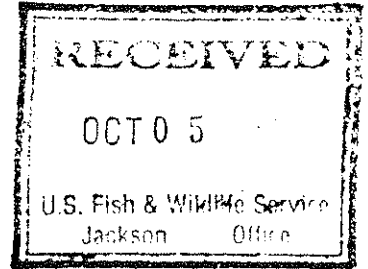


THE STATUS OF *PLEUROBEMA DECISUM* (LEA, 1831)

(MOLLUSCA:BIVALVIA:UNIONOIDA)

by



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for

Office of Endangered Species
Fish and Wildlife Service
U.S. Department of the Interior
Jackson, Mississippi Office

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PLEUROBEMA DECISUM (LEA, 1831)

Southern Club Shell

Synonymy

Unio decisus Lea, 1831.

Original Description: Observations on the naiades, and descriptions of new species of that and other families. Trans. Amer. Philos. Soc. 4, Article 5:92-93, pl. 12, fig. 23.

Type Locality: "Alabama river [sic], Judge [Charles] Tait." (Lea, 1831:92).

Type Material: "Figured holotype USNM 84723." (Johnson, 1974:44).

Etymology: Lea (1831:92-93), does not give his reason(s) for using the name *decisus*. The Latin *decisus* means "cut off" (Webster, 1973:471) and may well refer to the abruptly truncated anterior margin of many specimens of this species, including the holotype.

Unio scalenius (Rafinesque, 1820) per errorum. (Say, 1834:n.p.)*

Margarita (Unio) decisus (Lea, 1831). (Lea, 1836:10)

Margaron (Unio) decisus (Lea, 1831). (Lea, 1852:26)

Pleurobema decisa (Lea, 1831). (Simpson, 1900:752)

Pleurobema decisum (Lea, 1831). (Simpson, 1914:758-759)

Pleurobema decisum decisum (Lea, 1831). (Haas, 1969:252-253)

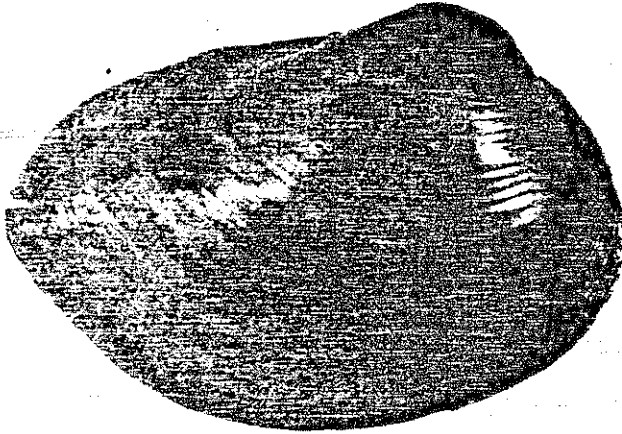
Unio anaticulus Lea, 1861. (Lea, 1861a:40)

Original Description: Descriptions of twenty-five new species of Unionidae from Georgia, Alabama, Mississippi, Tennessee and Florida. Proc. Acad. Nat. Sci. Phila. 13:40.

Redescription: (Lea, 1861c) New Unionidae of the United States. J. Acad. Nat. Sci. Phila. 5(N.S.), Art. 2:92-93, pl. 13, fig. 240.

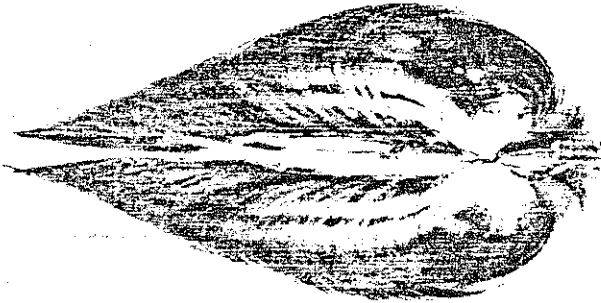
Type Locality: "Near Columbus, Mississippi. W. Spillman, M.D." (Lea, 1861a:40). [The Tombigbee River flows through Columbus, which is in Lowndes Co., Mississippi].

*Say (1834) lists "*decisus?* Lea. (var.)" as a possible synonym or variety of *Obliquaria (Scalenaria) scalenia* Rafinesque, 1820. This latter name is, however, a synonym of *Pleurobema clava* (Lamarck, 1819), a species restricted to the Ohio River system, where *P. decisum* has never been found. See Rafinesque (1820:309-310) and Say (1834, American Conchology Number 6: An attempt to exhibit a synonymy of the western North American species of the genera *Unio* and *Alasmidonta*) for details.



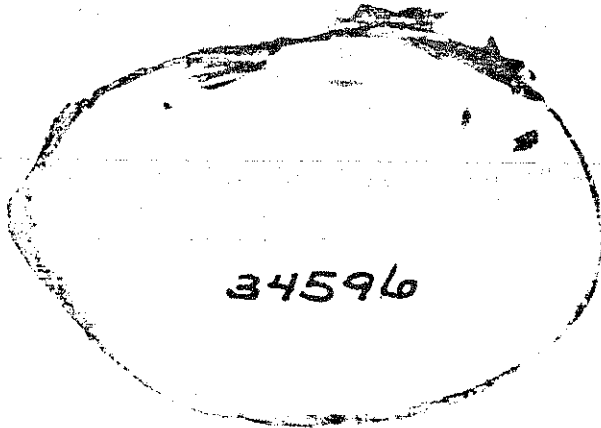
Pleurobema decisum
(Lea, 1831).

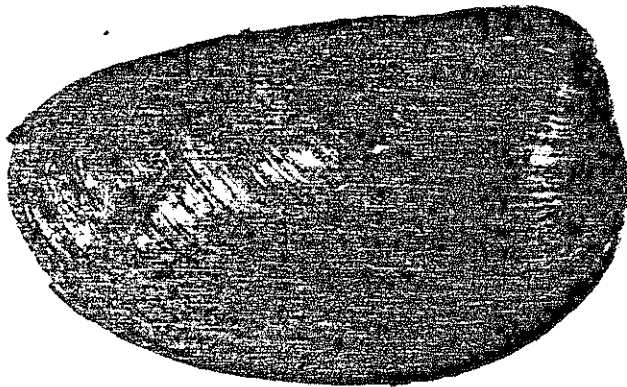
OSUM 34596



East Fork Tombigbee
River 4 mi. W of Amory,
Monroe Co., Mississippi.
30 July 1972.

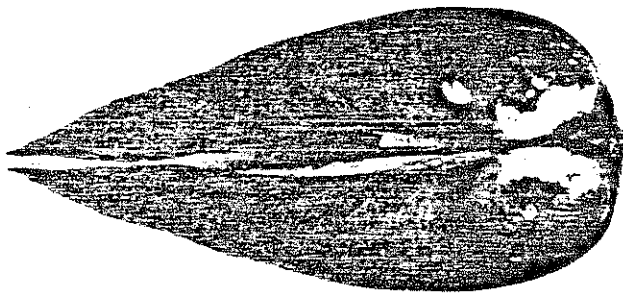
Length = 33 mm
Height = 21 mm
Width = 16 mm





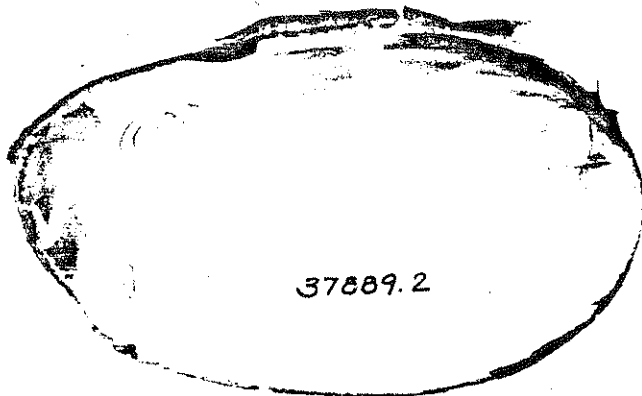
Pleurobema decisum
(Lea, 1831).

OSUM 37889.2



Tombigbee River 4.4
mi. NW of Columbus,
Lowndes Co., Mississippi.
29 May 1972.

Length = 62 mm
Height = 36 mm
Width = 29 mm



37889.2

Type Material: "Figured holotype USNM 84735." (Johnson, 1974: 13).

Etymology: Lea (1861a:40, 1861c:92-93) does not give his reason(s) for using the name *anaticulus*. Brown (1956:285) notes that the Latin *anaticulus* is the diminutive of "duck, drake."

Margaron (Unio) anaticulus (Lea, 1861a). (Lea, 1870:40)

Unio consanguineus Lea, 1861. (Lea, 1861b:60)

Original Description: Descriptions of twelve new species of uniones, from Alabama. Proc. Acad. Nat. Sci. Phila. 13:60.

Redescription: (Lea, 1861c). New Unionidae of the United States. J. Acad. Nat. Sci. Phila. 5(N.S.), Art. 2:67-68, pl. 7, fig. 217.

Type Locality: "Etowah River. Rev. G. White. Oostenaula River, Georgia. Bishop Elliott. And Cahawba River, Alabama. E. R. Showalter, M.D." (Lea, 1861b:60).

Type Material: "Figured holotype USNM 84726 from the third locality." (Johnson, 1974:35).

Etymology: Lea (1861b:60) does not give his reason(s) for using the name *consanguineus*. Brown (1956:229) notes that the Latin *consanguineus* means "related by blood, kindred."

Unio crebrivittatus Lea, 1861. (Lea, 1861b:60)

Original Description: Descriptions of twelve new species of uniones, from Alabama. Proc. Acad. Nat. Sci. Phila. 13:60.

Redescription: (Lea, 1866). New Unionidae, Melanidae, etc., chiefly of the United States. J. Acad. Nat. Sci. Phila. 6(N.S.), Art. 1:43, pl. 15, fig. 41.

Type Locality: "Coosawattee River, Alabama. Bishop Elliott." (Lea, 1861b:60).

Type Material: "Figured holotype USNM 84725." (Johnson, 1974: 38).

Etymology: Lea (1861b:60, 1866:43) does not give his reason(s) for using the name *crebrivittatus*. Brown (1956:237) notes that the Latin *crebra* means "thick or crowded" and *vittatus* (1956:838) means "striped." Lea, in his redescription (1866:43) notes that all of his specimens "of different ages" bear "the same character of numerous close transverse bands along the lines of growth."

Margaron (Unio) crebrivittatus Lea, 1861. (Lea, 1870:40)

Unio medius Lea, 1861.* per errorum. (Reeve, 1864:pl. 17, fig. 77)

* Hurd (1974:61-62) considers *U. medius* Lea to be a synonym of *Pleurobema georgianum* (Lea, 1841).

Taxonomic Status

Unio decisus has been placed in the Genus *Pleurobema* largely on the strength of the fact that the observations of Lea (1863:405) on the anatomy of the soft parts agrees with that of this genus (Ortmann, 1912:265) as does the shell morphology. Within this genus, *U. decisus* has its nearest relatives in the group characterized by *Pleurobema clava* (Lamarck, 1819) of the Ohio River system, *Pleurobema oviforme* (Conrad, 1834) of the Cumberlandian Region, *Pleurobema chattanoogaense* (Lea, 1858) of the Alabama River system and *Pleurobema curtum* (Lea, 1859) of the Tombigbee. This group consists of relatively small, thick shells having a heavy hinge plate, an outline that is much produced posteriorly, and umbos that are very frequently terminal or nearly so.

There is some question as to whether *U. anaticulus*, *U. consanguineus* and *U. crebrivittatus* are genetic variants within the species population(s) of *P. decisum* or sibling species which abut or overlap *P. decisum* in key shell characters. *Pleurobema curtum* is clearly distinct from *P. decisum* but there are additional described forms from the Mobile River system that may prove in time to be either synonyms of this species or sibling species of it. There is little doubt, however, that *P. decisum* is a species distinct from any of the common species frequently dealt with in the literature by unionid malacologists and other riverine biologists.

Nomenclatorial Status

Pleurobema decisum has been listed in the literature, between the time of its original description and the present, under at least 14 different name combinations. This is a common occurrence in forms as variable as the unionids, and especially so in the *P. clava* complex. Anyone going to the literature for information on this, or any other species, should have a complete synonymy at hand (if one has been assembled) in order to locate all of the sources available.

The probability of the name *decisum* being invalid seems very low indeed. Within its group it is one of the first species described, preceded only by *P. clava* and its several synonyms, all of this latter complex described from the Ohio River system. There are no earlier uses of the name *decisus(a)(um)* within the Genus *Unio* (Sherborn, 1902, 1925) so it appears not to be preoccupied. There are several natural groups within the Genus *Pleurobema* but *P. decisum* belongs to that group characterized by *P. clava* which is the type of the genus (Rafinesque, 1820:313) (Hermannsen, 1847:292). If, perchance, the complexes within *Pleurobema* were designated as distinct genera, the name of *decisum* would remain with the name *Pleurobema*. The name of *P. decisum* appears to have more stability than does its systematic relationships within this species complex.

The Alabama River system has included within its many streams the type localities of an impressive number of nominal species which appear from shell characteristics to either belong to or stand very near to the Genus *Pleurobema* Rafinesque, 1820. It is altogether possible that one or more of these forms could be headwater or "other stream" expressions of *P. decisum*. Burch (1975:61, fig. 80) illustrates a number of these described forms as outline drawings. He (Burch, 1975:56) notes that:

"No thorough study has been made of the genus *Pleurobema* on a broad basis. The systematic status of many or most of the nominal species is unknown or confused. Therefore a workable key at this time is impossible to construct."

It is fortunate for the stability of the name *Pleurobema decisum* (Lea, 1831) that this host of small forms were described after 1831. Thus if they should someday be found to be synonyms of *P. decisum*, they will be junior synonyms and hence would not threaten the nomenclatorial stability of this time-honored name.

Diagnostic Characteristics

The gross anatomy of the soft parts has been described by Lea (1863: 405) but a detailed anatomy of the animal has yet to be done. At this time one must look to the shell for diagnostic characteristics.

This species can readily be separated from the other *Pleurobema* of the Tombigbee River system since it is the only species there combining a yellow or yellowish periostracum with terminal or near-terminal umbos and an elongate "produced" posterior margin. The Ohioan species *P. clava* is most similar to *P. decisum* but differs in several distinct characteristics. Both are yellow or yellowish, have a produced posterior margin with umbos terminal or nearly so. *Pleurobema decisum* has a rectangular outline, however, in contrast with the triangulate outline of *P. clava*. In addition the Tombigbee specimens of *P. decisum* are "swollen" postventrally in an area of the shell that is compressed or even sulcate in *P. clava*. In this same character, however, the Coosa River specimens of *P. decisum* more closely resemble *P. clava*. *Pleurobema decisum* typically has a yellow periostracum unmarked by rays while *P. clava* usually has conspicuous, dark green, interrupted, "blotchy" rays over at least the central area of the disc. Rays, when present in *P. decisum* are expressed either as darkish pigment subtending the early annular rings or as one or more small dots, spots or blemishes distributed in the same areas.

The characteristics of outline, color and ray pattern listed above appear to be diagnostic for this species. If diagnostic differences are present in the soft parts they have yet to be recognized.

Former Distribution

Lea (1870:97) gave the distribution of *P. decisum* simply as "Alabama river" in his fourth and last synopsis of the Family Unionidae. If, however, we add *Unio anaticulus*, *U. consanguineus* and *U. crebrivittatus* to the synonymy of *P. decisum* we add, also from Lea (1870:95, 96 & 97) the corresponding locales of "Columbus, Missi." [sic]; "Etowah river [sic], Ga." and "Coosawattee creek [sic], Ga." All of these locales are within the Alabama River system of the Mobile basin. Simpson (1900:752-753) does synonymize the names listed above and gives the known distribution of his time as "Alabama and Tombigbee river systems." This distribution is repeated by Simpson (1914:758-759) in his Descriptive Catalogue of the Naiades or Pearly Freshwater Mussels. This three-volume work remains the standard

reference on unionid mollusks in the English language.

Haas (1969:252-253) in his catalog of the Superfamilia Unionacea gives the same range as Simpson (1914).

Hurd (1974:42, Map 15:194) has recently completed a comprehensive study of the unionids of the Coosa River of the Mobile system. In his search for Coosa River records he visited six of the major museums of the United States having research collections of unionids. This search produced a total of 127 lots which, according to his map, represent populations generally distributed throughout the Coosa basin. About 40 different locales are represented; further substantiating the wide distribution of this species in the Coosa within the past 100-150 years.

The most recent study on unionids covering the North American fauna is that of Burch (1973, 1975). His giving the distribution as "Alabama and Tombigbee river systems" (1973:15, 56, fig. 41a; 1975:13, 59, fig. 71) reflects the fact this species has never been found living outside the Mobile River main stem itself.

Present Distribution

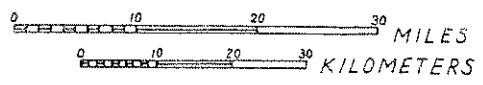
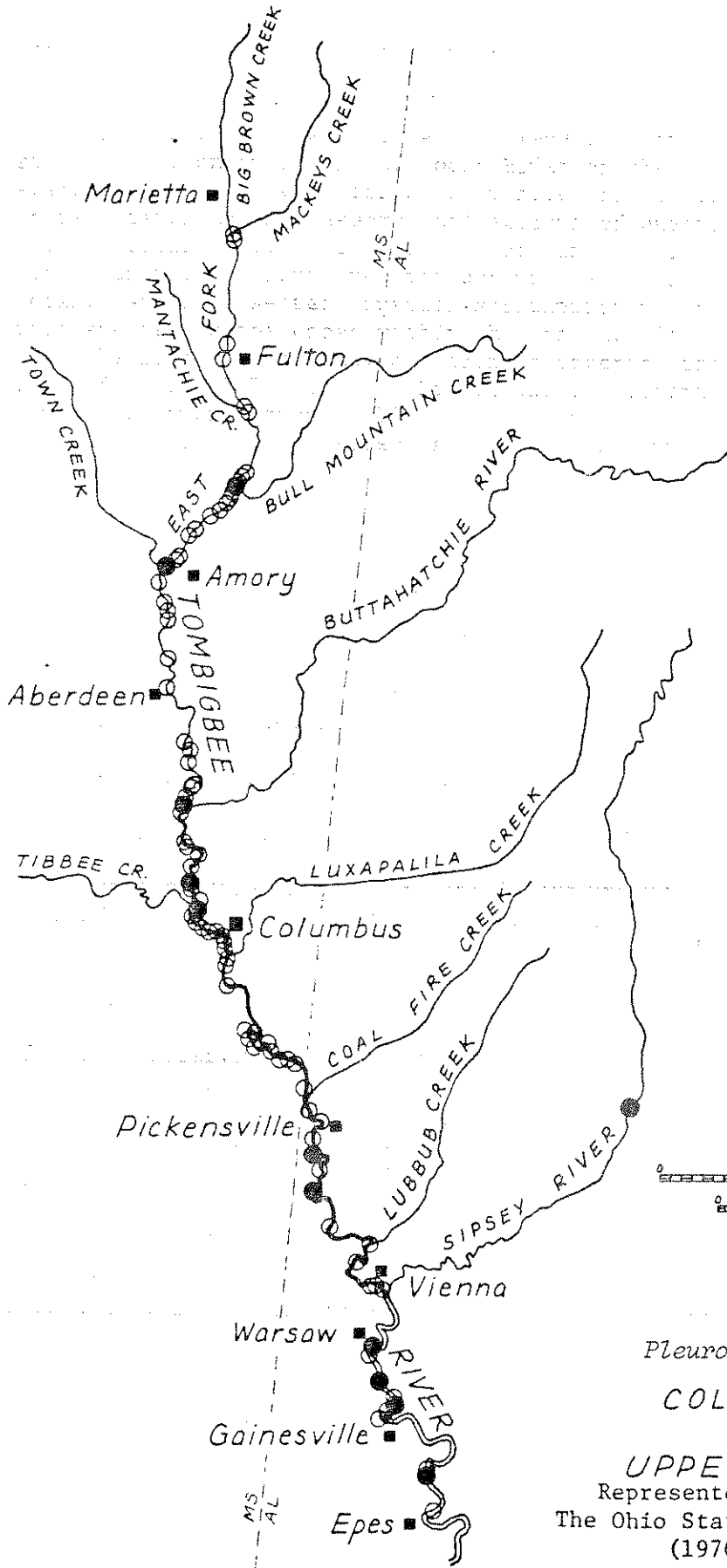
Relatively comprehensive distributional studies on unionid mollusks within the Mobile basin include those of the Cahaba River (van der Schalie, 1938), the Coosa River (Hurd, 1974), the Buttahatchie River (Yokley, 1978) and a series of collection site records from the Tombigbee (Yokley, 1975). The extensive collections made over much of the main stem of the free-flowing Tombigbee by Dr. James Williams and associates from 1971 to 1975 have been identified and deposited in The Ohio State University Museum of Zoology but have yet to be published.

Van der Schalie (1938:8) noted that *P. decisum* was "by far the most common species of *Pleurobema* in the Cahaba River." He further notes that "*P. chattanogense* [Lea, 1858] and *P. interventum* [Lea, 1861] are included in this category." This synonymy could easily have increased the apparent numbers of *P. decisum*. He found this (or these) species "mainly through the central region of the main stream, occupying neither the extreme headwaters nor the lower reaches of the drainage." In 1973 Dr. James Williams and Dr. Charles S. Baldwin made a study of the Cahaba River unionids in an effort to determine whether or not this rich fauna was able to withstand the environmental changes of the years since the van der Schalie collections of 1933-1935. The Williams-Baldwin material has yet to be published but the results of these efforts were discouraging.

The few efforts that have been made to obtain unionid samples from the Alabama River main stem in recent years indicate that a few of the larger heavier shelled species persisted in numbers great enough to attract commercial shellers within the last 20 years. They are not active there now. The smaller species such as *P. decisum* have not been seen, except as subfossils, from the Alabama River for several decades, indicating that they are either absent or very rare in this part of their former range.

Hurd (1974:15, 41) during 1972-1973 collected 381 lots comprising 2,415 specimens from the Coosa River. Only three empty shells were *P. decisum*.

The collections (1971-1975) of Williams *et al.* and Yokley (1975) from the main stem of the Tombigbee River revealed what may be the last breeding



Pleurobema decisum (Lea, 1831)
 COLLECTING SITES
 ON THE
 UPPER TOMBIGBEE RIVER
 Represented by Specimens Deposited in
 The Ohio State University Museum of Zoology
 (1970-1980) KGB 1980

population(s) of *P. decisum* of any consequence. Fresh empty shells were found at sites from near the mouth of Bull Mountain Creek on East Fork Tombigbee River, Itawamba County, Mississippi downstream to within five miles of Epes, Sumter County, Alabama. The Museum of Zoology (OSUM) has catalogued 14 lots of *P. decisum* from the Tombigbee proper, six from the Coosa River, one from the Alabama River, two from "Alabama," 2 lots from the Sipsey River and one lot from the East Fork Tombigbee. Altogether these 26 lots contain 64 7/2 specimens and only two valves of this material are subfossil.

I had the pleasure of assisting Dr. Yokley in making determinations of the unionids he collected in his study of the Buttahatchie River, a major tributary of the Tombigbee as is the Sipsey River. *Pleurobema decisum* is listed as common in the Buttahatchie by Yokley since it was one of 17 out of 40 species found there that "occurred in at least 8 of 11 collections and/or 52 or more [were] collected." In all 153 specimens of reasonably fresh empty shells were collected and Yokley (1978:20) notes that *P. decisum*

"is a very rare species outside of the Buttahatchie River but very successful there in the lower portion and found rarely in the Tombigbee River. The Buttahatchie River is the best known habitat for this species considered rare and endangered in Alabama."

The present distribution appears, from the recent evidence at hand, to be centered in the Tombigbee system with the Buttahatchie population(s) being the largest known with that in the Tombigbee itself being second if, indeed, it still persists. Records from the Cahaba, Coosa and Alabama are typical of low level populations and also of those on their way to extirpation.

In view of the numbers of *P. decisum* in the Buttahatchie, a similar population may exist in the Sipsey River or in other large tributaries of the Tombigbee. The specimens in the Tombigbee main stem may be peripheral to a mother bed in the Buttahatchie and owe their existence to the well-being of the tributary population. It is also possible that the fish host of *P. decisum* is a "big river" fish species that serves as the glochidial host during an upstream breeding migration but that is dependent upon the main stem as well as the Buttahatchie for its continued existence.

Habitat

There is very little in the literature on the habitat of *P. decisum*. This is unfortunately typical of rare or little known species and is one of the results of the low level of interest in obscure animals. We can draw some inferences concerning habitat, however, by generalizing from the habitat of closely related forms and by noting the types of habitats typically found within the geographical and river range of the species.

Although originally described from the Alabama River (Lea, 1831:92) and later found in the Tombigbee, Coosa and other Mobile system rivers, the prime habitat of *P. decisum* appears to be rivers of medium size. Van der Schalie (1938:8) notes that it "ranges mainly through the central region of the main stream, occupying neither the extreme headwaters nor the lower reaches of the drainage."

Yokley (1978:20) notes that

"*Pleurobema decisum* is a very rare species outside of the Buttahatchie River but very successful there in the lower portion and found rarely in the Tombigbee River. The Buttahatchie River is the best known habitat for this species ..."

He further notes (Yokley, 1978:3) that the upper Buttahatchie, the headwaters above Sulligent, Alabama, has both the bottom and banks consisting of sand. "Gravel and some sand usually compose the remainder of the river bottom downstream ... to its mouth."

I also recall Dr. Yokley commenting at length on the frequent log jams encountered in floating the Buttahatchie. Any obstruction to flow such as logs, down trees or sand-gravel bars also create protected stable areas of stream substrate immediately downstream which, in my own experience, frequently serve as areas of favorable habitat in which unionids can safely grow to maturity and reproduce over the years in otherwise unstable and hence unfavorable streams. Streams that are improved by being cleared of such obstructions frequently lose their unionid populations. This is especially true of high gradient streams or the high gradient segments of typically low gradient rivers.

The Buttahatchie River was collected by a series of 11 float trips and the data presented in a series of 11 tables (Yokley, 1978:tables 3-13 inclusive). A tabulation of the number of *P. decisum* specimens taken in each of the eleven river lengths indicates that the optimal stream size (or set of factors) is near the mouth rather than the headwaters:

	Downstream										
Yokley Table Number	3	4	5	6	7	8	9	10	11	12	13
Individuals of <i>P. decisum</i>	0	0	0	0	1	3	4	43	65	29	3

The stream size or set of environmental conditions may correspond with the "medium-sized river" environment cited by van der Schalie (1938:Table II) as the site of greatest abundance of *P. decisum* in the Cahaba River.

In summary we can infer that the habitat of *P. decisum* is most probably medium-sized streams having a moderately high gradient with areas of stable substrate characterized by sand-gravel sediments. We believe that its limitation to the Mobile River system has been influenced more by the lack of opportunities to expand its range rather than a lack of suitable habitat in other river systems.

Potential Threats

In view of present evidence cited above it would appear that any alteration of the Buttahatchie or Tombigbee environment that goes beyond the range of tolerance of *P. decisum* would constitute the greatest present potential threat to this species. The most recent evidence from the Cahaba River (Williams, 1973, personal communication) and from the Coosa River (Hurd, 1974) indicates that those populations are extirpated or nearly so. Although these streams may now be devoid of *P. decisum* the fact that not

all Buttahatchie-size rivers of the Mobile River system have been studied leaves open the possibility that other populations may still persist. The need for comprehensive surveys of our streams, especially those that have never been studied, is clear.

If the Tombigbee River has now been altered beyond reasonable recovery as a habitat for most indigenous unionids, then it is especially important to protect the Buttahatchie River and those tributaries of the Tombigbee that still retain some of that River's original fauna. There is the real threat that those who "improve" rivers do not realize the damage through their efforts to improve upon nature. Clearing a stream of down trees, sunken logs and other obstacles to flow can destroy critical habitat. Straightening out the meanders of a river or clearing its low-flow channel, "channelizing" or "ditching," can destroy the dynamic equilibrium responsible for the continued existence of habitat crucial to certain aquatic species. Low flow augmentation and flood control measures can also be damaging to a stream biota that has, through the process of slow evolutionary change, come to depend upon the high flow or flood part of the hydrologic cycle and/or the low flow or drought period for their very existence.

In view of the probable destruction of all or most of the *P. decisum* of the Cahaba, Coosa, Tombigbee and very likely the Alabama Rivers, the major potential threat to this species lies in possible habitat alteration of the Buttahatchie River and any other streams of the Mobile system which may still support *P. decisum* populations.

Another potential threat to this, or any other endangered species, is that of the reduction of genetic diversity. If the individuals of a species are essentially uniform genetically they are equally susceptible to any common decimating factor, such as a new disease, to which all would be vulnerable and which could then render the species extinct. Many small diverse populations of a species would be far more desirable than one or many large nearly uniform populations. The genetic diversity of a species is its "insurance for survival."

The greatest potential threat to *P. decisum* today is habitat destruction accomplished either in innocent ignorance or in the name of "progress."

Recommendations For Preservation In Nature

Pleurobema decisum is one of a number of unionid species that is almost certainly restricted to the Mobile River basin. If we are to preserve these species we must know where they exist today and what environmental conditions are necessary for their continued existence. The concern then becomes one of maintaining present populations while doing whatever is necessary to "bring back" other depressed populations and, with all appropriate precautions (when and if we gain managerial capabilities), making the attempt to re-establish new populations where they have been extirpated in historic times.

Recommendations for the survival of *P. decisum* would include:

- 1) a realistic search for additional populations of this species.
- 2) a careful study of the Buttahatchie population in order to determine the necessary conditions for survival.
- 3) an examination of similar habitats to determine what necessary factors are either missing or, if present, beyond the range of

tolerance of the species as indicated or measured in other populations or determined by experimental means in a stream laboratory.

Our sincerest efforts to preserve the species by preserving the habitat may not be enough simply because we have had a simplistic concept of what constitutes favorable or adequate habitat. The habitat consists of a multiplicity of factors which exist within certain limits but which may vary throughout the seasonal or other cycles in such a way as to provide a series of conditions necessary for reproduction, growth, maturation, and reproduction again. Most of this information has yet to be determined for *P. decisum* and what we do have is crude at best. Life history studies such as have been done for *Elliptio complanata* (Lightfoot, 1786) by Matteson (1948), for *Amblema p. plicata* (Say, 1817) by Stein (1973), and for *Pleurobema cordatum* (Rafinesque, 1820) by Yokley (1972), need to be done for *P. decisum*.

It would seem that we have been attempting to solve major problems with "band-aid" information and techniques either because we haven't been aware of the complexity of what we are about or, realizing at least something of its true nature, we have lacked either the time, expertise or funds to do what is necessary.

Perhaps our very first task, if we are to preserve *P. decisum* in nature, is to demonstrate the potential value of unique genetic material to society. If this is done effectively, perhaps the means of solving the preservation problem will become available.

Acknowledgements

Studies of this kind must, of necessity, be based upon collections of specimens and literature in conjunction with field observations. Even so, it is only those collections and related data that find their way into museums and libraries that are preserved and available for such use on into the future.

This paper is based almost entirely upon the collections of specimens made by Dr. James D. Williams, Mr. Randall Grace and their associates and upon the unionid library assembled over many years at the O.S.U. Museum of Zoology.

Numerous student assistants labored long hours to remove the environment from the surface of the shells so that they could be processed into the research collection.

The Curatorial Assistant of the Bivalve Division, Kathy G. Borrer, prepared the map and the tables and proof-read the manuscript with a perfectionism that has become second nature.

The pictures of specimens were taken, developed and printed by our photographic specialist, Mr. A.E. Spreitzer, with his characteristic care and concern for correctness and quality.

The United States Fish and Wildlife Service should be commended for their interest in preserving biological diversity for the benefit of society and for making this concern felt through their support of this study.

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PLEUROBEMA DECISUM (LEA, 1831)

SPECIMENS DEPOSITED IN

THE OHIO STATE UNIVERSITY MUSEUM OF ZOOLOGY

SPECIES DISTRIBUTION SUMMARY

Museum Specimens or Literature Records

SPECIES

Pleurobema decisum (Lea, 1831).

Drainage System	Locality		Collector	Catalog No.	Recorded as	Author
	State	County				
Mobile River	Mississippi	Lowndes	Tombigbee River 0.5 mi. below mouth of Tibbee Cr., 4.4 mi. NW of Columbus, 11.7 mi. NE of Artesia, Sec. 11, T19N, R17E	J.D. Williams, R. Grace 27 July 1974	35516 OSUM:1974:139	3 d.
Mobile River	Alabama	Sumter	Tombigbee River 1.5 mi. above I-59 bridge, [4.5 mi. NNE of Epes], Sec. 32, T 21 N, R 1 W	J.D. Williams, et al. 26 July 1975	38339 OSUM:1975:151	2/2 sf.
Mobile River	Mississippi	Itawamba	East Fork Tombigbee River, R. Mi. 396.85, 2.8 mi. NW of Smithville, [11.4 mi. S of Fulton] SW 1/4 Sec. 24, T 11 S, R 8 E	R. Grace, G. Clemmer 18 Sept. 1976	45846 OSUM:1976:562	3 d.
Mobile River	Alabama	Tuscaloosa	Sipsey River at U.S. Rt. 82 bridge, [1.5 mi. W of Buhl, 12.3 mi. WNW of center of Tuscaloosa, Sec. 3, T21S, R3E]	W. Starnes, L. Starnes 3 Sept. 1978	45706 OSUM:1978:417	2 d.
Mobile River	Alabama		"Coosa Riv Ala."	unknown [18--]	9499 OSUM:18--:18	2 d.
Mobile River	Alabama	St. Clair/ Talladega	Coosa River 2.9 mi. below Logan-Martin Dam	D.H. Stansbery, et al. 26 Sept. 1966	18992 OSUM:1966:204	3 w; 13 d.
Mobile River	Alabama	[Etowah]	"Coosa R., Gadsden, Ala."	unknown	34794	2 d.
Mobile River	Alabama		"Coosa R. Ala."	prior to 1973 Ex Santa Barbara Mus.	37995	1 d.
Mobile River	Alabama	[Etowah]	"Coosa River, Gadsden, Ala."	Ex Santa Barbara Mus. [18--]	37992	1 d.
Mobile River	Alabama		"Coosa River, Alabama"	Ex Santa Barbara Mus. [18--]	37991	1 d.
Mobile River	Alabama	[Cherokee]	Coosa River near Leesburg, [site now probably inundated by Weiss Reservoir]	H. Biddle, G. Russell 17 Aug. 1886	36345 OSUM:1886:1	7 d.
Mobile River	Alabama	Shelby	"Coosa River, Wetuska Shoals, Shelby Co., Ala."	H.H. Smith July 1913	43412 OSUM:1913:4	2 d.

Researched by

David H. Stansbery

Date

14 Aug. 1980

SPECIES DISTRIBUTION SUMMARY
Museum Specimens or Literature Records

Pleurobema decisum (Lea, 1831).

Drainage System	Locality		Collector	Catalog No.	Recorded as	Author
	State	County				
Mobile River	Alabama	[Dallas]	Aldrich [18--]	3413	1 d.	
Mobile River	Mississippi	Lowndes	J.D. Williams, et al. 27 May 1972	32758 OSUM:1972:55	1 d.	
Mobile River	Mississippi	Lowndes	J.D. Williams, V. Pearson 11 Nov. 1971	27396 OSUM:1971:257	1 d.	
Mobile River	Mississippi	Monroe	J.D. Williams, et al. 30 July 1972	34596 OSUM:1972:338	1 d.	
Mobile River	Alabama	Pickens	J.D. Williams, et al. 28 July 1972	34563 OSUM:1972:315	16 d.	
Mobile River	Alabama	Sumter	D.H. Stansbery, et al. 24 June 1972	34337 OSUM:1972:112	1 d.	
Mobile River	Mississippi	Lowndes	D.H. Stansbery, et al. 29 May 1972	37889 OSUM:1972:100	8 5/2 d.	
Mobile River	Alabama	Sumter/Greene	J.D. Williams, et al. 8 June 1972	36358 OSUM:1972:95	1 d.	
Mobile River	Alabama	Sumter	J.D. Williams, et al. 8 June 1972	36732 OSUM:1972:97	1 sf.	
Mobile River	Alabama	Pickens	J.D. Williams, R. Grace 19 Aug. 1974	36470 OSUM:1974:204	1 d.	
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Mobile River	Mississippi	Lowndes	D.H. Stansbery, et al. 29 May 1972	36303 OSUM:1972:101	2 d.	

SPECIES DISTRIBUTION SUMMARY

Museum Specimens or Literature Records

SPECIES

Pleurocheima decisum (Lea, 1831).

Drainage System	Locality		Collector	Catalog No.	Recorded as	Author
	State	County				
Mobile River	Georgia	Murray/Whitfield	Conasauga River 5 mi. WNW of Eton, above lower Kings bridge	D.H. Stansbery, et al. 25 Sept. 1966	18947 OSUM:1966:202	3 w.
Mobile River	Georgia	Whitfield/Murray	Conasauga River at Co.Rt. bridge (Tibbs Bridge), 2.5 mi. SW of Spring Place, 6.1 mi. ESE of Dalton	J.D. Williams, et al. 27 Nov. 1971	27373 OSUM:1971:261	2 d.
Mobile River	Alabama	St. Clair	Shoal Creek 3 mi. above its mouth, 4.5 mi. NE of Ragland, T 14 S, R 5 E	J.J. Jenkinson 5 Oct. 1968	20827 OSUM:1968:259	2 w.
Mobile River	Alabama	Shelby	Kelly Creek at U.S. Rt. 231 bridge, 4.4 mi. NNE of Vincent	D.H. Stansbery, et al. 26 Sept. 1966	18958 OSUM:1966:206	13 d.
Mobile River	Georgia		"Coosawattee River"	unknown [18--]	9521	1 d.
	[Alabama]		"Alabama"	"Aldrich" [18--]	38048	2 d.
	[Alabama]		"Ala."	[James Lewis] [18--]	9500 OSUM:18--:19	3 d.