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A LIST OF FRESHWATER MUSSELS SUGGESTED FOR DESIGNATION
AS RARE, ENDANGERED OR THREATENED IN WEST VIRGINIA

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Most malacologists presently feel that all freshwater mussels are in danger of extinction. The reasons for this are many and include such things as impoundment, industrial and human pollution, dredging, lumbering and mining. Each of these human activities plays a role in habitat degradation and impacts adversely upon the animals living in streams and rivers of this area. If we wish to maintain the advantages of having a widely diverse natural fauna and flora within West Virginia, it is time to take steps toward conserving this valuable resource.

With the passage of the Federal Endangered Species Act in 1973, a commitment was made by the federal government to place rare plants and animals under protection. The federal government is concerned about species that are rare on a national basis. State governments are now becoming involved and many have demonstrated a concern for conservation of native wildlife within their respective political boundaries. A species may be rather abundant in other areas of the country, but moderately to extremely rare in a particular state. The extirpation of a plant or animal from our state should be a major concern to all of us.

Ohio has had a state list of rare, endangered or threatened plants and animals for some years. Kentucky, through the efforts of the Kentucky Academy of Sciences, now has a recommended list, though it does not carry the force of law. West Virginia currently has no rare and-endangered list. The West Virginia Heritage Trust has been working for some time on the preparation of a list, but the major emphasis has been placed on the higher plants and animals.

It is the intent of this paper to designate several species of freshwater mussels as rare, endangered or threatened within the political boundaries of West Virginia. Several criteria are used in making this determination.

- 1) The species was historically widespread in the state and is now restricted in occurrence to only one or two streams.
- 2) The state is peripheral to the range of distribution of a species and habitat may only be marginally acceptable at best.
- 3) The species has never been found in large numbers in any stream in the state.

We hope this paper will heighten the awareness of leaders in industry, academia and government of a very serious problem. Only through the combined effort of these groups in supporting additional research and subsequent conservation can this valuable natural resource be maintained.

Data derived from Major Museums,

Species Review

OSU, Carnegie
MCZ, Marshall Univ. Col.
Inf. on Ohio R. derived
from USACE sponsored survey.
Literature records primarily
Ostromer
Stanhay

Lasmigona compressa

Current records primarily rivers.
Pre-historic records from middle

Primarily an Atlantic coastal species; early records report this mussel from the North Fork of the Hughes River and Reedy Creek. It has been recently found only in the Ohio River.

Pleurobema clava

This species was historically distributed throughout the Ohio River Basin. Range of distribution is rapidly declining, and throughout most of its range it is relatively rare. Early collections place it in the West Fork River, North Fork of the Hughes River and Little Kanawha River. Recently, it was found only in the Elk River and Middle Island Creek.

Plethobasus cyphyus

This species, once very common in the Ohio River and all of the larger Ohio River tributaries, is now absent. The only remaining population in West Virginia is in the Kanawha River. An occasional specimen may be seen in the area near Kanawha Falls.

Ligumia recta

This species has apparently never enjoyed widespread distribution in West Virginia. Early records indicate its presence in the Cheat River and Little Kanawha River. Presently, there is a large population in the Elk River and an occasional specimen may be found in the upper Kanawha River.

Cyprogenia stegaria

There are no historical records for this species. It is apparently rare throughout its entire range. The only current collections have come from a small population in the upper Kanawha River.

Elliptio fisheriana

This species is restricted to the Atlantic Coastal Plain. In West Virginia, E. fisheriana is found in fairly large numbers in the Potomac River near Shepardstown.

Elliptio crassidens

No historical records for this species exist in West Virginia. Archeological evidence indicates that E. crassidens was very abundant in the Ohio River several hundred years ago. It is currently extinct in the Ohio River. Recently, several specimens have been collected from the Elk River, Twelvepole Creek and Monongahela River only.

Uniomerus tetralasmus

This species was never abundant in West Virginia. It is currently found in the Ohio River in very limited numbers.

Potamilus ohiensis

This species has never been found in West Virginia outside the Ohio River. Recent collections indicate a small number of individuals reside in the Ohio River along the West Virginia boundary.

Villosa fabalis

Historically known from the Monongahela River in West Virginia. Recent records indicate extremely small populations still exist in Twelvepole Creek, Middle Island Creek and West Fork River.

Villosa lienosa

Normally considered to be a Midwestern species, it was not reported from West Virginia by Ortmann. This species has recently been collected in the Pocatalico River, Twelvepole Creek and Greenbrier River. V. lienosa may very well be expanding its range eastward. Having recently established a fragile residency in West Virginia, it should be closely monitored so that its continued survival may be assured.

Lampsilis abrupta

This species is very rare throughout its entire range. Small populations still exist in the Kanawha River and Elk River.

Lampsilis teres teres

This species is very abundant in streams of the lower Ohio and Mississippi Drainages. It is very rare this far east. No historical records can be found for West Virginia. An occasional individual may still be found in the Ohio River near Huntington, West Virginia.

Epioblasma torulosa rangiana

Historically known in West Virginia only from the West Fork River. An occasional specimen may still be found in the Greenbrier and Elk Rivers.

Epioblasma torulosa torulosa

No historical records exist for this species. Apparently, a small population still resides in the Kanawha River near Kanawha Falls.

Not a definitive list need help + additional field notes.

Selected References

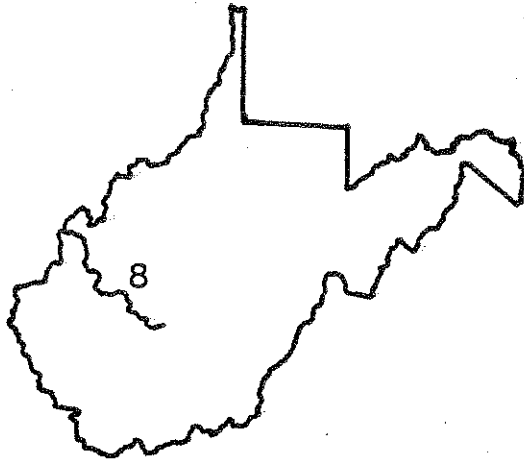
- Johnson, R. I. 1970. The Systematics and Zoogeography of the Unionidae (Mollusca: Bivalvia) of the Southern Atlantic Slope Region. Bull. Mus. Comp. Zool. 140(6):263-449.
- _____. 1980. Zoogeography of North American Unionacea (Mollusca: Bivalvia) North of the Maximum Pleistocene Glaciation. Bull. Mus. Comp. Zool. 149(2):77-189.
- Morris, J. S. and R. W. Taylor. 1978. A Survey of the Freshwater Mussels (Bivalvia: Unionidae) of the Kanawha River of West Virginia. Nautilus 92(4):153-155.
- Ortmann, A. E. 1921. A Monograph of the Naiads of Pennsylvania. Ann. Car. Mus. VIII:1-384.
- Stansbery, D. H. 1971. Rare and Endangered Mollusks in the Eastern United States. In S. E. Jorgensen and R. W. Sharp (eds.), Proceedings of a Symposium on Rare and Endangered Mollusks (Naiads) of the U. S., U. S. Bureau of Sport Fisheries and Wildlife, Twin Cities, MN, p. 5-18.
- Taylor, R. W. 1980. A Survey of the Freshwater Mussels of the Ohio River from Greenup Locks and Dam to Pittsburgh, PA. Huntington/Pittsburgh Districts, U. S. Army Corps of Engineers, 71 p.
- _____. and R. C. Hughart. 1981. The Fresh-water Naiads of Elk River, West Virginia, USA, With a Comparison of Earlier Collections. Nautilus 95(1):21-25.

Table 1. Proposed Mussel Species and Their Current Standing on the Federal Rare, Endangered or Threatened List and the State Lists of Ohio and Kentucky.

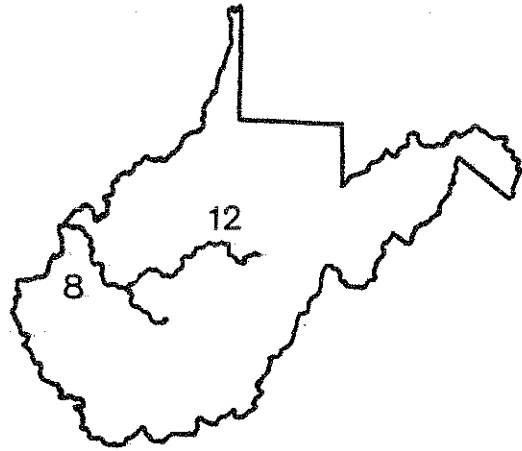
Species	Rare, Endangered or Threatened Species Lists		
	Federal	Kentucky	Ohio
<u>Lasmigona compressa</u> (Lea, 1829)		X	
<u>Pleurobema clava</u> (Lam., 1819)		X	X
<u>Plethobasus cyphus</u> (Raf., 1820)		X	X
<u>Ligumia recta</u> (Lam., 1819)			
<u>Cyprogenia stegaria</u> (Raf., 1820)		X	X
<u>Elliptio fisheriana</u> (Lea, 1838)			
<u>Elliptio crassidens</u> (Lam., 1819)			
<u>Unio merus tetralasmus</u> (Say, 1830)			
<u>Potamilus ohioensis</u> (Raf., 1820)			X
<u>Villosa fabalis</u> (Lea, 1831)		X	
<u>Villosa lienosa</u> (Conrad, 1834)		X	
<u>Lampsilis abrupta</u> (Say, 1831)	X		X
<u>Lampsilis teres</u> f. <u>teres</u> (Raf., 1820)			X
<u>Epioblasma torulosa rangiana</u> (Lea, 1839)		X	X
<u>Epioblasma torulosa torulosa</u> (Raf., 1820)	X	X	

Figure 1. Distribution of Mollusks Suggested for a Rare, Endangered and Threatened Species List of West Virginia.

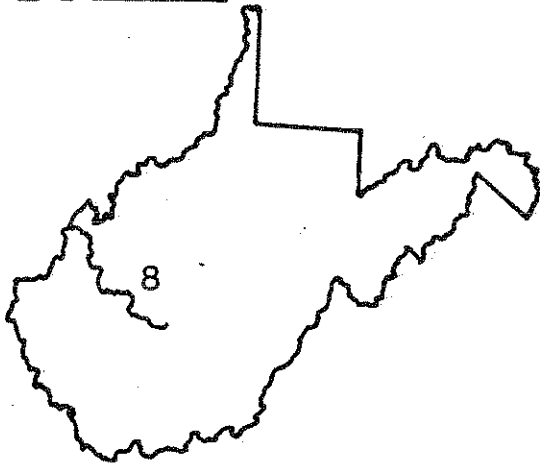
C. stegaria



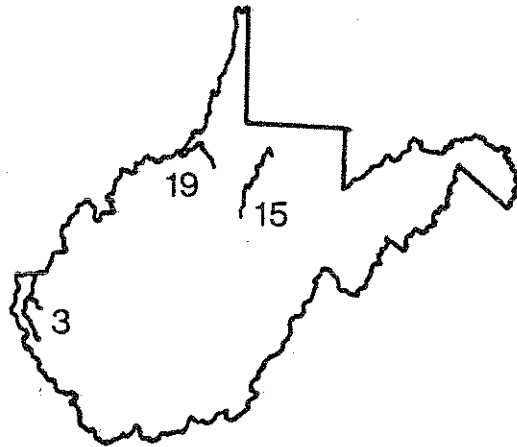
L. abrupta



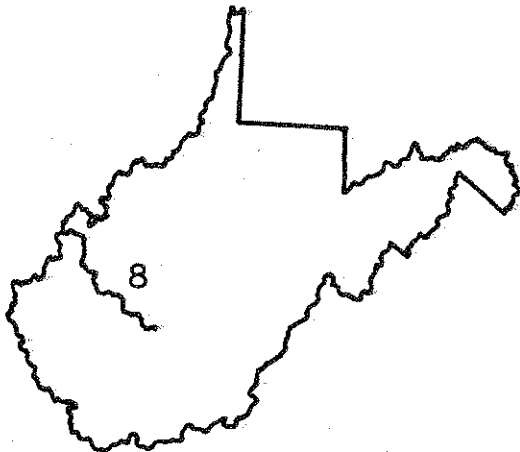
E. t. torulosa



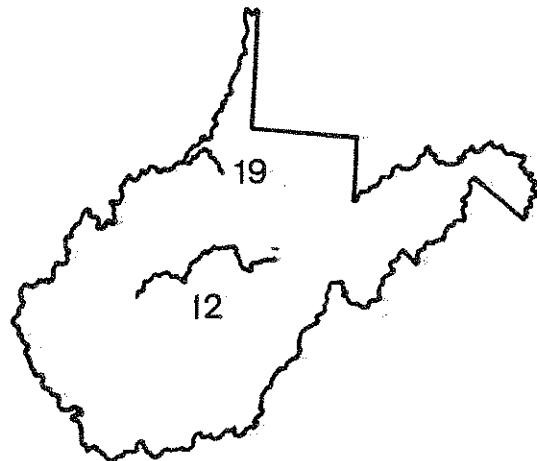
V. fabalis



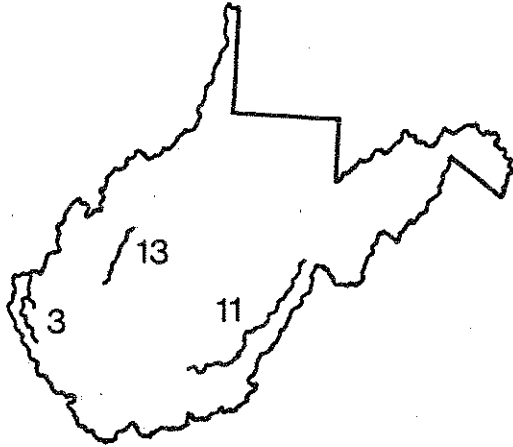
P. cyphus



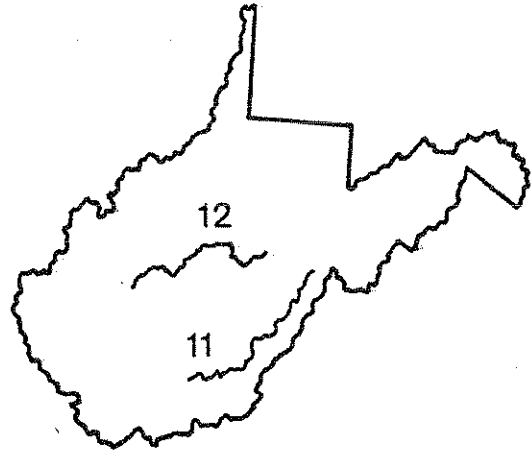
P. clava



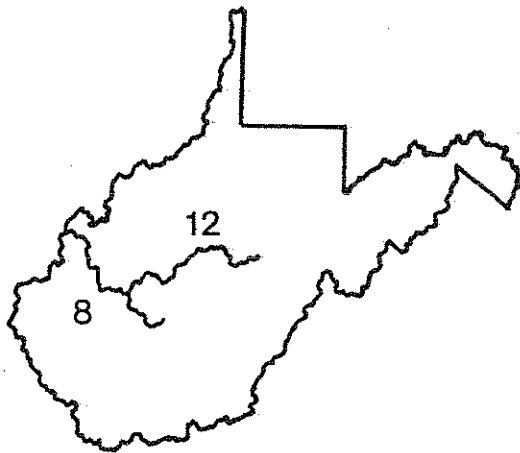
V. lienosa



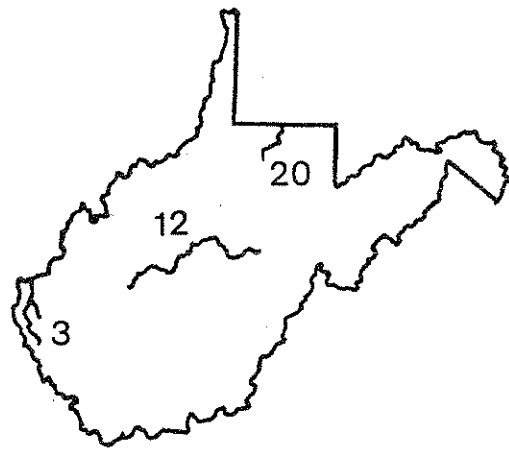
E. t. rangiana



L. recta



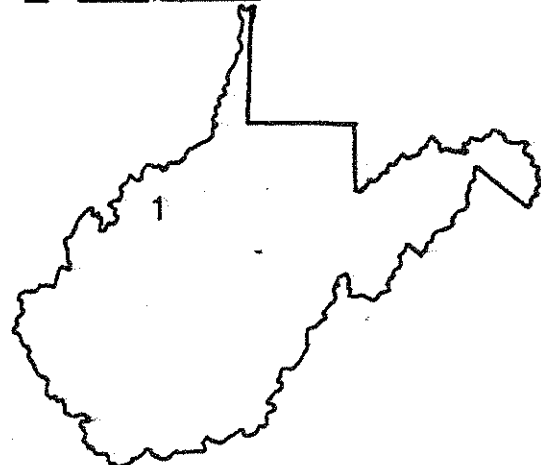
E. crassidens



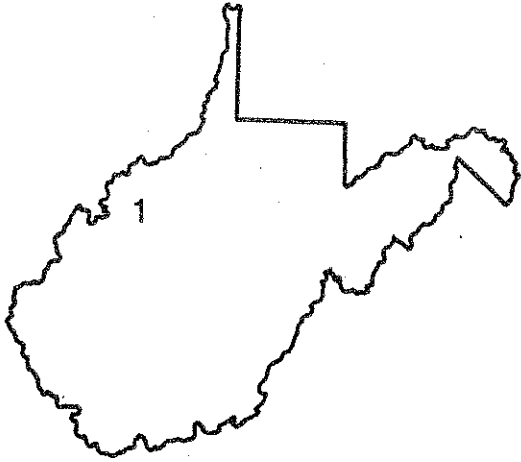
E. fisheriana



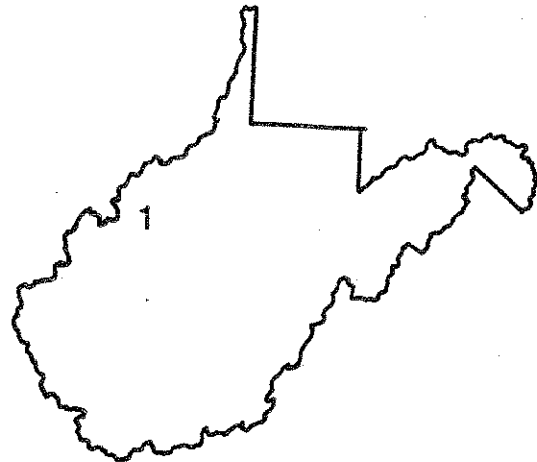
L. compressa



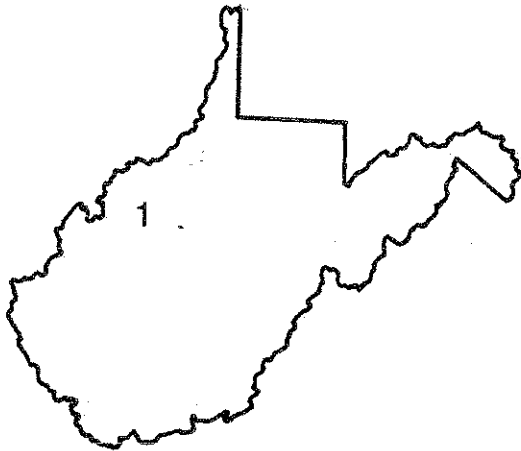
P. ohiensis



L. t. teres



U. tetralasmus



- 1 Ohio R.
- 2 Tug Fork R.
- 3 Twelvepole Creek
- 4 Mud R.
- 5 Guyandot R.
- 6 Little Coal R.
- 7 Coal R.
- 8 Kanawha R.
- 9 New R.
- 10 Gauley R.
- 11 Greenbrier R.
- 12 Elk R.
- 13 Pocatalico R.
- 14 Little Kanawha R.
- 15 West Fork R.
- 16 Hughes R.
- 17 North Fork Hughes R.
- 18 South Fork Hughes R.
- 19 Middle Island Creek
- 20 Monongahela R.
- 21 Tygart R.
- 22 Cheat R.
- 23 South Branch Potamac R.

