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Publication Info
Published in Legacy, Volume 16, Issue 1, 2012, pages 6-10.
http://www.cas.sc.edu/sciaa/
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2011 Activities of the Southeastern Paleoamerican Survey
By Albert C. Goodyear

Fieldwork at Topper began early again in 2011 with the annual field school held for the University of Tennessee undergraduates. Under the supervision of Doug Sain, excavations were conducted from March 7-19, 2011 focusing on the Pleistocene alluvial sands immediately to the east of the deep pit within the building (Fig. 1). This was an effort to carefully remove the preClovis artifacts known to be in the upper Pleistocene layer in order to expose the top of the hard clay-rich Pleistocene terrace surface. As one proceeds east toward the hillside, the artifacts seem to increase in density, probably because the chert source is approached. Excavations also continued in the one-meter units already down in the terrace to eventually bring them to the 50,000 radiocarbon date level.

During the regular Allendale Paleoamerican Expedition in May and early June 2011, excavations continued under the supervision of Doug Sain in the pavilion working on preClovis recovery in both the Pleistocene alluvial sands and down in the terrace (Fig. 2). Several interesting preClovis lithic artifacts were found, including a boulder-size core in the Pleistocene terrace that was so large it wasn’t fully exposed by the end of the fifth week. It remains to be uncovered for the 2012 season. This season more OSL samples were taken, both in the deep terrace unit and the alluvial sands, in an effort to redate the preClovis at Topper using the more precise single-grain method. Topper preClovis was last OSL dated in 2002 using the single and multiple aliquot methods, which is not sensitive to subpopulations of sand grains of differing ages. This is being done in an attempt to independently evaluate the 50,000 radiocarbon dates in the terrace, which may be that old or even older, as radiocarbon doesn’t work after about that time. Under the supervision of Derek Anderson, excavations on the Hillside focused on exposing the Clovis floors. Clovis was found in every two-meter unit, plus in units placed to the extreme north and northeast to continue to determine just how extensive the Clovis occupation is on the Hillside.

As of the 2011 Field Season, it still has not been exhausted to the north and east, although it may be diminishing. Some unusual well-made uniface tools were found in one area suggesting we might possibly be seeing special activity areas beyond biface and blade manufacture.

Five weeks of excavation took place at 38AL228, a multi-component Clovis site on the north side of Smiths Lake Creek. Clovis-looking artifacts have been found there in a dirt road since at least 1997, and it was decided to systematically test the woods on either side of the road to evaluate the stratigraphy and search for more Clovis materials. Andrew Weidman, a graduate student from the University of Tennessee, supervised this work, which will form the basis of his master’s thesis.

Three Clovis point preforms have been found at this site, plus two good examples of macroblade cores. The site is not a quarry site but is located about 200 meters across the creek from two chert quarries, 38AL136 and 38AL138. The excavations at 38AL228 are being done to explore possible functional variation in Clovis sites in the neighborhood of the chert quarries beyond that of Topper (38AL23) and Big Pine Tree (38AL143).

Dredging at the Big Pine Tree site, took place during the first two weeks of the 2011 Expedition season, the fourth straight year of recovering artifacts from Smith Lake, which have been displaced there due to bank erosion. These underwater operations, conducted with the assistance and overall concurrence of the SCIAA’s Sport Diver Archaeology Management Program in the Maritime Archaeology Division, have been very popular with the volunteers who enjoy helping pick the screens of artifacts. This underwater recovery has resulted in a very large and valuable collection of prehistoric artifacts from one site associated with a river chert quarry in a creek adjacent to the Savannah River. While hundreds of temporally diagnostic bifaces and tools...
have been recovered from all time periods, including a substantial collection of Clovis bifaces and prismatic blades, only two Clovis points have been found. This finding parallels that of Topper where only four Clovis points have been found from over 600 square meters of excavation. It is obvious that while both sites represent substantial Clovis quarry related sites, finished Clovis points were apparently not manufactured here and hunting involving finished points was not a major activity. These may be important clues as to the overall organization of settlement activity within Clovis groups in this region.

Starting with the 2012 season, dredging operations will move down stream to the Charles site, 38AL135, which is a quarry related site with much of the site eroded into the creek. The Charles site is thought to be another Clovis site like Big Pine Tree focused on the high quality chert naturally available in the creek. The occupational history there is also like that of Big Pine Tree with prehistoric groups from different periods obtaining tool stone from the creek bed. Summaries of the stratigraphy and occupational histories of both Charles and Big Pine Tree can be found in Goodyear (1999).

Research and publication continued with what is being called the Younger Dryas Boundary (YDB) including the controversial “Clovis comet” hypothesis, which states that some type of extraterrestrial object or objects came into North America around 12,900 years ago, or right at the time of Clovis. Since the original publication by Firestone et al. (2007), some studies have been published claiming no paleobiological evidence (Gill et al. 2009) or an inability to replicate the original Firestone team findings (Surovell 2009), the latter including sediments from Topper. In 2008, an independent geoscience team led by Malcolm Lecompte came to Topper to resample the Clovis stratigraphy under my direction, which included removing sediments from the Clovis artifact layer and from underneath the artifacts. The Firestone team findings (Surovell 2009), the latter including sediments from Topper. In 2008, an independent geoscience team led by Malcolm Lecompte came to Topper to resample the Clovis stratigraphy under my direction, which included removing sediments from the Clovis artifact layer and from underneath the artifacts. The

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**Fig. 3:** Examples of Clovis, Redstone and Dalton Paleoindian points from South Carolina. (SCIAA/SEPAS drawing by Darby Erd)

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al. 2010), in fact, replicated the original Firestone et al. (2007) findings at Topper, plus two other Clovis sites. In particular, microspherules were significantly fewer underneath the debitage compared to the Clovis surface. Apparently, the difference between the Surovell study and that of the Lecompte team was failure by the former to consistently adhere to the Firestone protocols for spherule extraction. Additional studies are underway by different investigators spanning North America and Europe, which are showing results similar to the Firestone team.

One implication of an extra terrestrial impact would be changes or outright damage to animal and human populations. In the original Firestone et al. (2007) publication, my study (Goodyear 2006) of the diminished post-Clovis Redstone point frequencies in South Carolina was pointed to as a possible indication of population decline. In South Carolina, there are from three to four times more Clovis points than Redstones. A similar drop in post-Clovis projectile point frequencies is reflected over the eastern U.S. in the Paleoindian Database of the Americas (PIDBA) (Anderson et al. 2010). In a recent study by Anderson, Goodyear, Kennett, and West published in *Quaternary International* (2011), these findings were broadened to include other lines of evidence besides point frequencies such as declines in major Paleoindian quarry usage and a drop in post-Clovis archaeological radiocarbon dates. Whether or not these declines in artifacts and radiocarbon dates equal population decline or demographic reorganization at the onset of the Younger Dryas, is not known for certain. In the central Savannah River Valley, both Topper and Big Pine Tree, show a lack of significant post-Clovis occupation, a pattern that is observable through the entire valley (Goodyear 2006). It is only by late Paleoindian Dalton times that significant Paleoindian points are widespread (see Fig. 3).

In recent years, the graduate student researchers at Topper have made considerable advances in their own careers, as well as solid research.
Masters degree in 2011. His thesis is currently being prepared for publication as *Occasional Paper No. 2* of the Southeastern Paleoamerican Survey (Sain 2012). Doug published several articles on Topper Clovis blade technology, including one in *Current Research in the Pleistocene* (2010) and a book chapter comparing blades from Topper with that of nearby Big Pine Tree (Sain and Goodyear 2012). Smallwood, Miller, and Sain have also co-authored a book chapter on Topper Clovis (2012), which is currently in press at the University of Utah. In 2010, Doug enrolled in the doctoral program at the University of Tennessee and will be analyzing the pre-Clovis artifacts from Topper for his dissertation.

Other graduate student research includes that of Megan Hoak King who undertook an analysis of Topper debitage from the ground surface down into the Pleistocene terrace. Her work resulted in her Masters thesis, which she successfully defended at the University of Tennessee in 2011 (King 2011). Among her findings were that there are cultural flakes in the pre-Clovis Pleistocene alluvial sands as well as in the Pleistocene terrace. Taphonomic studies that explain their associations with these ancient stratigraphic units are pending and will be addressed by Doug Sain in his dissertation research. Derek T. Anderson, a doctoral student at the University of Arizona, continues to pursue his refitting studies of Topper Clovis debitage. Derek left SCIAA in 2011 to take a full time job with the Cobb Institute of Archaeology at Mississippi State University, but he remains with SEPAS as a research associate for Topper research. He presented an updated version of his refit study from the 4 X 4-meter unit excavated at Topper in 2010 at the 2011 Southeastern Archaeological Conference (Anderson 2011).

A great advancement in the program came about toward the end of 2011 with the acquisition of newly renovated laboratory space. The new joint SCIAA/Department of Anthropology 4,000 square-foot facility (Fig. 5) will allow the detailed analysis necessary for the pre-Clovis and Clovis materials from the Topper site and other projects on the Clariant property. SEPAS will be granted a generous area within this facility, which is a most welcomed provision. This spring, Beth Bell has been hired to help organize the collections to facilitate their analysis. Funds provided by SEPAS, and the Harper Family Foundation are being used for laboratory studies. More information about the projects and collections in the SEPAS laboratory will be provided in the near future.

Fig. 5: The new laboratory facilities now available for SEPAS collections analysis in the University's Jones Physical Science Center. (SCIAA photo by Steve Smith)
One of the highlights of 2011, was the installation of a permanent exhibit on the Topper site and its artifacts at USC Salkehatchie in Allendale, South Carolina (Fig. 6). The Topper site is only 15 miles away from this regional campus, and this is yet another example of the cooperative relationship our program has with USC Salkehatchie. John and Libby Winthrop, Clariant Corporation, and the Winthrop Family Allendale-Hampton Fund provided grant funds. Arrangements were made with the South Carolina Archaeological Public Outreach Division (SCAPOD) to produce the exhibit. Topics presented include the preClovis occupation of Topper with its controversial assemblage and apparent great age, as well as the remarkable Clovis occupation there.

Classic chert artifacts from both periods are well displayed along with interesting graphics and photos presenting the data (Fig. 7). On September 15, 2011, the grand public opening of the exhibit was held with donors in attendance, as well as USC President Harris Pastides (Fig. 8) who provided gracious remarks for all who had a part in the exhibit. The exhibit is located in the Library Building and is open free to the public during its hours of operation.

For the spring of 2012, plans are being laid to examine paleomagnetism in the Pleistocene sediments of Topper by Dr. Joshua Feinberg of the University of Minnesota in search of any possible disturbances present not visible to the naked eye. He will also examine the Pleistocene terrace for evidence of the Laschamp Excursion dating about 40,000 years ago, a time when the earth deviated from its present magnetic orientation. If present, the latter would serve as a means of dating the terrace, and it would serve as an independent evaluation of the 50,000-year radiocarbon dates. Other geological studies planned are vibra coring with Dr. Scott Harris of the College of Charleston. We plan to core the deeper portions of the Pleistocene terrace (93.60M) where a black gumbo clay layer was encountered a few years ago in Backhoe Trench 14. This clay contained extraordinarily good preservation of plant remains including, hickory nuts and cypress seeds. This time coring will occur closer to the Hillside where the chert outcrop occurs checking on the possible presence of human worked lithics and perhaps wooden artifacts.

The 2012 Allendale Paleoamerican Expedition will take place April 30-June 2, 2012. Members of the public are invited to sign up for a week or more and help excavate Topper preClovis and Clovis. Dredging operations will take place the first two weeks at the Charles site. Volunteers are needed both in the field and in lab work. For further information, please go to the SEPAS web site at www.allendale-expedition.net. As always, free public tours are available every Saturday during the excavation.

Thanks to the many volunteers and donors for their great help in 2011, they make all of this possible. Special thanks go to Darrell Barnes of Yesterdays Restaurant in Columbia for donation of food stuffs and storage, to Jack and Bill Kaneft of Colonial Packaging for their donation each year of plastic reclosable bags for our field and lab work, to Reid Boylston of Reid’s Food Lion in Barnwell, South Carolina, and to Neeley Appliance Company in Denmark, South Carolina for refrigerators and repairs. Connecticut volunteer Neal Konstantin and his company PDC-Corp donated a custom made stainless steel dredge head for use dredging up all those chert flakes and artifacts from our underwater data recovery. Clariant Corporation, which owns Topper and the other important archaeological sites on their property, must be recognized for their great stewardship of some of South Carolina’s most significant archaeological resources and for their extraordinary support of our field operations each year.

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