Mollusk Shells Associated With Evidence of Habitation by Prehistoric Native Americans in a Hardin County, Kentucky Cave

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ABSTRACT

During the summer of 1981, excavation of floor debris in the entry room of Bland Cave, Hardin County, Kentucky produced subfossil mollusk shells that represented 4 species of naiads, 3 species of aquatic snails and 8 species of terrestrial snails. There was present also an abundance of bone, carbon and flint chips that indicated human inhabitation of the cave. It is assumed that the naiads were transported to the cave for use as food. No good explanation for the presence of aquatic snails is available, but it is assumed that the land snails entered the cave to feed on garbage left by the human cave dwellers.

With 2 exceptions, all species found in the cave are currently found in the immediate area. *Pleurocera canaliculatum* has not been found recently in local streams; *Anguispira kochi*, while found in good numbers in the cave, is sporadic in occurrence and is currently considered scarce in Kentucky.

Hardin County is located in west-central Kentucky, known as the Pennyroyal Region. The county is peripheral to the massive Mammoth Cave system and thus is dotted with numerous sink holes and commercially undeveloped, essentially unexplored caves. While most of these caves are small, many are of considerable size. One such cave is located on the C. L. Bland Farm in the southern tip of Hardin County at the junction of Kentucky State Road 720 and County Road 1375. This intersection is known locally as Flint Hill and is approximately 7 miles west of the village of Sonora, Kentucky.

A field trip to the cave in the summer of 1981 produced a collection of shells of freshwater mussels and terrestrial and aquatic snails. The mussel shells are of some significance since the nearest river in the area is the Nolin River, which is ca. 3 miles away.

Funkhouser (1932) listed 11 sites of archeological importance in Hardin Coun-

ty. A telephone call to the Kentucky Office of State Archeology (University of Kentucky) produced additional information on recent archeological work in the county. Many sites are recorded for the area but most are rock shelters, cliffs and surface village sites or burial mounds. Apparently caves, as dwelling sites, are relatively rare in the immediate area.

The archeological value of the cave may never be known completely as much of the floor of the entry room has been disturbed. Stories gleaned from local residents related that the family patriarch, W. L. Bland, was an avid amateur collector and had many years earlier taken baskets of artifacts, including human skeletal material, from the cave. The disposition of that material is presently unknown. As is usual, the shell material, with no intrinsic value to a pot hunter, was discarded with the rest of the overburden and only the "good stuff" was removed. The entry room is presently very dry and the shells remarkably well preserved.

No attempt was made to date the shells, but they are obviously quite old as many of them are completely enclosed in heavy calcite deposits.

SHELLS FOUND

FRESHWATER SNAILS: *Pleurocera canaliculatum* (Say, 1821), *Goniobasis curreyana* (Lea, 1841), *Lithasia obovata* (Say, 1829).

LAND SNAILS: *Anguispira alternata* (Say, 1816), *Anguispira kochi* (Pfeiffer, 1845), *Mesodon inflectus* (Say, 1821), *Mesodon elevatus* (Say, 1821), *Triodopsis albolabris* (Say, 1816), *Stenotrema leai* (Binney, 1840), *Ventridens demissus* (Binney, 1878), *Hawaiia minuscula* (Binney, 1840).

NAIADS (freshwater mussels): *Amblema p. plicata* (Say, 1817), *Elliptio dilatata* (Rafinesque, 1820), *Ptychobranchus fasciolaris* (Rafinesque, 1820), *Lampsilis ventricosa* (Barnes, 1823).

DISCUSSION

The presence of freshwater snails in this cave may be of more significance than the species found. The great distance from the Nolin River confounds the question of why these shells are in the cave. Several theories are often given to explain the presence of aquatic snails in Indian middens: 1) the snails were a food item; 2) the snail shells were valued as ornamentation or as trade goods; and 3) the shells were collected and returned to the cave as an artifact of some collecting technique used to gather mussels which were used extensively as food items (i.e. dredging, seining, etc.).

The good number of mussel shells indicates that mussel flesh was a food staple for the human inhabitants of this cave at least part of the year. All mussel species represented in this collection are currently found in abundance in the Nolin River in the proximity of Bland Cave.

Of the 3 species of freshwater snails, Stein (pers. comm.) found *Goniobasis curreyana* and *Lithasia obovata* on recent collecting trips to the Nolin River. *Pleurocera canaliculatum* was not found and may no longer be present in the river.

The presence of these species of land snails in fairly large numbers in a cave environment is unusual to say the least. None would normally be found inside caves although most could be found around moist entranceways. Few investigators have attempted to establish that aboriginal Americans used land snails as a food item. Most are content to accept the fact that a majority of these species accumulated in areas where food scraps might be present (i.e. garbage heaps within the cave entrance). Although the association of snails with Indian middens is ancillary and can provide little information about the life style of primitive man, a great deal can be learned about the surrounding environment as it existed at a prescribed time in the past.

With one notable exception, *Anguispira kochi*, all land snails listed herein are presently abundant and widespread locally in the epigean environment. Pilsbry (1948) and LaRocque (1970) mention *A. kochi* as a species for which prime habitat is rapidly disappearing. This snail, according to these authors, is one

which inhabits "old forests" and simply does not exist even in "thick, second-growth timber." Branson and Batch (1971) found *A. kochi* at only 3 of 59 locations surveyed throughout Kentucky. The 3 localities are all in the mountainous, heavily wooded regions of southern and eastern Kentucky.

The current distribution of *A. kochi* east of the Mississippi River is limited to states north of the Ohio River with an occasional relictual population south of the river. MacMillan (1949) reported early collections of *A. kochi* from the northern panhandle of West Virginia. I have never found this species in West Virginia other than as subfossils also associated with Indian middens.

Bland Cave is situated at the southernmost extent of the current range of distribution of *A. kochi,* and the presence of this snail in large numbers in the cave is indicative of an environment much different from that which presently exists. This snail was a co-inhabitor, with the American Indian, of the vast hardwood forests of the eastern United States that existed until the arrival of modern man. The forests provided a cooler, more mesic environment suitable for the snail's existence.

Voucher specimens have been placed with the Ohio State University Museum of Zoology.

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