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A CHECK LIST OF NEARCTIC ZONITIDAE

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A revised list of the Nearctic Zonitidae (north of Mexico) is presented in the following pages. After the accepted name of each species and subspecies (except those of genera which have been revised in recent papers, cited after the generic name), the synonymic citations which involve differences in specific terms are given in full, followed by the type or original localities. In addition, references to amendatory figures and descriptions or to anatomical studies are often appended [in brackets] without repetition of the specific terms and regardless of the generic names. Certain abbreviations employed in these citations are explained at the end of the paper.

The 15 genera which are recognized may be tentatively arranged in subfamilies as follows:

1. Megomphicinae: (1) *Megomphix* (2 species).
2. Euconulinae: (2) *Guppya* (3 sp.), (3) *Eucomulus* (2 sp.).
3. Vitrininae: (4) *Vitrina* (3 sp.).
4. Zonitinae: (5) *Oxychilus* (4 species, all introduced), (6) *Retinella* (1 introduced, 20 native sp.), (7) *Mesomphix* (10 sp.), (8) *Vitrinizonites* (1 sp.), (9) *Paravitrea* (17 sp.), (10) *Pilsbryna* (2 sp.).
5. Vitreinae: (11) *Pristiloma* (12 sp.), (12) *Hawaiia* (1 sp.).

6. Gastrodontinae: (13) *Striatura* (5 sp.), (14) *Gastrodonta* (2 sp.), (15) *Zonitoides* (15 native and 1 probably introduced species).

I am still dubious in regard to the advisability of the generic separation of *Euconulus* (1883) from *Habroconus* Fischer et Crosse (1872) and also that of *Retinella* (1877) from *Mesomphix* (1818).

1. Genus *Megomphix* H. Burrington Baker

1. *Megomphix hemphilli* (W. G. Binney).

Macrocyclus hemphilli W. G. B. (1879, Ann. N. Y. Acad. Sci. 1: 356, pl. 15, f. M.), Olympia, Thurston Co., Washington. [Suppl. 1: 137, pl. 2, f. M; MALS: 85, f. 48; H. B. B. (1930, N. 43: 96, pl. 5, f. 1-4), anatomy.]

Hyalinia hemphilliana and var. *tenuis* Ancy (1882, Le Naturaliste 2: 29), topotypes.

2. *Megomphix lutarius* H. Burrington Baker.

M. lutarius H. B. B. (1932, N. 45: 86, pl. 5, f. 7-9), along Pine Creek, 5 miles above Weston, Umatilla Co., Oregon.

2. Genus *Guppya* Mörch

3. *Guppya gundlachi gundlachi* (Pfeiffer). [1928]

H. pusilla Pfr. (1839, Arch. Nat. 5, pt. 1: 351), Cuba; not Lowe (1833).

H. gundlachii Pfr. (1849, Arch. Nat. 6, pt. 1: 250), substitute. [LFWS: 48, f. 77; MALS: 353, f. 382.]

H. egena Binn. (II: 245, pl. 22a, f. 3); not of Say.

4. *Guppya miamiensis* Pilsbry.

G. miamiensis Pils. (1903, N. 17: 77), Miami, Dade Co., Florida.

5. *Guppya sterkii sterkii* (Dall).

Hyalina sterkii Dall (1888, PUSNM. 11: 214, f. 1-3; 1891, N. 5: 10, f. 1-3), New Philadelphia, Tuscarawas Co., Ohio. [Suppl. 3: 187, fig.]

3. Genus *Euconulus* Reinhardt

6a. *E. (Euconulops) chersinus chersinus* (Say).

H. chersina Say (1821, JANSP. 2: 156), Sea Islands of Georgia. [II: 243, pl. 17, f. 4.]

6b. *E. (Euconulops) chersinus trochulus* (Reinhardt).
Conulus trochulus Reinh. (1883, Ges. naturf. Fr. Berlin 1883: 41),
 Texas (Boll.). [Pils. (1889, N. 12: 116.)]

6c. *E. (Euconulops) chersinus dentatus* (Sterki).
Conulus fulvus dentatus Sterki (1893, N. 7: 4), Jackson Co., Alabama.

6d. *E. (Euconulops) chersinus polygyratus* (Pilsbry).
 [1928]
Conulus chersinus polygyratus Pils. (1899, N. 12: 116), Hamilton,
 Ontario, and Grand Rapids, Kent Co., Michigan. [Walk. (1906, Rept.
 Geol. Surv. Mich. 1905: 482, f. 54.)]

7a. *E. (Euconulus) fulvus fulvus* (Müller). [1928]
H. fulva Müll. (1774, Hist. Verm. II: 56), Denmark. [LFWS: 46, f.
 73; MALS: 67, f. 26; PANSP. 62: 133, f. 27.]
H. trochiformis Montagu (1803, Test. Brit. II: 427, pl. 11, f. 9), En-
 gland. [Harriman Alaska Exped. 13: 40, f. 28.]
H. egena Say (1825, JANSP. 5: 120), near Philadelphia.
H. fabricii Pfr. (1848, Zeit. Mal. 5: 90), Greenland; not of Beck
 (1837, Ind.: 21) which was founded on *H. nitida* "Müll." Fabr. (1780,
 Faun. Groenl.: 389). [Harriman Alaska Exped. 13: 41, f. 29.]

7b. *E. (Euconulus) fulvus mortoni* (Jeffreys).
H. mortoni Jeffr. (1830, Linn. Soc. London 16: 332), England. [N.
 12: 115.]

7c. *E. (Euconulus) fulvus alaskensis* (Pilsbry).
Conulus fulvus alaskensis Pils. (1899, N. 12: 116), Dyea Valley and
 Point Romanoff, Alaska. [PANSP. 62: 131, f. 26.]

4. Genus *Vitrina* Draparnaud

8. *V. (Vitrina) angelicae* Beck = *V. pellucida* (Müller)?
V. angelicae Beck (1837, Ind.: 1), Greenland, founded on *H. pellucida*
 "Müll." Fabr. (1780, Faun. Groenl.: 389); Möller (1842, Ind. Moll. Gr.:
 4). [LFWS: 28, f. 25; MALS: 178, f. 171.]

9. *V. (Vitrina) limpida* Gould.
V. limpida Fold. (1850, Agassiz' L. Superior: 243), Cape Gourgonne,
 Nipigon Bay, Ontario, Canada. [II: 55, pl. 67a, f. 1; LFWS: 26, f.
 23; MALS: 177, f. 170.]
V. americana Pfr. (1852, Proc. Zoöl. Soc. London 20: 156; Chemn. 2:
 9, pl. 1, f. 22-25), northern United States.

10. *V. (Vitrina) alaskana* Dall.

V. pfeifferi Newc. (1861, Proc. Cal. Acad. Sci. 2: 92), Carson Valley, Douglas Co., Nevada; not of Deshayes (1850). [LFWS: 28, f. 26; MALS: 88, f. 53.]

V. alaskana Dall (1905, Harriman Alaska Exped. 13: 37), substitute.

5. Genus *Oxychilus* Fitzinger11. *O. (Oxychilus) lucidum* (Draparnaud). Introduced.

H. lucida Drap. (1801, Tabl.: 96), France; probably not of Pulteney (1799, Cat. Dorset.: 47), *nomen dubium* (in catalogue printed for private use!). [Ellis, British Snails: 246, pl. 12, f. 13-15.]

H. draparnaldi Beck (1837, Ind.: 6), substitute.

12. *O. (Oxychilus) cellarium* (Müller). Introduced.

H. cellaria Müll. (1774, Verm. Hist. II: 28), Denmark; Leidy (I: pl. 7, f. 1), anatomy. [II: 230, pl. 29, f. 4; LFWS: 30, f. 31; MALS: 448, f. 493.]

H. glaphyra Say (1816, Brit. Encycl., 1st Amer. ed., art. "Conchology," 8th p., pl. 1, f. 3), Philadelphia.

13. *O. (Oxychilus) alliarium* (Miller). Introduced.

H. alliaria Miller (1832, Ann. Phil. 3: 379), England. [Ellis: 244, pl. 12, f. 4-6, 33.]

14. *O. (Oxychilus) rogersi* (Woodward) = *O. helveticum* (Blum)? Introduced.

H. "alliaria, Miller, var. *H. glabra*, Studer?" Alder (1837, Mag. Zoöl. Bot. 2: 108), England; not *H. glabra* "Studer" Charpentier (1837, Cat. Suisse: 13, pl. 1, f. 22), Switzerland. *H. glabra* "Studer" Fér. (1821, Tabl. Syst. Limaçons: 41, no. 215) is nude (the Alps).

?*Hyalina helvetica* Blum (1881, Nach. Deutsch. Mal. Ges. 13: 141), Switzerland. [Ellis: 244, pl. 12, f. 7-9; = *rogersi*.]

Vitrea rogersi Woodw. (1903, Jour. of Conch. 10: 310, pl. 6, f. 2, 5, 11-13), England (the first accurate description!).

6. Genus *Retinella* "Shuttleworth" Fischer [1930a]15. *R. (Retinella) nitidula* (Draparnaud). Introduced.

H. nitidula Drap. (1805, Hist.: 117, pl. 8, f. 21-22), France. [Harriman Alaska Exped. 13: 39; Ellis: 243, pl. 12, f. 1-3.]

16. *R. (Perpolita) electrina* (Gould). [II: pl. 29, f. 1; LFWS: f. 41; MALS: f. 21.]

Hyalina pellucida Lehnert (1884, Sci. Record 2: 172), Point Barrow, Alaska.

- 17a. *R. (Perpolita) binneyana binneyana* (Morse).
[LFWS: f. 56; MALS: f. 174.]
- 17b. *R. (Perpolita) binneyana occidentalis* H. Burrington Baker.
18. *R. (Perpolita?) dalliana* ("Simpson" Pilsbry).
19. *R. (Glyphyalus) burringtoni* (Pilsbry).
- 20a. *R. (Glyphyalus) cumberlandiana cumberlandiana* (Clapp).
- 20b. *R. (Glyphyalus) cumberlandiana roanensis* H. Burrington Baker.
21. *R. (Glyphyalus?) circumstriata* ("Taylor" Walker).
22. *R. (Glyphyalus) wheatleyi* (Bland).
23. *R. (Glyphyalus) vanattai* (Walker and Pilsbry).
24. *R. (Glyphyalus?) clingmani* (Dall).
25. *R. (Glyphyalus?) approxima* (Walker and Pilsbry).
26. *R. (Glyphyaloides) roemeri* (Pilsbry and Ferriss).
27. *R. (Glyphyaloides) lewisiana* (Clapp).
28. *R. (Glyphyaloides?) raderi* (Dall).
29. *R. (Glyphyalops) pentadelphia* (Pilsbry). [1931]
- 30a. *R. (Glyphyalops) rhoadsi rhoadsi* (Pilsbry).
- 30b. *R. (Glyphyalops) rhoadsi austrina* H. Burrington Baker.
- 31a. *R. (Glyphyalinia) indentata indentata* (Say). [II: pl. 29, f. 2; LFWS: f. 44; MALS: f. 15.]
- 31b. *R. (Glyphyalinia) indentata paucilirata* (Morelet).
- 31c. *R. (Glyphyalinia?) indentata (insecta?)* (von Martens).
32. *R. (Glyphyalinia) carolinensis* (Cockerell) and form *wetherbyi* (Cockerell).
- 33a. *R. (Glyphyalinia) cryptomphala cryptomphala* (Clapp).
- 33b. *R. (Glyphyalinia) cryptomphala solida* H. Burrington Baker.
34. *R. (Glyphognomon) praecox* H. Burrington Baker.
- 35a. *R. (Glyphognomon) sculptilis sculptilis* (Bland).
[LFWS: f. 522; MALS: f. 231; Suppl. 4: pl. 3, f. 9.]

35b. *R. (Glyphognomon) sculptilis subdola* H. Burrington Baker.

35c. *R. (Glyphognomon?) sculptilis junaluskana* (Clench and Banks).

R. junaluskana C. and B. (1932, N. 46: pl. 2, f. 4), 2½ miles east of Andrews, Cherokee Co., North Carolina.

7: Genus *Mesomphix* Rafinesque [1911, 1930b]

36a. *M. (Omphalina) cupreus cupreus* (Rafinesque).

O. cuprea Raf. (1831, En. and Ac.: 3), Kentucky. [1911.]

H. fuliginosa "Griffith" Binn. (1840, JBSNH. 3: 417, pl. 24), southern, middle, and western states; Leidy (I: pl. 9, f. 4), anatomy. [II: 222, pl. 31; LFWS: 285, f. 508, 510; MALS: 207, f. 217.]

H. capillacea Pfr. (1842, Symb. II: 24), Ohio; not Fér. (1822).

Zonites cupreus sinistrorsus Ckll. (1893, Brit. Nat. 3: 81), founded on MALS: 208; locality unknown.

36b. *M. (Omphalina) cupreus politus* (Pilsbry).

O. fuliginosa polita Pils. (1893, N. 12: 86), mountains of eastern Tennessee and western North Carolina.

36c. *M. (Omphalina) cupreus ozarkensis* (Pilsbry and Ferriss). [1911]

O. fuliginosa ozarkensis P. and F. (1906, PANSP. 58: 562), Petit Jean Mts., Arkansas.

37. *M. (Omphalina) kopnodes* (W. G. Binney).

H. kopnodes W. G. B. (1857, PANSP. 9: 186), Alabama. [1911.]

O. capnodes Lewis (1876, Geol. Surv. Ala., Rept. 1876: 85). [LFWS: 284, f. 507; MALS: 205, f. 215, 216.]

38. *M. (Omphalina) friabilis* (W. G. Binney).

H. friabilis W. G. B. (1857, PANSP. 9: 187), banks of Wabash River and in Illinois. [LFWS: 287, f. 514; MALS: 208, f. 219; 1911.]

39. *M. (Omphalina) pilsbryi* (Clapp).

O. pilsbryi Clapp (1904, N. 18: 30), hillsides near Wetumpka, Elmore Co., Alabama; Walker (1928, Univ. Mich. Mus. Zool. Misc. Publ. 18: 70, f. 95). [1911.]

40a. *M. (Omphix) andrewsae andrewsae* (Pilsbry).

O. andrewsae Pils. (1895, N. 9: 14), summit Thunderhead Mt., Great Smokies, Tennessee-North Carolina. [1911.]

- 40b. *M. (Omphix) andrewsae montivagus* (Pilsbry).
O. andrewsae montivaga Pils. (1895: 15), same locality.
41. *M. (Omphix) inornatus* (Say). [1911]
H. inornata Say (1821, JANSP. 2: 371), Pennsylvania. [II: 227, pl. 34; LFWS: 289, f. 518; MALS: 217, f. 229.]
- 42a. *M. (Micromphix) rugeli rugeli* (W. G. Binney). [1911]
Zonites rugeli W. G. B. (1869, Ann. N. Y. Acad. Sci. 1: 357, pl. 15, f. H, I), Roan Mt., Mitchell Co., North Carolina. [Suppl. 1: 138, pl. 2, f. H; MALS: 211, f. 222.]
- 42b. *M. (Micromphix) rugeli oxycoccus* (Vanatta).
Omphalina rugeli oxycoccus Van. (1903, N. 16: 106), Cranberry, Avery Co., North Carolina.
43. *M. (Micromphix) subplanus* (Binney). [1911]
H. sub-plana Binn. (1842, JBSNH. 4, pt. 1, cover, p. 3), Tennessee. [II: 229, pl. 33; LFWS: 288, f. 517; MALS: 216, f. 228.]
44. *M. (Mesomphix) perlaevis vulgatus*, new name.¹
H. laevigata Fér. (1821, Tabl. Syst. Limaç.: 41, no. 221), nude (Kentucky); Fér. (1822, Hist.: pl. 82, f. 6), vested; Desh. (1850, Hist.: 94); not of Linné (1766, Syst. Nat., ed. 12: 1250, no. 709). [LFWS: 287, f. 515; MALS: 209, f. 220.]
M. laevigata Beck (1837, Ind. Moll.: 7), founded on Férussac's figures.
H. lucubrata Binn. (II: 225, pl. 32), not of Say.
- 44b. *M. (Mesomphix) perlaevis perlaevis* (Pilsbry). [1911]
Omphalina laevigata perlaevis Pils. (1900, PANSP. 52: 135), Tallassee Ford, Monroe Co., Tennessee.
- 44c. *M. (Mesomphix) perlaevis latior* (Pilsbry).
Omphalina laevigata latior Pils. (1900: 135), same locality.
- 44d. *M. (Mesomphix) perlaevis monticola* (Pilsbry). [1911]
M. laevigata monticola Pils. (1911: 480), Sugar Cove, Blount Co., Tennessee.
- ¹ Dr. P. Revilliod, Director of the Muséum d'histoire naturelle de Genève, writes me in regard to the special explanation of plates published with the twenty-second livraison (1822) of Férussac's "Histoire": "En ce qui concerne *H. laevigata* de la planche 82 voici l'indication exacte: '6 *Helix laevigata* Rafinesque; Nob. Prodr. No. 221.' "

45. *M. (Mesomphix?) perfragilis* (Wetherby).

Zonites perfragilis Weth. (1881, J. Cincinnati Soc. Nat. Hist. 4: 326; 1894: 215), sink hole in cedar glade about 2 mi. out of Nashville on Murphreesboro Pike, Rutherford Co., Tennessee (*nomen dubium*).

8. Genus *Vitrinizonites* W. G. Binney46a. *Vitrinizonites latissimus latissimus* (Lewis).

Vitrina latissima Lewis (1875, PANSP. 27: 336, pl. 23, f. 7), Tusquita Bald, Clay Co., North Carolina. [W. G. B. (1879, Ann. N. Y. Acad. Sci. 1: 356, pl. 14, f. B), anatomy; Suppl. 1: 145, pl. 3, f. A; MALS: 231, f. 253, 254.]

46b. *Vitrinizonites latissimus widermisi* Pilsbry.

V. latissimus widermisi Pils. (1900, PANSP. 52: 137), summit of Thunderhead and Clingman's Dome, Great Smokies, Tennessee-North Carolina.

9. Genus *Paravitrea* Pilsbry [1928, 1931]47. *P. (Pectovitrea) variabilis* H. Burrington Baker.

48. *P. (Pectovitrea) walkeri* (Pilsbry) and form *dentata* H. Burrington Baker.

49. *P. (Paravitreops) multidentata* (Binney) and form *lamellata* H. Burrington Baker. [LFWS: f. 80.]

50. *P. (Paravitreops) lamellidens* (Pilsbry).51. *P. (Paravitreops?) clappi* (Pilsbry).

52. *P. (Paravitrea) andrewsi* (W. G. Binney). [Suppl. 1: pl. 2, f. D.]

53. *P. (Paravitrea) capsella* (Gould). [LFWS: f. 72.]54. *P. (Paravitrea) pilsbryana* (Clapp).55. *P. (Paravitrea?) significans* (Bland).56. *P. (Paravitrea) calcicola* H. Burrington Baker.57a. *P. (Paravitrea) placentula (?) lacteodens* (Pilsbry).57b. *P. (Paravitrea) placentula placentula* (Shuttleworth).

[Suppl. 1: pl. 2, f. A.]

58. *P. (Parmavitrea) pontis* H. Burrington Baker.59. *P. (Parmavitrea?) simpsoni* (Pilsbry).60. *P. (Parmavitrea?) conecuhensis* (Clapp).61. *P. (Petrovitrea?) smithi* (Bryant Walker).

62. *P. (Petrovitrea) petrophila* (Bland). [Suppl. 1: pl. 1, f. F.]

63. *P. (Petrovitrea?) aulacogyra* (Pilsbry and Ferriss).
10. Genus *Pilsbryna* H. Burrington Baker [1929, 1931]
64. *Pilsbryna castanea* H. Burrington Baker.
65. *Pilsbryna aurea* H. Burrington Baker.
11. Genus *Pristiloma* Ancey [1931]
- 66a. *P. (Ogaridiscus) subrupicola subrupicola* ("Dall" Packard). [Suppl. 1: pl. 4, f. H, I.]
- 66b. *P. (Ogaridiscus?) subrupicola (?) spelaeum* (Dall) (*nomen dubium*).
- 67a. *P. (Priscovitrea) chersinella chersinella* (Dall). [Suppl. 1: p. 142.]
- 67b. *P. (Priscovitrea) chersinella (?) wascoense* (Hemphill).
68. *P. (Priscovitrea) gabrielinum* (Berry).
69. *P. (Priscovitrea?) orotis* (Berry).
70. *P. (Priscovitrea?) shepardi* ("Hemphill" W. G. Binney).
71. *P. (Priscovitrea) nicholsoni* H. Burrington Baker.
72. *P. (Priscovitrea) johnsoni* (Dall).
73. *P. (Pristinoides) lansingi* (Bland). [Suppl. 4: pl. 3, f. 6.]
74. *P. (Pristinopsis) idahoense* Pilsbry.
75. *P. (Pristinopsis) arcticum* (Lehnert).
76. *P. (Pristiloma) stearnsi* (Bland).
77. *P. (Pristiloma) pilsbryi* Vanatta.
12. Genus *Hawaïia* Gude [1930b]
- 78a. *Hawaïia minuscula minuscula* (Binney). [1928, 1929.]
Helix kawaiensis Pfr. (1854, Proc. Zoöl. Soc. London 22: 52), Kauai, Hawaiian Islands.
- 78b. *Hawaïia minuscula alachuana* (Dall). [1929.]
- 78c. *Hawaïia minuscula neomexicana* (Cockerell and Pilsbry). [1929.]
- 78d. *Hawaïia minuscula permolesta* (Strebel und Pfeffer). [1929.]

13. Genus *Striatura* Morse

79. *S. (Pseudohyalina) exigua* (Stimpson). [1928]

H. annulata Case (1847, Amer. Jour. Sci. 3: 101, f. 1-3), near Lake Superior; not Sowerby (1840).

H. exigua Stimps. (1850, P. Boston Soc. Nat. Hist. 3: 175), near Boston, Massachusetts. [LFWS: 42, f. 63, 64; MALS: 181, f. 177-179.]

80. *S. (Pseudohyalina) pugetensis* (Dall). [1930b]

Patulastra pugetensis Dall (1895, N. 8: 130), Seattle, King Co., Washington. [1902, PUSNM. 24: 500, pl. 27, f. 10, 12.]

81. *S. (Pseudohyalina) meridionalis* (Pilsbry and Ferriss). [1930b]

Vitrea milium meridionalis P. and F. (1906, PANSP. 58: 152), along Guadalupe River, above New Braunfels, Comal Co., Texas. [? LFWS: f. 33; MALS: f. 23?]

82. *S. (Striatura) milium* (Morse). [1928]

H. milium Morse (1859, P. Boston Soc. Nat. Hist. 7: 28), Maine. [1864, J. Portland Soc. Nat. Hist. 1: 18, f. 41, pl. 2, f. 7.]

83. *S. (Striaturops) ferrea* Morse. [1928]

S. ferrea Morse (1864: 17, f. 36-38, pl. 2, f. 10), Maine. [LFWS: 40, f. 59, MALS: 181, f. 175.]

14. Genus *Gastrodonta* Albers

84. *G. (Gastrodonta) interna* (Say).

H. interna Say (1822, JANSP. 2: 155), lower Missouri. [II: 247, pl. 30, f. 4; LFWS: 49, f. 79; MALS: 229, f. 252.]

H. pomum-adami Green (1833, Dougherty Cab. 3: 35), banks of Ohio.

Zonites internus pallidus Ckll. (1893, Brit. Nat. 3: 80), founded on MALS: 230, from Cincinnati, Hamilton Co., Ohio.

85. *G.? (Clappiella) aldrichiana* (Clapp).

Vitrea aldrichiana Clapp (1907, N. 20: 109, pl. 5, f. 8-11), two miles southeast of Anderson, in Jackson Co., Alabama. [1929, N. 42: 90, pl. 3, f. 9, 10, jaw and radula.]

15. Genus *Zonitoides* Lehmann

86. *Z. (Ventridentis) suppressus* (Say). [I: pl. 12, f. 8.]

H. suppressa Say (1829, New Harmony Diss. 2: 229), Germantown, Philadelphia Co., Pennsylvania. [II: 253, pl. 37, f. 1; LFWS: 293, f. 527; MALS: 225, f. 241.]

- 87a. *Z. (Ventricidens) gularis gularis* (Say). [I: 227.]
H. gularis Say (1822, JANSP. 2: 156), Ohio and Pennsylvania. [II: 250, pl. 37, f. 3, 4; LFWS: 292, f. 525; MALS: 224, f. 240.]
H. bicostata Pfr. (1846, Symb. III: 69), habitat unknown.
- 87b. *Z. (Ventricidens) gularis cuspidatus* (Lewis).
Zonites cerinoidea cuspidata Lewis (1875, PANSP. 27: 336), Knox and Monroe Co., Tennessee. [Suppl. 1: 143, pl. 2, f. C; MALS: 226, f. 243.]
- 87c. *Z. (Ventricidens) gularis lawi* (W. G. Binney).
Zonites lawi W. G. B. (1883, Suppl. 1: 142, pl. 2, f. E), Jalapa, Monroe Co., Tennessee. [MALS: 221, f. 235; PANSP. 54: 435, pl. 25, f. 10-12.]
- 87d. *Z. (Ventricidens) gularis theloides* ("Brown," Walker, and Pilsbry).
Gastrodonta gularis theloides W. and P. (1902, PANSP. 54: 434, pl. 25, f. 1-4), Bluff Mt., Madison Co., North Carolina.
- 87e. *Z. (Ventricidens) gularis decussatus* ("Pilsbry and Vanatta").
Gastrodonta gularis decussata W. and P. (1902: 436, pl. 25, f. 5-8, 9, 13), Mt. Mitchell, Yancey Co., North Carolina.
- 88a. *Z. (Ventricidens) collisella collisella* (Pilsbry).
Gastrodonta collisella Pils. (1896, N. 9: 123), Knoxville, Knox Co., Tennessee.
- 88b. *Z. (Ventricidens) collisella percallosus* (Pilsbry).
Gastrodonta collisella percallosa Pils. (1898, N. 11: 134), three miles above Chattanooga on Tennessee River, Hamilton Co., Tennessee.
89. *Z. (Ventricidens) coelaxis* (Pilsbry).
Gastrodonta coelaxis Pils. (1899, N. 12: 150), Cranberry, Avery Co., North Carolina.
90. *Z. (Ventricidens) lasmodon* (Phillips).
H. lasmodon Ph. (1841, PANSP. 1: 28; 1842, JANSP. 8: 182), Alabama. [II: 254, pl. 37, f. 2; LFWS: 49, f. 78; MALS: 227, f. 244; Suppl. 3: pl. 3, f. 5.]
H. macilenta Shuttl. (1852, Bern. Mitt. 1852: 195), eastern Tennessee (Rugel), probably Knox Co. [Suppl. 1: pl. 2, f. B; MALS: 227, f. 249.]
Zonites elasmodon W. G. B. (1878, Bull. Mus. Comp. Zoöl. Harvard 4: 131), emendation.

91. *Z. (Ventridentis) cerinoideus* (Anthony).

H. cerinoidea Anth. (1865, Amer. Jour. Conch. 1: 351, pl. 25, f. 4), North Carolina. [LFWS: 30, f. 30; MALS: 353, f. 381.]

92a. *Z. (Ventridentis) demissus demissus* (Binney).

H. demissa Binn. (1843, JBSNH. 4: 361, pl. 16, f. 16), western Pennsylvania. [II: 232, pl. 42, f. 1; LFWS: 47, f. 71; MALS: 212, f. 223.]

92b. *Z. (Ventridentis) demissus brittsii* (Pilsbry).

Zonites brittsii Pils. (1891, N. 5: 99), Hot Springs, Garland Co., Arkansas. [1906, PANSP. 58: 558, f. 2, 3.]

Gastrodonta demissa lamellata Pils. (1900, N. 13: 107), Tuskahoma, Pushmataha Co., and Poteau, Le Flore Co., Oklahoma.

93a. *Z. (Ventridentis) ligerus ligerus* (Say). [I: pl. 12, f. 4-7.]

H. ligera Say (1821, JANSP. 2: 157), Missouri. [II: 204, pl. 35; LFWS: 44, f. 70; MALS: 213, f. 225.]

H. rafinesquia Fér. in part (1821, Tabl. Syst. Limaç.: 50, no. 311), nude (Kentucky); Fér. (1822, Hist.: pl. 51a, f. 5), vested?

H. wardiana Lea (1839, Trans. Amer. Phil. Soc. 6: 67, pl. 23, f. 82; Obs. II), Cincinnati, Hamilton Co., and Chillicothe, Ross Co., Ohio.

93b. *Z. (Ventridentis) ligerus stonei* (Pilsbry).

Zonites ligerus stonei Pils. (1889, N. 3: 46), New Castle Co., Delaware.

93c. *Z. (Ventridentis) ligerus sagdinooides* (Gratacap).

Zonites ligerus sagdinooides Grat. (1901, Bull. Amer. Mus. Nat. Hist. 14: 344), Indiana.

94. *Z. (Ventridentis) acerra* (Lewis). [1929]

H. annae, *H. acerra* Lewis (1871, Amer. Jour. Conch. 6: 190, pl. 12, f. 3, 4), Fort Creek and Chilhowee Mts., Blount Co., Tennessee. [MALS: 213, f. 224.]

95a. *Z. (Ventridentis) intertextus intertextus* (Binney). [I: pl. 12, f. 1-3.]

H. intertexta Binn. (1840, JBSNH. 3: 413), Cabarrus Co., North Carolina. [II: 206, pl. 36; LFWS: 44, f. 69; MALS: 214, f. 226, 227.]

95b. *Z. (Ventridentis) intertextus volusiae* (Pilsbry).

Gastrodonta intertexta volusiae Pils. (1900, N. 14: 40), Mt. Taylor, south of Volusia, Volusia Co., Florida.

96. *Z. (Ventricidens) ellioti* (Redfield). [1929]
H. ellioti Redf. (1856, Ann. N. Y. Lyc. Nat. Hist. 6: 170, pl. 9, f. 8-10), Mts. of Georgia and North Carolina. [LFWS: 291, f. 523; MALS: 219, f. 232.]
97. *Z. (Pseudohyalus?) limatulus* ("Ward" Binney).
H. limatula Binn. (1840, JBSNH. 3: 434, pl. 21, f. 2), Roscoe, Conshoceton Co., Ohio. [II: 219, pl. 30, f. 3; LFWS: 36, f. 48; MALS: 220, f. 233.]
98. *Z. (Pseudohyalus) lateumbilicatus* (Pilsbry). [1929]
Gastrodonta lateumbilicata Pils. (1895, N. 8: 102), near Nat, Jackson Co., Alabama.
99. *Z. (Pseudohyalus?) patuloides* (Pilsbry).
G. patuloides Pils. (1895, N. 9: 15), Thunderhead Mt., Blount Co., Tennessee.
100. *Z. (Zonitellus) arboreus* (Say). [1928, 1929]
H. arboreus Say (1816, Brit. Encycl., 1st Amer. ed., art. "Conchology," 7th p., pl. 4, f. 4), probably Philadelphia. [II: 235, pl. 29, f. 3; LFWS: 33, f. 38; MALS: 61, f. 13.]
H. ottonis Pfr. (1840, Arch. Naturg. 6, pt. 1: 251), Cuba.
H. breweri Newc. (1864, P. Cal. Acad. Sci. 3: 118), near Lake Tahoe, Placer Co., California. [LFWS: 43, f. 66.]
H. whitneyi Newc. (1864, same page and locality). [LFWS: 32, f. 37; MALS: 86, f. 50; 1931, N. 44: 98.]
Hyalina arborea viridula Ckl. (1888, Science Gossip 24: 257), Custer Co., Colorado.
101. *Z. (Zonitooides) nitidus* (Müller). [1928, 1929]
Probably introduced.
H. nitida Müll. (1774, Hist. Verm. II: 32), Denmark. [LFWS: 31, f. 35, 36; MALS: 60, f. 12.]
H. lucida Drap. (1805, Hist.: 103, pl. 8, f. 11, 12), France; not Drap. (1801). [II: 233, pl. 22a, f. 2.]
H. fabricii Beck (1837, Ind. Moll.: 21), nomenclatorially a substitute for *H. nitida* Müll. (founded on an incorrect citation from Greenland).
H. hydrophyla "Ingalls" Miles (1861, Rept. Geol. Surv. Mich. I: 235), nude (Michigan).
H. hydrophila "Ingalls" W. G. B. and Bland (LFWS: 32), which (f. 35; MALS: f. 12) can be utilized as American subspecies with Greenwich, Washington Co., New York, for type locality.

BIBLIOGRAPHY AND ABBREVIATIONS

H. used throughout for *Helix*.

JANSP. for *Jour. Acad. Nat. Sci. Philadelphia*.

JBSNH. for *Jour. Boston Soc. Nat. Hist.*

LFWS. for *Land and fresh-water shells of North America*, W. G. Binney and Bland (1869, *Smith. Misc. Coll.* 194: 1-316).

MALS. for *Manual of American land Shells*, W. G. Binney (1885, *Bull. U. S. Nat. Mus.* 28: 1-528).

N. for *The Nautilus*.

PANSP. for *Proc. Acad. Nat. Sci. Philadelphia*.

Suppl. 1 for W. G. Binney (1883, *Bull. Mus. Comp. Zoöl. Harvard* 11: 135-166).

Suppl. 3 for W. G. B. (1890, *Bull. Mus. Comp. Zoöl. Harvard* 19: 183-226).

Suppl. 4 for W. G. B. (1892, *Bull. Mus. Comp. Zoöl. Harvard* 22: 163-204).

I for Leidy in Binney (1851, *Terr. air-breathing mollusks and shells of the United States, etc.*, vol. 1).

II for Binney (1851, vols. 2 and 3); plates reproduced in W. G. Binney (1878, *Bull. Mus. Comp. Zoöl. Harvard* 4).

1911 for Pils. (1911, PANSP. 63: 469-486).

1928 for H. B. B. (1928, PANSP. 80: 1-44).

1929 for H. B. B. (1929, PANSP. 81: 251-266).

1930a for H. B. B. (1930, PANSP. 82: 193-219).

1930b for H. B. B. (1930, *Occ. Papers Mus. Zool. Univ. Mich.*, no. 220).

1931 for H. B. B. (1931, PANSP. 83: 85-117).

