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Elden Johnson  
*University of Minnesota*

Martin Q. Peterson  
*University of Minnesota*

Jan E. Streiff  
*University of Minnesota*

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Birch Lake Burial Mound Group

ELDEN JOHNSON*, MARTIN Q. PETERSON**, and JAN E. STREIFF***

ABSTRACT—Five small prehistoric burial mounds located near Birch Lake on Prairie Island in Goodhue county of southeastern Minnesota were excavated in 1968. The secondary burial of adults in shallow pits and unaccompanied by mortuary offerings follows widespread prehistoric patterns in the upper Mississippi valley. The mortuary pottery vessel buried with the single primary burial suggests construction of the mounds during the period of initial Mississippian cultural intrusion, perhaps shortly after 1,000 A.D.

The area of the Birch Lake mounds was trenched in the summer of 1968 by a field party from the University of Minnesota conducting an archaeological salvage project for the Northern States Power Company.

T. H. Lewis had mapped this small mound group in 1885 (Winchell 1911, pp. 143-150) and described it as composed of "eight small crowded tumuli" lying near a slough called Birch Lake, which is a part of the Vermillion River flowage in the Mississippi River bottoms adjacent to Prairie Island a few miles above Red Wing, Minnesota. (Fig. 1 and 2) Prairie Island is the higher land lying between the Vermillion, which follows the Wisconsin bluff line, and the main Mississippi channel which follows the Vermillion flowage in the Mississippi River bottoms extending more than 20 cm. below the surface. The sandy soil was found to be very acid, and the consequences of this were seen later when burials were uncovered. A careful examination of the plowed surface showed a little scattered village debris, mostly in the form of chert chips and flakes, but no indication of any concentration was found.

Excavation procedure varied with the different mound locations, partly to give students an introduction to different techniques of mound excavation and partly to fit the individual mound characteristics. In each case, however, the humus zone was screened as was a good sample of the mound fill of mounds #1 and #2. The screening demonstrated a lack of cultural materials in the humus and fill and was discontinued in the lower levels.

Mound No. 1

This undisturbed circular, conical mound probably represents the form of the eight mounds in the group platted by Lewis (Fig. 4). This mound was excavated by the quadrant technique with the hope that summer rain storms would hold off and that the soft sand fill would stand to give good cross-section profiles. Jan Streiff, Constance Johnson, and Edward Sorenson excavated this mound, first taking the northwest quadrant down into subsoil. Their excavation began by stripping the humus and then following the mound contour, stripping mound fill in 20 cm. units. When the fill had been removed in this fashion, the floor was levelled and excavation continued in level 20 cm. units into the subsoil. The standing walls were profiled, and the opposite southeast quadrant was next excavated in the same manner.

The best laid plans of archaeologists do not always succeed, and this was demonstrated for mound #1. It did rain; there were night-time human visitors who stood on the edge of the trench walls; and the soft sand mound fill did not hold up. Fortunately, the intersecting wall profiles of the northwest quadrant had been completed, and the only two significant finds of the mound were made before the collapse.

The profiles show an upper humus layer (soil zone A1), a thin A-2 zone underlying this, and the mound...
fill as the third soil zone. There was no buried soil surface underlying the mound, but rather a soil zone duplicating that of the overlying A-2 zone. This was an indication that the original soil surface had been stripped before construction of the mound. It could not be determined whether this same practice was followed in the other mounds because plowing had destroyed the upper levels.

Mound #1 showed a shallow 50 cm. wide dark patch of soil beginning at 15 cm. below the surface centered at 4E and 1.5S. There were a very few small flecks of charcoal in this dark area, but no other associations. The patch lay on top of the mound fill and underlay the subsequently formed A soil zone, indicating a small fire was built at this point during or after the mound construction.

There was no clear indication of a subsoil burial pit, but a fragment of a human radius and a core of blue chert were found near the center of the mound (4E-3.5S) at a depth of 1.24m. below the mound surface. This locus is below the original stripped surface of the mound indicating a probable pit burial. The bone itself was chalky and soft and had been chewed by animals. Numerous burrows in the mound fill and subsoil recorded the presence of what were probably pocket gophers. A further destructive element was certainly subsoil moisture, which, combined with the acid soil, would deteriorate the bone rapidly. Water seeped into the trench floors when the excavation's greatest depth was reached, and the mound fill and subsoil were very moist throughout the mound.

The collapse of the walls after excavation of the northwest and southeast quadrants left no alternative but to excavate the partially intact center segments of the remaining quadrants as well as possible. These were taken out and the floor levelled but no additional burial fragments or cultural materials were found.

**Mound No. 2**

This circular mound had been plowed but still showed conical form, its highest point being about 10 cm. above the surrounding soil surface. The mound was excavated by Uta Cole, Margaret Lussky, and John Kania. They set a line bisecting the center of the mound at 3S and extending from 16-19E. A 3m. square was laid out from 0-3S and 16-19E and excavated by stripping the soil in 20 cm. units. Excavation was continued until the upper portions of a small mortuary vessel were uncovered at a depth of 50 cm. A central balk 50 cm. wide was left from 3-3.5S. Then another 3m square was laid out from 3-6S and 16-19E and excavated in the same manner.

At about 40 cm. below the surface, a circular area approximately 1.5 m. in diameter was noted. A slightly darker color and scattered flecks of charcoal set off this area from the surrounding tan sand subsoil. The small mortuary vessel was within this circle. After profiling the central balk, it was removed and the darker area tabled. The table was then removed with trowels, and fragments of human bone appeared at a depth of approximately 75 cm. below the surface. Upon excavation, these proved to be the fragile remains of a single skeleton, consisting of weathered and rodent-gnawed long bone and skull fragments. The largest piece is a shaft of the left femur. Other pieces include part of the right half of the body of the mandible, a portion of the frontal bone, small pieces of what appear to be parietal and frontal bones of the skull, two pieces of the innominate bones, and a molar showing advanced wear, with the pulp cavity exposed. The wear of the molar and the morphology of the mandible fragment and the femur shaft indicate that these were the remains of an adult. No sex judgment is made in this or the other finds. The placement of the bone fragments indicate an extended primary burial placed on the back, head oriented toward the east, and facing up. The small mortuary vessel was in the upper portion of the dark soil of the pit, some 25 cm. above and at the right side of the burial. Charcoal fragments, a single wood fragment, and a pottery body sherd also were found in the dark soil around the burial. The location of the excavated squares, balk, dark soil zone, mortuary pot and burial can be seen in Figure 6.

The mound was constructed by first removing the humus soil zone, excavating a shallow circular pit into the subsoil, and interring a single body in the pit. A small mortuary vessel was placed with the burial, and the pit filled with earth, some of which must have come from the stripped humus soil. There may have been a fire built in or near the pit at this time. The conical mound was then constructed above the burial, probably by taking soil from the area between mounds #1 and #2, where a slight depression can still be seen.

**Mound No. 3**

A very slight surface rise of approximately 10 cm. along the base line from 25 to 32E suggested a probable
Figure 2 "Prairie Island rough map based on USGS Red Wing Quadrant."

Mound area. Mary Bruchert, Gerald Cortright and Leigh Elftman laid out a trench 2m. wide and 7m. long (Fig. 7). The surface soil was stripped to clear sand subsoil. A darker disturbed soil area showed at 30 cm. below the surface on the 1N line at approximately 31E. To expose this further, the trench was extended 1m. south from 29.7 to 31.4E. Fragments of human bone began to appear in the disturbed soil area below 30 cm. and the students then tabbed the entire area. Removal of the soil from the remaining bone fragments revealed parts of two skull caps, three long bones, and several very small bone fragments. Also found in the disturbed soil with the bone were two quartz flakes, three human molar teeth, a single cord-marked pottery sherd, and several flecks of charcoal. The soil around the larger bone fragments had been stained with red ochre.

The human bone fragments formed the remains of a secondary bundle burial at a depth of 60 cm., with one skull placed over the grouped long bones, the latter oriented east-west. (Fig. 5). This individual is represented by 15 cranial fragments, a few pieces of long bone shafts, and the crowns of three deciduous teeth. One of the teeth, a lower molar, shows considerable wear with the pulp cavity exposed. The other lower molar also is worn, but the second upper molar shows no wear. The presence of deciduous teeth suggests that the individual represented by those remains was not an adult. The presence of the three teeth which erupt at about the same time probably indicates that these remains are of two persons. A second skull was placed 10 cm. east of the bundle but had no long bones associated. This individual is represented by fragments of the cranial bones, including the parietal, frontal, occipital, and temporal bones. By the criteria previously stated, this individual was adult.

There is a single small hole about 4 ml. in diameter in the occipital bone of this individual. This hole could be the result of damage from rodents after death. The remains are badly weathered. The flakes and sherd found in the soil around the bones were probably accidental associations and not placed as grave offerings. It is also probable that more bones accompanied the original burial because of the number of small bone fragments found in the soil. Again, animal burrows and evidence of the long bones having been chewed by animals suggests that the original burials had been partially destroyed and scattered.

The burials were placed in a circular pit excavated into the sub-soil, red ochre accompanied the burial, and there may have been a fire on the soil surface adjacent to the pit. In filling the pit, with mixed top soil and sub-soil, charcoal fragments, quartz flakes and a pottery sherd were accidentally included. The mound constructed over the completed burial was circular and conical, to judge from Lewis' plat, and was in line with the other mounds in the group.
Mound No. 4
James Martin, Coral Berge, and David Holland laid out a 2 x 5m trench from 40-45E and 2-4N through what appeared to be a slight rise in the surface soil and stripped the plowed surface soil from the trench. The subsoil near the 40E4N corner of the trench showed disturbance and a 1 x 2 m. extension was excavated to expose this area. The area was not tabled, but was shaved carefully with shovels and trowels down to a depth of 90cm. below the surface. Two very small bone fragments, indications of red ochre, two quartz flakes, a chalcedony flake, a fragment of mussel shell, charcoal, and a single loop handle from a shell tempered pottery vessel were found in the disturbed area. While there were no human remains of any size, it is probable that there had been a burial in a circular pit as in mound #3 but animals and the damp, acid soil had destroyed the human bone.

Mound No. 5
The same group of students then moved to the last discernible rise in the surface contours and laid out a 1 x 7 m. trench from 78-85E and 0-1N. Bone fragments were found at a depth of 20 cm. at 85E, and the area around the bone was tabled and the bone exposed. The individual in the small remnant secondary bundle burial is represented by the remains of the skull and a few fragments of long bones. The cranial remains include primarily the right temporal bone. The size and shape of this temporal bone indicates that the individual represented by these remains was adult. These bone fragments were found so close to the surface that it is probable that plowing had torn away the skull parts lying above the long bones. As in the other mounds of this group, charcoal flecks were found near the burial, and there was an indication of red ochre in the surrounding soil.

A 1 x 5m. trench perpendicular to the first was laid out from 1-6N and from 81-82E. This trench was stripped to clear subsoil which showed no evidence of disturbance. A single large cord-marked pottery sherd was the only find in the trench.

Pottery and flakes from the mounds
The small mortuary vessel found on the edge of the burial pit of Mound #2 is grit-tempered, has the entire exterior surface marked with a cord-wrapped paddle, and an interior surface smoothed by fingers. The vessel is circular and has a nearly conoidal base. The globular body of the vessel constricts above the rounded shoulder to form a neck and slightly flaring rim. The lip is flat, smooth, and has not been thickened. The height of the vessel from the base to the lip is 6.5 cm. and the maximum diameter at the lip interior is 7.4 cm. The width at the maximum dimension of the body is only slightly greater than at the lip; and vessel walls are .5 cm. thick. For lack of decoration, it is impossible to fit the vessel to any known pottery type. The cord-marked exterior and conoidal base, however, indicate its Woodland affinities, and the shape indicates its origin in a period before the Late Woodland (pre-800 A.D.) where pottery vessels are uniformly globular with a rounded base (Fig. 9).
The few flakes and the single core from the mounds show no indications of modification or use and are by-products of tool manufacture. Their distribution is:
Mound #1 blue-grey chert core; in probable burial pit at a depth of 124 cm.
Mound #2 none
Mound #3 2 quartz flakes; 30-60 cm. depth.
Mound #4 2 quartz flakes; 15-30 cm. depth. 1 brown chalcedony flake; 15-30 cm. depth.
The quartz flakes are of local origin; quartz nodules occurring with frequency in the glacial drift. The blue-grey chert core is not local, and resembles the materials from Mississippian sites in the area where raw materials of this substance were brought in from the Iowa-Illinois regions to the south. The brown chalcedony flake is not of local origin but could have come from the grey glacial drift of western Minnesota or from the Dakotas to the west.
The pottery sherds are variable; their nature and locus of find is:
Mound #2 1 grit temper; smooth surface; .3 cm. thick; 34-36 cm. depth.
2 grit temper; corded surface; .7 cm. thick; 77 cm. depth.
Mound #3 1 grit temper; corded surface; .6 cm. thick; 60 cm. depth.
Mound #4 1 shell temper; loop handle; punctuates at handle top; 15-30 cm. depth.
Mound #5 1 grit temper; corded surface; .4 cm. thick; below 25 cm.

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The sherds are Woodland with the exception of the loop handle from Mound #4. This is a Mississippian sherd representative of the Initial Mississippian in Minnesota. The Woodland sherds could equate in time with the mortuary vessel, but lacking any rim or decorated pieces, positive association is impossible.

The small mussel shell fragment of mound #4 was found in the 15-30 cm. zone. The only other find of note was a single cucurbit seed in mound #2 at a depth of 17 cm below the surface. This is only slightly below the plow zone, and it could represent a recent intrusion.

**Skeletal Material**

No morphological characterizations of the few individuals excavated can be made from their scanty remains. Rodent action has clearly contributed to the destruction of skeletal material. The extreme weathering evident in all the bones and fragments may be due to exposure prior to burial, leeching and erosion after burial, or a combination of these forces. The presence of adults, with a single exception, is not significant. Subadult bones are more easily destroyed by weather and soil action than adult bones, so the absence may be a result of environmental selection, not social selection.

The most interesting aspect of these bone fragments is the heavy wear on the few teeth found. The adult molar was extremely worn, down to a point about level with the gum. While this could be associated with old age, the same relative degree of wear was shown on two deciduous premolars. From this evidence it is possible to infer an abrasive diet, with heavy emphasis on the vegetable.

**Comparisons**

The five mounds excavated and described here form a coherent cultural unit which combined both primary extended burial and secondary bundle burial in the same mound group. The presence of a mortuary vessel with the primary burial of mound #2 and the absence of grave goods with the secondary burials of the other mounds follows the usual pattern for such secondary burials in the upper Mississippi River region. It is thought that the initial primary burial was exposed on the surface and that any grave goods accompanied this first disposal of the body but not the subsequent burial of the remaining bones (Wilford, Johnson, Vicinus 1969).

Mounds #3 and #5 show definite secondary bundle burials, with red ochre and charcoal fragments present in the circular burial pit of mound #3 and in the pits of mounds #1 and #4, which probably had secondary bundle burials. The sherds and flakes of the mounds, most of which came from the fill of the burial pits, are of the same age or earlier than the mound construction. All but the pottery loop handle from mound #4 are of Woodland affinities.

One documented previous mound excavation on Prairie Island proved even less informative than the Birch Lake mounds. Wilford excavated a single circular mound in the Nauer Mound group, which is less than one-half mile from the group discussed here. The mound was one of what had been a group of more than 60 mounds located on the high ground east of the Birch Lake group and on the downstream tip of Prairie Island. Wilford reported a disturbed burial with no grave goods and only flakes and a few corded body sherds in the mound fill (Wilford, Johnson, Vicinus 1969:47).

A panther effigy mound found in a large group of circular and oval mounds near Diamond Bluff, Wisconsin, contained a flexed primary burial in a subsoil pit (Maxwell 1950:34) but does not appear to be related to the Birch Lake mounds. Further downstream, Hopewellian mounds in Trempealeau County Wisconsin, have been described (McKern 1931), and while the mounds contained both primary and secondary burials in shallow pits, the elaborate grave offerings accompanying the burials indicate a different cultural context than the mounds described here.

The several mound complexes of northeastern Iowa (Logan 1958; McKusick 1964) include the entire range of known burial mound construction but no complexes similar to that at Birch Lake.

The southeastern Minnesota mounds have not been intensively investigated, but those which are known are primarily very late Mississippian in origin. Some contain mortuary pottery, but it is shell tempered and of Oneota origin and quite unlike the vessel from Mound #2 at Birch Lake.

A number of large Mississippian village sites located within a five mile radius of the tip of Prairie Island have been tested or excavated. These include the Bartron site, which is located on high ground between the Birch Lake and Nauer mound groups, the Bryan site and the Silverdale sites on the Cannon River junction below Prairie Island, and the Diamond Bluff site across the Mississippi
channel from the lower portion of Prairie Island. All of these sites produced an occasional burial in the village area but cemetery areas for each village are not yet known.

The Silvernale site shows the earliest Mississippian culture in this locality, and probably the earliest on the extreme upper Mississippi River (Wilford 1945a). The pottery of this site includes a local variety of Ramy Incised which has a characteristic loop handle like that found in mound #4 of the Birch Lake Group.

Other sites with small mortuary pottery are known in the Minnesota region. The only sites with cord-marked mortuary pottery are the Stumne Mounds of Pine County, the Bronson Mounds of Kittson County, and a number of Blackduck Focus mounds of northern Minnesota. Stumne (Cooper, 1967) mortuary vessels are conoidal, dentate stamped, and approximately three times the size of the Birch Lake vessel. Both mound groups are composed of linear mounds with flexed primary burials in deep subsoil pits and seem unrelated to the Birch Lake mounds. The Blackduck focus burial mounds also bear little resemblance to those of Birch Lake (Wilford 1945b).

Other mortuary vessels associated with burials occur in the late component of the McKinstry mounds of the Rainy River (Wilford 1950). McKinstry vessels are smooth-surfaced and exhibit a variety of shapes, none of which duplicates that of the Birch Lake vessel.

There is, then, no previously defined pattern into which the Birch Lake Mound group falls. The scanty evidence available indicates a Woodland origin and only the loop handle from Mound #4 and the blue-grey chert core from mound #1 give any reasonable clues as to the temporal placement of the mounds. Both of these objects are Mississippian in origin, and the loop handle is probably quite early in the history of the Mississippian cultural intrusion in the Prairie Island area. No Woodland cultural unit present in the locality has yet been determined for the period of the initial Mississippian intrusion. It is certainly speculative, but possible, that the Birch Lake mound group was constructed by such a group in contact with an intruding Mississippian population and perhaps trading with them.

References


