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ORIGINS OF THE UNUSUAL STATURE OF THE SUSQUEHANNOCK: SKELETAL REMAINS FROM THE MURRAY GARDEN SITE (36BR2)

MARSHALL JOSEPH BECKER

ABSTRACT

In 1608 John Smith described the Susquehannock as a “gyant-like people.” The accuracy of his observation of impressive stature, as applies to the males, now has been confirmed. When and how this particular population developed genetically has yet to be documented. Recent study of material excavated more than a century ago at the Murray Garden site (36Br2) places this location within the Susquehannock cultural sequence and also sheds important light on the people interred there. This site and others in the Tioga Point area, at the confluence of the North Branch of the Susquehanna and the Chemung River appear to represent the relocation of Susquehannock villages from the far North Branch in present New York down to the forks in north central Pennsylvania. The human remains from 36Br2 offer a means of tracing the development of the unusual stature of these people after 1500, confirming the very important way by which curated collections can contribute to our understanding of the past.

INTRODUCTION AND BACKGROUND

In 1608, when John Smith first encountered “sixtie of those gyant-like people” who came to be known as Susquehannock (Smith 1624:29-30), his description of their stature distinguished them from all the other tribes in the Chesapeake region. Over the years other observers have independently noted and recorded the unusual height of these people. Direct studies of skeletal remains of known Susquehannock populations (Becker 1991, 2019) have confirmed the accuracy of these several observations when applied to the males of the population, but not the females.

A project to review various archaeological materials curated at the Tioga Point Museum in Athens, Pennsylvania (Wymer *et al.* 2020) included a preliminary study of the human skeletal remains from 36Br2, the Murray Garden site. This burial location had been found within the residential area of Athens, Pennsylvania in 1882 and the artifacts held in respectful curation since their excavation. Those buried at this location represent the Susquehannock during a period in which the area had been occupied, about 1530 - 1550 CE. Since we have data from a number of Susquehannock villages along the lower Susquehanna River dating from after 1550, the stature of the males at 36Br2 offered one means by which comparisons may be made.

The high ground in which 36Br2 is located overlooks rivers on either side of Tioga Point. When this locale became “urbanized” in the 1850s, this unique topographical feature became covered with large and stately homes. In 1882, while digging a drainage ditch from the house of Mr. and Mrs. Millard P. Murray on Main Street, a group of workmen encountered a series of graves. The excavation and recording does not allow this to be identified as a Native American cemetery although it is commonly referred to as such. The burials in this area may have originally been made within a palisaded village, a suggestion that requires further investigation.

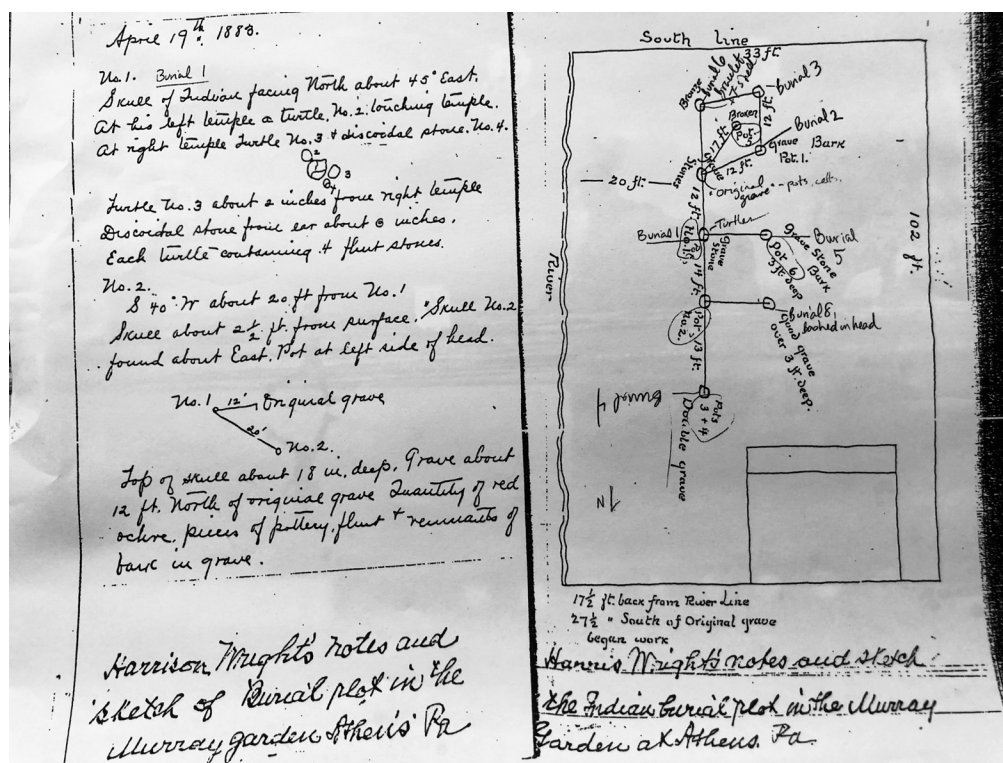


Figure 1. Harrison Wright's map (Murray 1921:193, Fig. 36).

The 1882 ditch passed through a modern garden and an orchard plot behind the Murray residence, overlooking the steep Susquehanna River bank. In the garden locale the workman accidentally uncovered a cluster of Native American graves and associated artifacts (Figure 1; Wright 1883, Murray 1908, 1921; Twigg 2009). Millard Murray, recognizing the importance of the discovery, stopped the workman and retrieved these materials. It probably was Mr. Murray who reported the discovery to members of the Wyoming Historical and Geological Society. One of that group's leading members, the young Harrison Wright was granted permission to formally excavate the area (Wright 1883). Excavations were conducted in April of 1883, led by Wright and joined by Mr. Murray and a small group of interested neighbors. This original excavation seems to have been largely conducted in a linear orientation, parallel to the river bank and 20 ft to the west from the bank's edge, consisting of large pits placed 12 ft apart (Murray 1908: 200). This information suggests to me that the burials were within a residential community. Wright's death at an early age (1850 - 1885: Kulp 1886) may account for some of the subsequent confusion in these records and the pause in activity at the site.

There are many discrepancies among the various accounts of this 1883 effort. A careful reading of Wright's original 1883 publication lists six graves, some with multiple individuals; or at least seven individuals. It is difficult to determine the exact number of graves and/or individuals buried in the area explored due to the imprecise writing style in these accounts. Tidbits of useful information are scattered across the three publications (Wright 1883; Murray 1908, 1921) and in the original documents now archived at the Tioga Point Museum. A sketch map of Wright's 1883 excavation, ultimately published in Louise Murray's 1921 article, suggests nine possible graves or burial locations, one of which is noted as a double grave. Wright also notes that many of the individual skeletons appear to have been buried "in a sitting posture," with photographs and other comments revealing that actually this was a common Native mode of flexed or semi-flexed burial positions (Wright 1885). Louise Murray, in her 1908 account, expresses regret that permission had been given to Wright to conduct his enterprise because the materials recovered ultimately went to the Wyoming Historical and Geological Society, rather than being kept at what became her own creation, the Tioga Point Museum (Murray 1908:201).

The untimely death of Wright in 1885 delayed further investigation, leaving later archaeological efforts in the hands of Louise Murray. Associated grave goods recovered during the 1883 operation include pottery, ochre, copper objects, and ground stone tools (Wren 1913, 1914:Plates 6 and 8; Cadzow 1936). Another 13 individuals were identified at a later date (Murray 1921: 192) and still other burials are believed to remain in place. Murray (1921: 190) reported that the remains of 29 people had been located but not when, or where they were found in relation to the drainage ditch. The very fact that this appears to be a specific cemetery area suggests that it may represent a mortuary pattern far different from that used at Susquehannock palisaded sites of later dates located along the lower Susquehanna River (cf. Kent 1984).

At the Murray Garden site most of the interments appear to have been buried in a flexed position. One person is said to have been found in a stone lined chamber or box, a grave that Moorehead (1938) describes as being fashioned from stone slabs, fashioned like a sarcophagus. Originally this person was described as lying on his back in an extended position, but further evidence suggests that this, atypical for these graves, was a loosely flexed burial (Twigg 2005:2-3). This particular burial, probably because of the location and the many associated artifacts, became known as the "Chief's Burial" or that of an "Andaste chief." At the time, Andaste was the term commonly applied to the Susquehannock. Louise Murray (1908:203) described these bones as those of a man "six feet or more in height." Later, possibly following excavations between 1908 and 1920, Murray (1921:190-191) claimed that several skeletons in this sample were over six ft in height. Moorehead (1938) repeated the idea that "the chief" was a "giant," a term in common popular use since Josiah Priest (1833) promulgated these ideas. Reports of bones from human giants were regular items in American newspapers, probably leading to the find of the "petrified" Cardiff, New York giant, a notable hoax from 1869 (Rose 2005).

Stone slab box graves have been reported from several places in central Pennsylvania, but no known study has been conducted. This unusual grave within 36Br2 is said to be at the center of a series of burials of more rudimentary form, placed in a circle around it. Given the excavation and recording methods of the time, most of the information from this site is impressionistic. Even Murray's publication of "Harrison Wright's sketch and notes" (Murray 1921:193, Fig. 36), apparently an effort to indicate the scientific nature of this effort, reveals the lack of data control common in that era.

In 1895 the last recorded excavation at the Murray Garden site focused on the central area of the garden plot, in which a series of large "drift stones" had apparently been arranged in a circle. This area had been left undisturbed since the Murrays assumed that it marked the location of another gravesite. The excavation of the "Chief" was a featured part of this event. It appears that Mrs. Murray coaxed her husband to allow an excavation of this unique feature "...to celebrate the formal opening of the Tioga Point Museum, and June 27, 1895, the work was begun...The circle of stones appeared to be over a sepulcher measuring about three by five feet, with an upright stone at each corner..." (Murray 1908:203; 1921:198-199). The accuracy of any of these observations cannot be verified, but photographs taken in 1895 indicate that this burial was flexed within a grave that apparently was lined with and surrounded by flat, vertical stones, similar to other Native graves known from north-central Pennsylvania. Skeletal remains from this grave and from at least some of the other Murray Garden graves were held at the Tioga Point Historical Society, with the supposed "chief" safely stored in a display case where it remained for a century (Figure 2). In 1994 these materials were placed under restricted curation, with the associated charcoal and paint samples being separated and kept aside for later study.

The excavators in 1895 took several days to locate and uncover a grave, supposedly of a single individual. Murray assumed this person to be male. The individual was buried with a large number of artifacts, including pottery, a "tomahawk" with the wooden haft still extant, and ground stone objects ("a fine celt"). Murray (1921:199) also reported that a "triangular arrow point, bits of mica, and wampum were also found." The date indicates that these were not the small tubular beads of true wampum, which first developed after 1595 (Becker 2012), but rather some other type of shell beads. In both the 1908 and 1921 publications Murray indicates that this burial was left *in situ* for at least a few days, and was "... visited by more than 1,000 people before his removal to [the] museum" (Murray 1908:204). There is an early photo in the museum archives which shows a cluster of men and women in their finery peering down into the open excavation pit. Eventually it was decided to clear a trench around the skeleton and large sheets of zinc were forced under the dirt matrix containing the burial. Then a wooden frame was



Figure 2. Grave identified as “The Chief” at 36Br2. Note unique position of the burial and what appear to be aboriginal stone artifacts *in situ* (Becker 2019).

nailed around the perimeter, and the entire large block of sediment containing the skeleton and artifacts was removed to the museum (Murray 1908, 1921). The skeleton and associated artifacts later became encased in a glass and wooden cabinet, on view in the museum itself. At some point a shellac coating was applied to the fragile bone.

Later in 1895 Louise Murray and several other residents of Athens, Pennsylvania founded the Tioga Point Historical Society, to preserve the historic and the prehistoric records and artifacts from this important part of Pennsylvania. The impressive Greek revival building erected in 1897 - 1898 now houses the Tioga Point Museum and the town library. The extremely important archaeological collections excavated by Louise Murray and her associates from the Murray Garden site, and from several other local Native American sites, have been safely curated in this building for more than 120 years.

With Harrison Wright’s death in 1885 further exploration of the area was left to Louise Murray. In her 1908 publication, Murray refers to activities in her garden area after the 1883 excavations. She reports finding additional graves, and that the burials were much more closely spaced than the 12 foot interval originally assumed. For example “...there were some old stumps of apple trees on the river bank on the edge of the plot, supposed to have been of Indian planting...Upon having them removed it was discovered that under each was a grave or Indian repository of pottery” (Murray 1908:202). In her 1921 publication Murray comments that at least 29 individual burials had been ultimately “identified”; said to be 25 adult males, three adult females, and “one child.” There is no record what became of any of the bones.

What makes the Murray Garden site noteworthy are the distinctive artifacts suggesting that most if not all of the burials date to the period when the region's Native peoples first enter the historical records. Murray (1921:190) states, for example, that "...this was an Andaste [Susquehannock] cemetery, yielding, in connection with other finds hereabouts, the first evidence of the culture indicated in Capt. John Smith's narrative of three hundred years ago." The "Andaste" now are more commonly identified as the Susquehannocks (Raber 2019). The distinctive pottery, turtle shell rattles, antler/bone combs, copper spirals, ground stone, triangular flint projectile points, and other such objects are all associated with Susquehannock sites of this and later dates in the lower Susquehanna River valley.

THE MURRAY GARDEN DATA

The various peoples who lived in the region that is located in the forks formed by the meeting of two major rivers, the Chemung and the North Branch of the Susquehanna, occupied a cultural and geographical focal point for centuries. Ancient and historic populations used these rivers as transportation routes and the area where they join had long been a major settlement area. Louise Murray's work in this region, with a number of professional archeologists such as Warren K. Moorehead and a very young James B. Griffin led to several excavations in an area that continues to draw the attention of scholars. The discoveries made at localities such as the Murray Garden site and Abhe-Brennan site are referenced in the professional and popular literature relating to Native American archaeology in this region, but few excavations have been published since those early pioneering efforts (Marble 2003).

An important volume of Susquehannock studies (Raber 2019) includes several articles that complement the skeletal information presented here. These papers offer insights into the earlier published literature and present updated information on the people and their bones. Notable among these papers is Gollup's update on what is known about the Tioga Point region. Gollup's review (2019:23) of the ceramic evidence refutes the idea that the so-called "Proto-Susquehannock ware [that] is generally believed to be the closest ancestor to the Lower Susquehanna Valley Schultz Incised type" and seen as a link to Cayuga/Seneca origins. Gollup (2019:23-24) points out that "The primary issue facing ceramic seriation is the similarity of the pottery in the region; the broad and often inoperative descriptions of each type, particularly when applied to smaller sherds; and the difficulty that researchers face when attempting to recognize distinction." In short, ceramic data cannot be used to provide a chronology by which sites throughout the greater Susquehannock region have been dated, let alone to develop a useful series for local studies. Wyatt (2019:140, 141) uses shell-tempered pottery to identify the recently discovered 36CU194 as a Susquehannock site, but he places the date of occupation at 1610 - 1624 based solely on glass trade bead chronology. Wyatt's evidence supports Gollup's rejection of ceramic information in dating these sites while casting doubt on his use of temper as a cultural identifier (contra Herbstritt 2019).

The materials preserved at the Tioga Point Museum include organic items believed to have been associated with the feature from the Murray Garden site identified as the "Chief's burial" (Murray 1908; 1921). The Murray Garden materials may include carbon samples that might provide a specific data for this burial and those associated with it. A wood sample recovered from the Effigy Hearth site (36Br28; also identified as the Clapp Farm site) has been dated. Located only 5.5 km (3.4 mi) to the northwest, 36Br28 is adjacent to the western bank of the Chemung River. This site is located at the foot of the southern portion of Spanish Hill (E. Murray 1936:17; Anonymous 1933; Twigg 2005). Excavations at 36Br28 by Elsworth Cowles in the early 1930s identified a palisaded area (Marble 2003:39-40, 50, Fig. 8). C14 dating of charcoal recovered from a pale is reported by Wymer (personal communication January, 2020) to have a calibrated intercept date of ca. 1525 - 1530 A.D. (Beta-533692). This suggests that these villages are closely related in time. These data help clarify the cultural history of several sites in this area and also suggest that others in the general region around Tioga Point may be directly ancestral to Susquehannock sites in south-central Pennsylvania.

THE TIOGA POINT MUSEUM MATERIAL

Spurred on by the guidelines and implementation of NAGPRA regulations, researchers decided in 1994 to remove the "Chief's burial" from public viewing. The osteological material was carefully extricated from the matrix and along with various artifacts was placed in an archival box in a secure

location at the museum. Osteology box Br2 31.1 6-1994 holds the remains of the “Chief’s burial” along with other objects that had been carefully wrapped in archival paper or placed in containers. Skeletal material represents one older male plus a few fragment of bones from other individuals. Some of the surfaces were covered with shellac, probably applied to help with preservation when the burial was maintained in the grave’s dirt matrix. In addition to the osteological material there were also a number of artifacts within the box, presumed to be from the same grave. Four plastic bags with these bones contain charcoal and un-carbonized (uncharred) wood fragments. Other items had been bagged with cardstock labels probably dating from the 1930s or earlier.

Murray comments throughout her 1908 publication that the graves commonly revealed evidence of the remarkable preservation of (uncharred) bone and wood. A turtle shell rattle and broken bone comb bone comb recovered in the very first grave uncovered by Wright (1883). Also, “this skeleton was buried lying, with head on a pillow of twigs bound tightly together...Many of these graves were lined with bark...” (Murray 1908:200). In fact, as noted above, Murray describes that during her excavation of the “Chief’s burial” a cluster of objects was found lying on the right side of the skeleton, including a “tomahawk” and that the “wooden handle [of the tomahawk was] plainly discernable” (1908:204). All these artifacts and samples were available for study.

THE HUMAN SKELETAL REMAINS: FURTHER CONFIRMATION OF SUSQUEHANNOCK STATURE

The human remains from the Murray Garden site (36Br2) became one study within a SRAC program of research. In October of 2019 Becker was hosted by Director Todd Babcock and his staff at the Tioga Point Museum to undertake a preliminary examination of one set of several human skeletal remains preserved there. Skeletal remains from four individuals recovered from the related Murray Farm site (36Br5) also were examined briefly. Only one of these four Murray Farm burials appears to have been a male. His stature is calculated as 176.4 cm. (68.23 in); slightly taller than the Murray Garden male.

The human osteological material from the Murray Garden site had been recovered more than a century ago and since then has been held in respectful curation at the Museum. This study was undertaken as part of the Museum’s compliance with the Federal mandated Native American Graves Protection and Repatriation Act (NAGPRA). The first stage of this process involves the cultural identification of the material in question. While the original excavators believed the artifacts and human remains were derived from an early sixteenth-century Susquehannock occupation, no modern study had confirmed this early inference, and no review of any of the skeletal material had been undertaken.

Evidence for the Susquehannock being “A gyant-like people” has been further confirmed in a recent publication focusing on the stature of the Susquehannock people (Becker 2019). These studies demonstrate that Susquehannock males (but not females) were taller than any other archaeologically recovered Native American male population in the Northeastern region, but within the range of those calculated from two Seneca sites of the early Contact period (Wray *et al.* 1991). The gender differences reported by Wray and his colleagues suggest “that biologically diverse females relocated to the community from multiple, often distant locales” (Feinman and Neitzel 2019). This confirms an earlier examination of data from a ca. 1550 Susquehannock site (Becker 1991). The findings regarding stature among the females also may explain why ceramic typologies have low predictability in these communities. The goal of the present study was to determine if the long bones from one skeleton excavated from the Murray Garden site (36Br2) derive from an exceptionally tall individual, said to be over 6 ft (183 cm) in height (Murray 1908). Evaluation of his stature using modern methods of analysis, when compared with males from other known Susquehannock groups, suggests a possible cultural affiliation and thus places the Murray Garden site within the Susquehannock constellation.

The materials available for study are the human skeletal remains from excavations at Pennsylvania’s Murray Garden site (36Br2). Other remains curated at the Tioga Point Museum also were made available for study in October of 2019. Several well preserved long bones and one skull were examined, with inventories and study of all the other human skeletal remains deferred for future study. This preliminary study found that the skeleton of the so-called “chief” excavated from the Murray Garden site had long bones sufficiently intact to permit accurate measurements to be taken. Those of the legs

provided evidence for a stature of 173.3 cm, while the right upper arm bone suggests a stature of 169.7 cm. The difference between these findings is well within the margin of plus-minus for each example, suggesting that a stature estimate of 171.5 cm. (67.52 in, or 5 ft 8 in) would be reasonable.

The extremely small sample sizes that are available for the calculation of stature from this and other related archaeological sites in this area offers only the lowest possible level of predictability (YuTing Tian, Senior Statistical Programmer at Vertex, personal communication 27 September 2019). On the basis of this single male individual from the Murray Garden very little can be said regarding the entire population at this location. A height of 171.5 cm falls near the lower end of the four Susquehannock males from 46Hm73 (range 170.22 – 180.03 cm; average 176.02 cm., Becker 2019:184, *passim*); a site that had provided data used to confirm that the Susquehannock of the sixteenth and seventeenth centuries were unusually tall. The stature of this single Murray Garden male is near or above the average for males from all the comparative populations identified by Becker (2019). However, if this individual were to be the tallest male in the Murray Garden population, their relative statures would probably rank them as less clearly “tall” than the data from the better documented 46Hm73. Note also should be made that *only* male bones from the small Murray Farm population were examined during this study. They allow us to calculate a stature of 176.4 cm (femur only), or nearly two inches taller than the Murray Garden male and above the average for the tall males of 46Hm73.

While these statures may seem unimpressive relative to those of modern Americans, they are impressive relative to the statures of known Native American populations from the Colonial period. While the popular image of the American Indian suggests healthy and robust populations, the reality is that the known cultures for which we have good data reveal a much shorter population than generally believed; far shorter than the average for the descendants of Colonial immigrants in Pennsylvania.

The stature of the single male skeleton that had been considered as the central figure at the Murray Garden site was calculated using the recalibrated Trotter and Gleser (1958:120, Table 10) formulae for American White males (1958:120, Table 10). The reasons for using these formulae are detailed in Becker (1987). The Trotter and Gleser (1952:495, Table 13) formulae for American White females have been used for those females identified from other sites (cf. Marble & Co. 2003).

36Br2: Murray Garden site (Museum accession number was assigned in 1931)

US 31.1, Individual A: Male, age 60+ (from suture closure).

Skull length 195.1 mm, breadth 140.0 mm, basion-bregma height 146.3 mm

Femur lengths (both estimated): Right 448 mm; left 449 mm. Midshaft diameters: Right 33.2/25.2 mm; left 32.2/26.1 mm. The femur heads seem small for a male, but are too damaged to measure actual diameters. Right tibia length 395 mm, with nutrient foramen diameters of 36 x 22.6 mm; left tibia is damaged. Femur plus tibia lengths yield a stature of 173.3±3.74 cm (68.23 in).

Right humerus, with a distal end damaged, has an estimated length of 317 mm, or stature of 169.7 ±4.57 cm. (66.82 in). Head diameter 47.2 mm (maximum vertical). Clavicle lengths, right 151 mm, left 145 mm. Several vertebrae are noted, many with pathologies (e.g. exostoses) that appear age related. Excavation damage on the distal shaft of the left femur is not evidence of cut marks. These remains merit further review. Also found in this grave were ceramics and “wampum,” which was not further described.

Individual B: Fragments of an adult cranium and of two vertebrae. Too fragmentary to suggest a definitive evaluation.

Individual C: A child’s right femur and a possible distal ulna fragment represent a child or young woman of age 16 - 17 years.

36Br5: Murray Farm site

The 1916 excavations at the Murray Farm site, on the other side of the river from the Murray Garden site, encountered 57 burials. Only a small portion of these bones are now in Athens. Other sets of bones may be stored elsewhere. These 1916 excavations were featured in a brief report in a note to the *American Anthropologist* (Anonymous 1916:451). In 1916 some 57 skeletons were said to have been excavated from an "Andaste cemetery near Athens, Pennsylvania." Also noted in this report is that "Contrary to absurd newspaper reports, none of the skeletons were abnormal." Subsequent suggestions that some of the skeletons were disarticulated also are incorrect. Soon after, Louise Murray (1921) published an extensive review of the work at the Murray Garden site, including a great deal of information from the 1916 excavations. These data appeared in a two-part (60 page) report in the *American Anthropologist*. Moorehead's review (1938) of the 1916 excavations did not appear until 22 years later.

Efforts to restore these human bones at some time in the past resulted in two proximal femurs from what may be the same person being glued together as if they were a single bone.

Burial 4: Female?, age 17± years.

The epiphyses of this individual are nearly fully developed, but with no fusion. Only the left tibia was examined. The length is 319 mm, and the nutrient foramen diameters are 25.3/18.9 mm, suggesting a stature of 154.0±3.66 cm (60.65 in)

Burial 5: Male?, adult

Only the left femur was examined, and this has a damaged distal end. Maximum length is estimated at 478 mm. This suggests a stature of 176.4±3.94 cm (69.46 in). This femur head diameter is estimated at 42.6 mm; the midshaft diameter is 31.6 mm (lateral is damaged).

Burial 6: Female ???; adult

Age and sex were evaluated independently using these two distinct bones. Left femur length estimated at 420 mm, with midshaft diameters of 28.5/25.1 mm. The left tibia of this individual was examined separately and found to have a length of 359 mm, and the nutrient foramen diameters are 31.2/23.7 mm. Combining the lengths of both bones provided a calculation of stature at 161.5±3.55 cm (63.58 in).

Burial 12 [Not certain if this is a Murray Farm burial]. Female?, adult.

Both femurs and a right tibia are present. The right femur length is 431 mm, with midshaft diameters of 24.3 /26.7 mm. These lengths enable us to calculate stature at 160.6±3.72 cm (63.21 in).

36Br1: Museum site

Skeletal material accessioned as 31.312. Adult Female. The right femur distal end is damaged.

36Br42: Ahbe Brennan site

The Ahbe Brennan site, excavated by the very young James Griffin in the 1930s, yielded a burial in which a white kaolin pipe (European) was recovered, including some tobacco within the bowl.

Burial No. 1: Male ??, adult. The left femur length of 438 mm. enables us to calculate stature at 167.1±3.94 cm. (65.81).

DISCUSSION

Following the observations on Susquehannock stature made by John Smith, three other Colonial period observations of living Susquehannock people report similarly tall individuals. These eyewitness observations of living individuals extended into the 1700s, with one of them referring to a leader who was born a Susquehannock and later adopted into the Five Nations. Each report independently comments on the unusual stature of these people (e.g. Michel 1916 [1701-2]). These comments were independently

recorded in documents relating to situations in which members of this tribe appeared at public events (Becker 2019). With regard to these studies, and their value for understanding our shared past (Chamoun 2020), we now have osteometric data from several Susquehannock sites as well as from Iroquoian populations in New York State for comparison. Information is available from the Engelbert site in New York and from other sites in the upper Susquehanna River drainage (Beisaw 2007; Versaggi *et al.* 1996). Further comparative osteometric information, from the Ahbe-Brennan site near Tioga Point, is included within a report submitted by James Griffin (1931) to the Tioga Point Museum. His significant lists of traditional bone measurements provide excellent indication of the extent of the recovered skeletal material. These lists are parallel to those of my earlier bone studies, still in vogue into the 1970s (cf. Howells 1973). This type of nineteenth-century data gathering has long been superseded by more focused studies, as well as by DNA research. DNA studies, however, cannot provide indications of stature. As is evident from small sample sizes available from excavations of known Susquehannock burials, statistical analysis of relevant information regarding stature (Becker 2019) continues to be problematical. The date (ca 1530 - 1550 CE) for 36Br2 (Wymer *et al.* 2020) and related evidence place this site in the Susquehannock sequence. The calculation of stature from the single male at 36Br2 suggests that the males in this population may be as tall as those of other Susquehannock sites of this period. Data from skeletal material from sites of what had been called the Shenks Ferry people (Herbstritt 2019) would provide important information for comparative studies.

CONCLUSIONS

An evaluation of human skeletal remains that were recovered more than a century ago at the Murray Garden site (36Br2) allows this location to be evaluated within the context of contemporary nearby sites as well as the post-1500 Susquehannock villages located far downstream, along the lower reaches of the Susquehanna River. This study confirms that museum collections from the past, such as those held at Tioga Point, can be extremely important in the pursuit of modern archaeological questions (Allen and Ford 2020). Together with other data from these cultural features we can place this site in time, placing it in the period when these Native populations were beginning to enter the historic record. Evaluation of the stature of these people, three males (average 172.2 cm or 67.8 inches) and three females (average 158.7 cm. or 58.9 inches) further confirms observations that the Susquehannock, said to be “a giant-like people,” may include the people at the Murray Farm site. As a Susquehannock population of the first half of the sixteenth-century, the Murray Garden people appear related to, or immediately descended from, the people at nearby Murray Farm site 36Br28. Together these studies reinforce the belief that the Susquehannock people, previously linked with the New York Iroquoians, relocated or were driven down the river that bears their name, and settled in the region around Tioga Point around 1530, before relocating to sites along the lower Susquehanna River around 1550 CE..

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