

SOME INTERESTING MOLLUSCAN RECORDS
OF GEORGE J. STREATOR, 1881-1909

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I. INTRODUCTION

George Jason Streator was born in Shalersville Township of Portage County, Ohio, on 23 July 1846. He settled near Garrettsville where he became a nurseryman and an amateur naturalist of considerable ability. He assembled a large collection of local shells, and he made some exchanges with other collectors. He published but a single note (Streator, 1889). In 1881 he began to keep a diary which continued until his death in 1925 (volumes for 1888-1893 and 1903-1904 inclusive are now missing). Through the kindness of his son, Sidney V. Streator, I have made a study of these diaries with special reference to George Streator's studies of natural history in general and of the Mollusca in particular. His primary avocation was the collection and study of land and fresh-water shells, which he pursued avidly until he left Ohio in 1904 to reside in California. In 1909 he returned to Ohio for the specific purpose of shipping his collection of shells to Stanford University, to which he had donated his collection. This paper reports on noteworthy molluscan records Streator made in his diaries.

II. UNUSUAL SPECIMENS COLLECTED
IN OHIO

On 5 June 1885, he recorded in his diary the collection of an albino specimen of *Helix al-*

bolabris made by his friend, S. M. Luther. Mr. Luther was a druggist at Garrettsville, whose hobby was also the collection of shells. These two men frequently made collecting trips together, exchanged specimens, and aided each other in their mutual interest. An account of their collecting trip down the Mahoning River and into the Ohio River in 1885 has already been published (Dexter, 1961a). On 19 July 1885, Streator recorded the collection of a deformed specimen of *Anodonta imbecilis* from Brady Lake in Portage County. He also collected on 25 October 1885 two specimens of *Helix profunda* near Garrettsville, each of which contained three opercula. On 28 May 1886, he recorded the collection of an albino *Mesodon profunda*, which was just in the process of forming its lip. On 18 June that year, he mentioned the receipt of a package of shells from Prof. E. W. Claypole of Buchtel College in Akron containing, among other things, two immature specimens of *Melantho decisa* (*Campeloma decisum*), which were left-handed in form.

While collecting in the West Branch of the Mahoning River two miles below the dam at Leavittsburgh on 15 August 1886, Streator "found a small *Unio luteolus* attached to a small pebble by a thread or byssus. The first I ever saw of this." The next day he recorded in his diary that, "Mr. Luther brought me a fine, white, light colored *Unio cylindricus* from the Ohio River." On a collecting trip to the South

Branch of the Mahoning River near Newton Falls made 10 August 1887, Streator collected a specimen of *Margaritana hildrethiana*. He noted that this "is the first specimen of the kind found in this part of the country." The next day he wrote in his diary, "I cleaned up a few of the shells collected yesterday. I am certain that one of the specimens is *Margaritana hildrethiana*, and I believe it is the first specimen taken and recorded from this part of Ohio." On 16 September that year, he collected 8 more of this species from the same place.

III. UNIO LUTEOLUS VS. U. RADIATUS

Streator was among the first to recognize the synonymy of *U. luteolus* and *U. radiatus*. On 10 April 1885, he wrote, "Stopping at Mr. Luther's on my way home, he gave me *Unio radiatus*, from Seneca River, New York - - *U. radiatus* closely resembles *U. luteolus*. I think it but a variety of it" (underlining his). His friend, George W. Dean of Kent, another nurseryman and amateur conchologist, published notes in the NAUTILUS (1891 and 1892) "On the distinguishing characters of *Unio radiatus* and *U. luteolus*." Dean was convinced that the two were distinct species. His notes were in reply to Beauchamp (1891) who had raised the question, "Can anyone point out an invariable feature distinguishing *Unio radiatus* and *luteolus*? The distinctions do very well for some, but others seem a good deal mixed." Simpson (1891) entered the controversy and wrote that, "Mr. George W. Dean claims to be able at sight, to refer to its proper species any specimen of either *Unio luteolus* or *radiatus*. I confess that this is more than I can do, and I have handled many thousands of both, collected from the entire territory inhabited by these familiar forms." Gradually, this synonymy became generally recognized, and today the name persists as *Lampsilis radiata*. It is to Streator's credit that he recognized the synonymy of *U. luteolus* at such an early date. Competent amateurs with critical obser-

various and keen analysis can often reach scientifically sound conclusions.

IV. ON DEAN'S PRESUMED NEW SPECIES OF UNIONIDAE

Streator's friend and frequent field companion, George W. Dean of Kent, believed that he had found an undescribed species of a river mussel in the Mahoning River. Streator was not convinced that this was anything new. In his diary he wrote the following comments pertaining to this problem -- 16 Sept. 1887: "I collected specimens (Mahoning River near Newton Falls) that prove that Dean's much desired new species to be *Unio kirtlandiana*." The following day he wrote in his diary, "I had a sharp talk with George W. Dean in regard to the species he desires to be a new one. I found *Unio kirtlandiana* above the pond where he found his supposed new species and also below it. My specimens have all the appearance of his minus the eroded beaks and absence of color of his specimen due to, I think, being grown in a pond. I told him that they were in my opinion simply pond-grown *kirtlandiana*. The old man was unreasonable and foolish in a great deal of what he said, but I held my temper and made the old boy come to his senses."

V. ON PISIDIUM STREATORI

Dr. Victor Sterki (1901) described and named a new species, *Pisidium streatori*, which Streator had collected in a swamp near Garrettsville. Streator never seemed to be fully convinced that the species named in his honor was really a valid species. This doubt is expressed in several entries in his diary. On 10 January 1901, he wrote: "Went to the swamp on Combs' farm and collected some *Sphaerium* and a few *Pisidium* of the latter that I suppose to be the species Dr. Sterki named after me and recently published in the NAUTILUS as new; 13 January 1901, Took a walk to the swamp where *Pisidium streatori* is found. Collected but a few after much search. The species is far from abundant; 20 January 1901, Looked over the

Pisidia from North America. I am unable to tell the specimens from the Combs' swamp from *Pisidium abditum* unless the beaks are less elevated. If the swamp specimens prove to be a true species and new, then our so-called *P. compressum* is very close or is that species; 3 February 1901, Took my swamp species of *Pisidium* to Mr. Luther and compared with his. We both think it different from shells he has labeled as *P. abditum*." In the recent revision of the Sphaeriidae of North America by H. B. Herrington (1962), *P. streatori* has been reduced as a synonym of *P. casertanum* (Poli), 1791, and *P. abditum* has also been reduced as a synonym of this same species. Streator's doubts proved to be valid.

VI. SHELL COLLECTING EXCURSION TO THE TENNESSEE RIVER (1886)

Between 20-28 Sept. 1886, Streator made a special trip to Alabama to collect shells. Some interesting excerpts from his diary on that trip are given here.

"20 Sept. Rev. Artemis Dean accepted my offer to pay my expenses on a trip south collecting and to have one-half the find. I went to the bank borrowed \$20 for ten days. Before the 4 P. M. train was ready to start I was bound for the southland -- 8:50 and we were crossing the Ohio on the high bridge that spans this stream, thence through the rugged as well as fair land of Kentucky.

21 Sept.: 6 A.M. found us at Chattanooga, Tennessee, where I took a train in a few minutes for Bridgeport, Alabama -- a small town 28 miles below. Here I found good quarters at the residence of a Mrs. Jones. 22 Sept.: After breakfast I crossed the R.R. bridge 1,600 feet in length and examined the water for shells on the right bank of the island -- shells found here mostly univalves plus *Canaliculatum nodosum*, etc. Unios (muskrat shells) of *U. dromos*, *gravidiferous*, *ligamentinus* and others. Difficult walking -- the water too high for work at the end of the island -- the east end of R.R. bridge I found a single live *Io spinosa*, but

plenty of other live univalve shells -- collected some fair univalves on the west end of the long bridge. 23 Sept.: Bridgeport, Alabama -- Widow's Creek excursion. Examined the woods for *Helices* -- found *Zonitoides suppressus* and three other species -- some six *Helix albolabris*, only under logs were they of any account. I inquired of a resident as to prospects for my kind of plunder -- he thought the "Bottom" was the best place -- found it to be a sluggish, disturbed stream. *Pleurocera* were abundant; found several species of Unios with beautifully colored nacre. I collected a large number of *Goniobasis* at a large spring. The Unios were rat shells. I found *Margaritana rugosa* -- three specimens only are good enough to retain.

24 Sept.: Bought a tobacco pail for 25 cents in which I packed the Unios I collected yesterday. I spread the univalve shells on a board to dry -- packed the *Helices* in paper. At 9 A.M. I started on my trip to the mountain across the river -- I climbed the mountain leisurely examining the moist spots of earth, under stones, logs, etc. I found some *Helices*, but they were dead shells, but *Z. cuspidata* were very good. The *Helicina*, *Stenotrema*, and *Pupilla* groups were fairly represented -- went to the river where I examined for shells. I found one *Io spinosa*, some small species of univalves -- found 10 small *U. cylindricus*.

25 Sept. reached the creek in which I think Dr. De Camp found the *Melantho* named after him. I passed a stagnant pool of water -- searched its margin for *Physas* but there was none -- -- pigs rout along the margins of the streams evidently for shells -- -- I think the pig will eventually destroy many of the delicate species. After a prolonged search I found several small *Melanthos* but whether they were *M. decampi* subsequent comparison must determine. Species of *Pleurocera* similar to those found in Widow's Creek abounded -- there were several shell mounds that I passed over. They were of considerable extent. The shells were of the same species that are now found in the river, the epidermis was largely gone, and many were broken and decomposed -- -- I was informed by a

fisherman that there was a plenty of clams on the bar at the head of an island -- I started for the upper end of the island -- I found the water shallow for a considerable distance each side of the end of the point. The number of muscles (sic) (see Dexter, 1961b, for discussion of spelling of this name for bivalve mollusks) was considerable and in six to eight varieties, but badly eroded. I collected some 90 specimens and a couple hundred of a beautiful *Pleurocera*? I left my rake in the hurry to get away -- I crossed a very prominent (Indian) mound.

28 Sept. I arrived in Garrettsville shortly after 7 A.M. pretty tired from the journey. The long hours of waiting in Chattanooga, Ashville, Cincinnati, Dayton, and Leavitsburgh were very tiresome. The attack of dysentery I had Saturday night is not yet subdued (Streator drank water freely from ground water that he encountered on his field trip). Cost of trip was \$27.60.

List of Shells Sent to Rev. A. Dean According to Agreement
(one-half of collection)

Bivalves	
<i>Unio crassidens</i>	14
<i>U. ligamentinus</i>	6
<i>U. rectus</i>	5
<i>U. dromos</i>	17
<i>U. securis</i>	10
<i>U. verucosus</i>	5
<i>U. irroratus</i>	2
<i>U. pustulatus</i>	6
<i>U. pyramidalus</i>	16
<i>U. subrotundus</i>	1
<i>U. retusus</i>	12
<i>U. cormelus</i>	2
<i>U. cylindricus</i>	8
<i>U. tuberculatus</i>	2
<i>U. monodontus</i>	1
<i>U. clavus</i>	1
<i>Margaritana rugosa</i>	1
also, 19 specimens of 7 spp. not determined.	
Univalves	
<i>Angitrema verrucosa</i>	100

<i>Melantho ponderosa</i>	20
<i>Pleurocera nobile</i>	45
<i>Arculari planospira</i>	75
<i>A. praerosa</i>	50
<i>Zonites interna</i>	35
<i>Z. infesta</i>	12
<i>Z. sculptilis</i>	12
<i>Io spinosa</i>	1
<i>Mesodon albolabris</i>	2
Widow's Creek Univalves	35
Undetermined specimens	200

VII. SOME INTERESTING CORRESPONDENCE
AND NOTES FROM STREATOR'S DIARY

Following are brief excerpts from Streator's diary concerning his correspondence with other conchologists and notes of general interest. The following excerpts were written in 1886.

"25 Jan. I worked all day in putting up collections of shells from Mr. A. Winkley of Dubois, Illinois, H. A. Pilsbry, Davenport, Iowa, and N. J. H. Michaels of Morro Bay. -- 25 Feb. The Smithsonian would be pleased to send me a copy of Binney's work for the local shells and I offered to send them. -- 10 Mar. Packed in a box the returned *Unios* from Dr. William H. De Camp and another species with an *Anodonta* -- the so-called *shefferiana* -- wrote a letter and sent them to Isaac Lea of Philadelphia. -- 22 Mar. A letter and package of shells sent to W. G. Binney. -- 27 Mar. Received a letter from W. G. Binney. He stated that the *Succinea* was *avara* instead of *verrilla*, the *Vertigo* was *simplex*, the *Zonites exigua* was *Patula alternata*. -- 19 April. Received a letter and the 4 species of shells I sent to Dr. Isaac Lea of Philadelphia (one was *Unio abacus*). -- 24 Apr. I received from Dr. Isaac Lea a copy by mail of the "Bibliography of Isaac Lea" -- a most interesting and valuable present. -- 27 Aug. Sent 10 specimens of *Mesodon mullanii* to Prof. A. G. Weatherby of Wilder, Mitchell County, North Carolina. -- 29 Sept. Received a letter from H. A. Pilsbry and pack of printed matter relative to shells. -- 4 Oct. Received the box of shells from H. A. Pilsbry, Davenport, Iowa. -- 14 species all new

to me and desirable. I sent him a box of shells early last winter and his return is thus late by being absent from home he states. -- 27 Oct. The mail brought letters from Hon. William McAdams, Philip Marsh, A. A. Hinkley with a box of shells. Also a letter and box of shells from N. W. Palmar, Jr., in the interest of Miss Mary Day. The shells were all smashed and broken and smelled bad. I sent a letter to J.C. Beatly. -- 17 Nov. The P.M. was used in listing and packing a box of shells to send the Smithsonian Institution at Washington for favor of Binney's "Manual of Land Shells" received last spring. -- 18 Nov. Expressed a box of Unios to the Smithsonian Institution -- 26 species found in the Mahoning River at Leavittsburgh, except U. iris which I replaced by U. nasutus." The following excerpts were written in 1887.

"23 Mar. Took a walk down the stream below the house of Prof. Pike. Saw where a lively muskrat had collected and eaten at least 50 specimens of *Anodonta decurva* Lea. I collected a few fair examples of these species -- *A. subcylindrica*, *U. complanatus*, and a few *U. pressus*. -- I made out a list of the land and fresh water shells in my cabinet. There are nearly 700 species or quite that number if we included varieties. The list summary is as quoted below.

Unio	120	Asthaticus	1
Anodonta	25	Ampullaria	1
Margaritana	10	Stenopus	1
Glandina	1	Truncatella	1
Helix (Native)	107	Cylindrella	1
Helicina	3	Valvata	5
Bulimulus	10	Carychium	1
Pupilla	7	Crinifex	1
Vertigo	4	Planorbis	12
Strophia	7	Strepomatids	60
Stenogyra	1	Tulotoma	1
Alcadia	1	Vivipara	4
Clausilia	4	Lioplax	2
Chondropoma	9	Bartunia	1
Limnaea	16	Helix (Foreign)	83
Physa	13	(Varieties)	40
Ferussacia	1	Helicina (Foreign)	2

Melantho	8	Bythinia	1
Cyclostoma	1	Bythinella	4
Succinea	12	Amnicola	5
Pyrgulopsis	1	Vitina	1
Sphaerium	12	Ancylus	3
Pisidium	5	Pomatiopsis	2
Somatogyris	3	Lacuna	2
Fiuminicola	1	Achatinella	40

Total 667 - some species not identified - some probably synonyms.

"24 Nov. I made and filled a tray with shells and labels which I will send to Washington to the National Museum tomorrow. -- 26 Nov. I sent to Prof. G. Brown Goode a sample of my system of labeling."

Letterhead stationery which Streater had printed in 1894 reads as follows:

George J. Streater, Horticulturist
Amateur Interests,
Land and Fresh Water Mollusca and Botany

His motto appeared in one corner. It reads "To see; to reason; to compare." According to his son, Sidney, Streater's favorite expression was, "If so, then why so."

On 6 December 1897, Streater recounts a visit from two young friends whom he encouraged in the study of nature as follows, "Roscoe Webb and Almon Rood called. We had a nice visit. Gave the boys a nice little start with the small land and fresh water shells. I am proud indeed to have such boys as friends." (Both of these boys became expert amateur naturalists. Webb's collection of plants was eventually given to Harvard University, and Rood's collection was recently sold to Kent State University).

In 1900, Streater recorded an interesting visit from Dr. Victor Sterki. "28 Sept. Dr. Victor Sterki came about 7 A. M. -- he seems a pleasing gentleman -- we went up Camp Creek and collected in the A. M. *Sphaerium fabalis*, *Pisidium abditus*, a few *P. compressus* in the creek and in the Combs' swamp. Collected in the woods a species not determined. After dinner we went to a point on the Cuyahoga River near George Davis where we collected *Unio luteolus*, *gibbosus*, *nasuta*, *pressius*,

Margarita rugosa, *Anodonta* ?, and *A. subcylindrica*, a few *Amnicola* and other univalves. In the evening we looked over the collection of shells. A most delightful day. -- 29 Sept. We examined my shells. Dr. Sterki corrected my *Sphaeriidae* as to names. In the P. M. we made a trip down to Camp Creek and at the pond in the village. Collected a few *Pisidium* - 8 species of the little brown shells. 30 Sept. Dr. Sterki and I went through the shells in a few draws. Cleaned a few clams and he made a few dissections which was very interesting to me. Dr. Sterki and I made a P. M. trip to the Mahoning River on the Ropes farm. Collected a few *Sphaerium striatinum* and *Pisidium compressum* and a couple of species of the stickleback fishes."

The following excerpts, concerned largely with the transfer of Streator's shell collection to Stanford, were written in 1909. "2 Feb., Santa Cruz, Calif. The collection has been accepted by Dr. (David Starr) Jordan and Trustees of Stanford University who will pay my expenses to go (to Ohio) and prepare it for shipment. 5 Feb. Note from Dr. Jordan desiring me to unpack the collection when it reaches the University. 17 Feb. Started for Garrettsville, Ohio. 26 Feb. Mr. Luther and I worked all day packing the land shells. 28 Feb. Mr. Luther and I finished packing the univalve shells. Wrapped a few unios. I went to make Roscoe (Webb) a brief visit in early evening. He is one of the finest men in an intellectually keen group I ever knew -- 33 years old -- a master of the great problems of life (in spite of being severely crippled). 1 Mar. With Mr. Luther's help, we worked at packing the unios. I finished the wrapping of them at about 9 P. M. I was so glad that the 5 days work was the end of the job. 2 Mar.

Mr. Luther and I finished packing, marking the box. In early A. M. the expressman took them to the station and the cabinet to Mr. Luther's. 11 Mar. Good-bye Garrettsville. Good-bye Ohio. (Streator never returned to Ohio or to shell collecting again). 16 Mar., Palo Alto, Calif. Met Prof. Smith the paleontologist and in his department unpacked the shells which were in excellent condition, but few of them mislaid or broken. I was refunded the expenses of the trip by a check of \$168.90 -- courtesy on every hand was extended to me since arriving here."

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