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Legacy - December 2014

South Carolina Institute of Archaeology and Anthropology--University of South Carolina

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Thank You! Nena Powell Rice, Editor, (803) 576-6573 Office, (nrice@sc.edu).

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Legacy

South Carolina Institute of Archaeology and Anthropology

Search for the 1853 Wreck of US Revenue Cutter *Alexander Hamilton*

By Nate Fulmer

This summer, Maritime Research Division (MRD) staff assisted the US Coast Guard in a side-scan sonar survey for the mid-19th century wreck of the United States Revenue Cutter *Alexander Hamilton* just outside of Charleston Harbor. The US Coast Guard (USCG) Historian's Office had requested our assistance to locate the shipwreck as part of their efforts to publicize the recently launched Legend-class USCG cutter named *Alexander Hamilton*, the sixth vessel bearing the name of the first Secretary of Treasury. The new cutter will also be home ported at Charleston. We hoped a remote sensing survey would help provide some clues as to the whereabouts of the remains of the first USCG vessel to bear this name. Launched in New York in 1830, USRC *Hamilton* was a Morris-Taney class topsail schooner that operated out of Boston. The fastest vessel of her class, she continuously patrolled the eastern seaboard for much of her 22-year career before sinking near Stono Inlet during a powerful gale in December of 1853 (Figure 1).

In late August 2014, MRD staff joined two USCG Regional Dive Locker West divers, Michael Garst and Bill Glenn and members of the Coast Guard Auxiliary aboard the vessel *Honey Girl* to begin the search for the revenue cutter. We spent four days traversing a survey block (Figure 2) at Stono Inlet just off Folly Beach towing an Edgetech 4125 side-scan sonar fish. Despite battling heavy seas during the first couple of days on the water, we completed the survey of the entire 2.2-mile by 1.4-mile block and mapped a number of interesting anomalies during the week. Although nothing was immediately identified as the remains of the schooner *Hamilton*, the data is currently being analyzed to prioritize potential dive targets in the future. If several targets are identified, we hope to conduct diving operations in concert with an USCG dive team to identify their potential archaeological or historical significance. We appreciated everyone involved for all their hard work in this attempt to locate USRC *Hamilton*. We may not have found it yet, but we collected a lot of data and made some new friends in the process.

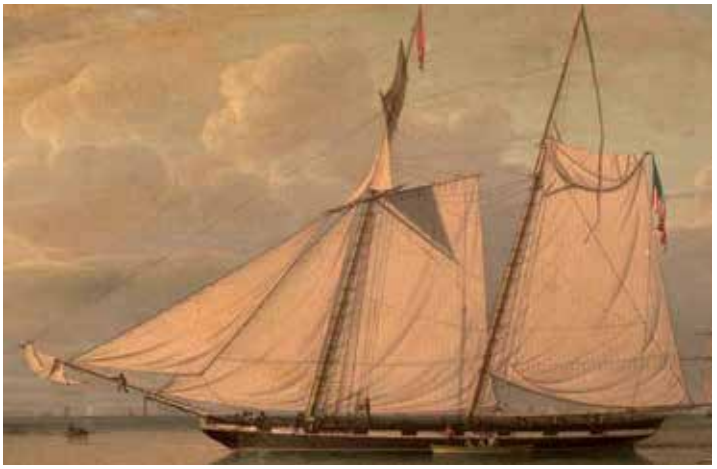

Figure 1: US Revenue Cutter *Alexander Hamilton*

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Director's Note

By Steven D. Smith
SCIAA Director

Changing Faces at SCIAA

Just when we got Charlie Cobb back from the Department of Anthropology, he's up and run-off again! I am very sorry to announce, if you have not already heard, that Charlie has accepted a position at the Florida Museum of Natural History, in Gainesville, Florida. Starting in January 2015, Charlie will be Curator and Lockwood Professor of Historical Archaeology…or in other words, he has accepted a full-time research position to seek out new worlds and go where no archaeologist has dared to go. We wish him well, but, darn it, 'Charlie, we hardly knew ye.' Charlie will continue many research projects he has started here in South Carolina with Chester DePratter, and we hope he will invite Jim Legg and I down for some future battlefield projects we are dreaming up. Yes, this means that the university has taken the "Interim" off my title, and I am now Director. I plan on working hard to continue the improvements and innovations started by Charlie and begin a new chapter at SCIAA.

Charlie is not the only one moving on. Mark Brooks, long time Director of the Savannah River Archaeological Research Program retired in June 2014. Mark is one of the real SCIAA old-timers, joining the SCIAA in 1977 and the SRARP in 1984. You have seen his work in *Legacy*, including Carolina Bay research and lithic studies in this issue. For Mark, retirement simply means he will focus entirely on research without the administrative responsibilities of running the SRARP. I'm beginning to see a pattern here. Two of SCIAA's top administrators have moved on to full time research.

And the list continues. Ashley Deming has taken a new position as Director of Education and Administration at the Michigan Maritime Museum. Jim Spirek salutes Ashley in this issue of *Legacy*, and, I want to say that Ashley will be greatly missed for her enthusiasm for public oriented archaeology. The Hobby Diver program was greatly strengthened under her administration.

These personnel moves have provided an opportunity for new faces at SCIAA and some old faces in new places. Keith Stephenson has been appointed the new Director of the SRARP. Keith originally joined the SRARP in 1990, and then left in 1994, to pursue graduate school at the University of Kentucky. He returned to the SRARP in 1998 with his Ph.D. Keith's research interests are in the Woodland Period in the Southeast. Lets see what happens to his research time now that he has joined the administrative ranks!

Meanwhile, as this issue of *Legacy* goes to press, we are advertising two new

Jean Guilleux, commencing the Arkhaios Cutural Heritage and Archaeology Film Festival in Hilton Head Island, SC. (Photo courtesy of Mary Lou Brewton)

positions. I am very pleased to announce that we are now seeking a Research Assistant Professor in Hunter-Gatherer Studies. This position will replace our retired Albert Goodyear. This is a plum job for some young, enthusiastic archaeologist with an interest in the Paleoamerican studies and the Archaic Period. The position also will teach in the Department of Anthropology, so the candidate will have access to undergraduate and graduate students. We anticipate having our new researcher on board by July 2015.

The other position we are advertising is for a replacement of Ashley Deming at our Charleston Branch. This position will take over the Hobby Diver Program and continue underwater research. We hope to have this person on in early 2015.

Arkhaios Film Festival

In October (23 through 25), 2014, the SCIAA sponsored and participated in the highly successful second annual Arkhaios Cultural Heritage and Archaeology Film Festival on Hilton Head Island. The festival is the creation of Jean Guilleux, who really is the heart of the festival, not only as Founder and Director, but who works exhaustively on all phases of the program. This second year, Jean called for film registration in the spring, and 40 films from nine countries were submitted. A selection committee narrowed the films down to 17 that were viewed by a Jury, which awarded prizes in five categories: Grand Prize, Best Cultural Heritage Film, Best Archaeology Film, Best South Carolina Heritage Film, and, the Founder Award for Public Archaeology. Each day the audience also voted for their favorite. Chester DePratter served on the Selection Committee, and I served as Chair of the Jury. The Archaeological Research Trust and individual members, First Lady Patricia Moore-Pastides, Kenneth Huggins, Robert Mimms, and William Schmidt also contributed to the festival, along with the Coastal Discovery Museum on Hilton Head. I draw your attention to the festivals website at: http://www.arkhaiosfilmfestival.org/ for more information and to discover who won the prizes this year.

Jillian Galle and Charlie Cobb discuss the Yaughan and Curriboo artifact collections and the best places to eat lunch in Columbia. (Photo courtesy of Jim Legg)

SCIAA at SEAC 2014

The Institute hosted the 71st Annual Southeastern Archaeological Conference November 12 through 15, 2014 in Greenville, South Carolina. Charlie Cobb was the Conference Chair, along with Karen Smith, and Nena Powell Rice. Keith Stephenson and Brandy Joy also contributed to put together the conference program, and the Savannah River Archaeological Research Program was another strong sponsor. The Institute's research was prominent throughout the conference including papers by Charlie Cobb, Chester DePratter, Adam King, Keith Stephenson, Karen Smith, Albert Goodyear, James Legg, Mark Brooks, Jessica Cooper, Nate Fulmer, Ashley Deming, Christopher Moore, Heathley Johnson, James Spirek, Joseph Wilkerson and myself. Also USC graduate students Rebecca Sheppard and Johann Sawyer, who are supported by SCIAA, presented their research. The Institute also celebrated their 51st year in research by hosting a reception on Friday evening. The reviews for the conference are in, and it was a smashing success with 680 paid attendees, and rave reviews for the venue, especially for the Thursday reception that went far beyond mere 'finger food.'

Visiting Scholar Award

Just as we were putting this issue of *Legacy* to bed we learned that Karen Smith of the Applied Research Division, along with Daniel Littlefield of the USC History Department, David Miller of the English Department, and Terry Weik of the Department of Anthropology was awarded a Visiting Scholars grant from USC to bring to Columbia, Dr. Jillian Galle of the Digital Archaeology Archive of Comparative Slavery (DAACS). DAACS is a web-based data base for the study of slavery from a wide diversity of archaeological sites throughout the Atlantic World. The University and SCIAA (2006) have been partners in this initiative for some-time, most recently Charlie Cobb received a Save America's Treasure's grant (2012) to stabilize and re-analyze artifacts excavated from Yaughan and Curriboo plantations in the lowcountry of South Carolina and housed at SCIAA. Under the Visiting Scholars grant, Galle will lead three DAACS workshops and a colloquium in the fall of 2015. These workshops will explain DAACS to new researchers, provide hands-on experience with DAACS collections and allow attendees to use their own collections. At the end, Galle will present a colloquium on gendered social strategies among 18th century plantation slaves.

Finally, enjoy this issue of *Legacy*, which once again demonstrates the diversity of research among SCIAA scholars from searching for 19th century schooners to immunological analysis on Archaic Period stone tools. So, don't let anyone tell you, you can't get blood from a rock!

Maritime Research Division

Hobcaw Barony Waterfront Cultural Continuum Project - Results from the Field

By James D. Spirek

Working in partnership with Dr. Karen Y. Smith, Director of the Applied Research Division (ARD), the Maritime Research Division (MRD) at SCIAA embarked on an underwater archaeological prospecting venture along the Winyah Bay waterfront of Hobcaw Barony near Georgetown (Figure 1). Our effort is one component of a larger collaborative endeavor by SCIAA, SCETV, and USC professor emeritus Leland Ferguson, under the auspices of the Belle W. Baruch Foundation, to document archaeological sites on the 16,000 acre preserve on the southern end of the Waccamaw Neck. Our underwater project objectives included locating prehistoric or historic sites eroding along the shoreline, a ferry landing, shipwrecks, and abandoned watercraft. As the Hobcaw landscape has historically been the site of intensive rice agricultural activities, we also expected to encounter associated infrastructure consisting of canals, rice fields, and vernacular watercraft, e.g., barges, pole boats, and dugout canoes (Figure 2).

Figure 1: Karen Smith manning the data acquisition station. (SCIAA photo)

Figure 2: Portion of 1821 Mill's Atlas of Georgetown District showing a number of plantations focused on rice agriculture along the Hobcaw Barony waterfront. (SCIAA graphic)

From 7-10 July, the MRD launched remote sensing operations consisting of a cesium magnetometer and side scan sonar towed along the adjacent waters of the Hobcaw Barony to locate sites, structures, and objects of historical or archaeological significance. The instruments detected a shipwreck and a number of magnetic and acoustic anomalies (Figure 3). The shipwreck measured approximately 120 feet (36.5 meters) in length and 26 feet (8 meters) in breadth with varying heights of structural relief off the bottom. The weak magnetic anomaly associated with the shipwreck suggested the remains of a wooden watercraft. We also visited a ruined rice mill next to a canal in which a rice barge was reportedly abandoned (Figure 4). Unfortunately, the barge was not visible, as it was buried under several feet of mud and reeds. Returning to the office, we post-processed the acquired electronic

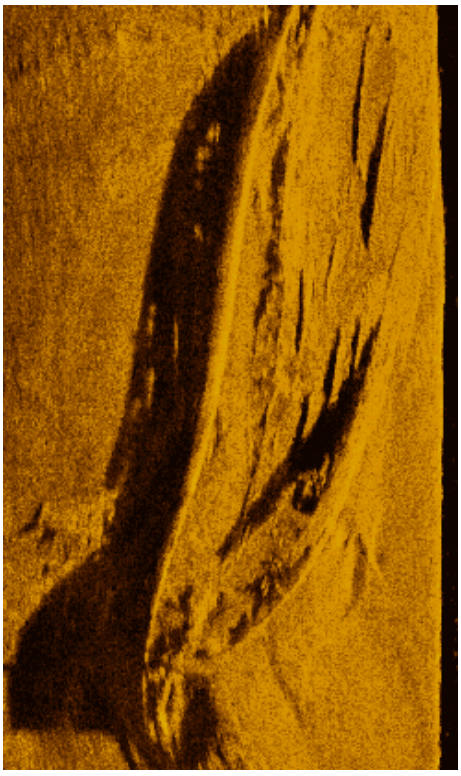

Figure 3: Sonogram of a shipwreck adjacent to Hobcaw Barony. (SCIAA graphic)

Figure 5: Iron fasteners protruding about 6-7 inches from the side of the wreck. (SCIAA photo)

Figure 4: Joseph Beatty, Karen Smith, and Keith Stephenson investigate ruins of a rice mill. (SCIAA photo)

data and then prioritized several magnetic and acoustic anomalies to identify their sources during the next phase of the project.

The MRD returned to the Hobcaw Barony waterfront from 11-15 August to ground-truth the shipwreck, prioritized anomalies, and to prospect along the shoreline for eroding terrestrial sites. For this phase of the project, volunteer divers Ted Churchill, Jimmy Armstrong, and Catherine Sawyer joined us. Our first two dives centered on investigating the presumed shipwreck lying off the Barony. In extremely turbid water, we groped our way around the wreck and found several sections of iron-fastened edge joined planks (Figure 5). Some of these sections lay collapsed on the bay floor, while others remained upright. Based on the joinery of the planks and absence of frames or deck beams, we tentatively identified the watercraft as a barge, empty of any cargo. At this time we are uncertain of the vessel's historical context, but certainly the site dates to no earlier than the late 19th century and most likely is of a later vintage. Diving along the shoreline at two sites, a reported ferry landing and an eroding prehistoric site, revealed a plethora of Native American ceramics, along with some historic pottery, including a quantity of bricks and cobblestones that suggested proximity to the landing (Figure 6). We also ground-truthed a number of magnetic and acoustic anomalies that were identified as remnants of tree trunks - masquerading as structures in the sonograms, or modern iron debris, including a cache of iron bolts and a large nut, and some one-inch diameter iron pipe (Figure 7).

Overall, our Hobcaw Barony work resulted in a solid archaeological prospecting venture that succeeded in locating several items of historical and archaeological interest. We intend to incorporate our findings into the overall archaeological record at Hobcaw Barony. During the project, we were joined and ably assisted by fellow SCIAA archaeologists Drs. Karen Smith and Keith Stephenson, Director of the Savannah River Archaeological Research Program, as well as freelance videographer and filmmaker Patrick Hayes, who was working in partnership with SCETV. Patrick and SCETV are creating an interactive website, funded by the National Endowment for the Humanities, that will feature video snippets of our work along with the efforts of other archaeologists and groups that are exploring the history and culture of Hobcaw Barony. We also want to thank Hampton Shuping, who had worked with former SCIAA and Coastal Carolina University archaeologist Jim Michie in the 1980s, and provided us with re-collections of diving in this area in support of Michie's search for remnants of the Spanish colonization effort led by Lucas Vasquez de Ayllon in 1526. The underwater archaeological project was generously supported and funded by a SCIAA Archaeological Research Trust Fund grant. We also want to extend a special acknowledgement to Bob Mimms, ART board member and proprietor of the Leitchfield Beach Fish House, who provided us with a nice dinner and a catered lunch. (***Please see pages 10-11 for further discussion on archaeology at Hobcaw***)

Figure 6: Ashley Deming, Keith Stephenson, and volunteer Cat Sawyer discuss ceramics found during a dive. Volunteer Jimmy Armstrong looks on in the background. (SCIAA photo)

Figure 7: Iron bolts and a nut found to be the source of one of the magnetic anomalies along the shoreline with Cat in the background. (SCIAA photo)

Fieldwork on the Charleston Harbor Stone Fleets

By Jim Spirek

Bundled up and huddled against the bulkhead on the Marine Research Division's (MRDs) *C-Hawk*, volunteer Bruce Orr chattered, "It's snowing." Ashley Deming, looking about the aft deck, deadpanned that he was mistaken, it wasn't snow rather it was the PVC of our tarp support simply shedding white flakes. Whether natural or man-made white stuff, it was sure cold that day, which coincided with one of the coldest days in the recorded history of Charleston. Poking our nose out into the harbor, we succumbed to the cold, stiff breeze, lumpy seas and turned the boat around and headed back to the landing. Unfortunately, an all too familiar conclusion to many a day on the harbor earlier this year in our efforts to document the 29 shipwrecks associated with the two stone fleets sunk off Charleston Harbor by the Union Navy during the Civil War. Prognostications of only worsening weather for the remainder of the week caused us to call off the first week of diving operations in early March. We hoped that in several weeks more time, we would find sunnier and warmer days and smoother waters. The first week, however, was only a precursor to the weather interfering with our six weeks of fieldwork. As mentioned in my article in the previous edition of *Legacy* about our archival research trip to DC (see, Vol. 18, No. 1, June 2014, pp. 20-21), in which a snow storm caused us to lose valuable time at the National Archives, bad weather continued to plague our efforts to document the remains of the First and Second Stone Fleets. Of the six weeks and potential 30 days to conduct remote sensing and diving operations, we only managed to work offshore for 18 days. Despite the limitations imposed upon us by forces beyond our control, we completed dives on 13 of the 29 wreck sites. Due to the shortened time, we did not dive on those sites we had previously investigated, which numbered eight wrecks, although we did return to one site to record several iron knees, a structural element used to brace a frame to the underside of a deck beam, which rested on one of the rock mounds (Figure 1).

Figure 1: Volunteer Bruce Orr helping University of Rhode Island graduate student Jessica Glickman Irwin suit up for a dive on a stone fleet shipwreck. (SCIAA photo by Joe Beatty)

Sneaking out between bouts of bad weather, our initial efforts concentrated on the First Stone Fleet sunk at the entrance to the Main Ship Channel. During a previous project, we had located 15 of the 16 rock mounds associated with this fleet. We had also dove on five of the wrecks, including one that bore evidence of burning, which suggested the remains of the whale ship *Robin Hood*, of Mystic, Connecticut, the only vessel burned, a fiery finger to the Confederacy, if you will, announcing the attempted closure of the Main Ship Channel. Therefore, we wanted to find the last shipwreck and to dive on the remaining 11 wrecks. When relocating one of the ballast mounds to prepare for visual investigations, we found that the extent of the site had apparently shrunk in size. Finding only a sliver of a rock mound, instead of a large-sized ballast mound as pictured in our original 2010 sonogram, we posited that perhaps the site had been partially covered in sediments. This seemed improbable; as the rest of the stone fleet rock mounds stand proud of the bottom anywhere from 8-10 feet in height. Diving the site did not reveal similar diagnostic features the other sites exhibited, i.e., copper-alloy fasteners or amount and height of the rocks. Unsure whether this ballast mound was related to the stone fleet or perhaps from another historic period forced us to drop the site total number down to 14 shipwrecks. Fortunately, as soon as we lost one, we found one that was detected during sonar operations at a nearby stone fleet wreck. This wreck was a stone fleet vessel that had a large amount of exposed worm-eaten wooden structure, along with some well-preserved wood here and there, on one end of the ballast mound (Figure 2). Our total once again returned to 15 shipwrecks. Conducting additional remote sensing at one of the other stone fleet wrecks, we encountered another shipwreck, but diving on this site determined it was not part of the stone fleet. The shipwreck had a limited quantity of small cobblestones, a portion of a windlass, and most likely was a small wooden sailing vessel dating to the 19th century. Further investigations may assist in pinpointing a more certain date, origin or potential name of the shipwreck.

Next, we turned our attention to locating the shipwrecks associated with the Second Stone Fleet sunk at the entrance to Maffitt's or Beach Channel. During our previous grant work, we had

discovered one shipwreck during our remote sensing operations, and had dove on two shipwrecks marked on modern nautical charts. In an earlier foray in late 2013 in support of our current grant, we had located an additional two shipwrecks, with one in close proximity to one of the charted wrecks. Initially, I had thought the three previously investigated wrecks were not related to the Second Stone Fleet, but perhaps were barges used to transport the stones used to construct the Charleston Harbor jetties and reported sunk during the hurricane of 1885. This assessment was based on the extremely large-sized rocks on these sites, including one site that has stones with quarrying marks similar to ones visible along the Fort Moultrie waterfront at Sullivan's Island. The discovery of these two additional shipwrecks suggested that perhaps the aforementioned wrecks were indeed associated with the Second Stone Fleet. At this point, we had located five of the 13 shipwrecks sunk at the entrance of the channel. To find the remaining eight ballast mounds, we began additional remote sensing survey; filling in gaps between our original survey lines spaced 164 feet (50 meters) apart and headed further east and west. Despite squeezing in lanes and broadening our survey area, we succeeded in only finding one additional ballast mound. Diving on that ballast mound, we noted a large quantity of stone, which suggested affiliation with the stone fleet, and several right-angle iron knees lying about the rocks. We also detected a small mound of rocks, but circumstances prevented us from diving on the site until a later date to determine its relationship, if any, to the stone fleet.

One of the more intriguing wrecks of the Second Stone Fleet is the ship *Bogota*, 302 tons, purchased in New York City. Historical research in support of the grant has resulted in a great amount of information composed of whaling logs, newspaper articles, lawsuits, reminiscences, ship registries, and other documents for 44 of the 45 vessels of the two fleets. Historical information about the ship *Bogota*, however, had proved

Figure 2: Two copper-alloy round-headed and square-shanked fasteners protruding four to five inches above a well preserved wooden structural element and guarded by sea urchin sentinels. (SCIAA photo)

elusive. Newspaper articles in New York City did mention a ship *Bogota* regularly plying between Cartagena, New Granada (now Colombia), and New York City from the late 1840s until disappearing from the papers in 1850. A ship *Bogota* does not resurface in the New York City papers and other documents until 1860. USS *Crusader*, Captain John N. Maffitt, captured this *Bogota*, purportedly hailing from New York City, off the coast of Cuba with a load of between 400-500 African slaves destined to the island's sugar cane fields. The freed Africans, temporarily housed in Key West, ultimately returned to Liberia in Africa through the efforts of the American Colonization Society. The slave ship was condemned by the US government and then purchased by a Key West businessman. *Bogota* then entered the coasting trade carrying cotton from New Orleans and sugar from Cuba to New York City. So the question became was the slaver and the stone ship *Bogota* one and the same?

In an 1860 ship registry, the reported tonnage or carrying capacity of the ship was 232 tons, quite a different tonnage then the 302 tons reported in the late 1861 newspaper article about purchasing the vessel for naval use. An advertisement in the newspapers in the fall of 1860 offered the fine bark *Bogota*, 100 feet in length, 25 feet in breadth, 12 ½ feet in depth, coppered, and copper-fastened, and 301 tons. Again a conflicting tonnage between the slaver *Bogota*, although corresponding to the stone ship *Bogota*. Interestingly in the ship registry, the vessel was stated as having been built in Honfleur, France in 1852, along with another useful tidbit - the vessel was constructed with iron knees. Using the powers of the internet and Google translate, I succeeded in locating online French historical newspapers and other sources having information about a ship *Bogota* in France that operated as a packet ship plying between Havre, France and South American ports from 1852 to 1859. I also found testimony of a slave case brought by the French government against a Havre merchant charged with outfitting the ship *Bogota* as a slaver in late 1859. The document consisted of the lawyer of the defendant attempting to persuade the judge of his client's innocence, which provided interesting details of the ship's outfitting, voyage, and capture off Cuba. But, doubt still remained as to whether the slaver and the stone ship were the same vessels.

Results of the Google searches also located a couple of articles about the capture of *Bogota* and two other slavers off Cuba written by Corey Malcolm with the Mel Fisher Maritime Heritage Society in Key West. Reaching out to Corey, whom I had met a couple of times in the past,

Figure 3: Large rectangular rock covered in marine growth and patrolled by the finny tribe on Second Stone Fleet. (SCIAA photo)

for any information about the ship, he graciously provided me with *Bogota*'s passenger manifest dated 1861 at the port of New York City. The manifest reported *Bogota* was 302 tons, along with the name of the captain that corresponded to previous voyages of the ship when mentioned as 232 tons. As an aside, I have found that the reported tonnages of the stone fleet vessels were apt to change, usually only slight differences, but sometimes by over 100 tons. Unfortunately, among the purchasing papers for the stone fleets located at the National Archives, there was no mention of when the *Bogota* was actually purchased, but the vessel was in the port of New York City while assembling the second contingent of stone vessels bound south. The combination of sources seems to have sealed the identity of the stone ship *Bogota*, as a French-built ship captured as a slaver off the coast of Cuba.

As for the iron knees mentioned above and a potential signature to identify the wreck as the remains of *Bogota*, we have now found two sites that have iron knees in the Second Stone Fleet search area. Having two sites with iron knees certainly casts uncertainties as to which ballast mound marks the final resting place of the ex-slaver. One of the ballast mounds has the more traditional right-angle iron knees, while the other has staple-knees - think of a staple used to fasten papers together. This type of iron knee was more robust and instead of simply connecting a frame to an upper deck beam, this particular style of knee also joined the two aforementioned structural components to the lower deck/floor beam for additional strength. Perhaps the strength needed for a ship traversing the Atlantic Ocean between France and South America. In an ironic twist of fate, *Bogota* was sunk in Maffitt's Channel, named in honor of the Charleston coastal survey work in the 1850s by John N. Maffitt, the captain of the US Navy ship that captured the French slaver, and who incidentally later joined the Confederate cause.

During our diving inspections of the sites, one of the curious features was the extremely large size of some of the rocks on these ballast mounds. New England lore states that farmers robbed their fences and fields of stones and sold them to the government for 50 cents a pound. This seems to imply that the stones were movable and manageable by one to two people. While some of the smaller rocks may have been acquired in that manner, the larger ones, several feet in length, breadth, and depth, obviously required mechanical and industrial means to move them from their source to on-board the ships (Figure 3). Most of these large rocks were rectangular in shape, although a number were also rounded - picture extremely large cobblestones. These two types of rocks apparently came from boulder and surface ledge quarries. The rounded boulders were deposited on the New England landscape during the last glacial retreat, while the rectangular stones were most likely acquired from surface ledges, areas of exposed bedrock oftentimes on hillsides, although some may have also come from deep pit quarries. One of the Second Stone Fleet shipwrecks had a number of rectangular rocks bearing evidence of the plug and feather method used by stonemasons to

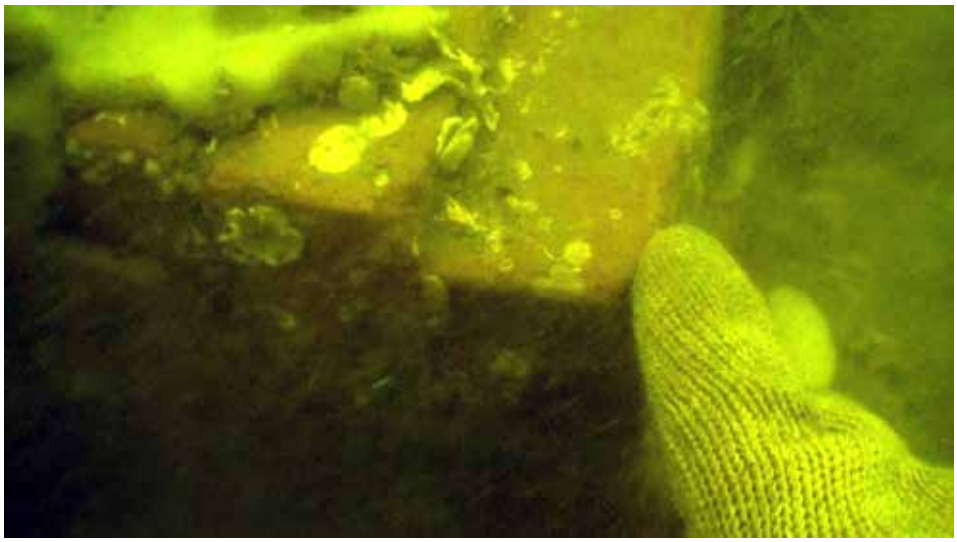

Figure 4: Debris presumably from demolished brick structure on ballast mound. (SCIAA photo)

split rocks to desirable sizes and shapes. Most of the stones at this time are believed to be granite. One of the First Stone Fleet shipwrecks, however, had about half its load composed of bricks, some loose, but others mortared together, suggesting the use of debris from a demolished structure (Figure 4). In some instances, there was a large amount of smaller traditional cobblestones on a site along with a quantity of larger stones. Some of the purchased merchant ships presumably had remaining ballast on-board from their previous voyage and may have required fewer stones to make the load. The whaling vessels on the other hand probably required a greater amount of purchased stones, as they typically used as ballast casks filled with water and as the voyage proceeded replaced that liquid with whale oil. In the case of the whaling bark *Messenger* of Salem, Massachusetts, this pre-conception may be tempered by the fact the whaler already had on-board 60 tons of ballast, and the agent purchased an additional 151 tons to ready the vessel for sinking.

Despite the limitations imposed upon us by Mother Nature, we persevered to document a number of the shipwrecks composing the First and Second Stone Fleets (Figure 5). We intend to continue our fieldwork next spring to detect and record the seven elusive ballast mounds composing the Second Stone Fleet, to pinpoint the last remaining First Stone Fleet ballast mound, and to document more fully several of the sites. Look to future newsletter articles about this ongoing work to document these two obstructions on the Charleston Harbor Naval Battlefield. In the meantime, the reader may visit the website, New B Under the Sea (www.newbunderthesea.com), prepared by the New Bedford Whaling National Historical Park, that features our stone fleet work including two videos from our dives and other information, as well as information about other whaling-related shipwrecks. I would like to thank the staff of the MRD - Ashley Deming, Joe Beatty, and Nathan Fulmer, for their efforts on the project, and a number of volunteers that included Ted Churchill, Bruce Orr, and Rick Presnell. We also had on board several graduate students namely Jessica Glickman Irwin, from the University of Rhode Island, who worked with us for three weeks, along with Ryan Bradley and Philip Hartmeyer, from East Carolina University, who were with us for a week. I also want to thank Corey Malcolm of the Mel Fisher Maritime Heritage Society in Key West for his research assistance concerning the ship Bogota. A National Park Service Historic Preservation Fund grant administered by the South Carolina Department of Archives and History with matching funds from the University of South Carolina, Columbia, funds the work described in this article.

Figure 5: Spirek inspecting copper-alloy fastener sticking out along the periphery of a ballast mound. (SCIAA photo)

Ashley Deming Accepts New Opportunity

By James Spirek

Ashley Deming diving in the Combahee River recovering artifacts from a Yamassee Indian settlement site. (SCIAA photo)

Ashley Deming, coordinator of public education and outreach, and manager of the Charleston Field Office for the Maritime Research Division, announced her last day at SCIAA is the 31st December. Ashley has accepted the position of Director of Education and Administration at the Michigan Maritime Museum in South Haven, Michigan. She returns to her home state, and colder climes, to advance the appreciation and awareness of the maritime legacy of Michigan and the Great Lakes. During her five year tenure at the MRD and SCIAA, Ashley has re-invigorated our public education offerings with artifact identification workshops, underwater archaeology field training courses, and presentations, and our outreach efforts with diver socials, annual oyster roast, quarterly newsletter, and volunteer opportunities. The core mission of the Charleston Field Office is the management of the Hobby Diver License program and through her efforts has increased the partnership between the fossil and artifact collecting sport diving community and the MRD. By opening more lines of communication and partnerships between these two groups, Ashley leaves behind a significant increase in participation with the licensing program and a much better relationship between these two groups. Through these endeavors Ashley has helped to advance the MRD mission to study and preserve the maritime archaeological legacy in the rivers and coastal waters of South Carolina. As Ashley moves on to new challenges, we wish her the best in her future endeavors and have enjoyed working together these past five years. While the MRD loses a valuable member of the team, we do look forward to continuing the momentum that Ashley has created in our outreach and educational mission and welcoming aboard a new colleague to the division early next year.

Applied Research Division

Transects in the Past: Archaeology and Heritage at Hobcaw Barony

By Karen Y. Smith and Keith Stephenson

In December 1990 and January 1991, James L. Michie, Associate Director of the Waccamaw Center for Historical and Cultural Studies at Coastal Carolina University and Research Associate of the South Carolina Institute of Archaeology and Anthropology, initiated a search for Vazquez de Ayllon's settlement of San Miguel de Gualdape on Hobcaw Barony, a 16,000-acre preserve across Winyah Bay from Georgetown. South Carolina native Paul Quattlebaum (1956) placed the 1526 Spanish settlement in the area of Winyah Bay. The uplands, dissected by streams and wetlands on the bay side of Hobcaw, offered tantalizing geography for settlement of any period, but particularly for that of 16th century settlers. With funding from the Georgetown County Historical Society, Michie and an able-bodied crew of staff and volunteers set out to find this settlement, long held as the earliest attempted Spanish occupation of North America, by excavating small test pits on the elevated grounds near Winyah Bay.

Figure 2: An 11,000 year-old Early Archaic adze called a "Dalton adze" recovered by Michie in an upturned tree in the North Hobcaw transects area. (Photo by Karen Y. Smith)

Effects of the powerful Hurricane Hugo, which made landfall on the Isle of Palms, Charleston County, South Carolina on September 22, 1989, were still evident on the Hobcaw property in upturned trees and storm debris when Michie and his crew began the survey effort. In all, they surveyed 120 transects within nine transect areas, made two surface collections, and conducted a small underwater reconnaissance survey across the property's waterfront. Small excavation units measuring 12-by-24 inches in width and length and excavated to a depth of 20 inches were placed on 30-foot intervals along each transect line, and transect lines were placed 100-feet apart (Michie 1991:15), ensuring that the survey was both extensive and systematic (Figure 1). Despite their efforts to look in the most logical places, not a single piece of 16th-century Spanish material was recovered from the Hobcaw survey.

Figure 3: Heathley Johnson recataloging the collection. (Photo by Karen Y. Smith)

Though we have a brief report of the work, much of what Michie did discover has languished in paper bags and acidic boxes for the last 24 years … until now. Late in 2013, SCIAA terrestrial and underwater archaeologists, South Carolina ETV, and USC's Distinguished Professor Emeritus Leland Ferguson, in collaboration with the Belle W. Baruch Foundation, initiated an effort to revive archaeological research on the property. This collaboration aims to shed light on the colonial and pre-colonial settlements

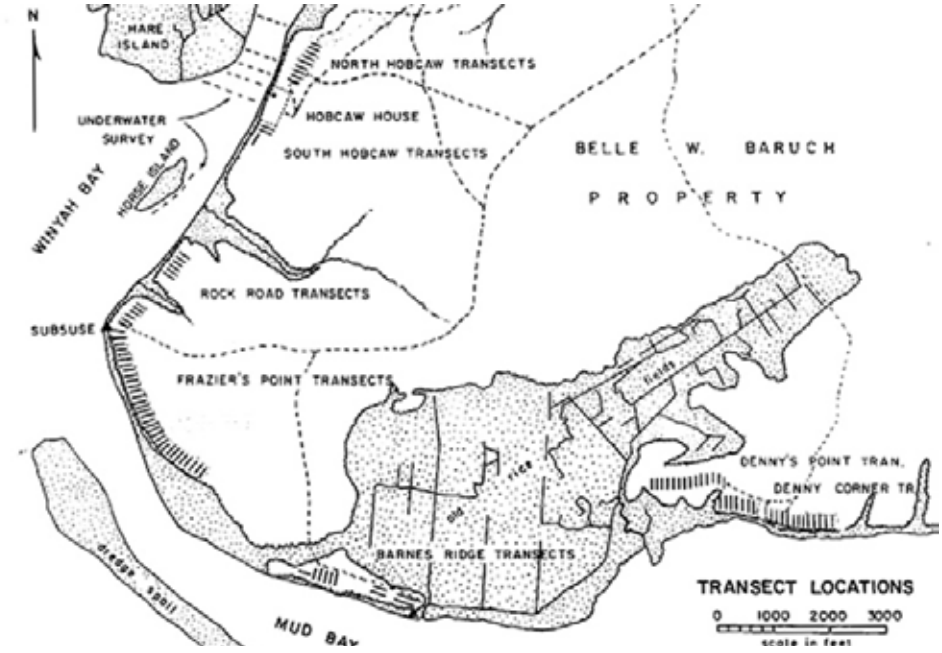

Figure 1: Michie's survey area at the southern end of Waccamaw Neck. Parallel lines are survey transects. (Map drawn by James Michie)

Figure 4: George Chastain (left) holds Michie's hand-drawn map while Tamara Wilson (right) compares it to their GPS location. (Photo by Karen Y. Smith)

that together make up some 11,000 years of human occupation (Figure 2) of the southern end of the Waccamaw Neck. The pre-colonial native Indian settlements, in particular, are under-represented in local public narratives, and archaeology can serve as a means of raising awareness of and appreciation for South Carolina's rich cultural heritage.

Toward this larger end, a number of discrete initiatives have taken root. First, with funding from the SCIAA Archaeological Research Trust (ART), Heathley Johnson, whose skills and knowledge are ever-in-demand, spent several weeks this summer rebagging and recataloging the entire collection of artifacts from Michie's work at Hobcaw (Figure 3). Although reanalysis is ongoing, we already can suggest more concrete settlement date ranges for some of the areas surveyed by Michie. Concurrent with the effort to take a new look at the artifact collections from Michie's survey, Tamara Wilson, also ever-in-demand at SCIAA, worked with George Chastain, Executive Director of the Belle W. Baruch Foundation, to retrace Michie's survey on the ground (Figure 4). This is a tremendous step forward, allowing us to match artifacts to the locations where they were found and to more accurately date the occupations that Michie encountered.

On another front, monies provided by the ART Board served as matching funds on a grant from the South Carolina Humanities Council to video document the process of both the collections reanalysis and underwater survey. The video project, directed by Betsy Newman of SCETV and Patrick Hayes, will tie into an important SCETV and Belle W. Baruch Foundation partnership, funded by the National Endowment for the Humanities, to create an interactive website about the Barony. By involving people who specialize in narrating South Carolina history to the public through video and other digital media, we ensure that our work reaches a broad audience (Figure 5). Coming full circle, we recently revisited a mid-18th century colonial site that Michie encountered in an area north of Hobcaw House for a public heritage event on the property and also initiated testing inside the Hobcaw House's approximately 17-acre enclosure that was off limits to Michie in 1990-91 (Figure 6). We plan to extend this work in 2015, and look forward to continued collaborations with those interested in the connection of archaeology and heritage at Hobcaw Barony.

Figure 6: Keith Stephenson (background) and Jacob Borchardt (foreground) dig shovel test pits inside the fence line at Hobcaw House. (Photo by Karen Y. Smith)

Figure 5: Patrick Hayes (right) films Tamara Wilson (left) setting up an excavation unit on the mid-18th century house site. (Photo by Karen Y. Smith)

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2014 Research at Fort Motte

By James B. Legg and Steven D. Smith

Regular readers of Legacy will recall that Fort Motte, in present Calhoun County, was a British outpost built in early 1781, on the British lines of communication between Charleston and the interior. The fort consisted of the newly built Rebecca Motte plantation house, surrounded by a heavy, palisaded earthwork parapet and ditch. In May, 1781, an American force under Francis Marion and "Lighthorse" Harry Lee lay formal siege to Fort Motte, and the British, German and Loyalist garrison of 184 men surrendered after resisting for five days.

We originally investigated the Fort Motte battlefield in 2004 and 2005, with a grant from the American Battlefield Protection Program (Smith and Legg 2007). Since 2012, we have conducted relatively brief spring field seasons at Fort Motte, each of which has added substantially to our understanding of the site (see Legacy, Vol. 17 No. 2, Nov. 2013). This year we addressed three areas of research, including the extent and identity of one of the military camps located in 2013, the location of the American 6-pounder siege battery, and further work on the American sap (siege approach trench), also discovered last year. Our volunteer turnout was rather small (if stalwart) this year, but we still managed to make good progress in all three areas.

Another Unidentified Military Camp

The British and Loyalist garrison of Fort Motte must have camped somewhere nearby. We believe the interior of the fortification was too small to accommodate the entire contingent, and in any case, it would have been considered much healthier to occupy an open tent camp. Our metal detecting in the immediate vicinity of the fort has produced ample evidence of the siege, but no convincing evidence of such a camp. Since 2012, we have expanded our metal detector coverage of the battlefield, and we found evidence for two, discrete 18th century military camps, both at considerable distance from Fort Motte (about 150 and 250 meters respectively). The more distant of the two camps was thoroughly assessed last year, with ambiguous results. That site was characterized by a broad, thin scatter of mostly unfired musket balls, rifle balls and buckshot, together with a few other 18th century objects, including civilian buttons. Not a single uniform button or other diagnostic military artifact was recovered. The mix of ammunition would have been appropriate for the Loyalist militia, but would fit equally well with Francis Marion's command.

Figure 2: A view of the American siege battery ca. 1849, from Benson Lossing, *Pictorial Field Book of the Revolution*, 1850.

With the earlier effort in mind, we turned our attention this year to the second camp, the one closer to Fort Motte. If the 2013 camp were Loyalist militia, we reasoned, perhaps the closer one would produce evidence for British and/or German regular troops. We applied 100%+ detector coverage to the site, and managed to chase out its boundaries in all directions. Once again, we recovered and mapped a large and diverse collection of unfired lead shot that would fit well with a militia unit, but not regular British or German troops. Other finds included more civilian buttons of the period, iron pot fragments, an array of iron and brass strap buckles, brass gun parts from an American long rifle and a British cavalry carbine, and the brass foot from a spontoon or flag staff (Figure 1). Again, there were no marked military buttons or other diagnostics, and we were left with another militia camp.

Figure 1: A sample of artifacts from the unidentified military camp investigated in 2014. (SCIAA photo)

The American Siege Battery

When Marion and Lee moved against Fort Motte, a Continental Army 6-pounder gun and crew, on loan from Nathanael Greene's southern army, reinforced them. Marion's men built an elevated earthwork battery for the gun to the east of Fort Motte, and fire from the gun was decisive

Figure 3: Excavation of a 30-meter profile trench across the remnant of the American battery. (SCIAA photo)

in forcing the British to surrender. When the roof of the Motte house was set ablaze (supposedly with flaming arrows), canister fire from the 6-pounder was directed at the roof, and the defenders were unable to fight the fire; surrender or incineration were their only options, and they chose the former.

The earthwork battery (Figure 2) stood until about 1984, when it was graded down in the course of a pine clear-cutting operation. During the first Fort Motte project, we made an effort to locate the battery site, but very dense vegetation made both metal detecting and observation of the ground nearly impossible. Fortunately, the battery is visible on at least two early air photos. That allowed Tamara Wilson, our GIS specialist, to project its coordinates, and in 2013, she fought her way through the jungle to hang flagging tape at the location. When we began work this spring, we found the woods freshly cleared of all vegetation other than mature trees - visibility was excellent, and we immediately saw Tamara's flagging tape marking a low but distinct mound about 20 meters in diameter. There was little question that the 6-pounder battery site had been relocated.

We investigated the battery site with a 1-by-30-meter profile trench (Figure 3), and with a 40-by-100-meter block of 100% metal detector coverage. The profile trench revealed that the elevated mound consisted of re-deposited subsoil resting on an old, flat ground surface. This was clearly a remnant of the battery mound fill, the remainder of which had been graded away, mostly to the east (downslope). In that area, we detected 20th century metal junk that had been buried as much as 40 centimeters in depth by the grading. The metal detector coverage produced a distribution of more pertinent artifacts, including wrought nails and spikes that may derive from the timber gun platform, impacted British musket balls that were probably fired from Fort Motte, and a number of unfired lead shot from an area just west of the battery, toward Fort Motte. We believe that the battery was probably built just inside the tree line east of a large field where Fort Motte stood; construction in the open would have been subject to British fire, while placement well into the woods would have obstructed the field of fire towards the fort. We have found additional unfired ammunition north and south of this location, a distribution that begins to delineate the perimeter held by Francis Marion's men during the siege.

The most remarkable metal detector recovery was a 6-pounder solid shot cannon ball found on the crest of the battery remnant (Figure 4). While the ball is correct for the gun that was emplaced there, its presence is something of a mystery in several respects. First, the Americans are thought to have fired only canister, no solid shot, during the siege of Fort Motte. (For a 6-pounder gun, the canister was a cylindrical sheet iron can holding 56 1.5-ounce iron balls; we have recovered a number of such canister projectiles on the battlefield). Second, the cannon ball retained no evidence of the sheet iron straps that would have attached it to the remainder of the cartridge; it appears to have been removed from its cartridge for some reason. Finally, why did the Continental gunners leave behind a perfectly functional projectile, with or without its cartridge, when they left the battery?

A Sample of the Sap

Our third major endeavor of the Spring 2014 field season involved the American siege approach (sap) discovered in 2013. As previously reported, the location of the sap was very strongly suggested by the distribution of out-going musket and rifle fire from the defenders of Fort Motte, who were clearly shooting at something on an axis to the north-northeast of the fort. In 2013, we found the sap feature in a series of trackhoe cuts, where it was repeatedly revealed in profile. This year we had planned to formally excavate a substantial run of the sap, and hoped to include one of the right-angle turns that characterize

Figure 4: The 6-pounder cannon ball freshly excavated. (SCIAA photo)

Figure 5: Excavation of a sample of the American sap. (SCIAA photo)

such siege works. In the event, a dearth of field crew confined our efforts to a straight, 3-meter run of the trench, which ended just before a sharp turn to the left (Figures 5 and 6).

We found no artifacts in the sap beyond a couple of wrought nails. This was a surprise, as even the limited profile cleaning work last year yielded a musket ball and a fragment of a brass shoe buckle. The excavation did reveal that the sap was very neatly dug and maintained, well beyond what might be expected in a combat situation. While the slaves who did most of the work were under fire from Fort Motte (and doubtless under duress from behind), they managed to dig a very nice trench. We were also able to see that the sap weathered only briefly before it was deliberately backfilled. In its present condition, the sap is typically about 75 centimeters in width, with a slightly rounded bottom, and it flares somewhat toward the top. Its present depth is about 90 cetimeters below surface, but we believe there has been some deflation of the plow zone since 1781, and we speculate that the trench may have been as much as 1.2 to 1.3 meters in depth. Added to this, of course, was the parapet of spoil that was continually thrown up facing the enemy as the sap advanced.

Looking Forward

At this stage, we have arrived at a reasonably complete understanding of the battlefield landscape and its major features. Metal detector coverage of the core battlefield is perhaps 75% complete, including the immediate vicinity of Fort Motte and the siege approach area, and we have covered large blocks of outlying territory that include the battery and the two camps discussed above, and the earlier farmhouse that figures prominently in the story of the siege. The outline of the Fort Motte ditch is well established, and the American sap is reasonably traced, but we have conducted very little actual excavation on either feature. Still, we feel that we are running out of excuses not to begin a second comprehensive report, and we have begun working toward that end. In any case, we plan to have a spring 2015 field season.

Two recent USC Anthropology MA theses have derived from work at Fort Motte. In 2013, Stacey Whitacre completed her degree with a thesis entitled, *An Analysis of Lead Shot from Fort Motte, 2004-2012: Assessing Combat Behavior in Terms of Agency*. As this article is written, Rebecca Shepherd is finishing up her thesis that compares the 18th century domestic assemblage from Fort Motte to that from the Miles Brewton House, in Charleston (Rebecca Motte was Miles Brewton's sister, and she inherited the Fort Motte property from his estate; she also lived in the Charleston house before moving to the house that became Fort Motte). We hope to attract additional graduate students to the project in the future.

Acknowledgements

As always, our acknowledgements are led by warm thanks to Luther Wannamaker, the owner and protector the Fort Motte battlefield. Luther has preserved the site, has encouraged our research there, and has provided a variety of otherwise costly logistical assistance with heavy equipment, plowing, bushhogging, etc. Our volunteer crew this year included John Fisher, Larry Lane, Carly Orr, Jacob Borchardt, and Pete Mayers. This year's crew accomplished more than their numbers might suggest.

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Figure 6: The completed sap excavation – the diagonal trench in the foreground is one of the trackhoe trenches employed to locate the sap in 2013. (SCIAA photo)

Across the Coastal Plain: Examining the Prehistoric Archaeology of the Inter-Riverine Zone Through Private Collections

By Albert C. Goodyear and Joseph E. Wilkinson

Most of the large prehistoric sites that have been excavated on the southern South Carolina Coastal Plain have been associated with the large rivers such as the Savannah, Congaree, and Santee. Sites on the Savannah River like those on Groton Plantation, the Lawton mound, Topper, Big Pine Tree, the Lewis site, and Ft. Watson and the Mattassee Lake sites on the Santee, have provided much of our cultural historical frameworks for prehistory. These sites with their alluvial stratigraphy, mounds, and occasional shell middens have provided the contexts for buried artifacts, features, and assemblages so necessary for dating and interpreting human behavior in large residential sites.

The zone between the major rivers, referred to here as the inter-riverine zone, has seen little survey and excavation to illuminate how prehistoric peoples utilized and potentially occupied this vast area. In the Upper and Middle Coastal Plain, few sites have been excavated and some only minimally tested (Figure 1). The major published exception is on the Cal Smoak site (38BM4) located near the juncture of the South and North Edisto Rivers, which was excavated by members of the Archaeological Society of South Carolina and written up by David Anderson (Anderson, Lee, and Parler 1979). The Alan Mack site, (38OR67) (Michie 1982), located on the west bank of the North Edisto River, was excavated by Jim Michie, Bob Parler, and Sammy Lee, and members of the Archaeological Society of South Carolina. It is perhaps the largest excavation of a prehistoric site in the inter-riverine zone on the southern Coastal Plain, although as yet, it has not been published. One large, well collected private collection, that of Sonny Zorn from around his home south of Denmark (Figure 2), was analyzed by Ken Sassaman and the staff from the Savannah River Plant (Sassaman et al.

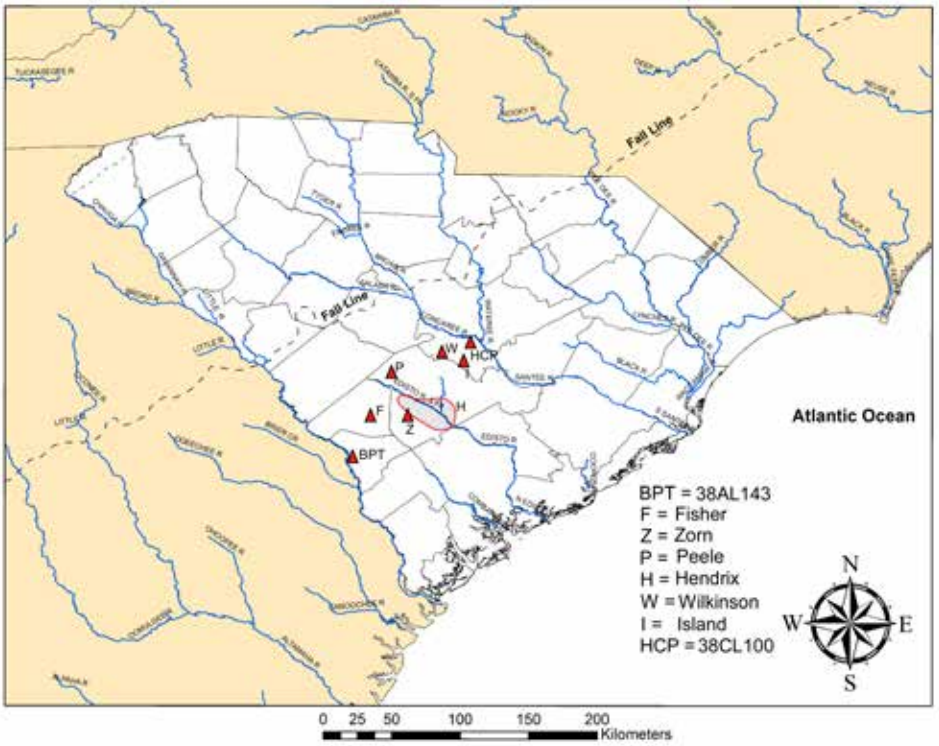

Figure 2: Map showing locations of private collections studied in the inter-riverine zone of the southern South Carolina Coastal Plain. (Map courtesy of Christopher Moore)

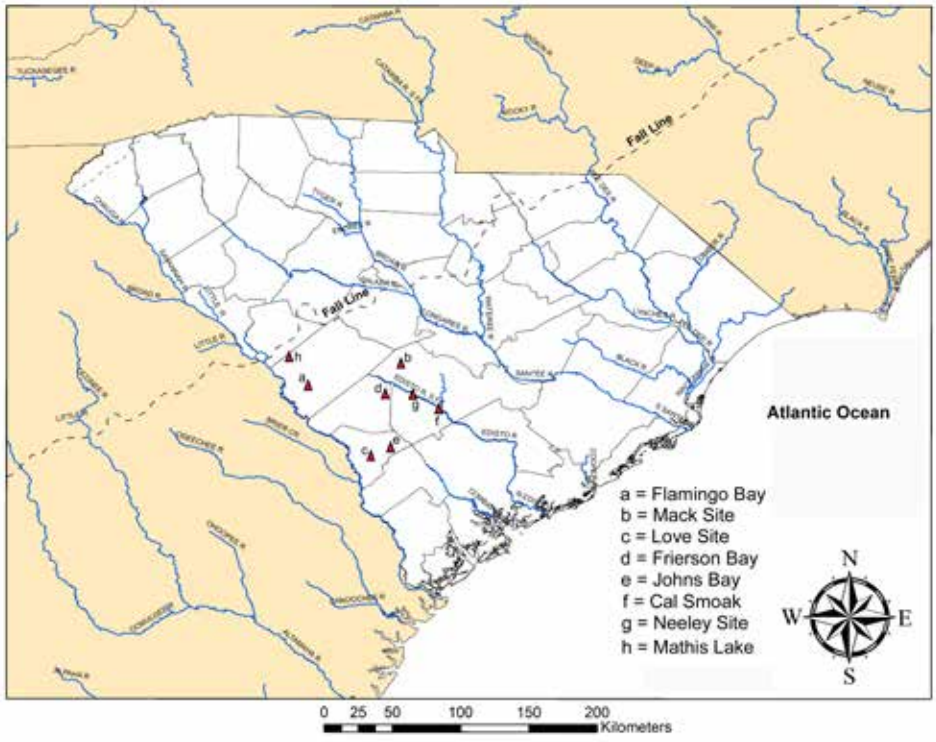

Figure 1: Map showing locations of excavated and tested sites in the inter-riverine zone of the southern South Carolina Coastal Plain. (Map courtesy of Christopher Moore)

Figure 3: Kat Salley with her artifact collection from High Creek Plantation. (Photo by Albert Goodyear)

2005). This collection had nearly 1,500 artifacts, including 1,329 typed points. The sheer numbers of diagnostic artifacts from nearly all time periods makes this a major study for the Coastal Plain.

Recently the authors had the opportunity to study several large private collections from the inter-riverine zone, which together form a transect from the Savannah to the Congaree and Santee Rivers (Figure 2). The analytical value of these collections is great, as they were made by one person or a family with very thorough collecting methods. A total of 2,764 hafted bifaces (points) were classified ranging from Clovis to Mississippian. In addition, other stone tools besides points were also inventoried to give a more complete idea of what kind of technologies were being brought into the zone.

One large collection has been made by the Salley family, owners of High Creek Plantation (38CL100) from their 1,700-acre tract overlooking the Congaree River (Figure 2). Mrs. Kat Salley has collected cultivated fields and dirt roads several times a year for 12 years amassing a large assemblage of lithics and ceramics (Figure 3). Likewise her daughter-in-law, Mrs. Jane Salley (Figure 4) has collected fields and roads, especially near their home overlooking the Congaree River. High Creek Plantation is also the source of a Coastal Plain chert known as Black Mingo Chert. Extensive evidence of quarrying was found in the form of waste flakes and discarded biface preforms over the entire property. Analysis of their artifact collection allowed us to evaluate the occupational history over a 13,000-year span and to determine during what time periods the chert was most frequently utilized (Goodyear and Wilkinson 2014).

One individual is personally responsible for two large collections, one from Orangeburg County (Peele) and one from Calhoun County (Island) (Figure 2). Steve Williams (Figure 5) is a skilled flintknapper and a long time participant in the Allendale Paleoamerican Expedition excavations at Topper and Big Pine Tree. His collecting behavior is enhanced by his ability to make stone tools, insuring that more than just the obvious projectile points were collected. His collection from the Peele site yielded 362 typed points and that from Island summed to 711. His work represents over 1,000 points and other tools collected by one person. Another important single site collection is that of Lorene Fisher (Figure 6) in her yard from her vacation home outside of Barnwell. This site (38BR1373) is located on a small creek north of the Salkehatchie River. Other collections include that of Dennis Hendrix from life long collecting primarily in the Bamberg County area and that of the Wilkinson family on their land outside of St. Matthews (Figure 2).

Joe Wilkinson is taking a subset of these collections, plus adding other smaller private collections and conducting an analysis of the Early Archaic archaeology within this transect. Hafted bifaces from the Big Pine Tree site (Figure 2), an extensive Savannah River Coastal Plain chert quarry with a heavy Early Archaic presence, is also being included, plus Sassaman's published analysis of the Zorn collection. Combining all of the collections, he is working with a sample of 655 typed Early Archaic points, including side notched, corner notched, Kirk stemmed, bifurcates, and Stanlys (Wilkinson 2014). In addition, he is evaluating the Early Archaic flake tools, such as end and side scrapers, Waller knives, and Edgefield scrapers. His work should result in adding to the models of Early Archaic settlement types and mobility ranges as originally formulated by Sassaman, Hanson, and Charles (1988), Anderson and Hanson (1988), and Randy Daniel (2001). Connecting the Early Archaic sites and technology of the inter-riverine zone with that of the major river sites should provide for a more complete picture for this time period.

Well provenienced and conscientiously collected private collections are a prime means by which archaeologists can gain an understanding of large portions of the state. Given the vast areas that early people moved over their annual rounds, such collections provide invaluable data

Figure 4: Jane Salley with her artifact collection from High Creek Plantation. (Photo by Joseph E. Wilkinson)

Figure 5: Steve Williams at the Island site, 38CL102. (Photo by Albert Goodyear)

toward understanding variation in sites commensurate with the geographic extent of their settlement ranges. It is clear from our study of this transect that people for thousands of years regularly moved from the Savannah River to the Congaree and Santee Rivers bringing numerous chert tools manufactured from Allendale type chert. Archaeologists should make an effort to work with collectors analyzing their collections, especially large ones that often contain statistically rare types of artifacts that are hard to find otherwise. An example of this can be found in a recent study of fluted points in the COWASEE Basin which relied exclusively on private collections (Goodyear 2014). Following Sassaman et al. (2005), archaeologists should endeavor to acquire certain collections to curate them for future generations who no doubt will have new questions and methods. Private collections often do not come to a good end when the collector stops collecting or passes on. Heirs and relatives are not always interested in them, may even think they should be sold, can be stolen or destroyed in house fires. Two important collections that the senior author is familiar with were burned up in house fires. Chert artifacts and flames do not mix well.

Acquiring significant private collections for permanent curation is a worthy goal, both now and in the future, to help ensure critical data are available for future studies and display.

We thank the members of the public who made these collections available to us and in so doing joined professional archaeologists in coming to a better understanding of South Carolina archaeology. Besides the collectors mentioned above, we thank Lee Thomas, Gene Porter, and Tim Ridge who also allowed us to study their collections. Fortunately, in the tradition of the original Collectors Survey conducted by Tommy Charles, SCIAA is continuing this program with Jim Legg who is recording both prehistoric and historic artifact collections.

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Figure 6: Lorene Fisher with one of her finds at the Fisher site, 38BR1373. (Photo by Jessica Phillips)

Savannah River Archaeology Research

Results of Preliminary Immunological Analysis of Paleoamerican and Archaic Stone Tools from the Central Savannah River Area

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Background

Over the last two years, immunological studies of animal protein residues preserved within stone tools from Flamingo Bay (38AK469) on the Savannah River Site (SRS) and more recently, a larger study of 75 temporally-diagnostic hafted bifaces (all time-periods represented) from the Central Savannah River Area (CSRA), have produced fascinating results with regional implications for animal exploitation by early hunter-gatherers. In fact, the most recent results have identified animal proteins on Paleoamerican Clovis and Redstone artifacts, including the presence of bovid or bison (*B. bison* or *B. antiquus*), on several fluted points, a Dalton, and a single Morrow Mountain hafted biface (Figure 1). The original pilot study on stone tools from Flamingo Bay produced bovid residue on a large bifacial knife recovered from a buried context. The artifact was collected without contact with human skin and without washing in order to prevent possible contamination with modern proteins (e.g., Figures 2 and 3). This tool is consistent with other large knives used by Paleoamerican hunter-gatherers in intensive defleshing activities.

The immunological technique used in this analysis is crossover immunoelectrophoresis (CIEP) (Newman 1990). This test has been used extensively in the field of forensic science for over 50 years. Studies have shown that residues can adhere to tool surfaces or within stone microfractures during their original use and can survive for long periods of time (Sensabaugh et al. 1971a, 1971b). The principle of CIEP is that all animals produce antibodies (immunoglobulins) that recognize and bind with foreign proteins (antigens) as part of the body's defense system. The ability of these proteins to precipitate antigens from solution is one of their best-known properties (Johnstone and Thorpe 1982), and it is this ability that is tested in CIEP. Examples of relevant antisera include, but are not limited to: bear, bovine, turkey, duck, deer, horse, rabbit, camel, and elephant (e.g., McAvoy and McAvoy 2003:173).

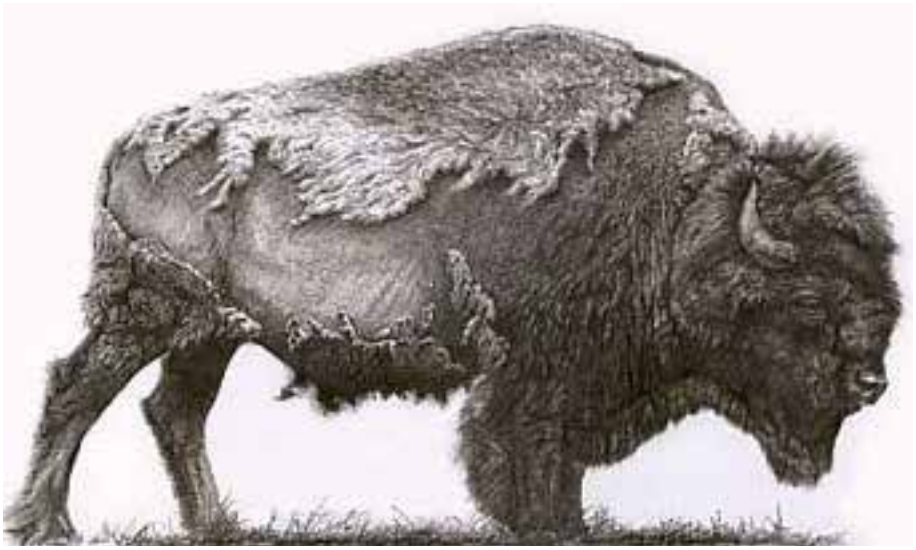

Figure 1: Drawing of Bison (*B. bison*) by Christopher Woolley. Used with permission. (http://www.chriswoolley.com/Html/contactA.html)

Future Work

Based on the results of our two earlier studies, one of the major questions we want to address with additional immunological testing relates to the possible extirpation of remnant populations of bison during in the early mid- Holocene based on the presence of bovid protein residue on a single Morrow Mountain hafted biface and none on more recent hafted bifaces. Also, previous immunological testing found bison residue and residues for numerous extant animals on Clovis points but no evidence of other extinct megafauna. This may mean that large megafauna were regionally extinct by the time of Clovis, were hunted infrequently, or that our sample size was just too small. Analysis of additional Paleoamerican hafted bifaces could help address these questions.
Plans are underway for an additional study of hafted bifaces in 2015. Sixty temporally diagnostic hafted bifaces will be selected for immunological testing, ~20 each from Paleoamerican, Early Archaic, and Middle Archaic sub-periods. When

Figure 2: Savannah River Archaeological Research Program (SRARP) field crew member, Lizzie Gillispie, holding a large bifacial knife (Prov. 74, Level E) recovered from Flamingo Bay (38AK469) without touching for purposes of immunological protein residue analysis. (Photo by Christopher Moore)

possible, tools will be selected from existing collections at the Savannah River Archaeological Research Program (SRARP), from shovel test surveys and from artifacts recovered from Flamingo Bay on the SRS, and from the Topper site in Allendale County, South Carolina.

We also plan to analyze a sample of possible pre-Clovis "Haw River" or Unidentified Small Lanceolates (USLs) from the region (Painter 1983). The presence of extinct megafauna (horse, camel, or mammoth) would provide strong circumstantial evidence for a pre-Clovis temporal placement for this point type.

The specific objectives of this research are threefold:

1) To evaluate previous immunological results and increase the sample size for animal species identified on Paleoamerican and Archaic hafted bifaces.

2) To determine if additional bison residues are found on Middle Archaic hafted bifaces and assess the chronological position of bison in the Southeast.

3) To determine if there is evidence of extinct megafauna on Clovis and possible pre-Clovis artifacts from the region.

Summary

The results of the original pilot study of Paleoamerican and Early Archaic stone artifacts from Flamingo Bay and the more recent analysis of hafted bifaces from all time-periods have provided tantalizing clues about prey species selection and availability among early hunter-gatherers in South Carolina. In particular, the lack of any residues of extinct megafauna (e.g., mastodon and mammoth) on tested Paleoamerican artifacts and the relatively numerous indications of bison and other animals (Figure 4) may suggest we need a fundamental shift in our thinking about early Paleoamerican hunting strategies and species availability in the Southeast.

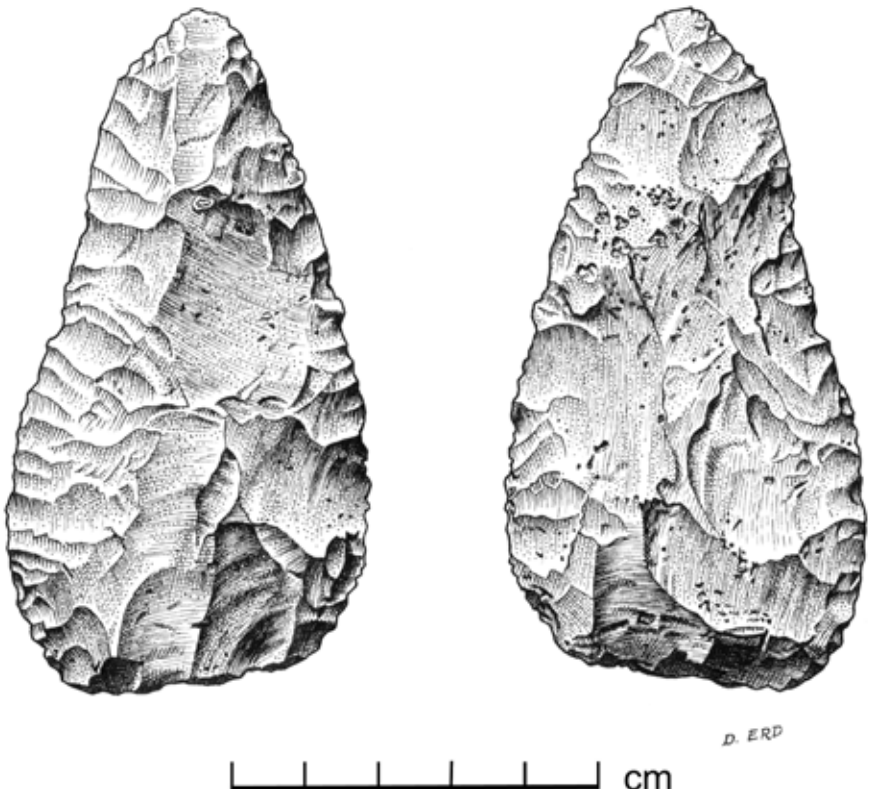

Figure 3: Drawing of large bifacial knife from 38AK469 (Prov. 74, Level E) identified as positive for bison (i.e., bovine) residue (Drawing by Darby Erd)

Not surprisingly, additional residue analysis is needed to assess the likelihood that large megafauna were still around by the time of Clovis, or were available but were hunted only rarely. This research will also provide additional evidence for the temporal extent of bison in the Southeast and the relative role these animals played in the hunting and settlement strategies of early and mid-Holocene hunter-gatherers. Lastly, immunological testing will be used to evaluate purported pre-Clovis point types found in the CSRA. Confirmation of the results of immunological (CIEP) analysis on prehistoric stone tools will provide a potentially transformative tool for evaluating human-animal relationships in the archaeological record along the South Atlantic Slope - a region with notoriously poor bone preservation for early hunter-gatherer sites. Results of this research will be submitted for peer-review publication in a professional journal.

Acknowledgements

This work would have not been possible without the assistance of local avocational archaeologists including John Arena and Bobby Brassell of the Augusta Archaeological Society and Dr. Larry Strong (USC Salkehatchie). We also wish to thank the board members and trustees of the SCIAA Archaeological Research Trust (ART) for grants in support of this research.

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Figure 4: Clovis point from the CSRA found to be positive for numerous animal protein residues, including bovid (i.e., bison). (Photo by Christopher Moore)

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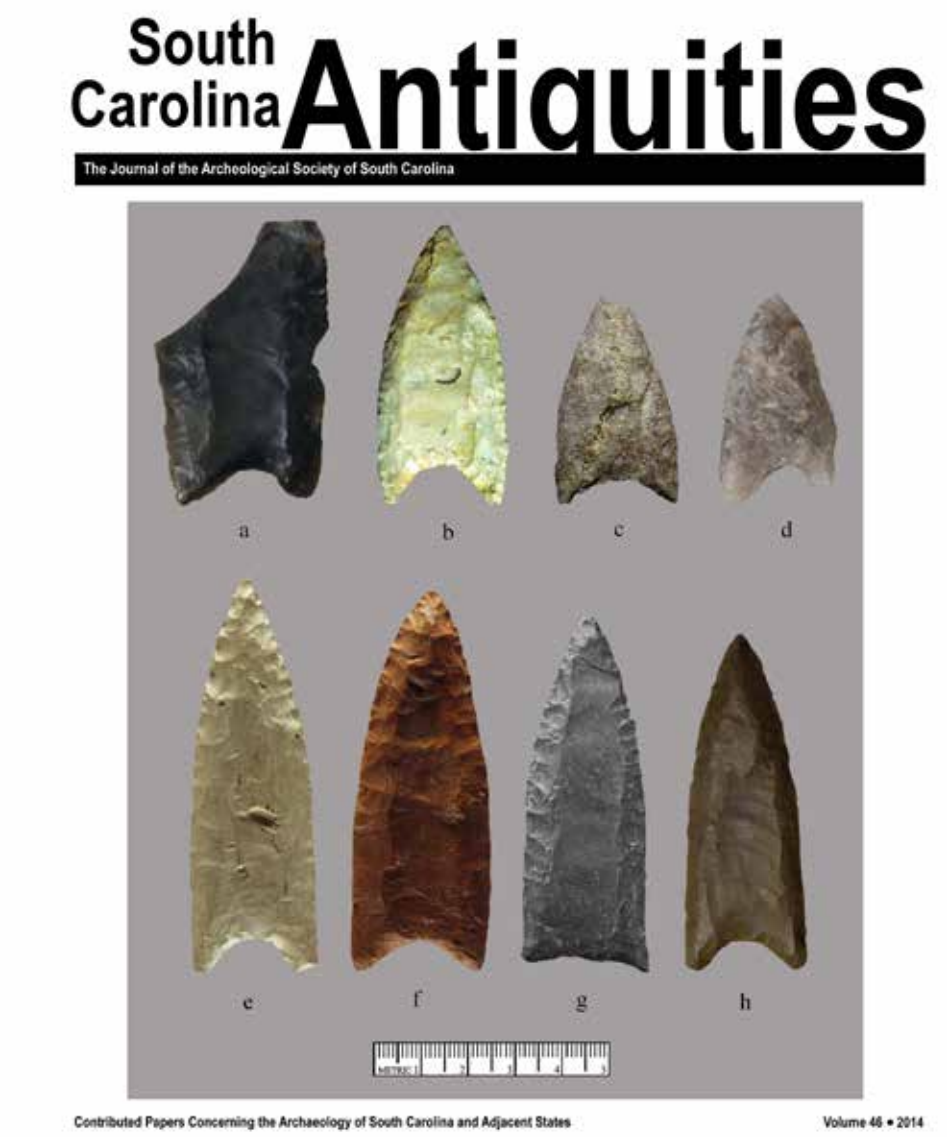

We wish to encourage everyone to join the Archaeological Society of South Carolina, Inc. We have a very exciting new issue of *South Carolina Antiquities* available! The cover of the journal is shown here (to left), will now be available in full color. There will be articles on everything from Paleoindian to Pottersville. Please visit www.assc.net for further information.

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REMEMBERING OUR FRIEND AND COLLEAGUE

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Archaeologist and Historian

Jason Smith explaining colonial history at the annual Archaeology Fall Field Day, 2013. (Photo courtesy of James Legg)

Update on Paleolithic Research in Northern Mongolia

By J. Christopher Gillam[1], Sergei A. Gladyshev[2], Biambaa Gunchinsuren[3], John W. Olsen[4], Andrei V. Tabarev[2], and Evgeny P. Rybin[2]

[1]SRARP-SCIAA-USC; [2]Institute of Archaeology and Ethnography, Novosibirsk, Russia; [3]Institute of Archaeology, Ulaanbaatar, Mongolia; [4]Department of Anthropology, University of Arizona.

The 2014 field season in northern Mongolia proved to be an exciting one with 20 new Upper Paleolithic sites recorded, including one possible Middle Paleolithic site (Kharganyn-13) with potential to be the oldest stratified site north of China and east of the Altai Mountains, Russia. In the past decade, the Joint Mongolian-Russian-American Archaeological Expedition (JMRAAE) has discovered 63 sites dating to the Pleistocene and early Holocene along the Ikh Tulberiin Gol, Kharganyn Gol, and Altatyn Gol (hereafter, Tolbor, Kharganyn and Altatyn Rivers) of the greater Selenge Gol Basin (Figure 1); Gillam et al. 2012; Gladyshev et al. 2011, 2012; Olsen 2002; Tabarev et al. 2013). The region is high, cold, and dry, with little arable land; it is a mountainous forest-steppe, known as the Selenge-Orkhon Forest-Steppe, of the ancient Khangai Mountains of north-central Mongolia. It is best characterized as semi-arid grasslands along valley floors and adjacent hills, with mostly barren steep mountain terrain, accompanied by larch- and birch-dominated forests on shady north- and west-facing slopes of high hills and mountains, where soil moisture is sufficient to support tree stands.

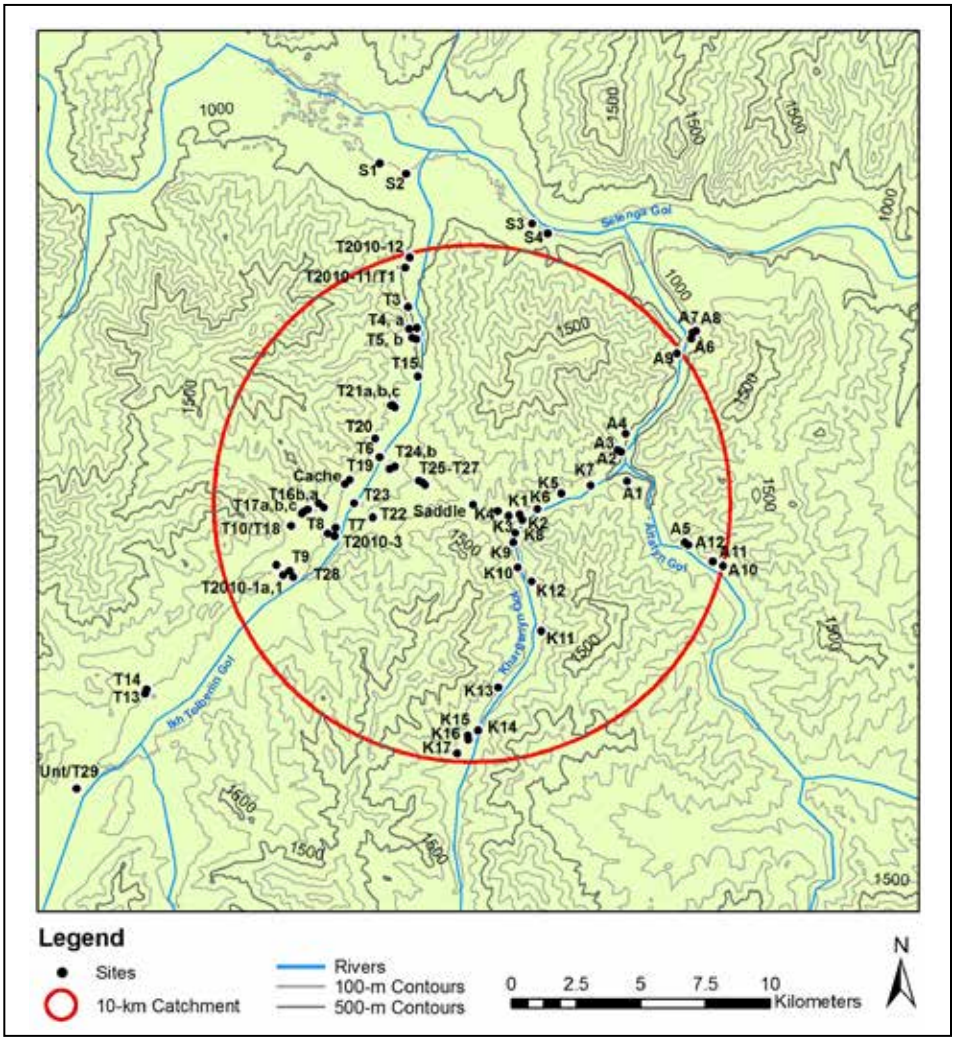

Figure 1: Map of all recorded Paleolithic and early Holocene sites (n=63) and the 10-kilometer catchment survey area. (Drawing courtesy of Christopher Gillam)

Archaeological deposits indicate an initial occupation of the region by the Early Upper Paleolithic (ca. 40,000 calendar years before present; hereafter, BP; Gladyshev et al. 2011; Zwyns et al. 2014), although the discovery of Kharganyn-13 this season may indicate an earlier Middle Paleolithic occupation (ca. 45,000 BP) containing Levallois stone tools in the region (Figure 2). Typical Early Upper Paleolithic (40,000-25,000 BP) stone artifacts include flake and blade cores, large flakes, large blades, scrapers, points, denticulates, and burins (Figure 3). The Middle Upper Paleolithic (25,000-16,000 BP) is dominated by large flake cores and a flake tool industry. Late Upper Paleolithic (16,000-12,000 BP) and Early Holocene (12,000-9,000 BP) forms are dominated by micro-blades, wedge-shaped and prismatic micro-blade cores, small flake tools, endscrapers, sidescrapers, points, and burins.

Stone raw materials are locally abundant on hillside outcrops and in streambed gravels. Each produce conchoidal fractures and are similar in texture and color, making field identification at times cumbersome, consisting of very fine-grained and dark gray: metamorphic sedimentary rocks (orthoquartzite/sandstone and, rarely, flint/chert and red jasper), foliated metamorphic sedimentary rocks (aleurolite/siltstone), and aphanitic igneous rocks (basalt and rhyolite). Chert-like aleurolite is the dominate stone-type selected for flaked stone tools, followed by very fine-grained orthoquartzite.

In 2014, excavations at the Upper Paleolithic site, Kharganyn-5, continued under the direction of Sergei Gladyshev with Evgeny Rybin, Tsedendorj Bolorbat, and others from the Institute of Archaeology and Ethnography, Novosibirsk, Russia, and Institute of

Figure 2: Probable Middle Paleolithic Levallois Point Core (ca. 45k BP) from Kharganyn-13. (Photo courtesy of Christopher Gillam)

Archaeology, Ulaanbaatar, Mongolia. Given the probable significance of the Saddle site to the Paleolithic settlement and inter-connectedness of the Tolbor-Kharganyn-Altatyn valleys, a 10-kilometer catchment survey design was implemented by Tabarev and Gillam from the Saddle site location for 2014 (Figure 1). The Saddle site itself is located around 1,200-meters in elevation and lays 125-150 meters above the Kharganyn and Tolbor Rivers and 500-600 meters below the highest ridges flanking north and south, consecutively. It is 10 kilometers south and 400 meters relative elevation to the greater Selenga River that flows east, then northward to feed Lake Baikal in Russian Siberia.

The 10-kilometer survey area of the Tolbor had been surveyed successfully in 2011, so 2014 surface surveys for new sites focused on the lower and mid-reaches of the Kharganyn and Altatyn Rivers within 10-kilometers of the Saddle site. We completed over 100-kilometers of pedestrian surface surveys across rugged terrain in just a few weeks' time (AKA, "Daily 10-K"). Ground-surface visibility was quite good, as winter's ice had melted in all but the shadiest incised locations and spring growth was just beginning in late May and early June (see Figure 3). We recorded 20 new sites and nine previously identified sites (2011/2013) along the Kharganyn (n=17 sites) and Altatyn (n=12 sites) Rivers.

Three sites discovered along the Kharganyn River offer perhaps the greatest potential for understanding the earliest peoples of the region. Kharganyn-11, -12 and -13 (Figure 1) all contain potentially stratified Early Upper Paleolithic components (40k-25k BP), while Kharganyn-13 is possibly unique with the discovery of a probable Middle Paleolithic Levallois Point Core on the surface of the site (ca. 45k BP). The Levallois technique is most commonly associated with European Neanderthal Mousterian stone tool technology, but in recent decades has been demonstrated to have been used by archaic and early modern humans in Europe, the Near East, northern/eastern Africa and western Asia. Although some possible finds of Levallois technology have been noted in Mongolia's Gobi Desert further south, none of those sites have stratified cultural remains to confirm their cultural affiliation. As such, Tolbor-13 has the potential to be one of the most significant cultural sites in the entire region, with global significance for understanding the complex cultural interactions and migrations of the Pleistocene (e.g., Lycett and Norton 2010). Of course, as is the norm for archaeological expeditions worldwide, this discovery was made on the final day of fieldwork, so testing of the site for stratified remains will have to wait for the next scheduled field season in 2016. We'll keep you posted!

Acknowledgements

This research is gratefully supported by the Russian Foundation for Basic Researches (Grant #12-06-00037a), Mongolian Academy of Sciences' Institute of Archaeology, Joint Mongolian-Russian-American Archaeological Expedition (JMRAAE) of the University of Arizona, and the Savannah River Archaeological Research Program (SRARP) of SCIAA-USC.

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Figure 3: Early Upper Paleolithic large blade endscraper (40k-25k BP) on the surface of Kharganyn-12. (Photo courtesy of Christopher Gillam)

Archaeological Research Trust (ART) Grants For 2015

Compiled By Nena Powell Rice, Secretary ART Board

The Board of Trustees of the Archaeological Research Trust (ART) made decisions at the September 13, 2014 meeting to fund eight SCIAA researchers for the year 2015. A total of $23,541 was given to support the following researchers and projects.

Exploring Community Creation at the Iron Age Hillfort of Caerau

Adam King received $3,900 to initiate a research project at Caerau Hillfort in Wales, UK during the summer of 2015. The project will be part of the Caerau and Ely Rediscovering (CAER) Heritage Project, a long-term, community-based research effort to focus on understanding and exploring the long occupation of Caerau. Adam has specifically been invited to join a team of archaeologists to explore the origins of the hillfort during the Iron Age.

Organization and Documentation of SCIAA Lithic Raw Material Collection

Albert Goodyear and Joseph Wilkinson received $3,475 to organize and document the SCIAA lithic raw material collection gathered over the last 40 years. The materials have been collected by Keith Derting, Tommy Charles, and Albert Goodyear. From within South Carolina and adjacent states. Knowing types of raw materials and their geological occurrence is critical for mapping prehistoric territories, movement patterns, and for identifying stone that is exotic or foreign to a site. Funds are requested to support Joe Wilkinson for five weeks to organize and catalog materials and create a computer database.

Yamassee pottery recovered from the Combahee River. (SCIAA / MRD photo)

Immunological Analysis of Paleoamerican and Archaic Stone Tools from the Central Savannah River Area: Phase III

Christopher Moore received $4,500 to continue important immunological studies of animal protein residues preserved on stone tools from Flamingo Bay (38AK469) and more recently, a larger study of 75 hafted bifaces (all time-periods represented) from the Central Savannah River Area (CSRA). These studies have produced fascinating results with regional implications for animal exploitation by early hunter-gatherers. In fact, the most recent results have identified animal proteins on Paleoamerican Clovis and Redstone artifacts, including the presence of bovid or bison (*B. bison* or *B. antiquus*), on several fluted points, a Dalton, and single Morrow Mountain hafted biface. One of the major questions we now want to address with additional immunological testing relates to the possible extirpation of bison in the mid- Holocene based on the presence of bovid protein residue on a single Morrow Mountain hafted biface and none on later points. Also, previous immunological testing found bison residue on Clovis points but no evidence of other extinct megafauna. This may mean that large megafauna were regionally extinct by the time of Clovis, were hunted infrequently, or that our sample size was just too small. Analysis of additional Clovis points could help address these questions. Secondarily, this study will also analyze a sample of possible pre-Clovis "Haw River" or Unidentified Small Lanceolates (USLs) from the region. The presence of extinct megafauna (horse, camel, or mammoth) would provide strong circumstantial evidence for a pre-Clovis temporal placement for this point type.

Taylor side-notched point that was tested and showed evidence of protein residue from Flamingo Bay (both sides shown). (SCIAA photo)

Yamassee Indian Villages Project

James Spirek and Chester DePratter received $3,501 to continue their investigation of Yamassee habitations on the rivers in the ACE Basin and Port Royal Sound. For the past two years, the Maritime Research Division (MRD) and Dr. Chester DePratter, of the Research Division, have investigated the remains of a Yamasee Indian occupation site on the banks of the

Yamasse pottery being recovered on the Combahee River by MRD team and volunteers. (SCIAA / MRD photo)

Combahee River. Operations at the site in 2013, included sonar and diving operations to discover the loci of Yamasee Indian pottery sherds eroding into the river. Surface collecting from the river floor by underwater archaeologists and volunteers succeeded in identifying a concentration of culturally related pottery adjacent the suspected occupation site. DePratter had hoped to conduct shovel tests to identify the site on land, but at the last minute the landowner rescinded his permission to excavate. In 2014, the MRD and DePratter returned to the river to conduct underwater excavations in an attempt to discovery ceramics and other related artifacts buried near the bank. Underwater excavations recovered some pottery sherds, but by far the most prolific means of recovering artifacts remained surface collecting exposed ceramics on the river floor.

Due to the success of finding artifacts associated with the Yamassee occupation on the Combahee River, the principal investigators look to expand their research interest towards locating related habitation sites on the rivers in the ACE basin and Port Royal Sound. DePratter has located evidence of Pocosabo on a creek adjacent Whale Branch River. The site of Pocosabo sits atop a bluff adjacent to a small tidal creek that has gradually eroded back into the village terrestrial deposits. Funds requested in this proposal are to use underwater archaeologists from the Maritime Research Division and volunteers to recover artifacts from the creek at the base of this bluff.

Understanding Pre-Columbian Settlement on Waccamaw Neck

Karen Y. Smith and Keith Stephenson received $8,165 to continue archaeological investigation in the field and in the laboratory to focus on an archaeological survey inside the fence line at Hobcaw House. Hobcaw Barony's archaeological resources and the stories they may be uniquely suited to tell are only faintly known. Beyond historical records and oral traditions, the only sources of information about the history and prehistory of the 16,000 acres on the southern peninsula of Waccamaw Neck – this unique and diverse landscape and its past peoples – are found in one brief archaeological survey by archaeologist James Michie (1991), an equally brief hobby diver survey for artifacts in Winyah Bay (see SCIAA Site Files for 38GE111), and a historic resources report of the Hobcaw Barony Historic District on file with the National Register of Historic Places. But that is changing thanks in large part to ART Board support.

All of the above projects will result in articles that will be published in future issues of *Legacy*. If anyone is interested in seeing the full background description of each these proposals, please contact Nena Powell Rice (nrice@sc.edu).

Figure 4: Keith Stephenson (left) and Jacob Borchardt (right) shovel testing inside the enclosure at Hobcaw House. Brick ruin of the main gate to Hobcaw House in background. (SCIAA photo by Karen Y. Smith)

ART / SCIAA Donors Update August 2013-December 2014

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Theriault redstone biface showing both sides from the Brier Creek site. (Photo by Christopher Moore)

ART Board tour of Graniteville, in celebration of SCIAA's 50th anniversary, November 2, 2013. (Photo courtesy of Nena Powell Rice)

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New Life for Santa Elena

By Chester DePratter

The Santa Elena Foundation of Beaufort, South Carolina, has taken on the task of telling the world about the history and archaeology of Santa Elena. Santa Elena, a major Spanish settlement from 1566 to 1587 and capital of La Florida from 1571-1576, has been excavated by SCIAA archaeologists since 1979. The Santa Elena Foundation's Chairman, Daryl Ferguson, is the driving force behind the effort to create a world-class museum/interpretive center. Andy Beal is the Foundation's Executive Director. This museum will tell the story of the 16th century conflict between Spain, France, and England over control of La Florida with Santa Elena as the centerpiece. Currently, negotiations are underway for use of the former federal courthouse in Beaufort to house this facility.

As part of the Foundation's efforts, state Senator Tom Davis was able to obtain $220,000 from the State Legislature to reprocess and reanalyze the voluminous collections from the Charlesfort/Santa Elena site. The United States Marine Corps has provided another $110,000 to assist in this collections' reprocessing effort under my direction.

New excavations at Santa Elena in Fall 2015 will focus on the part of the site where Pedro Menendez, founder of La Florida, resided, and the remains of the previously undiscovered Fort San Marcos (I) built in 1577. In preparation for this new fieldwork, Dr. Victor Thompson, University of Georgia archaeologist, has joined me in an effort to locate Menendez' house, the fort, the plaza, and the network of streets in the town using ground penetrating radar and other remote sensing techniques.

Figure 1: Chester DePratter and Dr. Victor Thompson using ground-penetrating radar on the Santa Elena site. (Photo courtesy of Santa Elena Foundation)

Figure 2: Alvaro Armada Barcaiztegui, Conde do Guemes, placing flowers on the house site of his ancestor, Pedro Menendez. (Photo courtesy Santa Elena Foundation)

In mid-November 2014, Alvaro Armada Barcaiztegui, Conde do Guemes, a direct descendant of Pedro Menendez and Board Member of the Santa Elena Foundation, visited Beaufort and toured the Santa Elena site. He owns the extensive Menendez family archive that will be critical to furthering investigations on the Santa Elena site.

The future looks bright for Santa Elena. Stay tuned for developments!