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TYPE SPECIMENS OF RECENT GASTROPODA IN THE UNIVERSITY OF COLORADO MUSEUM

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The responsibilities of natural history museums which house collections of zoological type specimens as outlined in the International Rules of Zoological Nomenclature² include publication of lists of type specimens. A list of the type specimens of recent gastropods in the University of Colorado Museum has been compiled in order to partially discharge this institutional responsibility. The collections of fossil types in this museum have been listed in an earlier publication (Rodeck, 1938, Univ. Colo. Stud. 25: 281-304).

In addition to making a fund of useful information available in the zoological literature, the preparation of this list has afforded an opportunity for review and correction of certain problems occasioned by the most recent formalization and codification of the rules of zoological nomenclature. Since most of the names in this list were proposed prior to 1940, the meanings of

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² *International Code of Zoological Nomenclature* adopted by XV International Congress of Zoology, London, 1961.

the earlier type designations have required careful interpretation in the light of current usage. In general this interpretation has been highly conservative. The scope of the list has been narrowed to include only types of those gastropod taxa represented in the University of Colorado Museum by holotype specimens. Although many bona fide paratypes of other gastropod taxa are housed in these collections, it is the opinion of the author that the responsibility for primary type series identification, and the publication of that information, rests with the holders of the holotype specimens of those taxa.

The practice of referring to all syntypes other than the holotype (and allotype) as paratypes is gaining acceptance in most areas of zoological systematics and has been followed in this list. The category "cotype" has been eliminated in the taxa listed here, in agreement with the recommendation of the International Commission on Zoological Nomenclature.

The University of Colorado Museum register numbers of several types are published here for the first time, and one register number originally cited in error is corrected. In some cases the locality data have been expanded and augmented with additional information extracted from the register entries and field notes of the collectors. Since the locality data were not reinterpreted or augmented with new data these annotations do not constitute revisions of type localities, although in some cases certain restriction of the type locality may be effected. Where possible the correct county names have been added, in keeping with current practice in the formulation of locality data.

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Carinifex jacksonensis Henderson

Nautilus 45:133, pl. 11, fig. 6, 1932.

HOLOTYPE: 17759a. Jackson Lake at Moran, (Teton County), Wyoming, Junius and Bess R. Henderson, Aug. 30, 1931.

PARATYPES (214): 17759. (5, figured specimens), 17759b. (209), same data.

Goniobasis acutifilosa pittensis Henderson

Nautilus 48:4, pl. 4, fig. 11, 1935.

= *Oxytrema acutifilosa pittensis* (Henderson)

HOLOTYPE: 12080a. Fall River Mills, at mouth of Fall River, on Pitt River, (Shasta County), California, E. Bethel.

PARATYPES (2): 12080b. (2), same data.

Goniobasis chacei Henderson

Nautilus 48:2, pl. 4, figs. 8 and 9, 1935.

= *Oxytrema chacei* (Henderson)

HOLOTYPE: 18058a. tributary of the Smith River, Adams Station, (Del Norte County), California, E. P. Chace, Oct. 1931.

PARATYPE: 18058b., same data.

Goniobasis coquillensis Henderson

Nautilus 48:2, pl. 4, fig. 6, 1935.

= *Oxytrema coquillensis* (Henderson)

HOLOTYPE: 21168a. (given incorrectly in original description as 21167a.), creek east of Riverton, (Coos County), Oregon, Hannibal Collection.

PARATYPE: 21168b., same data.

Goniobasis hemphilli Henderson

Nautilus 48:96, pl. 4, fig. 1, 1935.

= *Oxytrema h. hemphilli* (Henderson)

HOLOTYPE: 21167a. near Portland, (Multnomah County), Oregon, Hemphill Collection.

PARATYPES (2): 21167b., 21167c., same data.

Goniobasis hemphilli dallesensis Henderson

Nautilus 48:97, pl. 4, fig. 2, 1935.

= *Oxytrema hemphilli dallesensis* (Henderson)

HOLOTYPE: 16016a. Mill Creek, The Dalles, Oregon, Henderson and Nelson, Aug. 19, 1928.

PARATYPES (7): 16016b., 16016c. (6), same data.

Goniobasis hemphilli maupinensis Henderson

Nautilus 48:97, 1935.

= *Oxytrema hemphilli maupinensis* (Henderson)

HOLOTYPE: 17754a. Deschutes River, Maupin, Oregon, Junius and Bess R. Henderson, Aug. 11, 1931.

PARATYPE: 17754b., same data.

Goniobasis orickensis Henderson

Nautilus 48:1, pl. 4, fig. 10, 1935.

= *Oxytrema orickensis* (Henderson)

HOLOTYPE: 17710a. Redwood Creek, Orick, (Humboldt County), California, Junius and Bess R. Henderson, Aug. 3, 1931.

PARATYPES (3): 17703a. (2), 17703b., creek 26 miles from Arcata, (Humboldt County), California, Junius and Bess R. Henderson, Aug. 1, 1931.

Goniobasis yrekaensis Henderson

Nautilus 48:97, pl. 4, figs. 3 and 4, 1935.

= *Oxytrema y. yrekaensis* (Henderson)

HOLOTYPE: 17735a. Shasta River four miles above mouth, below Yreka, (Siskiyou County), California, Junius and Bess R. Henderson, Aug. 6, 1931.

PARATYPES (3): 17735b. (3), same data.

Goniobasis yrekaensis obscura Henderson

Nautilus 48:98, 1935.

= *Oxytrema yrekaensis obscura* (Henderson)

HOLOTYPE: 17724a. small creek two miles southwest of Wonder, (Josephine County), Oregon, Junius and Bess R. Henderson, Aug. 4, 1931.

Gyraulus vermicularis albolineatus Henderson

Nautilus 47:78, pl. 6, fig. 3, 1933.

= *Gyraulus v. vermicularis* (Gould)

HOLOTYPE: 17475. Weiser River, Starkey, 7 miles above Midvale, (Washington County), Idaho, Junius and Bess R. Henderson, summer 1930.

PARATYPES (2): 17415. (2, figured specimens), same data.

Helisoma occidentale Cooper

Proc. Cal. Acad. Sci. 4:99, 1870.

= *Helisoma o. occidentale* Cooper

NEOTYPE: 17737a. Upper Klamath Lake, (Klamath County), Oregon, Junius and Bess R. Henderson, Aug. 7, 1931. (Henderson, Nautilus 47:86, pl. 9, fig. 1, 1934.)

HYPOTYPES (2): 17737b. (2), same data.

Hygromia kudiensis Cockerell

Ann. Mag. Nat. Hist., ser. 9, 13:581, 1924.

= *Zenobiella nordenskiöldi* (Westerlund)

HOLOTYPE: 13773a. Kudia River, Amagu, N. lat. 46°, Siberia, T. D. A. Cockerell, July 1923.

PARATYPE: 13773b., same data.

Lymnaea idahoensis Henderson

Nautilus 44:75, pl. 5, fig. 8, 1931.

= *Lymnaea emarginata* (Say)

HOLOTYPE: 17486a. Little Salmon River, 16 miles north of New Meadows, (Adams County), Idaho, Junius and Bess R. Henderson, July 31, 1930.

PARATYPES (328): 17486b. (5, figured specimens, labelled "cotypes"), 17486. (323), same data.

Menetus coloradoensis F. C. Baker

"Molluscan Family Planorbidae" p. 230, pl. 122, figs. 23-25, 1945.

= *Promenetus exacuus* (Say)

HOLOTYPE: 10114a-1. swamp at head of Lake Eldora, Boulder County, Colorado, Junius Henderson and Francis Ramaley, July 28, 1920.

PARATYPES (2): 10114a-2. (2), same data.

Monadenia semialba Henderson

Nautilus 42:80, 1929.

= *Monadenia fidelis semialba* Henderson

HOLOTYPE: 16042. Rosario State Park, Fidalgo Island, (Skagit County), Washington, Elven C. Nelson, July 1928.

Ochthephila cockerelli Noronha

J. Conch. 17:84, 2 figs., 1924.

HOLOTYPE: 12757. Ribeiro da Vigia, Porto Santo, Madeira Islands, T. D. A Cockerell.

Oreohelix cooperi obscura Henderson

Nautilus 32:46, 1918.

= *Oreohelix subrudis* form *obscura* Henderson

HOLOTYPE: 8599 1/. White Creek Canyon, east of Shell, (Bighorn County), Wyoming, Junius Henderson and Elbert L. Schwabe, Aug. 31, 1917.

PARATYPES (357): 8599. (357, "cotypes"), same data.

Oreohelix haydeni corrugata Henderson and Daniels

Proc. Acad. Nat. Sci. Phila. 68:337, pl. 17, fig. 1, 1916.

HOLOTYPE: 6355. southeast of Webster, (Cache County), Utah, L. E. Daniels and Junius Henderson, Sept. 12-13, 1915.

PARATYPES (297): 6355. (297), same data.

Oreohelix hemphilli eurekaensis Henderson and Daniels

Proc. Acad. Nat. Sci. Phila. 68:321, pl. 15, figs. 7 and 8, 1916.

= *Oreohelix e. eurekaensis* Henderson and Daniels

HOLOTYPE: 6287a. north end of Godiva Mountains, Eureka, (Juab County), Utah, L. E. Daniels and Junius Henderson, Aug. 26, 1915.

PARATYPES (2): 6287b. (2, "cotypes"), same data.

Oreohelix hendersoni dakani Henderson

Nautilus 27:38, 1913.

HOLOTYPE: 621a. Peebles Ranch, two miles up Elk Creek from Newcastle, (Garfield County), Colorado, A. Dakan, April 1908.

PARATYPES (181): 621b. (181), same data.

Oreohelix maculata Henderson

Nautilus 35:15, 1921.

= *Oreohelix pygmaea maculata* Henderson

HOLOTYPE: 8597a. White Creek Canyon, east of Shell, (Bighorn County), Wyoming, Junius Henderson and Elbert L. Schwabe, Aug. 31, 1917.

PARATYPES (450): 8597b. (4, "cotypes 1-4"), 8587. ("cotype 5"), 8588. (445), same data.

Oreohelix strigosa depressa form *tooelensis* Henderson and Daniels

Proc. Acad. Nat. Sci. Phila. 68:323, 1916.

HOLOTYPE: 6289. third canyon north of smelter, about six miles northeast of Tooele, (Tooele County), Utah, L. E. Daniels and Junius Henderson, Aug. 28, 1915.

Oreohelix tenuistriata Henderson and Daniels

Proc. Acad. Nat. Sci. Phila. 68:338, pl. 15, figs. 5 and 6, 1916.

HOLOTYPE: 6497. two or three miles from Lava Hot Springs, between the springs and McCammon, (Bannock County), Idaho, L. E. Daniels, Aug. 18, 1915.

HYPOTYPES (4): 7151. (2) and 7182. (2), same data. (amended description, Proc. Acad. Nat. Sci. Phila. 69:53, 1917).

Parapholix effusa costata "Hemphill" Call

Bull. U. S. Geol. Surv. 11:19, 1884.

= *Pompholopsis effusa* (Lea)

NEOTYPE: 13023a. The Dalles, (Wasco County), Oregon, Hemphill Collection. (Henderson, Nautilus 42:81, 1929).

Parapholix effusa diagonalis Henderson

Nautilus 42:82, 1929.

= *Pompholopsis effusa* (Lea)

HOLOTYPE: 15940a. Crater Lake, (Klamath County), Oregon, Elven C. Nelson, Aug. 11, 1928.

Polygyra mullani tuckeri Pilsbry and Henderson

Nautilus 44, pl. 5, figs. 8 to 10, 1930; Nautilus 44:121, 1931.

= *Triodopsis mullani tuckeri* (Pilsbry and Henderson)

HOLOTYPE: 17001a. Clearwater River near the junction with Fourth of July Creek, Idaho, H. M. Tucker, July 30, 1930.

PARATYPES (3): 17001b. ("cotype No. 1"), 17001c. (2), same data.

Pupilla muscorum idahoensis Henderson and Daniels

Proc. Acad. Nat. Sci. Phila. 69:57, 1917.

= *Pupilla hebes* (Ancey)

HOLOTYPE: 7281a. one-half mile up St. Charles Canyon from St. Charles, (Lake County), Idaho, Junius Henderson and L. E. Daniels, June 27, 1916.

Sonorella betheli Henderson

Nautilus 27:123, 1914.

= *Helminthoglypta traski* (Newcomb)

HOLOTYPE: 4495. Bright Angel Trail, Grand Canyon, Arizona, E. Bethel, 1913 (locality data in error).

PARATYPES (2): 4496 ("cotype"), 15538. ("cotype from Bethel Collection"), same data.