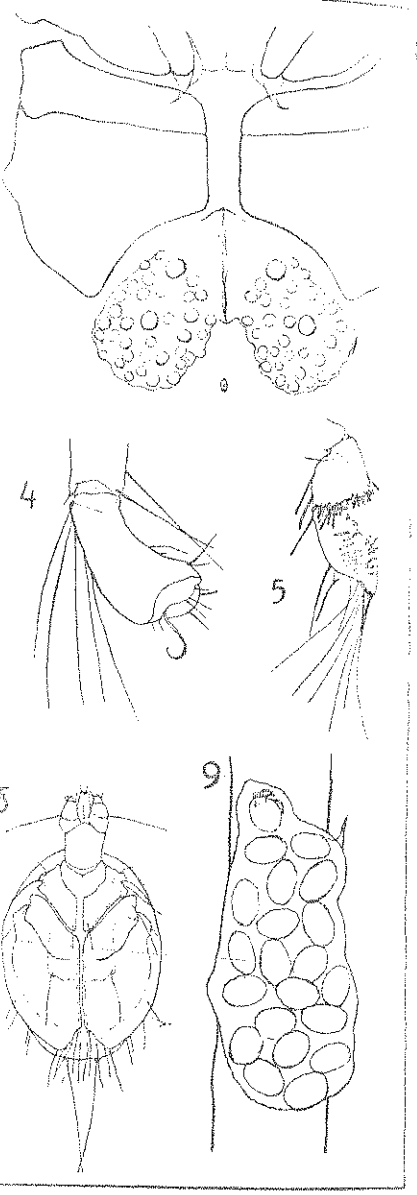


PLATE



A PRELIMINARY LIST OF THE MOLLUSCA OF DANE COUNTY, WISCONSIN

J. P. E. MORRISON

INTRODUCTION

The purpose of the following paper is to tabulate the distribution of the molluscs of this region, as far as known at the present time. It is intended as a checklist, with locality records, of this particular portion of the fauna of the area surrounding Madison. For convenience, the boundaries of the county have been taken as the limits of the area. The Wisconsin River, the northwest boundary of the region, has been included in the survey.

In the preparation of the list, material has been taken from three sources, namely: (1) published lists, including scattered references, where found. (2) the collections in the Museum of the University of Wisconsin. (3) collections made by the writer in the area under consideration.

Acknowledgements are due the following people, who have aided the work in various ways: Frank C. Baker, University of Illinois, Mr. Chancey Juday, and Mr. Geo. Wagner, University of Wisconsin. To Mr. Wm. J. Clench, Harvard Museum of Comparative Zoology, for determination of the Physidae; Dr. Victor Sterki, New Philadelphia, Ohio, for determination of the Sphaeriidae; Dr. Bryant Walker, Detroit, Michigan, are due many thanks for their kind cooperation. Unfortunately, all of the Ancyliidae in the author's personal collections from the vicinity of Madison have recently been lost in the mails. As they had not yet been examined by Dr. Walker, the records are unavailable specifically, and not included.

I wish also to thank the many friends who have aided in the field, by assistance in collecting, especially: Mr. Orlando Park, of the University of Chicago; Mr. Ralph Bailey, Mr. L. G. Gumbreck, Mr. J. H. Roberts, of the University of Wisconsin; Mr. Chatt Himley, of Madison.

In 1823, Mr. D. H. Barnes, of New York, published an article in the *American Journal of Science*, describing some new species of Fresh Water Mussels. The specimens he described were received by him from Capt. D. B. Douglass, topographical engineer, and Mr. H. R. Schoolcraft, mineralogist, of the N. W. Expedition. The records are the first from this region.

Mr. I. A. Lapham, of Milwaukee, was probably the first Wisconsin man to make careful studies of the molluscan fauna of the State. In 1852, he published a catalogue of the fauna, both recent and fossil, and of the flora known at that time from Wisconsin. Included in the list were some ninety forms of mollusks. Again in 1860, he published a list of the shells of the State. This second list, published in an eastern journal, was an abridged copy of the first one, and did not contribute more to our knowledge of the fauna. However, Mr. Lapham's original list is an invaluable record of its kind.

Likewise among the early records from Dane County are those of Prof. Spencer F. Baird, who was the first curator of the Smithsonian Institution. In the summer of 1853, he visited Dr. P. R. Hoy, of Racine, doing quite a bit of natural history work with him during the summer. On July second, they set out, together with Dr. J. P. Kirtland, on a longer excursion through southern Wisconsin. This trip included a stop at Madison, where most of their collecting was done in the neighborhood of Gov. Farwell's Mills, located at the foot of Lake Mendota, between that lake and Lake Monona. Baird's records were published in Binney's monographs of 1865.

Between the years 1887 and 1899, Geo. Marston collected extensively in eastern Wisconsin, including many collections from the Wisconsin River.

In 1897, Mrs. E. C. Wiswall published a list of shells of Southern Wisconsin. Some few of these records are referable to Dane County.

In the first decade of the present century, notably in 1904, Mr. Geo. Wagner collected from the lakes around Madison, principally from Lake Mendota.

Incidental to reporting the occurrence of the element manganese in Fresh Water Mussels, Bradley (1910) mentions

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Mussels. The specimens be
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radley (1910) mentions

the two common mussels of the lakes near Madison. He reports them as Anodonta—"the typical lake form," and Pisidium (evidently Lampsilis, from the locality mentioned). The writer has taken the liberty of referring these records to the species to which they undoubtedly belong.

The records added by W. H. Dudley, who collected on the Wisconsin River, etc., during the summer of 1918, have been included wherever possible.

Muttkowski, working on Lake Mendota during the period between 1913 and 1916, published on the fauna of the lake (1918). He lists several species that were studied quantitatively, and mentions the fact that there were others in the lake.

Perhaps the records based on the collections of D. S. Bullock, now in the Museum of the University, have added most among previous ones to our knowledge of the kinds of molluscs in the county.

Mr. Frank C. Baker, working in connection with the Geological and Natural History Survey, made extensive collections in the State during the summers of 1920-22. Some of these records are included, where they support records from localities actually within Dane County. Not a small number of records have been taken directly from Baker's monograph (Published in December 1928) but only those have been included that seem unquestionably referable to the area under consideration.

Juday (1922) records *Pisidium idahoense* from the deeper waters of Lake Mendota. It should perhaps be mentioned here that in these studies he carried on, he was dealing with not only the species mentioned, but also with at least three others in addition (in all probability). In his report, all of the pisidia mentioned as of the large class (having a length of 7 mm. or more) were undoubtedly *idahoense*, together with some young specimens listed in the other classes. On the other hand, the great majority of the pisidia mentioned (3,343 recorded as small; that is, as having a length of from 1.5 to 3.5 mm.) were undoubtedly not the above species, but of an undescribed species, in large part. This statement is based on subsequent collections by the writer. Since there is more than one species in the deeper waters of Lake Mendota, Juday's remarks as

to the high rate of mortality of the pisidia have become untenable. In substitution, it may be stated that *P. idahoense* is much less common in Lake Mendota than this undescribed species, which is usually no longer than 4 mm.

Finally, during the periods between September 1927 and June 1928, and between September and December 1928, the writer has made collections of molluscs from as many localities and over as great a seasonal range as has been possible in the limited time at his disposal. Besides adding a few species to those previously known from the area, these records have confirmed, in large part, those of the other workers. There are, in the author's collections from the region, some lots of species as yet undescribed. It has been thought best to omit them entirely from the list, in order to avoid any possibility of confusion.

For a full list of bibliographical references, the reader is referred to Baker's Monograph (1928, b.). The following few references will serve as an introduction to the molluscs in the county, including, as they do, the published records from this area.

- Baker, F. C. 1902. The Mollusca of the Chicago area. part 2, The Gastropoda. Bull. 3, part 2, Nat. Hist. Sur., Chicago Acad. Sci.
- 1928.b. The fresh water Mollusca of Wisconsin. part 1, Gastropoda. (Bull. 70. part 1. Wis. Geol. & Nat. Hist. Sur.). Mon. Aquatic Gastropoda of Wisconsin. Wis. Acad. Sci. Art. Let.
- 1928.b. The fresh water Mollusca of Wisconsin. part 2, Pelecypoda. (Bull. 70. part 2. Wis. Geol. & Nat. Hist. Sur.). Bull. U. of Wis. serial No. 1527, general series No. 1301.
- Binney, W. G., and Bland, T. 1869. Land and fresh water shells of North America. part 1, Pulmonata Geophila. Smith. Misc. Coll. No. 194.
- Binney, W. G. 1865.a. Land and fresh water shells of North America. part 2, Pulmonata, Limnophila and Thalassophila. Smith Misc. Coll. No. 143.
- 1865.b. Land and fresh water shells of North America. part 3, Ampullariidae, Vaivatidae, etc. Smith Misc. Coll. No. 144.

es, Arts, and Letters.

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 be stated that *P. idaho-*
 Mendota than this unde-
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 and December 1928, the
 Molluscs from as many lo-
 cal range as has been
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 ntirely from the list, in
 confusion.

In references, the reader
 (1928, b.). The follow-
 introduction to the mol-
 they do, the published re-

of the Chicago area.
 l. 3, part 2, Nat. Hist.

Mollusca of Wisconsin.
 part 1. Wis. Geol. &
 ic Gastropoda of Wis-
 et.

Mollusca of Wisconsin.
 part 2. Wis. Geol. &
 Wis. serial No. 1527.

69. Land and fresh
 part 1, Pulmonata Geo-
 94.

fresh water shells of
 nata, Limnophila and
 l. No. 143.

water shells of North
 Vaivatidae, etc. Smith

Morrison—Preliminary List of the Mollusca of Dane County. 409

Bradley, H. C. 1910. Manganese of the tissues of lower animals. Jour. Biol. Chem. 8:237-249.

Chadwick, G. H. 1906. Notes on Wisconsin Mollusca. Bull. Wis. Nat. Hist. Soc. 4:67-99.

Maday, C. 1922. Quantitative studies of the bottom fauna in the deeper waters of Lake Mendota. Trans. Wis. Acad. Sci. Art. Let. 20:461-493.

Lapham, I. A. 1852. Catalogue of the Mollusca of Wisconsin. Trans. Wis. State Agric. Soc. 2:367-370.

———. 1860. A list of the shells of the State of Wisconsin. Proc. Phila. Acad. Sci. 1860:154-156.

Muttkowski, R. A. 1918. The fauna of Lake Mendota. Trans. Wis. Acad. Sci. Art. Let. 19:174-482.

Pilsbry, H. A. and Johnson, C. W. 1898. A classified catalogue, with localities, of the land Mollusca of North America, north of Mexico. (reprinted from the Nautilus, August 1897—April 1898.).

Wiswall, (Mrs.) E. C. 1897. Shells of southern Wisconsin. Nat. Sci. Journ. 1 (2):47-48.

The system of classification followed in this paper is that used by Baker in his recent monograph, with additions. That used for the land species is modified from the catalogue of Pilsbry and Johnson cited above. It is not to be presumed that the writer's arrangement of the groups of land forms is anything more than a convenience.

In all, one hundred and fifty species and varieties are recorded from Dane County. The following short list will give an idea of the distribution of these species into the major groups.

Fresh water univalves	53
Land univalves	25
Unionidae (bivalves)	42
Sphaeriidae (bivalves)	30
Total	150 (species and varieties)

Of interest is the fact that four species are herein added to those already known from the State. They are: *Pisidium concinnulum* Sterki; *P. minutum* Sterki; *P. pusillum* Jen.; *Radix auricularia* (Linn.). The occurrence of *Gyraudus crista* (Linn.).. in abundance, living, in the swamps

near Lakes Mendota and Wingra is worthy of mention. Also notable is the recent discovery of *Acella haldemani* (Desh; Binney) as a fossil in the marl at the margin of University Bay, Lake Mendota. The only other record of this species' occurrence in the State is that of Lapham, who recorded it from the Milwaukee River in 1852.

Undoubtedly further collecting in the area will add other forms to those included in the present list. This is especially true since so little of the county has been intensively examined for Mollusca.

It is to be hoped that this list will interest many; those interested in molluscs from a popular viewpoint, as well as those interested from more technical viewpoints.

Any additions and corrections will be gratefully received. The systematic list by species follows. Each name of a species or variety is brought out to the left-hand margin for ready reference; the localities where the species is known to occur are stated; the names in parentheses following the localities indicate the authority for the records at the places cited.

SYSTEMATIC CATALOGUE OF SPECIES

Class GASTROPODA

Subclass STREPTONEURA Spengel.
Order CTENOBRANCHIATA Schweigger.
Suborder PLATYPODA Lamarck.
Superfamily Taeniglossa Bouvier.
Family VALVATIDAE Gray.
Genus *Valvata* Muller.

Valvata tricarinata (Say).

Four Lakes (Lapham); Lake Mendota (Muttkowski, Baker); margin, University Bay, Lake Mendota; dredging, seven meters, Lake Mendota; Merrill Spring stream; Pheasant Branch, near mouth (Morrison).

Valvata sincera Say.

Four Lakes (Lapham); Madison (Lapham, Binney, Chadwick, Baker).
Family VIVIPARIDAE (Gray) Gill.
Subfamily LIOPLACINAE (Gill) Baker.
Genus *Campeloma* Rafinesque.

Campeloma integrum (Say).

Wisconsin River, "ascends as far as the dam at Kilbourn" (Baker).

Campeloma rufum (Haldeman).

Yahara River, Madison (Pearse, Morrison); sandy shallows, Lake Mendota; Black Earth Creek, Mazomanie; Koshkonong River, Rockdale; outlet of Lake Ripley, Cambridge (Morrison).
Family AMNICOLIDAE (Tryon) Gill.
Subfamily AMNICOLINAE Gill.
Genus *Amnicola* Gould & Haldeman.

Amnicola limosa porata (Say).

Madison, (Lapham, Binney, Chadwick); Lake Mendota (Muttkowski); University Bay, Lake Mendota; dredging off Picnic Point, Lake Mendota (Morrison).

Amnicola limosa parva Lea.

Lake Mendota (Walker, Baker); Lake Mendota, dredging, seven meters (Morrison).

Amnicola lustrica decepta Baker.

Lake Mendota (Hinkley, Baker); Lake Wingra (Bullock, Baker).

Amnicola walkeri Pilsbry.

Lake Wingra (Bullock, Baker).
Genus *Cincinnatia* Pilsbry.

Cincinnatia cincinnatiensis (Anthony).

Yahara River, Madison; stream, four miles east of Belleville (Morrison).
Subfamily LITHOGLYPHINAE Fisher.
Genus *Somatogyrus* Gill.

Somatogyrus depressus (Tryon).

Prairie Du Sac (Hinkley, Walker, Baker): Probably occurs on the Dane Co. side of the river.

Somatogyrus tryoni Pilsbry & F. C. Baker.

Black Earth Creek, Mazomanie; Koshkonong River, Rockdale; outlet of Lake Ripley, Cambridge (Morrison).
Family POMATIOPSIDAE Stimpson.
Genus *Pomatiopsis* Tryon.

Pomatiopsis lapidaria (Say).

Four Lakes, Madison (Lapham, Binney, Chadwick, Baker).
Family PLEUROCERIDAE Fisher.
Genus *Pleurocera* Rafinesque.

is worthy of mention.
ary of *Acella haldemani*
marl at the margin of
he only other record of
is that of Lapham, who
er in 1852.
the area will add other
sent list. This is espe-
ity has been intensively

in interest many; those
r viewpoint, as well as
l viewpoints.

be gratefully received.
ows. Each name of a
the left-hand margin
s where the species is
nes in parentheses fol-
thority for the records

OF SPECIES

eger.

a (Muttkowski, Baker);
; dredging, seven meters,
; Pheasant Branch, near

ham, Binney, Chadwick,

er.

Pleurocera acuta tracta (Anthony).

Lake Mendota (Muttkowski); Yahara River, Madison (Juday, Morrison); sandy shallows, Lake Mendota; Koshkonong River, Rockdale; outlet of Lake Ripley, Cambridge; Black Earth Creek, Mazomanie (Morrison).

Collections upstream at Kilbourn (Baker), and downstream at Arena (Morrison), indicate its presence in the Wisconsin River within the limits of Dane County.

Subclass EUTHYNEURA Spengel.

Order PULMONATA Cuvier.

Suborder BASOMMATOPHORA A. Schmidt.

Superfamily LIMNOPHILA.

Family LYMNAEIDAE (Broderip) Baker.

Genus *Lymnaea* Lamarck.

Lymnaea stagnalis jugularis Say.

Fourth Lake (Lapham); Lake Mendota (Muttkowski, Baker).
Genus *Stagnicola* (Leach) Jeffreys.

Stagnicola palustris elodes (Say).

The Four Lakes (Lapham); Lake Mendota, Madison (Bullock, Baker); ponds, streams, and swamp, south of Lake Wingra; swamp, University Creek, University Bay, Lake Mendota (Morrison).

Stagnicola umbrosa (Say).

Lake Mendota (Bullock, Juday, Baker); near Madison (Wiswall, Baker); Windsor (Bullock, Baker).

Stagnicola umbrosa jolietensis (F. C. Baker).

Shore of Lake Mendota, Madison (Bullock, Wagner, Baker).

Stagnicola reflexa (Say).

Farwell's Mills, Madison (Baird, Binney, Chadwick, Baker).

Stagnicola emarginata angulata (Sowerby).

Four Lakes (Lapham); Madison (Lapham, Binney, Marston, Wiswall, Chadwick, Bullock, Baker); below old Chem. Lab., Lake Mendota (Wagner).

Stagnicola caperata (Say).

Pond, stream, south of Lake Wingra (Morrison).
Genus *Acella* Haldeman.

Acella haldemani ("Deshayes" Binney).

Fossil in Marl: Margin of University Bay, Lake Mendota (Morrison). Further search may reveal this species living in Lake Mendota.

Genus *Radix* Montfort.

Anthony).
Yahara River, Madison (Juday).
Lake Mendota; Koshkonong River,
Waukesha; Black Earth Creek,
Sheboygan (Baker), and downstream at
its presence in the Wisconsin River
County.
Spengel.
Morrison.
MORRISON A. Schmidt.
Morrison.
Morrison (Baker).

Say.
Lake Mendota (Muttkowski, Baker).
Jeffreys.
(Say).
Lake Mendota, Madison (Bullock).
Swamp, south of Lake Wingra;
University Bay, Lake Mendota (Mor-
rison).
Lake Mendota (Bullock).
near Madison (Wis-
consin, Baker).

(F. C. Baker).
Madison (Bullock, Wagner, Baker).
Baird, Binney, Chadwick, Baker).
Morrison (Sowerby).
Madison (Lapham, Binney, Marston,
Baker); below old Chem. Lab.,
University Bay, Lake Mendota (Mor-
rison).
Wingra (Morrison).

Binney).
University Bay, Lake Mendota (Mor-
rison).
reveal this species living in Lake

Radix auricularia (Linn.).
A small but thriving colony of this European species has been
found in the aquarium of the Botany Dept. Greenhouse, at the
University of Wisconsin. The snails were accidentally intro-
duced; probably on Elodea plants, from either Cincinnati
(Bryan), or Philadelphia (Denniston).
Genus *Fossaria* Westerlund.

Fossaria parva (Lea).
Swamp, streams, south of Lake Wingra; Merrill Creek; swamp,
four miles east of Belleville (Morrison).

Fossaria modicella (Say).
Stream, pond, south of Lake Wingra; Pumping Station outlet,
University Bay, Lake Mendota (Morrison).

Fossaria obrussa (Say).
University Bay, Lake Mendota (Pearse); stream, swamp, ponds,
south of Lake Wingra; Pheasant Branch, near mouth (Morri-
son).

Fossaria obrussa decampi (Streng).
Fossil: Lake Wingra, near Madison (Bullock, Baker).

Fossaria exigua (Lea).
Streams, south of Lake Wingra (Morrison).
Family PLANORBIDAE H. & A. Adams.
Genus *Helisoma* Swainson.

Helisoma antrosa (Conrad).
Four Lakes (Lapham); University Bay, Tenney Park shores,
Lake Mendota, Madison (Morrison).

Helisoma antrosa unicarinata (Haldeman).
Lake Mendota (Muttkowski, Baker).

Helisoma trivolvis (Say).
Farwell's Mills, Madison (Baird, Binney); Madison (Baird,
Binney, Chadwick, Baker); Lake Monona, Lake Mendota, Madi-
son (Bullock); swamp, University Creek; Pheasant Branch, near
mouth; ponds, south of Lake Wingra; Koshkonong River, Rock-
dale (Morrison).

Helisoma pseudotrivolvis (F. C. Baker).
Near Lake Monona (Bullock); near Murphy Creek, near Lake
Mendota, near Madison (Bullock, Baker).

Helisoma campanulata (Say).
Fourth Lake (Lapham); Lake Mendota (Muttkowski, Baker).
Genus *Planorbula* Haldeman.

Planorbula armigera (Say).

Ponds, stream, springs, swamp, south of Lake Wingra; swamp, University Creek, University Bay, Lake Mendota (Morrison).
Genus *Menetus* H. & A. Adams.

Menetus exacuus (Say).

Swamp, south of Lake Wingra; swamp, University Creek, University Bay, Lake Mendota (Morrison).

Menetus exacuus megas (Dall).

The record of this variety from Lake Monona (Dane Co.) by Hinkley is erroneous. The record should be Lake Monona, Minnesota, not Wisconsin, as shown by other specimens in the Hinkley collection (Baker).

Genus *Gyraulus* Charpentier.

Gyraulus hirsutus (Gould).

Canal, south of Lake Wingra; swamp, University Bay, Lake Mendota (Morrison).

Gyraulus deflectus (Say).

Fourth Lake (Lapham); stream, south of Lake Wingra; Merrill Spring; Pheasant Branch, near mouth; swamp, University Bay, Lake Mendota (Morrison). The record from Lake Monona was probably a lapsus penne of Hinkley for Lake Monona, Minnesota (Baker).

Gyraulus deflectus obliquus (DeKay).

Near Madison (Bullock, Baker).

Gyraulus parvus (Say).

Lake Mendota (Muttkowski, Bullock, Baker); dredging, seven meters, Lake Mendota; Yahara River, Madison; Merrill Creek; Merrill Spring stream; ponds, stream, swamp, south of Lake Wingra; swamp, University Creek, University Bay, Lake Mendota (Morrison).

Gyraulus altissimus (F. C. Baker).

Fossil in marl: near Lake Wingra (Bullock, Baker).

Gyraulus umbilicatellus (Cockerell).

Windsor (Bullock, Baker).

Gyraulus crista (Linn.).

Ponds, swamp, (on water plants) south of Lake Wingra; swamp, University Creek, University Bay, Lake Mendota (Morrison).

Family ANCYLIDAE Menke.

Subfamily FERRISSINAE Walker.

Genus *Ferrissia* Walker.

outh of Lake Wingra; swamp,
Lake Mendota (Morrison).

Physissia kirklandi (Walker).
University Bay, Lake Mendota (Juday, Baker).
Family PHYSIDAE Dall.
Genus *Physella* (Haldeman) Baker.

swamp, University Creek (Mor-
rison).

Physella ancillaria (Say).
University shores, University Bay, Lake Mendota (Wagner).

1).
Lake Monona (Dane County);
should be Lake Monona, *M.*
other specimens in the Her-

Physella sayii (Tappan).
Along shore, Lake Mendota, Madison (Wagner); swamp, Uni-
versity Bay, Lake Mendota; Yahara River, Madison; ponds,
south of Lake Wingra (Morrison).

swamp, University Bay, Lake

Physella sayii crassa (Walker).
Lakes Monona and Mendota (Baird, Bullock, Muttkowski, Wag-
ner, Baker).

south of Lake Wingra; Merrill
Creek, south of Lake Wingra;
swamp, University Bay;
first record from Lake Monona was
made by Key for Lake Monona, Minn.

Physella warreniana (Lea).
Pheasant Branch, near mouth; swamp, University Creek, Uni-
versity Bay, Lake Mendota; Yahara River, Madison; canal,
streams, south of Lake Wingra (Morrison).

Kay).

Physella gyrina (Say).
Farwell's Mills, Madison (Baird, Binney, Chadwick, Baker);
stream, south of Lake Wingra (Bullock, Baker); ponds, stream,
canal, south of Lake Wingra; swamp, mouth of University
Creek, University Bay, Lake Mendota; Merrill Creek (Morri-
son).

lock, Baker); dredging, seven
miles north of Madison; Merrill Creek;
stream, swamp, south of Lake
Wingra, University Bay, Lake Men-

Physella gyrina hildrethiana (Lea).
Sun Prairie (Bullock).

er).
Lake Mendota (Bullock, Baker).

Physella integra (Haldeman).
University shore, Lake Mendota, Madison (Wagner); rocky
shore, east of University Bay; shores in Tenney Park, Lake
Mendota; Yahara River, Madison; Koshkonong River, Rockdale;
outlet of Lake Ripley, Cambridge (Morrison).

Merrill).

Physella walkeri (Crandall).
Merrill Springs, Lake Mendota (Pearse, Baker); Lake Mendota
(Bullock, Muttkowski, Baker).

south of Lake Wingra; swamp,
University Bay, Lake Mendota (Morrison).

Physella michiganensis (Clench).
Merrill Spring (Morrison).
Genus *Aplexa* Fleming.

Baker.

Aplexa hypnorum (Linn.).

Windsor (Bullock, Baker); swamp, north of Picnic Point, Lake Mendota, Madison; ponds, swamp, south of Lake Wingra; swamp, near outlet, Lake Ripley, Cambridge (Morrison).

Superfamily AKTEOPHILA

Family AURICULIDAE

Genus *Carychium* Muller.

Carychium exiguum (Say).

Swampy ground, south of Lake Wingra; along Merrill Spring stream; swamp, four miles east of Belleville (Morrison).

Suborder STYLOMMATOPHORA

MONOTREMATA

Vasopulmonata

ORTHURETHRA

Family VALLONIIDAE

Genus *Vallonia* Risso.

Vallonia costata (Muller).

Sunset Point, three miles west of Madison; swamp, along University Bay; along Merrill Spring stream; in willows, south of Lake Wingra (Morrison).

Vallonia pulchella (Muller).

Sunset Point, three miles west of Madison; along Merrill Spring stream; along Merrill Creek; swampy ground, south of Lake Wingra; Picnic Point, near University Bay; swamp, four miles east of Belleville (Morrison).

Family PUPILLIDAE

Genus *Strobilops* Pilsbry.

Strobilops affinis Pilsbry.

Swampy ground, south and west of Lake Wingra; Sunset Point, three miles west of Madison; along Merrill Creek; along the outlet of Lake Ripley, Cambridge (Morrison).

Genus *Pupoidea* Pfeiffer.

Pupoidea marginata (Say).

Sunset Point, three miles west of Madison (Morrison).

Genus *Gastrocopta*

Gastrocopta armifera (Say).

Sunset Point, three miles west of Madison; bluffs, northwest margin of Lake Mendota (Morrison).

Gastrocopta contracta (Say).

Bluffs, northwest margin of Lake Mendota; along Merrill Creek; in willows, south of Lake Wingra; Sunset Point, three miles west of Madison (Morrison).

north of Picnic Point, Lake Wingra; south of Lake Wingra; Cambridge (Morrison).

Gastrocopta tappaniana (C. B. Adams).

Swampy ground, south of Lake Wingra; along Merrill Creek; swamp, four miles east of Belleville (Morrison).

Gastrocopta pentodon (Say).

Bluffs, northwest margin of Lake Mendota; Sunset Point, three miles west of Madison (Morrison).

Genus *Vertigo* Draparnaud.

Wingra; along Merrill Spring Belleville (Morrison).

Vertigo ovata (Say).

Swampy ground, south of Lake Wingra; swamp, four miles east of Belleville (Morrison).

Vertigo milium (Gould).

Swampy ground, south of Lake Wingra (Morrison).

Family COCHLICOPIDAE

Genus *Cochlicopa* (Ferussac) Risso.

Madison; swamp, along Unadilla stream; in willows, south of Madison.

Cochlicopa lubrica (Muller).

Madison (Lapham); near springs, south of Lake Wingra; bluffs, northwest margin of Lake Mendota (Morrison).

HETERURETHRA

Superfamily ELASMOGNATHA

Family SUCCINEIDAE

Genus *Succinea* Draparnaud.

Madison; along Merrill Spring; swampy ground, south of Lake Wingra; Liberty Bay; swamp, four miles east of Madison.

Succinea retusa Lea.

Swampy ground, south of Lake Wingra (Morrison).

Lake Wingra; Sunset Point; along Merrill Creek; along the stream (Morrison).

Succinea avara Say.

Swampy ground, south of Lake Wingra; bluffs, northwest margin of Lake Mendota; swamp, four miles east of Belleville (Morrison).

SIGMURETHRA

Superfamily HOLOPODA

Family HELICIDAE

Subfamily POLYGYRINAE

Genus *Polygyra* (Say) Pilsbry.

Madison (Morrison).

Polygyra monodon (Rackett).

Along stream, south of Lake Wingra (Morrison).

Madison; bluffs, northwest margin of Lake Mendota.

Polygyra monodon fraterna (Say).

Swampy ground, south of Lake Wingra; bluffs, northwest margin of Lake Mendota (Morrison).

Madison; along Merrill Creek; Sunset Point, three miles east of Madison.

Polygyra multilineata (Say).

Madison (Lapham); swampy ground, south and west of Lake Wingra (Morrison).

Superfamily AULACOPODA

Family ZONITIDAE

Subfamily ZONITINAE

Genus *Vitrea* Fitzinger.

Vitrea hammonis (Strom.).

Woods, south of Lake Wingra; Picnic Point, near University Bay; along Merrill Creek (Morrison).

Vitrea indentata (Say).

Bluffs, northwest margin of Lake Mendota (Morrison).

Genus *Euconulus* Reinhardt.

Euconulus fulvus (Draparnaud).

Swampy ground, south of Lake Wingra; Sunset Point, three miles west of Madison (Morrison).

Subfamily ARIOPHANTINAE

Genus *Zonitoides* Lehmann.

Zonitoides arboreus (Say).

Madison (Lapham); bluffs, northwest margin of Lake Mendota; swampy ground, south of Lake Wingra; Picnic Point, near University Bay; Sunset Point, three miles west of Madison; swamp, four miles east of Belleville (Morrison).

Family LIMACIDAE

Genus *Agriolimax* Morch.

Agriolimax campestris (Binney).

Bluffs, northwest margin of Lake Mendota; Picnic Point, near University Bay, Madison; swampy ground, south of Lake Wingra (Morrison).

Family ENDODONTIDAE

Subfamily ENDODONTINAE

Genus *Pyramidula* Fitzinger.

Pyramidula alternata (Say).

Sunset Point, three miles west of Madison (Morrison).

Genus *Gonyodiscus* Fitzinger.

Gonyodiscus cronkhitei anthonyi Pilsbry.

Madison (Lapham); swampy ground, south of Lake Wingra; along Merrill Creek; along outlet of Lake Ripley, Cambridge (Morrison).

Genus *Helicodiscus* Morse.

Helicodiscus parallelus (Say).

Bluffs, northwest margin of Lake Mendota; in willows, south of Lake Wingra; Sunset Point, three miles west of Madison (Morrison).

Class PELECYPODA Goldfuss.

Order PRIONODESMACEA Dall.
Superfamily NAIADACEA Menke.
Family UNIONIDAE (d'Orbigny) Ortmann.
Subfamily UNIONINAE (Swainson) Ortmann.
Genus *Fusconaia* Simpson.

Fusconaia flava (Rafinesque).

Black Earth Creek, Mazomanie; Koshkonong River, Cambridge, Rockdale (Morrison).

Fusconaia flava parvula (Grier)

Outlet of Lake Ripley, Cambridge (Morrison).

Fusconaia undata (Barnes).

Wisconsin River (Schoolcraft, Barnes, Marston, Baker), at Prairie du Sac (Lapham), opposite Prairie du Sac (Morrison).

Fusconaia ebena (Lea).

Wisconsin River, "found as far as Kilbourn" (Baker).
Genus *Amblema* Rafinesque.

Amblema variplicata (Lamarck).

Wisconsin River (Barnes, Baker), at Prairie du Sac (Lapham, Wiswall). Probably occurs within the boundaries of the county.

Amblema costata Rafinesque.

Koshkonong River, Cambridge, Rockdale (Morrison).
Genus *Quadrula* Rafinesque.

Quadrula fragosa (Conrad).

Wisconsin River (Marston, Wiswall, Chadwick, Hinkley), at Kilbourn (Baker). Possibly in the Wisconsin River in this area.

Quadrula pustulosa (Lea).

Wisconsin River (Marston, Baker) at Prairie du Sac (Lapham), opposite Prairie du Sac (Morrison).

Quadrula metanевра Rafinesque.

Wisconsin River (Schoolcraft, Barnes, Marston, Baker), at Prairie du Sac (Lapham), opposite Prairie du Sac (Morrison).
Genus *Tritigonia* Agassiz.

Tritigonia verrucosa (Rafinesque).

Wisconsin River (Douglass, Barnes, Bullock, Baker), at Prairie du Sac (Lapham), opposite Prairie du Sac (Morrison).
Genus *Plethobasus* Simpson.

Plethobasus cyphus (Rafinesque).

Wisconsin River (Baker); Prairie du Sac (Dudley); Wisconsin River, opposite Prairie du Sac (Morrison).
Genus *Pleurobema* (Rafinesque) Agassiz.

Pleurobema coccineum (Conrad).

Black Earth Creek, Mazomanie (Morrison).

Pleurobema coccineum solida (Lea).

Wisconsin River (Marston, Baker), at Prairie du Sac (Lapham), opposite Prairie du Sac (Morrison).
Genus *Elliptio* Rafinesque.

Elliptio dilatatus (Rafinesque).

"Inhabits the Wisconsin" (Douglass, Schoolcraft, Barnes); Wisconsin River (Lapham, Baker), opposite Prairie du Sac (Morrison).

Elliptio dilatatus delicatus (Simpson).

Outlet of Lake Ripley, Cambridge (Morrison).
Subfamily ANODONTINAE Ortmann.
Genus *Lasmigona* Rafinesque.

Lasmigona compressa (Lea).

Black Earth Creek, Mazomanie; outlet of Lake Ripley, Cambridge (Morrison).

Lasmigona costata (Rafinesque).

Wisconsin River (Douglass, Barnes, Lapham, Marston, Baker), at Prairie du Sac (Wiswall); Black Earth Creek, Mazomanie; Koshkonong River, Cambridge, Rockdale (Morrison).

Lasmigona complanata (Barnes).

Wisconsin River (Douglass, Barnes, Lapham, Baker), opposite Prairie du Sac; Black Earth Creek, Mazomanie; Token Creek, Koshkonong River, Rockdale (Morrison).
Genus *Anodonta* Lamarck.

Anodonta grandis Say.

University shore, Lake Mendota (Wagner); Lake Wingra (Baker); south margin, Lake Wingra; canal, south of Lake Wingra; Yahara River, Madison; sloughs, south end of Lake Monona; Koshkonong River, Cambridge, Rockdale; Black Earth Creek, Mazomanie; Wisconsin River, opposite Prairie du Sac (Morrison).

Anodonta grandis footiana Lea.

Madison Lakes (Bradley); Lake Mendota (Dudley, Baker); shallow water, University shore, Lake Mendota (Wagner); north of Picnic Point, Lake Mendota; west margin of Lake Monona; outlet of Lake Ripley, Cambridge (Morrison).

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Anodonta (grandis) gigantea Lea.

University Bay, Lake Mendota, Madison (Pearse); Yahara River, Madison (Pearse); Lake Wingra (Bullock, Twenhofel). These records are doubtfully referable to *gigantea*.

Anodonta marginata Say.

Fourth Lake (Lapham); Lake Mendota (Dudley); Yahara River, above Lake Kegonsa (Dudley); Token Creek, Token Creek (Morrison).

Genus *Anodontoides* Simpson.

Anodontoides ferussacianus (Lea).

Koshkonong River, Cambridge, Rockdale; creek, four miles east of Belleville; Black Earth Creek, Mazomanie (Morrison).

Anodontoides ferussacianus subcylindraccus (Lea).

Token Creek, Token Creek; outlet of Lake Ripley, Cambridge (Morrison).

Genus *Alasmidonta* Say.

Alasmidonta calceola (Lea).

Black Earth Creek, Mazomanie; creek, four miles east of Belleville; Token Creek, Token Creek (Morrison).

Alasmidonta marginata (Say).

Black Earth Creek, Mazomanie (Morrison).

Genus *Strophitus* Rafinesque.

Strophitus rugosus (Swainson).

Wisconsin River (Marston, Baker); Wisconsin River, opposite Prairie du Sac; Black Earth Creek, Mazomanie; Koshkonong River, Rockdale (Morrison).

Strophitus rugosus lacustris F. C. Baker.

Outlet of Lake Ripley, Cambridge (Morrison).

Subfamily LAMPSILINAE Ortmann.

Genus *Obliquaria* Rafinesque.

Obliquaria reflexa Rafinesque.

Wisconsin River (Marston, Wiswall, Baker); Wisconsin River, opposite Prairie du Sac (Morrison).

Genus *Obovaria* Rafinesque.

Obovaria olivaria (Rafinesque).

Wisconsin River (Marston, Baker), at Prairie du Sac (Lapham); opposite Prairie du Sac (Morrison).

Genus *Actinonaias* Fischer & Crosse.

Actinonaias carinata (Barnes).

Wisconsin River (Barnes, Lapham, Marston, Wiswall, Chadwick, Baker); Black Earth Creek, Mazomanie; Koskonong River, Rockdale (Morrison).

Genus *Truncilla* Rafinesque.

Truncilla truncata Rafinesque.

Wisconsin River (Marston, Baker), at Prairie du Sac (Lapham); opposite Prairie du Sac (Morrison).

Truncilla donaciformis (Lea).

Wisconsin River (Baker), at Prairie du Sac (Lapham); opposite Prairie du Sac (Morrison).

Genus *Leptodea* Rafinesque.

Leptodea fragilis Rafinesque.

"Inhabits the Wisconsin" (Schoolcraft, Barnes); Wisconsin River (Baker), at Prairie du Sac (Lapham), opposite Prairie du Sac (Morrison).

Genus *Proptera* Rafinesque.

Proptera alata megaptera (Rafinesque).

Wisconsin River (Douglass, Barnes, Lapham, Baker). Probably occurs, although no specific records are at hand.

Genus *Carunculina* Simpson.

Carunculina parva (Barnes).

Black Earth Creek, two miles west of Mazomanie (Morrison).

Genus *Ligumia* Swainson.

Ligumia recta latissima (Rafinesque).

Wisconsin River (Douglass, Barnes, Marston, Baker), at Prairie du Sac (Lapham), opposite Prairie du Sac (Morrison).

Ligumia ellipsiformis (Conrad).

Wisconsin River, opposite Prairie du Sac; Koskonong River, Rockdale; outlet of Lake Ripley, Cambridge (Morrison).

Genus *Lampsilis* Rafinesque.

Lampsilis siliquoides (Barnes).

"Inhabits the Wisconsin" (Douglass, Barnes); Wisconsin River (Lapham, Baker); Lake Mendota, Madison (Pearse); south margin, Lake Wingra; Koskonong River, Cambridge, Rockdale; Wisconsin River, opposite Prairie du Sac (Morrison).

Lampsilis siliquoides rosacea (DeKay).

Madison Lakes (Bradley); Lake Monona (Bullock, Baker); University shore, Lake Mendota (Wagner); Tenney Park shores, shores north of Picnic Point, Lake Mendota; west margin, Lake Monona (Morrison).

Lampsilis ventricosa occidentis (Lea).

"Inhabits the Wisconsin" (Schoolcraft, Barnes); Wisconsin River (Lapham, Wiswall, Chadwick, Baker), at Prairie du Sac (Wiswall), opposite Prairie du Sac; Black Earth Creek, Mazomanie; Koshkonong River, Rockdale (Morrison).

Lampsilis ventricosa lurida Simpson.

Fourth Lake (Lapham); west margin, Lake Monona; outlet of Lake Ripley, Cambridge (Morrison).

Order TELEODESMACEA Dall.

Superfamily CYRENACEA Tryon.

Family SPHAERIIDAE Dall.

Subfamily SPHAERIINAE F. C. Baker.

Genus *Sphaerium* Scopoli.

Sphaerium sulcatum (Lamarck).

Stream, south of Lake Wingra; creek, four miles east of Belleville; Token Creek, Token Creek (Morrison).

Sphaerium crassum Sterki.

Yahara River, Madison (Juday, Morrison).

Sphaerium solidulum (Prime).

Yahara River, Madison; Black Earth Creek, Mazomanie (Morrison).

Sphaerium bakeri Sterki.

Koshkonong River, Rockdale; Token Creek, Token Creek (Morrison).

Sphaerium striatinum (Lamarck).

Outlet of Lake Ripley, Cambridge (Morrison).

Genus *Musculium* Link.

Musculium transversum (Say).

Black Earth Creek, Mazomanie; Koshkonong River, Rockdale (Morrison).

Musculium truncatum (Linsley).

Stream, south of Lake Wingra (Morrison).

Musculium rosaceum (Prime).

Pheasant Branch, near mouth (Morrison).

Musculium securis (Prime).

Swamp, south of Lake Wingra; along University Bay, Lake Mendota (Morrison).

Subfamily PISIDIINAE F. C. Baker.

Genus *Pisidium* C. Pfeiffer.

Pisidium idahoense Roper.

Lake Mendota (Juday, Baker); dredging, off Picnic Point, Lake Mendota (Morrison).

Pisidium compressum Prime.

Wisconsin River, opposite Prairie du Sac; Pheasant Branch, near mouth; Koshkonong River, Rockdale; outlet of Lake Ripley, Cambridge; creek, four miles east of Belleville (Morrison).

Pisidium fallax Sterki.

Koshkonong River, Rockdale (Morrison).

Pisidium punctatum Sterki.

Yahara River, Madison (Morrison).

Pisidium variable Prime.

Dredging, off Picnic Point, Lake Mendota (Morrison).

Pisidium glabellum Sterki.

Merrill Spring (four miles west of Madison) (Morrison).

Pisidium adamsi Prime.

Stream, south of Lake Wingra; Yahara River, Madison (Morrison).

Pisidium sargenti Sterki.

Outlet of Lake Ripley, Cambridge (Morrison).

Pisidium neglectum Sterki.

Stream, south of Lake Wingra (Morrison).

Pisidium noveboracense Prime.

Merrill Spring; Merrill Spring stream; springs, along Merrill Creek; spring fed streams, south of Lake Wingra; Yahara River, Madison (Morrison).

Pisidium scutellatum Sterki.

Sandy shallows, Tenney Park shore, Lake Mendota (Morrison).

Pisidium walkeri Sterki.

Pheasant Branch, near mouth (Morrison).

Pisidium roperi Sterki.

Swamp, south of Lake Wingra; swamp, north of Picnic Point, Lake Mendota (Morrison).

Pisidium politum Sterki.

Pheasant Branch, near mouth (Morrison).

Pisidium abditum Haldeman.

Stream, south of Lake Wingra (Morrison).

ices, Arts, and Letters.

dredging, off Picnic Point, Lake

du Sac; Pheasant Branch, near
Kendale; outlet of Lake Ripley,
east of Belleville (Morrison).

(Morrison).

on).

Mendota (Morrison).

of Madison) (Morrison).

Yahara River, Madison (Morri-

ge (Morrison).

(Morrison).

stream; springs, along Merrill
of Lake Wingra; Yahara River,

ore, Lake Mendota (Morrison).

Morrison).

swamp, north of Picnic Point,

(Morrison).

(Morrison).

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Pisidium levissimum Sterki.
Springs, forest ponds, south of Lake Wingra (Morrison).

Pisidium rotundatum Prime.
Forest ponds, swamp, south of Lake Wingra; swamp, north of
Picnic Point; swamp, University Bay, Lake Mendota (Morri-
son).

Pisidium minutum Sterki.
Spring fed stream, south of Lake Wingra (Morrison).

Pisidium subtruncatum Malmgren.
Dredging, off Picnic Point, Lake Mendota (Morrison).

Pisidium concinnum Sterki.
Stream, south of Lake Wingra; outlet of pumping station, Uni-
versity Bay, Lake Mendota (Morrison).

Pisidium pusillum Jenyus.
Forest ponds, swamp, south of Lake Wingra; swamp, University
Bay, Lake Mendota; swamp, four miles east of Belleville (Morri-
son).