

MOLLUSKS

from the

BARTLETT-BIRD SITE

(46-Wd-35)

by Ralph W. Taylor

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Abstract: A sample of 1,415 freshwater mussel valves from the 12th century A.D. Bartlett-Bird site, Wood County, includes 26 identifiable species. The significance of each of these species is briefly addressed. Sixty-one terrestrial snails, including 10 species, are also represented.

Through analysis of the mollusks associated with Indian middens the paleoecologist has a valuable tool by which he may learn a great deal about the local environment (both aquatic and terrestrial) as it existed in the prehistoric past. The current resident population of freshwater mussels in the Ohio River near the Bartlett-Bird site is radically different from that which existed only a few hundred years ago. The enormous differences in kinds and numbers of mussels have come about as a result of modifications of the river (pollution, damming, etc.) in modern times. As recently as the late 1800s the Ohio River mussel population was probably little different from what it was a thousand years earlier. The Indians for centuries had lived in harmony with the river and utilized the freshwater mussel resource extensively with no apparent harm done in the long run. Within the last one hundred years the freshwater mussel population has declined to such a point that not one single mussel bed of harvestable quantities was found by Taylor (1980) during a survey of 340 mi. of the upper Ohio River.

The assemblage of mussels found at the Bartlett-Bird site is indicative of a river habitat much different from that which presently exists. These species indicate a broad, shallow river with alternating riffles, shallow pools, and abundant sand and gravel bars in conjunction with water of high quality.

The snails found at this site, with one exception, are all fairly common throughout the region at present. I have collected snails over the past several years from 50 of 55 counties in West Virginia and have yet to find the first fresh specimen of *Anguispira kochi*. MacMillan (1949)

reported this snail only from Brooke, Marshall and Ohio counties, far north of the Bartlett-Bird site. I have seen sub-fossil specimens of this species taken from archeological digs as far south as Mason and Cabell counties in West Virginia. The presence of this species in Fort Ancient middens is indicative of a cooler, more mesic environment. The southern extent of the range of distribution of this species seems to have withdrawn northward as the local environment has warmed slightly and become dryer as modern man has cut away virgin-mixed mesophytic deciduous forests.

The presence of snails in Indian middens appears to be incidental as no good evidence exists indicating they were actively gathered and eaten, as was the case with the mussels. Many of the snail species included in this report are carnivorous and one must assume they gathered in the area of the garbage pits to feast on meat fragments adhered to bones and shells discarded by the human inhabitants at this site. Some ultimately died and became buried with the myriad artifacts, bones, and shells and have become part of the permanent record of life that existed at an earlier time.

In Tables 1 and 2, the 26 species of freshwater mussels and the 10 species of land snails recovered from the Bartlett-Bird site are listed. Following the lists is a statement of the significance of each species of freshwater mussel (Table 3). Since, with the exception of *Anguispira kochi*, all the land snails are fairly common today, plus the fact that the snails appear to be incidental in their occurrence, they are not further discussed here.

SUMMARY REMARKS

A total of 1,415 identifiable valves of freshwater mussels representing 26 species were re-

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Table 1. Freshwater mussels (46-Wd-35).

Species Name	Count	Percent
<i>Pleurobema clava</i>	361	25.4
<i>Pleurobema plenum</i>	252	17.8
<i>Elliptio dilatata</i>	176	12.4
<i>Obovaria retusa</i>	143	10.1
<i>Plagiola lineolata</i>	63	4.4
<i>Elliptio crassidens</i>	58	4.2
<i>Quadrula cylindrica</i>	58	4.1
<i>Fusconaia maculata</i>	56	3.9
<i>Quadrula pustulosa</i>	45	3.2
<i>Epioblasma torulosa</i>	39	2.8
<i>Quadrula metanevra</i>	38	2.7
<i>Pleurobema rubrum</i>	20	1.4
<i>Lampsilis ovata</i>	20	1.4
<i>Obovaria subrotunda</i>	18	1.3
<i>Epioblasma flexuosa</i>	15	1.1
<i>Cyprogenia stegaria</i>	12	.8
<i>Actinonaias l. carinata</i>	8	.6
<i>Cyclonaias tuberculata</i>	7	.5
<i>Lampsilis abrupta</i> (= <i>orbiculata</i>)	7	.5
<i>Plethobasus striatus</i>	5	.3
<i>Plethobasus cicatricosus</i>	4	.3
<i>Pleurobema sintoxia</i>	4	.3
<i>Amblema plicata</i>	3	.2
<i>Pleurobema cordatum</i>	1	.1
<i>Obovaria olivaria</i>	1	.1
<i>Lampsilis teres</i> form <i>teres</i>	1	.1
Total	1415	100.0

Table 2. Landsnails (46-Wd-35) .

Species Name	Number of Individuals	
	Adult	Sub-adult
<i>Anguispira kochi</i>	13	6
<i>Anguispira alternata</i>	18	12
<i>Haplotrema concavum</i>	2	0
<i>Ventridens intertextus</i>	1	0
<i>Stenotrema stenotrema</i>	1	0
<i>Triodopsis fraudulenta</i>	1	0
<i>Mesomphix cupreus</i>	2	0
<i>Mesodon pennsylvanicus</i>	1	0
<i>Mesodon andrewsae</i>	1	0
<i>Mesodon albolabris</i>	3	0

NOTE: No aquatic snails appeared in this collection.

Table 3. Information on present status of freshwater mussels in the upper Ohio River from Taylor (1980).

- Pleurobema clava*: Presently extinct in the Ohio River. Considered extremely rare throughout its former range.
- Pleurobema plenum*: Extinct in the Ohio River. Presently listed as rare and endangered throughout its former range.
- Elliptio dilatata*: Extinct in the upper Ohio River. Common in area smaller streams.
- Obovaria retusa*: Extinct in the upper Ohio River. Presently known only from the Green River in Kentucky.
- Plagiola lineolata*: Extinct in the upper Ohio River drainage.
- Elliptio crassidens*: Extinct in the upper Ohio River. Occasionally still found in local streams.
- Quadrula cylindrica*: Extinct in the upper Ohio River drainage.
- Fusconaia maculata*: Present in limited numbers in the Ohio River and its tributaries.
- Quadrula pustulosa*: Common in the Ohio River and its tributaries.
- Epioblasma torulosa*: Extinct in the Ohio River. Presently listed on federal Rare and Endangered list.
- Quadrula metanevra*: Occasionally found in the upper Ohio and its larger tributaries.
- Pleurobema rubrum*: Extinct in upper Ohio River.
- Lampsilis ovata*: Extinct in the upper Ohio River.
- Obovaria subrotunda*: Common in the Ohio River.
- Epioblasma flexuosa*: Extinct in the Ohio River.
- Cyprogenia stegaria*: Extinct in the Ohio River. Very rare everywhere.
- Actinonaias l. carinata*: Extinct in the upper Ohio River.
- Cyclonaias tuberculata*: Probably extinct in the upper Ohio River. Occasionally found in local large rivers.
- Lampsilis abrupta* (= *orbiculata*): Extinct in upper Ohio River. Presently listed on federal Rare and Endangered list.
- Plethobasus striatus* (= *cooperianus*): Extinct in Ohio River. Presently on the federal Rare and Endangered list.
- Plethobasus cicatricosus*: Extinct in the Ohio River.
- Pleurobema sintoxia*: Found in limited numbers presently in the Ohio River and its larger tributaries.
- Pleurobema cordatum*: Occasionally found in the upper Ohio River and its larger tributaries.
- Amblema plicata*: Common in the Ohio River.
- Obovaria olivaria*: Extinct in upper Ohio River drainage.
- Lampsilis teres* form *teres*: Extinct in upper Ohio River. Occasionally found in the lower Ohio River.
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covered from the Bartlett-Bird site. Sixty-one specimens (10 species) of terrestrial snails were also collected. Environmental conditions within the Indian midden were such that the shells were remarkably well preserved for shells 700-900 years old (Hussey 1981).

Many of the specimens were quite small and would have made a limited contribution to the nutritional requirements of the village. This phenomenon may simply be an artifact of a random collecting technique, or they may have been collected more for their shell (pottery tempering) than for their meat content.

None of the thin-shelled Anodontines were found at this site. This phenomenon has been noted many times in other reports of this kind. These mussels were most surely present in the river, but were apparently never actively collected.

Getting into the pristine Ohio River would have been a fairly formidable task over much of the year. This fact, plus the fact that some of the species reported here are indigenous to deeper pools, tends to indicate that mussel collecting would have been most easily accomplished during late summer and early fall when the waters were lowest and the most calm. The total species composition found at the Bartlett-Bird site indicates collections were made at, or very near, a large shoal area or sand and gravel bar.

Studies of this type can play an important role in determining a great deal about the ambient environment and behavioral aspects of Indian groups and should be more vigorously pursued in future archeological investigations. In the past, large quantities of data have been lost as shell remains have been all but ignored in a number of otherwise very complete reports.

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