

## Analysis of Molluscan Remains Recovered From 41FB34, Fort Bend Co., Texas

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### Introduction

Shells of freshwater clams and terrestrial and freshwater snails recovered from 41FB34 in Fort Bend County, Texas, were supplied to this author for analysis and environmental reconstruction. The site consists of shell middens at various depths. Human occupation is believed to have occurred during Middle Archaic times (3500-5000 B.P.). Patterson and Hudgins (1986) reported that 41FB34 was a seasonal campsite. Disturbance of the cultural layers was reported by McClure (1986) who attributed post-depositional movement of shell and bone to fossorial rodents, particularly Attwater's pocket gopher, *Geomys attwateri*.

### Molluscan fauna

Molluscan shells were identified to species. Shell counts are presented in Tables 1 and 2. A concerted effort to recover snail shells was made only for Pit 5; therefore, discrepancy in relative numbers of snail and mussel shells in these two tables is a function of recovery technique rather than differences between actual faunal assemblages.

Seven species of freshwater mussels were recovered from 41FB34. Most abundant was *Amblema plicata* with *Lampsilis radiata hydiana* and *Toxolasma texasensis* being abundant. *Cyrtonaias tampicoensis*, *Quadrula apiculata*, *Lampsilis teres*, and *Potamilus purpuratus* were rare.

The above freshwater mussel fauna is probably equivalent to the modern fauna of the San Bernard River, although this author is not aware of any published records on this subject. No records of freshwater mussels from this river were presented by Strecker (1931) – the last comprehensive compilation of records of the freshwater mussels of Texas (John K. Strecker was head of the Baylor University Museum – now known as the Strecker Museum – until his death in 1933). However, the species represented in the samples from 41FB34 are the same species recovered in an ongoing survey of this river by this author. Shells from 41FB34 are relatively thick, indicating high amounts of available calcium in the river water at the time of occupation by aboriginal humans. Some shells are well water-worn while other shells are very fresh, i.e., definitely not water-worn.

Most shells of these freshwater mussels were probably collected as living animals for foodstuff. Large shells typically are broken, with posterior portions of the shell missing. Entire shells of smaller species are present, however. A few shells of all species present are burned; burned shells are present throughout the soil column. Although only a few shells are burned, one must realize that burned shell will disintegrate more rapidly than unburned shell and will, therefore, be under-represented in recovered samples.

A few valves or shell remnants have holes; one is near-circular but most have irregular shapes. Of the six valves with holes, all are non-diagnostic and need not be anthropogenic. Several shells have shallow-to-deep notches which could be anthropogenic.

Only a single freshwater snail was recovered from 41FB34. *Campeloma crassula* is found in moving waters (low current velocity) with a clean sandy substrate. There are no published reports of this species in the San Bernard River known to this author, but, according to unpublished

records, it is present in lower Coastal Plain locations between the Brazos and San Bernard Rivers.

Nine species of terrestrial snails were found in the molluscan remains of 41FB34. Most of the snails are typical of riparian woodlands as would be expected along the San Bernard River. In particular, *Mesodon thyroidus* and *Stenotrema leai aliciae* indicate deep woodlands. Shells of *Mesodon thyroidus* recovered from 41FB34 are larger than those seen in modern populations. Other species — *Helicina orbiculata* and *Rabdotus dealbatus* — are typical of more open woodlands and savannahs.

Two species of the genus *Praticolella* are present in samples recovered from 41FB34. Although these two species are closely related, they are typically found in differing soil types. *Praticolella pachyloma*, which is the dominant snail species in middle levels of the excavated midden, is found in sandy soils. Above and below this middle zone the related *Praticolella berlandieriana*, which is typical of clay soils, is more common than *P. pachyloma*. This fluctuation in relative abundance of these two species may represent environmental changes at the site or at upstream locations. Variation in relative amounts of flood debris and in situ shells could also be a factor causing the observed differences.

## Summary

Molluscan faunas recovered from 41FB34 are composed of species which presently occur in the San Bernard drainage or nearby areas. Size of terrestrial gastropods and freshwater mussels indicate occurrence of suitable habitats for the various species without the short-term harsh periods which are presently observed in this geographic area. Freshwater mussels were likely collected during periods of low water.

## References cited

McClure, W. L.

1986 Faunal Analysis of 41FB34. Houston Archeological Society Journal 86:1-7

Patterson, L. W. and J. D. Hudgins

1986 Test Excavations at Site 41FB34, Fort Bend Co., Texas. Houston Archeological Society Journal 85:1-7

Strecker, J. K.

1931 The Distribution of the Naiades or Pearly Fresh-Water Mussels of Texas. Baylor University Museum, Special Bulletin No. 2, pp. 1-71

Table 1. Occurrence of freshwater mussels at 41FB34

Mussel species	Pit number					total
	1	2	3	4	5	
<i>Amblema plicata</i>	57	1	355	110	136	659
<i>Quadrula apiculata</i>			2			2
<i>Cyrtonaias tampicoensis</i>	3		2	1		6
<i>Lampsilis radiata hydiana</i>	1		91	28	68	188
<i>Lampsilis teres</i>	2		8		4	14
<i>Potamilus purpuratus</i>				3		3
<i>Tozolasma texasensis</i>	4		152	39	133	328
total for all 7 species	67	1	610	181	341	1200

Table 2. Occurrence of snails at 41FB34

Snail species	Pit number					total
	1	2	3	4	5*	
<i>Campeloma crassula</i>					1	1
<i>Helicina orbiculata</i>	15		23	43	687	768
<i>Rabdotus dealbatus</i>	f		17	13	51	81
<i>Helicodiscus singleyanus</i>				1		1
<i>Gastrocopta</i> sp. (immature)				1		1
<i>Stenotrema leai alicae</i>					1	1
<i>Mesodon thryoidus</i>			5	1	6	12
<i>Polygyra texasiana</i>				1		1
<i>Praticolella pachyloma</i>	4		1		59	64
<i>Praticolella berlandieriana</i>			1		542	543
total for all 10 species	19	0	47	60	1347	1473

\* = concerted effort to recover snail shells made only in Pit 5  
 f = fragments only

