

Memo

TO: Heritage Coordinators of ND, SD, MN, IA, MO, AR, MI, IN, KY, TN,  
MS, PA, MD, WV, VA, NC, OK, SC, CO

cc: Bob McCance

FROM: Hardy Wieting, Jr.

DATE: 16 November 1982

RE: Mollusk abstracts

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Prof. David Stansberry and some of his colleagues at the Museum of Zoology, Ohio State University, 1813 North High Str., Columbus, OH 43210 prepared, under contract with the OH Heritage Program, abstracts on 46 species of Unionid mollusks. Bob McCance has made these available to NATO for distribution. The whole package is fairly bulky, and it would be too expensive to xerox them all and have them all mailed to each of you. I've had the attached summary prepared so that you can make a decision as to which of these would be of importance to you; I've also attached an example of one of these abstracts, the one for Magnonaias nervosa. If you will send me a list of the specific ones you need, I'll see that you get copies.

For ranking I would suggest you contact Dr. Stansberry or his colleagues Kathy G. Borrer and Kathy E. Newman directly, if you need help.

<u>Scientific Name</u>	<u>Common Name</u>	<u>(Current) Range</u>
<u>Cumberlandia monodonta</u>	Cumberland Pearl Shell	Restricted to the MS River drainage persists in a few rivers in the Ozarks, the Green River of KY, and some of the tributaries of the Cumberland and TN Rivers. ✓
<u>Anodonta grandis</u>	Big Floater	MO River; Upper MS River drainage; east to IN; Tyler, TX
<u>Arcidens confragosus</u>	Rough Rock Shell	MS River and states adjoining it; OH River drainage; SW to CO River, TX; Bayou Teche, LA; ?Enterprise, SE AL.
<u>Simpsonaias ambigua</u>	Simpson's Shell Salamander Shell	OH River system; north to MI; west to IA; south to AR; east to TN
<u>Magnonaias nervosa</u>	Big Rock Shell	MS River system ; Red River of the No. Tombigbee River, AL; SW to New Leon, Mex. Apparently extends through MS, LA and TX well into Mexico.
<u>Quadrula fragosa</u>	Winged Maple Leaf	OH, Cumberland, & TN River systems; westward probably to MN, NE, and KS.
<u>Quadrula cylindrica cylindrica</u>	Smooth Cob Shell	Entire OH, Cumberland & TN River systems; west to Neb (Aughey, doubtful) south to AR & Indian Terr. ✓
<u>Quadrula metanevra</u> <i>may be big river form of Q sparsa</i>	Knobbed Rock Shell	MS Riv. drainage area except its southern portion, extending to the TN and AR Rivers. ✓
<u>Quadrula nodulata</u>	Winged Pimpleback	OH, Cumberland, & TN River systems; MS River and tributaries from eastern IA south to LA.

Fusconaia ebena

Ebony Shell

MS Riv. drainage ,  
except its western  
portion, AL and  
Tombigbee Rivers; NE TX?

Fusconaia maculata  
maculata

Long Solid

"We have never seen  
specimens of this  
species from outside  
the OH River drainage  
basin except for a very  
few from the Maumee  
system of Lake Erie"

Plethobasus cyphus

Common Bullhead

OH, Cumberland & TN  
river systems; west to  
MO & MN; AL River,  
according to Call.

Plethobasus cicatricosus

Big River Bullhead

OH River; TN;  
Claiborne, AL. The  
last I consider  
doubtful. Lea gives  
St. Paul, MN, as a  
habitat, but I do not  
think it possibly can  
be.

Plethobasus striatus

Rough bullhead

OH, Cumberland, & TN  
River systems. Reported  
by Keyes at Muscatine,  
IA, but this is  
probably an error.

Pleurobema clava

Northern Club Shell

OH, Cumberland, & TN  
river systems, Maumee  
Basin, Western NY;  
Ottawa, Canada (Call).  
Reported from Iowa  
City, IA/ St. Peter's  
River, MN, and from NE.

Pleurobema plenum

Rough Pigtoe

OH, Cumberland, & TN  
River systems,  
southwest to KS and AR

Pleurobema cordatum

Ohio Pigtoe

OH, Cumberland, & TN  
river systems; west in  
IL to the Mississippi;  
Claiborne, AL.

Pleurobema rubrum

Pink Pigtoe

OH, Cumberland, & TN  
river systems; SW to  
AR; west to Neb?; north  
in the MS to Prairie du  
Chien, WI

<u>Elliptio crassidens</u> <u>crassidens</u>	Elephant Ear	MS drainage; AL & Tombigbee rivers; SE to Chattahoochee R. ✓
<u>Leptodea leptodon</u>	Long Scale Shell	Upper MS River drainage; south to the TN River; Buffalo, NY; southern MI, Souris river, Manitoba
<u>Potamilus ohiensis</u>	Fragile Heelsplitter	MS drainage generally; eastern TX; southern MI; western NY.
<u>Potamilus capax</u>	Plain Pocketbook	Lower Ohio River drainage; SW to St. Francis River, AR; north to eastern IA; Elkhorn and Blue River, NE? (Aughey) ✓
<u>Toxolasma lividus</u>	Little Purple	Lower Ohio drainage and the Maumee River of the Great Lakes. Range to the west of the MS River is uncertain. ✓
<u>Ligumia nasuta</u>	Eastern Sand Shell	St. Lawrence drainage; streams flowing into Atlantic, south to NC.
<u>Ligumia subrostrata</u>	Western Sand Shell	Entire MS drainage north to about latitude 41 degrees. Eastern half of TX.
<u>Venustaconcha ellipsiformis</u> <u>ellipsiformis</u>	Fine-rayed creek shell	Upper MS Valley generally; south to about latitude 38; western NY; southern MI; southern Canada; Red River of the North.
<u>Villosa lienosa</u>	Black Creek Shell	Lower MS River drainage north to the lower OH & Wabash; east to SW GA. ✓
<u>Lampsilis teres form</u> <u>anodontoides</u>	Yellow Sand Shell	Entire MS River except the upper MO. All the Gulf drainage from the Withlacoochee River, FL. to the Rio Grande, and into Mexico.

<u>Lampsilis abrupta</u>	Ohio Mucket	Only in the OH and Cumberland Rivers; west to the MS river.
<u>Lampsilis ovata</u>	Sharp-ridged Pocketbook	Ohio drainage; Rome, GA? ✓
<u>Epioblasma personata</u>	Round Snuffbox	Was once found in the Ohio River drainage.
<u>Epioblasma obliquata obliquata</u>	Purple Cat's Paw	OH River drainage; it is not found in the big rivers of the Ohio River system.
<u>Epioblasma obliquata perobliqua</u>	White Cat's Paw	Upper Wabash River system, upper Maumee River system, scattered in southeastern MI and the Detroit River.
<u>Epioblasma flexuosa</u>	Northern Leaf Shell	Museum labels indicate the middle and lower OH River main stem & the lower reaches of its larger tributaries.
<u>Epioblasma rangiana</u>	Northern Riffle Shell	OH River drainage and So. MI. Few scattered populations in tributaries of western Lake Erie and western basin of the lake.
<u>Epioblasma torulosa torulosa</u>	Rough Riffle Shell	OH River drainage and So. MI. restricted to the OH River main stem & lower reaches of larger tributaries. ✓
<u>Orconectes obscurus</u>		Southeastern Ontario; NY; PA; eastern OH; WV; northern VA, western MD.
<u>Truncilla donaciformis</u>	Fawnfoot	MS drainage generally; AL River area; Southwest to the Trinity river, TX; MI.
<u>Hemistena lata</u>	Narrow Scale Shell	OH, Cumberland & TN River systems. ✓

<u>Uniomerus tetralasmus</u>	Horn Shell	AL to TX, north to southern MI and Indian territory; states bordering the Gulf of Mexico; Chihuahua.
<u>Obliquaria reflexa rafinesque</u>	Knob Shell	MS drainage; MI, AL River; SW to central TX.
<u>Cyprogenia stegaria</u>	Ohio Fan Shell	OH, Cumberland & TN River systems; St. Francis & Saline Rivers, AR?, eastern IA?
<u>Actinonaias ligamentina ligamentina</u>	Southern Mucket	From OH River southward; has become extirpated range except upper Cumberland and TN Rivers. ✓
<u>Plagiola lineolata</u>	Butterfly Shell	MS drainage south into AR, west into eastern IA and KS; Tombigbee and AL river systems.
<u>Obovaria olivaria</u>	Hickory Nut	Upper MS system far south as TN and AR Rivers; St. Lawrence drainage area.
<u>Obovaria retusa</u>	Purple Orb Shell	Ohio, Cumberland and TN River systems.
<u>Truncilla truncata</u>	Deertoe	MS drainage generally; MI; Lake MI; southwest to Trinity River; TX. ✓

MACNONAIAS NERVOSA (RAFINESQUE, 1820)  
Big Rock Shell

SYNONYMY:

- Unio nervosa Rafinesque, 1820. (Rafinesque, 1820:30)  
Type Locality: ". . . the Falls of the Ohio [Ohio River  
at Louisville, Kentucky]."
- Unio crassus giganteus Barnes, 1823. (Barnes, 1823:119)  
Type Locality: "The Mississippi [River] near Prairie  
du Chien. Prof. Douglass."
- Unio undulatus Barnes, 1823. (Barnes, 1823:120, pl. 2, fig. a,b)  
Type Locality: "Taken by Mr. Collins in the Ohio. . ."
- Unio heros Say, 1829. (Say, 1829:291) (Simpson, 1914:826)  
Type Locality: "Fox river [sic]" (Binney, 1863:265)
- Unio multiplicatus Lea, 1831. (Lea, 1831:70, pl. 4, fig. 2)  
Type Locality: "Tennessee River. Prof. Vanuxem."  
"Ohio River. T.G. Lea"
- Margarita multiplicatus (Lea, 1831). (Lea, 1836:12; 1838:14)
- Margaron multiplicatus (Lea, 1831). (Lea, 1852:20; 1870:29)
- Unio eightsii Lea, 1860. (Lea, 1860:306; 1860:367, pl. 64, fig.192)  
Type Locality: "Texas and Sabinas River, New Leon, Mexico,  
James Eights, M.D."
- Unio atrocostatus Reeve, 1864. (Reeve, 1864:16, pl. 4, fig. 13)  
Type Locality: "Alabama" (Haas, 1969:285)
- Margaron eightsii (Lea, 1860). (Lea, 1870:29)
- Unio heros multiplicatus Lea, 1831. (Paetel, 1890:155)
- Quadrula heros (Say, 1829). (Simpson, 1900:770)
- Crenodonta heros (Say, 1829). (Ortmann, 1912:248)
- Magnonaias heros (Say, 1829). (Utterback, 1915: 47[7])
- Megalonaias heros (Say, 1829). (Utterback, 1915: 125[43])
- Megalonaias gigantea (Barnes, 1823). (Ortmann & Walker, 1922:7).
- Megalonaias nervosa (Rafinesque, 1820). (Morrison, 1969:24)
- Magnonaias nervosa (Rafinesque, 1820). (Stansbery, 1982:1)

CLASSIFICATION:

Family Unionidae (Fleming, 1828) Ortmann, 1911.  
Subfamily Ambleminae (Rafinesque, 1820) Morrison, 1955.  
Genus Magnonaias Utterback, 1915.

CHARACTERISTICS: Shell large (up to 230mm in length), rhomboid, moderately inflated, heavy; umbos moderately full, low, sculpture strong zigzag ridges covering the disc for the first several years' growth; rest of disc free of sculpture anteriorly, obliquely plicated posteriorly; periostracum dark green or brown to black; cardinal teeth heavy, lateral teeth long and thin; nacre white.

SIMILAR SPECIES: Arcidens confragosus (Say, 1829) has similar umbonal sculpture but is smaller, has a thin shell; cardinal teeth lamellate, lateral teeth poorly developed or absent. Amblema plicata (Say, 1817) lacks the zigzag umbonal sculpture; cardinal teeth distinctly heavier.

RANGE: Simpson (1914:825,826) found the range of this species to be:

"Mississippi River system generally; Red River of the North; Tombigbee River, Alabama; southwest to New Leon, Mexico. . . . The species apparently extends through Mississippi, Louisiana and Texas well into Mexico."

Our records confirm this range.

RANGE IN OHIO: M. nervosa seems to be limited mainly to the lower reaches of the larger tributaries of the Ohio River, such as the Muskingum and Scioto Rivers. However, there are fairly recent (1958-1968) records of its occurrence in some of the Scioto River tributaries, namely Big Darby Creek, Big Walnut Creek and Paint Creek. There is one museum record for this species occurring in the Lake Erie drainage system: "St. Joseph River nr. Montpelier, Ohio" (collected prior to 1969). However the validity of this record is in doubt since this species is not known from elsewhere in the St. Lawrence River system.

HABITAT: In describing the habitat of M. nervosa, F.C. Baker (1928:72) reports that it is found:

"In the large rivers in deep water on a muddy bottom in quiet places. Sometimes found on a gravelly bottom. Young and adult occupying the same habitat."

Parnallee (1967:33) adds:

"Although more characteristic of larger rivers . . . , [it] may become well established in small streams. In Illinois, this species attains its greatest size in the lower Wabash River where it is found in areas of slow current with a coarse gravel and mud bottom."



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