Simpson's Unionid Types
and Miscellaneous Unionid Types
in the
National Museum of Natural History

BY

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Charles Torrey Simpson (1846-1932) was born at Tiskilwa, Illinois, and died at Lemon City, Florida. From 1889-1902, he was an Aid in the Division of Mollusks at the United States National Museum, now the National Museum of Natural History. His time there was spent studying the Unionacea and he wrote the first synthesis of this world wide family, *Synopsis of the Naiades, or Pearly Fresh-Water Mussels* (1900). In this work, Simpson boldly and correctly reduced many of the nominal species of Isaac Lea and others to synonymy. His courage in dealing with those of the former was noteworthy since the work was published with support from Lea's daughter and son-in-law. Simpson retired to Florida in 1902, where he wrote two books in the natural history of the state. He also made an extensive collection of *Liguus*, the well known tree snail, and published the results of these efforts (1929).

In 1914, Simpson's work on the unionids, augmented by descriptions, expanded with revisions, and brought up to date, was privately published by Bryant Walker of Detroit, Michigan, under the title, *A Descriptive Catalogue of the Naiades or Pearly*
Fresh-water Mussels (1914). Numerous genera and higher categories were introduced in these two monographs, but they are not included here, since they are all easily available in the latter work.

Simpson, while diligent in the locating and marking of Lea's types, was not always careful in the selection and preservation of his own. Some are missing, and a number of them were never figured. That some were not figured is understandable, since, though they were intended, no illustrations accompanied the 1914 work. All of the measured unfigured types which could be located are figured here. In some cases it seemed desirable to select lectotypes when syntypes were available.

ACKNOWLEDGMENTS

Thanks are extended to Drs. Joseph P. E. Morrison, Harald A. Rehder and Joseph Rosewater of the National Museum of Natural History who, over the years, have been most liberal in allowing me access to the unionid types in their charge. Special thanks are due to the latter who arranged to have photographs made of many types. Drs. Henry van der Schalie, John B. Burch and Charlotte M. Patterson made available one of Simpson's types which is in the Museum of Zoology, University of Michigan, and permitted the author to search for another which could not be found. The William F. Milton Fund, Harvard University, generously paid for the photographs used in this paper.
BIBLIOGRAPHY OF CHARLES T. SIMPSON'S WRITINGS ON MOLLUSKS

1887-89. Contributions to the Mollusca of Florida. Proc. Davenport, Iowa Acad. 5: 45-72, 63*-72*.


1891. On the means of distribution of Unionidae in the South-
eastern U. S. Nautilus 5: 15-17.


1892. On a revision of the American Unionidae. Nautilus 6:
78-80.

1892. Notes on the Unionidae of Florida and the Southeastern
States. Proc. United States Natl. Mus. 15: 405-436,
26 pls.

1893. On the relationships and distribution of the North
American Unionidae, with notes on the west coast species.


1893. A review of von Ihering's classification of the Unionidae

1894. Types of Anodonta dejecta Lewis, rediscovered. Nautilus 8:
52-53.

1894. Patella (Helcioniscus) nigrisquamata Reeve. Nautilus 8:
91, 92.

1894. Notes on collecting shells in Jamaica. Nautilus 7:
110-113.


1895. *Unio ochraceus* and *cariosus*. Nautilus 8: 121-123, 2 figs. (captions reversed).


1899. The pearly fresh-water mussels of the United States; their habits, enemies, and diseases; with suggestions for their protection. Bull. United States Fish Comm. for 1900, pp. 279-288, 8 text figs.
1900. Review of: Unionidae of Indiana...by R. E. Call.
    Nautilus 14: 95-96.
1900. Synopsis of the Naiades, or pearly fresh-water Mussels.
    Phila. 52: 74-86, pls. 1-5.
1900. On the evidence of the Unionidae regarding the former courses of the Tennessee and other southern rivers.
    ___ and Henderson, J. B. 1901. A new land operculate from Haiti. [Ceratodiscus solutus]. Nautilus 15: 16, 17, pl. 5.
    Nautilus 16: 30.


RECENT AND FOSSIL TAXA OF THE SPECIES OF UNIONACEA AND MUTELACEA INTRODUCED BY CHARLES T. SIMPSON

The following list contains all of the species of Unionacea and Mutelacea, recent and fossil, introduced by William T. Simpson. It does not contain the numerous higher categories he contributed; these may be found in his major revisions (1900 and 1914). It is arranged alphabetically by species, giving the year and place of publication of the original description, the type locality, the location of the type, and the type number.

All locality data, contained in brackets, are additions to already published records, and are from original labels or modern atlases. The measurements of the types figured here are given on the plate captions and are not repeated elsewhere.

The following abbreviations have been used in this list:
ANSP -- Academy of Natural Sciences of Philadelphia, Pennsylvania
BMNH -- British Museum (Natural History)
MCZ -- Museum of Comparative Zoology, Cambridge, Massachusetts
MZUM -- Museum of Zoology, University of Michigan, Ann Arbor
PANS -- Proceedings of the Academy of Natural Sciences of Philadelphia
USNM -- National Museum of Natural History, Washington, D. C.
australis Simpson, Lampsilis: 1900, PANSP 52: 75, pl. 2, fig. 2 (Little Patsaliga Creek [Crenshaw Co.], southeastern Alabama); 1900, PUSNM 22: 544; 1914, Cat. Naiades 1: 94. Holotype USNM 150473, also a single paratype.

avellana Simpson, Pleurobema Plate 2, fig. 4

1900, PANSP 52: 81, pl. 2, figs. 6, 7 (Cahawba River, Alabama); 1900, PUSNM 22: 758; 1914, Cat. Naiades 2: 778. Figured holotype MZUM 79653.

brittsi Simpson, Lampsilis: 1900, PANSP 52: 76, pl. 5, figs. 1, 2 (no locality [Nianugua River, Camden Co., Missouri; Britts]). Holotype USNM 152700.

Changed to:


castanea Simpson, Quadrula Plate 2, fig. 8

1914, Cat. Naiades 2: 877 (Tombigbee River, Moscow [Lamar Co.], Alabama; T. H. Aldrich]). Lectotype, here selected, USNM 159959.

clintonensis Simpson, Ptychobranchus: 1900, PANSP 52: 79, pl. 5, fig. 3 (Archies Fork of Little Red River, near Clinton [Van Buren Co.], Arkansas); 1900, PUSNM 22: 613; 1914, Cat. Naiades 1: 335. Holotype USNM 124615.
compressus Simpson, *Lampsilis texasensis*  
Plate 1, fig. 5  
1900, PUSNM 22: 564 (southwest Texas); 1914, Cat. Naiades 1: 150. The syntype marked by Morrison on 3/17/42 is here selected lectotype USNM 152059 from Las Moras Creek, Fort Clark, [Kinney Co.] Texas; E. A. Mearns.

deceptus Simpson, *Diplodon fontainianus*: 1914, Cat. Naiades 3: 1281 (Guahyba, Brazil) [not located].

delicata Simpson *Truncilla sulcata*  
Plate 1, fig. 1  

delicatus Simpson, *Unio gibbosus*  
Plate 1, fig. 3  
1900, PUSNM 22: 704 (entire Mississippi drainage; St. Lawrence and its tributaries; Alabama River system; southeast into Florida; southwest to the Guadalupe River, Texas); 1914, Cat. Naiades 2: 600. Measured holotype USNM 128797 from St. Francis River, Greenway, Clay Co., Arkansas; F. B. Meek.

dockumenensis Simpson, *Unio*: 1896, PUSNM 18: 384, fig. 5  
(SE corner of Garza Co.; windmill 3 mi. N Dockum; tank N Double Mountain River; head of Duck Creek; the three from Dickens Co., all Texas; Triassic). Figured holotype USNM [Paleontology].
dumbei Simpson, Unio: 1896, PUSNM 18: 383, fig. 3 (head of
Duck Creek, 5 mi. NE Dockum, Dickens Co., Texas; Triassic).
Figured holotype USNM [Paleontology].

elongata Simpson, Obovaria lens
Plate 1, fig. 9
1914, Cat. Naiades 1: 294 (Ohio River). The syntype marked
by Morrison on 12/2/41 is here selected lectotype USNM
35734 from Ohio River, Cincinnati [Hamilton Co.], Ohio;
T. G. Lea in the Lea colln.

elongatus Simpson, Unio mitchelli
Plate 2, fig. 5
1914, Cat. Naiades 1: 623 (Guadalupe River [near Kerrville],
Kerr Co., Texas; [V. Bailey, 1902]). Lectotype, here
selected, USNM 251917.

tallaciosus Simpson, Unio
Plate 3, fig. 4
1914, Cat. Naiades 2: 715 ([Lake] Nicaragua; [R. Bridges
from R. E. C. Stearns]). Measured holotype USNM 73062.

talsus Simpson, Glabaris
Plate 3, fig. 7
1900, PUSNM 22: 932 (Yuruari River, a branch of the Orinoco
River, Venezuela; [Stevens]); 1914, Cat. Naiades 3: 1456.
Measured holotype USNM 86711.

flexuosa Simpson, Quadrula
Plate 3, fig. 2
1900, PANS 52: 83, pl. 2, fig. 8 (Holston River, Tennessee);
1900, PUSNM 22: 790; 1914, Cat. Naiades 2: 887. Type in
the Frierson colln. MZUM [lost]. Is merely an old shell of
Quadrula pilaris (Lea), teste Frierson, 1927, Check List
North American Naiades, p. 57.
furva Simpson, *Lampsilis subrostrata* Plate 1, figs. 4, 6
1914, Cat. Naiades 1: 100 (North Indiana; Maumee River).
Lectotype, here selected, USNM 126921 from Lake at Warsaw, Kosciusko Co., Indiana; V. Storhi; allotype 126921a.
Based on Sowerby, 1868, Conch. Iconica 16, *Unio*, Pl. 95 species 520 as *Unio crassus* Say (Ohio River, southward).
Figured holotype BMNH 1907.10.28.262.
graciliratus Simpson, *Unio*: 1896, PUSNM 18: 384, fig. 4 (South of spur, headquarters 21, Dickens Co.; head of Duck Creek; both Dickens Co., Texas; Triassic). Figured holotype USNM [Paleontology].
Measured holotype, length 98; height 70; width 42mm; measured allotype, length 76; height 63; width 40 mm [neither located].
guatemalensis Simpson, *Quadrula*: 1900, PANSP 52: 83, pl. 2, fig. 4 (Rio Usuamasintae, Guatemala); 1900, PUSNM 22: 796; 1914, Cat. Naiades 2: 909. Known only from the figured holotype USNM 128991.
leai Simpson, Diplodon


loomisi Simpson, Pseudodon: 1900, PANSP 52: 84, pl. 4, fig. 7 (Japan); 1900, PUSNM 22: 840; 1914, Cat. Naiades 3: 1101. Known only from the figured holotype USNM 159212.


magnalacustris Simpson, Quadrula coccinea: See under, paupercula Simpson, Quadrula coccinea.

mearnsi Simpson, Lampsilis: 1900, PANSP 52: 75, pl. 1, fig. 4 ([Las Moras Creek], vicinity of Fort Clarke [Kinney Co.], Texas); 1900, PUSNM 22: 564; 1914, Cat. Naiades 1: 151. Figured holotype USNM 151549; 4 paratypes MCZ 87962.

minor Simpson, Quadrula kirtlandiana  Plate 3, fig. 5

1900, PUSNM 22: 791 (Tennessee Drainage); 1914, Cat.
Naiades 2: 892. Lectotype, here selected, USNM 150155 from Clinch River, Scott Co., Virginia; Van Hyning.


nasuta Simpson, Quadrula chunii

1914, Cat. Naiades 2: 877 (Mississippi; west to Central Texas north to Arkansas) [not located].

nigrescens Simpson, Lampsilis ligamentinus  Pl. 1, fig. 2


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nux Simpson, Obovaria

1914, Cat. Naiades 1: 297 (Tombigbee River; Moscow [Lamar Co.], Alabama; Wright; Cannisaria [Cannisnia] Lake [De Soto Parish], Louisiana). Measured holotype USNM 152968 from the former locality.

obesa Simpson, Tritogonia tuberculata

1900, PUSNM 22: 609 (Big Eddy, Neches River [Henderson Co.], Texas; Singby); 1914, Cat. Naiades 1: 320. Lectotype, here selected, USNM 125669.

pallescens, Simpson, Anodontites trigonus

1914, Cat. Naiades 3: 1442 ([Amazon River, Brazil]; I. Lea colln.). Known only from the holotype USNM 86731.

pannosa Simpson, Pleurobema: 1900, PANSF 52: 82 (White River and Hot Springs [Ouachita River drainage, Garland Co.], Arkansas); 1900, PUSNM 22: 763; 1914, Simpson, Cat. Naiades 2: 799 type locality as the latter, measured type [not located].

parva Simpson, Obovaria lens

patsaligensis Simpson, Pleurobema: 1900, PANSP 52: 82, pl. 2, fig. 1; 1900, PUSNM 22: 761; 1914, Cat. Naiades 2: 788 (Little Patsaliga Creek [Crenshaw Co.], Alabama). Holotype USNM 150475.

paupercula Simpson, Quadrula coccinea Plate 3, fig. 1

Based on Sowerby, 1865, Conch. Iconica 16, Unio, pl. 28, species 142 (Sumatra). Holotype BMNH 1964159.


profunda Simpson, Quadrula Plate 3, fig. 6
1914, Cat. Naiades 2: 907 (Usumacinta River, Guatemala; H. von Ihering). Known only from the holotype USNM 128987, consists of a single valve.

pusilla Simpson, Cyprogenia irrorata Plate 2, fig. 2
1900, PUSNM 22: 610 (Green River [Mammoth Cave, Edmonson

17
Co., Kentucky); 1914, Cat. Naiades 1: 328. Measured syntype here selected lectotype USNM 152004.


quadrata Simpson, Quadrula Plate 3, fig. 8 1914, Cat. Naiades 2: 911 (Usumacinta River, Guatemala; H. von Ihering). Measured syntype here selected lectotype USNM 128996.


reticulatus Simpson, Nephronaias: 1900, PANSP 52: 77, pl. 2, fig. 3 (Patook River, Honduras); 1900, PUSNM 22: 595; 1914, Cat. Naiades 1: 269. Holotype USNM 152964.

rhomboidea Simpson, Pleurobema fassinans Plate 2, fig. 6 1900, PUSNM 22: 762 (Clinch River, Western Virginia; Sword); 1914, Cat. Naiades 2: 798 (Upper waters of the Clinch River, Virginia). Lectotype, here selected, USNM 133331.
rhomboidea Simpson, Quadrula radulosa  Plate 3, fig. 10
1900, PUSNM 22: 803 (Borneo; Chaper); 1914, Cat. Naiades 2: 938 (Selrocany, Borneo). Known only from the measured holotype USNM 126472a.

rudis Simpson, Quadrula: 1900, PANSP 52: 82, pl. 3, fig. 2
(Rio Tuxtunilha [Tributary of the Rio de la Pasion], Guatemala); 1914, Cat. Naiades 2: 910. Known only from the holotype USNM 84210 in the Lea colln. from Wheatley labeled, Unio psoriacus Morelet.


santamariae Simpson, Diplodon: 1914, Cat. Naiades 3: 1270
(Brazil?). Holotype USNM 162383 from Rio Itapoca, Brazil, figured by Marshall, 1917, PUSNM 53: 386, pl. 55, figs. 1-4.

semigranosus Simpson, Diplodon: 1914, Cat. Naiades 3: 1252
(São Paulo River; Ponte Grande; Os Perus, Brazil). Holotype USNM 128790 Rio Tiete, São Paulo, Brazil, figured by Marshall, 1917, PUSNM 53: 387, pl. 55, figs. 5-8.

subelliptica Simpson, *Pleurobema brevis*: Plate 2, fig. 7 1900, *PANSP* 52: 80 (Spring River, Hardy [Fulton Co.], Arkansas; Tennessee drainage, probably); 1900, *PUSNM* 22: 763. Lectotype, here selected, USNM 159952 from the former locality.

Changed to:


subplantus Simpson, *Unio*: 1896, *PUSNM* 18: 36, figs. 1, 2 (Duck Creek, Dickens Co., Texas; Triassic). Figured holotype USNM [Paleontology].


*websteri* Simpson, *Diplodon*: 1902, *Nautilus* 16: 30 (Waiuku, New Zealand). The type figured by Dall, 1908, *PUSNM* 35: 181, pl. 30, figs. 1, 2; refigured by McMichael and Hiscock, 1958, *Australian Jour. Mar. F. W. Res.* 9: 476, pl. 15, figs. 5-9, was selected as lectotype *USNM* 162342.

MISCELLANEOUS UNIONID TYPES IN THE NATIONAL MUSEUM OF
NATURAL HISTORY

The more important assemblages of unionid types in the
National Museum of Natural History have been previously published
upon. All of the nominal species, recent and fossil, of unionids
introduced by Heude, Lea, Marshall, Simpson and B. H. and S. H.
Wright have been listed and their extant types located.
The National Museum includes the largest collection of
paratypes of the Asian unionids, mostly from the People's
Republic of China, described by P. M. Heude in any western
museum (Johnson, 1973a). It contains the majority of the figured
types of the 851 nominal species introduced by Isaac Lea (Johnson,
1974a); all of those introduced by William B. Marshall (Johnson,
1974b), and most of those described by B. H. and S. H. Wright
(Johnson, 1967). References to the Wrights' types are included
here separately, beginning on page 38. The present study on
Charles T. Simpson leaves to be listed only some miscellaneous
types of the following authors:

Baker, F. C.; Bartsch; Call; Conrad; Dall; DeKay;
Frierson; Goodrich; Gould; Gray, A.F.; Hemphill;
Ihering; Johnson, R.I.; Krauss; Lamarck; Lewis;
Marsh; Morelet; Morrison, who also selected neotypes
for Dillwyn and Gmelin; Rolle; Smith, H.M.; Von dem Busch;
Walker; Ward; and Wheeler.
Among these authors, all of the few unionids described by Bartsch (Ruhoff, 1973), Dall (Boss, et al., 1968) and Morrison are in the National Museum. F. C. Baker's types were studied by Franzen (1956, 57, 58); Call's by Johnson (1975a); Conrad's by Johnson (1973b); Gould's by Johnson (1964); A. F. Gray's by Johnson (1956); Goodrich's by Rosewater (1959); Lamarck's by Johnson (1969) and Marsh's by Johnson (1975b). Included are several references to types which should be in the National Museum but were not located. Not included are a number of specimens listed as types, mainly from Conrad, which are not types. A few of these appeared in mimeographed lists which were circulated among collectors. The previously unfigured type of *Unio ferussacianus* Lea is also figured here.

The following list is arranged alphabetically by species, giving the year and place of publication of the original description, the type locality, the publication in which the species was first illustrated, the location and number of the type when known, including references to paratypes when they are the only material in the National Museum.

All locality data, contained in brackets, are additions to already published records and are from original labels or modern atlases. A few of the species are illustrated here for the first time. The measurements of the types figured here are given on the plate captions and are not repeated elsewhere.
The following abbreviations have been used in this list:
ANSP -- Academy of Natural Sciences of Philadelphia, Pennsylvania
BMNH -- British Museum (Natural History)
MCZ -- Museum of Comparative Zoology, Cambridge, Massachusetts
MZUM -- Museum of Zoology, University of Michigan, Ann Arbor
USNM -- National Museum of Natural History, Washington, D.C.

TYPES OF UNIONACEA AND MUTELACEA IN THE NATIONAL MUSEUM OF NATURAL HISTORY NOT STUDIED ELSEWHERE


**biangulata** Morrison, *Quadrula*  


**breviculus** Call, *Unio*: 1887, *PUSNM 10*: 499, pl. 28 (Currant River, Shannon Co., Missouri, and in Jacks Fork and Big Creek, tributaries to it). Lectotype MCZ 5020 from Jacks Fork selected by Johnson, 1975, Occ. Papers on Moll. **4**: 141; figured allotype MCZ 5023 from Big Creek; paralectotype USNM 75479 from Shannon Co.

**burkei** Walker, *Quincuncina*: 1922, *Nautilus 36*: 3, pl. 1, figs. 1, 4 (Sikes Creek, a tributary of the Choctawatchee River, Barbour Co., Alabama [a number of other localities from the same river system are also listed]). Holotype MZUM 94496 formerly Walker colln. no. 41626; paratype USNM 347206.


dejecta Lewis, *Anodonta*: 1875, *Field and Forest* [for Aug. and Sept.] (2,3), p. 26 (Arkansas River, or its tributaries W of 100th meridian). Lectotype, here selected, USNM 30721 figured by Simpson, 1896, *PUSNM* **19**: 372, pl. 32, figs. 4, 5, who noted that the locality was in error, the species being confined to the Pacific drainage.


ferussacianus Lea, Unio

1868, JANS (2) 6: 266 [foot note] (Baghdad [Iraq]); 1869, Obs. 12: 15. Known only from the holotype USNM 85182.

fimbriata Frierson, Lampsilis: 1907, Nautilus 21: 86, pl. 12, two upper figs. and lower left one (Valles River [near Valles, San Luis Potosi State, Mexico]). Holotype MZUM 87579 refigured by Johnson, 1972, Occ. Papers on Moll. 3: 144, pl. 27, fig. 2; paratype USNM 207440.

flucki Morrison, Diplodon: 1943, Nautilus 57: 14, pl. 5, figs. 5-9 (Orinoco River above Munduapo, Venezuela).

Holotype USNM 521998.

flucki Bartsch, Nephronaias: 1906, PUSNM 30: 393, pls. 27-29 (Wounta River, NW of Kukallaya, Nicaragua).

Holotype USNM 186121.


globula Morrison, Obovaria subrotunda Plate 1, fig. 7 1942, Bull. Bureau American Ethnol. 129: 360 ([Tennessee River], Tuscumbia [Colbert Co.], Alabama; Thornton, in Lea colln.) Holotype USNM 85789.

Location of figured type not known; paratype USNM 187459.

greenii Conrad, *Unio*: 1834, New Fresh Water Shells U. S., p. 32, pl. 4, fig. 1 (headwater of the Black Warrior River, Alabama); 1837, Monography Unionidae North America, no. 8, p. 69, pl. 38, fig. 2. Figured type ANSP 20413 [lost]; syntype ANSP 41136 from Conrad; syntype USNM 84950 from the ANSP.


haroldiana Dall, *Sonidea angulata*: 1908, Smithsonian Misc. collns. 50: 500 (Guadalupe Creek, between San Jose and San Francisco Bay, California). Holotype USNM 110596a.


idahoensis Hemphill, Anodonta: 1891, Zoe 1: 328, pl. 10, figs. 3, 4 (Spokane River, above Post Falls [Kootenai Co.], Idaho). Possible figured and measured holotype USNM 105602.


lewisii Walker, Truncilla: 1910, Nautilus 24, pl. 3, figs. 3, 4, 5 (Holston River, Tennessee; also Clinch River, Tennessee, Cumberland River, Port Burnside [Pulaski Co.], Kentucky; Holston River, Knox Co., Tennessee). Figured syntypes MZUM 91456. USNM 84051 is from Troost and is not a type.


nehringi Ihering, Castalina: 1891, Zool. Anz. 14: 477 (Rio Piracicaba, São Paulo, Brazil); 1893, Archiv für Nat., p. 75, pl. 3, fig. 4. Holotype presumed to be in the Museo Paulista; paratype USNM 125730.


orinocensis Morrison, Castalia: 1943, Nautilus 57: 14, pl. 5, figs. 1-4 (Orinoco River, Maipires, Colombia). Holotype USNM 522000.

ozarkensis Call, Unio: 1887, PUSNM 10: 498, pl. 27 (Currant River, Shannon Co., Missouri, and in Jacks Fork and Big Creek, tributaries to it). Figured holotype MCZ 5707, figured allotype MCZ 5705, both from Jacks Fork; para- type USNM 75430 from Shannon Co.


*pictus* Lea, *Unio*: In addition to the syntype of this species mentioned by Johnson (1974a, p. 112) is one in the MCZ no. 5792 mentioned incorrectly by Johnson (1956: 128) as the holotype, but which is slightly smaller than the figured type.

*pleasii* Marsh, *Unio*: 1891, Nautilus 5: 2 (Little Red River, Arkansas. Lectotype ANSP 56480a selected by Johnson and Baker, 1973, PANS P 125, pl. 9, fig. 5; paralectotype USNM 124641.

*popenoi* Call, *Unio*: 1885, Bull. Washburn College, Lab. Nat. Hist. 1: 49, pl. 2 (Fall River, Wilson Co.; Verdigris River; both Kansas). Holotype MCZ 4934; paratype USNM 74115; both from the former locality.

psoricus Morelet, Unio: 1851, Testacea Novissima 2: 25 (flumen Usumacinta [Peten Province], Guatemala). Measured holotype BMNH 93.2.4.203, figured by Fischer and Crosse, 1894, Miss. Sci. au Mexique, pt. 7, 2: 572, pl. 61, fig. 3; paratype USNM 84210.

puberula Gould, Anodonta: See under: glauca Gould, Anodon [ta].


**sinuosum** Morrison, *Guianadesma*: 1943, Nautilus 57: 46, pl. 8 (Cuyuni River, opposite Kartabo Point, near its junction with the Mazaruni River, Essequibo District, British Guiana). Holotype USNM 536901.

**suborbiculata** Lamarck, *Unio*: 1819, An. sans Vert. 6: 81, no. 48 (Habite ...les eaux douces des climats chauds? Restricted to Bayou Teche, St. Mary Parish, Louisiana, by Clench and Turner, 1956, Bull. Florida State Mus. 1: 192). Measured holotype USNM 85760 consists of a polished right valve. Lea (1834, Trans. Amer. Philos. Soc. 1: 189; Obs. Unio 1: 201) was presented this specimen by Férussac who believed it to be the individual cited by Lamarck. Férussac (1835, Mag. de Zool. 5, cl. 5, nos. 59, 60, p. 31, note 10) pointed out that Lamarck based his description of *U. rotundata* and **suborbiculata** on the same specimen at two different times. Figured by Johnson, 1969, Nautilus 83: 60, fig. 10.

superiorensis Marsh, Unio: 1897, Nautilus 10: 103, pl. 1, figs. 1, 2, 5 (Michipicoton River, upper shore of Lake Superior, Canada). Figured holotype ANSP 70449a; paratype ANSP 70449, fig. 5; paratype USNM 133386.


TYPES OF UNIONACEA IN THE NATIONAL MUSEUM OF NATURAL HISTORY

DESCRIBED BY BERLIN HART AND SAMUEL HART WRIGHT


bursapastoris B. H. Wright, Unio: 1896, Nautilus 9: 133, pl. 3, top and bottom figs. (Powell River [Lee Co.], Virginia). Figured holotype ANSP 67971, refigured by Johnson, 1967, Occ. Papers on Moll. 3: 5, pl. 13, fig. 1; specimen identified by Wright USNM 133427 figured by Johnson, Ibid. pl. 2, fig. 3.


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**hartii** B. H. Wright, *Unio* (*Elliptio*) *webbianus*: 1934, *Nautilus* 47: 95, pl. 10, figs. 3-4 (Lake Consuelo, near Floral City [or Little Lake, S E Floral City, just outside village limits], Citrus Co., Florida). Holotype USNM 424925, refigured by Johnson, 1967, Occ. Papers on Moll. 3: 6, pl. 9, fig. 5.


*iheringi* B. H. Wright, *Unio*: 1898, Nautilus 12: 93 (San Saba River, Menard Co., Texas). Holotype USNM 152171 figured by Simpson, 1900, PANSP 52: 79, pl. 4, fig. 5; refigured by Johnson, 1967, Occ. Papers on Moll. 3: 7, pl. 4, fig. 2.


*lehmanii* S. H. Wright, *Unio*: 1897, Nautilus 10: 138 (St. Marys River [Nassau Co.], Florida). Lectotype USNM 149650 (figured by Simpson, 1900, PANSP 52: 80, pl. 4, fig. 6) selected and refigured by Johnson, 1967, Occ. Papers on Moll. 3: 7, pl. 6, fig. 3.
marshii B. H. Wright, *Unio*: 1888, *PANSP* 40: 118, pl. 5, fig. 2


Lectotype USNM 151737 selected by Johnson, 1967, Occ. Papers on Moll. 3: 9, pl. 3, fig. 2.


truncata B. H. Wright, Margaritana marginata: 1898, Nautilus 11: 124 (occurs in eastern as well as western waters and into Virginia and Tennessee). Lectotype USNM 150545 from the Clinch River, Virginia, selected by Johnson, 1967, Occ. Papers on Moll. 3: 9, pl. 4, fig. 6.

tryoni, B. H. Wright, Unio: 1888, PANS 40: 120, pl. 6, fig. 2 (Lake Woodruff [Spring Garden Lake], near De Leon Springs, Volusia Co., Florida). Holotype USNM 151036 refigured by Johnson, 1967, Occ. Papers on Moll. 3: 9, pl. 12, fig. 1.

unicostatus B. H. Wright, Unio: 1899, Nautilus 43: 69 (Spring Creek [a branch of the Flint River], Decatur Co., Georgia). Lectotype USNM 159966 selected by Johnson, 1967, Occ. Papers on Moll. 3: 9, pl. 7, fig. 3.

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Fig. 1. *Truncilla sulcata delicata* Simpson. Detroit River, Amherstburg, Essex Co., Ontario. Holotype USNM 160853. Length 44, height 31, width 24 mm.

Fig. 2. *Lampsilis ligamentinus nigrescens* Simpson. Kankakee River, Illinois. Lectotype USNM 150410. Length 106, height 57, width 35 mm.

Fig. 3. *Actinonaias carinata orbis* Morrison. Tennessee River, Florence, Lauderdale Co., Alabama. Holotype USNM 84998. Length 66, height 35, width 32 mm.

Fig. 4. *Lampsilis subrostrata furva* Simpson. Lectotype USNM 126921. Lake at Warsaw, Kosciusko Co., Indiana. Lectotype USNM 126921. Length 63.5, height 31, width 21 mm. Female.

Fig. 5. *Lampsilis texasesis compressus* Simpson. Las Moras Creek, Fort Clark, Kinney Co., Texas. Lectotype USNM 152059. Length 41.5, height 25, width 12 mm.

Fig. 6. *Lampsilis subrostrata furva* Simpson. Lake at Warsaw, Kosciusko Co., Indiana. Allotype USNM 126921a. Length 69.5, height 29, width 19.5 mm. Male.

Fig. 7. *Obovaria subrotunda globula* Morrison. Tennessee River, Tuscumbia, Colbert Co., Alabama. Holotype USNM 85789. Length 27, height 27, width 18 mm.

Fig. 8. *Obovaria lens parva* Simpson. Duck River, Tennessee. Lectotype USNM 150457. Length 29, height 27, width 18.5 mm.

Fig. 9. *Obovaria lens elongata* Simpson. Ohio River, Cincinnati, Hamilton Co., Ohio. Lectotype USNM 85734. Length 47, height 39, width 34 mm.

Fig. 10. *Diplodon leai* Simpson. Brazil. Holotype USNM 85725. Length 28, height 17, width 13 mm.

Fig. 11. *Obovaria nux* Simpson. Tombigbee River, Moscow, Lamar Co., Alabama. Holotype USNM 152968. Length 40, height 30, width 25 mm.

Fig. 12. *Unio ferussacianus* Lea. Baghdad, Iraq. Holotype USNM 85182. Length 48, height 31.5, width 26 mm.

Fig. 13. *Tritogonia tuberculata obesa* Simpson. Big Eddy, Neches River, Henderson Co., Texas. Lectotype USNM 125669. Length 80, height 56, width 38 mm.
Plate 2

Fig. 1. *Anodon [ta] horda* Gould. Comanche Creek, tributary of the Llano River, close to the present site of Mason, Mason Co., Texas. Holotype USNM 678301. Length 90, height 44, width 38 mm.

Fig. 2. *Cyprogenia irrata pusilla* Simpson. Green River, Mammoth Cave, Edmonson Co., Kentucky. Lectotype USNM 152004. Length 43, height 37, width 29 mm.

Fig. 3. *Unio gibbosus delicatus* Simpson. St. Francis River, Greenway, Clay Co., Arkansas. Holotype USNM 128797. Length 98, height 36, width 18 mm.

Fig. 4. *Pleurobema avellana* Simpson. Cahawba River, Alabama. Holotype MZUM 79653. Length 30, height 20, width 15 mm.

Fig. 5. *Unio mitchelli elongatus* Simpson. Guadalupe River, near Kerrville, Kerr Co., Texas. Lectotype USNM 251917. Length 84, height 46, width 28 mm.

Fig. 6. *Pleurobema fassinans rhomboidea* Simpson. Upper waters of the Clinch River, Virginia. Lectotype USNM 133331. Length 62, height 41, width 23 mm.

Fig. 7. *Pleurobema brevis subellipticum* Simpson. Spring Creek, Hardy, Fulton Co., Arkansas. Lectotype USNM 159952. Length 56, height 37, width 21 mm.

Fig. 8. *Quadrula castanea* Simpson. Tombigbee River, Moscow, Lamar Co., Alabama. Lectotype USNM 159959. Length 63.5, height 44, width 28 mm.
Plate 3

Fig. 1. Quadrula coccinea magnalacustris Simpson. Niagara River, 3 mi. above Niagara Falls, Niagara Co., New York. Lectotype USNM 134834. Length 49, height 39, width 23 mm.

Fig. 2. Quadrula flexuosa Simpson. Holston River, Tennessee. Type in the Frierson Colln. MZUM [lost]. Length 65, height 55, width 33 mm (from Simpson, reduced).

Fig. 3. Quadrula biangulata Morrison. Tennessee River, Tuscumbia, Colbert Co., Alabama. Holotype USNM 84221. Length 34, height 30, width 21 mm.

Fig. 4. Unio fallaciosus Simpson. Lake Nicaragua, Central America. Holotype USNM 73062. Length 32, height 23, width 17 mm.

Fig. 5. Quadrula kirtlandiana minor Simpson. Clinch River, Scott Co., Virginia. Lectotype USNM 150155. Length 63, height 47, width 23 mm.

Fig. 6. Quadrula profunda Simpson. Usumacinta River, Guatemala. Holotype USNM 128978 [Single valve]. Length 77, height 64, width 55 mm.

Fig. 7. Glabaris falsus Simpson. Yuruari River, a branch of the Orinoco River, Venezuela. Holotype USNM 86711. Length 76, height 21, width 11 mm.

Fig. 8. Quadrula quadrata Simpson. Usumacinta River, Guatemala. Lectotype USNM 128996. Length 67, height 52, width 32 mm.

Fig. 9. Anodontites trigonus pallescens Simpson. Amazon River, Brazil. Holotype USNM 86731. Length 47, height 31, width 21 mm.

Fig. 10. Quadrula radulosa rhomboidea Simpson. Selrocany, Borneo. Holotype USNM 126472a. Length 57, height 37, width 22 mm.