

*Southwick*

MINNESOTA GEOLOGICAL SURVEY  
INFORMATION CIRCULAR 33

**CATALOG OF  
PALEONTOLOGICAL TYPE  
SPECIMENS IN THE  
GEOLOGICAL MUSEUM,  
UNIVERSITY OF MINNESOTA**

UNIVERSITY OF MINNESOTA



**Minnesota Geological Survey**  
*Priscilla C. Grew, Director*

**Information Circular 33**

**CATALOG OF PALEONTOLOGICAL TYPE SPECIMENS IN THE  
GEOLOGICAL MUSEUM, UNIVERSITY OF MINNESOTA**

By

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## CONTENTS

	<i>Page</i>
<b>FOREWORD, by Robert E. Sloan.....</b>	v
<b>INTRODUCTION.....</b>	1
<b>ORGANIZATION OF THE CATALOG.....</b>	1
<b>PRIMARY PALEONTOLOGICAL TYPES.....</b>	3
<b>PHYLUM ANELIDA.....</b>	4
<b>PHYLUM ARTHROPODA</b>	
Class Merostomata.....	15
Subclass Ostracoda.....	16
Class Trilobita.....	35
<b>PHYLUM BRACHIOPODA.....</b>	39
<b>PHYLUM BRYOZOA.....</b>	45
<b>PHYLUM CHORDATA.....</b>	58
<b>PHYLUM COELENTERATA.....</b>	60
<b>PHYLUM CONODONTA.....</b>	61
<b>PHYLUM ECHINODERMATA.....</b>	92
<b>CLASS GRAPTOLITHINA.....</b>	95
<b>PHYLUM MOLLUSCA</b>	
Class Bivalvia .....	96
Class Cephalopoda.....	101
Class Gastropoda.....	107
Other Mollusa .....	116
<b>PHYLUM PORIFERA.....</b>	118
<b>KINGDOM PLANTAE.....</b>	119
<b>OTHER TAXA.....</b>	120
<b>REFERENCES CITED.....</b>	121



## **FOREWORD**

William F. Rice, the author of this catalog, is a former student of the Department of Geology and Geophysics and was for a five-year period in the 1980s the curator of the geological/paleontological collection of the Newton Horace Winchell School of Earth Sciences. During his term as curator, among other activities, he accomplished the complete electronic cataloging of the collection. This catalog occupies fourteen megabytes of memory and can be read using the program Aldus Filemaker II on a Macintosh computer. An aspect of this program is that subsets of the data can be easily extracted for a variety of purposes. One such subset is the present catalog of paleontological type specimens, which I am sure will prove to be useful to many who work with paleontological collections. I thank Bill for this valuable compilation. Those who wish to examine these or other fossils in the collection should consult me or my successors.

ROBERT E. SLOAN  
Professor of Paleontology

The type specimens [in the Museum,] both rocks and fossils, and all the material on which are founded the investigations and the results of the survey, are valuable as scientific data and ought to be carefully preserved for future use and critical comparison.

—Newton Horace Winchell

Every institution in which types are deposited should publish lists of type-material in its possession or custody

—*International Code of Zoological Nomenclature*

## **INTRODUCTION**

This paper contains reference information for 1712 published paleontological primary type specimens housed in the geological/paleontological collection of the Newton Horace Winchell School of Earth Sciences at the University of Minnesota. This outstanding collection contains specimens from Minnesota and throughout the world. The geographic, chronologic, and taxonomic diversity of the collection reflects the diverse paleontological interests of past and present faculty, staff, and students in the earth sciences discipline at the University of Minnesota.

The collection started in 1872 when the Minnesota Legislature authorized the University of Minnesota to organize the Geological and Natural History Survey of Minnesota. Section 6 of the enabling legislation for the Survey also authorized the establishment of a museum to house "specimens, skillfully prepared, secured and labeled, of all rocks, soils, ores, coals, fossils, cements, building stones, plants, woods, skins, and skeletons of animals, birds, insects and fishes, and other mineral, vegetable and animal substances and organisms discovered or examined in the course of said surveys" (Winchell, 1889, p. 6). The collections of the museum grew rapidly, and in 1890 the museum was separated into three divisions: geological (including paleontology), zoological, and botanical; all three were housed in Pillsbury Hall on the Minneapolis campus of the University. The zoological and botanical collections were later moved from Pillsbury Hall, but the geological/paleontological collection remains there to this day, providing a valuable source for reference and research.

Contributors to the collection have included some of the most prominent paleontologists of their times. From 1872 to 1900, Professor Newton H. Winchell, assisted by Edward O. Ulrich, Charles Schuchert, Wilbur H. Scofield, and others, amassed a large collection of Ordovician fossils from Minnesota, Iowa, and Wisconsin. Frederick W. Sardeson, as a student, instructor, and professor at the University, collected Ordovician fossils in Minnesota, Iowa, and Wisconsin from about 1890 to 1914. Sardeson continued to collect after his departure from the University, and in 1947 the Department of Geology and Mineralogy acquired his large private collection. From the 1920s through the 1940s, Professor Clinton R. Stauffer added thousands of specimens, especially conodonts and scolecodonts from the Ordovician of Minnesota and the Devonian of Minnesota, Ohio, and Ontario. In the late 1940s, Professor William C. Bell and his students collected many important Cambrian trilobites from Minnesota and Wisconsin. For the past forty years Professor Frederick M. Swain has added to the collection countless ostracods from all over the world. Most recently, Professor Robert E. Sloan's work in the western United States has produced numerous Late Cretaceous and Paleocene vertebrates.

## **ORGANIZATION OF THE CATALOG**

This catalog includes only type specimens that have been published in the paleontological literature through March 1990; unpublished type specimens, although available for study, are excluded from the catalog. Additions to the collection will undoubtedly be made in the future.

The entry for each specimen in this catalog lists species name and accession number, author, date of publication and page number, figure number, geologic age and, where known, geologic formation and locality. Species are listed in alphabetical order within major taxonomic categories. Many species have been reassigned to other genera since their original publication, but because such reassessments occur with distressingly high frequency, it was decided to list the species names exactly as they appeared in the original publications. Lectotype designations are included when

known, but because of the innumerable papers in which such designations could have been made, it is almost certain that some have been missed.

It has been relatively easy to determine which specimens are types and which figure numbers correspond with which specimens. This is not true, however, with some of the papers published before 1900, especially those by Ulrich, Winchell, and Schuchert. Ulrich in particular rarely designated a single "type" specimen, and because many of his figures are highly magnified parts of bryozoa thin sections, it has been very difficult to match specimens with figures. Figure numbers are listed for each specimen only when they are known with certainty. As a result of this caution, some figure designations may have been omitted. It is worth mentioning that many of the types and figured specimens from Ulrich's Geological and Natural History Survey publications are housed in the U.S. National Museum—including some of those originally cataloged in the Survey collections (see Schuchert, 1905).

One final caveat: this type catalog is a computer-generated subset of the complete catalog of specimens in the geological/paleontological collection. Because of this, any errors in the complete catalog may be replicated here. Every attempt has been made to eliminate such errors, but in a work of this nature, a few may remain.

Individuals interested in the specimens listed in this catalog, or in the geological/paleontological collection as a whole, are referred to the Department of Geology and Geophysics, 310 Pillsbury Drive Southeast, University of Minnesota, Minneapolis, Minnesota, 55455.

The type specimens listed in this paper are cataloged in one of the following five catalog systems:

**UMPC "Red Numbers" catalog of the Geological and Natural History Survey (prefix "R").** This catalog was initiated by N.H. Winchell for rocks, fossils, and minerals collected for the Geological and Natural History Survey of Minnesota from 1872 to about 1900. Most specimen identification marks are bright red with no background. A great many type specimens from the Survey Annual Reports series and from volume 3 of the Final Report are included in this catalog.

**UMPC "Red Figures" catalog (prefix "RF").** The "Red Figures" catalog (red-orange numbers, with no background) appears to have been started in 1882 by C.W. Hall for the collection of the geology department. It contains rocks, fossils, and minerals. This catalog contains few if any types and has been inactive since about 1900.

**UMPC "White Figures" catalog (prefix "W").** The "White Figures" catalog (white numbers on black background) was started by F.W. Sardeson for the geology department collection in about 1898. After Sardeson's departure from the University, the catalog was used primarily for rock specimens. This catalog contains very few types and is inactive.

**UMPC catalog (no prefix).** This catalog contains only fossils and seems to have been initiated by F.W. Sardeson some time before 1900. Most identification marks are black numbers on a white background. Invertebrates and, in lesser numbers, vertebrates and plants were added through the tenure of C.R. Stauffer. Subsequent to Stauffer's departure in 1944, only invertebrates and an occasional plant or two have been entered. Most of the type specimens in the University of Minnesota geological/paleontological collection are entered in this catalog.

**UMVP catalog (no prefix).** Initiated by R.E. Sloan in the early 1950s, this catalog contains only vertebrates. The specimen identification numbers are black, usually on a white or sometimes orange background. A large number of records for this catalog have been lost. The UMVP catalog contains only a few type specimens.

## PRIMARY PALEONTOLOGICAL TYPES

The following definitions are paraphrased from the International Code of Zoological Nomenclature (1964, chapter 16).

holotype	a single specimen out of a series designated as "the type" by the author in the original description of a new species, or the single specimen upon which a new species is based if a type is not explicitly designated
lectotype	a single specimen out of the series of syntypes that, subsequent to the publication of the original description, is selected and designated through publication to serve as "the type." All remaining syntypes become paralectotypes
neotype	a single specimen selected as "the type" subsequent to the original description in cases where the original types are known to be destroyed or were suppressed by the International Commission on Zoological Nomenclature
paratype	a specimen other than the holotype that was before the author at the time of preparation of the original description of a new species and was so designated by the author in the original description.
paralectotype	see lectotype
syntype	every specimen from a type series in which no holotype was designated (includes those specimens originally designated as "cotypes")
type series	a group of specimens that was before the author at the time of preparation of the original description of a new species

## Phylum Annelida

- Arabellites acerbus*** Stauffer, 1933, p. 1177 Ordovician  
 UMPC 4174 holotype; figured, Stauffer, 1933, Pl. 59, fig. 22  
     Decorah Sh.  
     Fillmore, Minnesota
- Arabellites acutidentatus*** Stauffer, 1933, p. 1177 Ordovician  
 UMPC 4168 holotype; figured, Stauffer, 1933, Pl. 59, figs. 14, 15  
 UMPC 4179 paratype; Pl. 59, fig. 27  
     both from Platteville Fm.  
     Johnson St. quarry, Minneapolis, Minnesota
- Arabellites adamsi*** Stauffer, 1939, p. 501 Devonian  
 UMPC 5382 holotype; figured, Stauffer, 1939, Pl. 57, fig. 29  
     Olentangy Sh.  
     locality #138, Sulphur Lick School, Adams Co., Ohio
- Arabellites anatinus*** Stauffer, 1939, p. 501 Devonian  
 UMPC 5419 syntype; figured, Stauffer, 1939, Pl. 58, fig. 40  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- UMPC 5420 syntype; Pl. 58, fig. 41  
     Olentangy Sh.  
     Marsh's Mill (Hungry Hollow), Ontario
- UMPC 5421 syntype; Pl. 58, fig. 42
- UMPC 5429 syntype; Pl. 58, fig. 50  
     preceding two from Widder beds  
     James Bell Quarry, Thedford, Ontario
- Arabellites armillaris*** Stauffer, 1932, p. 1178 Ordovician  
 UMPC 4157 holotype; figured, Stauffer, 1932, Pl. 59, fig. 2  
     Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Arabellites ausablensis*** Stauffer, 1939, p. 501 Devonian  
 UMPC 5385 holotype; figured, Stauffer, 1939, Pl. 58, fig. 2  
     Olentangy Sh.  
     Marsh's Mill (Hungry Hollow), Ontario
- Arabellites brevidentatus*** Stauffer, 1933, p. 1178 Ordovician  
 UMPC 4166 holotype; figured, Stauffer, 1933, Pl. 59, fig. 11  
     Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Arabellites contritus*** Stauffer, 1933, p. 1178 Ordovician  
 UMPC 4160 holotype; figured, Stauffer, 1933, Pl. 59, fig. 5  
     Decorah Sh.  
     University of Minnesota campus, Minneapolis
- Arabellites cultriformis*** Stauffer, 1939, p. 502 Devonian  
 UMPC 5391 syntype; figured, Stauffer, 1939, Pl. 58, fig. 9  
     Olentangy Sh.  
     Marsh's Mill (Hungry Hollow), Ontario
- UMPC 5392 syntype; Pl. 58, fig. 10  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- Arabellites cushingi*** Stauffer, 1940a, p. 285 Devonian  
 UMPC 5376 see *A. minutus* Stauffer, 1939

## Phylum Annelida

***Arabellites dauphinensis*** Stauffer, 1939, p. 502 Devonian

UMPC 5387 holotype; figured, Stauffer, 1939, Pl. 58, fig. 4

Ipperwash Ls.

Ipperwash Beach, Ontario

***Arabellites digonus*** Stauffer, 1933, p. 1179 Ordovician

UMPC 4167 holotype; figured, Stauffer, 1933, Pl. 59, fig. 12

Decorah Sh.

Ford bridge, Minneapolis, Minnesota

***Arabellites eccentricus*** Stauffer, 1933, p. 1179 Ordovician

UMPC 4158 holotype; figured, Stauffer, 1933, Pl. 59, figs. 3, 13

UMPC 4165 paratype; Pl. 59, fig. 10

both from Glenwood Sh.

Washington Ave. bridge, Minneapolis, Minnesota

***Arabellites erectus*** Stauffer, 1933, p. 1179 Ordovician

UMPC 4240 holotype; figured, Stauffer, 1933, Pl. 61, fig. 8

Glenwood Sh.

Washington Ave. bridge, Minneapolis, Minnesota

***Arabellites exiguum*** Stauffer, 1933, p. 1180 Ordovician

UMPC 4176 holotype; figured, Stauffer, 1933, Pl. 59, fig. 24

Glenwood Sh.

Washington Ave. bridge, Minneapolis, Minnesota

***Arabellites falciformis*** Stauffer, 1939, p. 502 Devonian

UMPC 5394 syntype; figured, Stauffer, 1939, Pl. 58, fig. 13

Widder beds

James Bell Quarry, Thedford, Ontario

UMPC 5396 syntype; Pl. 58, fig. 15

Widder beds

James Bell Quarry, Thedford, Ontario

UMPC 5397 syntype; Pl. 58, fig. 16

Ipperwash Ls.

Ipperwash Beach, Ontario

***Arabellites giganteus*** Stauffer, 1933, p. 1180 Ordovician

UMPC 4161 holotype; figured, Stauffer, 1933, Pl. 59, fig. 6

Decorah Sh.

Ford bridge, Minneapolis, Minnesota

***Arabellites gregalis*** Stauffer, 1933, p. 1180 Ordovician

UMPC 4159 holotype; figured, Stauffer, 1933, Pl. 59, fig. 4

Glenwood Sh.

Washington Ave. bridge, Minneapolis, Minnesota

UMPC 4175 paratype; Pl. 59, fig. 23

Decorah Sh.

Ford bridge, Minneapolis, Minnesota

***Arabellites ignotus*** Stauffer, 1933, p. 1181 Ordovician

UMPC 4252 holotype; figured, Stauffer, 1933, Pl. 61, fig. 21

Glenwood Sh.

Washington Ave. bridge, Minneapolis, Minnesota

***Arabellites jubatus*** Stauffer, 1939, p. 502 Devonian

UMPC 5386 holotype; figured, Stauffer, 1939, Pl. 58, fig. 3

Widder beds

James Bell Quarry, Thedford, Ontario

## Phylum Annelida

- Arabellites laetus*** Stauffer, 1939, p. 502 Devonian  
 UMPC 5393 holotype; figured, Stauffer, 1939, Pl. 58, figs. 11, 12  
     Ipperwash Ls.  
     Ipperwash Beach, Ontario
- Arabellites magnificus*** Stauffer, 1939, p. 503 Devonian  
 UMPC 5363 syntype; figured, Stauffer, 1939, Pl. 57, fig. 7  
     Silica Sh.  
     locality #144, Silica, Ohio
- UMPC 5384 syntype; Pl. 58, fig. 1  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- UMPC 5395 syntype; Pl. 58, fig. 14  
     Olentangy Sh.  
     Marsh's Mill (Hungry Hollow), Ontario
- Arabellites magnisulcatus*** Stauffer, 1939, p. 503 Devonian  
 UMPC 5390 holotype; figured, Stauffer, 1939, Pl. 58, fig. 8  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- Arabellites milleri*** Stauffer, 1940a, p. 285 Devonian  
 UMPC 5422 see *A. modestus* Stauffer, 1939  
 5424
- Arabellites minutus*** Stauffer, 1933, p. 1181 Ordovician  
 UMPC 4172 holotype; figured, Stauffer, 1933, Pl. 59, fig. 20  
     Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Arabellites minutus*** Stauffer, 1939, p. 503 Devonian  
     junior homonym of *A. minutus* Stauffer, 1933; replaced with *A. cushingi*  
     Stauffer, 1940a, p. 285  
 UMPC 5376 holotype; figured, Stauffer, 1939, Pl. 57, fig. 21  
     Olentangy Sh.  
     locality #180, Marsh's Mill (Hungry Hollow), Ontario
- Arabellites modestus*** Stauffer, 1933, p. 1181 Ordovician  
 UMPC 4169 holotype; figured, Stauffer, 1933, Pl. 59, figs. 16, 17  
     Decorah Sh.  
     Fillmore, Minnesota
- Arabellites modestus*** Stauffer, 1939, p. 503 Devonian  
     junior homonym of *A. modestus* Stauffer, 1933; replaced with *A. milleri*  
     Stauffer, 1940a, p. 285  
 UMPC 5422 syntype; figured, Stauffer, 1939, Pl. 58, fig. 43  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- UMPC 5424 syntype; Pl. 58, fig. 45  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- Arabellites obesus*** Stauffer, 1939, p. 503 Devonian  
 UMPC 5411 holotype; figured, Stauffer, 1939, Pl. 58, fig. 30  
     Widder beds  
     James Bell Quarry, Thedford, Ontario

## Phylum Annelida

- Arabellites pectinellus*** Stauffer, 1939, p. 503 Devonian  
 UMPC 5389 holotype; figured, Stauffer, 1939, Pl. 58, fig. 7  
     Ipperwash Ls.  
     Ipperwash Beach, Ontario
- Arabellites priscus*** Stauffer, 1933, p. 1182 Ordovician  
 UMPC 4156 holotype; figured, Stauffer, 1933, Pl. 59, fig. 1  
     Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Arabellites priscus*** Stauffer, 1939, p. 504 Devonian  
     junior homonym of *A. priscus* Stauffer, 1933; replaced with *A. prosseri*  
     Stauffer, 1940a, p. 285  
 UMPC 5399 holotype; figured, Stauffer, 1939, Pl. 58, fig. 18  
     Widder beds  
     Paisley Farm, Port Frank Road, Ontario
- Arabellites productus*** Stauffer, 1939, p. 504 Devonian  
 UMPC 5410 holotype; figured, Stauffer, 1939, Pl. 58, fig. 29  
     Olentangy Sh.  
     Marsh's Mill (Hungry Hollow), Ontario
- Arabellites prosseri*** Stauffer, 1940a, p. 285 Devonian  
 UMPC 5399 see *A. priscus* Stauffer, 1939
- Arabellites robustus*** Stauffer, 1939, p. 504 Devonian  
     junior homonym of *A. robustus* Eller, 1934; replaced with *A. southworthi*  
     Stauffer, 1940a, p. 285  
 UMPC 5428 holotype; figured, Stauffer, 1939, Pl. 58, fig. 49  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- Arabellites southworthi*** Stauffer, 1940a, p. 285 Devonian  
 UMPC 5428 see *A. robustus* Stauffer, 1939
- Arabellites spinosus*** Stauffer, 1939, p. 504 Devonian  
 UMPC 5388 holotype; figured, Stauffer, 1939, Pl. 58, figs. 5, 6  
     Olentangy Sh.  
     Marsh's Mill (Hungry Hollow), Ontario
- Arabellites tantus*** Stauffer, 1933, p. 1182 Ordovician  
 UMPC 4162 holotype; figured, Stauffer, 1933, Pl. 59, fig. 7  
     Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Arabellites tenuidentatus*** Stauffer, 1933, p. 1182 Ordovician  
 UMPC 4163 holotype; figured, Stauffer, 1933, Pl. 59, fig. 8  
     Glenwood Sh.  
     Washington Ave. bridge, Minneapolis, Minnesota
- Arabellites tumidus*** Stauffer, 1933, p. 1183 Ordovician  
 UMPC 4164 holotype; figured, Stauffer, 1933, Pl. 59, fig. 9  
     Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Dinoscolites mirabilis*** Stauffer, 1933, p. 1199 Ordovician  
 UMPC 4234 holotype; figured, Stauffer, 1933, Pl. 61, fig. 1  
     Platteville Fm.  
     Johnson St. quarry, Minneapolis, Minnesota
- Eunicites ? delicatulus*** Stauffer, 1939, p. 505 Devonian  
 UMPC 5400 holotype; figured, Stauffer, 1939, Pl. 58, fig. 19  
     Widder beds  
     James Bell Quarry, Thedford, Ontario

## Phylum Annelida

*Eunicites ? dellicatulus* continued

UMPC 5404 paratype; Pl. 58, fig. 23

Ipperwash Ls.

Ipperwash Beach, Ontario

*Eunicites eximus* Stauffer, 1933, p. 1184 Ordovician

UMPC 4177 holotype; figured, Stauffer, 1933, Pl. 59, fig. 25

Decorah Sh.

Fillmore, Minnesota

*Eunicites grandis* Stauffer, 1939, p. 505 Devonian

UMPC 5364 holotype; figured, Stauffer, 1939, Pl. 57, fig. 8

Olentangy Sh.

locality #177, Marsh's Mill (Hungry Hollow), Ontario

*Eunicites perplanus* Stauffer, 1939, p. 506 Devonian

UMPC 5362 holotype; figured, Stauffer, 1939, Pl. 57, fig. 6

Olentangy Sh.

locality #178, Marsh's Mill (Hungry Hollow), Ontario

*Eunicites placidus* Stauffer, 1939, p. 506 Devonian

UMPC 5412 holotype; figured, Stauffer, 1939, Pl. 58, fig. 31

Ipperwash Ls.

Ipperwash Beach, Ontario

*Eunicites serratus* Stauffer, 1939, p. 506 Devonian

UMPC 5378 holotype; figured, Stauffer, 1939, Pl. 57, fig. 24

Widder beds

locality #165, Rock Glen, Arkona, Ontario

*Eunicites ? sublamellosus* Stauffer, 1939, p. 506 Devonian

UMPC 5406 holotype; figured, Stauffer, 1939, Pl. 58, fig. 25

Widder beds

James Bell Quarry, Thedford, Ontario

*Glycerites devonicus* Stauffer, 1939, p. 506 Devonian

UMPC 5370 holotype; figured, Stauffer, 1939, Pl. 57, fig. 14

Olentangy Sh.

locality #178, Marsh's Mill (Hungry Hollow), Ontario

*Hyalinaecites aequidentatus* Stauffer, 1933, p. 1203 Ordovician

UMPC 4260 holotype; figured, Stauffer, 1933, Pl. 61, fig. 30

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

*Hyalinaecites aureatus* Stauffer, 1933, p. 1203 Ordovician

UMPC 4220 holotype; figured, Stauffer, 1933, Pl. 60, fig. 26

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

*Hyalinaecites deflectus* Stauffer, 1933, p. 1203 Ordovician

UMPC 4214 holotype; figured, Stauffer, 1933, Pl. 60, fig. 18

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

*Hyalinaecites parvus* Stauffer, 1933, p. 1204 Ordovician

UMPC 4209 holotype; figured, Stauffer, 1933, Pl. 60, fig. 13

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

*Hyalinaecites plenus* Stauffer, 1933, p. 1204 Ordovician

UMPC 4219 holotype; figured, Stauffer, 1933, Pl. 60, fig. 24, 25

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

## Phylum Annelida

- Hyalinaecites subulatus*** Stauffer, 1933, p. 1204 Ordovician  
 UMPC 4218 holotype; figured, Stauffer, 1933, Pl. 60, figs. 22, 23  
     Decorah Sh.  
     Ford Bridge, Minneapolis, Minnesota
- Hyalinaecites typicalis*** Stauffer, 1933, p. 1205 Ordovician  
 UMPC 4217 syntype; figured, Stauffer, 1933, Pl. 60, fig. 21  
 UMPC 4223 syntype; Pl. 60, fig. 29  
     both from Decorah Sh.  
     Ford Bridge, Minneapolis, Minnesota
- Lumbriconereites affinis*** Stauffer, 1933, p. 1194 Ordovician  
 UMPC 4266 syntype; figured, Stauffer, 1933, Pl. 61, fig. 36  
     Platteville Fm.  
     Johnson St. quarry, Minneapolis, Minnesota
- UMPC 4267 syntype; Pl. 61, fig. 37  
     Glenwood Sh.  
     Washington Ave. bridge, Minneapolis, Minnesota
- Lumbriconereites arcuatus*** Stauffer, 1933, p. 1194 Ordovician  
 UMPC 4197 holotype; figured, Stauffer, 1933, Pl. 60, fig. 1  
     Decorah Sh.  
     Ford Bridge, Minneapolis, Minnesota
- UMPC 4200 paratype; Pl. 60, fig. 4  
     Platteville Fm.  
     Johnson St. quarry, Minneapolis, Minnesota
- Lumbriconereites cameratus*** Stauffer, 1933, p. 1194 Ordovician  
 UMPC 4265 syntype; figured, Stauffer, 1933, Pl. 61, fig. 35  
     Platteville Fm.  
     test well #42, St. Paul, Minnesota
- UMPC 4268 syntype; Pl. 61, fig. 38  
     Decorah Sh.  
     Ford Bridge, Minneapolis, Minnesota
- UMPC 4269 syntype; Pl. 61, fig. 39  
     Platteville Fm.  
     Johnson St. quarry, Minneapolis, Minnesota
- Lumbriconereites cognitus*** Stauffer, 1933, p. 1195 Ordovician  
 UMPC 4264 holotype; figured, Stauffer, 1933, Pl. 61, fig. 34  
     Decorah Sh.  
     Ford Bridge, Minneapolis, Minnesota
- Lumbriconereites crenatus*** Stauffer, 1933, p. 1195 Ordovician  
 UMPC 4181 holotype; figured, Stauffer, 1933, Pl. 59, fig. 29  
     Decorah Sh.  
     University of Minnesota campus, Minneapolis
- Lumbriconereites expansus*** Stauffer, 1939, p. 507 Devonian  
 UMPC 5360 holotype; figured, Stauffer, 1939, Pl. 57, fig. 4  
     Silica Sh.  
     locality #144, Silica, Ohio
- Lumbriconereites inflexus*** Stauffer, 1933, p. 1195 Ordovician  
 UMPC 4193 holotype; figured, Stauffer, 1933, Pl. 59, fig. 41  
     Decorah Sh.  
     Fillmore, Minnesota

## Phylum Annelida

- Lumbriconereites modestus*** Stauffer, 1933, p. 1196 Ordovician  
UMPC 4201 holotype; figured, Stauffer, 1933, Pl. 60, fig. 5  
Decorah Sh.  
Fillmore, Minnesota
- Lumbriconereites perfectus*** Stauffer, 1933, p. 1196 Ordovician  
UMPC 4198 holotype; figured, Stauffer, 1933, Pl. 60, fig. 2  
Decorah Sh.  
Ford Bridge, Minneapolis, Minnesota
- Lumbriconereites plattevillensis*** Stauffer, 1933, p. 1196 Ordovician  
UMPC 4170 syntype; figured, Stauffer, 1933, Pl. 59, fig. 18  
UMPC 4173 syntype; Pl. 59, fig. 21  
both from Platteville Fm.  
Johnson St. quarry, Minneapolis, Minnesota
- Lumbriconereites potensus*** Stauffer, 1933, p. 1196 Ordovician  
UMPC 4272 holotype; figured, Stauffer, 1933, Pl. 61, fig. 42  
Decorah Sh.  
Ford Bridge, Minneapolis, Minnesota
- Lumbriconereites similis*** Stauffer, 1933, p. 1197 Ordovician  
UMPC 4203 syntype; figured, Stauffer, 1933, Pl. 60, fig. 7  
UMPC 4245 syntype; Pl. 61, fig. 13  
both from Glenwood Sh.  
Washington Ave. bridge, Minneapolis, Minnesota
- Lumbriconereites speciosus*** Stauffer, 1933, p. 1197 Ordovician  
UMPC 4208 holotype; figured, Stauffer, 1933, Pl. 60, fig. 12  
Decorah Sh.  
Ford Bridge, Minneapolis, Minnesota
- Lumbriconereites spectabilis*** Stauffer, 1939, p. 507 Devonian  
UMPC 5401 holotype; figured, Stauffer, 1939, Pl. 58, fig. 20  
Olentangy Sh.  
Marsh's Mill (Hungry Hollow), Ontario
- Lumbriconereites superbus*** Stauffer, 1933, p. 1197 Ordovician  
UMPC 4270 holotype; figured, Stauffer, 1933, Pl. 61, fig. 40  
Platteville Fm.  
Johnson St. quarry, Minneapolis, Minnesota
- Lumbriconereites webbi*** Stauffer, 1933, p. 1198 Ordovician  
UMPC 4199 holotype; figured, Stauffer, 1933, Pl. 60, fig. 3  
Decorah Sh.  
Ford Bridge, Minneapolis, Minnesota
- Nereidavus inornatus*** Stauffer, 1939, p. 507 Devonian  
UMPC 5408 syntype; figured, Stauffer, 1939, Pl. 58, fig. 27  
Widder beds  
James Bell Quarry, Thedford, Ontario
- UMPC 5414 syntype; Pl. 58, fig. 33  
Ipperwash Ls.  
Ipperwash Beach, Ontario
- Nereidavus ontarioensis*** Stauffer, 1939, p. 507 Devonian  
UMPC 5368 syntype; figured, Stauffer, 1939, Pl. 57, fig. 12  
Olentangy Sh.  
locality #173, Rock Glen, Arkona, Ontario

## Phylum Annelida

***Nereidavus ontarioensis*** continued

- UMPC 5369      syntype; Pl. 57, fig. 13  
                   Olentangy Sh.  
                   locality #178, Marsh's Mill (Hungry Hollow), Ontario
- UMPC 5407      syntype; Pl. 58, fig. 26  
                   Widder beds  
                   Paisley Farm, Port Frank Road, Ontario
- UMPC 5413      syntype; Pl. 58, fig. 32  
                   Ipperwash Ls.  
                   Ipperwash Beach, Ontario
- UMPC 5415      syntype; Pl. 58, fig. 34  
                   Ipperwash Ls.  
                   Ipperwash Beach, Ontario

***Nereidavus planus*** Stauffer, 1939, p. 507 Devonian

- UMPC 5365      holotype; figured, Stauffer, 1939, Pl. 57, fig. 9  
                   Olentangy Sh.  
                   locality #156, Crinoid Hill, Lambton Co., Ontario

***Nothrites elegans*** Stauffer, 1933, p. 1205 Ordovician

- UMPC 4224      holotype; figured, Stauffer, 1933, Pl. 60, fig. 30  
                   Decorah Sh.  
                   Ford Bridge, Minneapolis, Minnesota

***Nothrites gratus*** Stauffer, 1933, p. 1206 Ordovician

- UMPC 4229      holotype; figured, Stauffer, 1933, Pl. 60, fig. 35  
                   Decorah Sh.  
                   Ford Bridge, Minneapolis, Minnesota

***Nothrites sulcatus*** Stauffer, 1939, p. 508 Devonian

- UMPC 5426      holotype; figured, Stauffer, 1939, Pl. 58, fig. 47  
                   Olentangy Sh.  
                   Marsh's Mill (Hungry Hollow), Ontario

***Oenonites dignus*** Stauffer, 1933, p. 1185 Ordovician

- UMPC 4187      holotype; figured, Stauffer, 1933, Pl. 59, fig. 35  
                   Decorah Sh.  
                   Ford bridge, Minneapolis, Minnesota

***Oenonites excelsus*** Stauffer, 1933, p. 1186 Ordovician

- UMPC 4183      holotype; figured, Stauffer, 1933, Pl. 59, fig. 31  
                   Decorah Sh.  
                   University of Minnesota campus, Minneapolis

***Oenonites inornatus*** Stauffer, 1933, p. 1186 Ordovician

- UMPC 4186      holotype; figured, Stauffer, 1933, Pl. 59, fig. 34  
                   Decorah Sh.  
                   Ford bridge, Minneapolis, Minnesota

***Oenonites magnificus*** Stauffer, 1933, p. 1186 Ordovician

- UMPC 4182      holotype; figured, Stauffer, 1933, Pl. 59, fig. 30  
                   UMPG 4189      paratype; Pl. 59, fig. 37  
                                 both from Decorah Sh.  
                                 Ford bridge, Minneapolis, Minnesota

***Oenonites paratus*** Stauffer, 1933, p. 1187 Ordovician

- UMPC 4196      holotype; figured, Stauffer, 1933, Pl. 59, fig. 44  
                   Decorah Sh.  
                   Ford Bridge, Minneapolis, Minnesota

## Phylum Annelida

***Oenonites propinquus*** Stauffer, 1933, p. 1187 Ordovician  
 UMPC 4185 holotype; figured, Stauffer, 1933, Pl. 59, fig. 33

Decorah Sh.

Ford bridge, Minneapolis, Minnesota

***Oenonites recurvus*** Stauffer, 1933, p. 1187 Ordovician  
 UMPC 4188 holotype; figured, Stauffer, 1933, Pl. 59, fig. 36

Decorah Sh.

Ford bridge, Minneapolis, Minnesota

***Oenonites scelestus*** Stauffer, 1933, p. 1188 Ordovician  
 UMPC 4194 holotype; figured, Stauffer, 1933, Pl. 59, fig. 42

Decorah Sh.

Fillmore, Minnesota

***Oenonites spiculatus*** Stauffer, 1933, p. 1188 Ordovician  
 UMPC 4195 holotype; figured, Stauffer, 1933, Pl. 59, fig. 43

Decorah Sh.

University of Minnesota campus, Minneapolis

***Oenonites subquadratus*** Stauffer, 1933, p. 1188 Ordovician  
 UMPC 4191 holotype; figured, Stauffer, 1933, Pl. 59, fig. 39

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Oenonites tacitus*** Stauffer, 1933, p. 1189 Ordovician  
 UMPC 4192 holotype; figured, Stauffer, 1933, Pl. 59, fig. 40

Decorah Sh.

Fillmore, Minnesota

***Paleonereites cervicornis*** Stauffer, 1933, p. 1200 Ordovician  
 UMPC 4236 holotype; figured, Stauffer, 1933, Pl. 61, figs. 3, 4

Decorah Sh.

University of Minnesota campus, Minneapolis

***Pronereites primus*** Stauffer, 1933, p. 1201 Ordovician  
 UMPC 4235 holotype; figured, Stauffer, 1933, Pl. 61, fig. 2

Glenwood Sh.

Washington Ave. bridge, Minneapolis, Minnesota

***Protarabellites canadensis*** Stauffer, 1939, p. 508 Devonian  
 UMPC 5374 syntype; figured, Stauffer, 1939, Pl. 57, figs. 18, 19

Olentangy Sh.

locality #180, Marsh's Mill (Hungry Hollow), Ontario

UMPC 5418 syntype; Pl. 58, figs. 38, 39

Olentangy Sh.

Marsh's Mill (Hungry Hollow), Ontario

***Protarabellites concavus*** Stauffer, 1933, p. 1190 Ordovician

UMPC 4255 holotype; figured, Stauffer, 1933, Pl. 61, fig. 25

UMPC 4258 paratype; Pl. 61, fig. 28

both from Glenwood Sh.

Washington Ave. bridge, Minneapolis, Minnesota

***Protarabellites delectus*** Stauffer, 1933, p. 1190 Ordovician  
 UMPC 4254 holotype; figured, Stauffer, 1933, Pl. 61, fig. 23

Decorah Sh.

Fillmore, Minnesota

## Phylum Annelida

- Protarbellites diminutus** Stauffer, 1939, p. 508 Devonian  
 UMPC 5381 holotype; figured, Stauffer, 1939, Pl. 57, fig. 28  
     Olentangy Sh.  
     locality #178, Marsh's Mill (Hungry Hollow), Ontario
- Protarbellites dubius** Stauffer, 1933, p. 1190 Ordovician  
 UMPC 4263 holotype; figured, Stauffer, 1933, Pl. 61, fig. 33  
     Decorah Sh.  
     Fillmore, Minnesota
- Protarbellites excelsus** Stauffer, 1939, p. 509 Devonian  
 UMPC 5379 holotype; figured, Stauffer, 1939, Pl. 57, figs. 25, 26  
     Olentangy Sh.  
     locality #180, Marsh's Mill (Hungry Hollow), Ontario
- Protarbellites fidelis** Stauffer, 1933, p. 1191 Ordovician  
 UMPC 4253 holotype; figured, Stauffer, 1933, Pl. 61, fig. 22  
     Decorah Sh.  
     Fillmore, Minnesota
- Protarbellites giganteus** Stauffer, 1939, p. 509 Devonian  
 UMPC 5383 holotype; figured, Stauffer, 1939, Pl. 57, fig. 30  
     Olentangy Sh.  
     locality #156, Crinoid Hill, Lambton Co., Ontario
- Protarbellites glenwoodensis** Stauffer, 1933, p. 1191 Ordovician  
 UMPC 4250 holotype; figured, Stauffer, 1933, Pl. 61, figs. 19, 24  
     Glenwood Sh.  
     Washington Ave. bridge, Minneapolis, Minnesota
- Protarbellites grandis** Stauffer, 1933, p. 1191 Ordovician  
 UMPC 4257 holotype; figured, Stauffer, 1933, Pl. 61, fig. 27  
     Platteville Fm.  
     Johnson St. quarry, Minneapolis, Minnesota
- Protarbellites hamiltonensis** Stauffer, 1939, p. 509 Devonian  
 UMPC 5377 holotype; figured, Stauffer, 1939, Pl. 57, figs. 22, 23  
     Silica Sh.  
     locality #144, Silica, Ohio  
 UMPC 5416 paratype; Pl. 58, figs. 35, 36  
     Widder beds  
     James Bell Quarry, Thedford, Ontario
- Protarbellites humilis** Stauffer, 1933, p. 1192 Ordovician  
 UMPC 4246 holotype; figured, Stauffer, 1933, Pl. 61, figs. 14, 15  
     Decorah Sh.  
     University of Minnesota campus, Minneapolis
- Protarbellites intermedius** Stauffer, 1933, p. 1192 Ordovician  
 UMPC 4261 holotype; figured, Stauffer, 1933, Pl. 61, fig. 31  
     Platteville Fm.  
     Johnson St. quarry, Minneapolis, Minnesota
- Protarbellites maturensis** Stauffer, 1933, p. 1192 Ordovician  
 UMPC 4251 holotype; figured, Stauffer, 1933, Pl. 61, fig. 20  
     Decorah Sh.  
     Ford Bridge, Minneapolis, Minnesota
- Protarbellites productus** Stauffer, 1933, p. 1193 Ordovician  
 UMPC 4259 holotype; figured, Stauffer, 1933, Pl. 61, fig. 29  
     Decorah Sh.  
     Ford Bridge, Minneapolis, Minnesota

## Phylum Annelida

***Serpula bicarinata*** Bergquist, 1944, p. 10 Upper Cretaceous

UMPC 5000a syntype; figured, Bergquist, 1944, Pl. 1, fig. 9

5000b syntype; Pl. 1, fig. 10

Coleraine Fm.

Arcturus Mine, Marble, Minnesota

***Staurocephalites acutidentatus*** Stauffer, 1933, p. 1207 Ordovician

UMPC 4225 holotype; figured, Stauffer, 1933, Pl. 60, fig. 31

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Staurocephalites antiquus*** Stauffer, 1933, p. 1208 Ordovician

UMPC 4230 syntype; figured, Stauffer, 1933, Pl. 60, fig. 36

UMPC 4231 syntype; Pl. 60, fig. 37

both from Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Staurocephalites dentatus*** Stauffer, 1933, p. 1208 Ordovician

UMPC 4226 syntype; figured, Stauffer, 1933, Pl. 60, fig. 32

UMPC 4232 syntype; Pl. 60, fig. 38

both from Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Thalenessites lobatus*** Stauffer, 1933, p. 1206 Ordovician

UMPC 4227 holotype; figured, Stauffer, 1933, Pl. 60, fig. 33

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Ungulites aculeatus*** Stauffer, 1933, p. 1201 Ordovician

UMPC 4210 paratype; figured, Stauffer, 1933, Pl. 60, fig. 14

Platteville Fm.

Johnson St. quarry, Minneapolis, Minnesota

UMPC 4211 paratype; Pl. 60, fig. 15

Platteville Fm.

Johnson St. quarry, Minneapolis, Minnesota

UMPC 4212 syntype; Pl. 60, fig. 16

UMPC 4215 syntype; Pl. 60, fig. 19

UMPC 4216 syntype; Pl. 60, fig. 20

preceding three from Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Ungulites bicuspidatus*** Stauffer, 1933, p. 1202 Ordovician

UMPC 4206 syntype; figured, Stauffer, 1933, Pl. 60, fig. 10

UMPC 4207 syntype; Pl. 60, fig. 11

UMPC 4213 syntype; Pl. 60, fig. 17

all from Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Ungulites hystricosus*** Stauffer, 1933, p. 1202 Ordovician

UMPC 4222 holotype; figured, Stauffer, 1933, Pl. 60, fig. 28

Decorah Sh.

Ford Bridge, Minneapolis, Minnesota

***Ungulites tridentatus*** Stauffer, 1933, p. 1202 Ordovician

UMPC 4205 holotype; figured, Stauffer, 1933, Pl. 60, fig. 9

Platteville Fm.

Johnson St. quarry, Minneapolis, Minnesota

**Phylum Arthropoda, Class Merostomata**

***Aglaspis major*** Graham, 1931, p. 127 Cambrian  
UMPC 4004 holotype; figured, Graham, 1931, figs. 1, 2

Eau Claire Fm.

2.5' above river level; 0.25 mi. below dam at Cedar Falls, Wisconsin

## Phylum Arthropoda, Subclass Ostracoda

***Acuminocythere crescentensis*** Swain & Gilby, 1974, p. 285 Recent  
 UMPC 12095 holotype; figured, Swain & Gilby, 1974, Pl. 2, fig. 11  
 UMPC 12096 paratype; Pl. 2, fig. 12  
 UMPC 12097 paratype; text fig. 38b  
     Pacific coast of North America

***Advenocypris ? concinnus*** Swain, 1985, p. 425 Miocene ?  
 UMPC 13991 holotype; figured, Swain, 1985, Pl. 1, fig. 5  
     Esmeralda Fm.  
     Black Spring Road, Nye Co., Nevada

***Advenocypris umberonata*** Swain, 1964, p. 273 Eocene  
 UMPC 11532a holotype; figured, Swain, 1964, Pl. 43, figs. 3a  
 11532b paratype; Pl. 43, fig. 3b  
 11532c paratype; Pl. 43, fig. 3c  
     Green River Fm.  
     H-74, Rio Blanco Co., Colorado

***Aglaiocypris virginensis*** Swain, 1967, p. 45 Recent  
 UMPC 11451 holotype; figured, Swain, 1967, Pl. 4, fig. 4  
     Gulf of California

***Ambostracon hulingsi*** McKenzie & Swain, 1967, p. 292 Recent  
 UMPC 11201 holotype; figured, McKenzie & Swain, 1967, Pl. 29, fig. 13  
     station 85L, Scammon Lagoon, Baja California, Mexico

***Ambostracon vermillionensis*** Swain, 1967, p. 75 Recent  
 UMPC 11319 paratype; figured, Swain, 1967, Pl. 8, fig. 11d  
 UMPC 11321 paratype; Pl. 8, fig. 11b  
 UMPC 11363 paratype; Pl. 8, fig. 11a  
 UMPC 11364 paratype; Pl. 8, fig. 11c  
     holotype; Pl. 8, fig. 11e  
     all from Gulf of California

***Anterocythere purii*** McKenzie & Swain, 1967, p. 293 Recent  
 UMPC 11209 paratype; figured, McKenzie & Swain, 1967, Pl. 29, fig. 18a, c  
 UMPC 11210 paratype; Pl. 29, fig. 18b  
 UMPC 11211 holotype; Pl. 29, fig. 20a  
 UMPC 11212 paratype; Pl. 29, fig. 20b  
     all from station 91, Scammon Lagoon, Baja California, Mexico

***Aurila convergens*** Swain, 1967, p. 79 Recent  
 UMPC 11375 holotype; figured, Swain, 1967, Pl. 8, fig. 8  
     Gulf of California

***Aurila hemisphaerica*** Swain & Gilby, 1974, p. 304 Recent  
 UMPC 12144 holotype; figured, Swain & Gilby, 1974, Pl. 3, fig. 18  
 UMPC 12145 paratype; Pl. 3, fig. 17  
 UMPC 12146 paratype; text fig. 28a  
     all from Pacific coast of North and Central America

***Aurila laeviculoides*** Swain & Gilby, 1974, p. 306 Recent  
 UMPC 12155 holotype; figured, Swain & Gilby, 1974, Pl. 7, fig. 10  
 UMPC 12156 paratype; text fig. 27  
     both from Pacific coast of North America

***Aurila variabilepunctata*** Swain & Gilby, 1974, p. 304 Recent  
 UMPC 12147 holotype; figured, Swain & Gilby, 1974, Pl. 3, fig. 22  
 UMPC 12148 paratype; Pl. 3, fig. 19  
 UMPC 12149 paratype; Pl. 3, fig. 20  
 UMPC 12150 paratype; Pl. 3, fig. 21

**Phylum Arthropoda, Subclass Ostracoda**

***Aurila variabilis*** punctata continued

UMPC 12151 paratype; text fig. 42  
all from Pacific coast of North America

***Bairdia phlegeri*** McKenzie & Swain, 1967, p. 283 Recent

UMPC 11242 holotype; figured, McKenzie & Swain, 1967, Pl. 30, fig. 15, text fig. 3  
station 76, Scammon Lagoon, Baja California, Mexico

***Bairdia simuvillosa*** Swain, 1967, p. 34 Recent

UMPC 11254 paratype; figured, Swain, 1967, text fig. 30c  
UMPC 11255 paratype; Pl. 1, fig. 2a  
UMPC 11256 paratype; Pl. 1, fig. 2b, text fig. 30d  
UMPC 11257 holotype; Pl. 1, fig. 2c  
UMPC 11258 paratype; Pl. 1, figs. 2d, 8  
UMPC 11259 paratype; Pl. 1, fig. 2e  
UMPC 11260 paratype; Pl. 1, fig. 2f  
all from Gulf of California

***Basslerites punctofissurella*** Swain & Gilby, 1967, p. 328 Recent

UMPC 15306 holotype; figured, Swain & Gilby, 1967, Pl. 32, fig. 20b  
Corinto Bay, Nicaragua

***Basslerites thilipsuroidea*** Swain, 1967, p. 89 Recent

UMPC 11394 paratype; figured, Swain, 1967, Pl. 2, fig. 10a  
UMPC 11395 holotype; Pl. 2, fig. 10b  
both from Gulf of California

***Bradyocypris ? medicinecreekensis*** Swain, 1986b, p. 204 Middle Cenozoic

UMPC 15032 holotype; figured, Swain, 1986b, Pl. 2, figs. 15, 16  
Humboldt Fm.  
northeastern Nevada

***Campylocythere hartmanni*** McKenzie & Swain, 1967, p. 289 Recent

UMPC 11238 holotype; figured, McKenzie & Swain, 1967, Pl. 30, fig. 11, text fig. 8a  
station 27, Scammon Lagoon, Baja California, Mexico

***Candonia artesensis*** Swain, 1964, p. 274 Eocene

UMPC 11536 paratype; figured, Swain, 1964, Pl. 43, fig. 4e  
Green River Fm.  
H-42, Rio Blanco Co., Colorado  
UMPC 11538a holotype; Pl. 43, fig. 4a  
11538b paratype; Pl. 43, fig. 4c  
Green River Fm.  
A-105, Rio Blanco Co., Colorado

***Candonia catherinecreekensis*** Swain, 1986a, p. 96 Pliocene

erroneously published as UMPC 14014  
UMPC 14024 holotype; figured, Swain, 1986a, Pl. 2, fig. 9  
Glenns Ferry Fm.  
road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

***Candonia clauseni*** Swain, 1987c, p. 434 Miocene

UMPC 15128 holotype; figured, Swain, 1987c, Pl. 1, figs. 19, 20  
paratype; Pl. 1, figs. 17, 18  
Esmeralda Fm.  
locality 1, 7659' S26°E of NW corner of Simon, 1:24,000 quad, Nye Co.,  
Nevada

***Candonia diffusoidea*** Swain, 1986c, p. 369 Pliocene

UMPC 15063 holotype; figured, Swain, 1986c, Pl. 1, fig. 13  
Cache Valley Fm.  
Franklin Co., Idaho

## Phylum Arthropoda, Subclass Ostracoda

***Candonia dipunta*** Swain, 1986c, p. 370 Pliocene

UMPC 15064 holotype ?; figured, Swain, 1986c, Pl. 2, fig. 8

Cache Valley Fm.

Franklin Co., Idaho

***Candonia kingcreekensis*** Swain, 1986c, p. 371 Pliocene

UMPC 15066 holotype; figured, Swain, 1986c, Pl. 2, fig. 12

Cache Valley Fm.

Franklin Co., Idaho

***Candonia parabretzi*** Swain & Wagoner, 1985, p. 138 Neogene

UMPC 15279 holotype; figured, Swain & Wagoner, 1985, Pl. 4, fig. 8

Esmeralda Fm.

2 mi. N of Blair Junction, Esmeralda Co., Nevada

***Candoniella bergstromi*** Swain, 1987c, p. 434 Miocene

UMPC 15126 holotype; figured, Swain, 1987c, Pl. 1, figs. 1, 2

Esmeralda Fm.

locality 1, 7659' S26°E of NW corner of Simon, 1:24,000 quad, Nye Co., Nevada

***Candoniella pinecreekensis*** Swain, 1986b, p. 211 Middle Cenozoic

UMPC 15049 holotype; figured, Swain, 1986b, Pl. 5, fig. 27

Humboldt Fm.

northeastern Nevada

***Cativella unitaria*** Swain, 1967, p. 103 Recent

UMPC 11422 holotype; figured, Swain, 1967, Pl. 3, fig. 15

Gulf of California

***Caudites acosaguensis*** Swain & Gilby, 1967, p. 326 Recent

UMPC 15302 holotype; figured, Swain & Gilby, 1967, Pl. 32, fig. 15a (not Pl. 34, fig. 2, as designated in the figure caption)

paratype; Pl. 32, fig. 15b

Corinto Bay, Nicaragua

***Caudites hipolitoensis*** Swain & Gilby, 1974, p. 308 Recent

UMPC 12162 holotype; figured, Swain & Gilby, 1974, Pl. 4, fig. 6

UMPC 12163 paratype; Pl. 4, fig. 5

UMPC 12164 paratype; Pl. 4, fig. 7

UMPC 12165 paratype; text fig. 29

all from Pacific coast of North America

***Caudites rosaliensis*** Swain, 1967, p. 80 Recent

UMPC 11376 paratype; figured, Swain, 1967, text fig. 49b

UMPC 11377 holotype; Pl. 5, fig. 10a

UMPC 11378 paratype; Pl. 5, fig. 10b

UMPC 11379 paratype; Pl. 5, fig. 11

UMPC 11380 paratype; Pl. 5, fig. 13a

UMPC 11381 paratype; Pl. 5, fig. 13b

UMPC 11382 paratype; Pl. 5, fig. 13c

UMPC 11383 paratype; Pl. 5, fig. 13d

UMPC 11384 paratype; Pl. 5, fig. 13e

all from Gulf of California

***Chlamydotheca ? dixieflatensis*** Swain, 1987b, p. 221 Eocene

UMPC 15096 holotype; figured, Swain, 1987b, Pl. 1, fig. 15

Twin Bridges Ls.

west side of Huntingdon Creek, near center sec. 36, T32N, R55E, Elko Co., Nevada

## Phylum Arthropoda, Subclass Ostracoda

- Clithocytheridea ? holoreticulata*** Swain, 1982, p. 122 Cretaceous  
 UMPC 13247 holotype; figured, Swain, 1982, Pl. 1, fig. 22  
     wells in southern Florida
- Clithocytheridea ? medioreticulata*** Swain, 1982, p. 119 Cretaceous  
 UMPC 13231 holotype; figured, Swain, 1982, Pl. 1, fig. 6  
     wells in southern Florida
- Clithocytheridea ? paucipunctata*** Swain, 1982, p. 122 Cretaceous  
 UMPC 13235 holotype; figured, Swain, 1982, Pl. 1, fig. 10  
 UMPC 13236 Pl. 1, fig. 11; Swain replaced the missing #13235 with this specimen as  
     "holotype" - herein designated the neotype  
     both from wells in southern Florida
- Costa ? sanfelipensis*** Swain, 1967, p. 104 Recent  
 UMPC 11424 holotype; figured, Swain, 1967, Pl. 9, fig. 13  
     Gulf of California
- Cushmanidea guardensis*** Swain, 1967, p. 58 Recent  
 UMPC 11314 paratype; figured, Swain, 1967, Pl. 8, fig. 4a  
 UMPC 11315 holotype; Pl. 8, fig. 4b  
     both from Gulf of California
- Cushmanidea pauciradialis*** Swain, 1967, p. 57 Recent  
 UMPC 11311 paratype; figured, Swain, 1967, Pl. 8, fig. 5a  
 UMPC 11312 paratype; Pl. 8, fig. 5b  
 UMPC 11313 holotype; Pl. 8, fig. 5c  
     all from Gulf of California
- Cyclocypris ? ketneri*** Swain, 1987b, p. 225 Eocene  
 UMPC 15100 holotype; figured, Swain, 1987b, Pl. 1, fig. 20  
     Twin Bridges Ls.  
     west side of Huntingdon Creek, near center sec. 36, T32N, R55E, Elko Co.,  
     Nevada
- Cypria hoopescreekensis*** Swain, 1986c, p. 368 Pliocene  
 UMPC 15062 holotype; figured, Swain, 1986c, Pl. 1, fig. 9  
     Cache Valley Fm.  
     Franklin Co., Idaho
- Cypricercus elegantulus*** Swain, 1986b, p. 203 Middle Cenozoic  
 UMPC 15028 holotype; figured, Swain, 1986b, Pl. 5, fig. 12  
     Humboldt Fm.  
     northeastern Nevada
- Cypricercus hunterensis*** Swain, 1986b, p. 201 Middle Cenozoic  
 UMPC 15025 holotype; figured, Swain, 1986b, Pl. 5, fig. 30  
     Humboldt Fm.  
     northeastern Nevada
- Cypricercus minensis*** Swain, 1985, p. 423 Miocene ?  
 UMPC 13987 holotype; figured, Swain, 1985, Pl. 1, fig. 1  
     Esmeralda Fm.  
     Finger Rock Wash, Mineral Co., Nevada
- Cypricercus mineralensis*** Swain, 1985, p. 424 Miocene ?  
 UMPC 13989 holotype; figured, Swain, 1985, Pl. 1, fig. 9  
     Esmeralda Fm.  
     Black Spring Road, Nye Co., Nevada
- Cypricercus oblongatus*** Swain & Wagoner, 1985, p. 136 Neogene  
 UMPC 15274 holotype; figured, Swain & Wagoner, 1985, Pl. 5, fig. 13  
     Esmeralda Fm.  
     2 mi. N of Blair Junction, Esmeralda Co., Nevada

## Phylum Arthropoda, Subclass Ostracoda

***Cypricercus palisadensis*** Swain, 1986b, p. 202 Middle Cenozoic

UMPC 15026 holotype; figured, Swain, 1986b, Pl. 2, figs. 11, 12  
 Humboldt Fm.  
 northeastern Nevada

***Cypricercus? sacramentoensis*** Swain, 1986b, p. 202 Middle Cenozoic

UMPC 15027 holotype; figured, Swain, 1986b, Pl. 2, fig. 26  
 Humboldt Fm.  
 northeastern Nevada

***Cypricercus toanoensis*** Swain, 1986b, p. 200 Middle Cenozoic

UMPC 15024 holotype; figured, Swain, 1986b, Pl. 3, figs. 3, 4  
 Humboldt Fm.  
 northeastern Nevada

***Cyprideis currayi*** Swain, 1967, p. 50 Recent

UMPC 11294 holotype; figured, Swain, 1967, Pl. 7, fig. 11a  
 UMPC 11295 paratype; Pl. 7, fig. 11b  
 both from Gulf of California

***Cyprideis maladensis*** Swain, 1987a, p. 126 Pliocene

UMPC 15086 holotype; figured, Swain, 1987a, Pl. 2, fig. 12  
 Salt Lake Gr., Cache Valley Fm.  
 secs. 4-26, T16S, R36E, 5-7 mi. SW of Malad City, Oneida Co., Idaho

***Cypridopsella? esmeraldensis*** Swain & Wagoner, 1985, p. 136 Neogene

UMPC 15275 holotype; figured, Swain & Wagoner, 1985, Pl. 5, fig.  
 paratype; not figured ?  
 Esmeralda Fm.

2 mi. N of Blair Junction, Esmeralda Co., Nevada

***Cyprois ephraimensis*** Swain, 1964, p. 271 Eocene

UMPC 11519 paratype; figured, Swain, 1964, Pl. 44, fig. 4  
 Green River Fm.  
 A-34, Rio Blanco Co., Colorado  
 UMPC 11520 paratype; Pl. 42, fig. 2a  
 Green River Fm.  
 A-17, Rio Blanco Co., Colorado  
 UMPC 11521 holotype; Pl. 42, fig. 2b  
 Green River Fm.  
 A-20, Rio Blanco Co., Colorado

***Cyprois whiteflatensis*** Swain, 1987b, p. 226 Eocene

UMPC 15095 holotype; figured, Swain, 1987b, Pl. 1, fig. 4  
 Twin Bridges Ls.  
 west side of Huntingdon Creek, near center sec. 36, T32N, R55E, Elko Co.,  
 Nevada

***Cythereis damottae*** Swain, 1978, p. 258 Cretaceous

UMPC 12700 holotype; figured, Swain, 1978, Pl. 3, fig. 6  
 RR cut at K.P. 31.6, Nava, Asturias Prov., Spain

***Cytherella ovularia*** Swain, 1967, p. 29 Recent

UMPC 11244a holotype; figured, Swain, 1967, Pl. 1, fig. 7  
 11244b paratype; text fig. 30b  
 Gulf of California

***Cytherella parapunctata*** Swain, 1967, p. 29 Recent

UMPC 11245 holotype; figured, Swain, 1967, Pl. 7, fig. 1  
 Gulf of California

## Phylum Arthropoda, Subclass Ostracoda

- Cytherella vizcainoensis*** McKenzie & Swain, 1967, p. 304 Recent  
 UMPC 11220 holotype; figured, McKenzie & Swain, 1967, Pl. 29, fig. 25  
                   station 88, Scammon Lagoon, Baja California, Mexico
- Cytherelloidea bertelsae*** Swain, 1976, p. 737 Cretaceous  
 UMPC 12242 paratype; figured, Swain, 1976, Pl. 1, fig. 1  
 UMPC 12243 holotype; Pl. 1, fig. 10  
                   both from DSDP leg 14, hole 144, core 5, section 1, 3-9 cm, off Guiana,  
                   Atlantic Ocean
- Cytherelloidea paratewarii*** Swain & Gilby, 1974, p. 273 Recent  
 UMPC 12060 holotype; figured, Swain & Gilby, 1974, Pl. 1, fig. 4  
 UMPC 12061 paratype; text figs. 7, 8  
                   both from Pacific coast of Central America
- Cytherelloidea sanlucasensis*** Swain, 1967, p. 33 Recent  
 UMPC 11251 holotype; figured, Swain, 1967, Pl. 7, fig. 3c  
                   paratype; Pl. 7, fig. 3a  
 UMPC 11252 paratype; Pl. 7, fig. 3b  
                   all from Gulf of California
- Cytheretta minutipunctata*** Swain & Gilby, 1974, p. 290 Recent  
 UMPC 12103 holotype; figured, Swain & Gilby, 1974, Pl. 2, fig. 16  
 UMPC 12104 paratype; Pl. 2, fig. 17  
 UMPC 12105 paratype; text fig. 35  
                   all from Pacific coast of North America
- Cytheretta rothwelli*** Swain & Gilby, 1974, p. 292 Recent  
 UMPC 12106 holotype; figured, Swain & Gilby, 1974, Pl. 2, fig. 14  
 UMPC 12107 paratype; Pl. 2, fig. 15  
 UMPC 12108 paratype; text fig. 13c  
                   all from Pacific coast of North and Central America
- Cytheridella alpinensis*** Swain, 1987c, p. 437 Oligocene  
 UMPC 15131 holotype; figured, Swain, 1987c, Pl. 5, figs. 17, 18  
                   paratypes; Pl. 5, figs. 19-22  
                   Pruett ? Fm.  
                   locality 10, Lat. 30°02.8' N, Long. 103°35.2' W, Brewster Co., Texas
- Cytheromorpha limonensis*** Swain & Gilby, 1967, p. 330 Recent  
 UMPC 15312 holotype; figured, Swain & Gilby, 1967, Pl. 31, figs. 13a, b, Pl. 34, figs. 11a, b  
                   Corinto Bay, Nicaragua
- Cytheropteron altatensis*** Swain, 1967, p. 64 Recent  
 UMPC 11324 holotype; figured, Swain, 1967, Pl. 9, fig. 10  
                   Gulf of California
- Cytheropteron assimiloides*** Swain, 1967, p. 67 Recent  
 UMPC 11332 paratype; figured, Swain, 1967, Pl. 9, fig. 8a  
 UMPC 11333 paratype; Pl. 9, fig. 8b  
 UMPC 11334 holotype; Pl. 9, fig. 8c  
                   all from Gulf of California
- Cytheropteron caboensis*** Swain, 1967, p. 65 Recent  
 UMPC 11325 holotype; figured, Swain, 1967, Pl. 9, fig. 9  
                   Gulf of California
- Cytheropteron dobladoensis*** Swain, 1967, p. 68 Recent  
 UMPC 11335 paratype; figured, Swain, 1967, Pl. 2, fig. 22  
 UMPC 11336 holotype; Pl. 3, fig. 11a  
 UMPC 11337 paratype; Pl. 3, fig. 11b  
 UMPC 11338 paratype; Pl. 3, fig. 11c  
                   all from Gulf of California

## Phylum Arthropoda, Subclass Ostracoda

***Cytheropteron ? pinellensis*** Swain, 1982, p. 127 Cretaceous  
 UMPC 13272 holotype; figured, Swain, 1982, Pl. 2, fig. 25  
                     wells in southern Florida

***Cytheropteron ventrokurtosa*** Swain, 1967, p. 65 Recent  
 UMPC 11326 paratype; figured, Swain, 1967, Pl. 4, fig. 9a  
 UMPC 11327 paratype; Pl. 4, fig. 9b  
 UMPC 11328 holotype; Pl. 9, fig. 11a  
 UMPC 11329 paratype; Pl. 9, fig. 11b  
 UMPC 11331 paratype; Pl. 9, fig. 11d  
 UMPC 11330 paratype; Pl. 9, fig. 11c  
                     all from Gulf of California

***Cytherura johnsonoides*** Swain, 1967, p. 62 Recent  
 UMPC 11318 holotype; figured, Swain, 1967, Pl. 2, fig. 2a  
                     paratype; Pl. 2, fig. 2b  
 UMPC 11320 paratype; Pl. 3, fig. 10  
                     all from Gulf of California

***Cytherura laconica*** Swain, 1967, p. 60 Recent  
 UMPC 11317 holotype; figured, Swain, 1967, Pl. 2, fig. 1  
                     Gulf of California

***Cytherura nodosa*** Ishizaki & Gunther, 1974, p. 19 Recent  
 UMPC 12274 holotype; figured, Ishizaki & Gunther, 1974, Pl. 5, fig. 9, Pl. 6, fig. 10  
                     Gulf of Panama

***Cytherura paracostata*** Swain, 1967, p. 60 Recent  
 UMPC 11316 holotype; figured, Swain, 1967, Pl. 9, fig. 17b  
                     paratypes; Pl. 9, figs. 17a, c, d  
                     Gulf of California

***Cytherura purii*** Ishizaki & Gunther, 1974, p. 20 Recent  
 UMPC 12277 holotype; figured, Ishizaki & Gunther, 1974, Pl. 6, figs. 7, 9  
                     Gulf of Panama

***Darwinula yaquensis*** Swain, 1967, p. 46 Recent  
 UMPC 11284 holotype; figured, Swain, 1967, Pl. 4, fig. 2a  
                     paratype; Pl. 4, fig. 2b  
                     Gulf of California

***Disopontocypris ? hendersoni*** Swain, 1987c, p. 431 Miocene  
 UMPC 15122 holotype; figured, Swain, 1987c, Pl. 1, fig. 3  
                     paratype; Pl. 1, fig. 4  
                     Esmeralda Fm.  
                     locality 1, 7659' S26°E of NW corner of Simon, 1:24,000 quad, Nye Co.,  
                     Nevada

***Dogelinella ? coaldalensis*** Swain & Wagoner, 1985, p. 134 Neogene  
 UMPC 15271 paratype; figured, Swain & Wagoner, 1985, Pl. 3, fig. 10  
                     holotype; Pl. 3, fig. 11  
                     Esmeralda Fm.  
                     2 mi. N of Blair Junction, Esmeralda Co., Nevada

***Dongyingia ? lariversi*** Swain, 1985, p. 429 Miocene ?  
 UMPC 13997 holotype; figured, Swain, 1985, Pl. 2, fig. 9  
                     Esmeralda Fm.  
                     Black Spring Road, Nye Co., Nevada

## Phylum Arthropoda, Subclass Ostracoda

- Elkocythereis postdorsalata*** Swain, 1986a, p. 99 Pliocene  
 erroneously published as UMPC 14019  
 UMPC 14029 holotype; figured, Swain, 1986a, Pl. 4, fig. 9  
     Glenns Ferry Fm.  
     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho
- Elliptocyprites paracylindrica*** Swain & Cornell, 1985, p. 114 Ordovician  
 UMPC 15184 holotype; figured, Swain & Cornell, 1985, Pl. 10, fig. 3a  
     Decorah Sh.
- Eocytheropteron highlandensis*** Swain, 1982, p. 126 Cretaceous  
 UMPC 13262 holotype; figured, Swain, 1982, Pl. 2, fig. 15  
     wells in southern Florida
- Eucypris bobcatensis*** Swain, 1986b, p. 198 Middle Cenozoic  
 UMPC 15017 holotype; figured, Swain, 1986b, Pl. 4, figs. 13, 14  
     Humboldt Fm.  
     northeastern Nevada
- Eucypris fingerrockensis*** Swain, 1985, p. 420 Miocene ?  
 UMPC 13979 holotype; figured, Swain, 1985, Pl. 1, fig. 12  
     Esmeralda Fm.  
     Finger Rock Wash and Black Spring Road, Nevada
- Eucypris microreticulata*** Swain, 1986b, p. 198 Middle Cenozoic  
 UMPC 15018 holotype; figured, Swain, 1986b, Pl. 3, fig. 13  
     Humboldt Fm.  
     northeastern Nevada
- Eucypris ornatooides elongata*** Swain, 1986b, p. 197 Middle Cenozoic  
 UMPC 15016 holotype; figured, Swain, 1986b, Pl. 3, figs. 11, 12  
     Humboldt Fm.  
     northeastern Nevada
- Eucytherura pinasensis*** Ishizaki & Gunther, 1974, p. 46 Recent  
 UMPC 12261 holotype; figured, Ishizaki & Gunther, 1974, Pl. 3, fig. 13  
     Gulf of Panama
- Eucytherura sanjoensis*** Ishizaki & Gunther, 1974, p. 47 Recent  
 UMPC 12267 holotype; figured, Ishizaki & Gunther, 1974, Pl. 3, fig. 16  
     Gulf of Panama
- Eurychilina cannonfallsensis*** Swain & Cornell, 1985, p. 109 Ordovician  
 UMPC 15166 holotype; figured, Swain & Cornell, 1985, Pl. 8, fig. 5  
     Decorah Sh.
- Eurychilina kayi*** Swain & Cornell, 1985, p. 109 Ordovician  
 UMPC 15167 paratype; figured, Swain & Cornell, 1985, Pl. 12, fig. 13  
     holotype; Pl. 13, fig. 7  
     paratype; Pl. 13, fig. 9  
     Decorah Sh.
- Eurychilina micropunctata*** Swain & Cornell, 1985, p. 108 Ordovician  
 UMPC 15164 holotype; figured, Swain & Cornell, 1985, Pl. 13, fig. 1  
     Decorah Sh.
- Eurychilina sugarcreekensis*** Swain & Cornell, 1985, p. 109 Ordovician  
 UMPC 15165 holotype; figured, Swain & Cornell, 1985, Pl. 8, figs. 4a, b  
     Decorah Sh.
- Fusocandona cachevalleyensis*** Swain, 1986c, p. 374 Pliocene  
 UMPC 15071 holotype; figured, Swain, 1986c, Pl. 2, fig. 1  
     Cache Valley Fm.  
     Franklin Co., Idaho

## Phylum Arthropoda, Subclass Ostracoda

- Fusocandona exotica*** Swain, 1986c, p. 375 Pliocene  
 UMPC 15072 holotype; figured, Swain, 1986c, Pl. 2, figs. 5a-c  
     Cache Valley Fm.  
     Franklin Co., Idaho
- Fusocandonopsis owyheensis*** Swain, 1986a, p. 98 Pliocene  
 erroneously published as UMPC 14017  
 UMPC 14027 holotype; figured, Swain, 1986a, Pl. 3, fig. 6  
     Glenns Ferry Fm.  
     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho
- Hemicyprinotus ionensis*** Swain, 1985, p. 420 Miocene ?  
 UMPC 13980 holotype; figured, Swain, 1985, Pl. 1, fig. 8  
     Esmeralda Fm.  
     Black Spring Road, Nye Co., Nevada
- Hemicyprinotus oneidensis*** Swain, 1987a, p. 121 Pliocene  
 UMPC 15079 holotype; figured, Swain, 1987a, Pl. 1, figs. 1-3  
     Salt Lake Gr., Cache Valley Fm.  
     secs. 4-26, T16S, R36E, 5-7 mi. SW of Malad City, Oneida Co., Idaho
- Hemicyprinotus reniformis*** Swain, 1964, p. 268 Eocene  
 UMPC 11507 holotype; figured, Swain, 1964, Pl. 41, fig. 4  
     paratype; Pl. 41, fig. 5  
     paratype; Pl. 41, fig. 8  
         Green River Fm.  
         H-43, Rio Blanco Co., Colorado
- Hemicyprinotus ? simplex*** Swain, 1986b, p. 206 Middle Cenozoic  
 UMPC 15038 holotype; figured, Swain, 1986b, Pl. 2, figs. 17, 18  
     Humboldt Fm.  
     northeastern Nevada
- Hemicyprinotus watsonensis*** Swain, 1964, p. 267 Eocene  
 UMPC 11500a holotype; figured, Swain, 1964, Pl. 41, fig. 1g  
 11500b paratype; Pl. 41, fig. 1e  
     Green River Fm.  
     A-17, Rio Blanco Co., Colorado
- UMPC 11501a paratype; Pl. 41, fig. 1h  
 11501b paratype; Pl. 41, fig. 1i  
     Green River Fm.  
     H-43, Rio Blanco Co., Colorado
- UMPC 11502a paratype; Pl. 41, fig. 1a  
 11502b paratype; Pl. 41, fig. 1b  
 11502c paratype; Pl. 41, fig. 1c  
 11502d paratype; Pl. 41, fig. 1d  
     Green River Fm.  
     H-37, Rio Blanco Co., Colorado
- UMPC 11503 paratype; Pl. 41, fig. 3a  
     Green River Fm.  
     A-278, Rio Blanco Co., Colorado
- UMPC 11504 paratype; Pl. 41, fig. 3b  
     Green River Fm.  
     A-306a, Rio Blanco Co., Colorado
- UMPC 11505 paratype; Pl. 41, fig. 1f  
     Green River Fm.  
     A-36, Rio Blanco Co., Colorado

## Phylum Arthropoda, Subclass Ostracoda

- Hemicyprinotus watsonensis emaciata*** Swain, 1964, p. 268 Eocene  
 UMPC 11506a paratype; figured, Swain, 1964, Pl. 41, fig. 2b  
     Green River Fm.  
     A-108, Rio Blanco Co., Colorado
- UMPC 11512 holotype; Pl. 41, fig. 2a  
     Green River Fm.  
     A-17, Rio Blanco Co., Colorado
- Hemicytherura lankfordi*** Swain & Gilby, 1974, p. 303 Recent  
 UMPC 12141 holotype; figured, Swain & Gilby, 1974, Pl. 3, fig. 14  
     Pacific coast of North America
- Hemicytherura ? nealei*** Swain, 1976, p. 745 Cretaceous  
 UMPC 12266 paratype; figured, Swain, 1976, Pl. 2, fig. 11  
 UMPC 12267 paratype; Pl. 2, fig. 12  
 UMPC 12268 holotype; Pl. 2, figs. 13a, b  
     all from DSDP leg 14, hole 144, core 6, section 1, 58-64 cm, off Guiana,  
     Atlantic Ocean
- Hemicytherura santosensis*** Swain & Gilby, 1974, p. 302 Recent  
 UMPC 12138 holotype; figured, Swain & Gilby, 1974, Pl. 3, fig. 12  
 UMPC 12139 paratype; Pl. 3, fig. 11  
 UMPC 12140 paratype; Pl. 3, fig. 13  
     all from Pacific coast of North America
- Herpetocypris andersoni*** Swain, 1986a, p. 91 Pliocene  
 UMPC 14015 holotype; figured, Swain, 1986a, Pl. 1, fig. 4  
     Glenns Ferry Fm.  
     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho
- Herpetocypris franklinensis*** Swain, 1986c, p. 367 Pliocene  
 UMPC 15059 holotype; figured, Swain, 1986c, Pl. 1, fig. 5  
     Cache Valley Fm.  
     Franklin Co., Idaho
- Herpetocypris ? winfreyi*** Swain, 1987b, p. 225 Cretaceous to Eocene  
 UMPC 15093 holotype; figured, Swain, 1987b, Pl. 3, figs. 1, 2  
     Sheep Pass Fm., Twin Bridges Ls.  
     Elko Co., Nevada
- Heterocypris blairensis*** Swain & Wagoner, 1985, p. 134 Neogene  
 UMPC 15270 holotype; figured, Swain & Wagoner, 1985, Pl. 2, fig. 9  
     paratype; Pl. 2, fig. 10  
     Esmeralda Fm.  
     2 mi. N of Blair Junction, Esmeralda Co., Nevada
- Heterocypris riflensis*** Swain, 1964, p. 268 Eocene  
 UMPC 11508a holotype; figured, Swain, 1964, Pl. 44, fig. 1a  
 UMPC 11508b paratype; Pl. 44, fig. 1b  
     Green River Fm.  
     P-140, Moffat Co., Colorado
- Heterocypris whiteriverensis*** Swain, 1964, p. 269 Eocene  
 UMPC 11509 holotype; figured, Swain, 1964, Pl. 41, fig. 13  
     Green River Fm.  
     H-37, Rio Blanco Co., Colorado
- Ilyocyprimorpha variabilonodosa*** Swain, 1986a, p. 99 Pliocene  
     erroneously published as UMPC 14018  
 UMPC 14028 holotype; figured, Swain, 1986a, Pl. 3, fig. 19  
     Glenns Ferry Fm.  
     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

## Phylum Arthropoda, Subclass Ostracoda

*Ilyocypris thousandspringensis* Swain, 1986b, p. 213 Middle Cenozoic

UMPC 15053 holotype; figured, Swain, 1986b, Pl. 4, figs. 15, 16  
Humboldt Fm.

northeastern Nevada

*Kangarina complicata* Ishizaki & Gunther, 1974, p. 30 Recent

UMPC 12298 holotype; figured, Ishizaki & Gunther, 1974, Pl. 2, figs. 13, 15  
Gulf of Panama

*Kangarina delicata* Ishizaki & Gunther, 1974, p. 29 Recent

UMPC 12301 holotype; figured, Ishizaki & Gunther, 1974, Pl. 2, fig. 16, Pl. 3, fig. 4  
Gulf of Panama

*Kangarina pervadera* Ishizaki & Gunther, 1974, p. 28 Recent

UMPC 12306 holotype; figured, Ishizaki & Gunther, 1974, Pl. 2, figs. 10, 12  
Gulf of Panama

*Kassinina ? gasspeakensis* Swain, 1987c, p. 426 Miocene

UMPC 15109 holotype; figured, Swain, 1987c, Pl. 2, fig. 17  
paratype; Pl. 2, figs. 16  
paratypes; Pl. 2, figs. 18 -21  
paratypes; Pl. 3, figs. 1-3  
paratype; Pl. 5, fig. 2  
Horse Spring Fm.  
locality 9, NW/4 sec. 31, T17S, R16E, Clark Co., Nevada

*Kassinina mesoreticulata* Swain & Wagoner, 1985, p. 133 Neogene

UMPC 15269 holotype; figured, Swain & Wagoner, 1985, Pl. 1, fig. 7  
Esmeralda Fm.  
2 mi. N of Blair Junction, Esmeralda Co., Nevada

*Kassinina microreticulata* Swain & Wagoner, 1985, p. 133 Neogene

UMPC 15268 holotype; figured, Swain & Wagoner, 1985, Pl. 1, fig. 4  
Esmeralda Fm.  
2 mi. N of Blair Junction, Esmeralda Co., Nevada

*Kassinina paucireticulata* Swain & Wagoner, 1985, p. 132 Neogene

UMPC 15267 holotype; figured, Swain & Wagoner, 1985, Pl. 1, fig. 6  
Esmeralda Fm.  
2 mi. N of Blair Junction, Esmeralda Co., Nevada

*Limnicytheropteron cephalotoidea* Swain, 1986a, p. 101 Pliocene

erroneously published as UMPC 14020  
UMPC 14030 holotype; figured, Swain, 1986a, Pl. 4, fig. 10  
Glenns Ferry Fm.  
road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

*Limnicytheropteron typica* Swain, 1986a, p. 101 Pliocene

erroneously published as UMPC 14021  
UMPC 14031 holotype; figured, Swain, 1986a, Pl. 5, figs. 4, 5  
paratype; Pl. 5, fig. 8  
Glenns Ferry Fm.  
road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

*Limnicytheropteron winecupensis* Swain, 1986b, p. 214 Middle Cenozoic

UMPC 15055 holotype; figured, Swain, 1986b, Pl. 4, figs. 22, 23  
Humboldt Fm.  
northeastern Nevada

*Lobosocytheropteron bartolomensis* Ishizaki & Gunther, 1974, p. 40 Recent

UMPC 12333 syntype; figured, Ishizaki & Gunther, 1974, Pl. 1, fig. 8  
UMPC 12334 syntype; Pl. 4, fig. 4  
UMPC 12335 syntype; Pl. 7, fig. 7

**Phylum Arthropoda, Subclass Ostracoda**

*Lobosocytheropteron bartolomensis* continued

UMPC 12336 syntype; text fig. 23

all from Gulf of Panama

*Lobosocytheropteron perlaspensis* Ishizaki & Gunther, 1974, p. 40 Recent

UMPC 12337 holotype; figured, Ishizaki & Gunther, 1974, Pl. 7, fig. 6

Gulf of Panama

*Lobosocytheropteron pinasensis* Ishizaki & Gunther, 1974, p. 41 Recent

UMPC 12340 holotype; left valve; figured, Ishizaki & Gunther, 1974, Pl. 7, fig. 12

Gulf of Panama

*Loxoconcha dorsobulba* Ishizaki & Gunther, 1976, p. 17 Recent

UMPC 12297 holotype; figured, Ishizaki & Gunther, 1976, Pl. 7, fig. 7

Gulf of Panama

*Loxoconcha ? emaciata* Swain, 1967, p. 92 Recent

UMPC 11406 holotype; figured, Swain, 1967, Pl. 9, fig. 18a

UMPC 11450 paratype; Pl. 9, fig. 18b

both from Gulf of California

*Loxoconcha ? magnipustulosa* Swain & Gilby, 1967, p. 329 Recent

UMPC 15309 holotype; figured, Swain & Gilby, 1967, Pl. 32, figs. 22a, b, text fig. 20

Corinto Bay, Nicaragua

*Loxoconcha tamarindoidea* Swain, 1967, p. 91 Recent

UMPC 11400 paratype; figured, Swain, 1967, Pl. 2, fig. 5

UMPC 11401 paratype; Pl. 2, fig. 13

UMPC 11402 paratype; Pl. 2, fig. 15a

UMPC 11403 holotype; Pl. 2, fig. 15b (published as paratype)

UMPC 11404 paratype; Pl. 2, fig. 21

UMPC 11449 paratype; text fig. 46c

all from Gulf of California

*Loxocorniculum lenticuloides* Swain & Gilby, 1974, p. 325 Recent

UMPC 12202 holotype; figured, Swain & Gilby, 1974, Pl. 5, fig. 7

UMPC 12203 paratype; text fig. 25a

UMPC 12204 paratype; text fig. 25b

UMPC 12205 paratype; text fig. 25c

all from Pacific coast of Central America

*Loxocorniculum sculptoides* Swain, 1967, p. 94 Recent

UMPC 11408 holotype; figured, Swain, 1967, Pl. 2, fig. 20

Gulf of California

*Lucasocythere sanmartinensis* Swain & Gilby, 1974, p. 336 Recent

UMPC 12230 holotype; figured, Swain & Gilby, 1974, Pl. 5, fig. 22

UMPC 12231 paratype; Pl. 5, fig. 18

both from Pacific coast of North America

*Majungaella ? minuta* Swain, 1976, p. 747 Cretaceous

UMPC 12271 paratype; figured, Swain, 1976, Pl. 1, fig. 19

DSDP leg 14, hole 144, core 7, section 1, 136-142 cm, off Guiana, Atlantic Ocean

UMPC 12272 paratype; Pl. 1, fig. 20

DSDP leg 14, hole 144, core 6, section 1, 58-64 cm, off Guiana, Atlantic Ocean

UMPC 12273 holotype; Pl. 1, fig. 21

DSDP leg 14, hole 144, core 7, section 1, 136-142 cm, off Guiana, Atlantic Ocean

**Phylum Arthropoda, Subclass Ostracoda**

*Majungaella ? minuta* continued

- UMPC 12274 paratype; Pl. 1, fig. 23  
                     DSDP leg 14, hole 144, core 6, section 1, 58-64 cm, off Guiana, Atlantic Ocean

*Megacythere punctocostata* Swain, 1967, p. 99 Recent

- UMPC 11418 holotype; figured, Swain, 1967, Pl. 8, fig. 9a  
                     paratype; Pl. 8, fig. 9b  
                     Gulf of California

*Metacypris clarkstonensis* Swain, 1987a, p. 125 Pliocene

- UMPC 15085 holotype; figured, Swain, 1987a, Pl. 2, figs. 6, 7  
                     Salt Lake Gr., Cache Valley Fm.  
                     T13N, R12W, South Clarkston, Cache Co., Utah

*Metacypris paracordata* Swain, 1964, p. 278 Eocene

- UMPC 11547a holotype; figured, Swain, 1964, Pl. 44, fig. 5a  
       11547b paratype; Pl. 44, fig. 5b  
       11547c paratype; Pl. 44, fig. 5c  
       11547d paratype; Pl. 44, fig. 5d  
       11547e paratype; Pl. 44, fig. 5e  
       11547f paratype; Pl. 44, fig. 5f  
                     Green River Fm.  
                     H-80, Rio Blanco Co., Colorado

*Mutilus cardonensis* Swain & Gilby, 1967, p. 327 Recent

- UMPC 15304 holotype; figured, Swain & Gilby, 1967, Pl. 32, fig. 18  
                     Corinto Bay, Nicaragua

*Neocytherideis surensis* Swain & Gilby, 1974, p. 297 Recent

- UMPC 12121 holotype; figured, Swain & Gilby, 1974, Pl. 3, fig. 1  
       UMPC 12122 paratype; text fig. 19[a ?]  
       UMPC 12123 paratype; Pl. 3, fig. 2  
       UMPC 12124 paratype; text fig. 19[b ?]  
       UMPC 12125 paratype; text figs. 20, 21  
                     all from Pacific coast of North and Central America

*Neolimnocythere ? prestonensis* Swain, 1986c, p. 376 Pliocene

- UMPC 15074 holotype; figured, Swain, 1986c, Pl. 4, fig. 8  
                     Cache Valley Fm.  
                     Franklin Co., Idaho

*Nipponocythere nagaseae* Ishizaki & Gunther, 1976, p. 24 Recent

- UMPC 12325 holotype; figured, Ishizaki & Gunther, 1976, Pl. 8, fig. 7  
                     Gulf of Panama

*Oreanocypris acutispinosus* Swain, 1986a, p. 93 Pliocene

- UMPC 14018 holotype; figured, Swain, 1986a, Pl. 3, figs. 11, 14  
                     Glenns Ferry Fm.  
                     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

*Oreanocypris asciiformis* Swain, 1986a, p. 94 Pliocene

- erroneously published as UMPC 14010  
       UMPC 14020 holotype; figured, Swain, 1986a, Pl. 3, fig. 16  
                     Glenns Ferry Fm.  
                     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

*Oreanocypris subtriangularis* Swain, 1986a, p. 93 Pliocene

- UMPC 14019 holotype; figured, Swain, 1986a, Pl. 3, fig. 13  
                     Glenns Ferry Fm.  
                     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

*Orionina pseudovaughnai* Swain, 1967, p. 86 Recent

- UMPC 11385 paratype

## Phylum Arthropoda, Subclass Ostracoda

### *Orionina pseudovaughani* continued

- UMPC 11387 holotype; figured, Swain, 1967, Pl. 3, fig. 13  
 UMPG 11388 paratype; Pl. 4, fig. 6a  
 UMPG 11389 paratype; Pl. 4, fig. 6b  
 UMPG 11390 paratype; Pl. 4, fig. 6c  
     all from Gulf of California

- Pactolocypris biprojectus** Swain, 1985, p. 427 Miocene ?  
 UMPG 13993 holotype; figured, Swain, 1985, Pl. 3, fig. 4  
     Esmeralda Fm.  
     Black Spring Road, Nye Co., Nevada

- Pactolocypris cancellatus pronodosus** Swain, 1986b, p. 209 Middle Cenozoic  
 UMPG 15043 holotype; figured, Swain, 1986b, Pl. 3, figs. 22, 23  
     Humboldt Fm.  
     northeastern Nevada

- Pactolocypris laevis** Swain, 1986b, p. 208 Middle Cenozoic  
 UMPG 15042 holotype; figured, Swain, 1986b, Pl. 2, figs. 20, 21  
     Humboldt Fm.  
     northeastern Nevada

- Pactolocypris pactolensis** Swain, 1985, p. 426 Miocene ?  
 UMPG 13992 holotype; figured, Swain, 1985, Pl. 3, fig. 2  
     Esmeralda Fm.  
     Black Spring Road, Nye Co., Nevada

- Pactolocypris suborbicularis** Swain, 1985, p. 428 Miocene ?  
 UMPG 13994 holotype; figured, Swain, 1985, Pl. 3, fig. 13  
     Esmeralda Fm.  
     Black Spring Road, Nye Co. and Wilkens Ranch, Nevada

- Pactolocypris suborbicularis attenuatus** Swain, 1986b, p. 207 Middle Cenozoic  
 UMPG 15039 holotype; figured, Swain, 1986b, Pl. 3, figs. 14, 15  
     Humboldt Fm.  
     northeastern Nevada

- Palmoconcha laevimarginata** Swain & Gilby, 1974, p. 325 Recent  
 UMPG 12206 holotype; figured, Swain & Gilby, 1974, Pl. 5, fig. 10  
 UMPG 12207 paratype; Pl. 5, fig. 11  
 UMPG 12208 paratype; Pl. 5, fig. 12  
 UMPG 12250 paratype; Pl. 5, fig. 13  
     all from Pacific coast of North America

- Palmoconcha minima** Ishizaki & Gunther, 1976, p. 22 Recent  
 UMPG 12316 holotype; figured, Ishizaki & Gunther, 1976, Pl. 9, figs. 1, 6  
     Gulf of Panama

- Paracypria declivoides** Swain, 1986a, p. 91 Pliocene  
 UMPG 14016 holotype; figured, Swain, 1986a, Pl. 1, figs. 7, 8  
     Glenns Ferry Fm.  
     road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

- Paracypridopsis ? curta** Swain, 1986b, p. 209 Middle Cenozoic  
 UMPG 15045 holotype; figured, Swain, 1986b, Pl. 4, figs. 2, 3  
     Humboldt Fm.  
     northeastern Nevada

- Paracypridopsis ? fouchi** Swain, 1987b, p. 224 Cretaceous to Eocene  
 UMPG 15089 holotype; figured, Swain, 1987b, Pl. 3, figs. 4, 5  
     Sheep Pass Fm., Twin Bridges Ls.  
     Elko Co., Nevada

## Phylum Arthropoda, Subclass Ostracoda

***Paracypris franquesoides*** Swain, 1967, p. 45 Recent

UMPC 11279 holotype; figured, Swain, 1967, Pl. 7, fig. 7  
Gulf of California

***Paracypris politella*** Swain, 1967, p. 45 Recent

UMPC 11280 holotype; figured, Swain, 1967, Pl. 7, fig. 8a  
paratypes; Pl. 7, figs. 8b, c  
Gulf of California

***Paracytheridea ? pichelinguensis*** Swain, 1967, p. 70 Recent

UMPC 11341 holotype; figured, Swain, 1967, Pl. 4, fig. 12  
UMPC 11342 paratype; Pl. 8, fig. 2  
both from Gulf of California

**"Paracytheridea" simplex** Swain, 1967, p. 72 Recent

UMPC 11354 holotype; figured, Swain, 1967, Pl. 2, fig. 16  
Gulf of California

***Paracytherois mexicana*** McKenzie & Swain, 1967, p. 299 Recent

UMPC 11239 holotype; figured, McKenzie & Swain, 1967, Pl. 30, fig. 12, text fig. 25  
station 60, Scammon Lagoon, Baja California, Mexico

***Paracytheroma hartmanni*** Swain & Gilby, 1967, p. 331 Recent

UMPC 15315 holotype; figured, Swain & Gilby, 1967, Pl. 32, fig. 2b  
Corinto Bay, Nicaragua

***Paradoxostoma micropunctata*** Swain, 1967, p. 96 Recent

UMPC 11411 holotype; figured, Swain, 1967, Pl. 2, fig. 18  
Gulf of California

***Parakrithella oblonga*** Swain, 1967, p. 56 Recent

UMPC 11310 holotype; figured, Swain, 1967, Pl. 9, fig. 3c  
paratypes; Pl. 9, figs. 3a, b  
Gulf of California

***Pectocythere parkerae*** Swain & Gilby, 1974, p. 332 Recent

UMPC 12219 holotype; figured, Swain & Gilby, 1974, Pl. 6, fig. 1  
UMPC 12220 paratype; text fig. 39  
UMPC 12221 paratype; Pl. 7, fig. 5  
all from Pacific coast of North America

***Pellucistoma bensoni*** McKenzie & Swain, 1967, p. 300 Recent

UMPC 13356 holotype; figured, McKenzie & Swain, 1967, text fig. 27  
paratype  
station 90A, Scammon Lagoon, Baja California, Mexico

***Pontocyprilla navensis*** Swain, 1978, p. 254 Cretaceous

UMPC 12693 holotype; figured, Swain, 1978, Pl. 1, fig. 7  
RR cut at K.P. 31.6, Nava, Asturias Prov., Spain

***Pontoniella ? catlinensis*** Swain, 1987b, p. 227 Eocene or Oligocene

UMPC 15104 holotype; figured, Swain, 1987b, Pl. 2, fig. 23  
Elko Fm.  
old Catlin oil shale works at south edge of Elko, Nevada

***Potamocypris mazatlanensis*** Swain, 1967, p. 41 Recent

UMPC 11275 paratype; figured, Swain, 1967, Pl. 1, fig. 3a  
UMPC 11276 paratype; Pl. 1, fig. 3b  
UMPC 11277 holotype; Pl. 1, fig. 5a  
paratype; Pl. 1, fig. 5b  
all from Gulf of California

## Phylum Arthropoda, Subclass Ostracoda

- Potamocypris* ? *moorei*** Swain, 1987c, p. 430 Miocene  
 UMPC 15120 holotype; figured, Swain, 1987c, Pl. 2, fig. 24  
     paratype; Pl. 2, fig. 6  
     paratype; Pl. 2, fig. 23  
     paratype; Pl. 4, figs. 5, 6  
         Horse Camp Fm.  
         locality 5, NW/4 sec. 2, T10N, R58E, Nye Co., Nevada
- Potamocypris* *williamsi*** Swain, 1964, p. 273 Eocene  
 UMPC 11529 paratype; figured, Swain, 1964, Pl. 43, fig. 1b  
     Green River Fm.  
     A-79, Rio Blanco Co., Colorado
- UMPC 11530a paratype; Pl. 43, fig. 1c  
 11530b paratype; Pl. 43, fig. 1d  
 11530c paratype; Pl. 43, fig. 1f  
 11530d paratype; Pl. 43, fig. 1g  
 11530e paratype; Pl. 43, fig. 1h  
     Green River Fm.  
     A-92, Rio Blanco Co., Colorado
- UMPC 11531a holotype; Pl. 43, fig. 1a  
 11531b paratype; Pl. 43, fig. 1e  
     Green River Fm.  
     H-74, Rio Blanco Co., Colorado
- Primitia* *cannonensis*** Swain & Cornell, 1985, p. 113 Ordovician  
 UMPC 15176 holotype; figured, Swain & Cornell, 1985, Pl. 7, figs. 4a, c, d  
     paratype; Pl. 7, fig. 4b  
     Decorah Sh.
- Procyprois* ? *gracilis*** Swain, 1985, p. 431 Miocene ?  
 UMPC 14000 holotype; figured, Swain, 1985, Pl. 1, fig. 4  
     Esmeralda Fm.  
     Black Spring Road, Nye Co., Nevada
- Procyprois* *ravenridgensis*** Swain, 1964, p. 271 Eocene  
 UMPC 11514 paratype; figured, Swain, 1964, Pl. 42, fig. 3b  
     Green River Fm.  
     A-21, Rio Blanco Co., Colorado
- UMPC 11515 paratype; Pl. 42, fig. 3c  
     Green River Fm.  
     A-22, Rio Blanco Co., Colorado
- UMPC 11516a holotype; Pl. 42, fig. 3h  
 11516b paratype; Pl. 42, fig. 3d  
 11516c paratype; Pl. 42, fig. 3e  
 11516d paratype; Pl. 42, fig. 3f  
 11516e paratype; Pl. 42, fig. 3i  
 11516f paratype; Pl. 42, fig. 3j  
     Green River Fm.  
     E-2, Carbon Co., Utah
- UMPC 11518a paratype; Pl. 42, fig. 3a  
 11518b paratype; Pl. 42, fig. 3g  
     Green River Fm.  
     A-18, Rio Blanco Co., Colorado

## Phylum Arthropoda, Subclass Ostracoda

***Procyprois twinbridgensis*** Swain, 1987b, p. 226 Eocene  
 UMPC 15094 holotype; figured, Swain, 1987b, Pl. 1, fig. 3

Twin Bridges Ls.

west side of Huntingdon Creek, near center sec. 36, T32N, R55E, Elko Co., Nevada

***Pteroloxa guaymasensis*** Swain, 1967, p. 95 Recent  
 UMPC 11409 holotype; figured, Swain, 1967, Pl. 8, fig. 3  
 Gulf of California

***Pterygocythereis cuevasensis*** Swain, 1967, p. 48 Recent  
 UMPC 11290 holotype; figured, Swain, 1967, Pl. 8, fig. 7  
 Gulf of California

***Pumilocytheridea pseudoguardensis*** McKenzie & Swain, 1967, p. 286 Recent  
 UMPC 11189 paratype; figured, McKenzie & Swain, 1967, Pl. 29, figs. 3b  
 UMPC 11190 holotype; Pl. 29, fig. 3c  
 both from station 62, Scammon Lagoon, Baja California, Mexico

***Pumilocytheridea realejoensis*** Swain & Gilby, 1967, p. 323 Recent  
 UMPC 15290 holotype; figured, Swain & Gilby, 1967, Pl. 32, fig. 6a  
 paratype; Pl. 32, fig. 6b  
 Corinto Bay, Nicaragua

***Pumilocytheridea vermiculoidea*** Swain, 1967, p. 51 Recent  
 UMPC 11297 paratype; figured, Swain, 1967, Pl. 3, fig. 6a  
 UMPC 11298 holotype; Pl. 3, figs. 6b, c  
 UMPC 11299 paratype; Pl. 3, fig. 6d  
 all from Gulf of California

***Rigidella cannonensis*** Cornell & Swain in Swain & Cornell, 1985, p. 107 Ordovician  
 UMPC 15149 paratype; figured, Swain & Cornell, 1985, Pl. 4, figs. 3a, c, f  
 holotype; Pl. 4, figs. 3b, d  
 paratype; Pl. 4, fig. 3e  
 Decorah Sh.

***Sclerochilus ? contortellus*** Swain, 1967, p. 98 Recent  
 UMPC 11414 holotype; figured, Swain, 1967, Pl. 9, fig. 6  
 Gulf of California

***Scottia ? eaglespringensis*** Swain, 1964, p. 272 Paleocene ?  
 UMPC 11524 holotype; figured, Swain, 1964, Pl. 41, fig. 11  
 Eagle Springs Well, Nye Co., Nevada

***Scottia ? sublanceolata*** Swain, 1964, p. 272 Paleocene ?  
 UMPC 11528a holotype; figured, Swain, 1964, Pl. 44, fig. 8a  
 UMPC 11528b paratype; Pl. 44, fig. 8b  
 Eagle Springs Well, Nye Co., Nevada

***Scottia subquadrata*** Swain, 1964, p. 272 Eocene  
 UMPC 11523 holotype; figured, Swain, 1964, Pl. 42, fig. 5  
 Green River Fm.  
 Dripping Rock Gulch, Rio Blanco Co., Colorado

***Scottia ? trapezoidalis*** Swain, 1964, p. 272 Paleocene ?  
 UMPC 11527 holotype; figured, Swain, 1964, Pl. 41, fig. 12  
 Eagle Springs Well, Nye Co., Nevada

***Semicytherura reticuliforma*** Ishizaki & Gunther, 1974, p. 23 Recent  
 UMPC 12291 holotype; figured, Ishizaki & Gunther, 1974, Pl. 4, figs. 16-18  
 Gulf of Panama

***Serroclytherura panamaensis*** Ishizaki & Gunther, 1974, p. 34 Recent  
 UMPC 12281 holotype; figured, Ishizaki & Gunther, 1974, Pl. 5, figs. 13, 14  
 Gulf of Panama

## Phylum Arthropoda, Subclass Ostracoda

***Stenocypris australis*** Swain, 1967, p. 40 Recent

- UMPC 11270 paratype; figured, Swain, 1967, text fig. 35a
- UMPC 11271 paratype; Pl. 1, fig. 10
- UMPC 11272 paratype; Pl. 4, fig. 3a
- UMPC 11273 paratype; Pl. 4, fig. 3b
- UMPC 11274 holotype; Pl. 4, fig. 3c  
all from Gulf of California

***Stenocypris ? horsecampensis*** Swain, 1987c, p. 428 Miocene

- UMPC 15115 holotype; figured, Swain, 1987c, Pl. 2, fig. 7
- paratype; Pl. 2, fig. 5
- paratype; Pl. 2, figs. 11, 12
- paratype; Pl. 3, figs. 10, 11
- paratypes; Pl. 3, figs. 15-18

Horse Camp Fm.

locality 6, sec. 12, T10N, R58E, Nye Co., Nevada

***Timiriasevia ? heymuni*** Swain, 1987b, p. 230 Eocene

- UMPC 15099 holotype; figured, Swain, 1987b, Pl. 2, fig. 7
- Twin Bridges Ls.
- west side of Huntingdon Creek, near center sec. 36, T32N, R55E, Elko Co., Nevada

***Trachyleberidea henryhowei*** McKenzie & Swain, 1967, p. 302 Recent

- UMPC 11219 holotype; figured, McKenzie & Swain, 1967, Pl. 29, fig. 24
- station 76, Scammon Lagoon, Baja California, Mexico

***Trachyleberidea tricornis*** Swain, 1967, p. 106 Recent

- UMPC 11431 holotype; figured, Swain, 1967, Pl. 5, fig. 7
- Gulf of California

***Tuberocypris brighti*** Swain, 1986a, p. 95 Pliocene

- erroneously published as UMPG 14011
- UMPC 14021 holotype; figured, Swain, 1986a, Pl. 1, figs. 12, 13
- Glenns Ferry Fm.
- road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

***Tuberocypris cancellatus*** Swain & Wagoner, 1985, p. 137 Neogene

- UMPC 15277 holotype; figured, Swain & Wagoner, 1985, Pl. 3, fig. 2
- Esmeralda Fm.
- 2 mi. N of Blair Junction, Esmeralda Co., Nevada

***Tuberocypris centronotus*** Swain, 1964, p. 274 Eocene

- UMPC 11539 paratype; figured, Swain, 1964, Pl. 44, fig. 2a
- Green River Fm.
- F-42, Uintah Co., Utah

UMPC 11540a paratype; Pl. 44, fig. 2b

11540b paratype; Pl. 44, fig. 2c

11540c holotype; Pl. 44, fig. 2d

Green River Fm.

F-59, Uintah Co., Utah

***Tuberocypris oreanensis*** Swain, 1986a, p. 95 Pliocene

- erroneously published as UMPG 14013
- UMPC 14023 holotype; figured, Swain, 1986a, Pl. 2, fig. 2
- Glenns Ferry Fm.
- road cut, sec. 14, T4S, R1W, Owyhee Co., Idaho

## Phylum Arthropoda, Subclass Ostracoda

- Turkmenella laeva*** Swain, 1987c, p. 431 Miocene  
 UMPC 15123 holotype; figured, Swain, 1987c, Pl. 1, figs. 7, 8  
     Esmeralda Fm.  
     locality 2, 7650' S26°E of NW corner of Simon, 1:24,000 quad, Nye Co., Nevada
- Turkmenella warriorensis*** Swain, 1987c, p. 432 Miocene  
 UMPC 15124 holotype; figured, Swain, 1987c, Pl. 1, figs. 9, 10  
     paratype; Pl. 1, figs. 11, 12  
     Esmeralda Fm.  
     locality 2, 7650' S26°E of NW corner of Simon, 1:24,000 quad, Nye Co., Nevada
- Ussuriocypris ? subreniformis*** Swain & Wagoner, 1985, p. 135 Neogene  
 UMPC 15273 holotype; figured, Swain & Wagoner, 1985, Pl. 5, fig. 14  
     Esmeralda Fm.  
     2 mi. N of Blair Junction, Esmeralda Co., Nevada
- Veenia (Veenia) guianensis*** Swain, 1976, p. 748 Cretaceous  
 UMPC 12283 paratype; figured, Swain, 1976, Pl. 1, fig. 22  
     DSDP leg 14, hole 144, core 6, section 1, 58-64 cm, off Guiana, Atlantic Ocean
- UMPC 12284 paratype; Pl. 3, figs. 1a, b  
     DSDP leg 14, hole 144, core 7, section 1, 136-142 cm, off Guiana, Atlantic Ocean
- UMPC 12285 paratype; Pl. 3, fig. 2
- UMPC 12286 holotype; Pl. 3, fig. 3
- UMPC 12287 paratype; Pl. 3, fig. 4
- UMPC 12288 paratype; Pl. 3, fig. 5  
     preceding four from DSDP leg 14, hole 144, core 6, section 1, 58-64 cm, off Guiana, Atlantic Ocean
- UMPC 12299 paratype; Pl. 3, fig. 10  
     DSDP leg 14, hole 144, core 7, section 1, 136-142 cm, off Guiana, Atlantic Ocean
- Winchellatia ? ceratopea*** Cornell & Swain in Swain & Cornell, 1985, p. 112 Ordovician  
 UMPC 15160 holotype; figured, Swain & Cornell, 1985, Pl. 1, fig. 4a  
     paratypes; Pl. 1, figs. 4b-f  
     paratype; Pl. 12, fig. 8  
     Decorah Sh.
- Xestoleberis parahowei*** Swain, 1967, p. 111 Recent  
 UMPC 11445 paratype; figured, Swain, 1967, Pl. 2, fig. 6a  
 UMPC 11446 holotype; Pl. 2, fig. 6b  
     both from Gulf of California
- Xestoleberis scammonensis*** McKenzie & Swain, 1967, p. 303 Recent  
 UMPC 11231 holotype; figured, McKenzie & Swain, 1967, Pl. 30, fig. 6  
     station 86D, Scammon Lagoon, Baja California, Mexico
- Xiphichilus tenuissimoides*** Swain, 1967, p. 98 Recent  
 UMPC 11415 holotype; figured, Swain, 1967, Pl. 9, fig. 14a  
     paratype; Pl. 9, fig. 14b  
 UMPC 11416 paratype; Pl. 9, fig. 14c  
     all from Gulf of California

## Phylum Arthropoda, Class Trilobita

***Arges wesenbergensis* var. *paullanus*** Clarke, 1897a, p. 744 Ordovician  
 UMPC R743 syntype; figured, Clarke, 1897a, text figs. 62, 63  
 "Trenton"  
 Minneapolis, Minnesota

***Bathyurus schucherti*** Clarke, 1897a, p. 724 Ordovician  
 UMPC R5084 syntype; figured, Clarke, 1897a, text fig. 41  
 Platteville Fm.  
 Minneapolis, Minnesota

***Bathyurus stonemani*** Vogdes, 1884, p. 8 Ordovician (Devonian in drift ?)  
 UMPC R90 holotype  
 Trenton ?

***Comanchia prior*** Kurtz in Bell et al., 1952, p. 182 Cambrian  
 UMPC 6501a holotype; figured, Bell et al., 1952, Pl. 29, fig. 4a  
 Franconia Fm., Woodhill Mbr., *Elvinia* zone  
 Hokah, Minnesota

***Conaspis ? angularis*** Berg, 1953, p. 560 Cambrian  
 UMPC 6690 holotype; figured, Berg, 1953, Pl. 59, fig. 6  
 Franconia Fm., Tomah Mbr.  
 Knapp, Jackson Co., Wisconsin

***Conaspis parvafrons*** Kurtz in Bell et al., 1952, p. 185 Cambrian  
 UMPC 6508a holotype; figured, Bell et al., 1952, Pl. 31, fig. 7a  
 6508b paratype; Pl. 31, fig. 7b  
 Franconia Fm., Tomah Mbr., *Conaspis* zone  
 Cedar Falls, Wisconsin

***Conaspis tumidus*** Kurtz in Bell et al., 1952, p. 185 Cambrian  
 UMPC 6502a holotype; figured, Bell et al., 1952, Pl. 31, fig. 5  
 Franconia Fm., Tomah Mbr., *Conaspis* zone  
 Mt. Tom, Hokah, Minnesota

***Coosia quadrata*** Nelson, 1951, p. 771 Cambrian  
 UMPC 6552a holotype; figured, Nelson, 1951, Pl. 106, fig. 6  
 Eau Claire Fm., *Crepicephalus* zone  
 Little Falls Dam, Wisconsin

***Coosia willowensis*** Nelson, 1951, p. 771 Cambrian  
 UMPC 6550a holotype; figured, Nelson, 1951, Pl. 106, fig. 1  
 6550b paratype; Pl. 106, fig. 3  
 Eau Claire Fm., *Crepicephalus* zone  
 Little Falls Dam, Wisconsin

***Cybele winchelli*** Clarke, 1897a, p. 742 Ordovician  
 UMPC R8435 holotype; figured, Clarke, 1897a, text fig. 59  
 Galena ?  
 Fillmore Co., Minnesota

***Dikelocephalus freeburgensis*** Feniak in Bell et al., 1952, p. 195 Cambrian  
 UMPC 6660a paratype; figured, Bell et al., 1952, Pl. 38, fig. 4a  
 6660e holotype, Pl. 38, fig. 4e  
 6660f paratype; Pl. 35, fig. 4  
 Franconia Fm., Reno Mbr., *D. postrectus* zone  
 1 mi. W of Freeburg, Minnesota

***Drumaspis sabulosa*** Grant, 1962, p. 984 Cambrian  
 UMPC 6548 holotype; figured, Grant, 1962, Pl. 139, fig. 6; donated to U.S. National Museum  
 (= USNM 139595)  
 Franconia Fm.  
 Maple Springs, Wabasha Co., Minnesota

## Phylum Arthropoda, Class Trilobita

***Drumaspis tanycodia*** Grant, 1962, p. 985 Cambrian

UMPC 6549 holotype; figured, Grant, 1962, Pl. 139, fig. 7; donated to U.S. National Museum

(= USNM 139596)

Franconia Fm.

Rileys Coulee, Wabasha Co., Minnesota

***Ellipsocephalooides gracilis*** Feniak in Bell et al., 1952, p. 188 Cambrian

UMPC 6626a holotype; figured, Bell et al., 1952, Pl. 34, fig. 3

Franconia Fm., Reno Mbr., *Prosaukia* subzone

Reno, Minnesota

***Ellipsocephalooides pepinensis*** Grant, 1962, p. 995 Cambrian

UMPC 6544 holotype; figured, Grant, 1962, Pl. 139, fig. 3; donated to U.S. National Museum  
(= USNM 139591)

Franconia Fm.

Maple Springs, Wabasha Co., Minnesota

***Encrinurus vannulus*** Clarke, 1897a, p. 739 Ordovician

UMPC R8410 syntype; figured, Clarke, 1897a, text fig. 57  
lower blue beds

Janesville, Wisconsin

UMPC R8418 syntype; text fig. 56  
upper buff beds

Dampe quarries ?, Beloit, Wisconsin

***Eoptychaspis cylindricus*** Nelson, 1951, p. 778 Cambrian

UMPC 6554a syntype; figured, Nelson, 1951, Pl. 108, fig. 1

6554b syntype; Pl. 108, fig. 2

6554c syntype; Pl. 108, fig. 3

6554d syntype; Pl. 108, fig. 4

6554e syntype; Pl. 108, fig. 5

Franconia Fm., Mazomanie Mbr., *Stigmacephalus* faunule

Marine on St. Croix, Minnesota

***Harpina rutrellum*** Clarke, 1897a, p. 757 Ordovician

lectotype designated (as holotype) by Schuchert, 1905, p. 302

UMPC R8420 paralectotype

Platteville Fm.

Minneapolis, Minnesota

***Idahoia (Psalaspis) marginatus*** Feniak in Bell et al., 1952, p. 190 Cambrian

UMPC 6622b holotype; figured, Bell et al., 1952, Pl. 33, fig. 3b

Franconia Fm., Tomah Mbr., *Psalaspis* faunule

Reads Landing, Minnesota

***Illaenurus truncatus*** Feniak in Bell et al., 1952, p. 196 Cambrian

UMPC 6659a holotype; figured, Bell et al., 1952, Pl. 38, fig. 3a

6659b paratype; Pl. 38, fig. 3b

Franconia Fm., Reno Mbr., lower *Dikelocephalus* zone

1 mi. W of Freeburg, Minnesota

***Kendallia bifurcata*** Berg, 1953, p. 562 Cambrian

UMPC 6675a paratype; figured, Berg, 1953, Pl. 59, fig. 10

6675b holotype; Pl. 59, fig. 7

Franconia Fm., Tomah Mbr., 1' above base

Franklin, Jackson Co., Wisconsin

## Phylum Arthropoda, Class Trilobita

***Parabolinoides expansa*** Nelson, 1951, p. 776 Cambrian

UMPC 6553a holotype; figured, Nelson, 1951, Pl. 107, fig. 1  
6553b paratype; Pl. 107, fig. 3

Franconia Fm., Birkmose Mbr., lower *Conaspis* zone  
Taylors Falls, Minnesota

***Parabolinoides hedrus*** Kurtz in Bell et al., 1952, p. 186 Cambrian

UMPC 6505a holotype; figured, Bell et al., 1952, Pl. 32, fig. 2a  
6505b paratype; Pl. 32, fig. 2b  
6505c paratype; Pl. 32, fig. 2c

Franconia Fm., Tomah Mbr., *Conaspis* zone  
La Crescent, Minnesota

***Parabolinoides palatus*** Berg, 1953, p. 565 Cambrian

UMPC 6676a holotype; figured, Berg, 1953, Pl. 59, fig. 5  
6676b paratype; Pl. 59, fig. 8

Franconia Fm., Tomah Mbr., 1' above base  
Franklin, Jackson Co., Wisconsin

***Parabolinoides parallela*** Nelson, 1951, p. 776 Cambrian

UMPC 6562a holotype; figured, Nelson, 1951, Pl. 107, fig. 13  
Franconia Fm., Mazomanie Mbr.

Curtain Falls, Taylors Falls, Minnesota

**"*Paradoxides barberi*"** Winchell, 1885, p. 67 Late Precambrian

pseudofossil described as trilobite  
UMPC R5555 holotype; figured, Winchell, 1885, Pl. 1, fig. 7  
Sioux Quartzite, pipestone layers

Pipestone, Pipestone Co., Minnesota

***Pterygometopus schmidti*** Clarke, 1897a, p. 729 Ordovician

UMPC R6768 syntype; figured, Clarke, 1897a, text fig. 50  
Galena  
Kenyon, Minnesota

UMPC R5084 syntype

Platteville Fm.

Minneapolis, Minnesota

***Ptychaspis arcolensis*** Nelson, 1951, p. 779 Cambrian

UMPC 6556a holotype; figured, Nelson, 1951, Pl. 108, fig. 6  
6556b paratype; Pl. 108, fig. 7

Franconia Fm., Mazomanie Mbr.

Arcola, Minnesota

***Ptychaspis granulosa angaria*** Grant, 1962, p. 991 Cambrian

UMPC 6592 holotype; figured, Grant, 1962, Pl. 139, fig. 9; donated to U.S. National Museum  
(= USNM 139600)  
Franconia Fm.  
Pink Ledge, Wabasha Co., Minnesota

***Ptychaspis tuberosa*** Feniak in Bell et al., 1952, p. 193 Cambrian

UMPC 6643a holotype; figured, Bell et al., 1952, Pl. 36, fig. 3a  
6643b paratype; Pl. 36, fig. 3b  
6643c paratype

Franconia Fm., *P. striata* teilzone

Trempealeau, Wisconsin

***Ptychopyge ulrichi*** Clarke, 1897a, p. 709 Ordovician

UMPC 9456 syntype; figured, Clarke, 1897a, text fig. 13  
Platteville Fm.  
Cannon Falls, Goodhue Co., Minnesota

**Phylum Arthropoda, Class Trilobita**

*Ptychopyge ulrichi* continued

UMPC R8402 syntype

lower blue beds

Mineral Point, Wisconsin

***Stigmacephalus flexifrons*** Feniak in Bell et al., 1952, p. 194 Cambrian

UMPC 6658a paratype; figured, Bell et al., 1952, Pl. 37, fig. 6a

6658b holotype; Pl. 37, fig. 6b

Franconia Fm., Reno Mbr., *P. striata* faunule

3 mi. SE of Lake City, Minnesota

***Stigmacephalus similis*** Kurtz in Bell et al., 1952, p. 186 Cambrian

UMPC 6538a holotype; figured, Bell et al., 1952, Pl. 31, fig. 8a

Franconia Fm.

La Crescent, Minnesota

***Stigmaspis hudsonensis*** Nelson, 1951, p. 781 Cambrian

UMPC 6563a holotype; figured, Nelson, 1951, Pl. 110, fig. 3

6563b paratype; Pl. 110, fig. 1

6563c paratype; Pl. 110, fig. 2

Franconia Fm., Reno Mbr., *P. miniscaensis* faunule

Hudson, Wisconsin

***Taenicephalus altus*** Nelson, 1951, p. 777 Cambrian

UMPC 6504a syntype; figured, Nelson, 1951, Pl. 107, figs. 2

6504b syntype; Pl. 107, fig. 4

6504c syntype; Pl. 107, fig. 7

Franconia Fm., Tomah Mbr., *Conaspis* zone

Marine on St. Croix, Minnesota

## Phylum Brachiopoda

- Anastrophia ? hemiplicata*** var. *rotunda* Winchell & Schuchert, 1895b, p. 383 Ordovician  
 UMPC R8231 syntype; figured, Pl. 30, figs. 32-25  
     Galena  
     5 mi. S of Cannon Falls, Goodhue Co., Minnesota
- Anastrophia ? scofieldi*** Winchell & Schuchert, 1895b, p. 383 Ordovician  
 UMPC R8230 syntypes; figured, Winchell & Schuchert, 1895b, Pl. 30, figs. 24-28  
     Galena  
     6 mi. S of Cannon Falls, Goodhue Co., Minnesota
- Crania granulosa*** Winchell, 1880, p. 63 Ordovician  
 UMPC R708 holotype; figured, Winchell & Schuchert, 1895, Pl. 29, figs. 34, 35  
     "Treton" Ls.  
     Minneapolis, Minnesota
- ? ***Crania reversa*** Sardeson, 1896a, p. 77 Ordovician  
 UMPC 7691 holotype; figured, Sardeson, 1896a, Pl. 3, figs. 6, 7  
     St. Peter Ss.  
     Highland Park area, St. Paul, Minnesota
- Dalmanella winchelli*** Cooper, 1956, p. 953 Ordovician  
 UMPC R7897 syntypes; figured, Winchell & Schuchert, 1895, Pl. 33, figs. 14-16 (R7897a); not  
     Cooper, 1956, Pl. 158D, figs. 15, 16  
 R7897a lectotype; designated by Rice, 1989, p. 118, figs. 1-4  
 R7897b paralectotype; figs. 5-7  
     Decorah Sh.  
     Ollie Hansen's farm, Fountain, Fillmore Co., Minnesota
- Diorthelasma ? weissi*** Rice, 1987, p. 154 Ordovician  
 UMPC 10030a paratype; figured, Rice, 1987, Pl. 2, figs. 4a-c  
 UMPC 14086a holotype; Pl. 2, figs. 4d-f  
 14086b paratype; Pl. 2, fig. 4g  
 14086c paratype; Pl. 2, fig. 4i  
     all from Decorah Sh.  
     Twin City Brick Co., Ramsey Co., Minnesota
- Eatonia bicostata*** Stauffer, 1930, p. 109 Middle Devonian  
 UMPC 3312 probably holotype; figured, Stauffer, 1930, Pl. 14, figs. 5-7  
     Kearsarge, California
- Hallina nicolleti*** Winchell & Schuchert, 1892, p. 293 Ordovician  
 UMPC R8239 possibly syntypes; possibly figured, Winchell & Schuchert, 1895b, Pl. 34, figs.  
 59-64  
     "Treton" limestone  
     near Fountain, Fillmore Co., Minnesota
- Leptaena charlottae*** Winchell & Schuchert, 1892, p. 288 Ordovician  
 UMPC R8142 syntype; figured Winchell & Schuchert, 1895b, Pl. 32, fig. 5  
     Decorah Sh.  
     west side of St. Paul, Minnesota
- "***Lingula calumet***" Winchell, 1885, p. 66 Late Precambrian  
 pseudofossil described as a brachiopod  
 UMPC R5559 syntypes; figured, Winchell, 1885, Pl. 1, figs. 6a-d  
     pipestone layers, Sioux Quartzite  
     Pipestone, Pipestone Co., Minnesota
- Lingula dolata*** Sardeson, 1896b, p. 95 Ordovician  
 UMPC 7661 mold of holotype, original missing; figured, Sardeson, 1896b, Pl. 6, fig. 12  
     Oneota Dol.  
     Stillwater, Washington Co., Minnesota

## Phylum Brachiopoda

- Lingula (Glossina) deflecta* Winchell & Schuchert, 1892, p. 285 Ordovician  
 UMPC R7675 syntypes; figured, Winchell & Schuchert, 1895b, Pl. 29, figs. 15, 16  
     base of Galena  
     near Fountain, Fillmore Co., Minnesota
- UMPC R7676 syntype; Pl. 29, figs. 17, 18  
     "Cincinnati"  
     Spring Valley, Fillmore Co., Minnesota
- Lingula hurlbuti* Winchell, 1880, p. 62 Ordovician  
 UMPC R393 holotype; figured, Winchell & Schuchert, 1895b, Pl. 29, figs. 13, 14  
     Galena  
     Mantorville, Dodge Co., Minnesota
- Lingula minnesotensis* Winchell, 1880, p. 61 Ordovician  
 UMPC R291 syntypes; = #R3501  
     "Trenton"  
     Olmsted Co., Minnesota
- UMPC R645 syntype; = #R3502  
     "Trenton"  
     Taylor's Quarry, Fountain, Fillmore Co., Minnesota
- UMPC R3499 syntype  
     "Trenton"  
     Wanamingo, Goodhue Co., Minnesota
- UMPC R3501 syntype; = #R291  
     "Trenton"  
     Olmsted Co., Minnesota
- UMPC R3502 syntype; = #R645  
     "Trenton"  
     Fountain, Fillmore Co., Minnesota
- UMPC R3503 syntype; figured (as *Lingula elderi* Whitfield), Winchell & Schuchert, 1895b, Pl. 29, fig. 1  
     \*Trenton"  
     Minneapolis, Minnesota
- Lingulasma galenensis* Winchell & Schuchert, 1892, p. 285 Ordovician  
 UMPC R7686 holotype; figured, Winchell & Schuchert, 1895b, Pl. 30, figs. 1-4  
     top of Galena  
     Bear Creek, just S of Hamilton, Minnesota
- Nucleospira livingstonensis* Stauffer, 1918, p. 558 Lower Devonian  
 UMPC 4838a holotype; figured, Stauffer, 1918, Pl. 2, fig. 6  
     Amherstburg  
     Stony Island Dry Cut, Livingston Channel, Detroit River near Trenton, Michigan
- Orthis amoena* Winchell, 1880, p. 65 Ordovician  
 UMPC R642 syntypes; lectotype figured in Winchell & Schuchert, 1895b, Pl. 33, figs. 48-50  
     Galena  
     Spring Valley, Fillmore Co., Minnesota
- Orthis charlottae* Winchell, 1880, p. 67 Ordovician  
 UMPC R667 holotype; figured (as *Orthis pectinella* Emmons), Winchell & Schuchert, 1895b, Pl. 32, fig. 31  
     Decorah Sh.  
     Minneapolis, Minnesota

## Phylum Brachiopoda

*Orthis circularis* Winchell, 1880, p. 66 Ordovician

UMPC R3515 syntypes; lectotype figured in Winchell & Schuchert, 1895b, Pl. 33, figs. 46, 47  
Decorah Shale

Oxford Mills, near Cannon Falls, Goodhue Co., Minnesota

*Orthis conradi* Winchell, 1880, p. 68 Ordovician

UMPC R651 syntype  
Decorah Sh.

Fountain, Fillmore Co., Minnesota

UMPC R789 syntype

Decorah Sh.

Minneapolis, Minnesota

*Orthis kassubae* Winchell, 1880, p. 65 Ordovician

UMPC R336 syntypes  
"Trenton"

Finn's Glen, Minneapolis, Minnesota

UMPC R643 syntypes

"Trenton"

Minneapolis, Minnesota

*Orthis media* Winchell, 1880, p. 64 Ordovician

UMPC R3514 syntypes; lectotype figured (as *Orthis perreta* Conrad), Winchell & Schuchert, 1895b, Pl. 33, figs. 40, 41  
"Hudson River"

Minneapolis, Minnesota

*Orthis meedsi* var. *germana* Winchell & Schuchert, 1892, p. 290 Ordovician

UMPC R7770 holotype; figured, W. & S., 1895b, Pl. 32, figs. 43-45  
Galena

9 mi. S of Cannon Falls, Goodhue Co., Minnesota

*Orthis minneapolitana* Winchell, 1880, p. 63 Ordovician

UMPC R321 syntypes; lectotype figured (as *Orthis subaequata* Conrad), Winchell & Schuchert, 1895b, Pl. 33, figs. 30-32  
"Trenton" Sh.

Minneapolis, Minnesota

UMPC R644 paralectotype

"Trenton" Sh.

Taylor's Quarry, Fountain, Fillmore Co., Minnesota

UMPC R737 paralectotypes

Decorah Sh.

Minneapolis, Minnesota

*Orthis proavita* Winchell & Schuchert, 1892, p. 290 Ordovician

UMPC R273 possibly syntype

UMPC R278 possibly syntype

UMPC R7789 possibly syntype

all from Galena

Spring Valley, Fillmore Co., Minnesota

*Orthis remnicha* Winchell, 1886, p. 317 Cambrian

UMPC R6041 paralectotype

UMPC R6070 syntypes; figured, Winchell, 1886, Pl. 2, fig. 7

R6070a lectotype designated by Bell & Ellinwood, 1962, p. 414; figured, Pl. 63, fig. 15

both from 2' below street level, corner of Brush and Main, Red Wing, Goodhue Co., Minnesota

## Phylum Brachiopoda

- Orthis sandbergi*** Winchell, 1886, p. 318 Cambrian  
 UMPC R6490 holotype; figured, Winchell, 1886, Pl. 2, figs. 8, 9  
 "St. Croix"  
 Red Wing, Minnesota
- Orthis sweeneyi*** Winchell, 1881, p. 117 Ordovician  
 UMPC R3520 syntypes  
 "Hudson River"  
 St. Paul, Minnesota
- Orthis whitfieldi*** Winchell, 1881, p. 115 Ordovician  
 UMPC R277 syntype; figured, Winchell & Schuchert, 1895b, Pl. 33, figs. 8, 9  
 UMPC R429 syntype; Pl. 33, figs. 10, 11  
 both from Galena  
 Spring Valley, Fillmore Co., Minnesota
- Pholidops trentonensis* var. *minor*** Winchell & Schuchert, 1895b, p. 376 Ordovician  
 UMPC R7279 syntypes; figured, Winchell & Schuchert, 1895b, Pl. 29, fig. 40  
 "Trenton"  
 St. Paul, Minnesota
- Plectambonites gibbosa*** Winchell & Schuchert, 1892, p. 288 Ordovician  
 UMPC R8165 syntype; figured, Winchell & Schuchert, 1895b, Pl. 32, figs. 13-15  
 Galena, 50' above base  
 south of Cannon Falls, Goodhue Co., Minnesota
- UMPC R8166 syntype; Pl. 32, fig. 16  
 Galena  
 Mantorville, Dodge Co., Minnesota
- Plectorthis plicatella minnesotensis*** Weiss, 1955, p. 768 Ordovician  
 UMPC 6704 holotype; figured, Weiss, 1955, Pl. 69, fig. 6; types designated in Weiss, 1956, p. 219  
 lower Decorah Sh.  
 Gatzke farm, Carimona Twp., Fillmore Co., Minnesota
- UMPC 6706 paratype; Pl. 69, fig. 5  
 Platteville Fm., McGregor Mbr., 3' below Deicke K-bentonite  
 Sugar Creek Annex, Fountain, Minnesota
- Rhipidomella intermedia*** Stauffer, 1918, p. 556 Lower Devonian  
 UMPC 4839a holotype; figured, Stauffer, 1918, Pl. 2, figs. 1, 2  
 Amherstburg  
 Stony Island Dry Cut, Livingston Channel, Detroit River near Trenton, Michigan
- Rhynchonella ainstriei*** Winchell, 1886, p. 315 Ordovician  
 UMPC R324 syntypes  
 UMPC R734 syntype  
 preceding two from Decorah Sh.  
 Minneapolis, Minnesota
- UMPC R4031 syntype  
 probably Decorah Sh.  
 probably Lanesboro, Fillmore Co., Minnesota
- UMPC R5480 syntypes  
 UMPC R5489 syntypes  
 UMPC R5492 syntypes  
 preceding three from Decorah Sh.  
 Minneapolis, Minnesota

## Phylum Brachiopoda

*Rhynchonella alnslei* continued

- UMPC R5505      syotypes  
Decorah Sh.  
near Fountain, Minnesota
- UMPC R5512      syotypes  
Decorah Sh.  
Holden, Goodhue Co., Minnesota
- UMPC R5517      syntype  
Decorah Sh.  
Minneapolis, Minnesota
- UMPC R5521      syntype  
Decorah Sh.  
near Lanesboro, Minnesota

*Schizophoria prima* Stauffer, 1918, p. 557 Lower Devonian

- UMPC 4840a      holotype; figured, Stauffer, 1918, Pl. 2, fig. 3  
Amherstburg  
Stony Island Dry Cut, Livingston Channel, Detroit River near Trenton, Michigan

*Schizotreta minutula* Winchell & Schuchert, 1895b, p. 366 Ordovician

- UMPC R8392      syotypes; figured, Winchell & Schuchert, 1895b, text fig. 28  
lower "Hudson River"  
Granger, Fillmore Co., Minnesota

*Stropheodonta delicatula* Stauffer, 1918, p. 558 Lower Devonian

- UMPC 4841a      syotypes; figured, Stauffer, 1918, Pl. 2, figs. 4, 5  
Amherstburg  
Stony Island Dry Cut, Livingston Channel, Detroit River near Trenton, Michigan

*Strophomena minnesotensis* Winchell, 1881, p. 120 Ordovician

- UMPC R180      syntype; = #R3521; figured, Winchell & Schuchert, 1895b, Pl. 31, fig. 25
- UMPC R199      syotypes; = #R3522
- UMPC R681      syntype
- UMPC R2192      syotypes
- UMPC R3521      syntype; = #R180
- UMPC R3522      syotypes; = #R199
- UMPC R3523      syntype  
all from Platteville Fm.  
Minneapolis, Minnesota

*Strophomena neglecta* var. *acuta* Winchell & Schuchert, 1895b, p. 388 Ordovician

- UMPC R5550      syotypes  
"Cincinnati"  
1 mi. E of Spring Valley, Fillmore Co., Minnesota

*Strophomena planodorsata* Winchell & Schuchert, 1892, p. 286 Ordovician

- UMPC W1837      syntype; figured, Winchell & Schuchert, 1895b, Pl. 31, figs. 8, 9  
"Hudson River" Gr.  
Spring Valley, Minnesota

*Strophomena scofieldi* Winchell & Schuchert, 1892, p. 286 Ordovician

- UMPC R8193      possibly syotypes; possibly figured, Winchell & Schuchert 1895b, Pl. 31, figs. 18-20  
Galena shales  
2 mi. S of Cannon Falls, Goodhue Co., Minnesota
- UMPC R8839      possibly syntype; possibly figured, Winchell & Schuchert 1895b, Pl. 31, figs. 18-20  
Galena shales  
Cannon Falls, Goodhue Co., Minnesota

## Phylum Brachiopoda

***Strophomena trentonensis*** Winchell & Schuchert, 1895b, p. 389 Ordovician

UMPC R677 syotype; figured, Winchell & Schuchert, 1895b, Pl. 30, fig. 41

"Trenton"

Minneapolis, Minnesota

UMPC R8179 syotype

lower blue beds

4 mi. N of Beloit, Wisconsin

UMPC R8182 syotype

Decorah Sh.

6 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8183 syotype

Decorah Sh.

2 mi. S of Cannon Falls, Goodhue Co., Minnesota

***Zygospira plinthil*** Rice, 1987, p. 161 Ordovician

UMPC 10017a holotype; figured, Rice, 1987, Pl. 4, figs. 5a-c

10017b paratype; Pl. 4, figs. 5d, e

Decorah Sh.

Twin City Brick Co., Ramsey Co., Minnesota

***Zygospira uphami*** Winchell & Schuchert, 1892, p. 291 Ordovician

UMPC R8227 probably syntypes; possibly figured, Winchell & Schuchert, 1895b, Pl. 34, figs. 45-48

Galena

Weisebach's dam, Spring Valley, Fillmore Co., Minnesota

## Phylum Bryozoa

***Amplexopora winchelli*** Ulrich, 1886, p. 91 Ordovician  
 UMPC R5999 syntypes

Decorah Sh.  
 St. Paul, Minnesota

UMPC R6000 syntypes  
 UMPC R6001 syntypes

preceding two from Decorah Sh.  
 Minneapolis, Minnesota

***Arthroclema striatum*** Ulrich, 1895, p. 198 Ordovician  
 UMPC R8114 syntypes

lower Decorah Sh.  
 Minneapolis, Minnesota

***Arthropora bifurcata*** Ulrich, 1895, p. 178 Ordovician  
 UMPC R8108 syntypes

Decorah Sh., *Phylloporina* bed  
 St. Paul, Minnesota

***Arthropora reversa*** Ulrich, 1895, p. 178 Ordovician  
 UMPC R8109 syntypes

Galena shales  
 St. Paul, Minnesota

***Arthropora simplex*** Ulrich, 1886, p. 65 Ordovician  
 UMPC R5933 syntypes

Decorah Sh.  
 Minneapolis, Minnesota

***Aspidopora elegantula*** Ulrich, 1895, p. 256 Ordovician  
 UMPC R8126 syntype

Galena shales  
 St. Paul, Minnesota

***Aspidopora parasitica*** Ulrich, 1886, p. 90 Ordovician  
 UMPC R5994 syntypes

Decorah Sh.  
 Lanesboro, Fillmore Co., Minnesota

UMPC R5995 syntypes  
 Decorah Sh.

Minneapolis, Minnesota

***Atactoporella insueta*** Ulrich, 1895, p. 224 Ordovician  
 UMPC R5985 syntypes; figured, Ulrich, 1895, Pl. 15, figs. 13-15

Decorah Sh.  
 Minneapolis, Minnesota

***Atactoporella typicalis* var. *praecincta*** Ulrich, 1895, p. 223 Ordovician  
 UMPC R5983 syntypes

Decorah Sh.  
 St. Paul, Minnesota

UMPC R5984 syntype; figured, Ulrich, 1895, Pl. 15, figs. 16, 17

Decorah Sh.  
 Minneapolis, Minnesota

***Batostoma fertile* var. *circulare*** Ulrich, 1895, p. 291 Ordovician  
 UMPC R8137 syntypes

Decorah Sh., *Stictoporella* bed  
 St. Paul, Minnesota

## Phylum Bryozoa

- Batostoma fertilis*** Ulrich, 1886, p. 92 Ordovician  
 UMPC R6006 probably syntypes  
     Decorah Sh.  
     Minneapolis, Minnesota
- UMPC R6007 probably syntypes  
     Decorah Sh.  
     Eyota, Minnesota
- UMPC R6008 probably syntypes  
     Decorah Sh.  
     Minneapolis, Minnesota
- Batostoma humile*** Ulrich, 1895, p. 294 Ordovician  
 UMPC R7613 syntypes  
     Galena  
     6 mi. S of Cannon Falls, Goodhue Co., Minnesota
- UMPC R8063 syntypes  
     Galena shales  
     Decorah, Iowa
- Batostoma irrasa*** Ulrich, 1886, p. 94 Ordovician  
 UMPC R6003 probably syntypes; figured, Ulrich, 1895, Pl. 24, fig. 9  
     Decorah Sh.  
     Minneapolis, Minnesota
- Batostoma minnesotense*** Ulrich, 1895, p. 297 Ordovician  
 UMPC R5996 syntypes  
     Decorah Sh.  
     Minneapolis, Minnesota
- UMPC R5998 syntypes  
     Decorah Sh.  
     St. Paul, Minnesota
- UMPC R7592 syntypes  
     Decorah Sh.  
     McGregor, Iowa
- UMPC R7668 syntypes  
     Decorah Sh.  
     Chatfield, Minnesota
- UMPC R8093 syntypes  
     "Treton"  
     near Fountain, Fillmore Co., Minnesota
- Batostoma montuosum*** Ulrich, 1895, p. 293 Ordovician  
 UMPC R8134 syntypes  
     Decorah Sh., *Phylloporeina* bed  
     near Cannon Falls, Goodhue Co., Minnesota
- Batostoma varium*** Ulrich, 1895, p. 292 Ordovician  
 UMPC R8135 syntypes  
     Decorah Sh., *Stictopora* bed  
     Minneapolis, Minnesota
- Berenicea minnesotensis*** Ulrich, 1886, p. 58 Ordovician  
 UMPC R5925 holotype; figured, Ulrich, 1895, Pl. 1, fig. 27, Pl. 2, fig. 1  
     middle Decorah Sh.  
     Minneapolis, Minnesota

## Phylum Bryozoa

*Bythopora herricki* Ulrich, 1886, p. 99 Ordovician  
 UMPC R6012 syntypes

Decorah Sh.  
 Minneapolis, Minnesota

UMPC R6013 syntypes  
 Decorah Sh.  
 St. Paul, Minnesota

*Callopora ampla* Ulrich, 1895, p. 281 Ordovician  
 UMPC R7640 syntypes

Galena shales  
 Minneola, Goodhue Co., Minnesota

UMPC R7659 syntypes  
 Decorah Sh.  
 1 mi. E of Fountain, Fillmore Co., Minnesota

UMPC R8067 syntypes  
 Galena shales  
 Decorah, Iowa

*Callopora angularis* Ulrich, 1895, p. 277 Ordovician  
 UMPC R8088 syntypes

"Trenton"  
 Chatfield, Minnesota

UMPC R8097 syntype  
 "Trenton"  
 near Fountain, Fillmore Co., Minnesota

*Callopora crenulata* Ulrich, 1895, p. 284 Ordovician  
 UMPC R8019 syntype

Galena  
 6 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8038 syntype  
 Galena  
 7 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8068 syntype  
 Galena shales  
 Decorah, Iowa

UMPC R8082 syntype  
 Galena shales  
 Neenah, Wisconsin

*Callopora dumalis* Ulrich, 1895, p. 282 Ordovician  
 UMPC R8112 syntypes

"Trenton" shales, Galena shales  
 near Cannon Falls, Goodhue Co.; St. Paul, Minnesota

*Callopora goodhuensis* Ulrich, 1895, p. 282 Ordovician  
 UMPC R8117 syntypes; reported as R8111 in Ulrich, 1895

Galena shales  
 near Cannon Falls, Goodhue Co., Minnesota

*Callopora pulchella* Ulrich, 1895, p. 283 Ordovician  
 UMPC R8033 syntypes, Ulrich, 1895

"Trenton"  
 Preston, Fillmore Co., Minnesota

## Phylum Bryozoa

*Callopora pulchella* continued

UMPC R8120 syntypes; reported as R8114 in Ulrich, 1895  
 Decorah Sh., *Phylloporina* bed  
 St. Paul, Minnesota

*Callopora pulchella* var. *persimilis* Ulrich, 1895, p. 284 Ordovician  
 UMPC R8121 syntypes; reported as R8115 in Ulrich, 1895

Decorah Sh., *Phylloporina* bed  
 Poe's farm, near Cannon Falls, Goodhue Co., Minnesota

*Ceramophylla frondosa* Ulrich, 1895, p. 331 Ordovician  
 UMPC R8381 syntypes

upper third of Decorah Sh.  
 St. Paul, Minnesota

*Ceramoporella inclusa* Ulrich, 1895, p. 329 Ordovician  
 UMPC R7624 syntypes

Galena shales  
 Chatfield, Minnesota

UMPC R7656 syntypes  
 Decorah Sh.  
 Ollie Hansen's farm, 1 mi. E of Fountain, Fillmore Co., Minnesota

UMPC R7662 syntypes  
 Decorah Sh.  
 1 mi. E of Fountain, Fillmore Co., Minnesota

UMPC R8380 syntypes  
 "Trenton"  
 near Fountain, Fillmore Co., Minnesota

UMPC R7661 syntypes  
 Decorah Sh.  
 Chatfield, Minnesota

*Ceramoporella interporosa* Ulrich, 1895, p. 330 Ordovician  
 UMPC R7647 syntype

Galena shales  
 4.5 mi. SW of Cannon Falls, Goodhue Co., Minnesota

*Constellaria varia* Ulrich, 1895, p. 311 Ordovician

UMPC R8044 syntypes  
 Galena  
 7 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8130 syntypes  
 Galena shales  
 near Cannon Falls, Goodhue Co., Minnesota

*Crepidipora impolita* Ulrich, 1886, p. 77 Ordovician

UMPC R5958 syntype  
 Decorah Sh.  
 St. Paul, Minnesota

UMPC R5959 syntype  
 Decorah Sh.  
 Finn's Glen, Minneapolis, Minnesota

UMPC R5960 syntype  
 Decorah Sh.  
 Minneapolis, Minnesota

UMPC R5961 syntype  
 Decorah Sh.  
 near Lanesboro, Fillmore Co., Minnesota

## Phylum Bryozoa

*Crepidipora impolita* continued

UMPC R5962 syotype

Decorah Sh.

Minneapolis, Minnesota

*Crepidipora perampla* Ulrich, 1895, p. 323 Ordovician

UMPC R151 syntypes

"Trenton"

Chatfield, Minnesota

UMPC R170 syotype

UMPC R211 syotype

preceding two from "Trenton"

2 mi. NE of Spring Valley, Fillmore Co., Minnesota

*Dekayella praenuntia* var. *echinata* Ulrich, 1895, p. 271 Ordovician

UMPC R6016 syotype

Decorah Sh.

near Fountain, Fillmore Co., Minnesota

UMPC R7657 syntypes

Decorah Sh.

1 mi. E of Fountain, Fillmore Co., Minnesota

UMPC R8022 syotype

Galena

6 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8098 syotype

Decorah Sh.

near Fountain, Fillmore Co., Minnesota

*Dekayella praenuntia* var. *multipora* Ulrich, 1895, p. 272 Ordovician

UMPC R6021 syotype

Decorah Sh.

Minneapolis, Minnesota

UMPC R8306 syotype

Decorah Sh.

Preston, Fillmore Co., Minnesota

*Dekayella praenuntia* var. *naevigera* Ulrich, 1895, p. 271 Ordovician

UMPC R6018 syotype

Decorah Sh.

near Lanesboro, Fillmore Co., Minnesota

UMPC R7669 syotype

Galena shales

6 mi. S of Cannon Falls, Goodhue Co., Minnesota [Chatfield, Minnesota ?]

*Dekayella praenuntia* var. *simplex* Ulrich, 1895, p. 271 Ordovician

UMPC R8307 syotype

Decorah Sh.

Minneapolis, Minnesota

*Diplotrypa infida* Ulrich, 1886, p. 88 Ordovician

UMPC R5993 syntypes; figured, Ulrich, 1895, Pl. 17, figs. 1-7

Decorah Sh.

near Fountain, Fillmore Co., Minnesota

*Eridotrypa exigua* Ulrich, 1895, p. 266 Ordovician

UMPC R8129 syntypes

Galena shales

near Cannon Falls, Goodhue Co., Minnesota

## Phylum Bryozoa

*Eridotrypa mutabilis* Ulrich, 1895, p. 265 Ordovician  
 UMPC R5541 syntype

Decorah Sh.  
 St. Paul, Minnesota

UMPC R6009 syntypes

Decorah Sh.  
 Oxford Mills, near Cannon Falls, Goodhue Co., Minnesota

UMPC R7561 syntype

Galena  
 Neenah, Wisconsin

UMPC R7603 syntype

UMPC R8079 syntypes  
 preceding two from Galena  
 Decorah, Iowa

*Eridotrypa mutabilis* var. *minor* Ulrich, 1895, p. 266 Ordovician  
 UMPC R8034 syntypes

"Trenton"  
 6 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8050 syntypes

Galena  
 2 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R7623-3 syntype

Galena shales  
 2 mi. SE of Cannon Falls, Goodhue Co., Minnesota

*Escharopora confluens* Ulrich, 1895, p. 171 Ordovician

UMPC R8208 syntypes

Decorah Sh.  
 Minneapolis, Minnesota

*Escharopora* (?) *limitaris* Ulrich, 1895, p. 172 Ordovician

UMPC R5930 syntype; figured, Ulrich, 1895, Pl. 13, fig. 12  
 Decorah Sh.

Minneapolis, Minnesota

*Helopora divaricata* Ulrich, 1886, p. 59 Ordovician

UMPC R5928 syntypes

lower third of Decorah Sh.  
 Minneapolis, Minnesota

*Hemiphragma tenuimurale* Ulrich, 1895, p. 301 Ordovician

UMPC R8032 syntype

Galena  
 6 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8042 syntypes

Galena  
 7 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8052 syntypes

Galena  
 2 mi. S of Cannon Falls, Goodhue Co., Minnesota

*Homotrypa exilis* Ulrich, 1886, p. 80 Ordovician

UMPC R5976 syntype

Decorah Sh.  
 Minneapolis, Minnesota

## Phylum Bryozoa

***Homotrypa insignis*** Ulrich, 1886, p. 82 Ordovician

UMPC R5977 syntypes

Decorah Sh.

St. Paul, Minnesota

UMPC R5978 syntypes

Decorah Sh.

Minneapolis, Minnesota

UMPC R5979 syntypes

Decorah Sh.

near Fountain, Fillmore Co., Minnesota

***Homotrypa minnesotensis*** Ulrich, 1886, p. 79 Ordovician

UMPC R5970 syntypes

R5970a syntype; figured, Ulrich, 1895, Pl. 19, figs. 1, 2

R5970b syntype; Pl. 19, figs. 3, 6

UMPC R5971 syntype

preceding two from Decorah Sh.

Minneapolis, Minnesota

UMPC R5972 syntype

Decorah Sh.

near Lanesboro, Fillmore Co., Minnesota

UMPC R5973 syntype

Decorah Sh.

near Fountain, Fillmore Co., Minnesota

UMPC R5974 syntype

Decorah Sh.

Minneola, Goodhue Co., Minnesota

UMPC R5975 syntype

Decorah Sh.

Minneapolis, Minnesota

***Homotrypa separata*** Ulrich, 1895, p. 237 Ordovician

UMPC R7667 syntype, Ulrich, 1895

Decorah Sh.

Chatfield, Minnesota

UMPC R8122 syntypes

Decorah Sh., *Stictoporella* bed

Minneapolis, Minnesota

***Homotrypa subramosa*** Ulrich, 1886, p. 81 Ordovician

UMPC R5980 syntypes

R5980a syntype; figured, Ulrich, 1895, Pl. 19, fig. 24

R5980b syntype; Pl. 19, figs. 26

Decorah Sh.

Minneola, Goodhue Co., Minnesota

***Homotrypa tuberculata*** Ulrich, 1895, p. 240 Ordovician

UMPC R8123 syntypes

Decorah Sh., *Phylloporina* bed

near Cannon Falls, Goodhue Co., Minnesota

***Homotrypella instabilis*** Ulrich, 1886, p. 83 Ordovician

UMPC R5025 syntype

"Hudson River"

Minneapolis, Minnesota

## Phylum Bryozoa

*Homotrypella instabilis* continued

UMPC R5981 syntype

Decorah Sh.  
Fillmore, Minnesota

UMPC R5982 syntype

Decorah Sh.  
Minneapolis, Minnesota

*Homotrypella mundula* Ulrich, 1895, p. 232 Ordovician

UMPC R8080 syntypes

Galena  
Decorah, Iowa

*Homotrypella (?) ovata* Ulrich, 1895, p. 231 Ordovician

UMPC R8124 syntypes

Galena shales  
Cannon Falls, Goodhue Co., Minnesota

*Homotrypella rustica* Ulrich, 1895, p. 234 Ordovician

UMPC R8125 possibly syntype

"Hudson River"  
Richmond, Indiana

*Leptotrypa acervulosa* Ulrich, 1895, p. 318 Ordovician

UMPC R8060 syntypes

Galena shales  
Decorah, Iowa

*Leptotrypa claviformis* Ulrich, 1895, p. 319 Ordovician

UMPC R8132 syntype

Decorah Sh., *Stictopora* bed  
Minneapolis, Minnesota

*Leptotrypa informis* Ulrich, 1895, p. 317 Ordovician

UMPC R6024 syntypes; figured, Ulrich, 1895, Pl. 27, figs. 22, 23

Decorah Sh.  
Minneapolis, Minnesota

*Mesotrypa (?) spinosa* Ulrich, 1895, p. 259 Ordovician

UMPC R8127 syntypes

Decorah Sh., *Stictopora* bed  
Minneapolis, Minnesota

*Monotrypa (?Chaetetes) cumulata* Ulrich, 1895, p. 307 Ordovician

UMPC R7629 syntype

UMPC R7635 syntypes

preceding two from Galena shales  
7 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8025 syntype

Galena shales  
6 mi. S of Cannon Falls, Goodhue Co., Minnesota

*Monotrypa intabulata* Ulrich, 1895, p. 305 Ordovician

UMPC R8379 syntype

Galena, *Fusispira* bed  
2 mi. SE of Cannon Falls, Goodhue Co., Minnesota

*Monotrypa nodosa* Ulrich, 1895, p. 307 Ordovician

UMPC 6308 syntype; =USNM #43554

Richmond  
Savannah, Illinois

## Phylum Bryozoa

*Monotrypa nodosa* continued

- UMPC R7574 syotypes
  - "Cincinnati"
  - Iron Ridge, Wisconsin
- Monotypella multitubulata* Ulrich, 1886, p. 100 Ordovician
  - UMPC R3485 possibly syntypes
    - Oxford Mills, near Cannon Falls, Goodhue Co., Minnesota
  - UMPC R6022 possibly syntypes
    - Decorah Sh.
    - Finn's Glen, Minneapolis, Minnesota
  - UMPC R6023 possibly syntypes
    - Decorah Sh.
    - Fillmore, Fillmore Co., Minnesota
- Monticulipora arborea* Ulrich, 1895, p. 220 Ordovician
  - UMPC R7631 syntypes
    - Galena shales
    - Cannon Falls, Goodhue Co., Minnesota
  - UMPC R8035 syntypes
    - Galena shales
    - 6 mi. S of Cannon Falls, Goodhue Co., Minnesota
  - UMPC R8048 syntypes
    - Galena shales
    - 2 mi. S of Cannon Falls, Goodhue Co., Minnesota
  - UMPC R8062 syntypes
    - Galena shales
    - Decorah, Iowa
- Monticulipora grandis* Ulrich, 1886, p. 78 Ordovician
  - UMPC R5969 syntypes; figured, Ulrich, 1895, Pl. 15, figs. 1-6
    - Decorah Sh.
    - Minneapolis, Minnesota
- Monticulipora incompta* Ulrich, 1895, p. 219 Ordovician
  - UMPC R5968 syntypes; figured, Ulrich, 1895, PL. 15, figs. 9-12
    - Decorah Sh.
    - Minneapolis, Minnesota
- Nicholsonella pulchra* Ulrich, 1895, p. 314 Ordovician
  - UMPC R8131 syntype
    - Pierce Limestone
    - Murfreesboro, Tennessee
- Pachydictya conciliatrix* Ulrich, 1886, p. 76 Ordovician
  - UMPC R5952 syntypes
    - "Trenton"
    - Cannon Falls, Goodhue Co., Minnesota
- Pachydictya fimbriata* Ulrich, 1886, p. 75 Ordovician
  - UMPC R5950 syntypes
    - Decorah Sh.
    - Minneapolis, Minnesota
- Pachydictya foliata* Ulrich, 1886, p. 73 Ordovician
  - UMPC R5948 syntypes
    - Decorah Sh.
    - Minneapolis, Minnesota

## Phylum Bryozoa

- Pachydictya occidentalis*** Ulrich, 1886, p. 75 Ordovician  
 UMPC R5949 syotypes  
     Decorah Sh.  
     St. Paul, Minnesota
- Phyllodictya varia*** Ulrich, 1895, p. 144 Ordovician  
 UMPC R5953 syotypes  
     Decorah Sh.  
     Minneapolis, Minnesota
- Phyllopora ? corticosa*** Ulrich, 1886, p. 61 Ordovician  
 UMPC R3495 syotypes  
     Oxford Mills, near Cannon Falls, Goodhue Co., Minnesota
- Prasopora conoidea*** Ulrich, 1886, p. 87 Ordovician  
 UMPC R3483 syotypes  
     Oxford Mills, near Cannon Falls, Goodhue Co., Minnesota
- Prasopora contigua*** Ulrich, 1886, p. 87 Ordovician  
 UMPC R5301 syotypes  
     Decorah Sh.  
     Cannon Falls, Goodhue Co., Minnesota
- UMPC R5534 syotypes  
     "Treton"  
     Mendota, Dakota Co., Minnesota
- UMPC R5989 syotypes; figured, Ulrich, 1895, Pl. 16, figs. 24-26  
     Decorah Sh.  
     sec. 16, Minneola, Goodhue Co., Minnesota
- Prasopora insularis*** Ulrich, 1895, p. 251 Ordovician  
 UMPC R310 syntype  
     Decorah Sh.  
     Rochester, Olmsted Co., Minnesota
- UMPC R5991 syntype  
     Decorah Sh.  
     sec 16, Minneola, Goodhue Co., Minnesota
- UMPC R5992 syntype  
     "Treton"  
     Pettit's Mill, Mantorville, Dodge Co., Minnesota
- UMPC R7569 syntype  
     Galena  
     Neenah, Wisconsin
- UMPC R7601 syntype  
     Galena  
     Decorah, Iowa
- UMPC R7611 syntype  
     Galena  
     6 mi. S of Cannon Falls, Goodhue Co., Minnesota
- UMPC R7628 syntype  
     Galena shales  
     7 mi. S of Cannon Falls, Goodhue Co., Minnesota
- UMPC R7637 syntypes  
     Galena shales  
     Warsaw, Rice Co., Minnesota

## Phylum Bryozoa

*Prasopora insularis* continued

UMPC R7644 syotype  
     Galena shales  
     4.5 mi. SW of Cannon Falls, Goodhue Co., Minnesota

UMPC R7666 syotype  
     Galena shales  
     1 mi. E of Fountain, Fillmore Co., Minnesota

UMPC R8057 syotype  
     Galena shales  
     sec. 12, Holden, Goodhue Co., Minnesota

*Prasopora insularis var. filmorensis* Ulrich, 1895, p. 252 Ordovician

UMPC R5990 syotype  
     Decorah Sh.  
     near Fountain, Fillmore Co., Minnesota

*Prasopora simulatrix* Ulrich, 1886, p. 85 Ordovician

UMPC R4041 syntypes  
     Decorah Sh.  
     near Lanesboro, Minnesota

UMPC R5124 syntypes  
     "Hudson River"  
     Minneapolis, Minnesota

UMPC R5532 syntypes  
     Decorah Sh.  
     Minneapolis, Minnesota

UMPC R5986 syntypes; figured, Ulrich, 1895, Pl. 16, figs. 4, 9  
     Decorah Sh.  
     Pettit's Mill, Mantorville, Dodge Co., Minnesota

UMPC R5987 syntypes

UMPC R5988 syntypes  
     preceding two from Decorah Sh.  
     St. Paul, Minnesota

*Proboscina tumulosa* Ulrich, 1895, p. 119 Ordovician

UMPC R7620 syotype  
     upper Decorah Sh.  
     Cannon Falls, Goodhue Co., Minnesota

UMPC R8047 syotype  
     upper Galena shales [Decorah Sh. ?]  
     2 mi. S of Cannon Falls, Goodhue Co., Minnesota

UMPC R8101 syotype  
     upper Decorah Sh.  
     Cannon Falls, Goodhue Co., Minnesota

*Ptilodictya subrecta* Ulrich, 1886, p. 63 Ordovician

UMPC R5929 syntypes  
     Decorah Sh.  
     Minneapolis, Minnesota

*Rhinidictya minima* var. *modesta* Ulrich, 1895, p. 133 Ordovician

UMPC R8106 syotype  
     Galena shales  
     Cannon Falls, Goodhue Co., Minnesota

## Phylum Bryozoa

***Rhinidictya neglecta*** figured, Ulrich, 1895, p. 130 Ordovician  
 UMPC R8104 syntypes

Decorah Sh.  
 Danville, Kentucky

***Rhinidictya pediculata*** Ulrich, 1895, p. 137 Ordovician  
 UMPC R5934 syntypes

Decorah Sh.  
 Minneapolis, Minnesota

***Ropalonaria pertenuis*** Ulrich, 1886, p. 59 Ordovician

UMPC R5926 holotype; figured (as *Stomatopora proutana* Miller), Ulrich, 1895, Pl. 1, fig. 12  
 Decorah Sh.

Minneapolis, Minnesota

***Spatiopora iowensis*** Ulrich, 1895, p. 321 Ordovician

UMPC R7586 syntypes  
 UMPG R7587 syntypes

both from "Cincinnati" Group  
 Graf, Iowa

***Spatiopora labeculosa*** Ulrich, 1895, p. 320 Ordovician

UMPC R5026 syntype

middle third of Decorah Sh.  
 Minneapolis, Minnesota

***Stictopora fidelis*** Ulrich, 1886, p. 68 Ordovician

UMPC R5936 syntypes

lower Decorah Sh.  
 Minneapolis, Minnesota

***Stictopora mutabilis*** Ulrich, 1886, p. 66 Ordovician

UMPC R5938 syntypes; lot possibly includes specimens of *S. mutabilis* var. *minor* Ulrich, 1886,  
 p. 67)

lower and middle Decorah Sh.  
 Minneapolis, Minnesota

UMPC R5939 syntype; figured, Ulrich, 1895, Pl. 7, fig. 11

lower and middle Decorah Sh.  
 St. Paul, Minnesota

UMPC R5956 syntypes

lower and middle Decorah Sh.  
 St. Paul, Minnesota

***Stictopora mutabilis* var. *major*** Ulrich, 1886, p. 66 Ordovician

UMPC R5940 possibly syntypes

Decorah Sh.  
 Minneapolis, Minnesota

***Stictopora paupera*** Ulrich, 1886, p. 69 Ordovician

UMPC R5935 syntype

Decorah Sh.  
 Minneapolis, Minnesota

***Stictoporella angularis*** Ulrich, 1886, p. 71 Ordovician

UMPC R5943 syntypes

lower Decorah Sh.  
 Minneapolis, Minnesota

## Phylum Bryozoa

- Stictoporella angularis* var. *intermedia*** Ulrich, 1895, p. 183 Ordovician  
 UMPC R7984 syntypes  
     lower Decorah Sh.  
     Preston, Fillmore Co., Minnesota
- UMPC R7597 syntypes  
 UMPC R7599 syntypes  
     preceding two from lower Decorah Sh.  
     Decorah, Iowa
- Stictoporella ? cribrosa*** Ulrich, 1886, p. 69 Ordovician  
 UMPC R5944 syntypes  
     Decorah Sh.  
     Minneapolis, Minnesota
- Stictoporella dumosa*** Ulrich, 1895, p. 181 Ordovician  
 UMPC R8110 syntypes  
     Galena shales  
     Cannon Falls, Goodhue Co., Minnesota
- Stictoporella frondifera*** Ulrich, 1886, p. 72 Ordovician  
 UMPC R5945 syntype  
     lower Decorah Sh.  
     sec. 6, Fremont, Winona Co., Minnesota
- UMPC R5946 syntypes; figured, Ulrich, 1895, Pl. 11, fig. 14  
     Decorah Sh.  
     Minneapolis, Minnesota
- UMPC R5947 syntype  
     lower Decorah Sh.  
     Minneapolis, Minnesota
- Trematopora primigenia*** Ulrich, 1886, p. 97 Ordovician  
 UMPC R6010 syntypes  
     Decorah Sh.  
     near Fountain, Fillmore Co., Minnesota
- UMPC R6011 syntypes  
     Decorah Sh.  
     Minneapolis, Minnesota
- Trematopora ? primigenia* var. *spinosa*** Ulrich, 1895, p. 310 Ordovician  
 UMPC R7661 syntypes  
     Decorah Sh.  
     1 mi. E of Fountain, Minnesota

## Phylum Chordata

***Acanthodes* ? *dublinensis*** Stauffer, 1938, p. 442 Devonian

- UMPC 4975 syntype; figured, Stauffer, 1938, Pl. 53, fig. 21
- UMPC 4976 syntype; Pl. 53, fig. 22
- UMPC 4977 syntype; Pl. 53, fig. 23
- UMPC 4978 syntype; Pl. 53, fig. 24
- UMPC 4984 syntype; Pl. 53, fig. 31
- UMPC 4985 syntype; Pl. 53, fig. 32
- UMPC 4986 syntype; Pl. 53, fig. 33
- UMPC 4987 syntype; Pl. 53, fig. 34

all from Olentangy Sh.

locality #121, Bartholemew Run, Ohio

***Catopsis* *joyneri*** Sloan & Van Valen, 1965, p. 224 Cretaceous

- UMVP 1494 holotype

Hell Creek Fm.

Bug Creek Anthills, McCone Co., Montana

***Chriacus calenancus*** Van Valen, 1978, p. 53 Paleocene

- UMVP 1472 holotype; figured, Van Valen, 1978, Pl. 2, fig. 3

Tullock Fm.

Purgatory Hill, McCone Co., Montana

***Eoconodon nidhoggi*** Van Valen, 1978, p. 58 Paleocene

- UMVP 1471 holotype; figured, Van Valen, 1978, Pl. 4, fig. 6

Tullock Fm.

Purgatory Hill, McCone Co., Montana

***Eohiodon falcatus*** Grande, 1979, p. 103 Eocene

- UMVP 6499 holotype; figured, Grande, 1979, text fig. 1

Green River Fm.

Tynsky Quarry, Fossil Basin, Wyoming

***Haplaletes andakupensis*** Van Valen, 1978, p. 60 Paleocene

- UMVP 2050 holotype; figured, Van Valen, 1978, Pl. 4, fig. 4

Tullock Fm.

Purgatory Hill, McCone Co., Montana

***Leptacodon proserpinae*** Van Valen, 1978, p. 67 Paleocene

- UMVP 1595 holotype; figured, Van Valen, 1978, Pl. 8, fig. 3

Tullock Fm.

Purgatory Hill, McCone Co., Montana

***Mimatuta morgoth*** Van Valen, 1978, p. 62 Cretaceous

- UMVP 1560 holotype; figured, Van Valen, 1978, Pl. 7, fig. 5

Hell Creek Fm.

Harbicht Hill, McCone Co., Montana

***Neoplagiaulax nelsoni*** Sloan, 1987, p. 188 Paleocene

- UMVP 6030 holotype; figured, Sloan, 1987, fig. 13
- UMVP 6031 paratype; fig. 13
- UMVP 6032 paratype; fig. 13
- UMVP 6033 paratype; fig. 13

all from Tullock Fm.

Purgatory Hill, McCone Co., Montana

***Oxyprimus erikseni*** Van Valen, 1978, p. 53 Cretaceous

- UMVP 1561 holotype; figured, Van Valen, 1978, Pl. 1, fig. 5

Hell Creek Fm.

Harbicht Hill, McCone Co., Montana

## Phylum Chordata

- Procerberus formicarum*** Sloan & Van Valen, 1965, p. 225 Cretaceous  
 UMVP 1460 holotype  
     Hell Creek Fm.  
     Bug Creek Anthills, McCone Co., Montana
- Procerberus plutonis*** Van Valen, 1978, p. 66 Paleocene  
 UMVP 1464 holotype; figured, Van Valen, 1978, Pl. 7, fig. 3  
     Tullock Fm.  
     Purgatory Hill, McCone Co., Montana
- Protungulatum sloani*** Van Valen, 1978, p. 52 Paleocene  
 UMVP 1456 holotype; figured, Van Valen, 1978, Pl. 1 fig. 3  
     Tullock Fm.  
     Purgatory Hill, McCone Co., Montana
- Purgatorius ceratops*** Van Valen & Sloan, 1965, p. 744 Cretaceous  
 UMVP 1547 holotype; figured, Van Valen & Sloan, 1965, fig. 1A  
     Hell Creek Fm.  
     Harbicht Hill, McCone Co., Montana
- Purgatorius unio*** Van Valen & Sloan, 1965, p. 743 Paleocene  
 UMVP 1597 holotype; figured, Van Valen & Sloan, 1965, fig. 1B  
     Tullock Fm.  
     Purgatory Hill, McCone Co., Montana
- Stygimys kuszmauli*** Sloan & Van Valen, 1965, p. 224 Cretaceous  
 UMVP 1478 holotype; figured, Sloan & Van Valen, 1965, fig. 4  
     Hell Creek Fm.  
     Bug Creek Anthills, McCone Co., Montana
- Thangorodrim thalion*** Van Valen, 1978, p. 55 Paleocene  
 UMVP 1473 holotype; figured, Van Valen, 1978, Pl. 1, fig. 7  
     Tullock Fm.  
     Purgatory Hill, McCone Co., Montana
- Tinuviel eurydice*** Van Valen, 1978, p. 61 Paleocene  
 UMVP 2226 holotype; figured, Van Valen, 1978, Pl. 8, fig. 4  
     Tullock Fm.  
     Purgatory Hill, McCone Co., Montana

## Phylum Coelenterata

- Aulopora ? trentonensis*** Winchell & Schuchert, 1895a, p. 95 Ordovician  
UMPC R8240 holotype; figured, Winchell & Schuchert, 1895a, Pl. G, figs. 26, 27  
Decorah Sh.  
near Cannon Falls, Goodhue Co., Minnesota
- Heliolites occidentale*** Stauffer, 1930, p. 108 Middle Devonian  
UMPC 3318 probably holotype; figured, Stauffer, 1930, Pl. 13, figs. 5, 6  
Kennett, California
- Lichenaria typa*** Winchell & Schuchert, 1895a, p. 83 Ordovician  
UMPC 4794a syntypes; figured, Winchell & Schuchert, 1895a, Pl. G, figs. 10-12  
Decorah Sh.  
Minneapolis and St. Paul, Minnesota

## Phylum Conodonta

- Acodina concava*** Stauffer, 1940b, p. 418 Devonian  
 UMPC 5669 holotype; figured, Stauffer, 1940b, Pl. 60, fig. 31  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Acodina covina*** Stauffer, 1940b, p. 418 Devonian  
 UMPC 5671 holotype; figured, Stauffer, 1940b, Pl. 60, fig. 33  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Acodina curvata*** Stauffer, 1940b, p. 418 Devonian  
 UMPC 5642 syntype; figured, Stauffer, 1940b, Pl. 60, fig. 3  
 UMPC 5653 syntype; Pl. 60, fig. 14  
 UMPC 5654 syntype; Pl. 60, fig. 15  
     preceding three from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- UMPC 5655 syntype; Pl. 60, fig. 16  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- Acodina cuspidata*** Stauffer, 1940b, p. 418 Devonian  
 UMPC 5660 syntype; figured, Stauffer, 1940b, Pl. 60, fig. 21  
 UMPC 5661 syntype; Pl. 60, fig. 22  
 UMPC 5662 syntype; Pl. 60, fig. 23  
 UMPC 5663 syntype; Pl. 60, fig. 24  
 UMPC 5664 syntype; Pl. 60, fig. 25  
     all from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Acodina delata*** Stauffer, 1940b, p. 418 Devonian  
 UMPC 5646 holotype; figured, Stauffer, 1940b, Pl. 60, fig. 7  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- Acodina lanceolata*** Stauffer, 1940b, p. 419 Devonian  
 UMPC 5668 holotype; figured, Stauffer, 1940b, Pl. 60, figs. 29, 30  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- Acodina lirata*** Stauffer, 1940b, p. 419 Devonian  
 UMPC 5657 holotype; figured, Stauffer, 1940b, Pl. 60, fig. 18  
 UMPC 5683 paratype; Pl. 60, fig. 45  
     both from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Acodina ursa*** Stauffer, 1940b, p. 419 Devonian  
 UMPC 5641 holotype; figured, Stauffer, 1940b, Pl. 60, figs. 1, 2  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- Acodina velva*** Stauffer, 1940b, p. 419 Devonian  
 UMPC 5658 syntype; figured, Stauffer, 1940b, Pl. 60, fig. 19  
 UMPC 5670 syntype; Pl. 60, fig. 32  
 UMPC 5677 syntype; Pl. 60, fig. 39  
 UMPC 5684 syntype; Pl. 60, fig. 46  
     all from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota

## Phylum Conodonta

- Acodus formosus*** Stauffer, 1938, p. 417 Devonian  
 UMPC 4905 holotype; figured, Stauffer, 1938, Pl. 49, fig. 33  
     Silica Sh.  
     locality #147, Silica, Ohio
- Acodus inopinatus*** Stauffer, 1938, p. 417 Devonian  
 UMPC 4903 syntype; figured, Stauffer, 1938, Pl. 49, fig. 35  
     Olentangy Sh.  
     locality #176, Marsh's Mill (Hungry Hollow), Ontario
- UMPC 4904 syntype; Pl. 49, fig. 34
- UMPC 4906 syntype; Pl. 49, fig. 23  
     preceding two from Silica Sh.  
     locality #147, Silica, Ohio
- Acodus zionensis*** Stauffer, 1938, p. 417 Devonian  
 UMPC 4907 holotype; figured, Stauffer, 1938, Pl. 49, fig. 30  
     Silica Sh.  
     locality #147, Silica, Ohio
- Acontiodus alveolaris*** Stauffer, 1935b, p. 601 Ordovician  
 UMPC 4677 holotype; figured, Stauffer, 1935b, Pl. 74, fig. 44  
     very basal part Decorah Sh.  
     6.5 mi. SW of Caledonia, Houston Co., Minnesota
- Ancyrodella buckeyensis*** Stauffer, 1938, p. 418 Devonian  
 UMPC 4942 syntype; figured, Stauffer, 1938, Pl. 52, figs. 17, 18  
     Olentangy Sh.  
     locality #112, Delaware, Ohio
- UMPC 4945 syntype; Pl. 52, figs. 23, 24  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- Ancyrodella plena*** Stauffer, 1938, p. 418 Devonian  
 UMPC 4944 holotype; figured, Stauffer, 1938, Pl. 52, figs. 21, 22  
     Olentangy Sh.  
     locality #112, Delaware, Ohio
- Ancyrodella robusta*** Stauffer, 1938, p. 418 Devonian  
 UMPC 4948 holotype; figured, Stauffer, 1938, Pl. 52, figs. 28, 29  
     Olentangy Sh.  
     locality #110, Delaware, Ohio
- Ancyrognathus asteroideus*** Stauffer, 1938, p. 418 Devonian  
 UMPC 4753 holotype; figured, Stauffer, 1938, Pl. 52, figs. 8, 9  
     Olentangy Sh.  
     locality #110, Delaware, Ohio
- Ancyrognathus euglypheus*** Stauffer, 1938, p. 418 Devonian  
 UMPC 4972 holotype; figured, Stauffer, 1938, Pl. 53, fig. 18  
     Olentangy Sh.  
     locality #112, Delaware, Ohio
- Angulodus elongatus*** Stauffer, 1940b, p. 419 Devonian  
 UMPC 5525 holotype; figured, Stauffer, 1940b, Pl. 58, fig. 1
- UMPC 5532 paratype; Pl. 58, fig. 8
- UMPC 5544 paratype; Pl. 58, figs. 21, 22  
     all from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota

## Phylum Conodonta

- Barbarodina grandis*** Stauffer, 1935b, p. 603 Ordovician  
 UMPC 4580 syntype; figured, Stauffer, 1935b, Pl. 73, fig. 6  
     lower Decorah Sh.  
     2.5 mi. NW of Spring Grove, Houston Co., Minnesota
- UMPC 4582 syntype; Pl. 73, fig. 8  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Barbarodina typicala*** Stauffer, 1935b, p. 603 Ordovician  
 UMPC 4578 syntype; figured, Stauffer, 1935b, Pl. 73, fig. 4  
 UMPC 4579 syntype; Pl. 73, fig. 5  
     both from lower Decorah Sh.  
     2 mi. S of Fountain, Fillmore Co., Minnesota
- Belodus devonicus*** Stauffer, 1940b, p. 420 Devonian  
 UMPC 5611 holotype; figured, Stauffer, 1940b, Pl. 59, figs. 47, 48  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Belodus grandis*** Stauffer, 1935b, p. 603 Ordovician  
 UMPC 4561 syntype; figured, Stauffer, 1935b, Pl. 72, fig. 46  
     34' above base of Decorah Sh.  
     6 mi. NW of Chatfield, Minnesota
- UMPC 4562 syntype; Pl. 72, fig. 47  
     62' above top of Glenwood Sh.  
     2.5 mi. N of Wykoff, Fillmore Co., Minnesota
- UMPC 4564 paratype; Pl. 72, fig. 49  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- UMPC 4568 paratype; Pl. 72, fig. 53  
     lower Decorah Sh.  
     2.5 mi. NW of Spring Grove, Houston Co., Minnesota
- UMPC 4569 paratype; Pl. 72, fig. 54  
     62' above top of Glenwood Sh.  
     2 mi. N of Wykoff, Fillmore Co., Minnesota
- UMPC 4572 paratype; Pl. 72, fig. 57  
     upper Decorah Sh.  
     2 mi. W of Chatfield, Minnesota
- Belodus triangularis*** Stauffer, 1940b, p. 420 Devonian  
 UMPC 5612 holotype; figured, Stauffer, 1940b, Pl. 59, fig. 49  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Belodus wykoffensis*** Stauffer, 1935b, p. 604 Ordovician  
 UMPC 4566 paratype; figured, Stauffer, 1935b, Pl. 72, fig. 51  
     62' above top of Glenwood Sh.  
     2 mi. N of Wykoff, Fillmore Co., Minnesota
- UMPC 4567 syntype; Pl. 72, fig. 52  
     34' above base of Decorah Sh.  
     6.5 mi. NW of Chatfield, Minnesota
- UMPC 4570 paratype; Pl. 72, fig. 55
- UMPC 4573 syntype; Pl. 72, fig. 58
- UMPC 4574 paratype; Pl. 72, fig. 59  
     preceding three from 62' above top of Glenwood Sh.  
     2 mi. N of Wykoff, Fillmore Co., Minnesota

## Phylum Conodonta

- Bryantodina compacta*** Stauffer, 1935a, p. 131 Ordovician  
 UMPC 4330 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 15  
 UMPC 4337 paratype; Pl. 10, fig. 22  
 UMPC 4346 paratype; Pl. 10, fig. 31  
     all from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina digna*** Stauffer, 1935a, p. 132 Ordovician  
 UMPC 4349 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 34  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina dissimilis*** Stauffer, 1935a, p. 132 Ordovician  
 UMPC 4332 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 17  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina excelsa*** Stauffer, 1935a, p. 132 Ordovician  
 UMPC 4348 paratype; figured, Stauffer, 1935a, Pl. 10, fig. 33  
 UMPC 4350 holotype; Pl. 10, fig. 35  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina inaequalis*** Stauffer, 1935a, p. 133 Ordovician  
 UMPC 4354 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 39  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina incurvata*** Stauffer, 1935a, p. 133 Ordovician  
 UMPC 4328 syntype; figured, Stauffer, 1935a, Pl. 10, fig. 13  
 UMPC 4329 syntype; Pl. 10, fig. 14  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina informis*** Stauffer, 1935a, p. 133 Ordovician  
 UMPC 4364 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 49  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina levicula*** Stauffer, 1935a, p. 133 Ordovician  
 UMPC 4335 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 20  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina limata*** Stauffer, 1935a, p. 134 Ordovician  
 UMPC 4345 paratype; figured, Stauffer, 1935a, Pl. 10, fig. 30  
 UMPC 4351 holotype; Pl. 10, fig. 36  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina maxima*** Stauffer, 1935a, p. 134 Ordovician  
 UMPC 4343 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 28  
     Glenwood Sh.  
     Lieb's Quarry, Faribault, Rice Co., Minnesota
- Bryantodina parva*** Stauffer, 1935a, p. 134 Ordovician  
 UMPC 4342 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 27  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Bryantodina typicalis*** Stauffer, 1935a, p. 134 Ordovician  
 UMPC 4331 paratype; figured, Stauffer, 1935a, Pl. 10, fig. 16

## Phylum Conodonta

***Bryantodina typicollis*** continued

- UMPC 4333 paratype; Pl. 10, fig. 18
  - UMPC 4334 paratype; Pl. 10, fig. 19
  - UMPC 4338 holotype; Pl. 10, fig. 23
  - UMPC 4339 paratype; Pl. 10, fig. 24
  - UMPC 4340 paratype; Pl. 10, fig. 25
  - UMPC 4344 paratype; Pl. 10, fig. 29  
all from upper Glenwood Sh.
- highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Bryantodus amalitus*** Stauffer, 1938, p. 419 Devonian

- UMPC 4758 syntype; figured, Stauffer, 1938, Pl. 48, fig. 18
- UMPC 4759 syntype; Pl. 48, fig. 19  
both from Olentangy Sh.

locality #187, Deep Run, Franklin Co., Ohio

***Bryantodus andersonensis*** Stauffer, 1938, p. 419 Devonian

- UMPC 4791 holotype; figured, Stauffer, 1938, Pl. 49, fig. 17  
Olentangy Sh.

locality #120, Slate Run, Dublin, Ohio

***Bryantodus argutus*** Stauffer, 1938, p. 419 Devonian

- UMPC 4756 holotype; figured, Stauffer, 1938, Pl. 48, fig. 16
- UMPC 5097 paratype; Pl. 48, fig. 20  
both from Olentangy Sh.

locality #187, Deep Run, Franklin Co., Ohio

***Bryantodus ausableensis*** Stauffer, 1938, p. 419 Devonian

- UMPC 5068 holotype; figured, Stauffer, 1938, Pl. 51, fig. 19  
Olentangy Sh.

locality #180, Marsh's Mill (Hungry Hollow), Ontario

***Bryantodus bellatulus*** Stauffer, 1938, p. 419 Devonian

- UMPC 4760 holotype; figured, Stauffer, 1938, Pl. 48, fig. 23  
Olentangy Sh.

locality #187, Deep Run, Franklin Co., Ohio

***Bryantodus bennerensis*** Stauffer, 1938, p. 420 Devonian

- UMPC 4838 holotype; figured, Stauffer, 1938, Pl. 51, fig. 4  
Olentangy Sh.

locality #108, Strong's Ridge, Ohio

***Bryantodus ? bezoensis*** Stauffer, 1938, p. 420 Devonian

- UMPC 5064 holotype; figured, Stauffer, 1938, Pl. 51, fig. 14  
Olentangy Sh.

locality #112, Delaware, Ohio

***Bryantodus brickeri*** Stauffer, 1940b, p. 420 Devonian

- UMPC 5553 holotype; figured, Stauffer, 1940b, Pl. 58, fig. 31  
? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

***Bryantodus bryanti*** Stauffer, 1938, p. 420 Devonian

- UMPC 5061 holotype; figured, Stauffer, 1938, Pl. 49, fig. 18  
Olentangy Sh.

locality #121, Bartholemew Run, Ohio

***Bryantodus dignatus*** Stauffer, 1938, p. 420 Devonian

- UMPC 4769 holotype; figured, Stauffer, 1938, Pl. 48, fig. 29  
Olentangy Sh.

locality #112, Delaware, Ohio

## Phylum Conodonta

- Bryantodus eriensis*** Stauffer, 1938, p. 421 Devonian  
 UMPC 4751 holotype; figured, Stauffer, 1938, Pl. 48, fig. 11  
     Olentangy Sh.  
     locality #187, Deep Run, Franklin Co., Ohio
- Bryantodus grahami*** Stauffer, 1938, p. 421 Devonian  
 UMPC 4762 paratype; figured, Stauffer, 1938, Pl. 48, fig. 22  
 UMPC 4764 holotype; Pl. 48, fig. 24  
 UMPC 4782 paratype; Pl. 49, fig. 8  
     all from Olentangy Sh.  
     locality #187, Deep Run, Franklin Co., Ohio
- Bryantodus hickoki*** Stauffer, 1940b, p. 420 Devonian  
 UMPC 5541 holotype; figured, Stauffer, 1940b, Pl. 58, fig. 18  
     upper part of Cedar Valley Ls.  
     Hickok Quarry, Leroy, Mower Co., Minnesota
- Bryantodus hormellii*** Stauffer, 1940b, p. 421 Devonian  
 UMPC 5543 holotype; figured, Stauffer, 1940b, Pl. 58, fig. 20  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Bryantodus humboldtensis*** Stauffer, 1938, p. 421 Devonian  
 UMPC 4789 holotype; figured, Stauffer, 1938, Pl. 49, fig. 15  
     Olentangy Sh.  
     locality #108, Strong's Ridge, Ohio
- Bryantodus ignotus*** Stauffer, 1938, p. 421 Devonian  
 UMPC 4777 holotype; figured, Stauffer, 1938, Pl. 49, fig. 3  
     Widder beds  
     locality #164, Rock Glen, Arkona, Ontario
- Bryantodus imparilis*** Stauffer, 1938, p. 421 Devonian  
 UMPC 4786 holotype; figured, Stauffer, 1938, Pl. 48, fig. 3  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- Bryantodus nobilis*** Stauffer, 1938, p. 422 Devonian  
 UMPC 4788 holotype; figured, Stauffer, 1938, Pl. 49, fig. 14  
     Olentangy Sh.  
     locality #112, Delaware, Ohio
- Bryantodus olentangiensis*** Stauffer, 1938, p. 422 Devonian  
 UMPC 4767 syntype; figured, Stauffer, 1938, Pl. 48, fig. 27  
 UMPC 4768 syntype; Pl. 48, fig. 28  
     both from Olentangy Sh.  
     locality #187, Deep Run, Franklin Co., Ohio
- Bryantodus prosseri*** Stauffer, 1938, p. 422 Devonian  
 UMPC 4775 holotype; figured, Stauffer, 1938, Pl. 49, fig. 1  
     Olentangy Sh.  
     locality #111, Delaware, Ohio
- UMPC 4778 paratype; Pl. 49, fig. 4  
     Olentangy Sh.  
     locality #112, Delaware, Ohio
- Bryantodus sciotoensis*** Stauffer, 1938, p. 422 Devonian  
 UMPC 4761 holotype; figured, Stauffer, 1938, Pl. 48, fig. 21  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio

## Phylum Conodonta

- Bryantodus stratfordensis*** Stauffer, 1938, p. 423 Devonian  
 UMPC 4757 holotype; figured, Stauffer, 1938, Pl. 48, fig. 17  
     Olentangy Sh.  
     locality #111, Delaware, Ohio
- UMPC 4780 paratype; Pl. 49, fig. 6  
     Olentangy Sh.  
     locality #187, Deep Run, Franklin Co., Ohio
- Bryantodus sublimatus*** Stauffer, 1938, p. 423 Devonian  
 UMPC 4781 holotype; figured, Stauffer, 1938, Pl. 49, fig. 7  
     Olentangy Sh.  
     locality #111, Delaware, Ohio
- Bryantodus versus*** Stauffer, 1940b, p. 421 Devonian  
 UMPC 5575 syntype; figured, Stauffer, 1940b, Pl. 59, fig. 10  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- UMPC 5579 syntype; Pl. 59, fig. 14  
 UMPC 5580 syntype; Pl. 59, fig. 15  
 UMPC 5581 syntype; Pl. 59, fig. 16  
 UMPC 5586 syntype; Pl. 59, fig. 21  
     preceding four from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Bryantodus wesleyianensis*** Stauffer, 1938, p. 423 Devonian  
 UMPC 4772 holotype; figured, Stauffer, 1938, Pl. 48, fig. 32  
     Olentangy Sh.  
     locality #187, Deep Run, Franklin Co., Ohio
- Bryantodus winchelli*** Stauffer, 1938, p. 423 Devonian  
 UMPC 4773 holotype; figured, Stauffer, 1938, Pl. 48, fig. 33  
     Olentangy Sh.  
     locality #117, Slate Run, Dublin, Ohio
- Cardiodus ? leviculus*** Stauffer, 1938, p. 423 Devonian  
 UMPC 5092 holotype; figured, Stauffer, 1938, Pl. 51, fig. 22  
     Olentangy Sh.  
     locality #153, Thedford, Ontario
- Cervicornoides alternatus*** Stauffer, 1938, p. 424 Devonian  
 UMPC 4922 syntype; figured, Stauffer, 1938, Pl. 48, fig. 10  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- UMPC 4925 syntype; Pl. 48, fig. 13  
     Olentangy Sh.  
     locality #104, Pipe Creek, Bloomingville, Ohio
- Cervicornoides heterodontatus*** Stauffer, 1938, p. 423 Devonian  
 UMPC 4845 holotype; figured, Stauffer, 1938, Pl. 51, fig. 11  
     Olentangy Sh.  
     locality #153, Thedford, Ontario
- Cervicornoides minnesotensis*** Stauffer, 1940b, p. 421 Devonian  
 UMPC 5545 holotype; figured, Stauffer, 1940b, Pl. 58, fig. 23  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Chirognathus admirandus*** Stauffer, 1935a, p. 135 Ordovician  
 UMPC 4278 syntype; figured, Stauffer, 1935a, Pl. 9, fig. 6  
 UMPC 4288 syntype; Pl. 9, fig. 16

## Phylum Conodonta

*Chirognathus admirandus* continued

- UMPC 4294 syntype; Pl. 9, fig. 22  
     all from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Chirognathus delicatulus* Stauffer, 1935a, p. 136 Ordovician

- UMPC 4273 syntype; figured, Stauffer, 1935a, Pl. 9, fig. 1  
   UMPC 4274 paratype; Pl. 9, fig. 2  
   UMPC 4275 syntype; Pl. 9, fig. 3  
   UMPC 4277 paratype; Pl. 9, fig. 5  
   UMPC 4279 syntype; Pl. 9, fig. 7  
   UMPC 4280 paratype; Pl. 9, fig. 8  
   UMPC 4281 syntype; Pl. 9, fig. 9  
   UMPC 4282 syntype; Pl. 9, fig. 10  
   UMPC 4283 syntype; Pl. 9, fig. 11  
   UMPC 4284 syntype; Pl. 9, fig. 12  
   UMPC 4285 paratype; Pl. 9, fig. 13  
   UMPC 4289 paratype; Pl. 9, fig. 17  
   UMPC 4290 syntype; Pl. 9, fig. 18  
   UMPC 4291 syntype; Pl. 9, fig. 19  
   UMPC 4293 syntype; Pl. 9, fig. 21  
     all from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Chirognathus eucharis* Stauffer, 1935a, p. 136 Ordovician

- UMPC 4295 paratype; figured, Stauffer, 1935a, Pl. 9, fig. 23  
   UMPC 4299 syntype; Pl. 9, fig. 27  
   UMPC 4300 paratype; Pl. 9, fig. 28  
   UMPC 4306 syntype; Pl. 9, fig. 34  
     all from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Chirognathus expatiatus* Stauffer, 1935a, p. 137 Ordovician

- UMPC 4276 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 4  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Chirognathus hamatus* Stauffer, 1935a, p. 137 Ordovician

- UMPC 4305 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 33  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Chirognathus idoneus* Stauffer, 1935a, p. 137 Ordovician

- UMPC 4296 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 24  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Chirognathus invictus* Stauffer, 1935a, p. 137 Ordovician

- UMPC 4315 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 43  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Chirognathus irregularis* Stauffer, 1935a, p. 137 Ordovician

- UMPC 4304 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 32  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

## Phylum Conodonta

- Chirognathus lanesboroensis*** Stauffer, 1935a, p. 138 Ordovician  
UMPC 4286 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 14  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Chirognathus magnificus*** Stauffer, 1935a, p. 138 Ordovician  
UMPC 4297 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 25  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Chirognathus quadridactylus*** Stauffer, 1935a, p. 138 Ordovician  
UMPC 4307 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 35  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Chirognathus radiatus*** Stauffer, 1935a, p. 139 Ordovician  
UMPC 4287 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 15  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Chirognathus scalenus*** Stauffer, 1935a, p. 139 Ordovician  
UMPC 4292 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 20  
UMPC 4298 paratype; Pl. 9, fig. 26  
both from upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Chirognathus symmetrica*** Webers, 1966, p. 62 Ordovician  
UMPC 8971 holotype; figured, Webers, 1966, Pl. 5, fig. 7  
Glenwood Sh.  
state roadside park, N side of highway 16, SE/4 sec. 26, T103N, R10W,  
Fillmore Co., Minnesota
- Chirognathus tenuidentatus*** Stauffer, 1935a, p. 139 Ordovician  
UMPC 4308 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 36  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Chirognathus unguiformis*** Stauffer, 1935a, p. 139 Ordovician  
UMPC 4313 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 41  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Cordylodus serratus*** Stauffer, 1930b, p. 124 Ordovician  
UMPC 5437 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 7  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis
- Ctenognathus deparcus*** Stauffer, 1938, p. 424 Devonian  
UMPC 4750 syntype; figured, Stauffer, 1938, Pl. 48, fig. 26  
UMPC 4766 syntype; Pl. 48, fig. 31  
both from Olentangy Sh. ?  
locality #109, Olentangy River, north line of Delaware Co., Ohio
- Ctenognathus elegans*** Stauffer, 1938, p. 424 Devonian  
UMPC 4749 syntype; figured, Stauffer, 1938, Pl. 48, fig. 9  
Olentangy Sh.  
locality #120, Slate Run, Dublin, Ohio
- UMPC 4752 syntype; Pl. 48, fig. 12  
Olentangy Sh.  
locality #118, Slate Run, Dublin, Ohio

## Phylum Conodonta

***Ctenognathus falcatus*** Stauffer, 1938, p. 425 Devonian  
 UMPC 4745 syotype; figured, Stauffer, 1938, Pl. 48, fig. 5  
     Olentangy Sh.

    locality #187, Deep Run, Franklin Co., Ohio  
 UMPC 5062 syotype; Pl. 48, fig. 1  
     Olentangy Sh.

    locality #111, Delaware, Ohio

***Ctenognathus falsiformis*** Stauffer, 1938, p. 425 Devonian  
 UMPC 4744 holotype; figured, Stauffer, 1938, Pl. 48, fig. 4  
     Olentangy Sh.

    locality #121, Bartholemew Run, Ohio

UMPC 4747 paratype; Pl. 48, fig. 7  
     Olentangy Sh.

    locality #112, Delaware, Ohio

***Ctenognathus firmus*** Stauffer, 1938, p. 425 Devonian  
 UMPC 4742 syotype; figured, Stauffer, 1938, Pl. 48, fig. 2

UMPC 4746 syotype; Pl. 48, fig. 6

UMPC 4755 syotype; Pl. 48, fig. 15  
     all from Olentangy Sh.

    locality #187, Deep Run, Franklin Co., Ohio

***Cyrtiododus apicalis*** Stauffer, 1935b, p. 604 Ordovician  
 UMPC 4575 holotype; figured, Stauffer, 1935b, Pl. 73, fig. 1

UMPC 4584 paratype; Pl. 73, fig. 10  
     preceding two from lower Decorah Sh.

    2 mi. S of Fountain, Fillmore Co., Minnesota

UMPC 4617 paratype; Pl. 73, fig. 43

UMPC 4619 paratype; Pl. 73, fig. 45  
     preceding two from lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota

***Cyrtiododus complicatus*** Stauffer, 1935a, p. 140 Ordovician  
 UMPC 4409 syotype; figured, Stauffer, 1935a, Pl. 11, fig. 44

UMPC 4411 syotype; Pl. 11, fig. 46

UMPC 4413 syotype; Pl. 11, fig. 48

UMPC 4414 syotype; Pl. 11, fig. 49

UMPC 4415 syotype; Pl. 11, fig. 50

UMPC 4416 syotype; Pl. 11, fig. 51  
     all from upper Glenwood Sh.

    highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Cyrtiododus ? delicatulus*** Stauffer, 1938, p. 425 Devonian

UMPC 5082 holotype; figured, Stauffer, 1938, Pl. 51, fig. 40

    Olentangy Sh.

    locality #112, Delaware, Ohio

***Cyrtiododus erectus*** Stauffer, 1935a, p. 140 Ordovician

UMPC 4302 syotype; figured, Stauffer, 1935a, Pl. 9, fig. 30  
     upper Glenwood Sh.

    highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

UMPC 4309 syotype; Pl. 9, fig. 37

    upper Glenwood Sh.

    highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

## Phylum Conodonta

***Cyrtiniodus erectus*** continued

UMPC 4310      syntype; Pl. 9, fig. 38  
                   upper Glenwood Sh.  
                   US 52, 2 mi. N of Fountain, Fillmore Co., Minnesota

***Cyrtiniodus worthingtonensis*** Stauffer, 1938, p. 426 Devonian

UMPC 5077      syntype; figured, Stauffer, 1938, Pl. 51, fig. 35  
 UMPG 5083      syntype; Pl. 51, fig. 41  
                   both from Olentangy Sh.  
                   locality #187, Deep Run, Franklin Co., Ohio

***Dichognathus peculiaris*** Stauffer, 1935a, p. 141 Ordovician

UMPC 4366      syntype; figured, Stauffer, 1935a, Pl. 11, fig. 1  
 UMPG 4369      syntype; Pl. 11, fig. 4  
 UMPG 4371      syntype; Pl. 11, fig. 6  
 UMPG 4376      syntype; Pl. 11, fig. 11  
                   all from upper Glenwood Sh.  
                   highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Dichognathus politus*** Stauffer, 1940b, p. 422 Devonian

UMPC 5608      syntype; figured, Stauffer, 1940b, Pl. 59, fig. 43  
 UMPG 5609      syntype; Pl. 59, fig. 44  
 UMPG 5617      syntype; Pl. 59, figs. 54, 55  
 UMPG 5618      syntype; Pl. 59, fig. 56  
                   all from ? clay above Cedar Valley Ls.  
                   Brick and Tile Plant, Austin, Minnesota

***Dichognathus protexus*** Stauffer, 1940b, p. 422 Devonian

UMPC 5610      holotype; figured, Stauffer, 1940b, Pl. 59, figs. 45, 46  
                   ? clay above Cedar Valley Ls.  
                   Brick and Tile Plant, Austin, Minnesota

***Dichognathus variabilis*** Stauffer, 1935a, p. 141 Ordovician

UMPC 4372      holotype; figured, Stauffer, 1935a, Pl. 11, fig. 7  
                   upper Glenwood Sh.  
                   highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Dichognathus variabilis*** Stauffer, 1935b, p. 604 Ordovician

junior homonym of *D. variabilis* Stauffer, 1935a  
 UMPG 4588      paratype; figured, Stauffer, 1935b, Pl. 73, fig. 14  
                   lower Decorah Sh.  
                   Ford bridge, Minneapolis, Minnesota  
 UMPG 4598      syntype; Pl. 73, fig. 24  
                   lower Decorah Sh.  
                   2.5 mi. NW of Spring Grove, Houston Co., Minnesota  
 UMPG 4604      paratype; Pl. 73, fig. 30  
 UMPG 4605      paratype; Pl. 73, fig. 31  
 UMPG 4608      paratype; Pl. 73, fig. 34  
 UMPG 4609      paratype; Pl. 73, fig. 35  
 UMPG 4610      paratype; Pl. 73, fig. 36  
 UMPG 4611      paratype; Pl. 73, fig. 37  
 UMPG 4614      paratype; Pl. 73, fig. 40  
 UMPG 4618      syntype; Pl. 73, fig. 44  
 UMPG 4624      paratype; Pl. 73, fig. 50  
 UMPG 4633      paratype; Pl. 73, fig. 59  
 UMPG 4691      paratype; Pl. 75, fig. 8  
                   preceding eleven from lower Decorah Sh.  
                   Ford bridge, Minneapolis, Minnesota

## Phylum Conodonta

- Distacodus arcuatus*** Stauffer, 1930b, p. 123 Ordovician  
UMPC 5431 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 2  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis
- Distacodus bicurvatus*** Stauffer, 1935a, p. 142 Ordovician  
UMPC 4434 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 18  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Distacodus falcatus*** Stauffer, 1935a, p. 142 Ordovician  
UMPC 4432 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 16  
Glenwood Sh.  
Lieb's Quarry, Faribault, Rice Co., Minnesota
- Distacodus longus*** Stauffer, 1935a, p. 142 Ordovician  
UMPC 4314 holotype; figured, Stauffer, 1935a, Pl. 9, fig. 42  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Distacodus variabilis*** Webers, 1966, p. 28 Ordovician  
UMPC 8934 holotype; figured, Webers, 1966, Pl. 2, fig. 15  
Platteville Fm.  
roadcut along town road, SW/4 NW/4, sec. 28, T105 N, R12W, Olmsted Co., Minnesota
- Drepanodus cavus*** Webers, 1966, p. 28 Ordovician  
UMPC 8924 holotype; figured, Webers, 1966, Pl. 2, fig. 4  
Platteville Fm.  
roadcut along town road, SW/4 NW/4, sec. 28, T105 N, R12W, Olmsted Co., Minnesota
- Erismodus tantus*** Stauffer, 1935a, p. 143 Ordovician  
UMPC 4423 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 7  
upper Glenwood Sh.  
Lieb's Quarry, Faribault, Rice Co., Minnesota
- Euprioniodina dora*** Stauffer, 1938, p. 426 Devonian  
UMPC 4783 holotype; figured, Stauffer, 1938, Pl. 49, fig. 9  
Olentangy Sh.  
locality #187, Deep Run, Franklin Co., Ohio
- Euprioniodina dubia*** Stauffer, 1935b, p. 605 Ordovician  
UMPC 4538 holotype; figured, Stauffer, 1935b, Pl. 72, fig. 23  
lower Decorah Sh.  
Ford bridge, Minneapolis, Minnesota
- Euprioniodina futilis*** Stauffer, 1930b, p. 126 Ordovician  
UMPC 5440 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 10  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis
- Euprioniodina insignia*** Stauffer, 1935a, p. 143 Ordovician  
UMPC 4341 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 26  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Euprioniodina robusta*** Stauffer, 1930b, p. 123 Ordovician  
UMPC 5430 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 1  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis

## Phylum Conodonta

***Falcodus incultus*** Stauffer, 1938, p. 426 Devonian  
 UMPC 4784 holotype; figured, Stauffer, 1938, Pl. 49, fig. 10  
     Olentangy Sh.  
     locality #111, Delaware, Ohio

***Gyrognathus carinatus*** Stauffer, 1938, p. 427 Devonian  
 UMPC 5063 holotype; figured, Stauffer, 1938, Pl. 51, fig. 12  
     Olentangy Sh.  
     locality #112, Delaware, Ohio

***Gyrognathus planus*** Stauffer, 1935b, p. 606 Ordovician  
 UMPC 4500 syntype; figured, Stauffer, 1935b, Pl. 71, fig. 36  
     4.5' above base of Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota  
 UMPC 4512 syntype; Pl. 71, fig. 48  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota

***Gyrognathus primus*** Stauffer, 1935a, p. 144 Ordovician  
 UMPC 4424 syntype; figured, Stauffer, 1935a, Pl. 12, fig. 8  
 UMPC 4425 syntype; Pl. 12, fig. 9  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Heterognathus brevis*** Stauffer, 1935b, p. 607 Ordovician  
 UMPC 4532 holotype; figured, Stauffer, 1935b, Pl. 72, fig. 17  
 UMPC 4545 paratype; Pl. 72, fig. 30  
     both from lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota

***Heterognathus idoneus*** Stauffer, 1935b, p. 607 Ordovician  
 UMPC 4529 syntype; figured, Stauffer, 1935b, Pl. 72, fig. 14  
     lower Decorah Sh.  
     2 mi. S of Fountain, Fillmore Co., Minnesota

UMPC 4530 paratype; Pl. 72, fig. 15  
     30' above base of Decorah Sh.  
     University of Minnesota campus, Minneapolis

UMPC 4533 syntype; Pl. 72, fig. 18  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota

UMPC 4535 paratype; Pl. 72, fig. 20  
     10' above base of Decorah Sh.  
     Lieb's Quarry, Faribault, Rice Co., Minnesota

UMPC 4541 paratype; Pl. 72, fig. 26  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota

UMPC 4544 paratype; Pl. 72, fig. 29  
     lower Decorah Sh.  
     University of Minnesota campus, Minneapolis

UMPC 4547 paratype; Pl. 72, fig. 32  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota

***Heterognathus simplex*** Stauffer, 1935b, p. 607 Ordovician  
 UMPC 4536 syntype; figured, Stauffer, 1935b, Pl. 72, fig. 21  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota

## Phylum Conodonta

*Heterognathus simplex* continued

- UMPC 4537 syntype; Pl. 72, fig. 22  
     30' above base of Decorah Sh.  
     National Biscuit Co., St. Paul, Minnesota
- UMPC 4546 syntype; Pl. 72, fig. 31  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Hindeodella austinensis* Stauffer, 1940b, p. 424 Devonian
- UMPC 5527 syntype; figured, Stauffer, 1940b, Pl. 58, fig. 3
- UMPC 5528 syntype; Pl. 58, fig. 4  
     preceding two from ? clay above Cedar Valley Ls.  
     Fowler & Pay Quarry, Varco, Minnesota
- UMPC 5529 paratype; Pl. 58, fig. 5
- UMPC 5530 paratype; Pl. 58, fig. 6  
     preceding two from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- UMPC 5531 paratype; Pl. 58, fig. 7
- UMPC 5533 paratype; Pl. 58, fig. 9  
     preceding two from ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- Hindeodella beta* Stauffer, 1938, p. 427 Devonian
- UMPC 4816 syntype; figured, Stauffer, 1938, Pl. 50, fig. 16  
     Olentangy Sh.  
     locality #112, Delaware, Ohio
- UMPC 4819 syntype; Pl. 50, fig. 19  
     Olentangy Sh.  
     locality #117, Slate Run, Dublin, Ohio
- Hindeodella conferta* Stauffer, 1938, p. 427 Devonian
- UMPC 4821 syntype; figured, Stauffer, 1938, Pl. 50, fig. 21  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- UMPC 4822 syntype; Pl. 50, fig. 22  
     Olentangy Sh.  
     locality #118, Slate Run, Dublin, Ohio
- Hindeodella fisheringensis* Stauffer, 1938, p. 427 Devonian
- UMPC 4812 holotype; figured, Stauffer, 1938, Pl. 50, fig. 12  
     Olentangy Sh.  
     locality #117, Slate Run, Dublin, Ohio
- Hindeodella lambtonensis* Stauffer, 1938, p. 428 Devonian
- UMPC 4802 syntype; figured, Stauffer, 1938, Pl. 50, fig. 2
- UMPC 4805 syntype; Pl. 50, fig. 5  
     preceding two from Olentangy Sh.  
     locality #111, Delaware, Ohio
- UMPC 4808 syntype; Pl. 50, fig. 8  
     Widder beds  
     locality #168, Rock Glen, Arkona, Ontario
- Hindeodella milleri* Stauffer, 1938, p. 428 Devonian
- UMPC 4801 syntype; figured, Stauffer, 1938, Pl. 50, fig. 1  
     Olentangy Sh.  
     locality #118, Slate Run, Dublin, Ohio

## Phylum Conodonta

*Hindeodella milleri* continued

- UMPC 4803      syntype; Pl. 50, figs. 3a, b  
Olentangy Sh.  
locality #112, Delaware, Ohio
- UMPC 4804      paratype; Pl. 50, fig. 4  
Olentangy Sh.  
locality #110, Delaware, Ohio
- UMPC 4809      paratype; Pl. 50, fig. 9  
Widder beds  
locality #168, Rock Glen, Arkona, Ontario
- UMPC 4810      syntype; Pl. 50, fig. 10  
Olentangy Sh.  
locality #120, Slate Run, Dublin, Ohio
- UMPC 4811      paratype; Pl. 50, fig. 11  
Olentangy Sh.  
locality #187, Deep Run, Franklin Co., Ohio

*Hindeodella modesta* Stauffer, 1938, p. 428 Devonian

- UMPC 4807      syntype; figured, Stauffer, 1938, Pl. 50, fig. 7  
Olentangy Sh.  
locality #172, Rock Glen, Arkona, Ontario
- UMPC 4823      syntype; Pl. 50, fig. 23  
Olentangy Sh.  
locality #104, Pipe Creek, Bloomingville, Ohio
- UMPC 4824      syntype; Pl. 50, figs. 24a, b  
Olentangy Sh.  
locality #118, Slate Run, Dublin, Ohio
- UMPC 4827      syntype; Pl. 50, fig. 27  
Olentangy Sh.  
locality #187, Deep Run, Franklin Co., Ohio
- UMPC 4830      syntype; Pl. 50, fig. 30  
Olentangy Sh.  
locality #112, Delaware, Ohio

*Hindeodella plumatella* Stauffer, 1938, p. 428 Devonian

- UMPC 4815      syntype; figured, Stauffer, 1938, Pl. 50, fig. 15
- UMPC 4818      syntype; Pl. 50, fig. 18  
both from Olentangy Sh.  
locality #187, Deep Run, Franklin Co., Ohio

*Hindeodella priscilla* Stauffer, 1938, p. 429 Devonian

- UMPC 4806      holotype; figured, Stauffer, 1938, Pl. 50, fig. 6  
Olentangy Sh.  
locality #120, Slate Run, Dublin, Ohio

*Hindeodelloides abnormale* Stauffer, 1938, p. 429 Devonian

- UMPC 5070      holotype; figured, Stauffer, 1938, Pl. 51, fig. 25  
Olentangy Sh.  
locality #112, Delaware, Ohio

*Hindeodelloides cynthiana* Stauffer, 1938, p. 429 Devonian

- UMPC 5072      holotype; figured, Stauffer, 1938, Pl. 51, fig. 27  
Olentangy Sh.  
locality #187, Deep Run, Franklin Co., Ohio

## Phylum Conodonta

- Icriodella symmetrica* Webers, 1966, p. 64 Ordovician  
 UMPC 9079 holotype; figured, Webers, 1966, Pl. 13, fig. 1  
     Dubuque Fm.  
     roadcut along township road, N/2, sec. 2, T101 N, R12W, Fillmore Co., Minnesota
- Icriodus arkonensis* Stauffer, 1938, p. 429 Devonian  
 UMPC 4935 syntype; figured, Stauffer, 1938, Pl. 52, fig. 10  
 UMPC 4940 syntype; Pl. 52, fig. 15  
     both from Olentangy Sh.  
     locality #162, lot 8, Middlesex Co., Ontario
- Icriodus brevis* Stauffer, 1940b, p. 424 Devonian  
 UMPC 5674 syntype; figured, Stauffer, 1940b, Pl. 60, fig. 36  
 UMPC 5681 syntype; Pl. 60, fig. 43  
 UMPC 5682 syntype; Pl. 60, fig. 44  
 UMPC 5689 syntype; Pl. 60, fig. 52  
     all from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Icriodus elegantulus* Stauffer, 1938, p. 430 Devonian  
 UMPC 4947 holotype; figured, Stauffer, 1938, Pl. 52, figs. 26, 27  
     Olentangy Sh.  
     locality #110, Delaware, Ohio
- Ligonodina armena* Stauffer, 1940b, p. 425 Devonian  
 UMPC 5624 paratype; figured, Stauffer, 1940b, Pl. 59, fig. 62  
 UMPC 5625 syntype; Pl. 59, fig. 63  
 UMPC 5627 syntype; Pl. 59, fig. 65  
     preceding three from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- UMPC 5633 paratype; Pl. 59, fig. 71  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- Ligonodina atana* Stauffer, 1940b, p. 425 Devonian  
 UMPC 5635 holotype; figured, Stauffer, 1940b, Pl. 59, fig. 73  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Ligonodina duplicata* Stauffer, 1938, p. 431 Devonian  
 UMPC 4836 holotype; figured, Stauffer, 1938, Pl. 51, fig. 2  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- Ligonodina ? erratica* Stauffer, 1938, p. 431 Devonian  
 UMPC 4844 holotype; figured, Stauffer, 1938, Pl. 51, fig. 10  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- Ligonodina eva* Stauffer, 1938, p. 431 Devonian  
 UMPC 4837 holotype; figured, Stauffer, 1938, Pl. 51, fig. 3  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- Ligonodina franklinensis* Stauffer, 1938, p. 431 Devonian  
 UMPC 4839 holotype; figured, Stauffer, 1938, Pl. 51, fig. 5  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio

## Phylum Conodonta

*Ligonodina franklinensis* continued

UMPC 5065 paratype; Pl. 51, fig. 16  
 Olentangy Sh.  
 locality #187, Deep Run, Franklin Co., Ohio

*Ligonodinoides lewisensis* Stauffer, 1938, p. 434 Devonian

UMPC 5074 syntype; figured, Stauffer, 1938, Pl. 51, fig. 31  
 UMPC 5079 syntype; Pl. 51, fig. 37  
 UMPC 5080 paratype; Pl. 51, fig. 38  
 preceding three from Olentangy Sh.  
 locality #187, Deep Run, Franklin Co., Ohio  
 UMPC 5081 paratype; Pl. 51, fig. 39  
 Olentangy Sh.  
 locality #112, Delaware, Ohio

*Ligonodinoides ohioensis* Stauffer, 1938, p. 434 Devonian

UMPC 5071 holotype; figured, Stauffer, 1938, Pl. 51, fig. 26  
 Olentangy Sh.  
 locality #120, Slate Run, Dublin, Ohio

*Ligonodinoides welleri* Stauffer, 1938, p. 435 Devonian

UMPC 5073 paratype; figured, Stauffer, 1938, Pl. 51, fig. 30  
 Olentangy Sh.  
 locality #187, Deep Run, Franklin Co., Ohio  
 UMPC 5075 holotype; Pl. 51, fig. 32  
 Olentangy Sh.  
 locality #112, Delaware, Ohio  
 UMPC 5076 paratype; Pl. 51, fig. 34  
 UMPC 5084 paratype; Pl. 51, fig. 42  
 preceding two from Olentangy Sh.  
 locality #187, Deep Run, Franklin Co., Ohio

*Lonchodina disjuncta* Stauffer, 1938, p. 435 Devonian

UMPC 4841 holotype; figured, Stauffer, 1938, Pl. 51, fig. 7  
 Olentangy Sh.  
 locality #121, Bartholemew Run, Ohio

*Lonchodina inaequalis* Stauffer, 1938, p. 435 Devonian

UMPC 5089 holotype; figured, Stauffer, 1938, Pl. 49, fig. 29  
 Olentangy Sh.  
 locality #111, Delaware, Ohio

*Lonchodus aequidentatus* Stauffer, 1930b, p. 128 Ordovician

UMPC 5449 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 21  
 Decorah Sh., lower part  
 University of Minnesota campus, Minneapolis

*Lonchodus dentatus* Stauffer, 1930b, p. 123 Ordovician

UMPC 5435 syntype; figured, Stauffer, 1930b, Pl. 10, fig. 5  
 UMPC 5436 syntype; Pl. 10, fig. 6  
 both from lower Decorah Sh  
 University of Minnesota campus, Minneapolis

*Nothognathella angusta* Stauffer, 1938, p. 435 Devonian

UMPC 4774 holotype; figured, Stauffer, 1938, Pl. 48, fig. 34  
 Olentangy Sh.  
 locality #111, Delaware, Ohio

## Phylum Conodonta

- Nothognathella bogartensis*** Stauffer, 1938, p. 436 Devonian  
UMPC 4770 holotype; figured, Stauffer, 1938, Pl. 48, fig. 30  
Olentangy Sh.  
locality #112, Delaware, Ohio
- Nothognathella delawarensis*** Stauffer, 1938, p. 436 Devonian  
UMPC 4765 holotype; figured, Stauffer, 1938, Pl. 48, fig. 25  
Olentangy Sh.  
locality #111, Delaware, Ohio
- Oistodus acuminatus*** Stauffer, 1935a, p. 146 Ordovician  
UMPC 4449 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 33  
upper Glenwood Sh.  
Washington Ave. bridge, Minneapolis, Minnesota
- Oistodus brevis*** Stauffer, 1935b, p. 609 Ordovician  
UMPC 4665 holotype; figured, Stauffer, 1935b, Pl. 74, fig. 32  
very basal part Decorah Sh.  
6.5 mi. SW of Caledonia, Houston Co., Minnesota
- Oistodus erectus*** Stauffer, 1935b, p. 609 Ordovician  
UMPC 4683 holotype; figured, Stauffer, 1935b, Pl. 74, fig. 50  
very basal part Decorah Sh.  
6.5 mi. SW of Caledonia, Houston Co., Minnesota
- Oistodus excellsus*** Stauffer, 1935b, p. 610 Ordovician  
UMPC 4676 holotype; figured, Stauffer, 1935b, Pl. 74, fig. 43  
lower Decorah Sh.  
1 mi. E of Kenyon, Goodhue Co., Minnesota
- Oistodus fornicatus*** Stauffer, 1935b, p. 610 Ordovician  
UMPC 4686 syntype; figured, Stauffer, 1935b, Pl. 75, fig. 3  
lower Decorah Sh.  
University of Minnesota campus, Minneapolis
- UMPC 4687 syntype; Pl. 75, fig. 4  
62' above top of Glenwood Sh.  
2.5 mi. N of Wykoff, Fillmore Co., Minnesota
- UMPC 4688 syntype; Pl. 75, fig. 5  
lower Decorah Sh.  
Ford bridge, Minneapolis, Minnesota
- UMPC 4689 paratype; Pl. 75, fig. 6  
34' above base of Decorah Sh.  
6 mi. NW of Chatfield, Minnesota
- Oistodus giganteus*** Stauffer, 1935b, p. 610 Ordovician  
UMPC 4678 holotype; figured, Stauffer, 1935b, Pl. 74, fig. 45  
lower Decorah Sh.  
Ford bridge, Minneapolis, Minnesota
- Oistodus humilis*** Stauffer, 1938, p. 436 Devonian  
UMPC 5085 holotype; figured, Stauffer, 1938, Pl. 49, fig. 26  
Silica Sh.  
locality #147, Silica, Ohio
- Oistodus ovatus*** Stauffer, 1935a, p. 147 Ordovician  
UMPC 4450 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 34  
upper Glenwood Sh.  
highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

## Phylum Conodonta

- Oistodus venustus*** Stauffer, 1935a, p. 147 Ordovician  
 UMPC 4428 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 12  
     Glenwood Sh.  
     highway 14, 1 mi. E of Dover, Minnesota
- Ozarkodina amorphina*** Stauffer, 1935a, p. 148 Ordovician  
 UMPC 4365 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 50  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Ozarkodina concinna*** Stauffer, 1935a, p. 148 Ordovician  
 UMPC 4356 syntype; figured, Stauffer, 1935a, Pl. 10, fig. 41  
 UMPC 4360 syntype; Pl. 10, fig. 45  
 UMPC 4361 syntype; Pl. 10, fig. 46  
     all from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Ozarkodina congesta*** Stauffer, 1940b, p. 427 Devonian  
 UMPC 5577 holotype; figured, Stauffer, 1940b, Pl. 59, fig. 12  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Ozarkodina crenulata*** Stauffer, 1935a, p. 148 Ordovician  
 UMPC 4358 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 43  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Ozarkodina delecta*** Stauffer, 1935a, p. 148 Ordovician  
 UMPC 4355 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 40  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Ozarkodina insolita*** Stauffer, 1935a, p. 149 Ordovician  
 UMPC 4359 paratype; figured, Stauffer, 1935a, Pl. 10, fig. 44  
 UMPC 4362 holotype; Pl. 10, fig. 47  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Ozarkodina pauperata*** Stauffer, 1935b, p. 611 Ordovician  
 UMPC 4480 syntype; figured, Stauffer, 1935b, Pl. 71, fig. 16  
     bentonite layer, lower Decorah Sh.  
     2.5 mi. S of Fountain, Fillmore Co., Minnesota  
 UMPC 4488 syntype; Pl. 71, fig. 24  
     oolitic layer 41' above base of Decorah Sh.  
     6 mi. NW of Chatfield, Minnesota
- Ozarkodina reperta*** Stauffer, 1935a, p. 149 Ordovician  
 UMPC 4352 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 37  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Ozarkodina robusta*** Stauffer, 1935b, p. 612 Ordovician  
 UMPC 4465 paratype; figured, Stauffer, 1935b, Pl. 71, fig. 1  
     lower Decorah Sh.  
     University of Minnesota campus, Minneapolis
- UMPC 4467 syntype; Pl. 71, fig. 3  
 UMPC 4470 paratype; Pl. 71, fig. 6  
 UMPC 4471 syntype; Pl. 71, fig. 7  
 UMPC 4473 paratype; Pl. 71, fig. 9  
 UMPC 4474 paratype; Pl. 71, fig. 10

## Phylum Conodonta

*Ozarkodina robusta* continued

- UMPC 4475 paratype; Pl. 71, fig. 11  
preceding six from lower Decorah Sh.  
Ford bridge, Minneapolis, Minnesota
- UMPC 4476 syntype; Pl. 71, fig. 12  
lower Decorah Sh.  
University of Minnesota campus, Minneapolis
- UMPC 4477 paratype; Pl. 71, fig. 13  
lower Decorah Sh.  
Ford bridge, Minneapolis, Minnesota
- UMPC 4479 paratype; Pl. 71, fig. 15  
lower Decorah Sh.  
University of Minnesota campus, Minneapolis
- UMPC 4485 paratype; Pl. 71, fig. 21  
lower Decorah Sh.  
Ford bridge, Minneapolis, Minnesota

*Palmatolepis flabelliformis* Stauffer, 1938, p. 436 Devonian

- UMPC 4956 syntype; figured, Stauffer, 1938, Pl. 53, fig. 2  
Olentangy Sh.  
locality #117, Slate Run, Dublin, Ohio
- UMPC 4958 syntype; Pl. 53, fig. 4
- UMPC 4963 syntype; Pl. 53, fig. 9
- UMPC 4966 syntype; Pl. 53, fig. 12  
preceding three from Olentangy Sh.  
locality #111, Delaware, Ohio
- UMPC 4968 syntype; Pl. 53, fig. 14  
Olentangy Sh.  
locality #187, Deep Run, Franklin Co., Ohio
- Palmatolepis marginatus* Stauffer, 1938, p. 437 Devonian
- UMPC 4795 syntype; figured, Stauffer, 1938, Pl. 53, fig. 7  
Olentangy Sh. ?  
locality #109, Olentangy River, north line of Delaware Co., Ohio
- UMPC 4796 syntype; Pl. 53, fig. 17  
Olentangy Sh.  
locality #110, Delaware, Ohio
- UMPC 4957 syntype; Pl. 53, fig. 3
- UMPC 4962 syntype; Pl. 53, fig. 8
- UMPC 4967 syntype; Pl. 53, fig. 13  
preceding three from Olentangy Sh.  
locality #187, Deep Run, Franklin Co., Ohio

*Paltodus arcuatus* Stauffer, 1935b, p. 612 Ordovician

- UMPC 4639 syntype; figured, Stauffer, 1935b, Pl. 74, fig. 6
- UMPC 4641 syntype; Pl. 74, fig. 8
- UMPC 4642 syntype; Pl. 74, fig. 9  
all from lower Decorah Sh.

*Paltodus belatus* Stauffer, 1940b, p. 427 Devonian

- UMPC 5645 holotype; figured, Stauffer, 1940b, Pl. 60, fig. 6  
? clay above Cedar Valley Ls.  
Homestead well, Austin, Minnesota

## Phylum Conodonta

- Paltodus cornutus*** Stauffer, 1935b, p. 612 Ordovician  
 UMPC 4634 syntype; figured, Stauffer, 1935b, Pl. 74, fig. 1  
     lower Decorah Sh.  
     University of Minnesota campus, Minneapolis
- UMPC 4635 syntype; Pl. 74, fig. 2
- UMPC 4644 paratype; Pl. 74, fig. 11  
     preceding two from lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- UMPC 4646 paratype; Pl. 74, fig. 13
- UMPC 4647 paratype; Pl. 74, fig. 14
- UMPC 4648 paratype; Pl. 74, fig. 15  
     preceding three from lower Decorah Sh.  
     2 mi. S of Fountain, Fillmore Co., Minnesota
- UMPC 4652 paratype; Pl. 74, fig. 19  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- Paltodus elegans*** Stauffer, 1935b, p. 612 Ordovician  
 UMPC 4637 syntype; figured, Stauffer, 1935b, Pl. 74, fig. 4
- UMPC 4640 syntype; Pl. 74, fig. 7  
     both from lower Decorah Sh.  
     2 mi. S of Fountain, Fillmore Co., Minnesota
- Paltodus panderi*** Stauffer, 1940b, p. 427 Devonian  
 UMPC 5647 holotype; figured, Stauffer, 1940b, Pl. 60, fig. 8
- UMPC 5648 paratype; Pl. 60, fig. 9  
     both from ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Paltodus striatus*** Stauffer, 1935b, p. 613 Ordovician  
 UMPC 4636 syntype; figured, Stauffer, 1935b, Pl. 74, fig. 3  
     lower Decorah Sh.  
     Ford bridge, Minneapolis, Minnesota
- UMPC 4649 syntype; Pl. 74, fig. 16  
     lower Decorah Sh.  
     1 mi. E of Kenyon, Goodhue Co., Minnesota
- Paltodus subquadratus*** Stauffer, 1940b, p. 428 Devonian  
 UMPC 5650 holotype; figured, Stauffer, 1940b, Pl. 60, fig. 11  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota
- Pandorina brambona*** Stauffer, 1940b, p. 428 Devonian  
 UMPC 5599 paratype; figured, Stauffer, 1940b, Pl. 59, fig. 34
- UMPC 5600 holotype; Pl. 59, fig. 35
- UMPC 5601 paratype; Pl. 59, fig. 36  
     all from upper Cedar Valley Ls.  
     Hickok Quarry, Leroy, Mower Co., Minnesota
- Pandorina gratiosa*** Stauffer, 1940b, p. 428 Devonian  
 UMPC 5583 syntype; figured, Stauffer, 1940b, Pl. 59, fig. 18
- UMPC 5584 syntype; Pl. 59, fig. 19
- UMPC 5585 syntype; Pl. 59, fig. 20
- UMPC 5589 syntype; Pl. 59, fig. 24  
     all from upper Cedar Valley Ls.  
     Hickok Quarry, Leroy, Mower Co., Minnesota

## Phylum Conodonta

***Pandorina insita*** Stauffer, 1940b, p. 429 Devonian  
 UMPC 5588 syntype; figured, Stauffer, 1940b, Pl. 59, fig. 23  
 UMPC 5590 syntype; Pl. 59, fig. 25

both from upper Cedar Valley Ls.

Hickok Quarry, Leroy, Mower Co., Minnesota

***Phragmodus ? arcus*** Webers, 1966, p. 68 Ordovician  
 UMPC 8948 holotype; figured, Webers, 1966, Pl. 3 fig. 9  
 Platteville Fm.  
 roadcut along town road, SW/4 NW/4, sec. 28, T105 N, R12W, Olmsted Co.,  
 Minnesota

***Phragmodus cognitus*** Stauffer, 1935a, p. 150 Ordovician  
 UMPC 4377 syntype; figured, Stauffer, 1935a, Pl. 11, fig. 12  
 UMPC 4378 syntype; Pl. 11, fig. 13  
 UMPC 4379 syntype; Pl. 11, fig. 14

preceding three from upper Glenwood Sh.

highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

UMPC 4383 paratype; Pl. 11, fig. 18  
 Glenwood Sh.  
 Lieb's Quarry, Faribault, Rice Co., Minnesota  
 UMPC 4396 paratype; Pl. 11, fig. 31  
 upper Glenwood Sh.  
 highway 14, 1 mi. E of Dover, Minnesota  
 UMPC 4406 paratype; Pl. 11, fig. 41  
 upper Glenwood Sh.  
 highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Phragmodus inflexus*** Stauffer, 1935a, p. 151 Ordovician  
 UMPC 4374 syntype; figured, Stauffer, 1935a, Pl. 11, fig. 9  
 upper Glenwood Sh.  
 highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota  
 UMPC 4380 syntype; Pl. 11, fig. 15  
 Glenwood Sh.  
 highway 14, 1 mi. E of Dover, Minnesota  
 UMPC 4381 syntype; Pl. 11, fig. 16  
 upper Glenwood Sh.  
 highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota  
 UMPC 4382 syntype; Pl. 11, fig. 17  
 Glenwood Sh.  
 Lieb's Quarry, Faribault, Rice Co., Minnesota  
 UMPC 4384 syntype; Pl. 11, fig. 19  
 UMPC 4385 syntype; Pl. 11, fig. 20  
 UMPC 4386 syntype; Pl. 11, fig. 21  
 UMPC 4387 syntype; Pl. 11, fig. 22  
 UMPC 4390 syntype; Pl. 11, fig. 25  
 UMPC 4391 syntype; Pl. 11, fig. 26  
 UMPC 4399 syntype; Pl. 11, fig. 34

preceding seven from upper Glenwood Sh.

highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

## Phylum Conodonta

- Phragmodus inversus*** Webers, 1966, p. 52 Ordovician  
 UMPC 8995 holotype; figured, Webers, 1966, Pl. 7, fig. 2  
     Glenwood Sh.  
     state roadside park, N side of highway 16, SE/4 sec. 26, T103N, R10W,  
     Fillmore Co., Minnesota
- Phragmodus singularis*** Stauffer, 1935a, p. 151 Ordovician  
 UMPC 4388 syntype; figured, Stauffer, 1935a, Pl. 11, fig. 23  
 UMPC 4389 syntype; Pl. 11, fig. 24  
 UMPC 4400 syntype; Pl. 11, fig. 35  
 UMPC 4401 syntype; Pl. 11, fig. 36  
     all from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Phragmodus varians*** Stauffer, 1935a, p. 151 Ordovician  
 UMPC 4392 holotype; figured, Stauffer, 1935a, Pl. 11, fig. 27  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Plectodina aculeata*** Stauffer, 1938, p. 437 Devonian  
 UMPC 4917 syntype; figured, Stauffer, 1938, Pl. 51, fig. 13  
     Olentangy Sh.  
     locality #112, Delaware, Ohio  
 UMPC 4918 syntype; Pl. 51, fig. 33  
     Widder beds  
     locality #168, Rock Glen, Arkona, Ontario  
 UMPC 4923 syntype; Pl. 51, fig. 28  
     Olentangy Sh.  
     locality #118, Slate Run, Dublin, Ohio
- Plectodina armata*** Stauffer, 1938, p. 437 Devonian  
 UMPC 4913 syntype; figured, Stauffer, 1938, Pl. 51, fig. 29  
     Olentangy Sh.  
     locality #111, Delaware, Ohio  
 UMPC 4914 syntype; Pl. 51, fig. 24  
     Olentangy Sh.  
     locality #118, Slate Run, Dublin, Ohio  
 UMPC 4916 syntype; Pl. 51, fig. 15  
     Olentangy Sh.  
     locality #121, Bartholemew Run, Ohio
- Plectodina dilata*** Stauffer, 1935a, p. 152 Ordovician  
 UMPC 4408 syntype; figured, Stauffer, 1935a, Pl. 11, fig. 43  
 UMPC 4412 syntype; Pl. 11, fig. 47  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Plectodina glenwoodensis*** Stauffer, 1935a, p. 152 Ordovician  
 UMPC 4403 holotype; figured, Stauffer, 1935a, Pl. 11, fig. 38  
 UMPC 4404 paratype; Pl. 11, fig. 39  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Plectodina stouti*** Stauffer, 1938, p. 437 Devonian  
 UMPC 4908 holotype; figured, Stauffer, 1938, Pl. 49, fig. 28  
     Olentangy Sh.  
     locality #187, Deep Run, Franklin Co., Ohio

## Phylum Conodonta

**Plectodina tilbara** Stauffer, 1940b, p. 429 Devonian  
 UMPC 5613 syntype; figured, Stauffer, 1940b, Pl. 59, fig. 50  
 UMPC 5619 syntype; Pl. 59, fig. 57  
 UMPC 5620 syntype; Pl. 59, fig. 58  
 UMPC 5626 syntype; Pl. 59, fig. 64

all from ? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

**Polycaulodus chatfieldensis** Stauffer, 1935b, p. 613 Ordovician  
 UMPC 4508 holotype; figured, Stauffer, 1935b, Pl. 71, fig. 44  
 upper Decorah Sh.  
 2 mi. W of Chatfield, Minnesota

**Polycaulodus irregularis** Stauffer, 1935b, p. 614 Ordovician  
 UMPC 4701 holotype; figured, Stauffer, 1935b, Pl. 75, fig. 18  
 lower Decorah Sh.  
 Ford bridge, Minneapolis, Minnesota

**Polygnathus angulosus** Stauffer, 1940b, p. 429 Devonian  
 UMPC 5563 holotype; figured, Stauffer, 1940b, Pl. 58, fig. 41  
 ? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

**Polygnathus basilicus** Stauffer, 1938, p. 438 Devonian  
 UMPC 4790 syntype; figured, Stauffer, 1938, Pl. 53, fig. 42  
 UMPC 4794 syntype; Pl. 53, figs. 43a, b  
 both from Olentangy Sh. ?  
 locality #109, Olentangy River, north line of Delaware Co., Ohio

**Polygnathus comis** Stauffer, 1938, p. 438 Devonian  
 UMPC 4771 syntype; figured, Stauffer, 1938, Pl. 49, fig. 2a  
 UMPC 4776 syntype; Pl. 49, fig. 2b  
 UMPC 4779 syntype; Pl. 49, fig. 5  
 all from Olentangy Sh.

locality #187, Deep Run, Franklin Co., Ohio

**Polygnathus decorosus** Stauffer, 1938, p. 438 Devonian  
 UMPC 4955 syntype; figured, Stauffer, 1938, Pl. 53, fig. 1  
 Olentangy Sh.

locality #111, Delaware, Ohio

UMPC 4959 syntype; Pl. 53, fig. 5  
 UMPC 4960 syntype; Pl. 53, fig. 6  
 preceding two from Olentangy Sh.

locality #187, Deep Run, Franklin Co., Ohio

UMPC 4964 paratype; Pl. 53, fig. 10  
 Olentangy Sh.

locality #117, Slate Run, Dublin, Ohio

UMPC 4965 paratype; Pl. 53, fig. 11  
 Widder beds  
 locality #168, Rock Glen, Arkona, Ontario

UMPC 4969 paratype; Pl. 53, fig. 15

UMPC 4970 paratype; Pl. 53, fig. 16

UMPC 4974 paratype; Pl. 53, fig. 20

preceding three from Olentangy Sh.

locality #187, Deep Run, Franklin Co., Ohio

## Phylum Conodonta

*Polygnathus decorosus* continued

- UMPC 4983 syntype; Pl. 53, fig. 30  
 Olentangy Sh.  
 locality #111, Delaware, Ohio
- Polygnathus hulkus* Stauffer, 1940b, p. 429 Devonian  
 UMPC 5708 holotype; figured, Stauffer, 1940b, Pl. 60, figs. 75-77  
 ? clay above Cedar Valley Ls.  
 Homestead well, Austin, Minnesota
- Polygnathus juvensis* Stauffer, 1940b, p. 429 Devonian  
 UMPC 5665 syntype; figured, Stauffer, 1940b, Pl. 60, fig. 26  
 UMPC 5666 syntype; Pl. 60, fig. 27  
 preceding two from ? clay above Cedar Valley Ls.  
 Brick and Tile Plant, Austin, Minnesota
- UMPC 5667 syntype; Pl. 60, fig. 28  
 ? clay above Cedar Valley Ls.  
 Homestead well, Austin, Minnesota
- UMPC 5672 syntype; Pl. 60, fig. 34  
 UMPC 5673 syntype; Pl. 60, fig. 35  
 UMPC 5679 syntype; Pl. 60, fig. 41  
 preceding three from ? clay above Cedar Valley Ls.  
 Brick and Tile Plant, Austin, Minnesota
- Polygnathus porcillus* Stauffer, 1940b, p. 430 Devonian  
 UMPC 5716 holotype; figured, Stauffer, 1940b, Pl. 60, figs. 86-88  
 ? clay above Cedar Valley Ls.  
 underpass, Austin, Minnesota
- Polygnathus sanduskiensis* Stauffer, 1938, p. 438 Devonian  
 UMPC 4981 syntype; figured, Stauffer, 1938, Pl. 53, fig. 27  
 Widder beds  
 locality #165, Rock Glen, Arkona, Ontario
- UMPC 4989 syntype; Pl. 53, fig. 36  
 UMPC 4990 syntype; Pl. 53, fig. 37  
 preceding two from Olentangy Sh.  
 locality #108, Strong's Ridge, Ohio
- Polygnathus strongi* Stauffer, 1938, p. 438 Devonian  
 UMPC 4973 holotype; figured, Stauffer, 1938, Pl. 53, fig. 19  
 Olentangy Sh.  
 locality #108, Strong's Ridge, Ohio
- Polygnathus varcus* Stauffer, 1940b, p. 430 Devonian  
 UMPC 5686 syntype; figured, Stauffer, 1940b, Pl. 60, fig. 49  
 ? clay above Cedar Valley Ls.  
 Homestead well, Austin, Minnesota
- UMPC 5690 syntype; Pl. 60, fig. 53  
 UMPC 5692 syntype; Pl. 60, fig. 55  
 preceding two from ? clay above Cedar Valley Ls.  
 Fowler & Pay Quarry, Varco, Minnesota
- Polygnathus webbi* Stauffer, 1938, p. 439 Devonian  
 UMPC 4979 paratype; figured, Stauffer, 1938, Pl. 53, fig. 25  
 Olentangy Sh.  
 locality #111, Delaware, Ohio
- UMPC 4980 syntype; Pl. 53, fig. 26  
 Olentangy Sh.  
 locality #117, Slate Run, Dublin, Ohio

## Phylum Conodonta

*Polygnathus webbi* continued

- UMPC 4982 syotype; Pl. 53, figs. 28, 29  
                  Olentangy Sh.  
                  locality #187, Deep Run, Franklin Co., Ohio
- Polygnathus xylus* Stauffer, 1940b, p. 430 Devonian
- UMPC 5680 syotype; figured, Stauffer, 1940b, Pl. 60, fig. 42
- UMPC 5687 syotype; Pl. 60, fig. 50
- UMPC 5691 syotype; Pl. 60, fig. 54
- UMPC 5699 syotype; Pl. 60, fig. 65
- UMPC 5700 syotype; Pl. 60, fig. 66  
                  preceding five from ? clay above Cedar Valley Ls.  
                  Brick and Tile Plant, Austin, Minnesota
- UMPC 5701 syotype; Pl. 60, fig. 67  
                  upper part of Cedar Valley Ls.  
                  Hickok Quarry, Leroy, Mower Co., Minnesota
- UMPC 5703 syotype; Pl. 60, fig. 69
- UMPC 5705 syotype; Pl. 60, fig. 72  
                  preceding two from ? clay above Cedar Valley Ls.  
                  Brick and Tile Plant, Austin, Minnesota
- UMPC 5706 syotype; Pl. 60, fig. 73  
                  ? clay above Cedar Valley Ls.  
                  Homestead well, Austin, Minnesota
- UMPC 5707 syotype; Pl. 60, fig. 74
- UMPC 5709 syotype; Pl. 60, figs. 78, 79  
                  preceding two from ? clay above Cedar Valley Ls.  
                  Brick and Tile Plant, Austin, Minnesota
- Polyplacognathus expansus* Stauffer, 1935b, p. 615 Ordovician
- UMPC 4709 holotype; figured, Stauffer, 1935b, Pl. 75, figs. 27, 33  
                  very basal part Decorah Sh.  
                  6.5 mi. SW of Caledonia, Houston Co., Minnesota
- Polyplacognathus ramosus* Stauffer, 1935b, p. 615 Ordovician
- UMPC 4706 paratype; Stauffer, 1935b, Pl. 75, fig. 23  
                  very basal part Decorah Sh.  
                  6.5 mi. SW of Caledonia, Houston Co., Minnesota
- UMPC 4710 paratype; Pl. 75, fig. 28; same specimen as #UMPC 4718  
                  10' above base of Decorah Sh.  
                  Lieb's Quarry, Faribault, Rice Co., Minnesota
- UMPC 4711 syotype; Pl. 75, fig. 29  
                  very basal part Decorah Sh.  
                  6.5 mi. SW of Caledonia, Houston Co., Minnesota
- UMPC 4712 syotype; Pl. 75, fig. 30
- UMPC 4713 syotype; Pl. 75, fig. 31  
                  preceding two from 1' above base of Decorah Sh.  
                  5 mi. S of Cannon Falls, Goodhue Co., Minnesota
- UMPC 4718 paratype; Pl. 75, fig. 37; same specimen as #4710  
                  10' above base of Decorah Sh.  
                  Lieb's Quarry, Faribault, Rice Co., Minnesota
- Prioniodella insolita* Stauffer, 1938, p. 439 Devonian
- UMPC 4748 holotype; figured, Stauffer, 1938, Pl. 48, fig. 8  
                  Olentangy Sh.  
                  locality #187, Deep Run, Franklin Co., Ohio

## Phylum Conodonta

- Prioniodella mulata*** Stauffer, 1940b, p. 431 Devonian  
UMPC 5547 holotype; figured, Stauffer, 1940b, Pl. 58, fig. 25  
? clay above Cedar Valley Ls.  
Brick and Tile Plant, Austin, Minnesota
- Prioniodina areae*** Webers, 1966, p. 58 Ordovician  
UMPC 9075 holotype; figured, Webers, 1966, Pl. 12, fig. 13  
Stewartville Fm.  
NW/4 sec. 35, T102N, R12W, Fillmore Co., Minnesota
- Prioniodina aversa*** Stauffer, 1938, p. 439 Devonian  
UMPC 4787 holotype; figured, Stauffer, 1938, Pl. 52, fig. 3  
Olentangy Sh.  
locality #111, Delaware, Ohio
- Prioniodina tortus*** Stauffer, 1940b, p. 431 Devonian  
UMPC 5540 holotype; figured, Stauffer, 1940b, Pl. 58, figs. 16, 17  
? clay above Cedar Valley Ls.  
Brick and Tile Plant, Austin, Minnesota
- Prioniodus aculeatus*** Stauffer, 1930b, p. 126 Ordovician  
UMPC 5442 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 12  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis
- Prioniodus affinis*** Stauffer, 1938, p. 439 Devonian  
UMPC 5087 holotype; figured, Stauffer, 1938, Pl. 49, fig. 22  
Olentangy Sh.  
locality #111, Delaware, Ohio
- Prioniodus ? alpheus*** Stauffer, 1938, p. 439 Devonian  
UMPC 4785 holotype; figured, Stauffer, 1938, Pl. 49, fig. 11  
Olentangy Sh.  
locality #111, Delaware, Ohio
- Prioniodus ? bifidus*** Stauffer, 1938, p. 440 Devonian  
UMPC 4842 holotype; figured, Stauffer, 1938, Pl. 51, fig. 8  
Olentangy Sh.  
locality #111, Delaware, Ohio
- Prioniodus bownockeri*** Stauffer, 1938, p. 440 Devonian  
UMPC 5091 holotype; figured, Stauffer, 1938, Pl. 49, fig. 27  
Olentangy Sh.  
locality #110, Delaware, Ohio
- Prioniodus calcaratus*** Stauffer, 1930b, p. 126 Ordovician  
UMPC 5444 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 13  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis
- Prioniodus cornutus*** Stauffer, 1930b, p. 127 Ordovician  
UMPC 5445 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 15  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis
- Prioniodus cristulus*** Stauffer, 1930b, p. 128 Ordovician  
UMPC 5447 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 19  
Decorah Sh., lower part  
University of Minnesota campus, Minneapolis

## Phylum Conodonta

- Prioniodus cultellatus*** Stauffer, 1930b, p. 126 Ordovician  
 UMPC 5441 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 11  
     Decorah Sh., lower part  
     University of Minnesota campus, Minneapolis
- Prioniodus idoneus*** Stauffer, 1938, p. 440 Devonian  
 UMPC 5093 holotype; figured, Stauffer, 1938, Pl. 49, fig. 19  
     Olentangy Sh.  
     locality #111, Delaware, Ohio
- Prioniodus liratus*** Stauffer, 1935a, p. 153 Ordovician  
 UMPC 4323 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 8; lost  
     Glenwood Sh.  
     Lieb's Quarry, Faribault, Rice Co., Minnesota
- Prioniodus longidentatus*** Stauffer, 1938, p. 441 Devonian  
 UMPC 5090 holotype; figured, Stauffer, 1938, Pl. 49, fig. 16  
     Olentangy Sh.  
     locality #120, Slate Run, Dublin, Ohio
- Prioniodus ? macrodentus*** Stauffer, 1930b, p. 128 Ordovician  
 UMPC 5446 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 18  
     Decorah Sh., lower part  
     University of Minnesota campus, Minneapolis
- Prioniodus ? obliquus*** Stauffer, 1930b, p. 123 Ordovician  
 UMPC 5433 syntype; figured, Stauffer, 1930b, Pl. 10, fig. 3  
 UMPC 5434 syntype; Pl. 10, fig. 4  
     both from lower Decorah Sh.  
     University of Minnesota campus, Minneapolis
- Prioniodus powelliensis*** Stauffer, 1938, p. 441 Devonian  
 UMPC 4829 holotype; figured, Stauffer, 1938, Pl. 50, fig. 29  
     Olentangy Sh.  
     locality #117, Slate Run, Dublin, Ohio
- Prioniodus remus*** Stauffer, 1940b, p. 431 Devonian  
 UMPC 5594 syntype; figured, Stauffer, 1940b, Pl. 59, fig. 29  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota  
 UMPC 5602 syntype; Pl. 59, fig. 37  
     ? clay above Cedar Valley Ls.  
     underpass, Austin, Minnesota  
 UMPC 5614 syntype; Pl. 59, fig. 51  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota  
 UMPC 5616 syntype; Pl. 59, fig. 53  
     ? clay above Cedar Valley Ls.  
     Homestead well, Austin, Minnesota  
 UMPC 5628 syntype; Pl. 59, fig. 66  
     ? clay above Cedar Valley Ls.  
     Brick and Tile Plant, Austin, Minnesota
- Prioniodus smithi*** Stauffer, 1938, p. 441 Devonian  
 UMPC 4743 holotype; figured, Stauffer, 1938, Pl. 50, figs. 26a, b  
     Olentangy Sh.  
     locality #187, Deep Run, Franklin Co., Ohio

## Phylum Conodonta

***Prioniodus taritus*** Stauffer, 1940b, p. 431 Devonian

UMPC 5595 holotype; figured, Stauffer, 1940b, Pl. 59, fig. 30  
? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

***Scyphiodus primus*** Stauffer, 1935b, p. 617 Ordovician

UMPC 4715 syntype; figured, Stauffer, 1935b, Pl. 75, fig. 34  
UMPC 4721 syntype; Pl. 75, fig. 40  
preceding two from very basal part Decorah Sh.  
6.5 mi. SW of Caledonia, Houston Co., Minnesota

UMPC 4722 syntype; Pl. 75, fig. 41

UMPC 4725 syntype; Pl. 75, fig. 45  
preceding two from lower Decorah Sh.  
2.5 mi. NW of Spring Grove, Houston Co., Minnesota

UMPC 4726 syntype; Pl. 75, fig. 46

UMPC 4730 syntype; Pl. 75, fig. 50

UMPC 4731 syntype; Pl. 75, fig. 51  
preceding three from very basal part Decorah Sh.  
6.5 mi. SW of Caledonia, Houston Co., Minnesota

UMPC 4737 syntype; Pl. 75, fig. 57; = #4738

UMPC 4738 syntype; Pl. 75, fig. 58; = #4737  
preceding two from lower Decorah Sh.  
2.5 mi. NW of Spring Grove, Houston Co., Minnesota

***Subcordylodus elongatus*** Stauffer, 1935a, p. 153 Ordovician

UMPC 4398 holotype; figured, Stauffer, 1935a, Pl. 11, fig. 33  
upper Glenwood Sh.

highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Subcordylodus inaequalis*** Stauffer, 1935b, p. 618 Ordovician

UMPC 4576 syntype; figured, Stauffer, 1935b, Pl. 73, fig. 2  
lower Decorah Sh.

2 mi. S of Fountain, Fillmore Co., Minnesota

UMPC 4577 syntype; Pl. 73, fig. 3

UMPC 4591 paratype; Pl. 73, fig. 17  
preceding two from lower Decorah Sh.  
Ford bridge, Minneapolis, Minnesota

UMPC 4596 paratype; Pl. 73, fig. 22

UMPC 4600 syntype; Pl. 73, fig. 26  
preceding two from lower Decorah Sh.  
2 mi. S of Fountain, Fillmore Co., Minnesota

***Subcordylodus paratus*** Stauffer, 1935a, p. 154 Ordovician

UMPC 4363 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 48  
upper Glenwood Sh.  
Washington Ave. bridge, Minneapolis, Minnesota

***Subcordylodus rectlineatus*** Stauffer, 1935a, p. 154 Ordovician

UMPC 4395 syntype; figured, Stauffer, 1935a, Pl. 11, fig. 30  
UMPC 4397 syntype; Pl. 11, fig. 32  
both from upper Glenwood Sh.

highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

***Subcordylodus sinuatus*** Stauffer, 1935a, p. 154 Ordovician

UMPC 4393 syntype; figured, Stauffer, 1935a, Pl. 11, fig. 28  
UMPC 4402 syntype; Pl. 11, fig. 37  
UMPC 4407 syntype; Pl. 11, fig. 42

## Phylum Conodonta

*Subcordyliodus sinuatus* continued

UMPC 4410 syotype; Pl. 11, fig. 45

all from upper Glenwood Sh.

highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Subprioniodus latus* Stauffer, 1930b, p. 124 Ordovician

UMPC 5439 holotype; figured, Stauffer, 1930b, Pl. 10, fig. 9

Decorah Sh., lower part

University of Minnesota campus, Minneapolis

*Synprioniodina forsenta* Stauffer, 1940b, p. 432 Devonian

UMPC 5596 syotype; figured, Stauffer, 1940b, Pl. 59, fig. 31

? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

UMPC 5597 paratype; Pl. 59, fig. 32

? clay above Cedar Valley Ls.

Homestead well, Austin, Minnesota

UMPC 5598 paratype; Pl. 59, fig. 33

UMPC 5603 syotype; Pl. 59, fig. 38

UMPC 5604 syotype; Pl. 59, fig. 39

UMPC 5605 syotype; Pl. 59, fig. 40

UMPC 5606 syotype; Pl. 59, fig. 41

preceding five from ? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

*Synprioniodina gracilis* Stauffer, 1938, p. 441 Devonian

UMPC 5094 syotype; figured, Stauffer, 1938, Pl. 49, fig. 12

Olentangy Sh.

locality #187, Deep Run, Franklin Co., Ohio

UMPC 5095 syotype; Pl. 49, fig. 13

Olentangy Sh.

locality #118, Slate Run, Dublin, Ohio

*Synprioniodina tropa* Stauffer, 1940b, p. 434 Devonian

UMPC 5622 holotype; figured, Stauffer, 1940b, Pl. 59, fig. 60

? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

*Tetraprioniodus breviconus* Webers, 1966, p. 47 Ordovician

UMPC 8954 holotype; tetraprioniodid element; figured, Webers, 1966, Pl. 3, fig. 14

Platteville Fm.

roadcut along town road, SW/4 NW/4, sec. 28, T105 N, R12W, Olmsted Co., Minnesota

*Tortonioides politus* Stauffer, 1935a, p. 155 Ordovician

UMPC 4353 holotype; figured, Stauffer, 1935a, Pl. 10, fig. 38

UMPC 4357 paratype; Pl. 10, fig. 42

both from upper Glenwood Sh.

highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Trichognathus barbarus* Stauffer, 1935a, p. 155 Ordovician

UMPC 4427 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 11

upper Glenwood Sh.

highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota

*Trichognathus blanda* Stauffer, 1940b, p. 434 Devonian

UMPC 5623 syotype; figured, Stauffer, 1940b, Pl. 59, fig. 61

UMPC 5632 syotype; Pl. 59, fig. 70

both from ? clay above Cedar Valley Ls.

Brick and Tile Plant, Austin, Minnesota

## Phylum Conodonta

- Trichognathus deformis*** Stauffer, 1935a, p. 155 Ordovician  
 UMPC 4419 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 3  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Trichognathus gyroides*** Stauffer, 1935b, p. 619 Ordovician  
 UMPC 4492 holotype; figured, Stauffer, 1935b, Pl. 71, fig. 28  
     41' above base of Decorah Sh.  
     6 mi. NW of Chatfield, Minnesota  
 UMPC 4507 paratype; Pl. 71, fig. 43  
     34' above base of Decorah Sh.  
     6 mi. NW of Chatfield, Minnesota
- Trichognathus illustris*** Stauffer, 1935a, p. 156 Ordovician  
 UMPC 4420 holotype; figured, Stauffer, 1935a, Pl. 12, fig. 4  
     upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Trichognathus inopinatus*** Stauffer, 1935a, p. 156 Ordovician  
 UMPC 4421 syntype; figured, Stauffer, 1935a, Pl. 12, fig. 5  
 UMPC 4422 syntype; Pl. 12, fig. 6  
     both from upper Glenwood Sh.  
     highway 16, 3 mi. SW of Lanesboro, Fillmore Co., Minnesota
- Trichognathus minnesotensis*** Stauffer, 1935b, p. 619 Ordovician  
 UMPC 4509 syntype; figured, Stauffer, 1935b, Pl. 71, fig. 45  
     10' above base of Decorah Sh.  
     Lieb's Quarry, Faribault, Rice Co., Minnesota  
 UMPC 4514 syntype; Pl. 71, fig. 50  
     5' above base of Decorah Sh.  
     Lieb's Quarry, Faribault, Rice Co., Minnesota
- Trichognathus symmetricus*** Stauffer, 1935b, p. 620 Ordovician  
 UMPC 4708 holotype; figured, Stauffer, 1935b, Pl. 75, figs. 25, 26  
     34' above base of Decorah Sh.  
     6 mi. NW of Chatfield, Minnesota
- Tricognathus devonicus*** Stauffer, 1938, p. 442 Devonian  
 UMPC 4835 holotype; figured, Stauffer, 1938, Pl. 51, fig. 1  
     Olentangy Sh.  
     locality #104, Pipe Creek, Bloomingville, Ohio
- Tricognathus hoffmani*** Stauffer, 1938, p. 442 Devonian  
 UMPC 4840 holotype; figured, Stauffer, 1938, Pl. 51, fig. 6  
     Olentangy Sh.  
     locality #174, Rock Glen, Arkona, Ontario

## Phylum Echinodermata

***Arachnocrinus ignotus*** Stauffer, 1918, p. 555 Devonian  
 UMPC 2224 holotype; figured, Stauffer, 1918, Pl. 1, fig. 1

Onondaga Ls.

3.5 mi. E of Port Dover, Ontario

***Carabocrinus conoideus*** Sardeson, 1925, p. 62 Ordovician  
 UMPC 9205 holotype; figured, Sardeson, 1925, Pl. 5, fig. 4  
 Decorah Sh., Sardeson bed 4  
 West St. Paul, Minnesota

***Carabocrinus dicyclicus*** Sardeson, 1925, p. 61 Ordovician  
 UMPC 9207 holotype; figured, Sardeson, 1925, Pl. 5, fig. 5  
 Decorah Sh., Sardeson bed 4  
 St. Paul, Minnesota

***Carabocrinus magnificus*** Sardeson, 1939, p. 33 Ordovician  
 UMPC 9208 lectotype chosen by Brower & Veinus, 1978, p. 451; figured, Sardeson, 1939, Pl. 2, figs. 1, 2; Brower & Veinus, 1978, Pl. 19, figs. 1, 2  
 UMPC 9209 paralectotype; figured, Brower & Veinus, 1978, Pl. 19, fig. 4  
 UMPC 9210 paralectotype  
 UMPC 9211 paralectotype  
 UMPC 9217 paralectotypes; figured, Brower & Veinus, 1978, Pl. 22, figs. 5-15  
 UMPC 9218 paralectotypes; Pl. 22, figs. 16-35  
 UMPC 9219 paralectotypes  
 UMPC 9220 paralectotypes; Pl. 22, figs. 1-4  
 UMPC 9221 paralectotype  
     preceding nine from Decorah Sh., Sardeson bed 5  
     Cannon Falls, Goodhue Co., Minnesota  
 UMPC 9240 paralectotypes  
 UMPC 9241 paralectotypes  
 UMPC 9242 paralectotypes  
 UMPC 9243 paralectotypes  
     preceding four from Decorah Sh., Sardeson bed 4  
     St. Paul, Minnesota

***Cremacrinus arctus*** Sardeson, 1928, p. 41 Ordovician  
 UMPC 9300 paralectotype; figured, Brower & Veinus, 1978, Pl. 17, fig. 1  
 UMPC 9301 paralectotype; figured, Brower & Veinus, 1978, Pl. 16, fig. 1, Pl. 17, fig. 4  
 UMPC 9302 paralectotype; figured, Brower & Veinus, 1978, Pl. 17, fig. 2  
 UMPC 9303 paralectotype  
 UMPC 9304 paralectotype; figured, Sardeson, 1928, Pl. ii, fig. 5  
 UMPC 9305 paralectotype; figured, Sardeson, 1928, Pl. ii, figs. 1, 2  
 UMPC 9306 lectotype designated by Brower & Veinus, 1978, p. 459; Pl. 17, fig. 3  
 UMPC 9307 paralectotype  
 UMPC 9308 paralectotype; figured, Sardeson, 1928, Pl. ii, figs. 3, 4  
 UMPC 9309 paralectotype  
 UMPC 9310 paralectotype  
 UMPC 9311 paralectotype  
 UMPC 9312 paralectotype  
 UMPC 9313 paralectotype  
 UMPC 9314 paralectotype  
 UMPC 9315 paralectotype  
 UMPC 9316 paralectotype  
 UMPC 9317 paralectotype

## Phylum Echinodermata

*Cremacrinus arctus* continued

UMPC 9318 paralectotype

all from Platteville Fm., bed 2

Johnson St. quarry, Minneapolis, Minnesota

*Cupulocrinus canaliculatus* Brower & Veinus, 1978, p. 441 Ordovician

UMPC 9280 paratype; figured, Brower & Veinus, 1978, Pl. 16, fig. 5

UMPC 9285 paratype; Pl. 15, figs. 5, 6

UMPC 9286 holotype; Pl. 15, figs. 2, 3

UMPC 9287 paratype

UMPC 9289 paratype; Pl. 15, fig. 1

UMPC 9290 paratype

UMPC 9291 paratype

all from Decorah Sh., Sardeson bed 5

St. Paul, Minnesota

*Foerstediiscus splendens* Bassler, 1936, p. 10 Ordovician

UMPC 4742a holotype; figured, Bassler, 1936, Pl. 7, fig. 13; donated to U.S. National Museum  
(= USNM S-4079)

Decorah Sh., top of *Rhinidictya* bed

Ford Plant, St. Paul, Minnesota

*Glyptocrinus tridactylus* Brower & Veinus, 1978, p. 414 Ordovician

UMPC 9261 holotype; figured, Brower & Veinus, 1978, Pl. 12, fig. 5, text fig. 5E  
Decorah Sh., Sardeson bed 6

St. Paul, Minnesota

*Gomphocystites (?) callifornicus* Stauffer, 1930, p. 108 Middle Devonian

UMPC 3313 probably holotype; figured, Stauffer, 1930, Pl. 14, fig. 3  
Kearsarge, California

*Paleosynapta flaccida* Weiss, 1954, p. 429 Ordovician

UMPC 6728a syntype; figured, Weiss, 1954, Pl. 41, fig. 3a

6728b syntype; Pl. 41, fig. 3b

6728c syntype; Pl. 41, fig. 3d

6728d syntype

6728e syntype; Pl. 41, fig. 3c

6728f syntype

6728g syntype

upper Stewartville Fm.

Lime City Quarry, Spring Valley, Minnesota

*Periglyptocrinus spinuliferus* Brower & Veinus, 1978, p. 423 Ordovician

UMPC 9260a holotype; figured, Brower & Veinus, 1978, Pl. 12, fig. 4, text figs. 6C, D

9260b paratype; Pl. 12, figs. 1-3, text figs. 6A, B

Decorah Sh., Sardeson bed 4

St. Paul, Minnesota

*Podolithus anomalocrinus* Sardeson, 1908, p. 246 Ordovician

UMPC 9360 holotype; figured, Sardeson, 1908, figs. 18, 19

Cummingsville Fm. ?, Sardeson bed 6

below Mantorville, Dodge Co., Minnesota

*Podolithus dendrocrinus* Sardeson, 1908, p. 248 Ordovician

UMPC 9350 syntype; figured, Sardeson, 1908, fig. 26

UMPC 9374 syntype; fig. 24

UMPC 7721 syntype; fig. 25

all from Decorah Sh., bed 5

St. Paul, Minnesota

## Phylum Echinodermata

***Podolithus schizocrinus*** Sardeson, 1908, p. 244 Ordovician

UMPC 7722 syntypes; figured, Sardeson, 1908, figs. 13, 14

Decorah Sh., bed 5

St. Paul, Minnesota

UMPC 7723 syntype; fig. 12

Decorah Sh., bed 4

St. Paul, Minnesota

***Podolithus strophocrinus*** Sardeson, 1908, p. 242 Ordovician

UMPC 9195 syntype; figured, Sardeson, 1908, fig. 10

UMPC 9197 syntype; figs. 8, 9

both from Decorah Sh., bed 4

St. Paul, Minnesota

***Pycnocrinus sardesoni*** Brower & Veinus, 1978, p. 416 Ordovician

UMPC 9262 paratype

UMPC 9263 holotype; figured, Brower & Veinus, 1978, Pl. 11, figs. 7-9, text figs. 5A-B  
preceding two from Decorah Sh., Sardeson bed 6

St. Paul, Minnesota

UMPC 3489 paratype; Pl. 11, fig. 10, text fig. 5C

Decorah Sh.

St. Paul, Minnesota

***Strobilocystites* (?) *kearsargensis*** Stauffer, 1930, p. 108 Middle Devonian

UMPC 3314 probably holotype; figured, Stauffer, 1930, Pl. 14, figs. 1, 2

Kearsarge, California

***Strophocrinus* *dicyclicus*** Sardeson, 1899, p. 264 Ordovician

UMPC 9187 holotype; figured, Sardeson, 1899, Pl. 12, figs. 12, 13, text figs. 1, 2

UMPC 9188 paratype; Pl. 12, figs. 7, 8

UMPC 9189 paratype; Pl. 12, fig. 4

UMPC 9190 paratype; Pl. 12, fig. 3

UMPC 9191 paratype; Pl. 12, figs. 5, 6

UMPC 9192 paratype; Pl. 12, figs. 1, 2

UMPC 9193 paratype; Pl. 12, fig. 10

UMPC 9194 paratype; Pl. 12, fig. 11

UMPC 9195 paratype; Pl. 12, fig. 16; Sardeson, 1908, fig. 10 (as syntype of *Podolithus strophocrinus* Sardeson, q.v.)

UMPC 9196 paratype; figured, Brower & Veinus, 1978, Pl. 20, fig. 7

UMPC 9197 paratype; figured, Sardeson, 1899, Pl. 12, figs. 14, 15; Sardeson, 1908, figs. 8, 9 (as syntype of *Podolithus strophocrinus* Sardeson, q.v.)

UMPC 9198 paratype; figured, Sardeson, 1899, Pl. 12, fig. 17

UMPC 9199 paratype; Pl. 12, fig. 9

UMPC 9201 paratype; figured, Brower & Veinus, 1978, Pl. 23, fig. 1

all from Decorah Sh., Sardeson bed 4

St. Paul, Minnesota

***Urasterella inyoensis*** Stauffer, 1930, p. 109 Middle Devonian

UMPC 3302 probably holotype; figured, Stauffer, 1930, Pl. 14, fig. 4

Kearsarge, California

## Class Graptolithina

***Acanthograptus priscus*** Ruedemann, 1933, p. 320 Cambrian  
 UMPC 4084 holotype; figured, Ruedemann, 1933, Pl. 51, figs. 6, 7  
 UMPC 4091 paratype; Pl. 51, fig. 8  
 UMPC 4098a paratype; Pl. 51, fig. 5  
     all from St. Lawrence Fm.  
     Afton, Minnesota

***Callograptus staufferi*** Ruedemann, 1933, p. 319 Cambrian  
 UMPC 4083 paratype; figured, Ruedemann, 1933, Pl. 50, fig. 3  
 UMPC 4086 paratype; Pl. 50, figs. 1, 4; with counterpart  
 UMPC 4088 holotype; Pl. 50, figs. 2, 5; with counterpart  
 UMPC 4093 paratype; Pl. 55, fig. 5  
 UMPC 4096 paratype; Pl. 55, figs. 1, 2  
 UMPC 4098b paratype; Pl. 50, figs. 6, 7  
     all from St. Lawrence Fm.  
     Afton, Minnesota

***Dendrograptus edwardsi*** Ruedemann, 1933, p. 316 Cambrian  
 UMPC 4092 paratype; figured, Ruedemann, 1933, Pl. 49, fig. 6; with counterpart  
 UMPC 4098c paratype; Pl. 49, figs. 3, 4  
     both from St. Lawrence Fm.  
     Afton, Minnesota

***Dendrograptus sparsus*** Ruedemann, 1933, p. 318 Cambrian  
 UMPC 4097 paratype; figured, Ruedemann, 1933, Pl. 49, figs. 8, 9  
     St. Lawrence Fm.  
     Afton, Minnesota

***Dictyonema minnesotense*** Ruedemann, 1933, p. 321 Cambrian  
 UMPC 4090 holotype; figured, Ruedemann, 1933, Pl. 55, fig. 3; with counterpart  
     St. Lawrence Fm.  
     Afton, Minnesota

## Phylum Mollusca, Class Bivalvia

***Ambonychia affinis*** Ulrich, 1897, p. 492 Ordovician

UMPC R8342 syotype; figured, Ulrich, 1897, Pl. 35, fig. 7

Galena lime

Spring Valley, Fillmore Co., Minnesota

***Anatimya plicata*** Bergquist, 1944, p. 21 Upper Cretaceous

UMPC 5003a syotype; figured, Bergquist, 1944, Pl. 1, figs. 1, 2

5003b syotype

5003c syotype; Pl. 1, fig. 5

Coleraine Fm.

Arcturus Mine, Marble, Minnesota

***Anatina marbiensis*** Bergquist, 1944, p. 21 Upper Cretaceous

UMPC 5002a syotype; figured, Bergquist, 1944, Pl. 1, figs. 3, 4

5002b syotype

5002c syotype

Coleraine Fm.

Arcturus Mine, Marble, Minnesota

***Aristerella nitidula*** Ulrich, 1897, p. 524 Ordovician

UMPC R8450 syotype

Decorah Sh.

Chatfield, Minnesota

***Brachidontes arcturusensis*** Bergquist, 1944, p. 20 Upper Cretaceous

UMPC 5023a syotype; figured, Bergquist, 1944, Pl. 5, fig. 1

5023b syotype; Pl. 5, fig. 2

5023c syotype; Pl. 5, fig. 7

5023d syotype; Pl. 5, fig. 9

Coleraine Fm.

Arcturus Mine, Marble, and Coleraine, Minnesota

***Byssonychia tenuistrata*** Ulrich, 1897, p. 500 Ordovician

UMPC R8370 syotype

"Hudson River" Group

Richmond, Indiana

UMPC R8371 syotype; figured, Ulrich, 1897, text fig. 39

"Cincinnati" Group

Spring Valley (or Granger?), Minnesota

***Cardium enstromi*** Bergquist, 1944, p. 22 Upper Cretaceous

UMPC 5006a holotype; figured, Bergquist, 1944, Pl. 1, fig. 6 (external mold of 5006b)

5006b holotype; Pl. 1, figs. 7, 12

Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

UMPC 5007 paratypes

Coleraine Fm.

***Clionychia nitida*** Ulrich 1897, p. 495 Ordovician

UMPC R5099 holotype; figured, Ulrich 1897, Pl. 35, figs. 15, 16

middle of Platteville Fm.

Minneapolis, Minnesota

***Clionychia rhomboidea*** Ulrich, 1892, p. 97 Ordovician

UMPC R5526 holotype; figured, Ulrich, 1892b, Pl. 7, figs. 1, 2

"Trenton" limestone

Minneapolis, Minnesota

## Phylum Mollusca, Class Bivalvia

*Ctenodonta calvini* Ulrich, 1897, p. 596 Ordovician

UMPC R8628 syntype; figured, Ulrich, 1897, Pl. 42, fig. 62  
 "Hudson River" Group  
 Graf, Iowa

*Ctenodonta filistriata* Ulrich, 1897, p. 599 Ordovician

UMPC R8378 syntype  
 "Cincinnati" Group  
 Spring Valley, Fillmore Co., Minnesota

*Ctenodonta nasuta* var. *robusta* Ulrich, 1897, p. 585 Ordovician

UMPC R8315 syntype  
 upper buff beds  
 Samp's quarry, Beloit, Wisconsin

*Ctenodonta socialis* Ulrich, 1897, p. 594 Ordovician

UMPC R8627 syntypes  
 Decorah Sh.  
 Cannon Falls, Goodhue Co., Minnesota

*Cypricardites descriptus* Sardeson, 1896a, p. 70 Ordovician

UMPC 8147 holotype; figured, Sardeson, 1896a, Pl. 2, fig. 7  
 St. Peter Ss.  
 Highwood, Minnesota

*Cypricardites dignus* Sardeson, 1896a, p. 71 Ordovician

UMPC 8149 syntype; figured, Sardeson, 1896a, Pl. 2, fig. 4  
 UMPC 8150 syntype; Pl. 2, fig. 5  
 both from St. Peter Ss.  
 South St. Paul, Minnesota

*Cypricardites oviformis* Ulrich, 1892, p. 99 Ordovician

UMPC R8324 syntypes; figured, Ulrich, 1892b, Pl. 7, figs. 3, 4  
 lectotype designated by Ulrich, 1897 in caption to Pl. 40, fig. 1; also figured in Pl. 39, fig. 46  
 lower blue beds  
 Janesville, Wisconsin

*Cypricardites terminalis* Ulrich, 1892, p. 98 Ordovician

UMPC R5100 syntype; figured, Ulrich, 1892b, Pl. 7, fig. 8  
 Platteville Fm.  
 Minneapolis, Minnesota

UMPC R8320 syntype

lower blue beds  
 Beloit, Wisconsin

*Cypricardites (Vanuxemia) dixonensis* Sardeson, 1896a, p. 70 Ordovician

UMPC 8152 syntypes; figured, Sardeson, 1896a, Pl. 2, figs. 1-3  
 St. Peter Ss.  
 Highwood, Minnesota

*Cyrtodonta gibbera* Ulrich, 1897, p. 542 Ordovician

UMPC R8366 holotype; figured (as *Ctenodonta gibbera*), Ulrich, 1897, Pl. 39, figs. 13-15  
 Galena shales  
 Cannon Falls, Goodhue Co., Minnesota

*Cyrtodonta janessvillensis* Ulrich, 1897, p. 537 Ordovician

UMPC R8323 syntypes; figured, Ulrich, 1897, Pl. 39, figs. 26, 27  
 lower blue beds  
 Janesville, Wisconsin

## Phylum Mollusca, Class Bivalvia

*Endodesma postatum* Ulrich, 1897, p. 527 Ordovician

UMPC R8345 holotype; figured, Ulrich, 1897, Pl. 37, figs. 5, 6  
 Galena  
 Dubuque, Iowa

*Endodesma undosum* Ulrich, 1897, p. 529 Ordovician

UMPC R8344 holotype; figured, Ulrich, 1897, Pl. 36, fig. 38  
 upper buff beds  
 Beloit, Wisconsin

*Exogyra boveyensis* Bergquist, 1944, p. 16 Upper Cretaceous

UMPC 5012a syntype; figured, Bergquist, 1944, Pl. 4, figs. 6, 7  
 5012b syntype; Pl. 4, fig. 8  
 5012c syntype; Pl. 4, figs. 10, 11  
 5012d syntype; Pl. 4, figs. 12, 13  
 5012e syntype; Pl. 4, fig. 1  
 5012f syntype; Pl. 4, fig. 2  
 5012g syntype; Pl. 4, figs. 3, 5  
 5012h syntype; Pl. 4, fig. 4  
 5012i syntype; Pl. 4, fig. 9  
 Coleraine Fm.

Hill Annex Mine, Calumet, and Walker Pit, Bovey, Minnesota

*Exogyra lamellosa* Bergquist, 1944, p. 17 Upper Cretaceous

UMPC 5015a syntype; figured, Bergquist, 1944, Pl. 2, figs. 1, 2  
 5015b syntype; Pl. 2, figs. 4, 5  
 5015c syntype; Pl. 3, figs. 1, 2  
 5015d syntype; Pl. 3, figs. 3, 4  
 5015e syntype; Pl. 3, fig. 5  
 5015f syntype; Pl. 3, fig. 10  
 5015g syntype; Pl. 3, fig. 11  
 5015h syntype; Pl. 3, fig. 20  
 5015i syntype; Pl. 2, fig. 3  
 5015j syntype; Pl. 2, figs. 6, 7  
 5015k syntype; Pl. 2, fig. 8  
 Coleraine Fm.

Arcturus Mine, Marble, Minnesota

*Exogyra mesabiensis* Bergquist, 1944, p. 17 Upper Cretaceous

UMPC 5016a syntype; figured, Bergquist, 1944, Pl. 3, figs. 6, 7  
 5016b syntype; Pl. 3, figs. 8, 9  
 5016c syntype; Pl. 3, fig. 12  
 5016d syntype; Pl. 3, fig. 13  
 5016e syntype; Pl. 3, fig. 14  
 5016f syntype; Pl. 3, fig. 15  
 5016g syntype; Pl. 3, figs. 16, 19  
 5016h syntype; Pl. 3, figs. 17, 18  
 Coleraine Fm.

Walker Pit, Bovey, Minnesota

*Inoceramus fragilis mesabiensis* Bergquist, 1944, p. 12 Upper Cretaceous

UMPC 5019a syntype; figured, Bergquist, 1944, Pl. 5, figs. 3, 8  
 5019b syntype; Pl. 5, figs. 5, 6  
 5019c syntype; Pl. 5, fig. 4  
 Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

## Phylum Mollusca, Class Bivalvia

***Modiolodon patulus*** Ulrich, 1897, p. 521 Ordovician

UMPC R8363 syntype; figured, Ulrich, 1897, Pl. 37, figs. 20-22

Galena

Decorah, Iowa

***Modiolopsis arguta*** Ulrich, 1897, p. 506 Ordovician

UMPC R8350 syntype

Decorah Sh.

Fountain, Fillmore Co., Minnesota

***Modiolopsis contigua*** Sardeson, 1896a, p. 72 Ordovician

UMPC 8155 holotype; figured, Sardeson, 1896a, Pl. 2, fig. 8

St. Peter Ss.

South St. Paul, Minnesota

***Modiolopsis excellens*** Ulrich, 1897, p. 511 Ordovician

UMPC R8374 syntype; figured, Ulrich, 1897, Pl. 36, fig. 13

UMPC R8375 syntype; Pl. 36, fig. 14

both from "Cincinnati" Group

Spring Valley (or Granger?), Minnesota

***Modiolopsis fountainensis*** Sardeson, 1896a, p. 71 Ordovician

UMPC 8157 holotype; figured, Sardeson, 1896a, Pl. 4, fig. 7

Glenwood Sh.

Fountain, Minnesota

***Modiolopsis gregalis*** Sardeson, 1896a, p. 72 Ordovician

UMPC 8153 holotype; figured, Sardeson, 1896a, Pl. 2, fig. 10

St. Peter Ss.

South St. Paul, Minnesota

***Modiolopsis litoralis*** Sardeson, 1896a, p. 72 Ordovician

UMPC 8143 holotype; figured, Sardeson, 1896a, Pl. 2, figs. 13-16

St. Peter Ss.

South St. Paul, Minnesota

***Orthodesma schucherti*** Ulrich, 1897, p. 518 Ordovician

UMPC R8343 holotype; figured, Ulrich, 1897, Pl. 36, figs. 25, 26

Galena limestone

Spring Valley, Fillmore Co., Minnesota

***Ostrea (Alectryonia) staufferi*** Bergquist, 1944, p. 15 Upper Cretaceous

UMPC 5030a holotype; figured, Bergquist, 1944, Pl. 9, figs. 4, 5

5030b paratype; Pl. 9, fig. 2

5030c paratype; Pl. 9, fig. 3

5030d paratype; Pl. 9, fig. 1

5030e paratype; Pl. 9, fig. 6

5030f paratype; Pl. 9, fig. 7

5030g paratype; Pl. 9, fig. 8

5030h paratype; Pl. 9, fig. 9

5030i paratype; Pl. 9, fig. 10

Coleraine Fm.

Arcturus Mine, Marble, and Hill Annex Mine, Calumet, Minnesota

## Phylum Mollusca, Class Bivalvia

*Ostrea gilei* Bergquist, 1944, p. 14 Upper Cretaceous

- UMPC 5027a-1 syntype; figured, Bergquist, 1944, Pl. 6, figs. 1, 2
- 5027a-2 syntype; Pl. 6, figs. 5, 6
- 5027b syntype; Pl. 6, figs. 3, 4
- 5027c syntype; Pl. 6, fig. 10
- 5027d syntype; Pl. 6, fig. 11
- 5027e syntype; Pl. 6, figs. 12, 13
- 5027f syntype; Pl. 7, figs. 3, 4

Coleraine Fm.

Arcturus Mine, Marble, Minnesota

*Pernopecten steveni* Rice & Milske, 1989, p. 704 Pennsylvanian

- UMPC 9399 holotype; figured, Rice & Milske, 1989, figs. 2a, b, c
- Gothic Fm., Taylor River Ls.
- SW/4 SW/4 SW/4 sec. 21, T15S, R84W, Gunnison Co., Colorado

*Sphenolium parallelum* Ulrich, 1897, p. 624 Ordovician

- UMPC R8346 holotype; figured, Ulrich, 1897, Pl. 36, figs. 42, 43
- lower blue beds
- Mineral Point, Wisconsin

*Tellina calumetensis* Bergquist, 1944, p. 23 Upper Cretaceous

- UMPC 5042 holotype; figured, Bergquist, 1944, Pl. 9, figs. 13, 14
- 5042a and two paratypes
- Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

*Tellinomya assimilis* Sardeson, 1896a, p. 74 Ordovician

- UMPC 8160 syntypes; figured, Sardeson, 1896a, Pl. 3, figs. 1, 2
- St. Peter Ss.
- Highwood, Minnesota

*Tellinomya candens* Sardeson, 1892, p. 339 Ordovician

- UMPC 7720 syntypes; figured, Sardeson, 1892, Pl. 6, fig. 24
- Decorah Sh., bed 4
- St. Paul, Minnesota

*Tellinomya novicia* Sardeson, 1896a, p. 74 Ordovician

- UMPC 8145 holotype; figured, Sardeson, 1896a, Pl. 3, fig. 3
- St. Peter Ss.
- South St. Paul, Minnesota

*Vanuxemia decipiens* Ulrich, 1897, p. 562 Ordovician

- UMPC R8626 syntypes; figured, Ulrich, 1897, Pl. 39, figs. 4, 5
- lower "Trenton" limestone
- Minneapolis, Minnesota

*Vanuxemia subrecta* Ulrich, 1897, p. 553 Ordovician

- UMPC R8328 syntype; figured, Ulrich, 1897, Pl. 38, figs. 20-22
- upper buff beds
- Beloit, Wisconsin

*Yoldia calumetensis* Bergquist, 1944, p. 10 Upper Cretaceous

- UMPC 5044a syntype; figured, Bergquist, 1944, Pl. 10, fig. 2
- 5044b syntype; Pl. 10, figs. 5, 9
- 5044c syntype; Pl. 10, fig. 8
- Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

## Phylum Mollusca, Class Cephalopoda

***Actinoceras janesvillense*** Foerste, 1933, p. 23 Ordovician

UMPC R8279 holotype; figured, Foerste, 1932, Pl. 18, figs. 3A, B; Clarke, 1897b, Pl. 47, fig. 18

Platteville Fm. (lower blue beds)

Janesville, Wisconsin

***Beloitoceras janesvillense*** Foerste, 1933, p. 99 Ordovician

UMPC R8300a holotype; figured, Foerste, 1932, Pl. 30, figs. 1A, B; Clarke, 1897b, Pl. 58, figs. 5, 6

Platteville Fm. (lower buff)

Janesville, Wisconsin

***Cameroceras henneppini*** Clarke, 1897b, p. 779 Ordovician

UMPC R140 syntype; figured, Clarke, 1897b, Pl. 52, figs. 1-3  
Galena Gr.

2 mi. NE of Spring Valley, Fillmore Co., Minnesota

UMPC R8904 syntype; figured, Clarke, 1897b, Pl. 53, figs. 1-3

***Cameroceras inopinatum*** Stauffer, 1937a, p. 59 Ordovician

UMPC 4870 syntype; figured, Stauffer, 1937a, Pl. 11, fig. 1

UMPC 4872 syntype; figured, Stauffer, 1937a, Pl. 11, fig. 3  
both from lower Shakopee Fm.

Cannon Falls, Goodhue Co., Minnesota

***Cameroceras stillwaterense*** Stauffer, 1937b, p. 64 Ordovician

UMPC 4893 holotype; figured, Stauffer, 1937b, Pl. 13, fig. 10  
upper Shakopee Fm.

Stillwater, Washington Co., Minnesota

***Cyrtoceras dresbachense*** Sardeson, 1896b, p. 102 Ordovician

UMPC 7667 holotype; figured, Sardeson, 1896b, Pl. 6, fig. 4  
Oneota Dol.

Dresbach, Winona Co., Minnesota

***Cyrtoceras featherstonehaighi*** Clarke, 1897b, p. 807 Ordovician

UMPC 4123 holotype; figured, Clarke, 1897b, Pl. 58, figs. 12-15; Foerste, 1932, Pl. 29, figs. 6A-C

Platteville Ls.

Cannon Falls, Goodhue Co., Minnesota

***Cyrtoceras houghtoni*** Clarke, 1897b, p. 807 Ordovician

UMPC 4135a lectotype; chosen by Foerste, 1933, p. 102; figured, Clarke, 1897b, Pl. 59, figs. 13-15; Foerste, 1932, Pl. 30, fig. 9

4135b paralectotype; Clarke, Pl. 59, fig. 12; Foerste, 1932, Pl. 28, fig. 7

4135c paralectotype; Foerste, 1932, Pl. 30, figs. 10A, B

"Treton" Ls.

Cannon Falls, Goodhue Co., Minnesota

***Cyrtoceras minneapolis*** Clarke, 1897b, p. 808 Ordovician

UMPC R5048 syntype; figured, Clarke, 1897b, Pl. 59, figs. 1-4; Foerste, 1932, Pl. 29, figs. 4A, B; Foerste regarded R5048 and #R5066 as "cotypes" even though Clarke cited only R5048 in the text.

Platteville Fm.

Minneapolis, Minnesota

UMPC R5066 syntype; figured, Clarke, 1897b, Pl. 59, figs. 5, 6; Foerste, 1932, Pl. 29, figs. 4C, D

## Phylum Mollusca, Class Cephalopoda

- Cyrtoceras norwoodi*** Clarke, 1897b, p. 809 Ordovician  
 UMPC 4113 holotype; figured, Clarke, 1897b, Pl. 60, figs. 7-9; Foerste, 1932, Pl. 30, fig. 6  
     Platteville Fm.  
     Rockton, Illinois
- Cyrtoceras scofieldi*** Clarke, 1897b, p. 810 Ordovician  
 UMPC 4121 holotype; figured, Clarke, 1897b, Pl. 59, figs. 9-11; Foerste, 1932, Pl. 26, figs. 8A, B  
     "Treton" Ls.  
     Janesville, Wisconsin
- Cyrtoceras shumardi*** Clarke, 1897b, p. 810 Ordovician  
 UMPC 4134 holotype; figured, Clarke, 1897b, Pl. 60, figs. 1-4; Foerste, 1932, Pl. 29, figs. 11A, B  
     Platteville Ls.  
     Cannon Falls, Goodhue Co., Minnesota
- Cyrtoceras ? winonicum*** Sardeson, 1896b, p. 102 Ordovician  
 UMPC 7669 syntypes; figured, Sardeson, 1896b, Pl. 6, figs. 2, 3  
     Oneota Dol.  
     Dresbach, Winona Co., Minnesota
- Deltoceras tantillum*** Stauffer, 1937a, p. 59 Ordovician  
 UMPC 4875 holotype; figured, Stauffer, 1937a, Pl. 11, fig. 6  
     lower Shakopee Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Dieroceras scofieldi*** Foerste, 1933, p. 33 Ordovician  
 UMPC 4132 holotype; figured, Foerste, 1932, Pl. 16, figs. 1A, B; Clarke, 1897, Pl. 54, figs. 1-3  
     Platteville Ls.  
     Cannon Falls, Goodhue Co., Minnesota
- Diestoceras clarkei*** Foerste, 1929, p. 314 Ordovician  
 UMPC 9462 holotype; figured, Foerste, Pl. 47, fig. 5; Clarke, 1897b, Pl. 57, fig. 11  
     Foerste erroneously assigned #R5837 to this specimen  
     Decorah Sh.  
     St. Paul, Minnesota
- Diestoceras staufferi*** Foerste, 1933, p. 143 Ordovician  
 UMPC 4099 holotype; figured, Foerste, 1932, Pl. 34, figs. 1A, B  
     Maquoketa Fm.  
     near Stone School, Fillmore Co., Minnesota
- Endoceras consuetum*** Sardeson, 1896b, p. 103 Ordovician  
 UMPC 7679 holotype; figured, Sardeson, 1896b, Pl. 6, fig. 11  
     Shakopee Fm.  
     near Pickett Station, Wisconsin
- Geisonoceras scofieldi*** Foerste, 1932, p. 79 Ordovician  
 UMPC 204 holotype; figured, Foerste, 1932, Pl. 10, figs. 1A, B; Clarke, 1897, Pl. 55, figs. 4, 6  
     Platteville Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Lambeoceras confertum*** Foerste, 1933, p. 42 Ordovician  
 UMPC R8293a holotype; figured, Foerste, 1932, Pl. 24, fig. 2; Clarke, 1897b, Pl. 56, fig. 1  
     middle Galena  
     Stewartville, Olmsted Co., Minnesota

## Phylum Mollusca, Class Cephalopoda

**Laphamoceras scofieldi** Foerste, 1933, p. 77 Ordovician

UMPC 207 holotype; figured, Foerste, 1932, Pl. 27, fig. 5; figured, Clarke, 1897, Pl. 60, fig. 10

Platteville Fm.

Cannon Falls, Goodhue Co., Minnesota

**Manitoulinoceras ? warsawense** Foerste, 1933, p. 128 Ordovician

UMPC 4116 holotype; figured, Foerste, 1932, Pl. 25, figs. 3A, B; Clarke, 1897, Pl. 59, figs. 16, 16a

Decorah Sh.

Warsaw, Minnesota

**Manitoulinoceras ? wykoffense** Foerste, 1933, p. 128 Ordovician

UMPC 4117 holotype; figured, Foerste, 1932, Pl. 25, figs. 7A, B; Clarke, 1897, Pl. 59, figs. 17-19

Prosser Fm.

Wykoff, Fillmore Co., Minnesota

**Metaspyroceras clarkei** Foerste, 1932, p. 117 Ordovician

UMPC R5042 holotype; figured, Foerste, 1932, Pl. 13, figs. 3A, B; Clarke, 1897b, Pl. 47, fig. 20

Decorah Sh.

Minneapolis, Minnesota

**Metaspyroceras minneapolis** Foerste, 1932, p. 112 Ordovician

UMPC 350 syntype; figured, Foerste, 1932, Pl. 24, fig. 3B; Clarke, 1897, Pl. 54, fig. 6

UMPC 381 syntype; figured, Foerste, 1932, Pl. 24, fig. 3A; Clarke, 1897, Pl. 54, fig. 7  
both from Decorah Sh.

Minneapolis, Minnesota

**Metaspyroceras perlineatum** Foerste, 1932, p. 116 Ordovician

UMPC 4130 holotype; figured, Foerste, 1932, Pl. 24, figs. 5A, B

Decorah Sh., bed 21

Ford Plant, St. Paul, Minnesota

**Metaspyroceras ? wisconsinense** Foerste, 1932, p. 115 Ordovician

UMPC R8292 holotype; figured, Foerste, 1932, Pl. 24, fig. 6

lower blue beds

Mineral Point, Wisconsin

**Metoicoceras bergquisti** Cobban, 1983, p. 14 Upper Cretaceous

UMPC 5061 paratype; figured, Bergquist, 1944, Pl. 10, figs. 10-12; Cobban, 1983, Pl. 14, figs. 12-15

Coleraine Fm.

Hill Annex Mine, Calumet, and Coleraine, Minnesota

UMPC 6178 paratype; Cobban, Pl. 12, figs. 1-3

Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

UMPC 9003 paratype; Cobban, Pl. 13, figs. 1, 2

basal Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

UMPC 9004 holotype; Cobban, Pl. 14, figs. 1-3

basal Coleraine Fm.

Arcturus Mine, Marble, Minnesota

UMPC 9005a paratype; Cobban, Pl. 12, figs. 4, 5

UMPC 9005b paratype; Cobban, Pl. 14, figs. 4, 5

UMPC 9008 paratype; Cobban, Pl. 8, figs. 1, 2

preceding two from Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

## Phylum Mollusca, Class Cephalopoda

- Nanno aulema*** Clarke, 1894, p. 205 Ordovician  
 lectotype designated by Foerste, 1932, p. 70  
 UMPC 9466 paralectotype; figured, Clarke, 1894, Pl. 6, fig. 3; 1897b, Pl. 47, fig. 11  
     Cannon Falls ?, Minnesota  
 UMPC 9467 paralectotype; Clarke, 1894, Pl. 6, fig. 4; 1897b, Pl. 47, fig. 4  
 UMPC R7631 paralectotype; Clarke, 1894, Pl. 6, fig. 8; 1897b, Pl. 47, fig. 5  
     preceding two from Decorah Sh.  
     Minneapolis, Minnesota
- Oncoceras carveri*** Clarke, 1897b, p. 801 Ordovician  
 UMPC R2193 holotype; figured, Clarke, 1897b, Pl. 58, figs. 7-9; Foerste, 1932, Pl. 30, figs.  
     8A, B  
     Platteville Fm.  
     Minneapolis, Minnesota
- Oncoceras douglassi*** Clarke, 1897b, p. 801 Ordovician  
 UMPC R243 holotype; figured, Clarke, 1897b, Pl. 60, figs. 13-15; Foerste, 1932, Pl. 31, figs.  
     3A, B  
     Galena Gr., Prosser Fm. ?  
     Hader, Goodhue Co., Minnesota
- Oncoceras minnesotense*** Clarke, 1897b, p. 798 Ordovician  
 UMPC R258a holotype; figured, Clarke, 1897b, Pl. 58, figs. 16-18; Foerste, 1932, Pl. 33, fig.  
     1  
     Galena Gr.  
     Lime City, Fillmore Co., Minnesota
- Orthoceras beltrami*** Clarke, 1897b, p. 789 Ordovician  
 UMPC 4122 holotype; figured, Clarke, 1897b, Pl. 55, fig. 10; Foerste, 1932, Pl. 35, fig. 6  
     Prosser Fm.  
     Wykoff, Fillmore Co., Minnesota
- Orthoceras lesueuri*** Clarke, 1897b, p. 785 Ordovician  
 UMPC 4119 lectotype chosen by Foerste, 1932, p. 102; figured, Clarke, 1897b, Pl. 55, fig. 9;  
     Foerste, 1932, Pl. 12, fig. 8  
     Platteville Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Orthoceras minnesotense*** Sardeson, 1896a, p. 77 Ordovician  
 UMPC 12712a holotype; figured, Sardeson, 1896a, Pl. 3, figs. 11, 12  
     St. Peter Ss.  
     South St. Paul, Minnesota
- Orthoceras nicolleti*** Clarke, 1897b, p. 784 Ordovician  
 UMPC 4124 holotype; figured, Clarke, 1897b, Pl. 55, figs. 1, 2; Foerste, 1932, Pl. 11, fig. 1  
     Platteville Fm.  
     Belle Creek, Minnesota
- Orthoceras perroti*** Clarke, 1897b, p. 785 Ordovician  
 UMPC 4128 holotype, p. 785; figured, Clarke, 1897b, Pl. 54, figs. 4, 5; Foerste, 1932, Pl.  
     15, fig. 5  
     Maquoketa Fm.  
     Granger, Minnesota
- Orygoceras eburneolum*** Stauffer, 1937a, p. 59 Ordovician  
 UMPC 4871 syntype; figured, Stauffer, 1937a, Pl. 11, fig. 2  
 UMPC 4873 syntype; Pl. 11, fig. 4  
 UMPC 4874 syntype; Pl. 11, fig. 5

## Phylum Mollusca, Class Cephalopoda

*Orygoceras eburneolum* continued

- UMPC 4876 syntype; Pl. 11, fig. 7  
 all from lower Shakopee Fm.  
 Cannon Falls, Goodhue Co., Minnesota
- Piloceras corniculum* Sardeson, 1896b, p. 103 Ordovician  
 UMPG 7668a lectotype, designated by Ulrich, et al., 1943, p. 86; figured, Sardeson, 1896b, Pl. 6, figs. 6, 7  
 7668b paralectotype ?; Pl. 6, fig. 5 (Ulrich, et al. believed this specimen to be different taxon from 7668a)  
 Oneota Dol.  
 Dresbach, Winona Co., Minnesota
- Piloceras newton-winchelli* Clarke, 1897b, p. 767 Ordovician  
 type species of *Clarkoceras* Ruedemann  
 UMPG R2441 syntypes; figured, Clarke, 1897b, Pl. 47, figs. 1-3, text figs. 8, 9  
 lectotype, designated by Ulrich et. al., 1943, p. 80; Clarke 1897b, Pl. 47, figs. 1, 2  
 paralectotype; Pl. 47, fig. 3; erroneously designated #2444 by Clarke  
 Shakopee Fm.  
 sec.19, Union Twp., Houston Co., Minnesota
- Polygrammomoceras prestonense* Foerste, 1932, p. 90 Ordovician  
 erroneously reported as #R8255 in Foerste  
 UMPG R8287 holotype; figured, Foerste, 1932, Pl. 14, fig. 2; Clarke, 1897b, Pl. 47, fig. 19  
 lower Galena [Prosser Fm. ?]  
 Preston, Fillmore Co., Minnesota
- Richardsonoceras beloitense* Foerste, 1933, p. 94 Ordovician  
 UMPG 4115 holotype; figured, Foerste, 1932, Pl. 37, figs. 3A-D; Clarke, 1897, Pl. 60, figs. 5, 6  
 "Trenton" Ls.  
 Samp's Quarry, Beloit, Wisconsin
- Richardsonoceras ? clarkei* Foerste, 1933, p. 97 Ordovician  
 UMPG 4136 holotype; figured, Foerste, 1932, Pl. 37, figs. 5A, B; Clarke, 1897, Pl. 59, fig. 20  
 Platteville Ls.  
 Beloit, Wisconsin
- Scofieldoceras ? deppressum* Foerste, 1933, p. 134 Ordovician  
 UMPG 4133 holotype; figured, Foerste, 1932, Pl. 29, figs. 10A, B  
 Decorah Sh. ?  
 Warsaw, Minnesota
- Spyroceras iowense* Foerste, 1932, p. 100 Ordovician  
 UMPG R8290 holotype; figured, Foerste, 1932, Pl. 11, fig. 4  
 Decorah Sh.  
 McGregor, Iowa
- Spyroceras scofieldi* Foerste, 1932, p. 104 Ordovician  
 UMPG 4118 holotype; figured, Foerste, 1932, Pl. 23, figs. 5A, B; Clarke, 1897, Pl. 53, fig. 4  
 "Trenton" Ls.  
 Cannon Falls, Goodhue Co., Minnesota
- Tripterooceras scofieldi* Foerste, 1929, p. 309 Ordovician  
 UMPG R8288 holotype; figured, Foerste, 1929, Pl. 47, fig. 4; Clarke, 1897b, Pl. 56, fig. 3  
 Platteville Fm.  
 Cannon Falls, Goodhue Co., Minnesota

## Phylum Mollusca, Class Cephalopoda

*Triptoceras oweni* Clarke, 1897b, p. 792 Ordovician

UMPC 9458 holotype; figured, Clarke, 1897b, Pl. 56, figs. 5-7  
"Trenton"

Cannon Falls, Goodhue Co., Minnesota

*Whitfieldoceras clarkei* Foerste, 1933, p. 64 Ordovician

UMPC 4126 holotype; figured, Foerste, 1932, Pl. 32, fig. 5; Clarke, 1897b, Pl. 57, figs. 8, 9  
"Trenton" Ls. ?

*Zitteloceras clarkeanum* Foerste, 1917, p. 52 Ordovician

UMPC 4120 holotype; figured, Foerste, 1932, Pl. 27, figs. 6A-D; Clarke, 1897, Pl. 60, figs.  
11, 12

Platteville Fm. (lower blue beds)

Janesville, Wisconsin

## Phylum Mollusca, Class Gastropoda

***Anchura grouti*** Bergquist, 1944, p. 27 Upper Cretaceous

- UMPC 5046a syotype; figured, Bergquist, 1944, Pl. 11, fig. 4
- 5046b syotype; Pl. 11, fig. 5
- 5046c syotype; Pl. 11, fig. 2
- 5046d syotype; Pl. 11, fig. 3

Coleraine Fm.

Hill Annex Mine, Calumet, Minnesota

***Bellerophon similis*** Ulrich & Scofield, 1897, p. 919 Ordovician

- UMPC R8725 syotype

"Trenton" *Fusispira* bed

near Cannon Falls, Goodhue Co., Minnesota

***Bucanopsis carinifera*** Ulrich in Ulrich & Scofield, 1897, p. 925 Ordovician

- UMPC R8761 probably syntypes
- upper "Trenton"

Danville, Kentucky

***Calliomphalus ? colerainensis*** Bergquist, 1944, p. 25 Upper Cretaceous

- UMPC 5048a syotype; figured, Bergquist, 1944, Pl. 11, figs. 10, 11
- 5048b syotype; Pl. 11, figs. 16, 18
- 5048c syotype; Pl. 11, figs. 17, 19

Coleraine Fm.

Arcturus Mine, Marble, Minnesota

***Callonema perlata*** Stauffer, 1918, p. 559 Lower Devonian

- UMPC 4837a holotype; figured, Stauffer, 1918, Pl. 3, figs. 1, 2
- Amherstburg Dol.

Stony Island Dry Cut, Livingston Channel, Detroit River near Trenton, Michigan

***Carinaropsis acuta*** Ulrich & Scofield, 1897, p. 928 Ordovician

- UMPC R7534 syotype
- Decorah Sh.
- Fountain, Minnesota

***Carinaropsis phalera*** Sardeson, 1892, p. 336 Ordovician

- UMPC 7698a syotype; figured, Sardeson, 1892, Pl. 6, fig. 14
- 7698b syotype; Pl. 6, fig. 15
- 7698c syotype; Pl. 6, fig. 16?

Decorah Sh., bed 4

St. Paul, Minnesota

***Ceratopea pygmaea*** Stauffer, 1937a, p. 56 Ordovician

- UMPC 4848 syotype; figured, Stauffer, 1937a, Pl. 9, fig. 3
- UMPC 4854 syotype; Pl. 9, fig. 9
- UMPC 4855 syotype; Pl. 9, fig. 10

all from lower Shakopee Fm.

Cannon Falls, Goodhue Co., Minnesota

***Conradella fimbriata*** Ulrich & Scofield, 1897, p. 907 Ordovician

- UMPC R653 syotype
- UMPC R5110 syotype
- UMPC R8724 syntypes; figured, Ulrich & Scofield, 1897, Pl. 67, fig. 10

Platteville Fm.

Minneapolis, Minnesota

***Conradella obliqua*** Ulrich & Scofield, 1897, p. 906 Ordovician

- UMPC R6853 syotype

Decorah Sh.

Minneapolis, Minnesota

- UMPC R7536 syotype

**Phylum Mollusca, Class Gastropoda**

*Conradella obliqua* continued

UMPC R4051 syntype

preceding two from Decorah Sh.

Fountain, Minnesota

*Conradella triangularis* Ulrich & Scofield, 1897, p. 908 Ordovician

UMPC R7292 syntypes

"Trenton"

Janesville, Wisconsin

UMPC R7309 syntype; figured, Ulrich & Scofield, 1897, Pl. 67, fig. 19

"Trenton"

Beloit, Wisconsin

*Cyclonema humerosum* Ulrich in Ulrich & Scofield, 1897, p. 1061 Ordovician

UMPC R8754 probably syntypes

Lorraine Group

Cincinnati, Ohio

*Cyclonema inflatum* Ulrich in Ulrich & Scofield, 1897, p. 1060 Ordovician

UMPC R8752 probably syntypes

Lorraine Group

Cincinnati, Ohio

*Cyclonema mediale* Ulrich in Ulrich & Scofield, 1897, p. 1059 Ordovician

UMPC R8751 probably syntypes

Lorraine Group

Cincinnati, Ohio

*Cyclonema simulans* Ulrich in Ulrich & Scofield, 1897, p. 1061 Ordovician

UMPC R8755 probably syntypes

Lorraine Group

Cincinnati, Ohio

*Cyclonema sublaeve* Ulrich in Ulrich & Scofield, 1897, p. 1062 Ordovician

UMPC R8757 probably syntypes

Lorraine Group

Cincinnati, Ohio

*Cyrtolites retrorsus* var. *fillmorensis* Ulrich & Scofield, 1897, p. 862 Ordovician

UMPC R4051 syntype

UMPC R7535 syntype

both from Decorah Sh.

near Fountain, Minnesota

*Eccyliomphalus transverso-cordatus* Stauffer, 1937a, p. 56 Ordovician

UMPC 4862 syntype; figured, Stauffer, 1937a, Pl. 10, fig. 7

UMPC 4866 syntype; Pl. 10, figs. 11, 12

both from lower Shakopee Fm.

Cannon Falls, Goodhue Co., Minnesota

*Eotomaria vicina* Ulrich & Scofield, 1897, p. 1003 Ordovician

UMPC R5106 syntype; figured, Ulrich & Scofield, 1897, Pl. 69, fig. 18

Platteville Fm.

Minneapolis, Minnesota

*Euomphalopsis depressa* Stauffer, 1937a, p. 57 Ordovician

UMPC 4852 holotype; figured, Stauffer, 1937a, Pl. 9, fig. 7

lower Shakopee Fm.

Cannon Falls, Goodhue Co., Minnesota

## Phylum Mollusca, Class Gastropoda

***Euomphalus winonensis*** Sardeson, 1896b, p. 96 Ordovician

UMPC 7662 holotype; figured, Sardeson, 1896b, Pl. 6, fig. 1  
Oneota Dol.

Dresbach, Winona Co., Minnesota

***Fusispira angusta*** Ulrich & Scofield, 1897, p. 1079 Ordovician

UMPC R218 syntype

"Trenton"

Pettit's Mill, Mantorville, Minnesota

UMPC R7378 syntype

UMPC R7423 syntype

UMPC R8394 syntype

Fountain, Fillmore Co., Minnesota

***Fusispira intermedia*** Ulrich & Scofield, 1897, p. 1076 Ordovician

UMPC R7451 syntype; figured, Ulrich & Scofield, 1897, Pl. 80, fig. 19  
*Maclurea* bed

Stewartville, Minnesota

***Fusispira nobilis*** Ulrich & Scofield, 1897, p. 1078 Ordovician

UMPC R7331 syntype

*Fusispira* bed

***Fusispira schucherti*** Ulrich & Scofield, 1897, p. 1076 Ordovician

UMPC R7322 holotype; figured, Ulrich & Scofield, 1897, Pl. 80, fig. 1  
Platteville Fm.

Beloit, Wisconsin

***Fusispira ? spicula*** Sardeson, 1892, p. 336 Ordovician

UMPC 7700 holotype; figured, Sardeson, 1892, Pl. 6, figs. 10, 11  
Decorah Sh., bed 4

Minneapolis, Minnesota

***Fusispira subbrevis*** Ulrich & Scofield, 1897, p. 1076 Ordovician

UMPC R7362 syntype; figured, Ulrich & Scofield, 1897, Pl. 80, fig. 15  
*Fusispira* bed

Decorah, Iowa

UMPC R8728 syntype; Pl. 80, figs. 13, 14, 16

Galena, *Maclurea* bed

Stewartville, Olmsted Co., Minnesota

***Gyronema pulchellum*** Ulrich & Scofield, 1897, p. 1054 Ordovician

UMPC R6854 syntype; figured, Ulrich & Scofield, 1897, Pl. 78, fig. 21  
Decorah Sh.  
Minneapolis, Minnesota

***Helicotoma ? peccatonica*** Sardeson, 1896b, p. 97 Ordovician

UMPC 7673 holotype; figured, Sardeson, 1896b, Pl. 5, fig. 1

Shakopee Fm.

Argyle, Wisconsin

***Holopea ampla*** Ulrich & Scofield, 1897, p. 1065 Ordovician

UMPC R5836 syntype; figured, Ulrich & Scofield, 1897, Pl. 79, figs. 23-25  
Cannon Falls, Minnesota

UMPC R7355 syntype

***Holopea appressa*** Ulrich & Scofield, 1897, p. 1065 Ordovician

UMPC R6765 syntype; figured, Ulrich & Scofield, 1897, Pl. 79, fig. 10  
*Clitambonites* bed  
Goodhue Co., Minnesota

## Phylum Mollusca, Class Gastropoda

- Holopea excelsa*** ? Ulrich & Scofield, 1897, p. 1067 Ordovician  
 UMPC R285 syotype ?; crushed specimen referred to this species with doubt  
     "Treton"  
     Sumner twp., Fillmore Co., Minnesota
- Holopea insignis*** Ulrich & Scofield, 1897, p. 1065 Ordovician  
 UMPC R5554 syotype  
     Platteville Fm. ?  
     Faribault, Minnesota ?
- UMPC R5042 syotype  
     Platteville Fm.  
     Minneapolis, Minnesota
- Holopea* ? *perundosa*** Sardeson, 1892, p. 336 Ordovician  
 UMPC 7701a syotype; figured, Sardeson, 1892, Pl. 6, fig. 12  
 7701b syotype; Pl. 6, fig. 13  
     Cummingsville Fm., bed 6  
     Berne & Kenyon, Minnesota
- Holopea similis*** Ulrich & Scofield, 1897, p. 1066 Ordovician  
 UMPC R7381 syotype; figured, Ulrich & Scofield, 1897, Pl. 79, fig. 26  
     Decorah Sh.  
     Fillmore Co., Minnesota
- Holopea supraplana*** Ulrich & Scofield, 1897, p. 1068 Ordovician  
 UMPC R7493 syotype; figured, Ulrich & Scofield, 1897, Pl. 79, fig. 27  
     Kenyon (or Rochester), Minnesota
- Hormotoma cannonensis*** Stauffer, 1937a, p. 57 Ordovician  
 UMPC 4858 holotype; figured, Stauffer, 1937a, Pl. 10, fig. 3  
     lower Shakopee Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Hormotoma salteri*** Ulrich in Ulrich & Scofield, 1897, p. 1016 Ordovician  
 UMPC R8746 probably syntypes  
     upper "Treton"  
     Danville, Kentucky
- Hormotoma trentonensis*** Ulrich & Scofield, 1897, p. 1017 Ordovician  
 UMPC R305 syotype  
     "Treton"  
     sec. 2, Forestville, Fillmore Co., Minnesota
- Liospira abrupta*** Ulrich & Scofield, 1897, p. 995 Ordovician  
 UMPC R8743 probably syntypes  
     Stones River  
     Murfreesboro, Tennessee
- Liospira angustata*** Ulrich & Scofield, 1897, p. 997 Ordovician  
 UMPC R7494 syotype  
     Pleasant Grove, Minnesota
- Liospira* (?) *mundula*** Ulrich & Scofield, 1897, p. 999 Ordovician  
 UMPC R8742 probably syntypes  
     "Treton" group  
     Mercer Co., Kentucky
- Liospira obtusa*** Ulrich & Scofield, 1897, p. 997 Ordovician  
 UMPC R687 syotype; figured, Ulrich & Scofield, 1897, Pl. 68, figs. 33, 34  
     "Treton"  
     Minneapolis, Minnesota

## Phylum Mollusca, Class Gastropoda

- Lophospira acuminata* (or var. of *perangulata*)** Ulrich & Scofield, 1897, p. 973 Ordovician  
 UMPC R7383 syntype  
     Spring Valley, Minnesota
- Lophospira augustina* var. *minnesotensis*** Ulrich & Scofield, 1897, p. 988 Ordovician  
 UMPC R7389 syntype  
 UMPC R8726 syntype  
     "Treton"
- Lophospira conradana*** Ulrich & Scofield, 1897, p. 979 Ordovician  
 UMPC R5036 syntype; figured, Ulrich & Scofield, 1897, Pl. 72, fig. 32 ?  
     Platteville Fm.  
     Minneapolis, Minnesota
- Lophospira elevata*** Ulrich & Scofield, 1897, p. 977 Ordovician  
 UMPC R7370 syntype; figured, Ulrich & Scofield, 1897, Pl. 73, fig. 12  
     "Treton", *Fusispira* bed  
     Decorah, Iowa
- Lophospira helicteres* var. *wisconsinensis*** Ulrich & Scofield, 1897, p. 971 Ordovician  
 UMPC R6858 syntype; figured, Ulrich & Scofield, 1897, Pl. 72, fig. 27  
     Platteville Fm. ?  
     Minneapolis, Minnesota
- UMPC R7360 syntype
- Lophospira medialis*** Ulrich & Scofield, 1897, p. 973 Ordovician  
 UMPC R8738 probably syntypes  
     upper "Treton"  
     Burgin, Kentucky
- Lophospira oweni*** Ulrich & Scofield, 1897, p. 980 Ordovician  
 UMPC R6865 syntype  
     Cannon Falls, Minnesota
- UMPC R7521 syntype  
     Fountain, Minnesota
- Lophospira perelegans*** Stauffer, 1937a, p. 57 Ordovician  
 UMPC 4860 syntype; figured, Stauffer, 1937a, Pl. 10, fig. 5  
 UMPC 4863 syntype; Pl. 10, fig. 8  
 UMPC 4868 syntype; Pl. 10, fig. 14  
 UMPC 4869 syntype; Pl. 10, fig. 15  
     all from lower Shakopee Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Lophospira pulchella*** Ulrich & Scofield, 1897, p. 982 Ordovician  
 UMPC R7383 syntype  
     Spring Valley, Minnesota
- Lophospira quadrisulcata*** Ulrich & Scofield, 1897, p. 967 Ordovician  
 UMPC R7384 syntype  
     Spring Valley, Minnesota
- Lophospira vetusta*** Stauffer, 1937a, p. 58 Ordovician  
 UMPC 4859 syntype; figured, Stauffer, 1937a, Pl. 10, fig. 4  
 UMPC 4864 syntype; Pl. 10, fig. 9  
     both from lower Shakopee Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Loxonema inculta*** Stauffer, 1918, p. 559 Lower Devonian  
 UMPC 4842a syntypes; figured, Stauffer, 1918, Pl. 2, figs. 7, 8  
     Amherstburg  
     Stony Island Dry Cut, Livingston Channel, Detroit River near Trenton, Michigan

## Phylum Mollusca, Class Gastropoda

- Maclurea crassa*** Ulrich & Scofield, 1897, p. 1040 Ordovician  
 UMPC R8442 syntype; figured, Ulrich & Scofield, 1897, Pl. 75, figs. 12, 13  
 Lime City, Minnesota
- Maclurea depressa*** Ulrich & Scofield, 1897, p. 1040 Ordovician  
 UMPC R6868 syntype; figured, Ulrich & Scofield, 1897, Pl. 75, figs. 2-4  
 Platteville Fm. ?  
 Minneapolis, Minnesota
- Maclurea nitida*** Ulrich & Scofield, 1897, p. 1040 Ordovician  
 UMPC R7356 syntypes; figured, Ulrich & Scofield, 1897, Pl. 75, fig. 11  
 "Trenton"  
 Mineral Point, Wisconsin
- Murchisonia argylensis*** Sardeson, 1896b, p. 97 Ordovician  
 UMPC 7674a syntype; figured, Sardeson, 1896b, Pl. 5, fig. 11  
 7674b syntype; Pl. 5, fig. 12  
 Shakopee Fm.  
 Argyle, Wisconsin
- Murchisonia putilla*** Sardeson, 1896b, p. 98 Ordovician  
 type species of *Gasconadia* Weller & St. Clair  
 UMPC 7664 holotype; figured, Sardeson, 1896b, Pl. 5, figs. 5, 6  
 Oneota Dol.  
 Dresbach, Winona Co., Minnesota
- Nerita ? minnesotensis*** Bergquist, 1944, p. 25 Upper Cretaceous  
 UMPC 5051a syntype; figured, Bergquist, 1944, Pl. 11, fig. 20  
 5051b syntype; Pl. 11, figs. 12-14  
 5051c syntype; Pl. 11, fig. 21  
 Coleraine Fm.  
 Hill Annex Mine, Calumet, Minnesota
- Ophileta alturensis*** Sardeson, 1896b, p. 98 Ordovician  
 UMPC 7672 holotype; figured, Sardeson, 1896b, Pl. 5, figs. 3, 4  
 Oneota Dol.  
 Dresbach, Winona Co., Minnesota
- Ophileta fausta*** Sardeson, 1896a, p. 75 Ordovician  
 UMPC 7690 syntype; figured, Sardeson, 1896a, Pl. 3, fig. 8  
 UMPC 7694 syntype; Pl. 3, fig. 9  
 St. Peter Ss.  
 Highland Park area, St. Paul, Minnesota
- Ophiletina sublaxa*** Ulrich & Scofield, 1897, p. 1030 Ordovician  
 UMPC R6869 syntype  
 Minneapolis, Minnesota
- UMPC R7302 syntype; figured, Ulrich & Scofield, 1897, Pl. 74, fig. 47  
 Platteville Fm.  
 Mineral Point (possibly Janesville), Wisconsin
- Paleotrochus kennettensis*** Stauffer, 1930, p. 109 Middle Devonian  
 UMPC 3311 probably holotype; figured, Stauffer, 1930, Pl. 14, fig. 8  
 Kennett, California
- Platyceras vetulum*** Sardeson, 1896a, p. 76 Ordovician  
 UMPC 7686 holotype; figured, Sardeson, 1896a, Pl. 4, fig. 1  
 St. Peter Ss.  
 South St. Paul, Minnesota

## Phylum Mollusca, Class Gastropoda

- Pleurotomaria aiens** Sardeson, 1896a, p. 76 Ordovician  
 UMPC 7685 holotype; figured, Sardeson, 1896a, Pl. 3, figs. 16, 17  
     St. Peter Ss.  
     South St. Paul, Minnesota
- Pleurotomaria clivosa** Sardeson, 1892, p. 337 Ordovician  
 UMPC 7703a holotype; figured, Sardeson, 1892, Pl. 6, fig. 9  
     Decorah Sh., bed 4  
     Minneapolis, Minnesota
- Protowarthia rectangularis** Ulrich & Scofield, 1897, p. 868 Ordovician  
 UMPC R8762 probably syntypes  
     Stones River  
     Beloit, Wisconsin
- Raphistoma lelosomellum** Sardeson, 1896b, p. 99 Ordovician  
 UMPC 7670 holotype; figured, Sardeson, 1896b, Pl. 5, figs. 7, 8  
     Oneota Dol.  
     Altura, Winona Co., Minnesota
- Raphistoma lewistonense** Sardeson, 1896b, p. 99 Ordovician  
 UMPC 7675 holotype; figured, Sardeson, 1896b, Pl. 5, figs. 9, 10  
     Oneota Dol.  
     Utica, Winona Co., Minnesota
- Raphistoma oweni** Sardeson, 1896b, p. 100 Ordovician  
 UMPC 7666a holotype; figured, Sardeson, 1896b, Pl. 5, fig. 18  
     Oneota Dol.  
     Stillwater, Washington Co., Minnesota
- Raphistoma parvum** Stauffer, 1937a, p. 58 Ordovician  
 UMPC 4846 syntype; figured, Stauffer, 1937a, Pl. 9, fig. 1  
 UMPC 4847 syntype; Pl. 9, fig. 2  
 UMPC 4850 syntype; Pl. 9, fig. 5  
     all from lower Shakopee Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Raphistoma ruidum** Sardeson, 1896b, p. 101 Ordovician  
 UMPC 7676a holotype; figured, Sardeson, 1896b, Pl. 5, fig. 13  
     Shakopee Fm.  
     Argyle, Wisconsin
- Raphistoma shakopeense** Stauffer, 1937a, p. 59 Ordovician  
 UMPC 4849 syntype; figured, Stauffer, 1937a, Pl. 9, fig. 4  
 UMPC 4851 syntype; Pl. 9, fig. 6  
 UMPC 4853 syntype; Pl. 9, fig. 8  
 UMPC 4856 syntype; Pl. 9, fig. 11  
     all from lower Shakopee Fm.  
     Cannon Falls, Goodhue Co., Minnesota
- Salpingostoma richmondensis** Ulrich in Ulrich & Scofield, 1897, p. 903 Ordovician  
 UMPC R8731 possibly syntype  
     Richmond  
     Richmond, Indiana
- Salpingostoma sculptilis** Ulrich & Scofield, 1897, p. 902 Ordovician  
 UMPC R7462 syntype; figured, Ulrich & Scofield, 1897, Pl. 82, figs. 17-19  
     " *Fusispira* bed"  
     Goodhue Co., Minnesota

## Phylum Mollusca, Class Gastropoda

***Schizolopha moorei*** Ulrich in Ulrich & Scofield, 1897, p. 992 Ordovician  
 UMPC R8741 probably syntypes

Richmond

Richmond, Indiana

***Straparollus intralobatus*** Sardeson, 1896b, p. 101 Ordovician

UMPC 7665a holotype; figured, Sardeson, 1896b, Pl. 5, fig. 20

Oneota Dol.

Altura, Winona Co., Minnesota

***Strophostylus textilis*** Ulrich & Scofield, 1897, p. 1064 Ordovician

UMPC R233 syntype

"Trenton"

Finn's Glen, Minneapolis, Minnesota

***Subulites exactus*** Sardeson, 1896b, p. 101 Ordovician

UMPC 7677 holotype; figured, Sardeson, 1896b, Pl. 6, fig. 14

Shakopee Fm.

Shakopee, Scott Co., Minnesota

***Subulites regularis*** Ulrich & Scofield, 1897, p. 1072 Ordovician

UMPC R8759 probably syntypes

Stones River

High Bridge, Kentucky

***Tetranota bidorsata* var. *minor*** Ulrich & Scofield, 1897, p. 878 Ordovician

UMPC R7435 possibly syntypes

UMPC R7456 possibly syntypes

Cannon Falls, Minnesota

UMPC R7513 possibly syntypes

Fountain, Minnesota

***Tetranota obsoleta*** Ulrich & Scofield, 1897, p. 880 Ordovician

UMPC R5109 syntype

UMPC R7294 syntype

"Trenton"

Janesville, Wisconsin

UMPC R7465 syntype

UMPC R510 syntype

***Tetranota sexicarinata*** Ulrich & Scofield, 1897, p. 878 Ordovician

UMPC R5064 syntype

UMPC R7530 syntype

Platteville Fm.

Minneapolis, Minnesota

***Trochonema (Eunema) robbinsi*** Ulrich & Scofield, 1897, p. 1053 Ordovician

UMPC R7516 syntype; figured, Ulrich & Scofield, 1897, Pl. 76, figs. 11-14

Fusispira bed

Wykoff, Minnesota

***Trochonema (Eunema) salteri*** Ulrich & Scofield, 1897, p. 1053 Ordovician

UMPC R7375 syntype

"Trenton" Gr., Fusispira bed

Goodhue Co., Minnesota

***Trochonema fragile*** Ulrich & Scofield, 1897, p. 1050 Ordovician

UMPC R8735 syntype

Vellamo bed

Goodhue Co., Minnesota

**Phylum Mollusca, Class Gastropoda**

***Trochonema vagrans*** Ulrich & Scofield, 1897, p. 1049 Ordovician  
UMPC R6865 syntype; figured, Ulrich & Scofield, 1897, Pl. 78, figs. 12, 13  
Platteville Fm.  
Minneapolis, Minnesota

## Other Mollusca

- Archinacella depressa*** Ulrich & Scofield, 1897, p. 830 Ordovician  
 UMPC R5523 holotype; figured, Ulrich & Scofield, 1897, Pl. 61, figs. 8, 9  
     Platteville Fm.  
     Minneapolis, Minnesota
- Ascoceras gibberosum*** Sardeson, 1896b, p. 102 Ordovician  
 UMPC 8212 holotype; figured, Sardeson, 1896b, Pl. 6, figs. 8-10  
     Oneota Dol.  
     Dresbach, Winona Co., Minnesota
- Carinaropsis deleta*** Sardeson, 1892, p. 335 Ordovician  
 UMPC 7697 holotype; figured, Sardeson, 1892, Pl. 6, figs. 5, 6  
     Decorah Sh., bed 4  
     Cannon Falls, Minnesota
- Conchopeltis (or Metoptoma) obtusa*** Sardeson, 1892, p. 336 Ordovician  
 UMPC 7699 holotype; figured, Sardeson, 1892, Pl. 6, fig. 17  
     Decorah Sh., bed 4  
     Lake St. [bridge ?], Minneapolis or St. Paul, Minnesota
- Helcionopsis striata*** Ulrich in Ulrich & Scofield, 1897, p. 827 Ordovician  
 UMPC R8758 gutta percha cast of holotype; figured, Ulrich & Scofield, 1897, Pl. 61, figs. 29, 30  
     Richmond Group  
     Marion Co., Kentucky
- Metoptoma explanata*** Sardeson, 1892, p. 337 Ordovician  
 UMPC 7702 holotype; figured, Sardeson, 1892, Pl. 6, figs. 7, 8  
     Platteville Fm., bed 2  
     Minneapolis, Minnesota
- Palaeacmaea humilis*** Ulrich & Scofield, 1897, p. 837 Ordovician  
 UMPC R5104 syntype; figured, Ulrich & Scofield, 1897, Pl. 61, figs. 47, 48  
     Platteville Fm.  
     Minneapolis, Minnesota
- Scenella affinis*** Ulrich & Scofield, 1897, p. 840 Ordovician  
 UMPC R7487 syntype
- Scenella magnifica*** Ulrich & Scofield, 1897, p. 839 Ordovician  
 UMPC R3405 holotype; figured, Ulrich & Scofield, 1897, Pl. 82, figs. 7-9  
     Platteville Fm.  
     Cannon Falls, Minnesota
- Scenella radialis*** Ulrich & Scofield, 1897, p. 841 Ordovician  
 UMPC R5535 holotype; figured, Ulrich & Scofield, 1897, Pl. 61, figs. 31, 32  
     Decorah Sh. (*Clitambonites* bed)  
     St. Paul, Minnesota
- Technophorus subacutus*** Ulrich, 1892, p. 101 Ordovician  
 UMPC R8338 holotype; figured, Ulrich, 1892b, Pl. 7, figs. 13, 14  
     Platteville Fm.  
     Minneapolis, Minnesota
- Tryblidium exsertum*** Sardeson, 1892, p. 337 Ordovician  
 UMPC 7704a holotype; figured, Sardeson, 1892, Pl. 6, figs. 3, 4  
     Platteville Fm., bed 2  
     Minneapolis, Minnesota
- Tryblidium repertum*** Sardeson, 1896b, p. 102 Ordovician  
 UMPC 7678 holotype; figured, Sardeson, 1896b, Pl. 5, figs. 21, 22  
     Shakopee Fm.  
     Argyle, Wisconsin

## Other Mollusca

***Tryblidium validum*** Sardeson, 1892, p. 337 Ordovician  
UMPC 7705 holotype; figured, Sardeson, 1892, Pl. 6, figs. 1, 2  
Cummingsville Fm., bed 6  
Kenyon, Minnesota

## Phylum Porifera

***Camellaspongia tumula*** Rigby & Bayer, 1971, p. 619 Ordovician

UMPC 12039 holotype; figured, Rigby & Bayer, 1971, Pl. 69, figs. 1, 2  
Maquoketa Fm.

sec. 22, Bristol Twp., near Harmony, Fillmore Co., Minnesota

***Cotylahindia panaca*** Rigby & Bayer, 1971, p. 618 Ordovician

UMPC 9150 holotype; figured, Rigby & Bayer, 1971, Pl. 70, figs. 19, 21, 22, text fig. 6  
Maquoketa Fm. ?  
F240, Fillmore Co., Minnesota

***Phialaspongia fossa*** Rigby & Bayer, 1971, p. 623 Ordovician

UMPC 9149 holotype; figured, Rigby & Bayer, 1971, Pl. 70, figs. 10, 11  
Maquoketa Fm. ?  
F240, Fillmore Co., Minnesota

UMPC 12035 paratype; Pl. 70, figs. 17, 20  
Maquoketa Fm. ?  
Granger, Fillmore Co., Minnesota

UMPC 12036 paratype

UMPC 12037 paratype

UMPC 12038 paratype

preceding three from Maquoketa Fm.  
F240, Fillmore Co., Minnesota

## Kingdom Plantae

- Alnites crassus*** Lesquereux, 1895, p. 13 Cretaceous  
 UMPC R5368 holotype; figured, Lesquereux, 1895, Pl. B, fig. 4  
     north side of Big Cottonwood River near New Ulm, Minnesota
- Cissus browniana*** Lesquereux, 1895, p. 17 Cretaceous  
 UMPC R5156 holotype; figured, Lesquereux, 1895, Pl. A, fig. 8  
     "Dakota"  
     north side of Big Cottonwood River near New Ulm, Minnesota
- Dewalquea primordialis*** Lesquereux, 1895, p. 18 Cretaceous  
 UMPC R5158 holotype; figured, Lesquereux, 1895, Pl. A, fig. 10  
     "Dakota"  
     north side of Big Cottonwood River near New Ulm, Minnesota
- Diospyros pseudoanceps*** Lesquereux, 1895, p. 17 Cretaceous  
 UMPC R5372 holotype; figured, Lesquereux, 1895, Pl. B, fig. 6  
     north side of Big Cottonwood River near New Ulm, Minnesota
- Ficus austiniiana*** Lesquereux, 1895, p. 14 Cretaceous  
 UMPC R3808 syntype; figured, Lesquereux, 1895, Pl. A, fig. 5  
     NE/4 sec. 25, North Star, Brown Co., Minnesota, north side Cottonwood River  
 UMPC R5163 syntype  
     Basford's well, Austin, Minnesota
- Populites winchelli*** Lesquereux, 1895, p. 12 Cretaceous  
 UMPC R5376 holotype; figured, Lesquereux, 1895, Pl. B, fig. 2  
     north side of Big Cottonwood River near New Ulm, Minnesota
- Protophyllum integerrimum*** Lesquereux, 1895, p. 21 Cretaceous  
 UMPC R5666 syntypes; figured, Lesquereux, 1895, Pl. B, fig. 10, 11  
     Mankato, Minnesota
- Sequoia winchelli*** Lesquereux, 1895, p. 10 Cretaceous  
 UMPC R115 holotype; figured, Lesquereux, 1895, Pl. A, fig. 1  
     Basford's well, Austin, Minnesota

## Other Taxa

***Cryptozoon minnesotense*** Winchell, 1886, p. 313 Ordovician

UMPC R5865 syntypes; figured, Winchell, 1886, Pl. 1, figs. 1, 2, Pl. 2, fig. 3  
Shakopee Fm.

Cannon Falls, Goodhue Co., Minnesota

UMPC R6487 syntype

Shakopee Fm.  
Mankato, Minnesota

***Cryptozoon minnesotense* var. *libertatis*** Winchell, 1886, p. 315 Ordovician

UMPC R2391 syntype; figured, Winchell, 1886, Pl. 2, fig. 4 (this figure might be of a specimen from #R2563)

UMPC R2563 syntypes; figured, Winchell, 1886, Pl. 2, fig. 4 (this figure might be of the specimen #R2391)  
both from Shakopee Fm.

N bank of Cannon River, 1.5 mi. S of Northfield, Rice Co. Minnesota

***Cryptozoon rosemontensis*** Stauffer, 1945, p. 379 Ordovician

UMPC 5947 holotype; figured, Stauffer, 1945, Pl. 58, figs. 1, 2, 4, 5  
Shakopee Fm.

Gopher Ordnance Co., Pine Bend, Dakota Co., Minnesota

***Ctenoconularia obex*** Sinclair, 1952, p. 143 Ordovician

UMPC 6608 holotype; figured, Sinclair, 1952, figs. 56a-c

UMPC 6609 paratype

UMPC 6610 paratype

UMPC 6611 paratype  
all from Platteville Fm., Carimona ("Spechts Ferry") Mbr.  
Minneapolis, Minnesota

***Rauffella ? fucoida*** Sardeson, 1896a, p. 78 Ordovician

published as *Raufella (nomen imperfectum)*

UMPC 7687 syntypes; figured, Sardeson, 1896a, Pl. 4, figs. 5, 6  
St. Peter Ss. (possibly Glenwood Sh.)  
Fountain, Minnesota

***Rhabdochitina ? minnesotensis*** Stauffer, 1933, p. 1209 Ordovician

UMPC 4233 holotype; figured, Stauffer, 1933, Pl. 60, fig. 39  
Decorah Sh.  
Ford Bridge, Minneapolis, Minnesota

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