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A REVISED CHECK LIST OF MICHIGAN MOLLUSCA

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The following list is based primarily upon "A Check List of Michigan Mollusca" by Dr. Bryant Walker, published in the Thirteenth Report of the Michigan Academy of Science, 1911, pages 121 to 129. A revision has seemed advisable not only because Dr. Walker's list is not readily accessible to conchologists whose interest in shells has developed within the past ten years, but also because additions to the known fauna of the state and changes in nomenclature have been numerous. In the case of the Unionidæ so many changes in classification have been made that all the old names as well as the new ones have been given for this group, to assist in revision of old collections, in naming new material in accordance with the present accepted nomenclature, and in following current publications in which only the latest names appear.

In 1911 the total number of species and varieties on the list was 398. In the following list the total has been increased

to 428. Records proven false or never authenticated have been removed, several forms have been relegated to the synonymy, and forty-nine names have been added, of which over one-half are Sphæriidæ. Of the mollusks enumerated 104 are land pulmonates, 107 are freshwater pulmonates, 35 are freshwater operculates, 66 are Unionidæ, 108 are Sphæriidæ, and 8 are foreign species. Carychium is considered with the land pulmonates.

Forms originally described from Michigan specimens, 52 in number so far as could be determined, are annotated with references to description, type locality, and the location of the type specimens when this could be ascertained.

I am particularly indebted to Dr. Bryant Walker for critical help with the entire list, and for the corrected register of the Sphæriidæ, to which further notes were added by Dr. Victor Sterki. Mr. Calvin Goodrich has sent notes on the Pleuroceridæ, and Mr. William J. Clench has contributed a revision of the Physidæ. All of these contributions and aids are most gratefully acknowledged.

Aside from those species which are mentioned in the foot-notes in this list, the following names which appeared in the 1911 list have been omitted here for reasons given:

*Omphalina inornata* (Say).—Records from Mr. W. Miller, quoted in Dr. Walker's "Catalogue of the Mollusca of Michigan," Part I, 1906, have been proven erroneous, so that the occurrence of this species in Michigan rests upon Sager and Miles' citation. It is a very doubtful member of the Michigan fauna.

*Lymnæa palustris zebra* Taylor.—A color form only. The *zebra* of Tryon has priority, as a variety of *Lymnæa reflexa*.

*Physa anatina* Lea.—The Michigan specimens examined by Clench are included in *michiganensis*.

*Physa crandalli* Baker.—This has been confused with globose forms of *gyrina*. True *crandalli* is confined to the region west of the Mississippi.

*Physa gyrina elliptica minor* Crandall.—Based upon a small juvenile form of *elliptica*. It is an absolute synonym.

*Physa gyrina oleacea* Tryon.—Described from two type localities, this subspecies has proven to be a young *gyrina* (from the Great Lakes) and *crocata* Lea (from Alabama).

*Physa integra billingsii* Heron.—Probably a synonym of *integra*. Most of the specimens examined by Clench from Ottawa, Canada, were true *integra*, and some were *ancillaria*. The figure of the type appears to be *integra*.

*Physa niagarensis* Lea.—An absolute synonym of *integra* Haldeman.

*Physa pomilia showalteri* Lea.—Not a member of the Michigan fauna. The Grand Rapids specimens upon which the citation was based are *P. gyrina hildrethiana* Lea of a rather elongate form.<sup>1</sup>

*Physa sayii warreniana* Lea.—The Michigan specimens of Lea's collection are true *sayii*, according to Clench.

*Physa lordi* Baird.—A western species. The Michigan specimens are referable to *Physa parkeri* "Currier" DeCamp.<sup>2</sup>

*Viviparus contectoides* W. G. Binney.—The only citation for Michigan is in Binney's "Land and Fresh Water Shells of North America," Part III, p. 24. It occurs in northeastern Indiana but has not yet been found in Michigan.

*Campeloma decisa flava* Currier MSS., and *Campeloma decisa melanostoma* Currier MSS.—These varieties were never published, and would probably now be included in other varieties or species.

*Pleurocera elevatum* (Say).—"Described from the Ohio River and not definitely known. Does not occur in Michigan" (Goodrich).

*Pleurocera neglectum* (Anthony).—"Synonymous with *acuta*" (Goodrich).

*Pleurocera subulare intensum* (Reeve).—"A dark color form of *subulare* (= *acuta*)" (Goodrich).

*Goniobasis brevispira* (Anthony).—"A provisional name for an undescribed subspecies of *livescens*. *Brevispira* of

<sup>1</sup> Clench, Occ. Papers, Mus. Zool., Univ. Mich., No. 161, p. 2, 1925.

<sup>2</sup> Clench, Occ. Papers, Mus. Zool., Univ. Mich., No. 161, p. 6, 1925.

Michigan is a flat-whorled form which occurs in the western part of the state" (Goodrich).

*Goniobasis depygis* (Say).—"Probably the same as *Lithasia obovata* (Say) and unknown in Michigan" (Goodrich).

*Goniobasis gracilior* (Anthony).—"Gracilior is a curiously constricted form which occurs in the lakes around Akron. I have not seen anything exactly like it from Michigan, but there is good reason for believing it occurs in the state" (Goodrich).

*Goniobasis livescens translucens* (Anthony).—A form distinguished from typical *livescens* only by its coloration and thin texture.

*Goniobasis pulchella* (Anthony).—"Types are identical with *semicarinata* and at best it is only a subspecies" (Goodrich).

*Truncilla triquetra triangularis* (Lea).—A synonym of *Dysnomia triquetra* (Rafinesque).

*Sphærium simile* (Say).—A synonym of *Sphærium sulcatum* (Lamarck).

*Musculium securis cardissum* Prime and *M. s. croceum* Lewis.—Both are perhaps only local forms of this variable species.

*Pisidium fallax errans* Sterki.—Now called *O. f. septentrionale* Sterki.

*Pisidium medianum minutum* Sterki.—*P. m. clarum* has been substituted for this variety.

Species and varieties which appear on this list for the first time are as follows:

<i>Vallonia parvula</i> Sterki	<i>Planorbis campanulatus smithii</i>
<i>Polygyra profunda unicolor</i>	Baker
Walker	<i>Planorbis campanulatus wisconsin-</i>
<i>Cochlicopa lubrica morseana</i>	ensis Winslow
Doherty	<i>Planorbis circumstriatus</i> Tryon
<i>Lymæa parva sterki</i> Baker	<i>Planorbis dilatatus buchanensis</i>
<i>Planorbis antrosus jordanensis</i>	Lea
Winslow	<i>Planorbis rubellus</i> Sterki
<i>Planorbis campanulatus davisi</i>	<i>Physa aplectoides</i> Sterki
Winslow	<i>Physa michiganensis</i> Clench

<i>Physa oneida</i> Baker	<i>Pisidium elevatum</i> Sterki
<i>Ferrissia michiganensis</i> Winslow	<i>Pisidium fallax septentrionale</i> Sterki
<i>Valvata tricarinata infracarinata</i> Vanatta	<i>Pisidium fraudulentum peraltum</i> Sterki
<i>Amnicola leightoni</i> Baker	<i>Pisidium glabellum</i> Sterki
<i>Amnicola lustrica gelida</i> Baker	<i>Pisidium regulare</i> Prime
<i>Pleurobema clava</i> Lamarck	<i>Pisidium regulare danielsi</i> Sterki
<i>Pleurobema catillus</i> Conrad	<i>Pisidium noveboracense livescens</i> Sterki
<i>Sphaerium acuminatum</i> Prime	<i>Pisidium noveboracense triquetrum</i> Sterki
<i>Sphaerium lilycashense</i> Baker	<i>Pisidium pauperculum crystalense</i> Sterki
<i>Sphaerium stamineum forbesi</i> Baker	<i>Pisidium pauperculum nylanderi</i> Sterki
<i>Sphaerium stamineum wisconsinense</i> Sterki	<i>Pisidium pauperculum sulphureum</i> Sterki
<i>Sphaerium striatinum corpulentum</i> Sterki	<i>Pisidium poltium decorum</i> Sterki
<i>Sphaerium sulcatum insigne</i> Sterki	<i>Pisidium subrotundum</i> Sterki
<i>Sphaerium sulcatum planatum</i> Sterki	<i>Pisidium subrotundum concinnu-</i> <i>lum</i> Sterki
<i>Sphaerium tenue walkeri</i> Sterki	<i>Pisidium subrotundum pumilum</i> Sterki
<i>Musculium declive</i> Sterki	<i>Pisidium subrotundum subtrun-</i> <i>catum</i> Sterki
<i>Musculium parvum</i> Sterki	
<i>Musculium pusillum</i> Sterki	
<i>Pisidium compressum pellucidum</i> Sterki	
<i>Pisidium contortum triangulare</i> Sterki	

#### CHECK LIST

##### HELICIDÆ

1. *Zoögenetes harpa* (Say) (= *Acanthinula harpa* Say)<sup>3</sup>
2. *Vallonia costata* (Müller)
3. *excentrica* Sterki
4. *parvula* Sterki
5. *pulchella* (Müller)
6. *Polygyra albolabris* (Say)

<sup>3</sup>In the Manual of Conchology, Vol. XXVII, pp. 195-196, Pilsbry gives the synonymy of this species. Morse in Journ. Portland Soc. N. H., i, p. 32, 1864, proposed this generic name for Say's *Helix harpa*, spelling it Zoögenetes on pages 5 and 32, and Zoögenites on page 32. The first spelling is adopted.

7. *dentata* (Tryon)
8. *maritima* Pilsbry
9. *clausa* (Say)
10. *elevata* (Say)
11. *fraudulenta* Pilsbry
12. *hirsuta* (Say)
13. *inflecta* (Say)
14. *mitchelliana* (Lea)
15. *monodon* (Rackett)
16. *fraterna* (Say)
17. *multilineata* (Say)
18. *alba* (Witter)
19. *rubra* (Witter)
20. *palliata* (Say)
21. *pennsylvanica* (Green)
22. *profunda* (Say)
23. *efasciata* Walker (= *alba* Walker)<sup>4</sup>
24. *unicolor* Walker
25. *sayana* Pilsbry
26. *thyroides* (Say)
27. *tridentata* (Say)
28. *zaleta* (Binney)
29. *Strobilops affinis* Pilsbry
30. *labyrinthica* (Say)
31. *virgo* (Pilsbry)

## PUPILLIDÆ

32. *Pupoides marginatus* (Say)
33. *Gastrocopta armifera* (Say) (= *Bifidaria armifera* Say)<sup>5</sup>
34. *affinis* (Sterki)
35. *similis* (Sterki)
36. *clappii* (Sterki)
37. *contracta* (Say)

<sup>4</sup> See note in Nautilus, 38, p. 33, 1924.

<sup>5</sup> Pilsbry, Manual of Conchology, Vol. 24, p. 8, revives this name for the genus.

- 38. *corticaria* (Say)
- 39. *pentodon* (Say)
- 40. *tappaniana* (C. B. Adams)
- 41. *Pupilla muscorum* (Linné)
- 42. *Vertigo bollesiana* (Morse)
- 43. *gouldii* (Binney)
- 44. *milium* (Gould)
- 45. *morsei* Sterki

Nautilus, VIII, p. 89, 1894.

Type locality: Dewey's Mill, near Grand Rapids, Kent County.

Type specimen: Sterki collection. Paratypes in collection of Bryant Walker, No. 11648.

- 46. *ovata* Say
- 47. *tridentata* Wolf
- 48. *ventricosa* (Morse)
- 49. *elatior* Sterki

COCHLICOPIDÆ

- 50. *Cochlicopa lubrica* (Müller)
- 51. *morseana* (Doherty)

CIRCINARIIDÆ

- 52. *Circinaria concava* (Say)

ZONITIDÆ

- 53. *Omphalina cuprea* Rafinesque (= *Omphalina fuliginosa* Griffith)<sup>6</sup>
- 54. *Vitrina limpida* Gould
- 55. *Vitrea binneyana* (Morse)
- 56. *cellaria* (Müller)
- 57. *ferrea* (Morse)
- 58. *hammonis* (Ström)
- 59. *indentata* (Say)

<sup>6</sup> Pilsbry, Proc. Acad. Nat. Sci. Phila., p. 469, 1911.

- 60. *multidentata* (Say)
- 61. *rhoadsi* Pilsbry
- 62. *wheatleyi* (Bland)
- 63. *Euconulus chersinus polygyratus* Pilsbry
- 64. *fulvus* (Müller)
- 65. *Zonitoides arborea* (Say)
- 66. *exigua* (Stimpson)
- 67. *limatula* (Ward)
- 68. *miliun* (Morse)
- 69. *minuscula* (Binney)
- 70. *nitida* (Müller)
- 71. *Gastrodonta demissa* (Binney)
- 72. *intertexta* (Binney)
- 73. *ligera* (Say)
- 74. *suppressa* (Say)

## LIMACIDÆ

- 75. *Agriolimax agrestis* (Linné)
- 76. *campestris* (Say)

## PHILOMYCIDÆ

- 77. *Philomycus carolinianus* (Bosc)<sup>7</sup>
- 78. *Pallifera dorsalis* (Binney)
- 79. *hemphilli* (W. G. Binney)

## ENDODONTIDÆ

- 80. *Anguispira alternata* (Say) (= *Pyramidula alternata* Say)<sup>8</sup>

<sup>7</sup> This is the correct and original spelling for this form, not *P. carolinensis* as it has been written. C. W. Johnson in "Fauna of New England" corrects the spelling after consulting the original description in Hist. Nat. des Vers, suites à Buffon, ed. Deterville, vol. 1, p. 80, 1802.

<sup>8</sup> Watson (Proc. Malac. Soc., 14, p. 6) shows that *Pyramidula*, of which *rupestris* is the type, belongs to the Pupillidæ or near it, and is not to be used for the North American *Pyramidulas*. S. S. Berry (Bull. 36, Biol. Ser. No. 8, Victoria Mem. Mus., Canada Dept. of Mines, p. 9, 1922), suggests that *Gonyodiscus* be used for this group. *Anguispira* and *Planogyra* have previously been classed as subgenera.



81. *alba* (Tryon)  
 82. *solitaria* (Say)  
 83. *Planogyra asteriscus* (Morse)<sup>8</sup>  
 84. *Gonyodiscus cronkhitei albina* ("Morse" Cockerell)<sup>8</sup>  
 85. *anthonyi* (Pilsbry)  
 86. *catskillensis* (Pilsbry)  
 87. *perspectiva* (Say)  
 88. *Helicodiscus parallelus* (Say)  
 89. *Punctum pygmaeum* (Draparnaud)  
 90. *Columella edentula* (Draparnaud) (= *Sphyradium edentulum*)<sup>9</sup>

## SUCCINEIDÆ

91. *Succinea avara* Say  
 92. *alba* Cockerell  
 93. *major* W. G. Binney  
 94. *vermeta* Say  
 95. *concordialis* Gould  
 96. *ovalis* Say  
 97. *optima* Pilsbry  
 98. *retusa* Lea  
 99. *decampii* Tryon  
 100. *magister* Pilsbry  
 101. *peoriensis* Wolf

## AURICULIDÆ

102. *Carychium exiguum* (Say)  
 103. *exile* H. C. Lea  
 104. *canadense* Clapp

LYMNÆIDÆ<sup>10</sup>

105. *Lymnæa stagnalis appressa* Say  
 106. *lillianæ* Baker

<sup>9</sup> Pilsbry, in *Nautilus*, XXVI, p. 60, 1912.

<sup>10</sup> The species of this genus are here grouped according to F. C. Baker, "Lymnæidæ of North and Middle America," but Baker's genera are here ranked as subgenera and placed in parentheses.

107. *perampla* Walker  
 Nautilus, XXII, p. 8, Pl. II, figs. 5, 6,  
 1908.  
 Type locality: Houghton Lake, Roscom-  
 mon County.  
 Type specimen: Collection of Bryant  
 Walker, No. 1834.
108. *sanctæmarie* Walker  
 Nautilus, VI, p. 31, Pl. I, figs. 4, 5,  
 1892.  
 Type locality: Neebish Rapids, St.  
 Mary's River.  
 Type specimens: Collection of Bryant  
 Walker, No. 2682.
109. *Lymnæa (Pseudosuccinea) columella* Say  
 110. *chalybea* Gould  
 111. *Lymnæa (Radix) auricularia* (Linné)  
 112. *Lymnæa (Bulimnea) megasoma* Say  
 113. *Lymnæa (Acella) haldemani* "Deshayes" W. G. Binney  
 114. *Lymnæa (Galba) apicina* Lea  
 115. *bakeri* Walker  
 Nautilus, XXII, p. 18, Pl. II, figs. 11,  
 12, 1908.  
 Type locality: Pine Lake, Charlevoix  
 County.  
 Type specimen: Collection of Bryant  
 Walker, No. 9353.
116. *caperata* Say  
 117. *catascopium* Say  
 118. *contracta* "Currier" DeCamp  
 Kent Scientific Institute, Misc. Pub. No.  
 1, 1868.  
 Type locality: Higgins Lake, Roscommon  
 County.  
 Type specimens: Collection of Bryant  
 Walker, No. 11995.
119. *cyclostoma* Walker  
 Nautilus, XXII, p. 7, Pl. II, fig. 4, 1908.  
 Type locality: Indian Creek, Kent  
 County.

- Type specimen: Collection of Bryant Walker, No. 13599.
120. *dalli* Baker
121. *davisi* Walker
- Nautilus, XXII, p. 17, Pl. II, figs. 9, 10, 1908.
- Type locality: Fish Point, Tuscola County.
- Type specimen: Collection of Bryant Walker, No. 20092.
122. *elodes* Say
123. *jolietensis* Baker
124. *emarginata* Say
125. *angulata* Sowerby
- Con. Icon., XVIII, Lim. No. 47, Pl. 7, fig. 47, 1872.
- Type locality: North America. ("Probably founded on Michigan specimens."<sup>11</sup>)
- Type specimens: British Museum (Natural History).
126. *canadensis* Sowerby
127. *ontariensis* "Mühlfeldt" Küster
128. *wisconsinensis* Baker
129. *exilis* Lea
130. *galbana* Say
131. *humilis modicella* Say
132. *rustica* Lea
133. *kirtlandiana* Lea
134. *lanceata* Gould
135. *nasoni* Baker
- Trans. Acad. Sci. St. Louis, XVI, p. 12, Pl. I, figs. 1-4. 1906.
- Type locality: Thunder Bay Island, near Alpena, Alpena County.
- Type specimens: Chicago Academy of Sciences, No. 23788; in Ill. State Univ., and in collection of Bryant Walker.

<sup>11</sup> F. C. Baker, "Lymnæidæ of North and Middle America," p. 421.

136. *obrussa* Say  
 137. *decampi* Streng  
 Nautilus, IX, p. 123, text fig. 906, 1895.  
 Type locality: Brook's Lake, Newaygo  
 County.  
 Type specimens? Cotypes in the collec-  
 tion of Bryant Walker and in the  
 Phila. Acad. Nat. Sciences (No.  
 67805).
138. *exigua* Lea  
 139. *peninsulae* Walker  
 Nautilus, XXII, p. 9, Pl. II, fig. 7, 1908.  
 Type locality: Headwaters of the Union  
 River, Ontonagon County.  
 Type specimens: Collection of Bryant  
 Walker, No. 20040.
140. *pallida* Adams  
 141. *palustris* Müller  
 142. *alpenensis* Baker  
 Trans. Acad. Sci. St. Louis, XVI, p. 12,  
 1906.  
 Type locality: Thunder Bay Island, near  
 Alpena, Alpena County.  
 Type specimens: Chicago Academy of  
 Sciences, No. 23486.
143. *parva* Lea  
 144. *sterkii* Baker  
 145. *petoskeyensis* Walker  
 Nautilus, XXII, p. 6, Pl. I, figs. 3, 5-7,  
 1908.  
 Type locality: Small spring brook flow-  
 ing into Little Traverse Bay, Petoskey,  
 Emmet County.  
 Type specimens: Collection of Bryant  
 Walker, No. 14347.
146. *pilsbryana* Walker  
 Nautilus, XXII, pp. 4, 18, 19, Pl. I, figs.  
 2, 8-11, 1908.  
 Type locality: Washington Harbor, Isle  
 Royale, Lake Superior.

Type specimens: Collection of Bryant Walker, No. 31245.

147. *reflexa* Say  
 148. *walkeri* Baker  
 Moll. Chi. Area, II, p. 281, Pl. 31, fig. 2. 1902.  
 Type locality: Rouge River, Wayne County.  
 Type specimen: Collection of Bryant Walker, No. 146.
149. *zebra* Tryon  
 150. *umbilicata* C. B. Adams  
 151. *woodruffi* Baker

PLANORBIDÆ

152. *Planorbis antrosus* Conrad (= *Planorbis bicarinatus* Say)<sup>12</sup>  
 153. *aroostookensis* (Pilsbry)  
 154. *corrugatus* ("Currier" Walker)<sup>13</sup>  
 DeCamp, Kent Sci. Inst., Misc. Pub., p. 8, 1868.  
 Type locality: Perch Lake, Kent County.  
 Type specimen: Collection of Bryant Walker, No. 3993.
155. *jordanensis* Winslow  
 Occ. Papers, Mus. Zool., Univ. Mich., No. 145, 1923.  
 Type locality: South Arm of Pine Lake, about two miles north of East Jordan, Charlevoix County.  
 Type specimen: Museum of Zoology, Univ. Mich., No. 27440.
156. *percarinatus* (Walker)

<sup>12</sup> Vanatta, in Nautilus XXIV, 1911, p. 136, has shown that *antrosus* has preference over *bicarinatus*.

<sup>13</sup> Walker figures an "authentic specimen, received from the late Dr. DeCamp, who in his Michigan Catalogue described and figured several of Currier's species but unfortunately neglected this one." Nautilus, XXIII, p. 5, Pl. I, fig. 10, 1909.

- Nautilus, VI, p. 136, 1893.  
 Type locality: Crystal Lake, Benzie County.  
 Type specimens: Collection of Bryant Walker, Nos. 3419 and 20074.
157. *portagensis* (Baker)  
 158. *royalensis* (Walker)  
 Nautilus, XXIII, p. 9, Pl. I, fig. 11, 1909.  
 Type locality: Siskowit Lake, Isle Royale, Lake Superior.  
 Type specimen: Collection of Bryant Walker, No. 29163.
159. *striatus* Baker  
 160. *campanulatus* Say  
 161. *davisi* Winslow  
 Occ. Papers, Mus. Zool., Univ. Mich., No. 180, 1926.  
 Type locality: Pinnebog River, Huron County.  
 Type specimen: Collection of Bryant Walker, No. 9974.
162. *minor* Dunker  
 163. *rudentis* Dall  
 164. *smithii* Baker  
 Nautilus, XXV, p. 118, 1912.  
 Type locality: Douglas Lake, Cheboygan County.  
 Type specimens: Collection of F. C. Baker, No. 1054.
165. *wisconsinensis* Winslow  
 166. *circumstriatus* Tryon<sup>14</sup>  
 167. *corpulentus* Say<sup>15</sup>

<sup>14</sup> Pilsbry suggests that many of the small Planorbes are referable to this species rather than to *parvus*. In *circumstriatus* the whorls increase slowly in diameter and are distinguished on the under side by raised revolving lines.

<sup>15</sup> Specimens in the Museum of Zoology labelled "Michigan" are the only record for the state. See Walker in Nautilus, XIII, p. 113.

168. *crista* Linné  
 169. *deflectus* Say  
 170. *dilatatus buchanensis* Lea  
 171. *exacuus* Say  
 172. *hirsutus* Gould  
 173. *multivolvis* Case  
 Amer. Journ. Sci. (2), III, p. 101, 1847.  
 Type locality: "Northern part of Michigan."<sup>16</sup>  
 Type specimen: ?
174. *parvus* Say  
 175. *walkeri* Vanatta<sup>17</sup>  
 176. *rubellus* Sterki  
 177. *trivolvis* Say  
 178. *binneyi* Tryon  
 179. *truncatus* Miles  
 Geol. Surv. Mich., Cat. of Mammals,  
 Birds, Reptiles and Mollusks of Michigan,  
 p. 238, 1861.  
 Type locality: Saginaw Bay, Lake  
 Huron.  
 Type specimen: ?
180. *umbilicatellus* Cockerell  
 181. *Segmentina armigera* (Say)  
 182. *crassilabris* Walker  
 Nautilus, XX, p. 122, Pl. VII, figs. 4-6,  
 1907.  
 Type locality: Hamtramck, Wayne  
 County.  
 Type specimen: Collection of Bryant  
 Walker, No. 2998.

PHYSIDÆ

183. *Physa ancillaria* Say  
 184. *aplectoides* Sterki

<sup>16</sup> See Walker in Nautilus, XXI, pp. 61-64, for all the data on this species.

<sup>17</sup> Pilsbry considers this a variety of *circumstriatus* rather than of *parvus*.

185. *brevispira* Lea186. *deformis* Currier

Amer. Journ. Conch., III, p. 112, Pl. VI,  
Fig. 1, 1867.

Type locality: Grand Rapids, Kent  
County.

Type specimen: Kent Scientific Mu-  
seum, No. 410 (labelled "probably  
Currier type").

187. *gyrina* Say188. *elliptica* Lea189. *hildrethiana* Lea190. *heterostropha* Say191. *integra* Haldeman192. *michiganensis* Clench

Occ. Papers, Mus. Zool., Univ. Mich., No.  
168, 1926.

Type locality: Stream one mile west of  
Geddes, Washtenaw County.

Type specimen: Museum of Zoology,  
Univ. Mich., No. 33068.

193. *oneida* Baker194. *parkeri* "Currier" DeCamp

Kent Sci. Inst., Misc. Pub., p. 7 (no  
desc.), 1868. DeCamp, Kent Sci.  
Inst., Misc. Pub., No. 5, p. 15, Pl. I,  
fig. 3, 1881.

Type locality: Houghton Lake, Rosecom-  
mon County.

Type specimen: Collection of Bryant  
Walker, No. 11997.

195. *sayii* Tappan196. *crassa* Walker

Nautilus, XIV, p. 98, 1901.

Type locality: Higgins Lake, Rosecommon  
County.

Type specimen: Collection of Bryant  
Walker, No. 1471.

197. *magnalacustris* Walker



Nautilus, XIV, p. 97, 1901.  
Type locality: Frankfort, Benzie County.  
Type specimen: Collection of Bryant  
Walker, No. 9214.

198. *vinosa* Gould

199. *walkeri* Crandall

Nautilus, XV, p. 57, Pl. II, fig. 5, 1901.  
Type locality: Petoskey, Emmet County.  
Type specimen: Collection of Bryant  
Walker, No. 3483.

200. *Aplexa hypnorum* (Linné)

201. *glabra* (DeKay)

202. *tryoni* (Currier)

Amer. Journ. Conch., III, 1867, p. 112,  
Pl. 6, fig. 2.  
Type locality: Grand Rapids, Kent  
County.  
Type specimens: Cotypes in Acad. Nat.  
Sciences of Philadelphia.

ANCYLIDÆ

203. *Ferrissia fusca* (C. B. Adams) (= *Ancylus fuscus* C. B.  
Ads.)<sup>18</sup>

204. *eugrapta* (Pilsbry)

205. *kirklandi* (Walker)

Nautilus, XVII, p. 29, Pl. II, figs. 1-12,  
1903.  
Type locality: Grand River, Grand Rap-  
ids, Kent County.  
Type specimens: Collection of Bryant  
Walker, No. 18268.

206. *michiganensis* Winslow

Occ. Papers, Mus. Zool., Univ. Mich.,  
No. 145, p. 2, Pl. I, figs. 6-8, 1923.  
Type locality: Willow Brook, west of  
Harbert, Berrien County.

<sup>18</sup> See Walker, "A revision of the classification of the N. American  
patelliform Anacylidæ," in Nautilus, XXXI, p. 3, 1917.

Type specimen: Museum of Zoology,  
Univ. Mich., No. 13057.

207. *parallela* (Haldeman)  
208. *rivularis* (Say)  
209. *shimekii* (Pilsbry)  
210. *tarda* (Say)  
211. *walkeri* (Pilsbry and Ferriss)

## VIVIPARIDÆ

212. *Campeloma decisum* (Say)  
213. *integrum* (Say)  
214. *obesum* (Lewis)  
215. *milesii* (Lea)  
216. *rufum* (Haldeman)  
217. *gibbum* (Currier)  
218. *subsolidum* (Anthony)

## VALVATIDÆ

219. *Valvata bicarinata connectans* Walker  
Nautilus, XX, p. 30, 1906.  
Type locality: Lake Michigan at New  
Buffalo, Berrien County.  
Type specimen: Collection of Bryant  
Walker, No. 24142.
220. *perdepressa* Walker  
221. *lewisi* Currier  
222. *sincera* Say  
223. *nylanderi* Dall  
224. *tricarinata* Say  
225. *infracarinata* Vanatta  
226. *perconfusa* Walker  
227. *simplex* Gould  
228. *unicarinata* DeKay

## AMNICOLIDÆ

229. *Bithynia tentaculata* (Linné)  
230. *Amnicola cincinnatiensis* (Anthony)

231. *emarginata* (Küster)  
 232. *leightoni* Baker  
 233. *limosa* (Say)  
 234. *porata* (Say)  
 235. *lustrica* Pilsbry  
 236. *gelida* Baker  
 237. *walkeri* Pilsbry

Nautilus, XII, p. 43, 1898.

Type locality: High Island Harbor,  
 Beaver Island, Lake Michigan.

Type specimen: Philadelphia Academy  
 of Natural Sciences. Paratypes in  
 collection of Bryant Walker.

238. *Paludestrina nickliniana* (Lea)  
 239. *attenuata* (Haldeman)  
 240. *Pyrgulopsis letsoni* (Walker) (= *Amnicola letsoni*  
 Walker)<sup>19</sup>  
 241. *Somatogyrus subglobosus* (Say)  
 242. *Lyogyrus pupoideus* (Gould)  
 243. *Pomatiopsis cincinnatiensis* (Lea)  
 244. *lapidaria* (Say)

PLEURO CERIDÆ

245. *Pleurocera acuta* Rafinesque (= *Pleurocera subulare*  
 Lea)<sup>20</sup>  
 246. *Goniobasis livescens* (Menke)

UNIONIDÆ

New Names

Old Names<sup>21</sup>

247. *Quadrula pustulosa* (same)  
 (Lea)

<sup>19</sup> See Walker in "A Synopsis of the Classification of the Fresh-Water Mollusca of North America," etc., p. 139. Misc. Pub. No. 6, Mus. Zool., Univ. Mich., 1918.

<sup>20</sup> See Walker, Occ. Papers, Mus. Zool., Univ. Mich., No. 38, p. 8.

<sup>21</sup> The "new names" are derived mainly from publications of Walker and Ortmann. For list of titles see Walker's "Synopsis" (note <sup>19</sup>). The "old names" are those of C. T. Simpson's "Descriptive Catalogue of the Naiades," 1914.

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|--|--|
| 248. <i>Quadrula pustulosa pra-</i><br><i>sina</i> (Conrad)  | (same)   |
| 249. <i>Quadrula quadrula</i><br>(Rafinesque)                | <i>Quadrula lachrymosa</i> (Lea)                       |
| 250. <i>Cyclonaias tuberculata</i><br>(Raf.)                 | <i>Quadrula tuberculata</i> (Raf.)                     |
| 251. <i>Amblema costata</i><br>(Rafinesque)                  | <i>Quadrula undulata</i> (Barnes)                      |
| 252. <i>Amblema costata plicata</i><br>(Say)                 | <i>Quadrula plicata hippopœa</i><br>(Lea)              |
| 253. <i>Amblema peruviana</i><br>(Lamarck)                   | <i>Quadrula plicata</i> (Say)                          |
| 254. <i>Fusconaia flava</i><br>(Rafinesque)                  | <i>Quadrula rubiginosa</i> (Lea)                       |
| 255. <i>Fusconaia undata</i><br>(Barnes)                     | <i>Quadrula undata</i> (Barnes)                        |
| 256. <i>Pleurobema catillus</i><br>(Conrad)                  | <i>Quadrula solida</i> (Lea)                           |
| 257. <i>Pleurobema clava</i><br>(Lamarck)                    | (same)   |
| 258. <i>Pleurobema obliquum</i><br><i>coccineum</i> (Conrad) | <i>Quadrula coccinea</i> (Conrad)                      |
| 259. <i>Elliptio complanatus</i><br>(Dillwyn)                | <i>Unio complanatus</i> "Solander"<br>Dillwyn          |
| 260. <i>Elliptio dilatatus</i><br>(Rafinesque)               | <i>Unio gibbosus</i> (Barnes)                          |
| 261. <i>Strophitus rugosus</i><br>(Swainson)                 | <i>Strophitus edentulus</i> (Say)                      |
| 262. <i>Strophitus rugosus pa-</i><br><i>vonius</i> (Lea)    | <i>Strophitus edentulus pavonius</i><br>(Lea)          |
| 263. <i>Strophitus rugosus</i><br><i>rhombicus</i> (Anthony) | <i>Alasmodon rhombica</i> (An-<br>thony) <sup>22</sup> |

<sup>22</sup> In Simpson's "Naiades," 1914, p. 348, *Alasmodon rhombica* Anthony is included in the synonymy of *Strophitus edentulus* (Say). In 1918 I collected a large series of Unios in Diamond Lake, Cass County, Michigan, which Dr. Walker identified as typical *rhombicus*. They are quite distinct from typical *edentulus*, smaller, and with deep orange-salmon naere. It is a good variety.

Amer. Journ. Conch., I, p. 158, Pl. XII,  
fig. 5, 1865.

Type locality: Michigan.

Type specimens: "My cabinet. Cabinet  
of Hugh Cuming, London. Cabinet of  
George W. Tryon, Jr." (Anthony).

264. *Anodonta corpulenta* (same)

Cooper

265. *Anodonta grandis* Say (same)

266. *Anodonta grandis bene-* (same)  
*dictensis* Lea

267. *Anodonta grandis foot-* (same)  
*iana* Lea

268. *Anodonta grandis gigan-* (same)  
*tea* Lea

269. *Anodonta imbecillis* Say (same)

270. *Anodonta kennicotti* Lea (same)

271. *Anodonta marginata* Say (same)

272. *Anodonta subgibbosa* (same)

Anthony

Amer. Journ. Conch., II, p. 144, Pl. VI,  
fig. 2, 1866.

Type locality: Black Lake, Michigan.

Type specimen: Museum of Comparative  
Zoology, Cambridge, Mass.

273. *Anodontoides ferussaci-* (same)  
*ana* (Lea)

274. *Anodontoides ferussaci-* (same)  
*ana buehanensis* (Lea)

275. *Anodontoides ferussaci-* (same)  
*ana modesta* (Lea)

276. *Lasmigona complanata* *Symphynota complanata*  
(Barnes) (Barnes)

277. *Lasmigona complanata* *Symphynota complanata kath-*  
*katherinæ* (Lea) *erinæ* (Lea)

278. *Lasmigona compressa* *Symphynota compressa* (Lea)  
(Lea)

- |   |  |
|---|--|
| 279. <i>Lasmigona costata</i><br>(Rafinesque)                   | <i>Symphynota costata</i><br>(Rafinesque)      |
| 280. <i>Alasmidonta calceolus</i><br>(Lea)                      | (same)   |
| 281. <i>Alasmidonta marginata</i><br>(Say)                      | (same)   |
| 282. <i>Alasmidonta marginata</i><br><i>varicosa</i> (Lamarek)  | (same)   |
| 283. <i>Simpsoniconcha ambigua</i><br>(Say)                     | <i>Hemilastena ambigua</i> (Say)               |
| 284. <i>Ptychobranchnus fascio-</i><br><i>lare</i> (Rafinesque) | <i>Ptychobranchnus phaseolus</i><br>(Hildreth) |
| 285. <i>Obliquaria reflexa</i><br>Rafinesque                    | (same)   |
| 286. <i>Proptera alata</i> (Say)                                | <i>Lampsilis alata</i> (Say)                   |
| 287. <i>Proptera laevissima</i><br>(Lea)                        | <i>Lampsilis laevissima</i> (Lea)              |
| 288. <i>Leptodon fragilis</i><br>(Rafinesque)                   | <i>Lampsilis gracilis</i> (Barnes)             |
| 289. <i>Obovaria leibii</i> (Lea) <sup>23</sup>                 | (same)   |
| 290. <i>Obovaria lens</i> (Lea)                                 | (same)   |
| 291. <i>Obovaria olivaria</i><br>(Rafinesque)                   | <i>Obovaria ellipsis</i> (Lea)                 |
| 292. <i>Obovaria subrotunda</i><br>(Rafinesque)                 | <i>Obovaria circula</i> (Lea)                  |
| 293. <i>Actinonaias carinata</i><br>(Barnes)                    | <i>Lampsilis ligamentina</i><br>(Lamarek)      |
| 294. <i>Actinonaias ellipsiformis</i><br>(Conrad)               | <i>Lampsilis ellipsiformis</i><br>(Conrad)     |

Monography of the Family Unionidæ,  
VI, p. 60, Pl. XXXIV, fig. 1, 1836.  
Type locality: Michigan.

<sup>23</sup> This species is described in Proc. Acad. Nat. Sci. Phila., VI, p. 168, 1862. The type locality is given as "Erie County, Michigan," but as there is no such county in Michigan this may refer to Erie County, Ohio, which is a northeastern county bordering on Lake Erie. Dr. Leib lived at Monroe, Mich., and his shells came from that general region, probably from Erie Township, where they are abundant.

Type specimen: "Probably lost" (H. A. Pilsbry).

295. *Carunculina glans* (Lea) *Lampsilis glans* (Lea)  
 296. *Carunculina parva* (Barnes) *Lampsilis parva* (Barnes)  
 297. *Eurynia iris* (Lea) *Lampsilis iris* (Lea)  
 298. *Eurynia nasuta* (Say) *Lampsilis nasuta* (Say)  
 299. *Ligumia fabalis* (Lea) *Micromya fabalis* (Lea)  
 300. *Ligumia recta* (Lamarck) *Lampsilis recta sageri* (Conrad)

Monography of the Family Unionidæ,  
 VI, p. 53, Pl. XXIX, fig. 1, 1836.

Type locality: Detroit River, Michigan.

Type specimen: "Probably lost" (H. A. Pilsbry).

301. *Ligumia recta latissima* (Rafinesque) *Lampsilis recta* (Lamarck)  
 302. *Ligumia fasciola* (Rafinesque) *Lampsilis multiradiata* (Lea)  
 303. *Lampsilis siliquoidea* (Barnes) *Lampsilis luteola* (Lamarck)  
 304. *Lampsilis siliquoidea rosacea* (DeKay) *Lampsilis luteola rosacea* (DeKay)  
 305. *Lampsilis superiorensis* Marsh (same)  
 306. *Lampsilis ventricosa* (Barnes) (same)  
 307. *Lampsilis ventricosa canadensis* (Lea) (same)  
 308. *Truncilla donaciformis* (Lea) *Plagiola donaciformis* (Lea)  
 309. *Truncilla truncilla* Rafinesque *Plagiola elegans* (Lea)  
 310. *Dysnomia rangiana* (Lea) *Truncilla perplexa rangiana* (Lea)  
 311. *Dysnomia sulcata delicata* (Simpson) *Truncilla sulcata delicata* Simpson

Synopsis of the Naiades, p. 520, 1900.  
 Type locality: Detroit River, Michigan.  
 Type specimen: Probably lost. Not in  
 the U. S. Nat. Mus.

312. *Dysnomia triquetra*            *Truncilla triquetra* Rafin-  
       (Rafinesque)                        esque

## SPHÆRIDÆ

313. *Sphærium acuminatum* (Prime)  
 314.     *aureum* (Prime)  
 315.     *crassum* Sterki

Nautilus, XIV, p. 141, 1901.  
 Type locality: Carp Lake, near Macki-  
 naw City.  
 Type specimen: Collection of Bryant  
 Walker, No. 14370.

316.     *emarginatum* (Prime)  
 317.     *fabale* (Prime)  
 318.     *flavum* (Prime)

Proc. Bost. Nat. Hist. Soc., IV, p. 155,  
 1851.  
 Type locality: Sault Ste. Marie, Lake  
 Superior.  
 Type specimens: Smithsonian Institu-  
 tion, etc.

319.     *lilycashense* Baker  
 320.     *lineatum* Sterki  
 321.     *occidentale* (Prime)  
 322.     *rhomboideum* (Say)  
 323.     *solidulum* (Prime)  
 324.     *stamineum* (Conrad)  
 325.             *forbesi* Baker  
 326.             *wisconsinense* Sterki  
 327.     *striatinum* (Lamarek)  
 328.             *corpulentum* Sterki  
 329.     *sulcatum* (Lamarek)  
 330.             *insigne* Sterki



Preliminary Cat. of the N. American  
Sphæriidæ, p. 432, 1916.

Type locality: Grand Rapids, Kent  
County.

Type specimen: Carnegie Museum.

331. *planatum* Sterki

332. *tenuë* (Prime)

333. *walkeri* Sterki

Nautilus, XIV, p. 141, 1901.

Type locality: New York Point, Lake  
Michigan.

Type specimens: Collection of Bryant  
Walker, No. 13239.

334. *Musculium declivè* Sterki

Nautilus, XXV, p. 103, 1912.

Type locality: Blue Lake, Muskegon  
County.

Type specimens: Collection of Dr. V.  
Sterki, No. 1697.

335. *partumeium* (Say)

336. *parvum* Sterki

337. *pusillum* Sterki<sup>24</sup>

Nautilus, XXIV, p. 3, 1910.

Type locality: Hancock Creek, Dickin-  
son County.

Type specimens: Museum of Zoology,  
Univ. of Mich., and in Carnegie  
Museum at Pittsburgh.

338. *rosaceum* (Prime)

339. *ryckholti* (Normand)

340. *securis* (Prime)

341. *sphæricum* (Anthony)

342. *transversum* (Say)

343. *truncatum* (Linsley)

344. *Pisidium abditum* Haldeman<sup>25</sup>

345. *abyssorum* (Stimpson) Sterki

<sup>24</sup> In his "Preliminary Catalogue," 1916, p. 443, Dr. Sterki says:  
"Probably an immature form of *M. ryckholti*."

<sup>25</sup> In the list of *Pisidia* it has been possible to designate all of those  
which were originally described from Michigan, as the original descrip-  
tions usually give geographical range instead of type locality.

346. *adamsi* Prime  
 347. *affine* Sterki  
 348. *amnicum* (Müller)  
 349. *complanatum* Sterki  
 Nautilus, XVII, p. 79, 1903.  
 Type locality: "Lakes, Muskegon County."  
 Type specimens: ?—Paratypes in collection of Bryant Walker, No. 20217.
350. *compressum* Prime  
 351. *arrosum* Sterki<sup>26</sup>  
 Nautilus, XIX, p. 82, 1905.  
 Type locality: Grand Rapids, etc.  
 Type specimen: Carnegie Museum.
352. *confertum* Sterki  
 Nautilus, XIX, p. 82, 1905.  
 Type locality: Blue Lake, Muskegon County.  
 Type specimen: Carnegie Museum.
353. *laevigatum* Sterki  
 354. *pellucidum* Sterki  
 355. *rostratum* Sterki  
 356. *contortum* Prime  
 357. *triangulare* Sterki  
 358. *costatum* Sterki  
 359. *cruciatum* Sterki  
 360. *cuneiforme* Sterki  
 361. *elevatum* Sterki  
 362. *fallax* Sterki  
 363. *mite* Sterki  
 364. *septentrionale* Sterki  
 365. *fraudulentum peraltum* Sterki  
 366. *glabellum* Sterki  
 367. *handwerki* Sterki  
 368. *idahoëense* Roper var. ?

<sup>26</sup> In a letter of Feb. 9, 1926, Dr. Sterki writes: "*P. compressum arrosum* appears to be not a subspecies but a somewhat peculiar form of *compressum pellucidum*, a real subspecies of northern distribution."

369. *imbecille* Sterki  
 370. *kirklandi* Sterki  
 371. *lermondi* Sterki  
 372. *levissimum* Sterki  
 373. *mainense* Sterki  
 374. *medianum* Sterki  
 375. *clarum* Sterki  
 376. *miliun* Held  
 377. *monas* Sterki

Nautilus, XIV, p. 100, 1900.

Type locality: Mountain Lake, Marquette County.

Type specimen: Collection of Bryant Walker, No. 15313.

378. *neglectum* Sterki  
 379. *corpulentum* Sterki  
 380. *noveboracense* Sterki  
 381. *expansum* Sterki  
 382. *fraternum* Sterki  
 383. *lineatum* Sterki  
 384. *livescens* Sterki  
 385. *triquetrum* Sterki  
 386. *ohiense* Sterki  
 387. *pauperculum* Sterki  
 388. *crystalense* Sterki  
 389. *nylanderi* Sterki  
 390. *proclive* Sterki  
 391. *sulphureum* Sterki  
 392. *politum* Sterki  
 393. *decorum* Sterki  
 394. *punctatum* Sterki  
 395. *armatum* Sterki  
 396. *simplex* Sterki  
 397. *regulare* Prime  
 398. *danielsi* Sterki  
 399. *roperi* Sterki  
 400. *rotundatum* Prime  
 401. *sargenti* Sterki  
 402. *scutellatum* Sterki

403. *splendidulum* Sterki  
 404. *corneolum* Sterki  
 405. *streatori* Sterki  
 406. *strengi* Sterki  
 407. *subrotundum* Sterki  
 408. *concinnum* Sterki  
 409. *pumilum* Sterki  
 410. *subtruncatum* Malm  
 411. *succineum* Sterki  
 412. *superius* Sterki  
 413. *tenuissimum* Sterki  
 414. *trapezoideum* Sterki  
 415. *variabile* Prime  
 416. *brevius* Sterki  
 417. *ventricosum* Prime  
 418. *vesiculare* Sterki  
 Nautilus, X, p. 20, 1896.  
 Type locality: Michigan.  
 Type specimen: Carnegie Museum.
419. *virginicum* (Gmelin)  
 420. *walkeri* Sterki

FOREIGN SPECIES<sup>27</sup>

421. *Arion ater* (Linné)  
 422. *Arion circumscriptus* Johnston  
 423. *Subulina octona* (Bruguière)  
 424. *Opeas clavulinum kyotense* Pilsbry  
 425. *Vitrea lucida* (Draparnaud)  
 426. *Helicella virgata* DaCosta  
 427. *Limax maximus* (Linné)  
 428. *Vertigo pusilla* Müller<sup>28</sup>

<sup>27</sup> See Walker, Occ. Papers, Mus. Zool., Univ. Mich., No. 58, for records of these land snails. Several other foreign species such as *Lymnaea auricularia* and *Bithynia tentaculata* have been noticed in the literature elsewhere, and seem to have become acclimated and distributed to such an extent that they are listed with the endemic species.

<sup>28</sup> Walker notes the appearance of this species in a vial of shells sent from Lansing by Dr. Manly Miles fifty years ago. (Walker, Cat. of Moll. of Mich., Part I, p. 524, 1906.)