

Introduction to Physidae (Gastropoda: Hygrophila); biogeography, classification, morphology

Plates

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Plate 2

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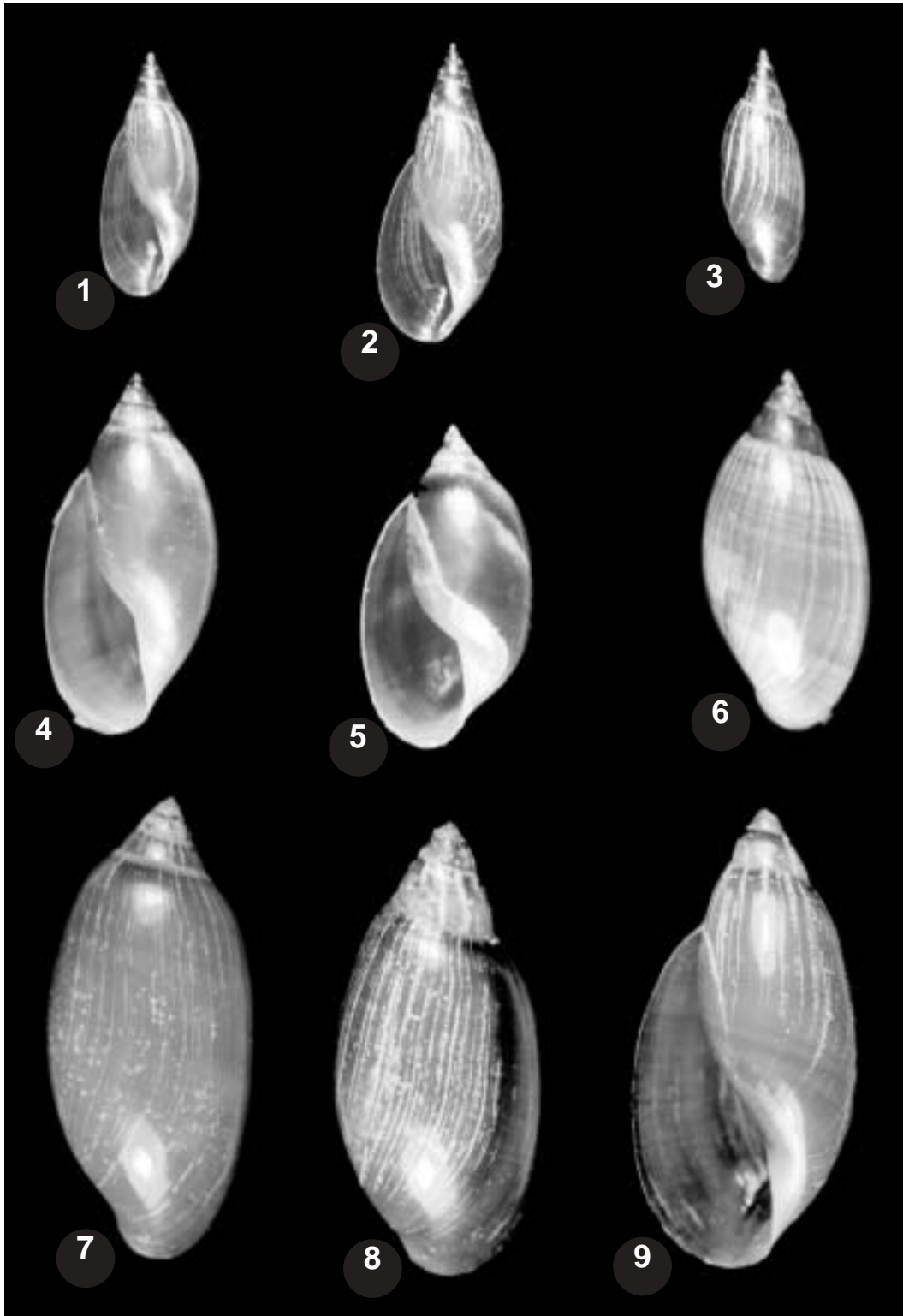


Plate 3

- Figs. 1-3.** *Mayabina bullula*, p. 92. Mexico, Veracruz: Roadside pond by Carretera 180, 8.8 km N of Río Actopan, 24-III-1989 (T89-1101). Figured specimens, CAS 114816. Lengths 18.6 and 17.8 mm.
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- Fig. 10.** *Mayabina petenensis*, p. 96. Guatemala, Depto. Petén: Aguada at NE side of La Libertad, 22-XI-1991. Holotype, CAS 114811. Length 12.5 mm.
- Fig. 13.** *Mexinauta princeps*, p. 86. Mexico, Yucatán: Pemex plant 4 km S of Puerto Progreso, IV-1986 (T86-502). Figured specimen, CAS 114798. Length 36.5 mm.

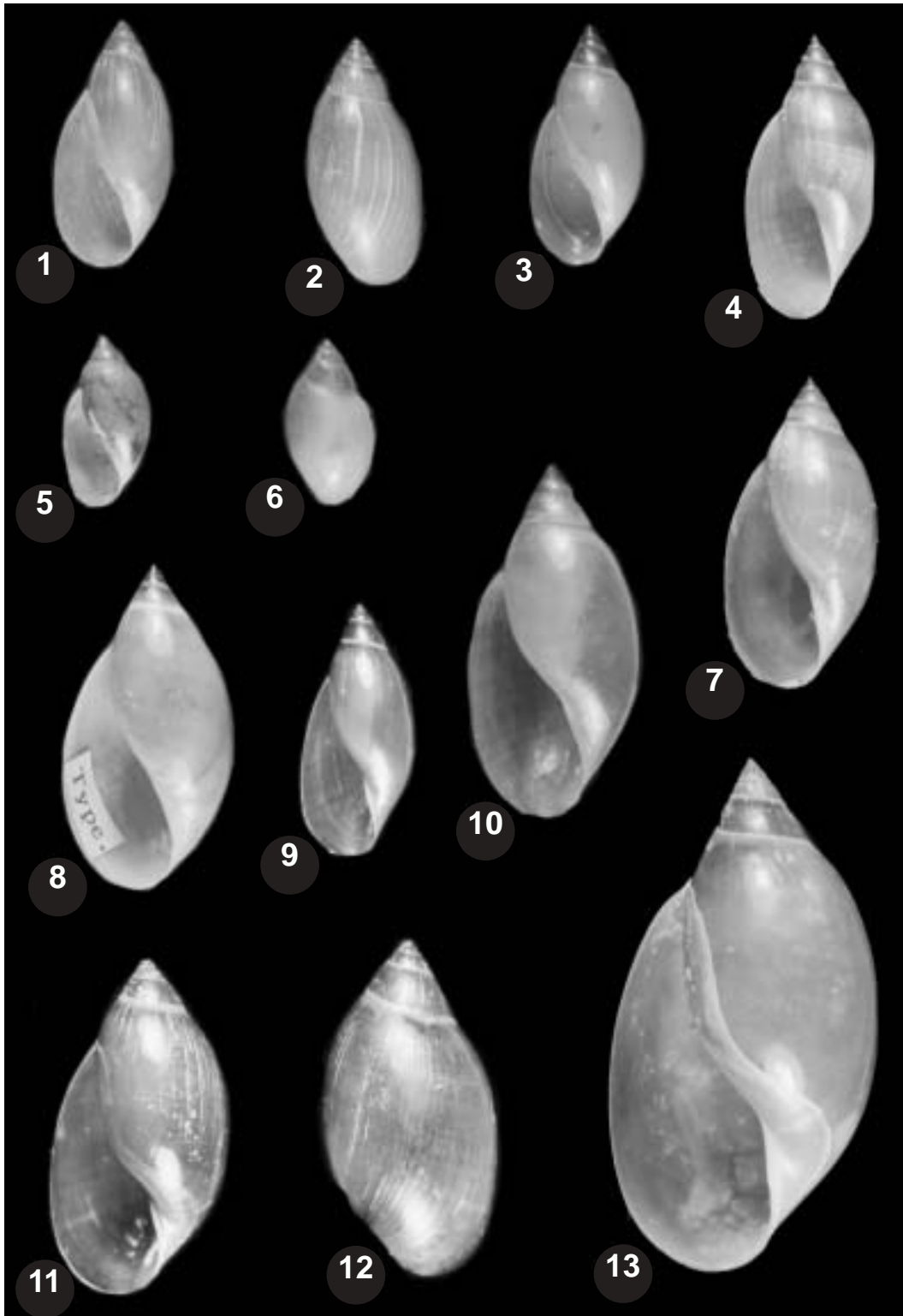


Plate 4

Fig. 1. *Sibirenauta pictus*, p. 67. Alaska: Ponds along road from BPR camp to Nome, *R. D. Reger*, 20-VII-1968. Figured specimen, RBCM 997-00207-003. Length 13.1 mm.

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Fig. 6. *Mayabina carolita*, p. 94. Peru, Arequipa: Baños de Jesús, *Percy Sladen Trust Expedition*, 10-IV-1937. Figured specimen, BMNH uncat. Length 9.8 mm.

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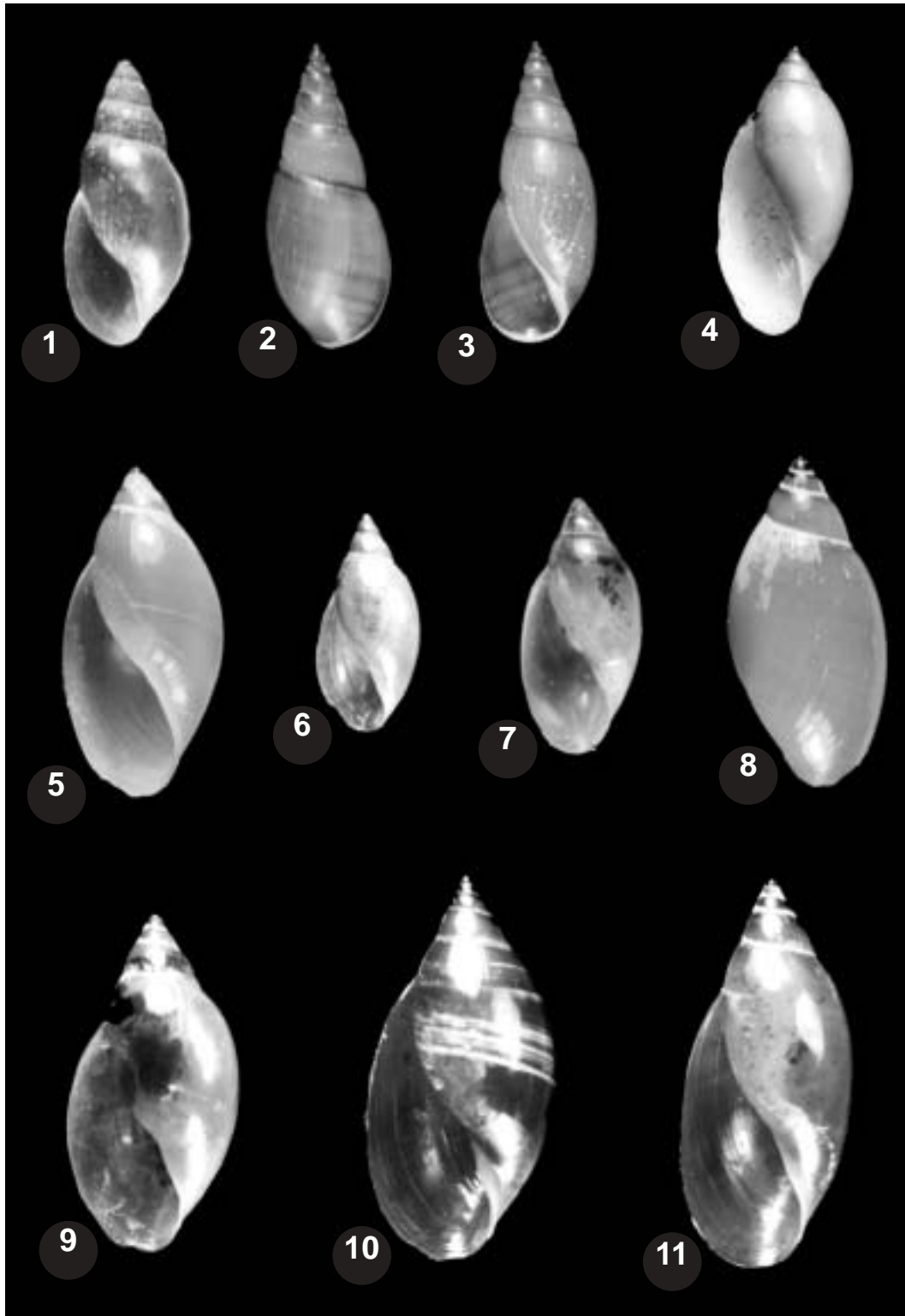


Plate 5

Figs. 1-2. *Mayabina polita*, p. 99. Mexico, Tabasco: Pool W of Río Tulija, 1.5 km S of Mexico 186, 22-II-1988 (T88-3602). Holotype, CAS 114783. Length 16.1 mm.

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Fig. 4. *Sibirenauta ?depressor*, p. 58. Russia, Krasnoyarsk District: Schaitanskoj, 71°65' N, Yenisei River, A. Nordenskiöld, A. Stuxberg, *Swedish Novaya Zemlya - Yenisei Expedition*, 1875. Cotype of *Physa hypnorum* var. *polaris* Westerlund, SMNH 1653. Length 10.2 mm.

Fig. 5. *Sibirenauta sibiricus*, p. 71. Russia: Sopochnaya Korga, 71°40' N, Taimyr Peninsula, A. Stuxberg, *Swedish Novaya Zemlya - Yenisei Expedition*, 22-VIII-1875. Cotype, SMNH 1651. Length 9.4 mm.

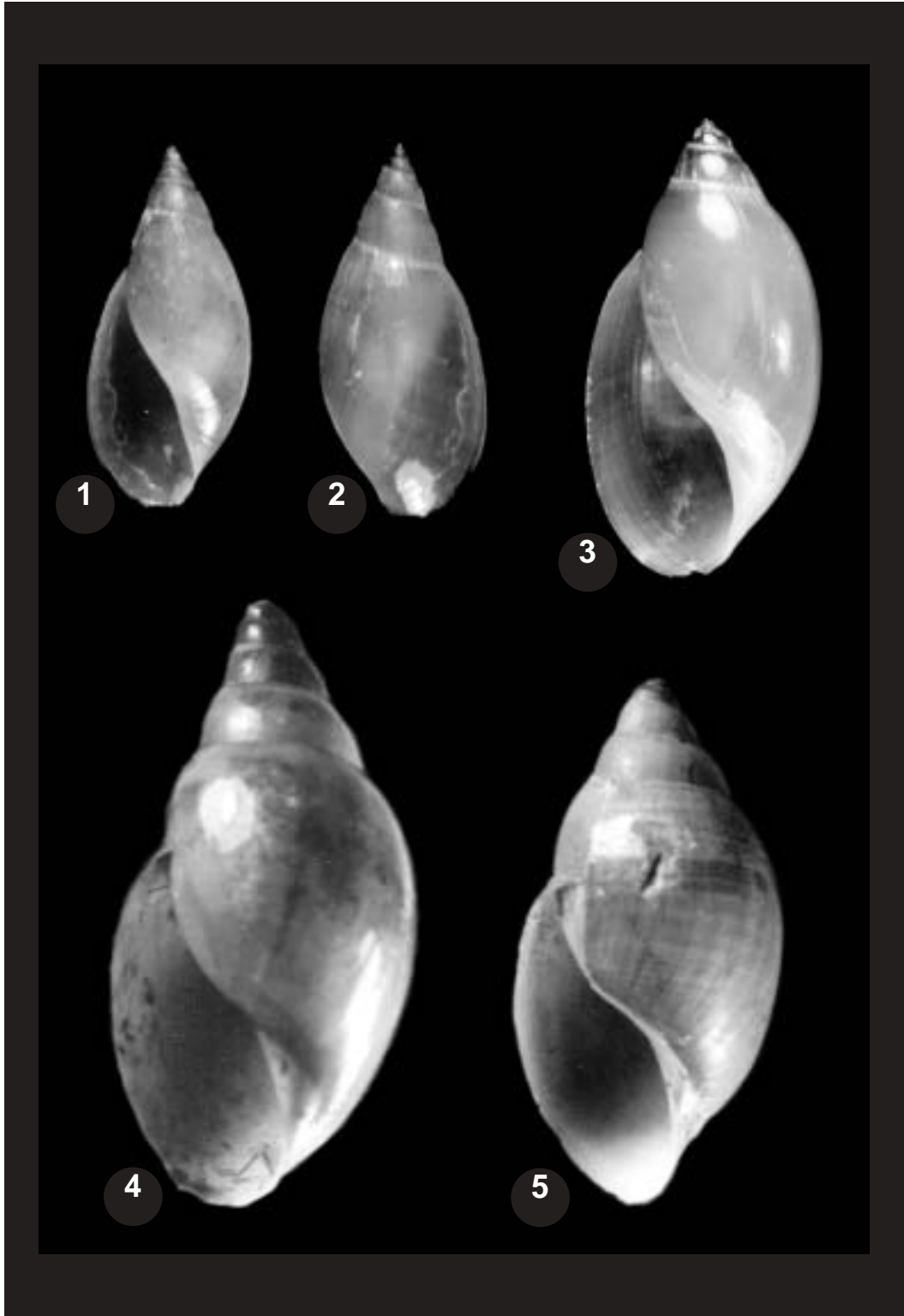


Plate 6

Haitia

- Fig. 1.** *Haitia patzcuarensis*, p. 149. Mexico, Michoacán: L. Pátzcuaro, Pátzcuaro. 13-III-1987 (T87-301). Figured specimen, CAS 114810. Length 18.2 mm.
- Fig. 2.** *Haitia moreleti*, p. 146. Guatemala, Depto. Petén: L. Petén-Itzá, Santa Elena. 21-XI-1991 (T91-2104). Holotype, CAS 114821. Length 7.7 mm.
- Fig. 3.** *Haitia pomilia*, p. 150. Alabama, Wilcox County: Pond by highway 28, NE 1/4 sec. 11, T. 14 N., R. 6 E. 5-V-1993 (T93-401). Figured specimen, CAS 114806. Length 18.2 mm.
- Fig. 4.** *Haitia venustula*, p. 151. Peru, Depto. Lima: Villa, Distr. Chorrillos, near Lima, *Angel Maldonado*, 1941. Figured specimen, FMNH 17276. Length 9.21 mm.
- Fig. 5.** *Haitia cubensis*, p. 137. Dominican Republic, Prov. Monte Cristi: Río Gurabo at Mao - Guayubin road, 24-XI-1989 (T89-5401). Figured specimen, CAS 146100. Length 12.3 mm.
- Figs. 6-7.** *Haitia integra*, p. 140. Fig. 6, Michigan, Cheboygan County: Douglas Lake, Grapevine Point, 21-VII-1952. Figured specimen, CAS 146112. Length 12.5 mm.
- Fig. 7.** Minnesota, Crow Wing County: Round Lake, sec. 2, T. 134 N., R. 29 W., 6-VII-1992 (T92-606). Figured specimen, CAS 146106. Length 10.2 mm.
- Figs. 8-10.** *Haitia acuta*, p. 135. Fig. 8, England, Surrey: Old waterlily tank, Royal Botanic Garden, Kew, Richmond, *Bernard Verdcourt*, V-1998. Figured specimen, CAS 146101. Length 9.0 mm.
- Figs. 9-10.** Connecticut, Litchfield County: Salisbury, N shore of L. Wononscopomuc, *E. H. Jokinen*, 10-VI-1977 (EHJ site 01-01-130). Figured specimens, CAS 146109. Lengths 13.5, 12.2 mm.

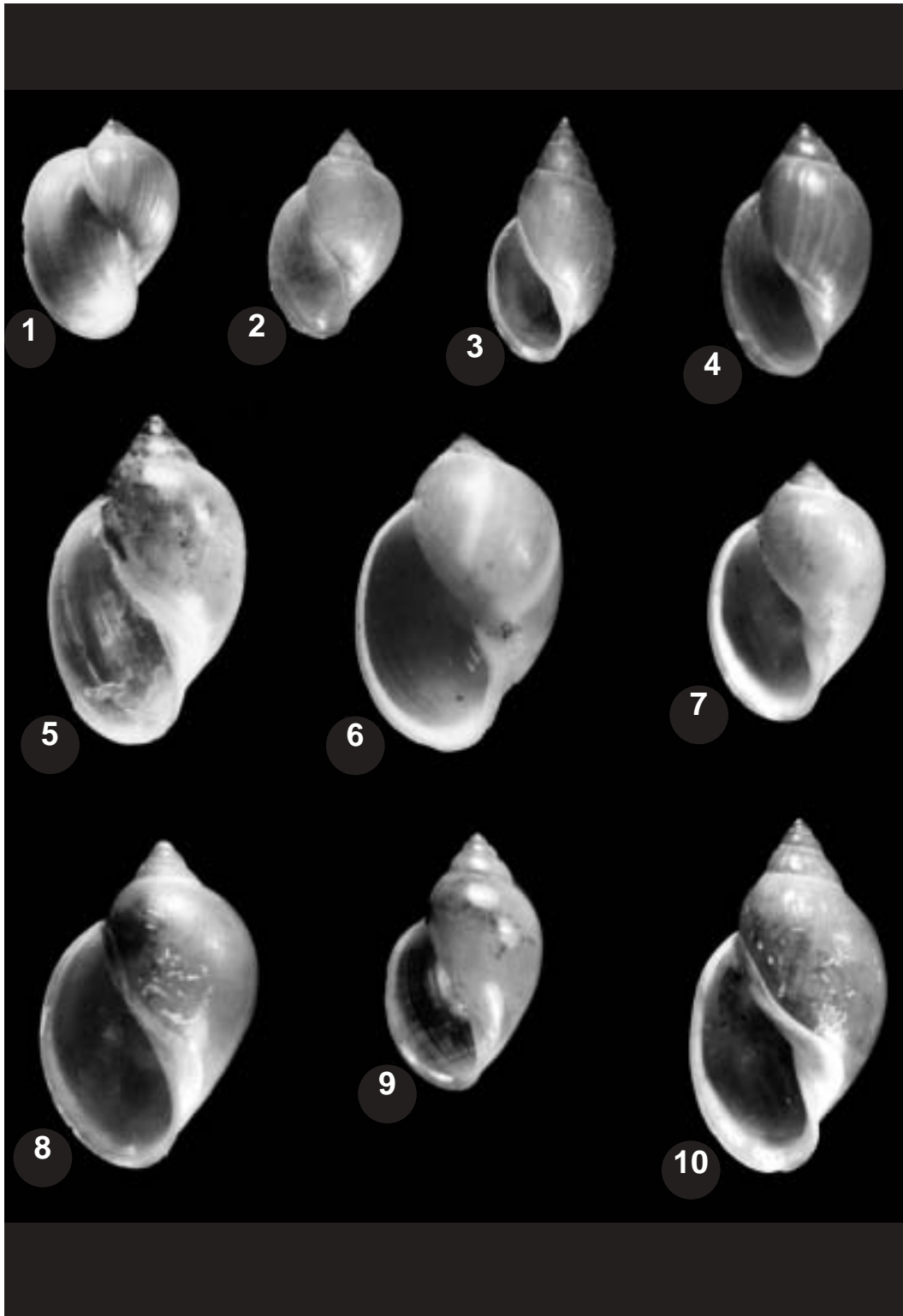


Plate 7

Haitia mexicana, p. 140

Figs. 1-4. Texas, Pecos County: Wilbank Springs, 200 m SE of well no. 212. 26-VI-1968 (T68-3602). Figured specimens, CAS 114791. Length of both specimens 14.3 mm.

Fig. 5. California, Los Angeles County: Irrigation reservoir one mile NNW Claremont, 3200 ft S, 1800 ft E, sec. 33, T. 1 N., R. 8 W. 24-V-1947 (T46-1002). Figured specimen, CAS 114814. Length 13.5 mm.

Figs. 6-9. Ecophenotype *humerosa*. California, Riverside County: surface of Colorado Desert, 750 ft N, 750 ft W, sec. 11, T. 7 S., R. 7 E. 13-IV-1949 (T49-908). Figured specimens, CAS 114809. Lengths 17.1, 12.9, 12.5, 15.4 mm.

Fig. 10. Costa Rica, Prov. San José: Las Nubes, Coronado, *J. Monge-Nájera*, 21-VI-1992. Figured specimen, CAS 114802. Length 10.9 mm.

Fig. 11. Mexico, D. F.: Xochimilco. 11-III-1987 (T87-201). Figured specimen, CAS 114808. Length 16.8 mm.

Figs. 12-14. Texas, Pecos County: Point Spring, Diamond Y Draw. 28-X-1984 (T68-6402). Figured specimens, CAS 146110. Lengths 15.0, 13.9, and 13.0 mm.

Fig. 15. Texas, Pecos County: Diamond Y Draw at mouth of Leon Creek. X-1984 (T68-6337). Figured specimen, CAS 146108. Length 17.3 mm.

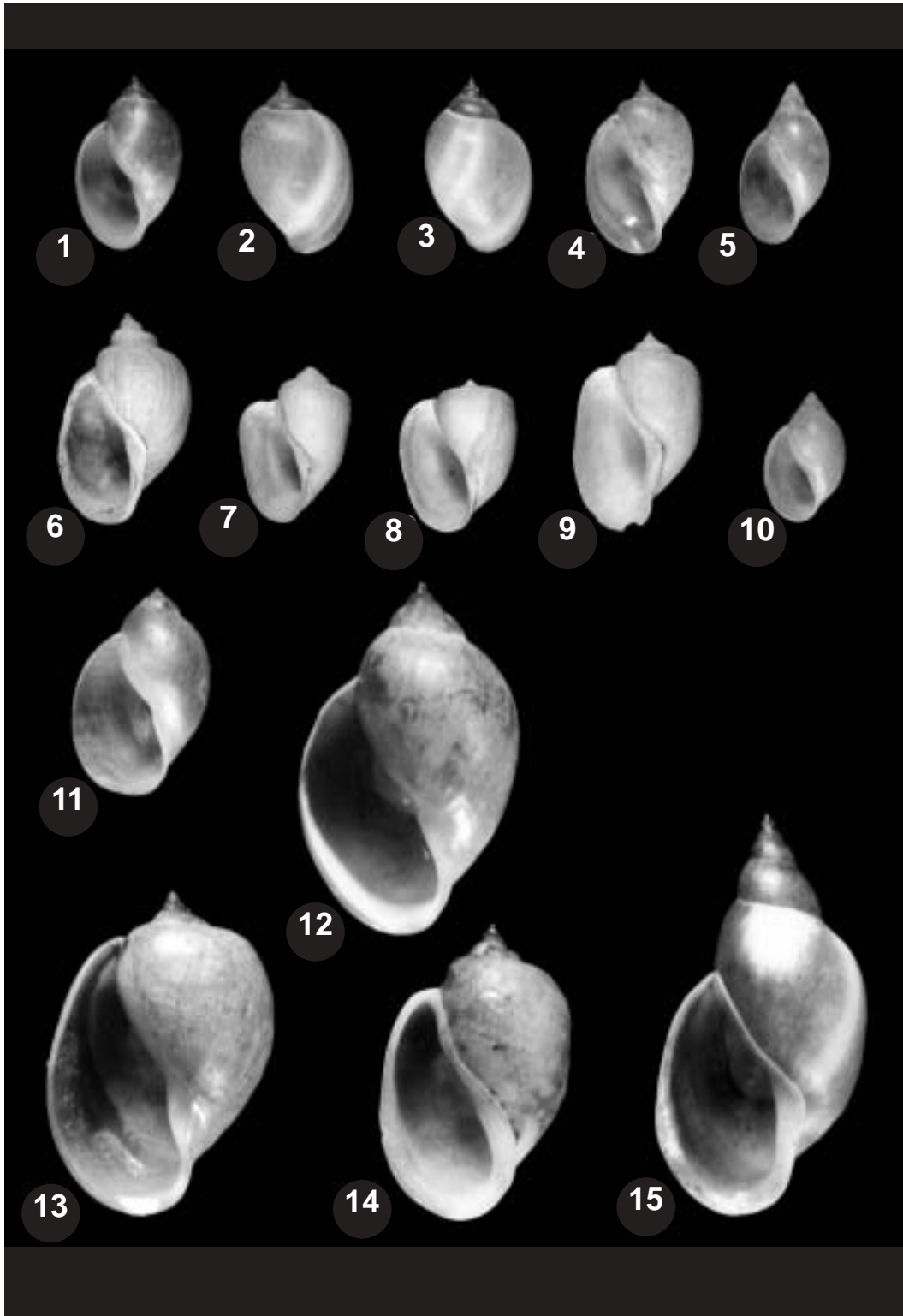


Plate 8

Beringophysa, Chiapaphysa, Laurentiphysa, Physa, Physella, Stenophysa

- Fig. 1.** *Laurentiphysa chippevarum* sp.n., p. 154. Wisconsin, Ashland County: Ditch beside highway 77, SW 1/4 SE 1/4 sec. 31, T. 43 N., R. 2 W. 7-VII-1992 (T92-803). Figured paratype, CAS 146091. Length 6.7 mm.
- Fig. 2.** *Laurentiphysa vernalis*, p. 157. Connecticut, Tolland County: Mansfield, SW of Gardiner Road, E. H. Jokinen, 9-V-1976 (EHJ site 51). Figured specimen, CAS 146105. Length 12.0 mm.
- Fig. 3.** *Physa megalochlamys*, p. 164. Wyoming, Teton County: NE 1/4 NW 1/4 sec. 19, T. 45 N., R. 114 W. 23-VII-1963 (T61-4507). Figured paratype, CAS 146099. Length 12.4 mm.
- Figs. 4, 6.** *Physella ancillaria*, p. 187. Fig. 4. Minnesota, Crow Wing County: Round Lake, sec. 2, T. 134 N., R. 29 W., 6-VII-1992 (T92-605). Figured specimen, CAS 114782. Length 10.8 mm.
- Fig. 6.** Massachusetts, Nantucket County: South end of North Head of Long Pond, 17-VII-1948 (T48-1803). Figured specimen, CAS 114805. Length 9.7 mm.
- Fig. 5.** *Beringophysa jennessi*, p. 159. Alaska: Wonder Lake, Denali National Park, E. L. Kessell, 13-VIII-1957. Figured specimen, CAS 114793. Length 9.0 mm.
- Fig. 7.** *Chiapaphysa grijalvae* sp.n., p. 168. Mexico, Chiapas: Río Suchiapa 2 km SE Suchiapa. 7-II-1988 (T88-502). Holotype, CAS 114818. Length 12.3 mm.
- Fig. 8.** *Chiapaphysa pacifica* sp.n., p. 170. Costa Rica, Prov. Guanacaste: Río Tenorito, Hacienda La Pacífica. 7-XI-1991 (T91-905). Holotype, CAS 114784. Length 8.1 mm.
- Fig. 9.** *Stenophysa spathidophallus* sp.n., p. 121. Singapore: ditch from Seletar Reservoir, 100 m west of Upper Thompson Road. 13-XII-1985 (T85-1403). Holotype, CAS 114804.

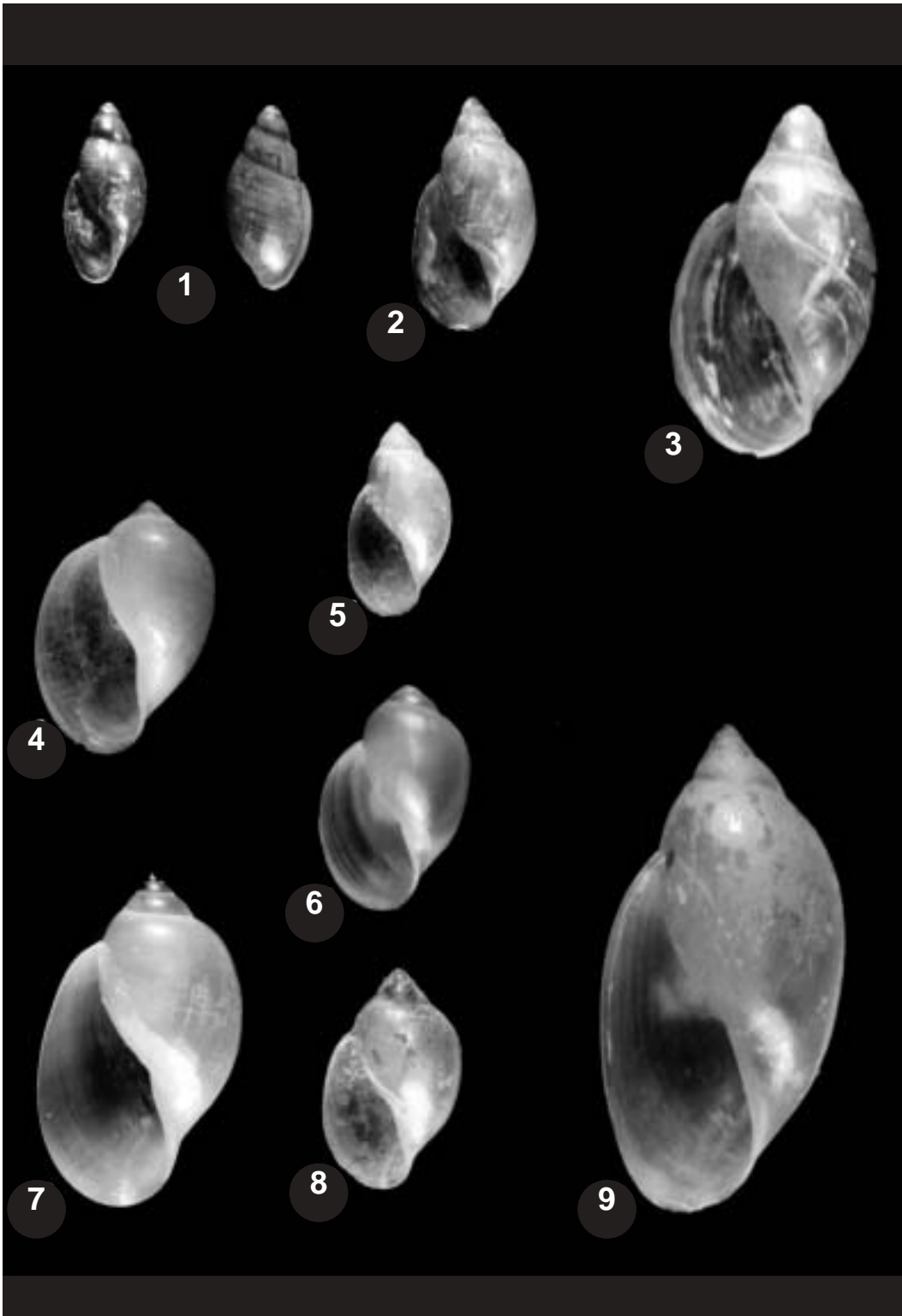


Plate 9

Archiphysa, Costatella, Physella, Ultraphysella

Fig. 1. *Ultraphysella sinaloae* sp. n., p. 192. Mexico, Sinaloa: Pool in culvert beneath road from Villa Unión toward Siqueiros (T71-1001). Holotype, CAS 146096. Length 14.6 mm.

Figs. 2-3. *Archiphysa latchfordi*, p. 178. Canada, Quebec: Meach Lake, Chelsea, *F. R. Latchford*. Figured specimen, CAS 114797. Length 23.4 mm.

Fig. 4. *Costatella costata*, p. 172. California, Lake County: Clear L., Clearlake Highlands, *G. D. Hanna*, 11-V-1931 (ex AGS 3751). Figured specimen, CAS 146111. Length 7.8 mm.

Fig. 5. *Physella hemphilli* sp.n., p. 190. Idaho, Kootenai County: Coeur d'Alene Lake, *Henry Hemphill*. Holotype, CAS 116331. Length 7.68 mm.

Figs. 6-7. *Archiphysa parkeri*, p. 178. Michigan, Cheboygan County: Douglas Lake. 1952. Figured specimen, CAS 114801. Length 24.1 mm.

Fig. 8. *Physella gyrina*, p. 188. Arizona, Greenlee County: East Fork of Black River, SW 1/4 sec. 1, NW 1/4 sec. 12, T. 4 N., R. 28 E., 31-X-1980 (T80-2504). Figured specimen, CAS 114789. Length 20.4 mm.

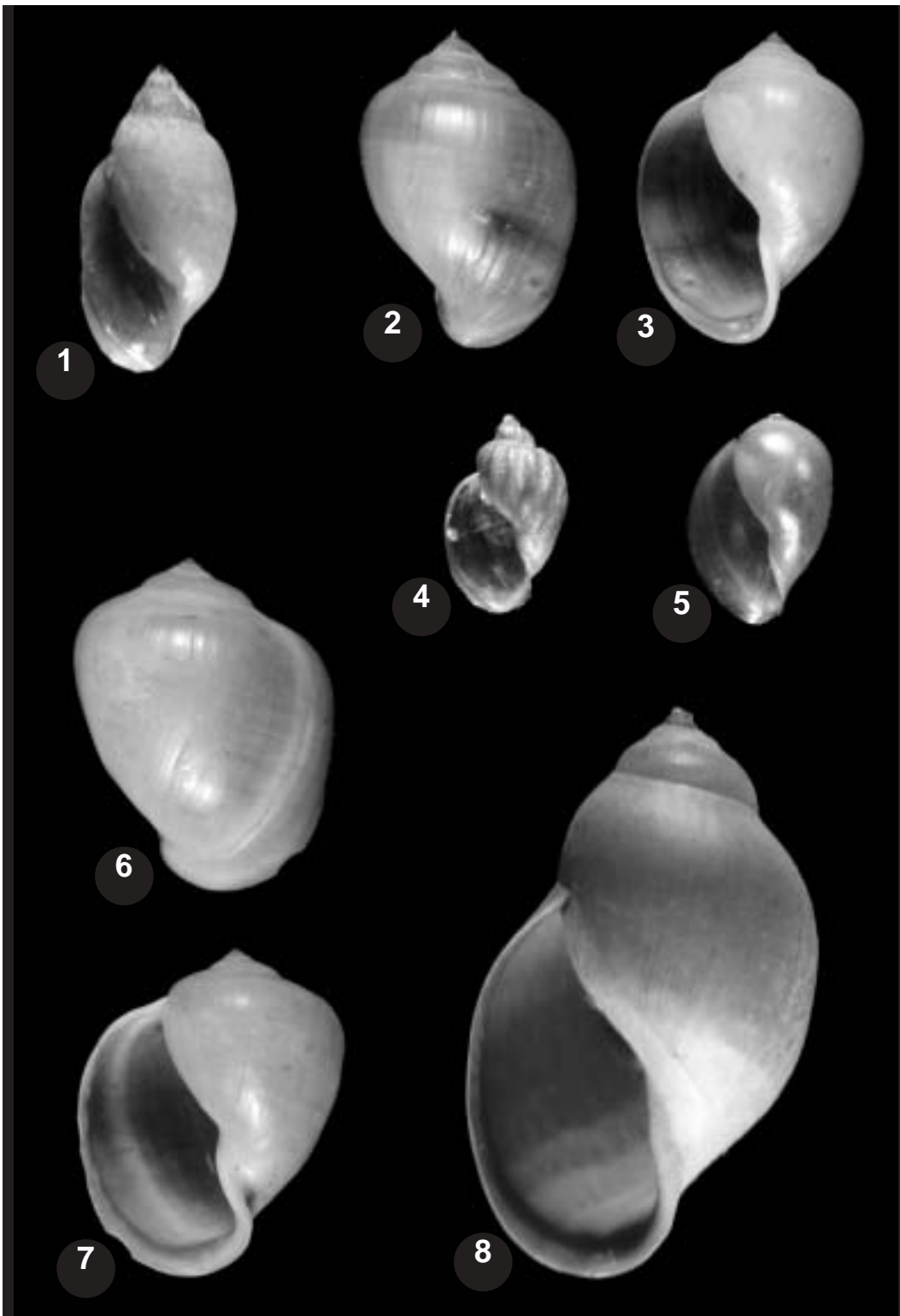


Plate 10

Archiphysa

Fig. 1. *Archiphysa ashmuni*, p. 178. New Mexico, Cibola County: Ojo del Gallo, 22-X-1980 (T80-805). Holotype, CAS 146087. Length 15.9 mm.

Figs. 2-3. *Archiphysa ashmuni*, p. 178. New Mexico: Block Ranch, near Bland, *E. H. Ashmun*. Figured specimen, CAS 146104. Length 15.3 mm.

Figs. 4, 7. *Archiphysa sonomae*, p. 183. California, Sonoma County: artificial pond, sec. 30, T. 9 N., R. 9 W., *A. G. Smith*, 16-IX-1967. Holotype, CAS 114807. Length 10.8 mm.

Figs. 5-6. *Archiphysa laphami*, p. 178. Minnesota, Crow Wing County: Round Lake, 6-VII-1992 (T92-607). Figured specimens, CAS 114786. Lengths 17.0 and 13.6 mm.

Fig. 8. *Archiphysa lordi*, p. 180. Canada, British Columbia, New Westminster District: SE side of Ruby Lake, Sechelt Peninsula, 12-VIII-1992 (T92-3002). Figured specimen, CAS 114820. Length 12.6 mm.

Figs. 9-10. *Archiphysa zomos*, p. 178. Nevada, Washoe County: Drift at south end of Pyramid Lake, 28-VIII-1950 (T50-7705). Figured specimen, CAS 114815. Length 17.9 mm.

Figs. 11-13. *Archiphysa lordi*, p. 180. "Lake Osoyoos, British Columbia," but probably from at or near the outlet of Lake Pend Oreille, Bonner County, Idaho. Syntypes, BMNH 1863.2.4.1. Lengths 23.5 and 23.1 mm.

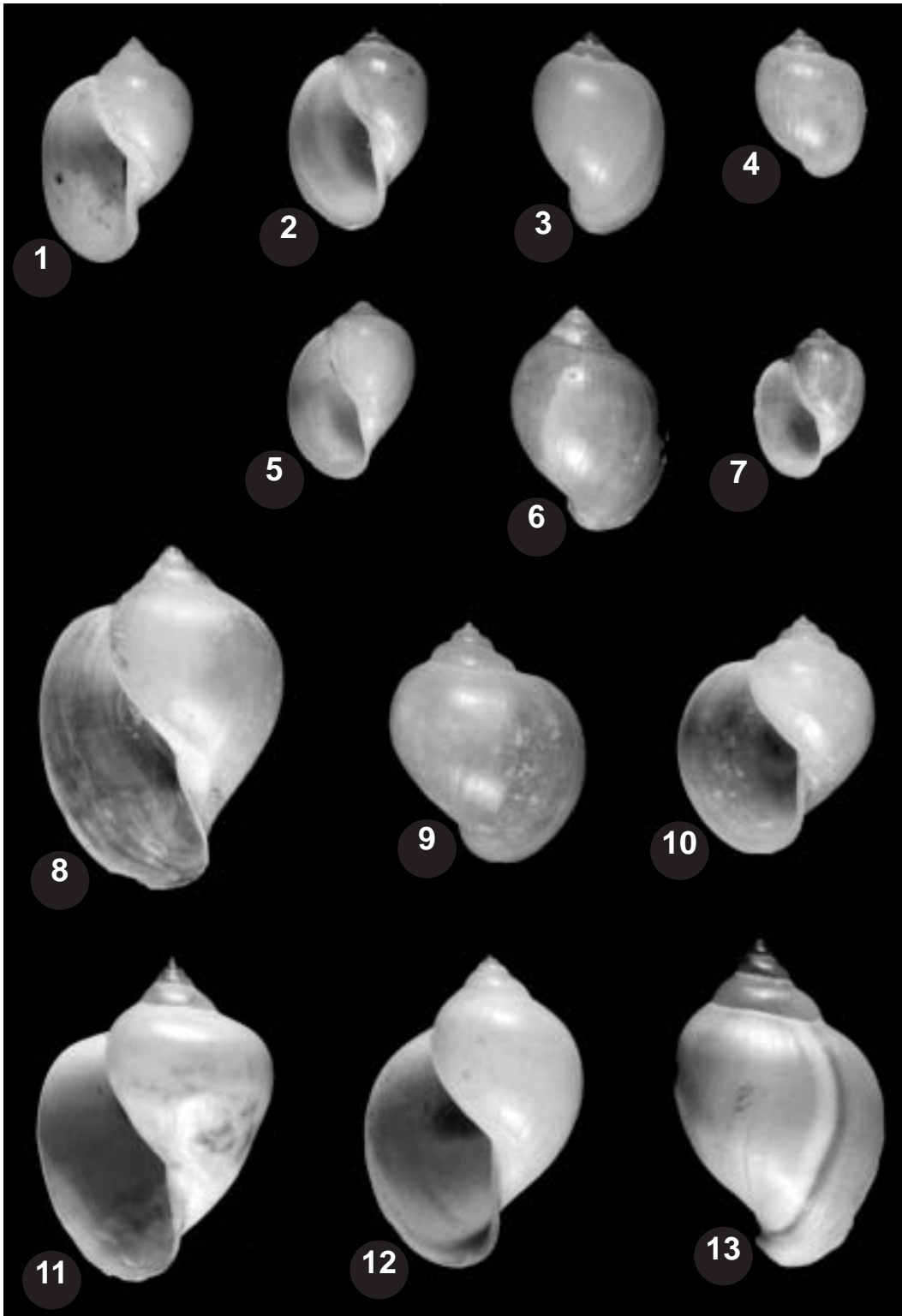


Plate 11

Physella gyrina, p. 188.

Figs. 1-2. Oregon, Wasco County: Deschutes River, SW 1/4 sec. 21, T. 8 S., R. 14 E., 16-X-1971 (T71-14706). Figured specimens, CAS 114812. Lengths 8.5, 8.6 mm.

Fig. 3. Utah, Utah County: Utah Lake 2 miles S of Lehi, Holocene, *J. Henderson, L. E. Daniels*, 1916. Part of original sample from which *Physa lordi utahensis* Clench (1925) was described, but not a paratype. From UCMNH 7413, through S. S. Berry 3746. Figured specimen. Length 22.0 mm.

Fig. 4. "Texas." Holotype of *Physa amygdalus* Sowerby, BMNH 1996179. Length 28.8 mm.

Fig. 5. California, San Francisco County: Mountain Lake. Type locality of *Physa virginea* Gould. From E. Rixford collection through A. G. Smith collection 6872. Figured specimen, CAS 114819. Length 21.6 mm.

