin Natural History Society*, 6(1-2):8-12.
- Pohl, E.R. 1929. The Devonian of Wisconsin. Part 1, Lamellibranchiata. *Bulletin of the Public Museum of the City of Milwaukee*, 11(1):1-100.
- Raasch, G.O. 1939. Cambrian Merostomata. *Geological Society of America, Special Paper No. 19*, 146 pp.
- _____ and C. Lochman. Revision of three early upper Cambrian trilobite genera. *Journal of Paleontology*, 17(3):221-235.
- Ruedemann, R. 1933. The Cambrian of the upper Mississippi Valley. Part III, Graptolitoidea. *Bulletin of the Public Museum of the City of Milwaukee*, 12(3):307-348.
- _____ and R.R. Shrock. 1939. A new Wisconsin upper Cambrian foraminifer. *American Journal of Science*, 237(1):66-71.
- Shrock, R.R. and G.O. Raasch. 1937. Paleontology of the disturbed Ordovician rocks near Kentland, Indiana. *American Midland Naturalist*, 18(4):532-607.
- Teller-Marshall, S. and D. Bardack. 1978. Post-glacial fishes from a Lake Michigan drainage in Milwaukee, Wisconsin. Milwaukee Public Museum, Contributions in Biology and Geology, 15:1-19.
- Tripp, R.P., J.T. Temple and K.C. Gass. 1977. The Silurian trilobite *Enocrinurus variolaris* and allied species, with notes on *Frammia*. *Palaeontology*, 20(4):847-867.

- Ulrich, E.O., A.F. Foerste and A.K. Miller. 1943. Ozarkian and Canadian cephalopods. Part II: Brevicones. Geological Society of America, Special Paper No. 49, 240 pp.
- ____ and C.E. Resser. 1930. The Cambrian of the upper Mississippi Valley. Part I, Trilobita; Dikelocephalinae and Oscoolinae. Bulletin of the Public Museum of the City of Milwaukee, 12(1):1-222.
- ____ and C.E. Resser. 1933. The Cambrian of the upper Mississippi Valley. Part II, Trilobita; Saukiinae. Bulletin of the Public Museum of the City of Milwaukee, 12(2):123-306.
- Watkins, R. 1990a. Pliocene channel deposits of oyster shells in the Salton Trough region, California. Palaeogeography, Palaeoclimatology, Palaeoecology, 79:249-262.
- ____ 1990b. Paleoecology of a Pliocene Rocky Shoreline, Salton Trough Region, California. Palaios, 5:167-175.
- West, R.M. 1978. Late Pleistocene (Wisconsinan) caribou from southeastern Wisconsin. Wisconsin Academy of Science, Arts and Letters, Transactions, 66:50-53.
- ____ 1979. Paleontology and geology of the Bridger Formation, southern Green River Basin, southwestern Wyoming. Part 3. Notes on *Hyopsodus*. Milwaukee Public Museum, Contributions in Biology and Geology, 25:1-52.
- ____ and J.E. Dallman. 1980. Late Pleistocene and Holocene vertebrate fossil record of Wisconsin. Geoscience Wisconsin, 4:25-45.
- ____ 1981. Geology and Paleontology of the Bridger Formation, Southern Green River Basin, Southwestern Wyoming. Part 5. *Harpagolestes macrocephalus* and comments on structure, function and diversity of Middle Eocene to Early Oligocene large mesonychids. Milwaukee Public Museum, Contributions in Biology and Geology, 43:1-17.
- ____ 1984. Paleontology and Geology of the Bridger Formation, Southern Green River Basin, Southwestern Wyoming. Part 7. Survey of Bridgerian Artiodactyla, including description of a skull and partial skeleton of *Antiacodon pygmaeus*. Milwaukee Public Museum, Contributions in Biology and Geology, 56:1-47.