

1852. Gould, A. A. Mollusca and Shells. (*Chiorzera leonina*, syn. *Melibe leonina* Gould.) United States Expedition, during years 1838, 1839, 1840, 1841, 1842. Under the command of Charles Wilkes, U. S. N. Page 310. Boston.
1917. Heath, Harold. The anatomy of an Eolid, *Chiorzera dalli*. (*Melibe leonina* Gould.) Proc. Acad. Nat. Sci. Philad., 69:137-148.
1921. O'Donoghue, Chas. H. Nudibranchiate Mollusca from the Vancouver Island region. Trans. Royal. Canad. Inst. Toronto, 13:147-209.
1917. Parker, G. H. The pedal locomotion of the sea-hare *Aphysia californica*. Jour. Exper. Zool., 24:139-145.
1829. Rang, Sander. Manuel des Mollusques, pp. 129-130. Paris.
1883. Tryon, Jr., George W. Structural and Systematic Conchology, 2:382; Pl. 91, fig. 19.

NOTES ON THE NAIAD FAUNA OF THE UPPER MISSISSIPPI RIVER.*

II. THE NAIADES OF THE UPPER MISSISSIPPI DRAINAGE.†

BY N. M. GRIER AND J. F. MUELLER.

(Continued from page 49.)

23. *Pleurobema pyramidatum* (Lam.)=*Q. pyramidatum* (Lam.)
Simpson—north in the Mississippi to Prairie du Chien, Wisconsin. We collected specimens of it in L. Pepin.
24. *Pleurobema clava* (Lam.).
Simpson's records of this species from Minnesota and Iowa are considered doubtful (see Ortmann, 1). It may be present nearer the Ohio. Probably of a tributary type.
25. *Elliptio crassidens* (Lam.)=*Unio crassidens* (Lam.).
Reported by Holzinger (7) from Winona County, Minn.

*Published with permission of the Commissioner of Fisheries, Washington, D. C.

†Contribution from U. S. Biological Station, Fairport, Iowa, and Biological Laboratory Washington and Jefferson College.

We also found this species at Red Wing this point. Absent from L. Pepin; mo. point. Not common.

26. *Elliptio dilatatus* (Raf.)=*Unio gibbosus*
Simpson—entire Mississippi drainage out in the vicinity of Red Wing, but increasing in numbers descending the river N. and C. Minnesota.

Sub-Family ANODONTA

27. *Arcidens confragosus* (Say).
Simpson—Mississippi river and state from Iowa by Baker (1); S. Minnesota collected by us near Red Wing. Compare
28. *Lasmigona compressa* (Lea)=*Symp.*
Simpson—E. Iowa and Wisconsin. Mississippi R. above Bemidji and Bemidji observe it between Red Wing and La
29. *Lasmigona costata* (Raf.)=*S. costata*
Simpson—Upper Mississippi drainage Wilson and Danglade, Red River of secured specimens of this only above
30. *Lasmigona complanata* (Barnes)=
Simpson—Upper Mississippi drainage Wilson and Danglade(18), Crow Wing A var. *katharinae* (Simpson) is found North, it may be later found in the U it has not been reported from there
31. *Anodonta imbecillis* (Say).
Wilson and Danglade (18), L. Minn.—entire Mississippi drainage area.
32. *Anodonta grandis* (Say).
Simpson—entire Mississippi River believed to be a tributary form rarely often confused with *corpulenta*, Call species. Var. *benedictensis* (Lea) re

ca and Shells. (*Chioræra leonina*,
 uld.) United States Expedition,
 39, 1840, 1841, 1842. Under the
 Wilkes, U. S. N. Page 310.

anatomy of an Eolid, *Chioræra*
 Gould.) Proc. Acad. Nat. Sci.

Nudibranchiate Mollusca from
 region. Trans. Royal. Canad.
 209.

pedal locomotion of the sea-hare
 ur. Exper. Zool., 24:139-145.
 el des Mollusques, pp. 129-130.

V. Structural and Systematic
 91, fig. 19.

THE UPPER MISSISSIPPI RIVER. *

UPPER MISSISSIPPI DRAINAGE. †

ND J. F. MUELLER.

rom page 49.)

Lam.)=*Q. pyramidatum* (Lam.)
 ssippi to Prairie du Chien, Wis-
 s of it in L. Pepin.

pecies from Minnesota and Iowa
 mann, 1). It may be present
 tributary type.

Unio crassidens (Lam.).
 from Winona County, Minn.

mmisioner of Fisheries, Washington,

Station, Fairport, Iowa, and Biological
 College.

We also found this species at Red Wing, nearly 80 miles above
 this point. Absent from L. Pepin; more abundant above that
 point. Not common.

26. *Elliptio dilatatus* (Raf.)=*Unio gibbosus* (Barnes).

Simpson—entire Mississippi drainage. Apparently clammed
 out in the vicinity of Red Wing, but abundant in L. Pepin, de-
 creasing in numbers descending the river. Not reported from
 N. and C. Minnesota.

Sub-Family ANODONTINAE.

27. *Arcidens confragosus* (Say).

Simpson—Mississippi river and states adjoining it. Reported
 from Iowa by Baker (1); S. Minnesota by Grant (6). Col-
 lected by us near Red Wing. Comparatively rare.

28. *Lasmigona compressa* (Lea)=*Symphynota compressa* (Lea).

Simpson—E. Iowa and Wisconsin. Wilson and Danglade,
 Mississippi R. above Bemidji and Bemidji Lake. We did not
 observe it between Red Wing and La Moille, Minn.

29. *Lasmigona costata* (Raf.)=*S. costata* (Raf.)

Simpson—Upper Mississippi drainage, and St. Lawrence.
 Wilson and Danglade, Red River of the North. Rare. We
 secured specimens of this only above L. Pepin.

30. *Lasmigona complanata* (Barnes)=*S. complanata* (Barnes).

Simpson—Upper Mississippi drainage, St. Lawrence. Wil-
 son and Danglade (18), Crow Wing drainage, Minn. Common.
 A var. *katharinae* (Simpson) is found in the Red River of this
 North, it may be later found in the Upper Mississippi, although
 it has not been reported from there as yet.

31. *Anodonta imbecillis* (Say).

Wilson and Danglade (18), L. Minnewaska, Minn. Simpson
 —entire Mississippi drainage area.

32. *Anodonta grandis* (Say).

Simpson—entire Mississippi River system. By some, it is
 believed to be a tributary form rarely found in the river. It is
 often confused with *corpulenta*, Call insisting they are the same
 species. Var. *benedictensis* (Lea) reported by Wilson and Dan-

glade from L. Minnewaska; var. *gigantea* (Lea) reported by Call; var. *pepiniana* (Lea) reported by Wilson and Danglade from lakes of Crow Wing drainage, Minn. var. *kennicotti* (Lea) by the latter from L. Osakis are all considered by Ortmann as doubtful forms.

33. *Anodonta corpulenta* (Cooper).

Simpson—Upper Mississippi drainage. Wilson and Danglade, St. Croix drainage. In our experience somewhat more abundant than *grandis*.

34. *Anodonta suborbiculata* (Say).

Simpson—Iowa, Illinois and South. Rare in the main river, but somewhat fairly common in the sloughs, especially at Fairport, Iowa.

35. *Anodontoides ferussacianus* (Lea).

Simpson—Upper Mississippi drainage area generally, but as Ortmann, (10) points out its range is more northern. The variety *buchanensis* (Lea) appears to be an old female of *ferussacianus*. It has been reported from the Red River of the North and Crow Wing drainage by Wilson and Danglade. *A. modestus*, reported by the latter from the lakes of the Minnesota River drainage is thought by Ortmann to be a dwarf form of *A. ferussacianus*.

36. *Simpsoniconcha ambigua* (Say)=*Hemilastina ambigua* (Say).

The U. S. Biological Station records this from the Upper Mississippi River at Fairport, Iowa.

37. *Alasmidonta calceola* (Lea).

Simpson—Upper Mississippi drainage. Collected by us near Fountain City, Wis. Rare.

38. *Alasmidonta marginata* (Say).

Simpson—Upper Mississippi and St. Lawrence drainage. Collected by us near Wabasha, Minn. Local in distribution.

39. *Strophitus endentulus* (Say).

Simpson—entire Upper Mississippi drainage. Fairly common. Var. *pavoni* is simply a rayed form of the preceding species, observed according to Mr. H. W. Clark where the water is clearer, and is not entitled to varietal distinction.

Sub Family LAMPIDINAE

40. *Obliquaria reflexa* (Raf.).

Simpson—Mississippi drainage. Rare. It apparently represents its form as Wilson and Danglade do not report it. Never abundant.

41. *Plagiola lineolata* (Raf.)=*Plagiola*

Simpson—Upper Mississippi drainage. Arkansas and Tennessee rivers. Abundant in the beds and apparently attains a great abundance.

42. *Truncilla truncata* (Raf.)=*Plagiola*

Distribution largely that of the preceding.

43. *Truncilla donaciformis* (Lea)=*Plagiola*

Distribution largely that of the preceding.

44. *Leptodea leptodon* (Raf.)=*Lampis*

Simpson—Upper Mississippi drainage. Found by Baker, (1), and possibly more abundant toward the mouth. Mr. Clark reports one dead shell from Fairport, Iowa.

45. *Leptodea fragilis* (Barnes)=*Lampis*

Simpson—entire Mississippi drainage. More abundant in lower portions of the river.

46. *Proptera alata* (Say)=*Lampis*

Simpson—entire Mississippi drainage. Common.

47. *Proptera levissima* (Lea)=*L. levissima*

Distribution largely that of the preceding. Specimens were found on sand bars.

48. *Proptera capax* (Green)=*Lampis*

The type locality of this species is Minnesota. Holzinger (7) reports it from the consensus of opinion is that it occurs north of Davenport, Iowa.

49. *Obovaria retusa* (Lam.)

The evidence indicates that if the

Sub Family LAMPSILINAE

40. *Obliquaria reflexa* (Raf.).

Simpson—Mississippi drainage. Red Wing, Minn. where we collected it apparently represents its northernmost distribution as Wilson and Dangle do not report it from C. and N. Minnesota. Never abundant.

41. *Plagiola lineolata* (Raf.)=*Plagiola securis* (Lea).

Simpson—Upper Mississippi drainage as far south as the Arkansas and Tennessee rivers. Always taken from mussel beds and apparently attains a great age. Abundant locally.

42. *Truncilla truncata* (Raf.)=*Plagiola elegans* (Lea).

Distribution largely that of the preceding species.

43. *Truncilla donaciformis* (Lea)=*Plagiola donaciformis* (Lea).

Distribution largely that of the preceding species.

44. *Leptodea leptodon* (Raf.)=*Lampsilis leptodon* (Raf.).

Simpson—Upper Mississippi drainage south to Tennessee River. Found by Baker, (1), and Pratt, (13) in Iowa, but possibly more abundant toward the Ohio. Not observed, but Mr. Clark reports one dead shell from main river above Fairport, Iowa.

45. *Leptodea fragilis* (Barnes)=*Lampsilis gracilis* (Barnes).

Simpson—entire Mississippi drainage. In our experience more abundant in lower portions of the river.

46. *Proptera alata* (Say)=*Lampsilis alata* (Say).

Simpson—entire Mississippi drainage as far south as Arkansas. Common.

47. *Proptera laevissima* (Lea)=*L. laevissima* (Lea).

Distribution largely that of preceding species. Many specimens were found on sand bars.

48. *Proptera capax* (Green)=*Lampsilis capax* (Green).

The type locality of this species is the falls of St. Anthony, Minn. Holzinger (7) reports it from Vinona, Minn., but the consensus of opinion is that it ordinarily does not go much north of Davenport, Iowa.

49. *Obovaria retusa* (Lam.)

The evidence indicates that if this species is present in the

var. *gigantea* (Lea) reported by Wilson and Dangle, Minn. ar. *kennicotti* (Lea) are all considered by Ortmann as

drainage. Wilson and Dangle report our experience somewhat more

South. Rare in the main river, in the sloughs, especially at Fair-

(Lea). drainage area generally, but as range is more northern. The variety to be an old female of *ferussacum* on the Red River of the North Wilson and Dangle. *A. modesta* the lakes of the Minnesota River to be a dwarf form of *A. ferus-*

y)=*Hemilastina ambigua* (Say). records this from the Upper Iowa.

drainage. Collected by us near

and St. Lawrence drainage. Minn. Local in distribution.

Mississippi drainage. Fairly common. A rayed form of the preceding variety. H. W. Clark where the water variety distinction.

Upper Mississippi drainage, it is restricted to the regions near the Ohio.

50. *Obovaria olivaria* (Raf.)=*Obovaria ellipsis* (Lea).

Simpson—Upper Mississippi drainage as far south as the Arkansas and Tennessee Rivers. Collected by us near Red Wing, Minn. Rare in L. Pepin and as Ortmann (10) indicates, it prefers strong steady currents. More abundant further down stream. Not reported from N. and C. Minnesota.

51. *Actinonaias carinata* (Barnes)=*Lampsilis ligamentina* (Lam.).

Throughout the Upper Mississippi drainage, but rare in L. Pepin. Fairly common. Reported from the Crow Wing drainage by Wilson and Dangle.

52. *Carunculina parva* (Barnes)=*Lampsilis parva* (Barnes).

Lake Pepin. Reported from S. Minnesota by Call, (3). Becomes more common descending the river. Not reported from N. and C. Minnesota.

53. *Ligumia ellipsiformis* (Con.)=*L. ellipsiformis* (Conr.).

Simpson—Upper Mississippi Valley south to 38° latitude. Geiser (5), and Pratt (13), report it from Iowa. We did not collect it north of there, nor does it extend into Central and Northern Minnesota.

53a. *Ligumia subrostrata* (Say)=*L. subrostrata* (Say).

Reported by Simpson, (14) as occurring north to latitude 41°. We collected this species near Fountain City, Wis. indicating a more northerly range. Rare. Mr. Clark states it to be fairly common along the edges of the sloughs and that it is often represented by a large form originally described as *Unio mississippiensis*.

54. *Ligumia recta latissima* (Lam.)=*Lampsilis recta* (Lam.).

Common. Extending throughout the Mississippi drainage into N. and C. Minnesota. The typical *recta* is the small Great Lakes form. The typical Mississippi form is that given.

55. *Ligumia iris* (Lea)=*L. iris* (Lea).

Reported by Simpson from the St. Lawrence drainage and the Ohio drainage, Illinois and Wisconsin, indicating its pos-

sible occurrence in the Upper Mississippi form to probably be the var. *nov-ebora*.

56. *Lampsilis anodontoides* (Lea).

Not reported from the drainages of though Simpson reports it distributed throughout the Mississippi drainage. It was found between Red Wing and La Moille, Minn. where its place is apparently taken by

57. *Lampsilis fallaciosa* (Smith).

Occasionally species were found with the preceding species. More abundant in waters such as those of the sloughs.

58. *Lampsilis siliquoidea* (Barnes)=*L.*

Simpson—entire Mississippi drainage. In L. Pepin, more so than in other parts of the drainage. (13) remarks, it prefers "rather quiet bottoms. In these regions it appears to be a producer of pearls."

59. *Lampsilis fasciola* (Raf.)=*L. multica*

Simpson—entire Ohio River drainage. Reported from the Illinois River in Illinois. It is usually found in the lower stages of the Mississippi River.

60. *Lampsilis ventricosa* (Barnes).

Abundant. Wilson and Dangle collected it at Croix, Minn., Crow Wing and Red Wing drainages. Simpson—entire Mississippi drainage. With this list, it should be remembered that the modern representative of the head

61. *Lampsilis orbiculata* (Hildreth).

Reported by Baker (1) from McGrath, Minn. It seems to be its most northern representative. It intergrades with the next species.

62. *Lampsilis higginsii* (Lea).

This species was collected at Red Wing, Minn. points near Winona, Wis. Not reported

it is restricted to the regions near

=*Obovaria ellipsis* (Lea).

ppi drainage as far south as the
vers. Collected by us near Red
oin and as Ortmann (10) indicates.
its. More abundant further down
N. and C. Minnesota.

(Barnes) = *Lampsilis ligamentina*

ssissippi drainage, but rare in L.
ported from the Crow Wing drain-

) = *Lampsilis parva* (Barnes).

om S. Minnesota by Call, (3).
ending the river. Not reported

) = *L. ellipsiformis* (Conr.).

i Valley south to 38° latitude.
ort it from Iowa. We did not
does it extend into Central and

= *L. subrostrata* (Say).

as occurring north to latitude
es near Fountain City, Wis.
ge. Rare. Mr. Clark states it
edges of the sloughs and that it
orm originally described as *Unio*

) = *Lampsilis recta* (Lam.).

hout the Mississippi drainage
typical *recta* is the small Great
issippi form is that given.

Lea).

he St. Lawrence drainage and
Wisconsin, indicating its pos-

able occurrence in the Upper Mississippi. Ortmann states this
form to probably be the var. *nov-eboraci*.

56. *Lampsilis anodontoides* (Lea).

Not reported from the drainages of N. and C. Minnesota, al-
though Simpson reports it distributed throughout the entire
Mississippi drainage. It was found occasionally at points be-
tween Red Wing and La Moille, Minn., except in L. Pepin,
where its place is apparently taken by the next named species.

57. *Lampsilis fallaciosa* (Smith).

Occasionally species were found within the limits given for
the preceding species. More abundant in L. Pepin and quieter
waters such as those of the sloughs.

58. *Lampsilis siliquoidea* (Barnes) = *L. luteola* (Lam.).

Simpson—entire Mississippi drainage. Abundant in L.
Pepin, more so than in other parts of the river. As Ortmann
(13) remarks, it prefers "rather quiet water and sandy, muddy
bottoms. In these regions it apparently produces a large num-
ber of pearls."

59. *Lampsilis fasciola* (Raf.) = *L. multiradiata* (Lea).

Simpson—entire Ohio River drainage. Ortmann reports it
from the Illinois River in Illinois. There is thus a fair proba-
bility of being found in the lower stretches of the Upper Mis-
sissippi River.

60. *Lampsilis ventricosa* (Barnes).

Abundant. Wilson and Danglade (18) report it from the St.
Croix, Minn., Crow Wing and Red River of the north drain-
ages. Simpson—entire Mississippi drainage. In connection
with this list, it should be remembered that the Crow Wing is
the modern representative of the headwaters of the Mississippi.

61. *Lampsilis orbiculata* (Hildreth).

Reported by Baker (1) from McGregor, Iowa. This at pres-
ent seems to be its most northern record. Rare. It probably
intergrades with the next species.

62. *Lampsilis higginsii* (Lea).

This species was collected at Red Wing, Minn., L. Pepin and
points near Winona, Wis. Not reported from C. and N. Min-

nesota. Comparatively rare. The type locality is Muscatine, Iowa. The var. *grandis* does not seem to be clearly distinguished from its parent species.

63. *Dysnomia (Truncilopsis) triquetra* (Raf.)=*Truncilla triquetra* (Raf.).

Reported from Iowa by Pratt (13) and Witter (19). We collected two specimens in L. Pepin—an expansion of the Mississippi in S. Minnesota. This probably represents the most northerly record. Reported from Fairport, Iowa, by Mr. H. W. Clark.

In conclusion, acknowledgment is made to Dr. A. E. Ortmann, Carnegie Museum, Pittsburgh, Pa., Mr. H. W. Clark, U. S. Biological Station, Fairport, Iowa, and Dr. Bryant Walker, Detroit, Michigan, for criticisms kindly given toward the preparation of this manuscript.

BIBLIOGRAPHY.

1. Baker, F. C. "Molluscan Fauna of McGregor, Iowa". Trans. Acad. Science St. Louis, XVI, No. 8, 1905.
2. Baker, F. C. "A Catalogue of the Molluscs of Illinois". Bull. Illinois State Lab., VII, 1906, pp. 53-135.
3. Call, R. E. "Geographical Catalogue of the Unionidae of the Mississippi Valley". Bull. Des Moines Acad. Sciences, I, 1885.
4. Call, R. E. "A Study of the Unionidae of Arkansas with Incidental Reference to their Distribution in the Mississippi River". Trans. Acad. Science., St. Louis, VII, 1895.
5. Geiser, S. W. "Notes on the Naiad Fauna of N. E. Iowa". Amer. Mid. Nat., I, 1910, pp. 229-233.
6. Grant, U. S. "Conchological Notes", 14th Annual Report Geological and Natural History Survey of Minnesota, 1885.
7. Holzinger, J. M. "Mollusca of Winona County, Minnesota", 11th Annual Report Geological and Natural History Survey of Minnesota for 1887, p. 481.
8. Keyes, C. R. "An Annotated Catalogue of the Mollusca of Iowa". Bull. Essex Inst., XX, 1888; pp. 61-83.

9. Lapham, J. A. "List of Shells of Acad. Nat. Science, Philadelphia, 1850."
10. Ortmann, A. E. "Monograph of the Unionidae of Michigan" III. Memoirs Carnegie Museum, No. 1.
11. Ortmann, A. E. "Najades Upper Triassic". Proc. American Philosophical Society, 1892.
12. Ortmann, A. E. and Walker, B. "Conchology of Certain North American Naiads". Mus. Zool. U. of Michigan, No. 115.
13. Pratt, W. H. "List of Shells at Fairport, Iowa". Proc. Daven. Acad. Nat. Science, I, 1895.
14. Simpson, C. T. "A Descriptive Catalogue of the Unionidae of Michigan". B. Walker, Detroit.
15. Strode, W. S. "Unionidae of Spottsylvania, Virginia". Amer. Nat., 1892, pp. 495-501.
16. Uiterback, W. I. "The Naiades of Michigan". Mid. Nat., IV, 1916.
17. Walker, B. "Synopsis of Classification of the Unionidae of Michigan". Mus. Zool. Misc. Publ., Michigan, 1913.
18. Wilson, C. B. and Danglade, E. "The Unionidae of Michigan". C. and N. Minnesota". Append. to the Report of the Commissioner of Fisheries, 1913.
19. Witter, F. H. "List of Shells of Iowa". Conchol., I, 1878, p. 385.

SILAS C. WHEAT.

Silas C. Wheat, well known to many in Middlebury, Vt., September 1, 1922. At the age of 70 years of age, he apparently was hale and hearty during his summer's vacation when he suffered a fatal stroke immediately.

Mr. Wheat was born in Franklin, Vermont, in 1853, where he graduated from the Franklin Union High School. He attended the New York University School of Education, New York, during his college years, being as a teacher. He taught in New York

The type locality is Muscatine and seems to be clearly distinguished.

nautilus (Raf.) = *Truncilla triquetra*.

(13) and Witter (19). Witter's description—an expansion of the Mississippi—probably represents the most recent form from Fairport, Iowa, by Mr. H.

Reference is made to Dr. A. E. Ortmann, Fairport, Pa., Mr. H. W. Clark, Fairport, Iowa, and Dr. Bryant. Criticisms kindly given toward the author are appreciated.

BIBLIOGRAPHY.

"Fauna of McGregor, Iowa". *Trans. Amer. Geol. Soc.*, St. Louis, XVI, No. 8, 1905.
 "The Molluscs of Illinois". *Trans. Amer. Geol. Soc.*, St. Louis, VII, 1906, pp. 53-135.
 "Catalogue of the Unionidae of Iowa". *Bull. Des Moines Acad. Sci.*, 1907, p. 10.

"The Unionidae of Arkansas with their Distribution in the Mississippi Valley". *Trans. Amer. Geol. Soc.*, St. Louis, VII, 1906, pp. 136-150.

"Naiad Fauna of N. E. Iowa". *Trans. Amer. Geol. Soc.*, St. Louis, VII, 1906, pp. 229-233.
 "Notes", 14th Annual Report of the Minnesota Historical Society, 1907, p. 481.

"The Molluscs of Winona County, Minnesota". *Trans. Amer. Geol. Soc.*, St. Louis, VII, 1906, p. 481.
 "Catalogue of the Mollusca of Iowa". *Bull. Des Moines Acad. Sci.*, 1907, pp. 61-83.

1. Lapham, J. A. "List of Shells of Wisconsin". *Proc. Acad. Nat. Science, Philadelphia*, 1860, p. 154.
2. Ortmann, A. E. "Monograph of the Naiades of Pennsylvania" III. *Memoirs Carnegie Museum*, VII, VIII, No. 1.
3. Ortmann, A. E. "Naiades Upper Tennessee Drainage". *Proc. American Philosophical Society*, 57, 1918.
4. Ortmann, A. E. and Walker, B. "On the Nomenclature of Certain North American Naiades". *Occ. Papers Mus. Zool. U. of Michigan*, No. 112, July, 1922.
5. Pratt, W. H. "List of Shells at Davenport, Iowa". *Proc. Daven. Acad. Nat. Science*, I, 1876, p. 165.
6. Simpson, C. T. "A Descriptive Catalogue of the Naiades". B. Walker, Detroit.
7. Strode, W. S. "Unionidae of Spoon River, Illinois". *Amer. Nat.*, 1892, pp. 495-501.
8. Utterback, W. I. "The Naiades of Missouri". *Amer. Mid. Nat.*, IV, 1916.
9. Walker, B. "Synopsis of Classification, etc." *Univ. Michigan, Mus. Zool. Misc. Publ.*, No. 6, 1918.
10. Wilson, C. B. and Danglade, E. "The Mussel Fauna of C. and N. Minnesota". *Append. V, Report U. S. Commissioner of Fisheries*, 1913.
11. Witter, F. H. "List of Shells of Iowa". *Quart. Journ. Conchol.*, I, 1878, p. 385.

SILAS C. WHEAT.

Silas C. Wheat, well known to many conchologists, died at Middlebury, Vt., September 1, 1922. Although nearly 70 years of age, he apparently was hale and hearty and enjoying a summer's vacation when he suffered a stroke, dying almost immediately.

Mr. Wheat was born in Franklin, Delaware Co., N. Y., in 1853, where he graduated from the Franklin Academy and then attended the New York University School of Pedagogy, qualifying as a teacher. He taught in New York City, was principal