

## NOTES ON WISCONSIN MOLLUSCA.

BY GEORGE H. CHADWICK.

During the summer of 1902, the writer was engaged in rearranging the shell collections of the Milwaukee Public Museum. With the encouragement of the custodian (now the director) of the museum and the active assistance of the members of the Wisconsin Natural History Society, an effort was made to commence a collection of the shells of Wisconsin. The greater part of the local collecting was carried on outside of working hours, in company with Mr. Charles E. Brown of the museum staff, and numerous accessions were received from other members and friends who became interested in the work. Many of these voluntary contributors brought specimens from distant or out-of-the-way points reached on business or pleasure trips, thus materially extending our knowledge of the distribution of the species. These localities and contributors are specified beyond. The results of this ten weeks' occasional collecting, in a season not the most favorable for shell-hunting, are summarized in the present paper. It is hoped that they may be the beginning of a complete census of the Wisconsin mollusca.

The names of those who added, often most generously and unremittingly, to the growth of this collection are these, the numeral following each indicating the total number of accessions by species credited to that name:

Charles E. Brown.....	306	Benno Meyer .....	1
Ernest Bruncken .....	22	Chas. E. Monroe.....	43
William H. Ellsworth....	9	Henry Nesbitt .....	38
G. H. Chadwick.....	153	William Orth .....	3
William Finger .....	8	H. Rossebo .....	5
Valentine Fernekes.....	31	Mr. Selle .....	11
G. Friend .....	5	E. E. Teller.....	6
Dr. S. Graenicher.....	23	Miss Alice Ward.....	1
Henry P. Hamilton.....	8	Philip Wells .....	44
Simon Heller .....	2	Miss Olive C. Wheeler...	21
H. A. Kirchner .....	1	Lee R. Whitney.....	6
Adolph F. Laue.....	4	Mrs. E. C. Wiswall	
Hon. Publius V. Lawson..	10	(exchange) .....	3
Hugo Lutz .....	1		

The figures given in this list are open to some correction, especially since, when collectors collaborated, the full tally of

species jointly obtained has been credited separately to each. A grateful acknowledgment is due to all the above named, and to some others, but especially to Miss Wheeler, Dr. Graenicher, Mr. Fernekes, Mr. Bruncken, Mr. Wells and Mr. Monroe. Above all, the untiring efforts of Mr. Brown and the kindly interest of Mr. Henry L. Ward, director of the museum, have made the undertaking successful.

In our tramps around the City of Milwaukee, which was the only area explored at all thoroughly, the following were the favorite collecting grounds—the Menomonee valley, and its slopes, westward from the Wells street viaduct to Wauwatosa; the valley of the Milwaukee river, from Coney Island to and above Lindwurm; the lake bluffs at Whitefish Bay and southward; the shore of Lake Michigan northward from the pumping stations; the Menomonee marshes below Mitchell park; and Johnson's woods, west of the Soldiers' Home.

A single expedition along the valley of Mud Creek yielded abundant returns, especially *Sphaeriida*, while the Kinnickinnic, Honey Creek, the city parks and greenhouses, and the woods south and southwest of the city proved good soil, worthy of further cultivation.

Other locality records within the county of Milwaukee are Oak's farm, Cudahy, Mr. E. E. Teller; County line, Ernest Bruncken; Oak Creek, near South Milwaukee, G. Friend; towns Greenfield and Franklin, several records, C. E. Brown. The more remote general locality records throughout the state are:

- Kenosha County, Kenosha, Mrs. E. C. Wiswall.  
 " " Sand Ridge Creek, C. E. Brown.  
 Waukesha County, Big Bend, C. E. Brown.  
 " " Delafield, Lee R. Whitney.  
 " " Okauchee, V. Fernekes.  
 " " Okauchee Lake, Miss O. C. Wheeler.  
 " " Golden Lake, William Finger.  
 Washington County, Cedar Lake, Dr. S. Graenicher.  
 " " Little Cedar Lake, William Orth.  
 Sheboygan County, Elkhart Lake, A. F. Laue.  
 Winnebago County, Menasha, Hon. P. V. Lawson.  
 " " Winneconne, Hon. P. V. Lawson.  
 " " Boom, A. F. Laue.  
 Calumet County, Lake Winnebago, C. E. Monroe.

- Manitowoc County, Jambo Creek, C.  
 " " Molas Creek, C.  
 " " Kika, C. E. Brown  
 " " Mishicot, C. E. I  
 " " Two Rivers, C.  
 " " Two Rivers, C. E.  
 Oneida County, Maple Lake, W. H.  
 " " Clear Water Lake, V

La Crosse County, La Crosse, H. N.

Additional localities from museum shells in the literature include Humboldt and La Crosse County; Racine; Nashotah, Waukesha County; Aztalan, Jefferson County; J. S. Sawyer River at Broadhead, Green County; Lakes, Dane County; Dodgeville, Iowa County; Oshkosh, Winnebago County; Lakes and She-she-pe-comeo Park, Winnebago County; Oconto; Richland County; Mississippi river, between Prairie du Rocher (Ford County); Wisconsin river, and La Crosse.

It will be seen that large areas in Wisconsin have been canvassed, particularly in the northern part of the state.

Local material already in the museum is freely drawn upon and is listed fully in the present paper. The museum number and the name of the collector of this material consists of polishes from Mrs. E. C. Wiswall, and bearing, although the locality is very indefinite, "Wisconsin." It is found that for purposes like the present, such data for purposes like the present are likely to occur within the borders of the state. Records have been derived from an examination of shells submitted by Mrs. Wiswall during the past year, including that of the Bunde & Upmeyer river bivalves from Crawford County in the lists by the name of their species.

Lastly, all citations of Wisconsin shells in the literature consulted have been incorporated, where necessary, in spite of some repetition in the literature (up to 1902) has been searched for and made historically complete. Many im-

has been credited separately to each, but it is due to all the above named, and especially to Miss Wheeler, Dr. Graenicher, and Mr. Wells and Mr. Monroe. Above all, Mr. Brown and the kindly interest of the director of the museum, have made the

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within the county of Milwaukee are: E. E. Teller; County line, Ernest South Milwaukee, G. Friend; town records, C. E. Brown. The more records throughout the state are:

- Waukesha, Mrs. E. C. Wiswall.
- Waukesha, Ridge Creek, C. E. Brown.
- Waukesha, Bend, C. E. Brown.
- Waukesha, Field, Lee R. Whitney.
- Waukesha, Chee, V. Fernekes.
- Waukesha, Chee Lake, Miss O. C. Wheeler.
- Waukesha, Waukesha Lake, William Finger.
- Waukesha, Mar Lake, Dr. S. Graenicher.
- Waukesha, Cedar Lake, William Orth.
- Waukesha, Hart Lake, A. F. Laue.
- Waukesha, Waukesha, Hon. P. V. Lawson.
- Waukesha, Racine, Hon. P. V. Lawson.
- Waukesha, Waukesha, A. F. Laue.
- Waukesha, Winnebago, C. E. Monroe.

- Manitowoc County, Jumbo Creek, C. E. Brown.
- " " Molas Creek, C. E. Brown.
- " " Kika, C. E. Brown.
- " " Mishicot, C. E. Brown.
- " " Two Rivers, C. E. Brown.
- " " Two Rivers, C. E. Brown.

- Oneida County, Maple Lake, W. H. Ellsworth.
- " " Clear Water Lake, W. H. Ellsworth.

- La Crosse County, La Crosse, H. Nesbitt.

Additional localities from museum specimens and citations in the literature include Humboldt and Smithville, Milwaukee County; Racine; Nashotah, Waukesha County; Lake Koshkonong; Aztalan, Jefferson County; Rock River; Sheboygan; Sugar River at Broadhead, Green County; Madison and Four Lakes, Dane County; Dodgeville, Iowa County; Baraboo, Sauk County; Oshkosh, Winnebago County; Clem and Junction Lakes and She-she-pe-comeo Park, Waupaca County; Green Bay, Brown County; Oconto; Richland City, Richland County; Mississippi river, between Prairie du Chien and De Soto (Crawford County); Wisconsin river, and Lakes Ellen and Leota.

It will be seen that large areas in the state remain to be canvassed, particularly in the northern and western portions.

Local material already in the museum collections has been freely drawn upon and is listed fully under each species, with its museum number and the name of the collector. A considerable part of this material consists of polished "Unios", purchased from Mrs. E. C. Wiswall, and bearing, almost without exception, the very indefinite locality, "Wisconsin." Despite the small value of such data for purposes like the present, the species will be found admitted to the list on their own recognition, as all are likely to occur within the borders of the state. Additional records have been derived from an exchange list of Kenosha shells submitted by Mrs. Wiswall during her residence there, and from lists of further accessions, later received through Mr. Brown, including that of the Bunde & Upmeyer collection of Mississippi river bivalves from Crawford County. All these are accompanied in the lists by the name of their sponsor.

Lastly, all citations of Wisconsin localities in the authorities consulted have been incorporated, with page reference. This has been done in spite of some repetition, and all the available literature (up to 1902) has been searched in order to have the record historically complete. Many important papers have no doubt

been neglected through lack of acquaintance with them, but for such omissions no one will feel greater regret than the writer.

The works actually consulted, and which will be found of service to all students of the local mollusc fauna, are the following:

"The Mollusca of the Chicago Area," by F. C. Baker, published in two parts as Bulletin No. III of the Chicago Academy of Sciences. This very complete monograph, with its excellent half-tone illustrations, covers nearly all the species found around Milwaukee and well serves the needs of the local student. In it are given full directions for collecting and cleaning shells, a glossary of terms, and other helps.

The Smithsonian "Miscellaneous Collections," including Binney's "Land and Fresh Water Shells of North America," in Vols. VII and VIII, Tryon's "Monograph of the Strepomatidæ," in Vol. XVI, and Prime's "Monograph of the Corbiculadæ," in Vol. VII. Binney's "American Land Shells" is a revision of a portion of the above.

Pilsbry and Johnson's "Land Shells of America north of Mexico," a classified check-list with localities, which costs twenty cents.

Simpson's "Synopsis of the Naiades," published as Proceedings No. 1205 of the U. S. National Museum, is a complete systematic and synonymic catalogue of the Unionidæ and allied forms.

Tryon's "Manual of Conchology," a monographic descriptive work appearing annually, includes at present our land shells.

"The Nautilus," the official American conchological journal. Condensed lists of the material which forms the subject of this paper have recently appeared in its pages.

All of the above are available in the public library of the city, or in the library of the museum. In addition, the writer has had recourse to Vols. 1 to 4 of the American Journal of Conchology, Gould's "Invertebrata of Massachusetts" (Binney's reprint), DeKay's "Mollusca" in the New York State Natural History series, Call's "Mollusca of Indiana," Hartman's "Conchologia Cestrica," and certain bulletins of the Smithsonian Institution.

Bryant Walker's "Mollusca of Michigan" ought also to be of assistance to the Wisconsin collector.

In the lists which follow, no attempt has been made to put forth a scientific classification of the species, as that is not germane to the purpose of the paper. The record is primarily that of faunal distribution, and the various forms have therefore been grouped for convenience as "land shells," "fresh water univalves"

and "bivalves," the genus *Cary* first named. In the order of arrangement the list has been followed for the land shells, then for the Unionidæ. The arrangement is mainly that of Baker's Chicago

Under each species there is given the locality where it was first found by our own collecting; beginning with the most recent, and then more remote accessions through the southern and nearest; secondly, records from the museum; thirdly, records from lists reported to me; lastly, citations from the literature. The numbered specimens are those from our own collecting, as recently published.

For assistance in the identification of the shells, thanks are gratefully tendered to Mr. J. H. Bequaert of Philadelphia, Ohio, who has examined the Pisidiidæ; to Mr. Frank C. Balgley of Chicago, who made a rapid proof of the fresh water forms; and to Messrs. Chas. T. Simpson of Washington, D. C., who has examined the further assistance has recently been received from the museum.

It should be explained, finally, that the list included only as came readily to hand since made by the museum, and that the material shall be prepared in the autumn.

The material collected is all in the collection of Milwaukee.

## I. LAND

### 1. *Helicina*

Lake bluffs at and south of Waukegan, Wis. (fossil), I. A. Lapham, "Brown Co., Wis.," Nautilus, II, Bay, near Milwaukee, and near Dousman, Wis. markedly discontinuous and local. See also Naut., III, of this species.

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and "bivalves," the genus *Carychium* being included with the first named. In the order of arrangement, Pilsbry and Johnson's list has been followed for the land shells and Simpson's Synopsis for the Unionidæ. The arrangement of the fresh water univalves is mainly that of Baker's Chicago Area Mollusca.

Under each species there is given, first, the localities furnished by our own collecting, beginning with those in and about Milwaukee, from the north around westward to the south, then the more remote accessions throughout the state, commencing with the southern and nearest; second, material previously in the museum; third, records from lists submitted and accessions since reported to me; lastly, citations from the literature, notes and comments. The numbered species are those authenticated by our own collecting, as recently published in the Nautilus.

For assistance in the identification of species the writer's thanks are gratefully tendered to Dr. Victor Sterki of New Philadelphia, Ohio, who has examined all the Sphæriidæ and Pisidiidæ; to Mr. Frank C. Baker of the Chicago Academy of Sciences, who made a rapid preliminary survey of the smaller fresh water forms; and to Messrs. Bryant Walker of Detroit, and Chas. T. Simpson of Washington, as acknowledged beyond. Further assistance has recently been rendered by Mr. Brues of the museum.

It should be explained, finally; that the present paper is written from the standpoint of 1902, such later information being included only as came readily to hand. The extensive collections since made by the museum, and the more recent literature, will furnish the basis for a supplementary notice, which it is intended shall be prepared in the autumn.

The material collected is all in the Public Museum of the City of Milwaukee.

### I. LAND SHELLS.

#### I. *Helicina occulta* Say.

Lake bluffs at and south of Whitefish Bay resort. "Sheboygan, Wis. (fossil), I. A. Lapham," Smith Misc. Coll., VII, 112 "Brown Co., Wis.," Nautilus, III, 113. "Sheboygan, Whitefish Bay, near Milwaukee, and near De Pere, Wis. \* \* Distribution markedly discontinuous and local," Pilsbry and Johnson, catalogue, p. 2. See also Naut., III, 18, 20, for notes on distribution of this species.

The rediscovery of this interesting little operculate land shell at Whitefish Bay is due to Dr. Graenicher. The species was found to be moderately abundant under stumps and in the leaves and grass on the wooded slope of the bluffs, especially about half a mile south of the resort. It was here associated with a dozen other species of snails and slugs. The reddish color, shoe-button like shape, and above all, the presence of the operculum, will enable *Helicina* to be readily recognized on sight.

In the public library copy of the Smithsonian Miscellaneous Collections (VII, 112) above referred to, is the following interesting note written in pencil after the description of the present species:

"Finding a number of *living* specimens of this shell at Milwaukee, I submitted them to Mr. W. G. Binney for examination. He reported that without doubt they were *Helicina occulta*, thus satisfactorily settling a long mooted point. E. R. L."

The initials stand, I am told, for E. R. Leland, but the date of the annotation is unknown.

## 2. *Helix pomatia* Linné.

This, the large edible snail of Europe, is reported by Philip Wells as taken alive in a vacant lot on the northeast corner of State and Fifteenth streets. One of the two specimens secured was presented to the museum by Mr. Wells. Repeated search has failed to further confirm the habitat, and the species cannot therefore be considered an established resident.\* It is not included in Pilsbry and Johnson's Catalogue of American Land Shells. The site of its capture is said to be the scene of former "snail banquets" for which great numbers of this species were imported. Judging from our unfortunate experience with other introduced forms, it is not likely to prove a desirable addition to our fauna, however alluring to the palate.

## *Helix (Tachea) nemoralis* Linné.

Reported doubtfully from Baraboo, Sauk Co., Wis., Naut. VI., 131. See also Pils. & Johns. Cat., p. 3. A native of Europe

\* In a letter received from Mr. Brown since the above was penned, is the following: "In clearing away the bushes and rubbish on the old Milwaukee Garden site (Fourteenth and State streets), several additional specimens of the large European edible snail were found. This makes five altogether. These are probably the last, as the site is now almost entirely occupied by dwellings and large flat buildings."

## 3. *Vallonia pulchella* M

Union Cemetery; Mud Creek wall Teller mounds above Lindwurm; ne Cabeen's farm, south of city. 3074, n Wheeler. Kenosha, Mrs. E. C. Wiswall

The specimens collected appertain to tinguished by Dr. Sterki, but those fr somewhat *V. excentrica*, Sterki.

## *Polygyra (Triodopsis) in*

"Milwaukee, Wis., I. A. Lapham."

129. Our collecting failed to confirm

## 4. *Polygyra (Triodopsis) p*

Lake bluffs, north and south of abundant; North Point; Lindwurm, brickyard; Menomonee river dredging wataosa; Reynolds' woods near Laytc Town Greenfield; Crystal Lake, near Co. Near Smithville, Milw. Co., W. M. E. C. Wiswall. "Milwaukee, Wis., I. A. VIII, 153.

## 5. *Polygyra (Triodopsis) t*

Whitefish Bay resort; Johnson's v Wauwatosa; (?) Oak's farm, Cudahy Milw. Co. and 3077 (juv.), near Wa "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 138.

This species, the dominant Polygy not common around Milwaukee, wher relative abundance. Only occasional some approaching *P. exoleta* in form, latter.

## 6. *Polygyra (Triodopsis)*

Milwaukee river at Schlitz' ice-ho Eleventh avenue; Hale's Corners, onee river dredgings. 3079, Humb Kenosha, Mrs. Wiswall's list. "Milw Smith. Misc. Coll., VIII, 140.

Like the preceding species, only

interesting little operculate land shell  
 Dr. Graenicher. The species was  
 found under stumps and in the leaves  
 of the bluffs, especially about half  
 It was here associated with a dozen  
 eggs. The reddish color, shoe-button  
 the presence of the operculum, will  
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*Homatia* Linné.

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 One of the two specimens secured  
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 bers of this species were imported.  
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*nemorialis* Linné.

Baraboo, Sauk Co., Wis., Nant  
 s. Cat., p. 3. A native of Europe.

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 h and State streets), several addi  
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 ings and large flat buildings."

3. *Vallonia pulchella* Müller.

Union Cemetery; Mud Creek valley, common; near the  
 Teller mounds above Lindwurm; near Kraatz's brickyard;  
 Cabeen's farm, south of city. 3074, near Wauwatosa, W. M.  
 Wheeler. Kenosha, Mrs. E. C. Wiswall's list.

The specimens collected appertain to the typical form as dis-  
 tinguished by Dr. Sterki, but those from Lindwurm approach  
 somewhat *V. excentrica*, Sterki.

*Polygyra (Triodopsis) inflecta* Say.

"Milwaukee, Wis., I. A. Lapham." Smith. Misc. Coll., VIII,  
 129. Our collecting failed to confirm this citation.

4. *Polygyra (Triodopsis) profunda* Say.

Lake bluffs, north and south of Whitefish Bay resort,  
 abundant; North Point; Lindwurm, and north; near Kraatz's  
 brickyard; Menomonee river dredgings; woods south of Wau-  
 watosa; Reynolds' woods near Layton Park; Hale's Corners,  
 Town Greenfield; Crystal Lake, near Elkhart Lake, Sheboygan  
 Co. Near Smithville, Milw. Co., W. M. Wheeler. Kenosha, Mrs.  
 E. C. Wiswall. "Milwaukee, Wis., I. A. Lapham," Smith. M. C.,  
 VIII, 153.

5. *Polygyra (Triodopsis) albolabris* Say.

Whitefish Bay resort; Johnson's woods, and woods south of  
 Wauwatosa; (?) Oak's farm, Cudahy (juv.); 3076, Smithville,  
 Milw. Co., and 3077 (juv.), near Wauwatosa, W. M. Wheeler.  
 "Milwaukee, Wis., I. A. Lapham," and "Rock River, Wis.,"  
 Smith. Misc. Coll., VIII, 138.

This species, the dominant *Polygyra* of the eastern states, is  
 not common around Milwaukee, where *P. profunda* displaces it in  
 relative abundance. Only occasional dead shells were collected,  
 some approaching *P. exoleta* in form, but lacking the tooth of the  
 latter.

6. *Polygyra (Triodopsis) multilineata* Say.

Milwaukee river at Schlitz' ice-house; Kinnickinnic valley at  
 Eleventh avenue; Hale's Corners, Town Greenfield; Menom-  
 onee river dredgings. 3079, Humboldt, Wis., W. M. Wheeler.  
 Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham,"  
 Smith. Misc. Coll., VIII, 140.

Like the preceding species, only dead shells were taken.

***Polygyra (Triodopsis) elevata* Say.**

"Wisconsin," Pilsbry and Johnson, Catalogue, p. 13.

This did not appear in the collections, and it is not reported by Baker from the Chicago area.

**7. *Polygyra (Triodopsis) thyroides* Say.**

Wauwatosa; Johnson's woods; Kinnickinnic valley, near Eleventh avenue. Kenosha, Mrs. Wiswall's list. "Wisconsin, I. A. Lapham," S. M. C., VIII, 148.

This species also is scarce, no living specimens being taken.

***Polygyra (Triodopsis) clausa* Say.**

"Wisconsin," Binney, Smithsonian Misc. Coll., VIII, 149. Said to live on the leaves of the elderberry (*Sambucus*), Naut. III, 132. "Western Pennsylvania to Minnesota," Pilsbry and Johnson.

This species was not reported.

**8. *Polygyra (Stenotrema) hirsuta* Say.**

Valleys of the Milwaukee, Menomonee and Kinnickinnic; North Point; Mishicot, Manitowoc Co., under conifers. 2997, Humboldt, Wis., W. M. Wheeler. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 119.

**9. *Polygyra (Stenotrema) monodon* Rackett.**

Menomonee valley and woods near Wauwatosa. 2996, Humboldt, W. M. Wheeler. Kenosha, Mrs. Wiswall's list.

An edentate specimen was collected near Wauwatosa, and two others from the Menomonee river dredgings.

**9a. *Polygyra monodon fraternum* Say.**

Lake bluffs, north and south of Whitefish Bay resort; Castalia Park; Johnson's woods; Reynolds' woods at Layton Park; Oak's farm, Cudahy; Oak Creek, near South Milwaukee. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 123.

***Polygyra monodon leai* Ward.**

"Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 123. This form did not occur in the collections.

**10. *Strobilops affinis* Pil**

Lake bluffs, south of Whitefish Bay above Wells street viaduct; Oak's farm Manitowoc Co., under conifers.

Our original identification of the species by Dr. Sterki. The specimens vary toward but six internal laminae, hence the reference to the preliminary list published in the Naut.

***Strobilops labyrinthica***

"Milwaukee, Wis., I. A. Lapham," Sn 85. As the species of this genus have been identified, this may refer to the preceding.

**11. *Pupoides marginatus***

(syn. *Leucocheila fallax*,

Kenosha, Mrs. E. C. Wiswall. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 240.

It is somewhat remarkable that this species was not reported from the open places, under stones.

**12. *Bifidaria (Albinula) armifera***

Whitefish Bay resort and bluffs to south of Kraatz's brickyard and Castalia Park. W. M. Wheeler. Kenosha, Mrs. E. C. Wiswall, "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 123.

**13. *Bifidaria (Albinula) contracta***

Bluffs south of Whitefish Bay resort; Castalia Park; Johnson's woods; Mitchell Park.

**14. *Bifidaria (Albinula) corti***

Menomonee valley at Castalia Park, Milwaukee, Wis., I. A. Lapham," Smith. M. C., VIII, 123.

**15. *Bifidaria (Vertigopsis) curvata***

Johnson's woods, Wauwatosa, rare.

*Strobilopsis elevata* Say.

Johnson, Catalogue, p. 13.  
collections, and it is not reported by  
a.

*Strobilopsis thyroides* Say.

woods; Kinnickinnic valley, near  
Mrs. Wiswall's list. "Wisconsin  
II, 148.

no living specimens being taken.

*Strobilopsis clausa* Say.

Johnsonian Misc. Coll., VIII, 149  
the elderberry (*Sambucus*), Nau-  
vania to Minnesota," Pilsbry, and

ted.

*Strobilopsis hirsuta* Say.

e, Menomonee and Kinnickinnic  
Manitowoc Co., under conifers. 2997,  
heeler. "Milwaukee, Wis., I. A.  
VIII, 119.

*Strobilopsis monodon* Rackett.

woods near Wauwatosa. 2996, Hum-  
sha, Mrs. Wiswall's list.  
collected near Wauwatosa, and two  
r dredgings.

*Strobilopsis fraternus* Say.

south of Whitefish Bay resort;  
woods; Reynolds' woods at Layton  
Park Creek, near South Milwaukee  
m," Smith. Misc. Coll., VIII, 123

*Strobilopsis leai* Ward.

Lapham," Smith. Misc. Coll., VIII  
in the collections.

10. *Strobilopsis affinis* Pilsbry.

Lake bluffs, south of Whitefish Bay; Menomonee valley  
above Wells street viaduct; Oak's farm, Cudahy; Mishicot,  
Manitowoc Co., under conifers.

Our original identification of the species as above is confirmed  
by Dr. Sterki. The specimens vary toward *S. virgo* in exhibiting  
but six internal laminae, hence the reference to the latter species in  
the preliminary list published in the Nautilus.

*Strobilopsis labyrinthica* Say.

"Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII,  
85. As the species of this genus have been but recently discrim-  
inated, this may refer to the preceding.

11. *Pupoides marginatus* Say.

(syn. *Leucocheila fallax*, Say.)

Kenosha, Mrs. E. C. Wiswall. "Milwaukee, Wis., I. A.  
Lapham," Smith. Misc. Coll., VIII, 240.

It is somewhat remarkable that this species should have eluded  
us at Milwaukee, where it will undoubtedly be found in the more  
open places, under stones.

12. *Bifidaria (Albinula) armifera* Say.

Whitefish Bay resort and bluffs to south; Menomonee valley  
at Kraatz's brickyard and Castalia Park. 5787, Humboldt, Wis.,  
W. M. Wheeler. Kenosha, Mrs. E. C. Wiswall's list. "Mil-  
waukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 242.

13. *Bifidaria (Albinula) contracta* Say.

Bluffs south of Whitefish Bay resort; Menomonee valley at  
Castalia Park; Johnson's woods; Mitchell's woods at Layton  
Park.

14. *Bifidaria (Albinula) corticaria* Say.

Menomonee valley at Castalia Park, Wauwatosa. "Milwau-  
kee, Wis., I. A. Lapham," Smith. M. C., VIII, 246.

15. *Bifidaria (Vertigopsis) curvidens* Gould.

Johnson's woods, Wauwatosa, rare.

16. *Bifidaria (Vertigopsis) pentodon* Say.

Menomonee valley above Wells street; Mitchell's woods near Layton Park; Teller mounds near Lindwurm.

17. *Vertigo (Angustula) millium* Gould.

Mitchell's woods, west of Layton Park.

18. *Vertigo ovata* Say.

Root river at Loomis road, Town Franklin. 3188, Smithville, Milw. Co., W. M. Wheeler. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII., 254.

19. *Cochlicopa lubrica* Müller.

Bluffs south of Whitefish Bay; Menomonee valley at Castalia Park. Kenosha, Mrs. Wiswall's list. She-she-pe-comeo Park, Waupaca Co., C. E. Brown, 1903.

20. *Vitrea limpida* Gould.

Mud Creek valley east of North Milwaukee; Castalia Park, rare. For interesting notes on this species see the Nautilus, VII, 47, 95; IX, 94. It is not reported from the Chicago area.

21. *Vitrea cellaria* Müller.

Nehrling greenhouse, Milwaukee, C. E. Brown (museum specimens, unnumbered). Brought on plants from Japan, where it had been introduced from Europe.

22. *Vitrea draparnaldi* Beck.

Currie and Mitchell Park greenhouses. Another importation from Europe which seems to have come by the western route through the Pacific seaboard.

23. *Vitrea hammonis* Ström.

Mud Creek valley at North Milwaukee and eastward; Menomonee valley, Wells street to Castalia Park; Dahlman's woods, Chicago avenue at Cabeen's farm.

24. *Vitrea (Glyphyalina) indentata* Say.

Lake bluffs south of Whitefish Bay; Menomonee valley above Wells street viaduct.

25. *Euconulus fulvus* Müll

A single specimen only occurred, in a locality label was unfortunately lost. The species suggests the Menomonee valley above probable source, but this is a pure guess. Wiswall's list.

26. *Zonitoides nitidus* Müll

Mud Creek valley throughout; Menomonee valley above Wells street, common. 5788, Humboldt, W. Lindwurm, C. E. Brown.

27. *Zonitoides arboreus* S

Bluffs south of Whitefish Bay; Mud Creek valley; Castalia avenue; Menomonee valley, from Castalia Park; Johnson's woods; Oak's farm; Manitowoc Co., under conifers. Kenosha "Milwaukee, Wis., I. A. Lapham," Smith.

28. *Zonitoides (Pseudohyalina) mini*

Mud Creek valley; Menomonee valley; Mitchell's woods, Layton Park. Kenosha,

29. *Limax maximus* Lin

Currie, Mitchell Park, and Pollworth vicinity of the latter. A troublesome for houses and gardens, first reported to be imported to the C. C. Pollworth houses in Belgium, and now (1902) common on the p

30. *Limax flavus* Linn

Currie greenhouse and garden. The "Limax (Lehmannia) variegatus" Dray Moquin-Tandon," according to Cockerell,

31. *Agriolimax agrestis* L

Bluffs south of Whitefish Bay; Mud Creek valley; Menomonee valley near Washington avenue; Currie and Mitchell Park greenhouses; all Park and generally throughout the city. A visitant of kitchen gardens. It is interesting to note that common European slugs already firmly i

*lopsis) pentodon* Say.  
Wells street; Mitchell's woods near  
ear Lindwurm.

*itula) milium* Gould.  
Layton Park.

*ovata* Say.  
Layton Park.  
own Franklin. 3188, Smithville,  
Kenosha, Mrs. Wiswall's list.  
," Smith. Misc. Coll., VIII., 273.

*lubrica* Müller.  
Menomonee valley at Castalia  
s list. She-she-pe-comeo Park,  
3.

*mpida* Gould.  
Layton Park; Castalia Park;  
his species see the Nautilus, VII,  
d from the Chicago area.

*llaria* Müller.  
Kenosha, C. E. Brown (museum  
ght on plants from Japan, where  
rope.

*parnaldi* Beck.  
greenhouses. Another importation  
ive come by the western route

*imonis* Ström.  
Kenosha and eastward; Menom-  
talia Park; Dahlman's woods;

*ina) indentata* Say.  
Layton Park; Menomonee valley above

25. *Euconulus fulvus* Müller.

A single specimen only occurred, in a lot of shells whose locality label was unfortunately lost. The general assemblage of species suggests the Menomonee valley above Wells street as the probable source, but this is a pure guess. Kenosha, Mrs. E. C. Wiswall's list.

26. *Zonitoides nitidus* Müller.

Mud Creek valley throughout; Menomonee valley at Twentieth street, common. 5788, Humboldt, Wis., W. M. Wheeler. Lindwurm, C. E. Brown.

27. *Zonitoides arboreus* Say.

Bluffs south of Whitefish Bay; Mud Creek valley near Teutonia avenue; Menomonee valley, from Twentieth street to Castalia Park; Johnson's woods; Oak's farm, Cudahy; Mishicot, Manitowoc Co., under conifers. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 34.

28. *Zonitoides (Pseudohyalina) minusculus* Binney.

Mud Creek valley; Menomonee valley above Wells street; Mitchell's woods, Layton Park. Kenosha, Mrs. Wiswall's list.

29. *Limax maximus* Linné

Currie, Mitchell Park, and Pollworth greenhouses, and vicinity of the latter. A troublesome form, likely to spread to houses and gardens, first reported to us by Mr. Kirchner. Imported to the C. C. Pollworth houses in 1901, with palms from Belgium, and now (1902) common on the premises.

30. *Limax flavus* Linné

Currie greenhouse and garden. The name should stand "*Limax (Lehmannia) variegatus* Draparnaud, var. *flavus*, Moquin-Tandon," according to Cockerell, Nautilus, III, 86.

31. *Agriolimax agrestis* Linné

Bluffs south of Whitefish Bay; Mud Creek valley throughout, Menomonee valley near Washington avenue; Soldiers' Home; Currie and Mitchell Park greenhouses; abundant in Washington Park and generally throughout the city. A troublesome nocturnal visitant of kitchen gardens. It is interesting to find these three common European slugs already firmly implanted so far inland.

The present species does not appear to have reached Chicago, however.

32. *Agriolimax campestris* Binney.

Lake bluffs south Whitefish Bay; Mud Creek valley at North Milwaukee; Menomonee valley above Wells street; Currie greenhouses. Unlike the exotic species this is not very common anywhere.

33. *Philomycus (Pallifera) dorsalis* Binney.

Lake bluffs south of Whitefish Bay resort.

No one who has described this species seems to have mentioned the reddish color of the mouth and forward margins of the foot. This was very noticeable in the three specimens obtained above, and in others observed by me in Monroe county, New York, recalling the colors of the animal in the next species. It is probably a constant character of this form, and does not indicate a variety as at first supposed.

34. *Pyramidula (Patula) alternata* Say.

Lake bluffs north and south of Whitefish Bay resort: Milwaukee river valley at Coney Island and mouth of Mud Creek; Menomonee river dredgings and valley above Wells street; woods south of Wauwatosa, Johnson's woods, Reynolds' woods; Hale's Corners, Town Greenfield; Oak's farm, Cudahy; Oak Creek, near South Milwaukee; Mishicot, Manitowoc Co., under conifers. 5720, Humboldt, W. M. Wheeler. Johnson's woods, A. W. Slocum. 11132, Baraboo, Mrs. E. C. Wiswall. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 76.

One of the most abundant species everywhere.

35. *Pyramidula (Gonyodiscus) perspectiva* Say.

One very typical specimen only, from the bluffs south of Whitefish Bay (the *Helicina* locality), verifies the citation in Smith. Misc. Coll., VIII, 80, "Milwaukee, Wis., I. A. Lapham." The species is not recorded from the Chicago area; see Baker. Moll. Chic. Area, p. 212.

36. *Pyramidula (Gonyodiscus) striatella* Anthony.

Bluffs south of Whitefish Bay; Mud Creek valley at North Milwaukee and at mouth: Menomonee valley, from Twentieth

street to Castalia Park; Chicago avenue farm, Cudahy; Root river, at Loomis, 3023, Milwaukee Co., W. N. Wheeler. list.

36a. *Pyramidula striatella* cat

Johnson's woods, in roots of an oak on

Wauwatosa Co., under conifers. See Naut. X. The occurrence of this interesting species at its type locality, is worthy of special question of the identification, or of the

37. *Helicodiscus lineatus*

Whitefish Bay resort and bluffs to : from Soldiers' Home to Castalia Park. Lapham," Smith. Misc. Coll., VIII, 53.

*Punctum pygmaeum* Dr

(?) Bluffs south of Whitefish Bay. single dead shell doubtful.

38. *Succinea ovalis*

(syn. *Succinea obliqua*)

Milwaukee River valley below Schlitz valley at North Milwaukee, abundant in river dredgings, and valley at Castalia Reynolds' woods, Layton Park. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 76.

38a. *Succinea ovalis* S.

A form approaching *var. totteniana* in the Mud Creek valley near Teutonia avenue, Wauwatosa.

39. *Succinea retusa*

(syn. *Succinea ovalis* Gould)

Ogden-Copeland arboretum, near Whitefish Bay valley from North Milwaukee to mouth of Root river near Mitchell Park and above Wells street; Layton Park; Cabeen's woods, Chicago. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VIII, 76.

appear to have reached Chicago.

*campestris* Binney.

Whitefish Bay; Mud Creek valley at  
Menomonee valley above Wells street;  
This exotic species this is not very

*bilifera dorsalis* Binney.

Whitefish Bay resort.

This species seems to have menomonee  
mouth and forward margins of the  
specimens obtained

by me in Monroe county, New  
animal in the next species. It is  
of this form, and does not indicate

*patula alternata* Say.

Whitefish Bay resort; Milwaukee  
Island and mouth of Mud Creek;  
Menomonee valley above Wells street; woods  
Reynolds' woods; Hale's  
farm, Cudahy; Oak Creek, near  
Manitowoc Co., under conifers.  
Wheeler. Johnson's woods, A. W.  
E. C. Wiswall. Kenosha. Mrs.  
Wis., I. A. Lapham," Smith. Misc.

species everywhere.

*pyrodiscus perspectiva* Say.

only, from the bluffs south of  
locality), verifies the citation in  
Milwaukee, Wis., I. A. Lapham."  
from the Chicago area; see Baker.

*pyrodiscus striatella* Anthony.

Whitefish Bay; Mud Creek valley at North  
Menomonee valley, from Twentieth

street to Castalia Park; Chicago avenue at Cabeen's farm; Oak's  
farm, Cudahy; Root river, at Loomis road, Town Franklin.  
3023, Milwaukee Co., W. N. Wheeler. Kenosha, Mrs. Wiswall's  
list.

36a. *Pyramidula striatella catskillensis* Pilsbry.

Johnson's woods, in roots of an oak tree; Mishicot, Manito-  
woc Co., under conifers. See Naut. XII, 86; XIII, 70.

The occurrence of this interesting mutation, so remote from  
its type locality, is worthy of special notice. There seems no  
question of the identification, or of the distinctness of characters.

37. *Helicodiscus lineatus* Say.

Whitefish Bay resort and bluffs to south; Menomonee valley  
from Soldiers' Home to Castalia Park. "Milwaukee, Wis., I. A.  
Lapham," Smith. Misc. Coll., VIII, 53.

*Punctum pygmæum* Draparnald.

(?) Bluffs south of Whitefish Bay resort. Identification of  
single dead shell doubtful.

38. *Succinea ovalis* Say.

(syn. *Succinea obliqua*, Say.)

Milwaukee River valley below Schlitz ice-house; Mud Creek  
valley at North Milwaukee, abundant and large; Menomonee  
river dredgings, and valley at Castalia Park and Wauwatosa;  
Reynolds' woods, Layton Park. "Milwaukee, Wis. (*obliqua*),  
I. A. Lapham," Smith. Misc. Coll., VIII, 266.

38a. *Succinea ovalis* Say, var.

A form approaching *var. totteniana* was taken in the Mud  
Creek valley near Teutonia avenue, and at Castalia Park,  
Wauwatosa.

39. *Succinea retusa* Lea.

(syn. *Succinea ovalis* Gould, not Say.)

Ogden-Copeland arboretum, near Whitefish Bay; Mud Creek  
valley from North Milwaukee to mouth; Menomonee valley,  
near Mitchell Park and above Wells street; Honey Creek, near  
Layton Park; Cabeen's woods, Chicago avenue. Kenosha (as  
*ovalis*, Gould), Mrs. Wiswall's list. "Milwaukee, Wis., I. A.

Lapham" (as ovalis), Smith. Misc. Coll., VIII, 258. Less common than the preceding.

40. *Succinea avara* Say.

Bluffs south of Whitefish Bay; Mud Creek valley at North Milwaukee; Castalia Park, Wauwatosa; southwest quarter of section 16, Town Greenfield; Chicago avenue at Cabeen's farm; Mishicot river at Two Rivers, Manitowoc Co.

41. *Carychium exiguum* Say.

Menomonee valley at Soldiers' Home, above Wells street viaduct and at Castalia Park. 3187, damp woods near Smithville, Milwaukee Co., W. M. Wheeler. Kenosha, Mrs. Wiswall's list. "Milwaukee," in pencil in library copy of Smith. Misc. Coll., VII, 6.

41a. *Carychium exiguum exile* H. C. Lea.

With the preceding, and intergrading so closely with it as to make even varietal separation difficult. Dr. Sterki would refer the entire series of *Carychium* above recorded to "a small, slender form of var. of *exiguum*, although in shape somewhat like *exile*." In either case the connection of these two nominal species is indicated by the Wisconsin material.

## II. FRESH-WATER UNIVALVES.

### A. PULMONATE.

42. *Limnæa stagnalis appressa* Say.

Menomonee river dredgings and at Wauwatosa; Oak Creek near South Milwaukee; mill pond at Delafield, Waukesha Co.; very abundant; Ballard's cottage, Okauchee lake, white variety; East Twin river at Two Rivers, Manitowoc Co.; Lake Winnebago, west of High Cliff, Calumet Co. Kenosha, Mrs. E. C. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 29.

*Limnæa (Radix) decollata* Mighels.

"Madison, Wis., I. A. L.," pencil note in margin of the public library copy of the Smithsonian Miscellaneous Collections, VII, 31. Not verified.

43. *Limnæa (Radix) colu*

Mill pond near Nagawicka Lake, pencil, Smith. Misc. Coll., VII, 32.

44. *Limnæa (Butimnea) me*

Molas Creek, Manitowoc Co. 32 Jefferson (?) Co. "Oconto, Wis., Geo. T

45. *Limnæa (Limnophysa)*

Stream near electric light plant, Wason's woods, abundant and variable; Mings; Kinnickinnic river near Eleventh and woods, old Chicago road; Oak Creek, Sand Ridge Creek, southeast of Kenosha abundant. Kenosha, Mrs. Wiswall's list. I. A. Lapham; Farwell's woods, Madison; A. C. Baird; Aztalan, Wis., Prof. Baird; Milwaukee, Misc. Coll., VII, 41.

No attempt has been made to distinguish varieties to which names have been applied, sometimes even to separate this species following, further niceties must be left to the collector's ant leisure. The large series from a single woods illustrates well the possibilities of variation by this species.

Specimens placed alive in an aquarium with dragon-fly larvæ.

46. *Limnæa (Limnophysa) pal*

(syn. *Limnæa elodes* S

Small pools near the Milwaukee river; Menomonee river dredgings; pond near Johnson's works; feeding on a carcass; hollow by roadside; Chicago avenue; north shore of Lake Winnebago; High Cliff. 12657, Johnson's woods, C. E. Barry; Winnebago, Wis., A. C. Barry; Milwaukee, Smith. Misc. Coll., VII, 47.

"Var. *michiganensis*," Walker, occurs from Johnson's and Cabeen's woods.

*ccinea avara* Say.

h Bay; Mud Creek valley at North Wauwatosa; southwest quarter of ; Chicago avenue at Cabeen's farm; s. Manitowoc Co.

*hium exiguum* Say.

oldiers' Home, above Wells street 3187, damp woods near Smithville. eler. Kenosha, Mrs. Wiswall's list ibrary copy of Smith. Misc. Coll.,

*exiguum exile* H. C. Lea.

ntergrading so closely with it as to difficult. Dr. Sterki would refer the above recorded to "a small, slender ough in shape somewhat like exile." n of these two nominal species is terial.

ATER UNIVALVES.

LMONATE.

*gnalis appressa* Say.

s and at Wauwatosa; Oak Creek, pond at Delafield, Waukesha Co.; ge, Okauchee lake, white variety; s, Manitowoc Co.; Lake Winne met Co. Kenosha, Mrs. E. C. Vis., I. A. Lapham," Smith. Misc.

*decollata* Mighels.

encil note in margin of the public 1 Miscellaneous Collections, VII.

43. *Limnæa (Radix) columella* Say.

Mill pond near Nagawicka Lake, Delafield. "Milw." in pencil, Smith. Misc. Coll., VII, 32.

44. *Limnæa (Bulimnea) megasoma* Say.

Molas Creek, Manitowoc Co. 3248, Lake Koshkonong, Jefferson (?) Co. "Oconto, Wis., Geo. T. Marston," Naut., V, 81.

45. *Limnæa (Limnophysa) reflexa* Say.

Stream near electric light plant, Wauwatosa; pool in Johnson's woods, abundant and variable; Menomonee river dredgings; Kinnickinnic river near Eleventh avenue; pond in Cabeen's woods, old Chicago road; Oak Creek, near South Milwaukee; Sand Ridge Creek, southeast of Kenosha; mill pond at Delafield, abundant. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham; Farwell's woods, Madison, Wis., Prof. S. F. Baird; Aztalan, Wis., Prof. Baird; Milwaukee, Lewis," Smith. Misc. Coll., VII, 41.

No attempt has been made to discriminate the supposed varieties to which names have been applied. When it is difficult sometimes even to separate this species satisfactorily from the following, further niceties must be left to those who have abundant leisure. The large series from a single pond in Johnson's woods illustrates well the possibilities of variety-making afforded by this species.

Specimens placed alive in an aquarium were cleaned out by dragon-fly larvæ.

46. *Limnæa (Limnophysa) palustris* Müller.

(syn. *Limnæa elodes* Say.)

Small pools near the Milwaukee river opposite the cement works; Menomonee river dredgings; pool in Johnson's woods, feeding on a carcass; hollow by roadside near Cabeen's woods, Chicago avenue; north shore of Lake Winnebago, west of High Cliff. 12657. Johnson's woods, C. E. Brown. "Oshkosh, Lake Winnebago, Wis., A. C. Barry; Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 47.

"Var. michiganensis," Walker, occurs among the specimens from Johnson's and Cabeen's woods.

47. *Limnæa* (*Limnophysa*) *catascopium* Say.

On the lake beach at Lake Park and the flushing tunnel pumping station, in the sand. Single dead shells were also obtained from the stream near the electric light plant, Wauwatosa, and Chicago avenue at Cabeen's farm. These stragglers are insufficient to show that this species extends beyond the waters of Lake Michigan at Milwaukee. It would be interesting to know the depth of water which is the normal habitat, the beach specimens being all drifted material.

47a. *Limnæa catascopium* Say, var.

With the preceding occur shorter forms approaching *L. emarginata*.

*Limnæa* (*Limnophysa*) *emarginata* Say.

(?) Kenosha, Mrs. E. C. Wiswall's list, under the name *L. ampla*, Say. "Madison, Wis., I. A. Lapham; Wisconsin, Lewis," Smith. Misc. Coll., VII, 53. "First of Four Lakes, Madison Wis., P. P. Carpenter," Baker, Bull. Chic. Acad. Sci., Vol. II, No. III, p. 195. For the habits of the var. *mighelsi*, Binney, see Naut. XIV, 8. Not collected around Milwaukee.

48. *Limnæa* (*Limnophysa*) *caperata* Say.

Small swamp southwest of Humboldt Park and Honey Creek, near Layton Park; north shore of Lake Winnebago, west of High Cliff. Kenosha, Mrs. Wiswall's list. Overflow pond of Milwaukee river at Lindwurm, C. E. Brown, 1903. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 57. Grades into the following nominal variety.

48a. *Limnæa caperata umbilicata* Adams.

Small pools near the Milwaukee river opposite the cement works; Mud Creek, at North Milwaukee; Honey Creek, near Layton Park, with intermediate forms; hollow beside Chicago avenue, near Cabeen's farm; small creek near Loomis road, Town Greenfield; ponds at Howard's prairie and near St. Martin's, Town Franklin; Sand Ridge Creek, near lake shore, Kenosha.

49. *Limnæa* (*Limnophysa*) *humilis* Say.

Milwaukee river at Lindwurm; Mud Creek at North Milwaukee; Menomonee river, near old Falk brewery; Honey Creek,

near Layton Park; doubtfully from High Cliff. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 67. Everywhere scarce.

50. *Limnæa* (*Limnophysa*) *acella* Say.

Mud Creek and its valley at an artificial pond near Kraatz's brickyard, near old Falk brewery and in Honey Creek, near Layton Park (Baker); Lake Winnebago, west of Two Rivers, Manitowoc Co. 1265. "Milw." in pencil, Smith. Misc. Coll., VII, 67.

A considerable portion of the preceding species by Mr. Baker on this I cannot follow him.

*Limnæa* (*Acella*) *acella* Say.

"Has been quoted from Wisconsin," Smith. Misc. Coll., VII, 69.

51. *Planorbis* (*Helisoma*) *trivolvis* Say.

Lake Michigan beach at North Milwaukee; near electric light plant, Wauwatosa; Kinnickinnic river, near East South Park; mill pond at Delafontaine cottage, Okauchee Lake, Waukesha; Winnebago, Calumet Co.; East Two Rivers, Manitowoc Co.; Kenosha, Mrs. Wiswall's list; S. F. Baird; Milwaukee, Wis., I. A. Lapham, VII, 121.

51a. *Planorbis trivolvis* Say.

Molas Creek, Manitowoc Co. Wheatley collection, as *P. corpulenta* form which has frequently been confused with *trivolvis* Say, a western species. S. F. Baird, XIV, 33.

52. *Planorbis* (*Helisoma*) *trivolvis* Say.

Menomonee river dredgings; Milwaukee river, near electric light plant; Honey Creek, near Layton Park; Kinnickinnic

**ophysa) catascopium** Say.

Park and the flushing tunnel pump-  
e dead shells were also obtained from  
ght plant, Wauwatosa, and Chicago.  
These stragglers are insufficient to  
eyond the waters of Lake Michigan  
interesting to know the depth of water  
he beach specimens being all drifted

**catascopium** Say, var.

ur shorter forms approaching *L.*

**ophysa) emarginata** Say.

Wiswall's list, under the name *L.*  
J. A. Lapham; Wisconsin, Lewis,  
"First of Four Lakes, Madison  
, Bull. Chic. Acad. Sci., Vol. II, No.  
of the var. *mighelsi*, Binney, see  
around Milwaukee.

**ophysa) caperata** Say.

of Humboldt Park and Home  
north shore of Lake Winne-  
enosha, Mrs. Wiswall's list. Over-  
at Lindwurm, C. E. Brown, 1903  
ham," Smith. Misc. Coll., VII, 57.  
inal variety.

**erata umbilicata** Adams.

waukee river opposite the cement  
h Milwaukee; Honey Creek, near  
ate forms; hollow beside Chicago  
mall creek near Loomis road, Town  
d's prairie and near St. Martin's  
Creek, near lake shore, Kenosha.

**ophysa) humilis** Say.

arm; Mud Creek at North Milwan-  
old Falk brewery; Honey Creek.

near Layton Park; doubtfully from Lake Winnebago, west of  
High Cliff. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll.,  
VII, 67. Everywhere scarce.

50. **Limnæa (Limnophysa) desidiosa** Say.

Mud Creek and its valley at and east of North Milwaukee;  
artificial pond near Kraatz's brickyard, Vliet street; Menomonee  
river, near old Falk brewery and in slough above Castalia Park;  
Honey Creek, near Layton Park (*L. parva* in part, fide E. C.  
Baker); Lake Winnebago, west of High Cliff; Mishicot river, at  
Two Rivers, Manitowoc Co. 12659, Cold Spring avenue, fossil.  
"Milw." in pencil, Smith. Misc. Coll., VII, 48, public library copy.

A considerable portion of the above were referred to the  
preceding species by Mr. Baker on a hasty examination, but in  
this I cannot follow him.

**Limnæa (Acella) gracilis** Jay.

"Has been quoted from Wisconsin," Smith. Misc. Coll.,  
VII, 69.

51. **Planorbis (Helisoma) trivolvis** Say.

Lake Michigan beach at North Point pumping station; stream  
near electric light plant, Wauwatosa; Menomonee river dredg-  
ings; Kinnickinnic river, near Eleventh avenue; lily-pond in  
South Park; mill pond at Delafield; Okauchee, and Ballard's  
cottage, Okauchee Lake, Waukesha Co.; north shore of Lake  
Winnebago, Calumet Co.; East Twin river, at Two Rivers, Mani-  
towoc Co. Kenosha, Mrs. Wiswall's list. "Madison, Wis., Prof.  
S. F. Baird; Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll.,  
VII, 121.

51a. **Planorbis trivolvis** Say, large form.

Molas Creek, Manitowoc Co. 3946, Sheboygan, C. M.  
Wheatley collection, as *P. "corpulentus."* This seems to be the  
form which has frequently been confounded with *Planorbis corpu-*  
*lentus* Say, a western species. See the Nautilus, XIII, 133;  
XIV, 33.

52. **Planorbis (Helisoma) bicarinatus** Say.

Menomonee river dredgings; Menomonee valley, near Castalia  
Park; stream near electric light plant, Wauwatosa; Honey  
Creek, near Layton Park; Kinnickinnic river, near Eleventh

avenue; Golden Lake, Waukesha Co.; Little Cedar Lake, Washington Co.; north shore of Lake Winnebago, Calumet Co. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll. VII, 124.

52a. *Planorbis bicarinatus striatus* Baker.

Cold Spring Park (fossil), donated by Mr. Monroe. 12660. Cold Spring avenue (fossil). "Milwaukee (fossil), C. E. Brown," Nautilus, XV, 120, original description.

53. *Planorbis (Planorbella) campanulatus* Say.

Lake Michigan beach at North Point pumping station and near Lake Park; Menomonee river dredgings; stream near electric light plant, Wauwatosa; Kinnickinnic river, near Eleventh avenue; fossil at Cold Spring Park; mill pond at Delafield, Okauchee and Golden Lake, Waukesha Co.; Little Cedar Lake, Washington Co.; Crystal Lake, near Elkhart Lake, Sheboygan Co.; north shore of Lake Winnebago, Calumet Co.; East Twin River, at Two Rivers, Manitowoc Co. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham; Aztalan, Wis., S. F. Baird," Smith. Misc. Coll., VII, 110.

Some of the specimens from Golden Lake show the curious distortion, due to a second growth after the formation of the first aperture, that is so often observed in senile examples of *P. trivolvis*. This phenomenon is rather unusual in the present species.

*Planorbis (Menetus) exacutus* Say.

"Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 128. Our search for this species was unsuccessful.

54. *Planorbis (Gyraulus) hirsutus* Gould.

Mishicot river (or East Twin river), at Two Rivers, Manitowoc Co., not uncommon.

55. *Planorbis (Gyraulus) parvus* Say.

Mud Creek valley at North Milwaukee; Menomonee valley, opposite Mitchell Park, and at Castalia Park, abundant; Honey Creek, near Layton Park; ponds at Howard's prairie and near St. Martin's, Town Franklin.

56. *Segmentina (Planorbis)*

Mud Creek valley at North Milwaukee; mouth of Mud Creek; Castalia Park woods; marsh in Menomonee valley; pond at Cabeen's woods, Chicago avenue, Town Franklin; Mishicot river, at Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 138.

*Ancylus (Lævapex) diap*

"Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 141.

57. *Ancylus (Ferrissia)*

Root river; at Loomis road, Town Franklin, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 141.

58. *Ancylus (Ferrissia) parvus*

Pond near St. Martin's, Town Franklin, Wis. One specimen obtained was submitted to Mr. Lapham, who roborates the identification and writes an example of the compressed, high form, occasionally. (See Nautilus, XVIII, p. 141.) This seems to be an individual variation of the present species.

59. *Ancylus (Ferrissia)*

A single dead shell from an artificial pond, west along Vliet street, is considered to represent a new species. See Nautilus, XVIII, p. 141. In all only five specimens of *Ancylus* were obtained, a disappointing result for a much larger number of specimens recently found on industrious search in the present species. This has recently been elaborately monographed in volumes XVI to XVIII of the Nautilus.

*Physa heterostrophus*

Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 89. It is noted that these citations appertain properly to this species. See Baker, Mollusca of the Chicago Area, VI, 20; XIV, 16; XV, 25. A single specimen was found in a mill pond at Delafield, Waukesha Co., Wis., I. A. Lapham," Smith. Misc. Coll., VII, 141.

Waukesha Co.; Little Cedar Lake, Washburn Co.; Lake Winnebago, Calumet Co.; "Milwaukee, Wis., I. A. Lapham."

*carinatus striatus* Baker.

Donated by Mr. Monroe. 12600  
"Milwaukee (fossil), C. E. Brown's description.

*norbelli campanulatus* Say.

North Point pumping station and near other dredgings; stream near electric mill on Mickinnic river, near Eleventh street; mill pond at Delafield, Okauchee Co.; Little Cedar Lake, Washington Co.; North Chart Lake, Sheboygan Co.; north of Calumet Co.; East Twin River, Kenosha, Mrs. Wiswall's list; "Milwaukee, Wis., I. A. Lapham"; Aztalan, Wis., S. F. Baird. From Golden Lake show the curious growth after the formation of the first whorl in senile examples of *P. trivolvens*, usual in the present species.

*netus* *exacutus* Say.

"Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 143. This species was unsuccessful.

*gyraulus* *hirsutus* Gould.

(Two Rivers, Manitowishkegan river), at Two Rivers, Manitowishkegan.

*gyraulus* *parvus* Say.

North Milwaukee; Menomonee valley, near Castalia Park, abundant; Honey Creek, near Howard's prairie and near

56. *Segmentina* (*Planorbula*) *armigera* Say.

Mud Creek valley at North Milwaukee, abundant; slough at mouth of Mud Creek; Castalia Park, Wauwatosa; Johnson's woods; marsh in Menomonee valley, opposite Mitchell Park; dry pond at Cabeen's woods, Chicago avenue; pond near St. Martin's, Town Franklin; Mishicot river, at Two Rivers, Manitowoc Co. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 138.

*Ancylus* (*Lævapex*) *diaphanus* Haldeman.

"Milwaukee, Wis., I. A. Lapham." Smith, Misc. Coll., VII, 141.

57. *Ancylus* (*Ferrissia*) *rivularis* Say.

Root river, at Loomis road, Town Franklin. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII., 143.

58. *Ancylus* (*Ferrissia*) *parallelus* Haldeman.

Pond near St. Martin's, Town Franklin. The unique specimen obtained was submitted to Mr. Bryant Walker. He corroborates the identification and writes: "The shell is a good example of the compressed, high form of *parallelus* that occurs occasionally. (See Naut., XVIII, p. 77, Plate V, fig. 4-6.) It seems to be an individual variation and not a varietal one."

59. *Ancylus* sp.

A single dead shell from an artificial pond near Kraatz's brickyard, west along Vliet street, is considered by Mr. Bryant Walker to represent a new species. See Naut., XVIII, 81.

In all only five specimens of *Ancylus* were secured, which is disappointing, for a much larger number of species should be found on industrious search in the proper places. The genus has recently been elaborately monographed by Mr. Bryant Walker in volumes XVI to XVIII of the Nautilus.

*Physa heterostropha* Say.

Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 89. It may be questioned whether these citations appertain properly to this species as now delimited. See Baker, Mollusca of the Chicago Area, p. 308, and Nautilus, VI, 20; XIV, 16; XV, 25. A single immature shell from the mill pond at Delafield, Waukesha Co., is doubtfully referred here.

60. *Physa sayi* Tappan.

Lake Michigan at the pumping stations; Menomonee marshes and dredgings; Kinnickinnic river, near Eleventh avenue; Golden Lake, Waukesha Co.; north shore of Lake Winnebago, near High Cliff, Calumet Co. This species evidently prefers a lake habitat, but is nowhere very abundant.

*Physa ampullacea* Gould, a west coast species, is marked "Milwaukee" in pencil in the library copy of Smith, Misc. Coll., VII, 79. This must be an error for *sayi* or *gyrina*; compare figure 134 of the above work with the Mud Creek specimens of *P. gyrina*.

61. *Physa gyrina* Say.

Milwaukee river, near Coney Island, and at Lindwurm; Mud Creek valley, common; small pond near Kraatz's brickyard; slough above Castalia Park; pool in Johnson's woods; Menomonee marshes and dredgings; Honey Creek, near Layton Park; dry pond at entrance to Cabeen's woods, Chicago avenue, abundant and large, burrowing in the mud; pond near St. Martin's, Town Franklin; small creek near Loomis road, Town Greenfield; small creek at County Line; Sand Ridge Creek, near Kenosha; north shore of Lake Winnebago, Calumet Co.; East Twin river, at Two Rivers, Manitowoc Co. Kenosha, Mrs. Wiswall's list. "Milwaukee, Wis., I. A. Lapham; Farwell's Mills, Madison, Wis., S. F. Baird; Racine, Wis., ditto," Smithsonian Misc. Coll., VII, 79.

61a. *Physa gyrina elliptica* Lea.

(*Physa gyrina oleacea* Tryon.)

Mud Creek, east of North Milwaukee; Honey Creek, near Layton Park; small swamp southwest of Humboldt Park. Not always readily separated from the typical form of the species, and occurring with it.

62. *Physa integra* Haldeman.

Lake Michigan beach at and near North Point; Milwaukee river, near Coney Island (nice series), at Lindwurm and below Schlitz icehouse; Mud Creek, at North Milwaukee; pond near Kraatz's brickyard; Menomonee river, at Castalia Park and Wauwatosa, and stream near Wauwatosa electric light plant; Root river, at Loomis road, Town Franklin; Golden Lake, Waukesha

Co. "Wisconsin," F. C. Baker Area, p. 316. In the older citations confused with *P. heterostropha*, Milwaukee region.

63. *Aplexa hyalina* Say.

Menomonee valley, near old woods. Kenosha, Mrs. Wiswall's list. Milwaukee river at Lindwurm, I. A. Lapham's list. "Milwaukee, Wis., I. A. Lapham's list."

## B. OPELI

64. *Pleurocer*var. *palli*

North shore of Lake Winnebago, Co. Mr. Baker provisionally identifying to the above variety. They differ from the earlier whorls with several median carinae.

65. *Pleurocer*

Milwaukee river at Lindwurm, the latter representing the form from Menomonee river dredgings.

66. *Goniobasis*

Lake Michigan, at the pumping station; Milwaukee river at Lindwurm and from the Kinnickinnic river, near river dredgings. 2816, Milwaukee river, Mrs. Wiswall's list. The specimens from more or less battered, often with

*Goniobasis lives*

"Wisconsin (*M. occulta* Ant.) 248. Walker, Naut., XVI, 35, s. It did not occur in our collection."

*sayi* Tappan.

g stations; Menomonee marshes  
r. near Eleventh avenue; Golden  
e of Lake Winnebago, near High  
evidently prefers a lake habitat.

west coast species, is marked  
rary copy of Smith. Misc. Coll.,  
or for-*sayi* or *gyrina*; compare  
ith the Mud Creek specimens of

*gyrina* Say.

Island, and at Lindwurm; Mud  
pond near Kraatz's brickyard;  
ol in Johnson's woods; Menom-  
oney Creek, near Layton Park;  
s woods, Chicago avenue, abund-  
e mud; pond near St. Martin's,  
r Loomis road, Town Greenfield;  
nd Ridge Creek, near Kenosha;  
b, Calumet Co.; East Twin river,  
Kenosha, Mrs. Wiswall's list.  
am; Farwell's Mills, Madison.  
, ditto," Smithsonian Misc. Coll.

*ina elliptica* Lea.

*oleacea* Tryon.)

Milwaukee; Honey Creek, near  
thwest of Humboldt Park. Not  
ie typical form of the species, and

*egra* Haldeman.

l near North Point; Milwaukee  
series), at Lindwurm and below  
at North Milwaukee; pond near  
ee river, at Castalia Park and  
uwatosa electric light plant; Root  
anklin; Golden Lake, Waukesha

Co. "Wisconsin," F. C. Baker, Naut., XIV, 16; Moll. Chic.  
Area, p. 316. In the older citations, this form was commonly  
confused with *P. heterostropha*, which it largely replaces in the  
Milwaukee region.

63. *Aplexa hypnorum* Linné.

Menomonee valley, near old cattle chute; pools in Johnson's  
woods. Kenosha, Mrs. Wiswall's list. Over-flow pond of the  
Milwaukee river at Lindwurm, large numbers, C. E. Brown, 1903.  
"Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 101.

B. OPERCULATE.

64. *Pleurocera subulare* Lea.

var. *pallidum*? Lea.

North shore of Lake Winnebago west of High Cliff, Calumet  
Co. Mr. Baker provisionally identified the specimens as pertain-  
ing to the above variety. They are of a light horn yellow color,  
the earlier whorls with several incised revolving lines and a faint  
median carina.

65. *Pleurocera elevatum* Say.

Milwaukee river at Lindwurm and below the Schlitz icehouse,  
the latter representing the form *tractum*, Anthony. Also from the  
Menomonee river dredgings.

66. *Goniobasis livescens* Menke.

Lake Michigan, at the pumping stations and Lake Park; Mil-  
waukee river at Lindwurm and near Coney Island; doubtfully  
from the Kinnickinnic river, near Eleventh avenue; Menomonee  
river dredgings. 2816. Milwaukee river. Kenosha, Mrs. Wis-  
wall's list. The specimens from the lake shore are frequently  
more or less battered, often with a perforation in the body whorl.

*Goniobasis livescens depygis* Say.

"Wisconsin (*M. occulta* Anthony)," Smith. Misc. Coll., XVI,  
248. Walker, Naut., XVI, 35, suggests that this is a good species.  
It did not occur in our collections.



*aculata* Linné.  
 Chic. Area, p. 330. Our col-  
 red species, which may be looked  
 ng established itself through the  
 me exceedingly abundant at

*limosa* Say.  
 an, north from flushing tunnel  
 er at Lindwurm; Lake Winneb-  
 Co. Kenosha, Mrs. Wiswall's  
 Wis., I. A. Lapham," Smith.

*nosa parva* Lea.  
 r at Lindwurm; Castalia Park.

*nosa porata* Say.  
 umping stations.

*strica* Pilsbry.  
 ck.

*ia) cincinnatensis* Lea.  
 Menomonee River dredgings;  
 ; Calumet Co. It is doubtful  
 e genus *Amnicola*; see Walker,  
 if the specific name requires

*emarginata* Küster.  
 o, west of High Cliff, Calumet

*oglobosus* Say.  
 nth avenue; Root river, at  
 nosha (Mrs. Wiswall); Lake  
 met Co. "Wisconsin," Moll.

*Somatogyrus integer depressus* Tryon.

Kenosha; Mrs. Wiswall's list.

72. *Pomatiopsis lapidaria* Say.

Castalia Park, Wauwatosa. 2788, near cement mills, Mil-  
 waukee Co., Wis., W. M. Wheeler. Kenosha, Mrs. Wiswall's  
 list. "Richland City, Wis.," in pencil in library copy of Smith.  
 Misc. Coll., VII, 93.

*Pomatiopsis lustrica* Say (= *P. lapidaria*).

"Four Lakes, Wis., I. A. Lapham," Smith. Misc. Coll., VII, 95.  
 See Baker, Moll. Chic. Area, pp. 334, 344.

73. *Valvata tricarinata* Say.

Milwaukee river below Schlitz icehouse; Mud Creek, at and  
 east of North Milwaukee; Honey Creek, near Layton Park; Cold  
 Spring Park (fossil); Lake Winnebago, near High Cliff, Calumet  
 Co. "Milwaukee, Wis., I. A. Lapham," Smith. Misc. Coll.,  
 VII, 12.

73a. *Valvata tricarinata simplex* Gould.

Shore of Lake Michigan, north from flushing tunnel pumping  
 station.

*Valvata bicarinata* Say

form *normalis* Walker.

Specimens from Mud Creek at North Milwaukee having the  
 characters supposed to distinguish this form are probably merely  
 the young of *V. tricarinata*.

74. *Valvata sincera* Say.

Honey Creek, near Layton Park: fossil at Cold Spring Park.  
 12658, Cold Spring avenue (fossil). "Madison, Wis., I. A.  
 Lapham," Smith. Misc. Coll., VII, 13.

75. *Vivipara contectoides* W. G. Binney.

Kinnickinnic river, near Eleventh avenue, one dead shell only.  
 As this may have been brought on a boat, further evidence is  
 needed before fully admitting the species to the Wisconsin fauna.  
 It is well established at Chicago. For the history of its coloniza-  
 tion in northern waters, see Amer. Jour. Conch., IV., 245;  
 Nautilus, V, 133.



Lake Creek, Oneida Co. 7244, Dodgeville, Iowa Co., R. Marks. 11037, 11039, "Wisconsin River," Wiswall collection as "*U. canadensis*." Clem Lake, Waupaca Co., C. E. Brown, Aug., 1903. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown. "Lake Ellen, Wis. (*canadensis*), Dr. J. J. Brown," Naut., V, 81.

*Lampsilis occidens* Lea.

"In the Lea collection from Nashotah, Wis.," as "*Unio cariosus*," but probably belonging to this species; see Naut., VIII, 123. The locality is evidently a misspelling for Nashotah, Waukesha Co. According to Dr. von Ihering, XV, 50, this species is not a synonym of the preceding, but distinct. *Lampsilis cariosa* Say, is not otherwise reported from Wisconsin. The three forms, *ventricosa*, *occidens*, and *cariosa*, are all very similar and difficult to distinguish.

81. *Lampsilis (Euryxia) luteola* Lamarck.

Milwaukee river, above Lindwurm; Golden Lake and Ballard's cottage, Okauchee Lake, Waukesha Co.; Boom, and ancient shell heaps at Winneconne, Winnebago Co.; Lake Winnebago, near High Cliff, Calumet Co. (doubtful); Two Rivers, Manitowoc Co.; Clear Water Lake and Creek, Oneida Co.. 12652, Fox River, near Big Bend, Waukesha Co., C. E. Brown. 11016, 11017, "Wis." Wiswall collection. Beasley Brook, She-she-pe-comeo Park, Waupaca Co., C. E. Brown, Aug., 1903.

*Lampsilis (Euryxia) superiorensis* Marsh.

One specimen, from Two Rivers, Manitowoc Co., may represent this northerly race. For description, see the Nautilus, X, 103; Pl. I, p. 121.

*Lampsilis (Euryxia) borealis* A. F. Gray.

Said to connect with *luteolus* "in Wisconsin," Naut., V, 88; also 113.

*Lampsilis (Euryxia) radiata* Gmelin.

"There is a shell in the U. S. National Museum from the north-west boundary of Wisconsin, which is probably this species."—Simpson, Synopsis, p. 536.

82. *Lampsilis (Euryxia) ligamentina* Lamarck.

Milwaukee river at Lindwurm and below Schlitz icehouse;

*purpurea* Say.

Smith. Misc. Coll., VII, 21.

*rufum* Haldeman.

Lake, Waukesha Co.; Little Cedar Lake, Winnebago, near High Cliff, Waupaca Co., C. E. Brown, Aug.,

*na decisum* Say.

urm and below Schlitz icehouse; alk brewery and at Wauwatosa; 11th avenue; Root river, at Loomis; Lake Winnebago, near High Cliff; East Twin river, at Two Rivers. "rum" (doubtful), Milwaukee river (doubtful, "*itho integra*"), Mrs. Wiswall's collection. Lapham; Aztalan and Racine. Sc. Coll., VII, 51. The following is not this species, and is so difficult to identify that it may be properly challenged. The correctness of the identifications here

*subsolidum* Anthony.

urm and below Schlitz icehouse; and at Mitchell Park and Wauwatosa. Eleventh avenue; Oak Creek, near High Cliff, Manitowoc Co.

*subcarinata* Say.

wall exchange; Lake Winnebago, near High Cliff. Not reported by Baker from the

BIVALVES.

*ventricosa*\* Barnes.

urm and below the Schlitz icehouse; High Cliff, Calumet Co.; Clear Water Lake, Oneida Co.

necessary in the orthography of the name. Josua Lindahl, "Orthography of the name of the Cincinnati Society of Naturalists," Feb. 1, 1906.

Fox River, near Big Bend, Waukesha Co.; Winnebago Lake, at Menasha (doubtful); Clear Water Lake Creek, Oneida Co. 10687, Sugar River, Brodhead, Green Co., W. H. Hayssen. 11023, "Wisconsin River," Wiswall collection. Honey Creek, Towns Wauwatosa and Greenfield, several specimens, C. E. Brown, Oct., 1903. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

**Lampsilis (Eurynia) higginsii** Lea.

Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

**Lampsilis (Eurynia) anodontoides** Lea.

Same locality as preceding.

83. **Lampsilis (Eurynia) recta** Lamarck.

Fox River, near Big Bend, Waukesha Co., pathologic; La Crosse. 11054, "Wis.," Wiswall collection, C. E. Brown. For Crosse. 11054, "Wis.," Wiswall collection. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown. For the identification of the remarkably deformed specimen from Big Bend, we are indebted to Mr. Chas. T. Simpson, author of the "Synopsis."

84. **Lampsilis (Eurynia) iris** Lea.

Milwaukee river at Lindwurm. "Wisconsin," Simpson, Syn. Naiades, p. 552.

85. **Lampsilis (Eurynia) ellipsiformis** Conrad.

(syn. **Lampsilis spatulatus** Lea.)

Milwaukee river at Lindwurm and below Schlitz icehouse. abundant; Fox river, near Big Bend, Waukesha Co.; mill pond at Hika, Manitowoc Co. 3429, Milwaukee river, A. Kerr. 11003, "Wis.," Wiswall collection.

86. **Lampsilis (Proptera) alata** Say.

Winnebago Lake at Menasha, and west of High Cliff, Calumet Co.; Two Rivers, Manitowoc Co. 5764, Milwaukee River. Wis. Nat. Hist. Soc. 11021, "Wis.," Wiswall collection. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

87. **Lampsilis (Proptera)**

Boom, and north branch of the Fox bago Co.; Winnebago Lake, near High Milwaukee River, Wis. Nat. Hist. Soc. collection. Our collecting failed to find a river locality.

**Obovaria (Pseudoön)**

11030, "Wis.," Wiswall collection.

**Plagiola securis**

Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

**Plagiola (Amygdaloniais)**

11012, "Wis.," Wiswall collection.

88. **Plagiola (Amygdaloniais)**

Kinnickinnic river, near Eleventh and Milwaukee River, Wis. Nat. Hist. Soc. collection.

A single valve only from the Milwaukee River, therefore questionable.

**Tritogonia tuberculata**

10693, Sugar river, Brodhead, Green Co. 10998, 10999, "Wis.," Wiswall collection. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection.

89. **Strophitus edentatus**

Milwaukee river, from Lindwurm to Kinnickinnic river, near Eleventh and Milwaukee River, Wis. Nat. Hist. Soc. 11042, "Wis.," Vaucluse brook, She-she-pe-comeo Park, Waupaca Co. 1903.

90. **Anodonta catara**

Golden Lake, Waukesha Co.; ; Maquoket River, Winnebago Co. Inasmuch as Simpson, Synopsis, p. 11021, "Wis.," Wiswall collection, western records of this species, the identity of the specimens seem to be challenged. The specimens seem to be *A. marginata* Say.

Waukesha Co.; Winnebago Lake, at  
Water Lake Creek, Oneida Co.,  
Green Co., W. H. Hayssen. 11023.  
collection. Honey Creek, Towns  
al specimens, C. E. Brown, Oct.,  
and De Soto, Bunde & Upmeyer

*ia higginsi* Lea.

and De Soto, Bunde & Upmeyer

*anodontoides* Lea.

*ia recta* Lamarck.

Waukesha Co., pathologic; La  
collection, C. E. Brown. For  
collection. Between Prairie du  
Upmeyer collection, C. E. Brown.  
Markably deformed specimen from  
Chas. T. Simpson, author of the

*irynia iris* Lea.

1. "Wisconsin," Simpson, Syn.

*ellipsiformis* Conrad.

*patulatus* Lea.)

and below Schlitz icehouse.  
end, Waukesha Co.; mill pond  
Milwaukee river, A. Kerr. 11003.

*ptera) alata* Say.

and west of High Cliff, Calu-  
met Co. 5764, Milwaukee River,  
Wis., Wiswall collection. Be-  
tween De Soto, Bunde & Upmeyer collection.

87. *Lampsilis (Proptera) gracilis* Barnes.

Boom, and north branch of the Fox River at Menasha, Winne-  
bago Co.; Winnebago Lake, near High Cliff, Calumet Co. 3404,  
Milwaukee River, Wis. Nat. Hist. Soc. 11022, "Wis., Wiswall  
collection. Our collecting failed to corroborate the Milwaukee  
river locality.

*Obovaria (Pseudoön) ellipsis* Lea.

11030. "Wis., Wiswall collection.

*Plagiola securis* Lea.

Between Prairie du Chien and De Soto, Bunde & Upmeyer  
collection, C. E. Br wn.

*Plagiola (Amygdalonaias) elegans* Lea.

11012. "Wis., Wiswall collection.

88. *Plagiola (Amygdalonaias) donaciformis* Lea.

Kinnickinnic river, near Eleventh avenue; La Crosse. 11080,  
"Wis., Wiswall collection.

A single valve only from the Milwaukee locality, which is  
therefore questionable.

*Tritogonia tuberculata* Barnes.

10693, Sugar river, Brodhead, Green Co., H. H. Hayssen.  
10998, 10999, "Wis., Wiswall collection. Between Prairie du  
Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

89. *Strophitus edentulus* Say.

Milwaukee river, from Lindwurm to the Schlitz icehouse;  
Kinnickinnic river, near Eleventh avenue, young; mill pond at  
Hika, Manitowoc Co. 11042, "Wis., Wiswall collection. Beasley  
brook, She-she-pe-comeo Park, Waupaca Co., C. E. Brown, Aug.,  
1903.

90. *Anodonta cataracta* Say.

Golden Lake, Waukesha Co.; Maple Lake, Oneida Co.  
Inasmuch as Simpson, Synopsis, p. 632, discredits the north-  
western records of this species, the identification as above might  
be challenged. The specimens seem to be this species rather than  
*A. marginata* Say.

*Anodonta implicata* Say.

11055, "Baraboo River, Wis.," Wiswall collection. Honey Creek, Towns Greenfield and Wauwatosa, C. E. Brown, Oct., 1903, fairly common.

91. *Anodonta imbecillis* Say.

One young shell from Lake Winnebago, west of High Cliff, Calumet Co.

92. *Anodonta grandis* Say.

Milwaukee river above Lindwurm, and below Schlitz icehouse; mill pond at Wauwatosa; Fox river near Big Bend, Golden Lake and Ballard's cottage, Okauchee Lake, Waukesha Co.; Winnebago Lake at Menasha and west of High Cliff; Jambo Creek and Two Rivers, Manitowoc Co.; Maple Lake, Oneida Co.; Clem Lake, Waupaca Co.. C. E. Brown, Aug., 1903, common.

*Anodonta grandis footiana* Lea.

11038, "Wis.," Wiswall collection.

*Anodonta grandis gigantea* Lea.

3480 ? Frank e, Wis., Nat. Hist. Soc., as *A. plana*.

93. *Anodontoides ferussacianus* Lea.

Milwaukee river, between Lindwurm and Schlitz icehouse; Mud Creek, east of Teutonia avenue; Root river, at Loomis road, Town Franklin; Jambo Creek, Manitowoc Co. Milwaukee river, Wis., Nat. Hist. Soc. 11032, "Lake Leota, Wis.," Wiswall collection.

94. *Symphynota compressa* Lea.

Jambo Creek, Manitowoc Co. "Wisconsin," Simpson, Syn. Naiades, p. 663.

95. *Symphynota (Lasmigona) costata* Rafinesque,

Milwaukee River at Lindwurm, and below Schlitz icehouse. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

96. *Symphynota (Pterosygna) complanata* Barnes.

Milwaukee river, at Lindwurm and Schlitz icehouse; Two Rivers, Manitowoc Co. 11010, "Wis.," Wiswall collection.

97. *Alasmidonta (Presso)*

Lake Michigan shore at Lake P. Co. Beasley Creek, She-she-pe-coe Brown, Aug., 1903.

98. *Alasmidonta (Rugif)*

(syn. *Alasmidonta trur*

Milwaukee river, at Lindwurm 3473, Milwaukee river, Wis. Na Wiswall collection. Junction Lak Aug., 1903. Between Prairie du Upmeyer collection, C. E. Brown. rather the eastern variety is the tr XV., 47.

99. *Unio (Elliptio)*

Milwaukee river, from Lindw ant; Fox river, near Big Bend, W at Winneconne, Winnebago Co.; Cliff, Calumet Co.; Two Rivers woc Co. 11034, 11035, "Wis., brook, She-she-pe-comeo Park, Brown, Aug., 1903. Between Bunde & Upmeyer collection, C. J

*Unio gibbosus* de

12649, Fox river, near Big Be

*Unio (Elliptio) cr*

Between Prairie du Chien a collection, C. E. Brown. Fossil: XVIII, 97.

*Pleurobema (Pletho)*

11031, 11040, "Wis.," Wiswa

*Quadrula (Creno)*

"Wis.," Wiswall collection and De Soto, Bunde & Upmeyer

*a implicata* Say.

"Wis." Wiswall collection. Honey  
Vauwatosia, C. E. Brown, Oct., 1903.

*ta imbecillis* Say.

ke Winnebago, west of High Cliff,

*nta grandis* Say.

Lindwurm, and below Schlitz icehouse;  
Fox river near Big Bend, Golden  
Tanchee Lake, Waukesha Co.; Win-  
nebag west of High Cliff; Jambo Creek  
Manitowoc Co.; Maple Lake, Oneida Co.;  
C. E. Brown, Aug., 1903, common.

*ndis footiana* Lea.

ection.

*ndis gigantea* Lea.

t. Hist. Soc., as *A. plana*.

*s ferussacianus* Lea.

Lindwurm and Schlitz icehouse;  
Kenue; Root river, at Loomis road,  
Manitowoc Co. Milwaukee river,  
"Lake Leota, Wis.," Wiswall

*ta compressa* Lea.

Co. "Wisconsin," Simpson, Syn.

*igona) costata* Rafinesque,

Lindwurm, and below Schlitz icehouse.  
De Soto, Bunde & Upmeyer col-

*sygna) complanata* Barnes.

Lindwurm and Schlitz icehouse; Two  
"Wis.," Wiswall collection.

97. *Alasmidonta (Pressodonia) calceolus* Lea.

Lake Michigan shore at Lake Park; Jambo Creek, Manitowoc  
Co. Beasley Creek, She-she-pe-comeo Park, Waupaca Co., C. E.  
Brown, Aug., 1903.

98. *Alasmidonta (Rugifera) marginata* Say.

(syn. *Alasmidonta truncata* B. H. Wright.)

Milwaukee river, at Lindwurm and below Schlitz icehouse.  
3473. Milwaukee river, Wis. Nat. Hist. Soc. 11046. "Wis."  
Wiswall collection. Junction Lake, Waupaca Co., C. E. Brown,  
Aug., 1903. Between Prairie du Chien and De Soto, Bunde &  
Upmeyer collection, C. E. Brown. For the evidence that this form  
rather the eastern variety is the true *marginata*, see Fox in Naut.,  
XV., 47.

99. *Unio (Elliptio) gibbosus* Barnes.

Milwaukee river, from Lindwurm to Schlitz icehouse, abund-  
ant; Fox river, near Big Bend, Waukesha Co.; ancient shell heaps  
at Winneconne, Winnebago Co.; Lake Winnebago, west of High  
Cliff, Calumet Co.; Two Rivers and mill pond at Hika, Manito-  
woc Co. 11034. 11035. "Wis." Wiswall collection. Beasley  
brook, She-she-pe-comeo Park, Waupaca Co., common, C. E.  
Brown, Aug., 1903. Between Prairie du Chien and De Soto,  
Bunde & Upmeyer collection, C. E. Brown.

*Unio gibbosus delicatus* Simpson.

12649, Fox river, near Big Bend, Waukesha Co., C. E. Brown.

*Unio (Elliptio) crassidens* Lamarck.

Between Prairie du Chien and De Soto, Bunde & Upmeyer  
collection, C. E. Brown. Fossil at Green Bay, see Wagner, Naut.,  
XVIII, 97.

*Pleurobema (Plethobasus) æsopus* Green.

11031, 11040. "Wis.," Wiswall collection.

*Quadrula (Crenodonta) plicata* Say.

"Wis.," Wiswall collection (?). Between Prairie du Chien  
and De Soto, Bunde & Upmeyer collection, C. E. Brown.

100. *Quadrula (Crenodonta) undulata* Barnes.

Fox river, near Big Bend, Waukesha Co.; ancient shell heaps at Winneconne, Winnebago Co.; Two Rivers, Manitowoc Co.; Clear Water Lake Creek, Oneida Co. 12650, Fox river, near Big Bend, C. E. Brown. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

*Quadrula (Crenodonta) heros* Say.

Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

*Quadrula metanevra* Rafinesque.

11013 seq., "Wis.," Wiswall collection.

*Quadrula (Theliderma) fragosa* Conrad.

11009, "Wisconsin River," Wiswall collection.

101. *Quadrula (Theliderma) pustulosa* Lea.

Ancient shell heaps at Winneconne, Winnebago Co. 11018, "Wis.," Wiswall collection. Between Prairie du Chien and De Soto, Bunde & Upmeyer collection, C. E. Brown.

102. *Quadrula (Fusconaia) rubiginosa* Lea.

Milwaukee river, Lindwurm to Schlitz icehouse, abundant; Mud Creek, east of Teutonia avenue, fragment of a young shell; Menomonee river dredgings; Two Rivers, Manitowoc Co.; Clear Water Lake Creek, Oneida Co. 3413, Milwaukee river, Wis. Nat. Hist. Soc. 11001, "Wis.," Wiswall collection.

103. *Quadrula (Fusconaia) trigona* Lea.

Doubtfully from Milwaukee river above Lindwurm. 10698, Sugar river at Brodhead, H. H. Hayssen. 11006, "Wis.," Wiswall collection.

*Quadrula (Fusconaia) coccinea* Conrad.

11041, "Wis.," Wiswall collection. A fragment from the ancient shell heaps at Winneconne probably belongs to this species.

*Quadrula (Fusconaia) solida* Lea.

11047, 11049, "Wis.," Wiswall collection. "Wisconsin." Simpson, Syn. Naiades, p. 789.

*Quadrula (Fusconaia)*

"North in the Mississippi Naiades, p. 790.

*Quadrula (Fusconaia)*

"North to Wisconsin?," Sim

*Quadrula (Fusconaia)*

11004, "Wis.," Wiswall colle and De Soto, Bunde & Upmeyer

*Quadrula (Rotundaria)*

10689, Sugar river at Brodhead 11027, 11028, "Wis.," Wiswall

104. *Sphaerium*

Sandy beach of Lake Michigan Lake Winnebago, one-half mile This is a species of the larger la *S. solidulum*; see Mollusca of identification is still open to som

*Sphaerium*

Kenosha, Mrs. E. C. Wis Smith. Misc. Coll., VII, 36. T the preceding species.

105. *Sphaerium*

Mud Creek east of Teutonia near Layton Park; abundant *S. simile*.

106. *Sphaerium*

North bank of Milwaukee half a mile east of Teutonia Eleventh avenue.

107. *Sphaerium*

Very abundant in Mud Cree east of Teutonia avenue, with shells at the cement mills, Smith. Misc. Coll., VII, 37.

*Fonta) undulata* Barnes.  
 Vaukesh Co.; ancient shell heaps  
 ; Two Rivers, Manitowoc Co.;  
 ida Co. 12650. Fox river, near  
 en Prairie du Chien and De Soto.  
 E. Brown.

*Fonta) heros* Say.  
 nd De Soto, Bunde & Upmeyer

*evra* Rafinesque.  
 collection.

*na) fragosa* Conrad.  
 Wiswall collection.

*lerma) pustulosa* Lea.  
 econnie, Winnebago Co. 11018,  
 etween Prairie du Chien and  
 ction, C. E. Brown.

*naia) rubiginosa* Lea.  
 to Schlitz icehouse, abundant;  
 nue, fragment of a young shell;  
 o Rivers, Manitowoc Co.; Clear  
 3413, Milwaukee river, Wis.  
 Wiswall collection.

*onaia) trigona* Lea.  
 river above Lindwurm. 10698,  
 H. Hayssen. 11006, "Wis.,"

*) coccinea* Conrad.  
 action. A fragment from the  
 probably belongs to this species.

*naia) solida* Lea.  
 wall collection. "Wisconsin,"

*Quadrula (Fusconaia) pyramidata* Lea

"North in the Mississippi to Wisconsin," Simpson, Syn.  
 Naiades, p. 790.

*Quadrula (Fusconaia) kirtlandiana* Lea.

"North to Wisconsin?," Simpson, Synopsis, p. 791.

*Quadrula (Fusconaia) ebena* Lea.

11004, "Wis.," Wiswall collection. Between Prairie du Chien  
 and De Soto, Bunde & Upmeyer collection, C. E. Brown.

*Quadrula (Rotundaria) tuberculata* Rafinesque.

10689, Sugar river at Brodhead, Green Co., H. H. Hayssen.  
 11027, 11028, "Wis.," Wiswall collection.

104. *Sphaerium vermontanum* Prime.

Sandy beach of Lake Michigan at Milwaukee; north shore of  
 Lake Winnebago, one-half mile west of High Cliff, Calumet Co.  
 This is a species of the larger lakes, which has been confused with  
*S. solidulum*; see Mollusca of the Chicago Area, p. 394. The  
 identification is still open to some question according to Dr. Sterki.

*Sphaerium solidulum* Prime.

Kenosha, Mrs. E. C. Wiswall's list. "Wisconsin," Prime,  
 Smith. Misc. Coll., VII, 36. These citations may be in error for  
 the preceding species.

105. *Sphaerium rhomboideum* Say.

Mud Creek east of Teutonia avenue bridge, and Honey Creek  
 near Layton Park; abundant at both localities. Occurs with  
*S. simile*.

106. *Sphaerium stamineum* Conrad.

North bank of Milwaukee river at Lindwurm; Mud Creek,  
 half a mile east of Teutonia avenue; Kinnickinnic river near  
 Eleventh avenue.

107. *Sphaerium striatinum* Lamarck.

Very abundant in Mud Creek, on a gravelly bottom, half a mile  
 east of Teutonia avenue, with the preceding and following; dead  
 shells at the cement mills, Lindwurm. "Wisconsin," Prime,  
 Smith. Misc. Coll., VII, 37.

108. *Sphaerium simile* Say.

Sandy beach of Lake Michigan at Milwaukee; Mud Creek, from North Milwaukee to half a mile east of Teutonia avenue, locally abundant; Honey Creek, near Layton Park, common (also in 1903, "very common," C. E. Brown); fossil at Cold Spring Park; Lake Winnebago, near High Cliff; Calumet Co., East Twin River at Two Rivers, and Molas Creek, Manitowoc Co. Kenosha (as *Sphaerium sulcatum* Lamarck), Mrs. Wiswall's list. "Wisconsin" (as *S. sulcatum*), Prime, Smith. Misc. Coll., VII, 34. Widely distributed.

109. *Sphaerium fabale* Prime.

Honey Creek, near Layton Park.

*Sphaerium occidentale* Prime.

Kenosha (?) (as "*Pisidium occidentale*"), Mrs. Wiswall's list. Overflow pond of Milwaukee river at Lindwurm, C. E. Brown, July, 1903. "Wisconsin," Prime, Smith. Misc. Coll., VII, 41.

110. *Calymene transversa* Say.

Mud Creek, half mile east of Teutonia avenue.

111. *Calymene truncata* Linsley.

Common in Mud Creek east of Teutonia avenue bridge; abundant in a pool in Johnson's woods; Honey Creek, near Layton Park. "Wisconsin," Prime, Smith. Misc. Coll., VII, 51.—to which Dr. Lapham has added in pencil, in the public library copy: "Minnesota—not Wisconsin. I. A. L."

*Calymene jayensis* Prime.

Kenosha (?) (as "*Sphaerium jayanum* Prime"), Mrs. Wiswall's list. "Wisconsin," Sterki in Naut. XVI, 92.

*Calymene partumeia* Say.

Kenosha, Mrs. Wiswall's list. "Wisconsin," Prime, Smith. Misc. Coll., VII, 45.

*Pisidium abyssorum* (Stimpson) Sterki.

"Racine, Wis., Geo. T. Marston," and "Green Lake, Wis., Bryant Walker," Nautilus, XI, 125, species described.

112. *Pisidium con*

Mud Creek at North Milwaukee

*Pisidium fal*

"Wisconsin," Baker, Moll. Ch

*Pisidium medi*

"Lakes in Wisconsin," Naut.,

113. *Pisidium nove*

Mud Creek at North Milwaukee

*Pisidium paupe*

"Fox River, Wisconsin. Gen species described.

114. *Pisidium sa*

Mud Creek at North Milwaukee. Dr. Sterki.

*Pisidium virgini*

"Wisconsin," Prime, Smith. M

115. *Pisidium*

Mud Creek at North Milwaukee. Described, Naut., IX, 75.

Dr. V. Sterki has kindly examined and corrected the hasty identification of Mr. Baker and myself, and identified the material in suitable condition. Material from the following additional localities:  
*Sphaerium*: Lake Michigan, Lake Park; Mud Creek at North Milwaukee; Honey Creek.

*Calymene*: Pond in Cabeer.  
*Pisidium*: Mud Creek valley; artificial pond near Kraas; west of High Cliff, Calumet Co. be an undescribed form.

These localities should be visited for fuller suites of living specimens.

112. *Pisidium compressum* Prime.

Mud Creek at North Milwaukee, identified by Dr. Sterki.

*Pisidium fallax* Sterki.

"Wisconsin," Baker, Moll. Chic. Area, p. 401.

*Pisidium medianum* Sterki.

"Lakes in Wisconsin," Naut., XIII, 11, species described.

113. *Pisidium noveboracense* Prime.

Mud Creek at North Milwaukee, identified by Dr. Sterki.

*Pisidium pauperculum* Sterki.

"Fox River, Wisconsin, Geo. T. Marston," Naut., X, 65, species described.

114. *Pisidium sargenti* ? Sterki.

Mud Creek at North Milwaukee; identified with doubt by Dr. Sterki.

*Pisidium virginicum* Gmelin.

"Wisconsin," Prime, Smith. Misc. Coll., VII, 62.

115. *Pisidium walkeri* Sterki.

Mud Creek at North Milwaukee, identified by Dr. Sterki. Described, Naut., IX, 75.

Dr. V. Sterki has kindly examined all the *Sphaeria* and *Pisidia*, correcting the hasty identifications of the former made by Mr. Baker and myself, and identifying such of the latter as were in suitable condition. Material not yet identified has been secured from the following additional localities:

*Sphaerium*: Lake Michigan beach, from pumping stations to Lake Park; Mud Creek at North Milwaukee; Menomonee river dredgings; Honey Creek.

*Calyculina*: Pond in Cabeen's woods, Chicago avenue.

*Pisidium*: Mud Creek valley at North Milwaukee and eastward; artificial pond near Kraatz's brickyard; Lake Winnebago, west of High Cliff, Calumet Co. Dr. Sterki thinks the latter may be an undescribed form.

These localities should be systematically canvassed in the spring for fuller suites of living specimens.

*in simile* Say.

gan at Milwaukee; Mud Creek, a mile east of Teutonia avenue, near Layton Park, common (also Brown); fossil at Cold Spring High Cliff; Calumet Co., East of Molas Creek, Manitowoc Co. (Lamarck), Mrs. Wiswall's list. Prime, Smith. Misc. Coll., VII.

*fabale* Prime.

rk.

*lentale* Prime.

*dentale*"), Mrs. Wiswall's list. er at Lindwurm, C. E. Brown, Smith. Misc. Coll., VII, 41.

*transversa* Say.

Teutonia avenue.

*runcata* Linsley.

t of Teutonia avenue bridge; 's woods; Honey Creek, near e, Smith. Misc. Coll., VII, 51,— in pencil, in the public library in. I. A. L."

*ensis* Prime.

*jayantum* Prime"), Mrs. Wis- in Naut. XVI, 92.

*tumeia* Say.

"Wisconsin," Prime, Smith.

(Stimpson) Sterki.

ston," and "Green Lake, Wis., 5, species described.