

## Mollusks of the 1849-50 Creek Boundary Survey

Charles M. Mather<sup>1,3</sup>, and John S. Tomer<sup>2</sup>

<sup>1</sup>University of Science and Arts of Oklahoma, 1727 W. Alabama, Chickasha, OK 73018

<sup>2</sup>5911 East 46th Street, Tulsa, OK 74135

ABSTRACT.—This article briefly describes the Creek Boundary Surveys of 1849 and 1850 in what is now the state of Oklahoma. The specimens collected by Dr. Samuel W. Woodhouse are thought to be the earliest scientific specimens collected and reported from Oklahoma. Annotated lists of specimens collected during the expedition are included.

### INTRODUCTION

The purpose of this report is to make available records of what are probably the earliest mollusk specimens collected for scientific purposes in what is now Oklahoma. The records are present in both published and unpublished lists of specimens collected by Samuel W. Woodhouse during the 1849 and 1850 Creek Boundary Survey. The published records are generally not readily available to most persons working with mollusks and the unpublished records are also little known except by a few individuals working with birds and mammals collected during this expedition. It must be emphasized that none of the specimens referred to have been located. The author (JST) has made a concerted effort to trace the specimens but to no avail.

In 1849-1850 a young Philadelphia medical doctor, Samuel Washington Woodhouse, served as Surgeon-Naturalist on a U. S. Army Corps of Topographical Engineers survey expedition that was sent to Indian Territory to mark the north and west boundaries of the Creek Indian lands. The 1849 party led by Captain Lorenzo Sitgreaves, traveled from Washington, D. C. to Fort Gibson, Indian Territory in May and began the survey on 21 June. They worked on the boundary until 19 October, arriving at Bald Eagle Mound. They then returned to Fort Gibson and traveled to Washington, D. C. for the winter.

In April 1850 the party assembled again in Washington, D. C. and returned to Indian Territory to continue the survey. Because Sitgreaves was assigned to other duties, they were led this year by Lieutenant Israel Carl Woodruff who had been second in command of the party in 1849. They arrived at Bald Eagle Mound camp on 15 July, and surveyed westward until 6 September when Woodruff decided that the appropriations would not allow them to continue another 60

miles to the 100th meridian (the western boundary of the Creek Nation). Woodruff decided to map the course of the North Canadian River on the return trip, which they did, arriving at Fort Gibson on 8 October.

Woodhouse, who like many naturalists of that day, was a medical doctor, graduated from the University of Pennsylvania medical school and had worked at the Philadelphia Hospital for two years. He was also a member of the Academy of Natural Sciences of Philadelphia and had worked in the Academy's museum. He gladly accepted the opportunity to join the Creek Boundary Survey expedition when it arose. He joined the survey party in Washington, D. C. in April 1849 and traveled with them to Fort Gibson, Indian Territory. During the entire expedition, he kept a diary of his daily activities.

After the 1849 field work in Indian Territory, Woodhouse returned home where he curated and deposited his collections of plants, insects, mollusks, reptiles, birds and mammals in the Academy of Natural Sciences of Philadelphia. He also wrote a report to Captain Sitgreaves about his work as naturalist on the expedition.

In April 1850 he again joined the party in Washington, D. C. and traveled to Fort Gibson. Woodhouse kept a diary, however, this year it covered only the period of their field work in Indian Territory. When they returned to Fort Gibson in October, Woodhouse took his collections again to the Academy of Natural Sciences of Philadelphia and wrote another report of his work. He explained that it was brief because he was leaving immediately on another expedition with Captain Sitgreaves to explore the Zuni and Colorado Rivers, and would write an extended report of both the 1849 and 1850 work when he returned. He completed the Zuni and Colorado River trip, returned to Philadelphia and then wrote a summary report of his 1849 and 1850 Indian Territory natural history

---

<sup>3</sup>E-mail: facmathercm@usao.edu

work. It is dated December 1, 1852, and contains a comprehensive description of the land explored by the survey party and lists of birds, mammals, reptiles, fish, coleopterous insects, shells, and plants found there. He had given his collection of mollusks to Timothy A. Conrad to prepare a species list to be used in this final report (Woodhouse 1852).

Woodhouse also wrote an extensive report of his work on the Zuni and Colorado River expedition in which he included much of his Indian Territory work. His Indian Territory mollusk collections however were not mentioned.

Information about Woodhouse's mollusk collections is contained in his diaries (Tomer and Brodhead 1992), his natural history reports of 1849 and 1850 (Sitgreaves and Woodruff 1858) and in his manuscript summary report of his Indian Territory work (Woodhouse 1852). Unfortunately, his reporting is all we have concerning the collections. A search of the museums where his other natural history material has been preserved did not reveal any mollusk specimens or any records of what could have happened to them.

In his 1849 diaries Woodhouse mentioned finding fresh water mussel shells at the following localities:

July 2, 1849 in Flat Rock Creek, in present day northeastern Wagoner County, Oklahoma, Woodhouse noted, "on this creek I found numerous unios" (Tomer and Brodhead 1992).

August 27, 1849 Woodhouse wrote that he crossed the Verdigris at a fall and rapids (Chambers Ford) in present day southern Rogers County, Oklahoma (Tomer and Brodhead 1992).

September 1849 in present Mill Creek in Tulsa County, Oklahoma, Woodhouse noted that he had collected a variety of shells (Tomer and Brodhead 1992).

November 2, 1849 at Fort Gibson Woodhouse wrote that they had oysters for supper. These could have been freshwater mussels from the nearby Verdigris or Neosho Rivers (Tomer and Brodhead 1992) or, more likely they were canned oysters.

During the 1850 survey, Woodhouse wrote in his diary about collecting shells at the following localities: August 11, 1850 Woodhouse wrote that he procured a number of shells from Turkey Creek in present southern Garfield County, Oklahoma (Tomer and Brodhead 1992).

September 8, 1850 "had oysters."

September 13, 1850 some of the crew members brought Woodhouse some shell specimens, probably from present day Mustang Creek where they were camped in southeastern Canadian County, Oklahoma (Tomer and Brodhead 1992).

## MOLLUSKS REPORTED IN SITGREAVES AND WOODRUFF (1858)

There are many mistakes present in the Sitgreaves and Woodruff (1858) report. It is assumed that these were mistakes in spelling by the authors and mistakes in interpretation of handwritten manuscripts by the printers. Included in Table 1 are lists as printed on pages 12 and 14 of the 1858 report. The lists are of mollusks collected during the 1849 Creek Boundary Survey. The first list (from page 12 of the report) is reported by Woodhouse (dated February 20, 1850, Philadelphia) and appended to L. Sitgreaves portion of the report (dated February 14, 1850, Washington). This list was preceded by a reprinted description of *Unio Aberti* (as published in the *Proceedings of the Academy of Natural Sciences of Philadelphia* 5(1850):10-11) and the statement "...were collected in the tributaries of the Neosho, Verdigris and Arkansas rivers, near the boundary line. The majority, however, were procured at Chambers' ford, rapids of the Verdigris." The page 14 list is similar to the page 12 list and was presumably included by L. Sitgreaves or J. C. Woodruff and also includes numbers of specimens collected.

Of the 1850 Creek Boundary Survey, in this same (1858) report, Woodhouse is quoted in J. C. Woodruff's part of the report that "One Hundred and eight (108) specimens of shells, containing many duplicates, however" were collected. Woodhouse promised a more extended report upon his return from the Zuni and Colorado River expedition. That report with its list of shells prepared by T. A. Conrad, (available as a manuscript in the National Anthropological Archives, File 3243) was never published.

The following comments are an effort to explain the two published lists included in Table 1. The numbers correspond to the numbers we assigned to the species in the table.

1. *Unioteres*, Raf. The printer apparently misinterpreted the manuscript and combined the name *Unioteres*, Raf. This was subsequently used as the genus name for the first column of the list on page 12 of the report. This was corrected in the second version of the list and does not appear on the page 14 list.

2. *Unioteres anadontoides*, Say. = *Unio teres*, Raf., = *Lampsilis teres* (Rafinesque, 1820).

3. *Unioteres quadrulus*, Raf. = *Unio quadrulus*, Raf., = *Quadrula quadrula* (Rafinesque, 1820). Although separated in the page 12 list, this and the next species (*Unio asperrinus*, Lea) were united with a bracket on page 14 and only a single specimen was collected. It is assumed that the identification of this specimen was uncertain so both possible names were listed. It is also

assumed that this specimen was simply a morphological variant of *Q. quadrula*.

4. *Unioteres asperrinus*, Lea. = *Unio asperrimus*, Lea., = *Quadrula quadrula* (Rafinesque, 1820). See comments under number 3 above.

5. *Unioteres quadrulus*, Raf. = *Unio quadrulus*, Raf., = *Quadrula quadrula* (Rafinesque, 1820). These must have been more typical.

6. *Unioteres metanener*, Raf. = *Unio metanener*, Raf., = *Quadrula metanevra* (Rafinesque, 1820). Although separated in the page 12 list, this and the next species (*Unio nodosus*, Barnes) were united with a bracket on the page 14 list. It is assumed that the identification was uncertain and both possible names were listed.

7. *Unioteres nobasus*, Barnes. = *Unio nodosus*, Barnes., = *Quadrula metanevra* (Rafinesque, 1820). The printer's error of "nobasus" on page 12 was corrected on page 14.

8. *Unioteres parallelus*, Con. = *Unio Parallelus*, Con., = *Uniomermus tetralasmus* (Say, 1831).

9. *Unioteres costatus*, Raf. = *Unio costatus*, Raf., = *Amblema plicata* (Say, 1817).

10. *Unioteres Siliquordeus*, Barnes. = *Unio silignoideus*, Barnes., = *Lampsilis siliquoidea* (Barnes, 1823).

11. *Unioteres Inberculatur*, Raf. = *Unio tubuculatur*, Raf., = *Tritogonia verrucosa* (Rafinesque, 1820). Another printer error on page 12 partially corrected on page 14.

12. *Unioteres truncatus*, Raf. = *Unio truncatus*, Raf., = *Truncilla truncata* (Rafinesque, 1820) or *Truncilla donaciformis* (Lea, 1828). Although separated in the page 12 list, this and the next species (*Unio doniciformis*, Lea.) were united with a bracket on page 14. It is assumed that the identification of these specimens was uncertain so both possible names were listed. Both species occur in the drainages so we are unable to determine which species or if both were represented in the four specimens reported.

13. *Unioteres doniceformis*, Lea. = *Unio doniciformis*, Lea., = *Truncilla donaciformis* (Lea, 1828) or *Truncilla truncata* (Rafinesque, 1820). See comments under number 12 above.

14. *Unioteres purpuratus*, Lam. = *Unio purpuratus*, Lam., = *Potamilus purpuratus* (Lamarck, 1819).

15. *Unioteres fasciolaris*, Pof. = *Unio fasciolani*, Raf., = *Ptychobranthus occidentalis* (Conrad, 1836).

16. *Unioflavus*, Raf. = *Unio flavus*, Raf., = *Fusconaia flava* (Rafinesque, 1820). This was the first species in the second column of the page 12 list and was apparently misinterpreted and combined to form "*Unioflavus* Raf." as was "*Unioteres* Raf." In the first column. This was subsequently used as a genus name for most of the remainder of the page 12 list. This was corrected on the page 14 list.

17. *Unioflavus Subornatus*, Lea. = *Unio subornatus*, Lea., = *Lampsilis cardium* (Rafinesque, 1820) and/or *Lampsilis rafinesqueana* Frierson, 1927.

18. *Unioflavus cylindricus*, Say. = *Unio cylindricus*, Say., = *Quadrula cylindrica* (Say, 1817).

19. *Unio Aberti*, Con., = *Cyprogenia aberti* (Conrad, 1850).

20. *Unio lineolatus*, Raf., = *Ellipsaria lineolata* (Rafinesque, 1820).

21. *Unio capillaris*, Say., = *Epioblasma personata* (Say, 1829). This is a puzzle since no *Epioblasma* have been recorded for what is now Oklahoma. Could this be the missing *Truncilla* species or perhaps a specimen of *Epioblasma* was collected on the trip from Washington, D. C. to Fort Gibson and accidentally reported as collected on the survey? *Epioblasma* has been reported from western Arkansas so there is the outside possibility that the species once occurred in Oklahoma.

22. *Unioflavus plicatus*, Say. = *Unio plecatus*, Say., = *Amblema plicata* (Say, 1817). We presume that they were distinguishing between the "plicata" and "costata" (number 9) forms.

23. *Unioflavus Mytiloides*, Raf. = *Unio mytiloides*, Raf., = *Pleurobema sintoxia* (Rafinesque, 1820).

24. *Unioflavus declivis*, Say. = *Unio declivis*, Say., = *Uniomermus tetralasmus* (Say, 1831). Since *Uniomermus declivis* (Say, 1831) has not been reported from this drainage system, it is assumed that this was a shell form of *U. tetralasmus* which is common in the area.

25. *Unioflavus nodulatus*, Raf. = *Unio nodulatus*, Raf., = *Quadrula nodulata* (Rafinesque, 1820).

26. *Unioflavus postulatus*, Lea. = *Unio pustulosus*, Lea., = *Quadrula pustulosa* (Lea, 1831). This and the previous species were lumped together with brackets on the page 14 list. Since both species are common in this drainage it is possible that both were present in the seven specimens reported for both.

27. *Unio subrastratus*, Say., = *Ligumia subrostrata* (Say, 1831).

28. *Unio Inis*, Lea., = *Ligumia subrostrata* (Say, 1831). This and the previous species were lumped together with brackets and only one specimen was reported. It is assumed that the distinction between *Ligumia subrostrata* and *Villosa iris* was uncertain so both possible names were listed. *Ligumia subrostrata* is very common and no records of *Villosa iris* are known for the drainage.

29. *Margaritona costata*. = *Margaritana costata*, = *Lasmigona costata* (Rafinesque, 1820).

30. *Alasmondonta costata*. = *Alasmondonta costatus*, Raf., = *Lasmigona costata* (Rafinesque, 1820). This and the previous species were lumped together with brackets

and only one specimen was reported. It is assumed that the author was uncertain as to which name to use.

31. *Alasmondonta Edentula*, Say. = *Strophitus undulatus* (Say, 1817).

32. *Anodon aveotata*, Swainson. = *Anadon aureolata*, Seranis., = *Strophitus undulatus* (Say, 1817). It is assumed that this and the previous species are the

same because the name "*Alasmondonta Edentula*" was omitted in the page 14 list and only one specimen was collected.

33. *Pludina ponderosa*, Say. = *Pludina ponderosa*, Say., = *Campeloma decisum* (Say, 1817). *Campeloma decisum* seems to be the only large aquatic snail living in the region.

Table 1. Lists of mollusks collected by S. W. Woodhouse and reported in Sitgreaves and Woodruff (1858). The names are spelled exactly as they appeared in the original report. The numbers in the far left column are our assigned numbers and are referred to in the text. The numbers in the far right column are the number of specimens collected.

Page 12 List		Page 14 List	
1	<i>Unioteres</i> , Raf.		
2	<i>Unioteres anadontoides</i> , Say.	<i>Unio teres</i> , Raf.	18
3	<i>Unioteres quadrulus</i> , Raf.	<i>Unio quadrulus</i> , Raf.	}
4	<i>Unioteres asperrinus</i> , Lea.	<i>Unio asperrimus</i> , Lea.	
5	<i>Unioteres quadrulus</i> , Raf.	<i>Unio quadrulus</i> , Raf.	4
6	<i>Unioteres metan aner</i> , Raf.	<i>Unio metan aner</i> , Raf.	}
7	<i>Unioteres nobasus</i> , Barnes.	<i>Unio nodosus</i> , Barnes.	
8	<i>Unioteres parallelus</i> , Con.	<i>Unio Parallelus</i> , Con.	2
9	<i>Unioteres costatus</i> , Raf.	<i>Unio costatus</i> , Raf.	4
10	<i>Unioteres Siliquordeus</i> , Barnes.	<i>Unio silignoideus</i> , Barnes.	5
11	<i>Unioteres Inberculatur</i> , Raf.	<i>Unio tubuculatur</i> , Raf.	1
12	<i>Unioteres truncatus</i> , Raf.	<i>Unio truncatus</i> , Raf.	}
13	<i>Unioteres doniceformis</i> , Lea.	<i>Unio doniciformis</i> , Lea.	
14	<i>Unioteres purpuratus</i> , Lam.	<i>Unio purpuratus</i> , Lam.	4
15	<i>Unioteres fascio laris</i> , Pof.	<i>Unio fasciolani</i> , Raf.	3
16	<i>Unioflavus</i> , Raf.	<i>Unio flavus</i> , Raf.	3
17	<i>Unioflavus Subomatus</i> , Lea.	<i>Unio subornatus</i> , Lea.	7

Table 1. Continued.

Page 12 List		Page 14 List	
18	<i>Unioflavus cylindricus</i> , Say.	<i>Unio cylindricus</i> , Say.	2
19		<i>Unio Aberti</i> , Con.:	1
20		<i>Unio lineolatus</i> , Raf.:	1
21		<i>Unio capillaris</i> , Say.:	1
22	<i>Unioflavus plicatus</i> , Say.	<i>Unio plecatus</i> , Say.:	6
23	<i>Unioflavus Mytiloides</i> , Raf.	<i>Unio mytiloides</i> , Raf.:	5
24	<i>Unioflavus decliois</i> , Say.	<i>Unio declivis</i> , Say.	1
25	<i>Unioflavus nodulatus</i> , Raf.	<i>Unio nodulatus</i> , Raf.:	} 7
26	<i>Unioflavus postulatus</i> , Lea.	<i>Unio pustulosus</i> , Lea.	
27		<i>Unio subrastratus</i> , Say.	} 1
28		<i>Unio Inis</i> , Lea.	
29	<i>Margaritona costata</i> .	Margaritana costata,	} 1
30	<i>Alasmondonta costata</i> .	Alasmondonta costatus, Raf.,	
31	<i>Alasmondonta Edentula</i> , Say.		
32	<i>Anodon aveotata</i> , Swainson.	<i>Anadon aureolata</i> , Seranis.:	1
33	<i>Pludina ponderosa</i> , Say.	<i>Pludina ponderosa</i> , Say.:	1

#### MOLLUSKS REPORTED IN WOODHOUSE, DECEMBER 1, 1852 MANUSCRIPT

This hand written manuscript from Woodhouse's report of the 1850 Creek Boundary Survey contains a list of shells prepared by T. A. Conrad and is dated December 1, 1852. A cover page on this portion of the report is titled:

"Shells by T. A. Conrad, Member of the Academy of Natural Sciences & Honorary Member of the Geological Society of Pennsylvania, (indecipherable)."

The following comments are an effort to explain the T. A. Conrad unpublished list in Table 2 of this docu-

ment. This is perhaps the most interesting of the three lists because we do know it was prepared by T. A. Conrad and it gives the river system where each species was collected. The numbers correspond to the numbers we assigned in Table 2.

1. *Unio cardium*, Raf. = *Lampsilis cardium* (Rafinesque, 1820).
2. *Unio siliquoideus*, Barnes. = *Lampsilis siliquoidea* (Barnes, 1823).
3. *Unio flavus*, Raf. = *Fusconaia flava* (Rafinesque, 1820).
4. *Unio truncatus*, Raf = *Truncilla truncata* (Rafinesque, 1820) or *Truncilla donaciformis* (Lea, 1828). Because this

and the next species are united with a bracket, it is assumed that the identification was uncertain and both possible names were listed. Both species occur in the Neosho and Verdigris River drainages so we are unable to determine which species or if both were represented in the collection.

5. *Unio donaciformis*, Lea. = *Truncilla donaciformis* (Lea, 1828) or *Truncilla truncata* (Rafinesque, 1820). See comments under number 4 above.

6. *Unio tuberculatus*, Raf. = *Tritogonia verrucosa* (Rafinesque, 1820).

7. *Unio plicatus*, Say. = *Amblema plicata* (Say, 1817).

8. *Unio quadrulus*, Raf. = *Quadrula quadrula* (Rafinesque, 1820). Because this and the next species are united by a bracket, it is assumed that the identification was uncertain so both possible names were listed.

9. *Unio asperrimus*, Lea. = *Quadrula quadrula* (Rafinesque, 1820). See comments under number 8 above.

The above (1-9) were reported from the Neosho and the Verdigris Rivers.

10. *Unio lens*, Lea. = *Obovaria olivaria* (Rafinesque, 1820). Although we know of no valid records for this species in Oklahoma, it is not unreasonable that it could occur because of records in nearby Kansas, Missouri and Arkansas.

11. *Unio quadrulus*, Raf. = *Quadrula quadrula* (Rafinesque, 1820).

12. *Unio parosinus*, Con. = *Quadrula pustulosa* (Lea, 1831).

13. *Unio purpuratus*, Lam. = *Potamilus purpuratus* (Lamarck, 1819).

14. *Unio lineolatus*, Raf. = *Ellipsaria lineolata* (Rafinesque, 1820).

15. *Unio nodulatus*, Raf. = *Quadrula nodulata* (Rafinesque, 1820).

16. *Unio costatus*, Raf. = *Amblema plicata* (Say, 1817).

17. *Unio fasciolaris*, Raf. = *Ptychobranthus occidentalis* (Conrad, 1836).

18. *Unio subovatis*, Lea. = *Lampsilis rafinesqueana* (Frierson, 1927). Because Conrad lists *Unio cardium* further down the list from the same locality, it is assumed that he realized that this was a species that was distinct from *cardium*. *Lampsilis rafinesqueana* of course was not described until 1927.

19. *Unio metanevra*, Raf. = *Quadrula metanevra* (Rafinesque, 1820). This and the next species were united by brackets and it is assumed that it was uncertain which name to use.

20. *Unio nodosus*, Barnes. = *Quadrula metanevra* (Rafinesque, 1820). See comments under number 19 above.

21. *Unio subrostratus*, Say. = *Ligumia subrostrata* (Say, 1831). This and the next species were united by brackets and it is assumed that it was uncertain which name to use.

22. *Unio iris*, Lea. = *Ligumia subrostrata* (Say, 1831). See comments under number 21 above. No records for *Villosa iris* are known from any of these drainages but *Ligumia subrostrata* is common throughout the area.

23. *Unio capillaris*, Say. = *Epioblasma personata* (Say, 1829). This is a puzzle since no *Epioblasma* have been recorded for what is now Oklahoma. Could this be the missing *Truncilla* species or perhaps a specimen of *Epioblasma* was collected on the trip from Washington, D. C. to Fort Gibson and accidentally reported as collected on the survey?

24. *Unio cardium*, Raf. = *Lampsilis cardium* (Rafinesque, 1820). This and the next species were united by brackets and it is assumed that it was uncertain which name to use.

25. *Unio ventricosus*, Barnes = *Lampsilis cardium* (Rafinesque, 1820). See comments under number 24 above.

26. *Unio cylindricus*, Say. = *Quadrula cylindrica* (Say, 1817).

27. *Unio declivis*, Say. = *Uniomerus tetralasmus* (Say, 1831). It is assumed that these specimens represented some form of *Uniomerus tetralasmus* since there are no records of *Uniomerus declivis* in any of these drainage systems.

28. *Unio ruber?* Raf. = *Pleurobema sintoxia* (Rafinesque, 1820). This and the next species were united by a bracket and it is assumed it was uncertain which name to use.

29. *Unio pyramidatus*, Lea. = *Pleurobema sintoxia* (Rafinesque, 1820). See comments under number 28 above.

30. *Unio aberti*, Con. = *Cyprogenia aberti* (Conrad, 1850). This of course is the type from which Conrad himself described the species in 1850. However, by 1852 when this report was written by Conrad, Lea had described *Unio lamarckianus* and apparently Conrad became uncertain which name to apply to these specimens and consequently lumped the two with brackets.

31. *Unio Lamarckianus*, Lea. = *Cyprogenia aberti* (Conrad, 1850). See comments under number 30 above.

32. *Unio subovatus*, Lea. = *Lampsilis rafinesqueana* (Frierson, 1927). It is uncertain why Conrad listed this twice. Perhaps he had separated male and female specimens.

The above (10-32) were reported from the Verdigris River.

33. *Unio parvus*, Barnes. = *Toxolasma parva* (Barnes, 1823).

34. *Unio Nashvillianus*, Lea. = *Ligumia subrostrata* (Say, 1831).

35. *Unio verrucosus*, Raf. = *Tritogonia verrucosa* (Rafinesque, 1820).

The above (33-35) were reported from the "Red Fork of the Arkansas River" which is now known as the Cimarron River.

36. *Unio teres*, Raf. = *Lampsilis teres* (Rafinesque, 1820).

37. *Unio subcrocius*, Conrad = *Uniomerus tetralasmus* (Say, 1831).

38. *Unio reflexus*, Raf. = *Obliquaria reflexa* (Rafinesque, 1820).

39. *Unio leptodon*, Raf. = *Leptodea fragilis* (Rafinesque, 1820). Since *Leptodea leptodon* (Rafinesque, 1820) has not been recorded from these drainages in Oklahoma and *Leptodea fragilis* (Rafinesque, 1820) is one of the most common species throughout these drainages, it is assumed that "fragilis" would have been correct. The above (36-39) were reported from the Red Fork of the Arkansas River (= Cimarron River) and the North Fork of the Canadian River.

40. *Unio leavissimus*, Lea. = *Potamilus ohiensis* (Rafinesque, 1820).

The above (40) was reported from the North Fork of the Canadian River.

41. *Alasmadonta complanata*, Barnes. = *Lasmigona complanata* (Barnes, 1823).

The above (41) was reported from the Red Fork of the Arkansas River (= Cimarron River).

42. *Alasmadonta costata*, Raff. = *Lasmigona costata* (Rafinesque, 1820).

43. *Alasmadonta edentula*, Say. = *Strophitus undulatus* (Say, 1817). This and the following were united with brackets indicating that it was uncertain which name to use.

44. *Anodon areolata*, Swains = *Strophitus undulatus* (Say, 1817). See comments under number 43 above.

45. *Anodonta gigantea*, Lea. = *Pyganodon grandis* (Say, 1829).

46. *Anodonta incerta*, Lea. = *Utterbackia imbecillis* (Say, 1829).

The above (42-46) were reported from the Verdigris River.

47. *Planorbis trivolvis*, Say. = *Planorbella trivolvis* (Say, 1817).

The above (47) was reported from the Red Fork of the Arkansas River (= Cimarron River).

48. *Paludina ponderosa*, Say. = *Campeloma decisum* (Say, 1817).

The similarity of this list by T. A. Conrad (Table 2) and the lists in the 1858 report (Table 1) lead us to believe that this was a composite list of all the specimens collected in the 1849 and the 1850 expeditions. The brackets in the page 14 list (Table 1) are the same as those in the Conrad manuscript (Table 2). There are also additional species listed in the Conrad manuscript that probably represent species collected in 1850 that were not found in the 1849 expedition.

Table 2. List of mollusks collected by S. W. Woodhouse and reported in a manuscript by T. A. Conrad, December 1, 1852. The names are spelled exactly as they appeared in the original report. The numbers in the far left column are our assigned numbers and are referred to in the text. The "Red Fork of the Arkansas" is today known as the Cimarron River.

Genus <i>Unio</i> , Phillipson.			
1	<i>Unio cardium</i> , Raf.		Neosho & Verdegris Rivers
2	<i>Unio siliquoideus</i> , Barnes.		" " "
3	<i>Unio flavus</i> , Raf.		" " "
4	<i>Unio truncatus</i> , Raf.	}	" " "
5	<i>Unio doniciformis</i> , Lea.		
6	<i>Unio tuberculatus</i> , Raf.		" " "

Table 2. Continued.

Genus <i>Unio</i> , Phillipson.		
7	<i>Unio plicatus</i> , Say.	Neosho & Verdegris Rivers
8	<i>Unio quadrulus</i> , Raf.	} “ “ “
9	<i>Unio asperrimus</i> , Lea.	
10	<i>Unio lens</i> , Lea.	Verdegris River
11	<i>Unio quadrulus</i> , Raf.	“ “
12	<i>Unio parosinus</i> , Con.	“ “
13	<i>Unio purpuratus</i> , Lam.	“ “
14	<i>Unio lineolatus</i> , Raf.	“ “
15	<i>Unio nodulatus</i> , Raf.	“ “
16	<i>Unio costatus</i> , Raf.	“ “
17	<i>Unio fasciolaris</i> , Raf.	“ “
18	<i>Unio subovatis</i> , Lea.	“ “
19	<i>Unio metanever</i> , Raf.	} “ “
20	<i>Unio nodosus</i> , Barnes.	
21	<i>Unio subrostratus</i> , Say.	} “ “
22	<i>Unio iris</i> , Lea.	
23	<i>Unio capillaris</i> , Say.	“ “
24	<i>Unio cardium</i> , Raf.	} “ “
25	<i>Unio ventricosus</i> , Barnes.	
26	<i>Unio cylindricus</i> , Say.	“ “
27	<i>Unio declivis</i> , Say.	“ “
28	<i>Unio ruber</i> ?Raf.	} “ “
29	<i>Unio pyramidatus</i> , Lea.	



Table 2. Continued.

Genus <i>Unio</i> , Phillipson.			
30	<i>Unio aberti</i> , Con.	}	“ “
31	<i>Unio Lamarckianus</i> , Lea.		
32	<i>Unio subovatus</i> , Lea.		“ “
33	<i>Unio parvus</i> , Barnes.		Red Fork of Arkansas
34	<i>Unio Nashvillianus</i> , Lea.		“ “ “
35	<i>Unio verrucosus</i> , Raf.		“ “ “
36	<i>Unio teres</i> , Raf.		Red Fork of A. & North Fork of Canadian
37	<i>Unio subcrocius</i> , Conrad		“ “ “ “ “ “
38	<i>Unio reflexus</i> , Raf.		“ “ “ “ “ “
39	<i>Unio leptodon</i> , Raf.		“ “ “ “ “ “
40	<i>Unio leavissimus</i> , Lea.		North Fork of Canadian
Genus <i>Alasmadonta</i> , Say.			
41	<i>Alasmadonta complanata</i> , Barnes.		Red Fork of Arkansas
42	<i>Alasmadonta costata</i> , Raff.		Verdegris River
43	<i>Alasmadonta edentula</i> , Say.	}	Verdegris River
44	<i>Anodon areolata</i> , Swains		
Genus <i>Anodonta</i> , Curvier.			
45	<i>Anodonta gigantean</i> , Lea.		Verdegris River
46	<i>Anodonta incerta</i> , Lea.		“ “
Genus <i>Planorbis</i> , Llam.			
47	<i>Planorbis trivolvis</i> , Say.		Red Fork of Arkansas
Genus <i>Paludina</i> , Lam.			
48	<i>Paludina ponderosa</i> , Say.		

**LITERATURE CITED**

Sitgreaves L, Woodruff IC. 1858. Reports of Captains Sitgreaves and Woodruff of the survey of the Creek Indian boundary line. House Exec. Doc Vol 12, Doc 104, 1-32 (+map).

Tomer JS, Brodhead MJ (eds.). 1992. A naturalist in Indian Territory: The journals of S. W. Woodhouse, 1849 - 1850. University of Oklahoma Press.

Woodhouse SW. 1852. "Report on the Natural History of the Country occupied by the Creek Indians,

Made during the Creek Boundary Survey commanded by Brevet Capt. L. Sitgreaves, U. S. Topographical Engineers, during the year 1849, and by First Lieut. I. C. Woodruff, U. S. Topographical Engineers during the year 1850, by S. W. Woodhouse, M. D., Surgeon and Naturalist to the Expedition." Manuscript, located in National Anthropological Archives, File 3243, Washington, D. C.