

the *Nature* of things

AT THE GEORGIA MUSEUM OF NATURAL HISTORY

D oing Archaeology of Archaeology: The Study of the Maria Crespo Parkerson Collection



Ervan G. Garrison

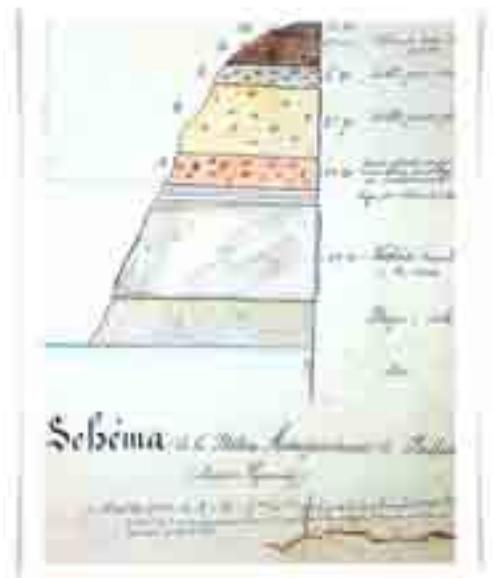
In the spring of 2014, Jacklyn Hoyt, then a UGA senior and Museum Intern and I had the privilege of examining a collection donated by Ms. Maria Crespo Parkerson to the Georgia Museum of Natural History. This unique collection included, for the most part, prehistoric stone artefacts from France and North Africa. Included in the collection was an original short, hand-written archaeological report illustrated in pen-and-ink and watercolor by a Msr. Roseville des Grottes. Museum Director Bud Freeman had shown the report to the author upon the occasion of my initial viewing of a representative portion of the collection's prehistoric artefacts currently on display in the Gallery.

Having been academically trained and worked professionally in European prehistory since graduate school, the importance, and quality, of the prehistoric artefactual materials were immediately evident. The "stunner", however, was the short, but well written, in French, report of a 1916 excavation of a Paleolithic period site at Bidart, France. My initial reaction was "How did this report, in its original form, get out of France?" Original archaeological reports of any kind

are typically kept and curated along with the archaeological materials on which they report. This is particularly so for France, the historic epicenter for now world famous studies ranging from the great cave art sites of Lascaux and Chauvet to the cave of Cromagnon, the first archaeological discovery and description of our own hominin species – *Homo sapiens sapiens*. I had no knowledge of a similar occurrence for an important prehistoric French site, hence my surprise and picqued curiosity.

Jacklyn aka "Jackie" Hoyt was uniquely qualified to assist in the study of the artefacts and the archaeological report. She is fluent in the French language and had been a student in my archaeological geology class as well had studied abroad in Switzerland and Scotland in 2012 as a student in Studies Abroad Europe which I led and instructed. My own qualifications lay in my graduate study of stone artefacts from the famous sites of Combe Grenal and Cagne-la Garenne, both excavated by the late Dean of French Paleolithic archaeology, Francois Bordes. In addition, I had, since receiving my doctorate from the University of

Missouri, surveyed and excavated prehistoric sites in French-speaking western Switzerland – Cantons Neuchatel and Fribourg- since 1985.



Jackie and I with the permission and encouragement of Bud Freeman began, in May of this year, an intense study – to include a transcription and translation of the 1916 report as well as full analysis and identification, as far as possible, of all the artefacts on display and in the collection. Assisting Jackie and I with the translation was my Swiss-American colleague of many years, Ms. Phyllis Prichett de Martini, living

Archaeology, continued on page 7

From the Director



We've had a busy summer, and have unloaded the penultimate truck from Boston and Northeastern

University, adding more marine mammals, birds and other terrestrial species to our collections at the Annex. Friends and volunteers from the US Fish and Wildlife Service helped unload the boxes and specimen cases, and our summer interns helped Nikki Castleberry and Nicole Pontzer with the fluid change in hundreds of jars of specimens.

This spring, Dr. Elizabeth (Betsy) Reitz (Zooarchaeology) was elected a fellow of the American Academy of Arts and Sciences, which was established in 1780 by John Adams and James Bowdoin. She joins a big group of distinguished scholars and was recognized for her achievements and impacts on the field of Zooarchaeology. Incidentally, Betsy is a fellow of another organization with a similar AAAS name—the American Association for the Advancement of Science an honor she received in 2013!

A symposium in honor of Dr. Richard Hanlin, emeritus professor of plant pathology and curator of the Museum's Julian H. Miller Mycological Herbarium was held at the Georgia Center in May. Dr. Hanlin's influence on the field of study of Ascomycetes studies

was evident in the symposium presentations, and the importance of museum housed collections for future studies was very much emphasized by the participants.

I mentioned the *Tools through Time and Space* exhibit in the last newsletter and we've featured this again, in a little more depth. Dr. Erv Garrison (Archaeology) dropped in to look at the exhibit planning to bring his Paleoanthropology class for a visit and really flipped when he saw the materials from southern France and Africa! I completed his surprise with an original manuscript that accompanied this collection—a gift from Ms. Maria Crespo Parkerson and family. Seeing tools made by Neanderthals was a bonus for the class, and you can view them as well in the Gallery!

I had an interesting experience one evening this summer in a wooded site at dusk, I was rather frequently responding to very small insects that I thought were biting me. So I collected some and presented them to Rick Hoebeke (Arthropods) who in turn introduced me to *Xylosandrus crasiusculus* a common species of Ambrosia Beetle. They are common at dusk and are attracted to injured trees, which may exude ethanol, which incidentally is used as an attractant lure for collecting them in surveys. This year has been particularly good for ambrosia beetles so watch out at dusk!

--Bud Freeman

Annual Meeting of the Friends

Friends presented Dr. Bud Freeman, Director of the Museum, with a check for \$20,000 at the annual meeting held at the Museum Annex on May 17.

Bud Freeman accepted the check from outgoing President Robert Wyatt. Bud stated, "Collections form the very basis of Natural History



museums and are windows into time that enable scholarly studies, provide educational opportunities and inspire humanity to a broad sense of engagement with our world. All of the articles in this issue touch on some aspect of these windows — some are quite deep and others more contemporary, but all benefit from the support of the Friends, which has recently included transportation costs of moving specimens from Boston to Athens, support for the Gallery as vitrine lids and new L.E.D. lighting, sponsorship for regional meetings and symposia dealing with natural history topics and general support to name but a few examples."

From the President



I want to take this opportunity to introduce myself since many of you probably don't know me very well. I've been interested

in natural history since childhood. I was three years old when I saw my first snake. I didn't know it was a snake then, but it is as clear in my mind as if it happened yesterday. The first museum I ever visited was the Museum of Natural History at the University of Kansas. My family annually visited the campus and the highlight of those visits was always the Museum of Natural History. It was amazing! I was entranced by the huge diorama of North American life zones with all their representative mammals. There were fossils of huge marine reptiles called ichthyosaurs and mosasaurs that had been discovered in Kansas. These and other exhibits captured my imagination and I dreamed of visiting deserts or excavating fossils. Later I became intensely interested in insects and my father took me to the building in which the entomology research collections were housed and knocked on the door. A sympathetic curator appeared and kindly showed me some of the thousands of insects in the collection. Those early experiences were the beginning of my association with museums. As an undergraduate at the University of Kansas I discovered the part of a museum that is normally hidden

from the public. Behind the displays is a research program devoted to understanding the diversity of the living world. I was a field assistant for an ichthyologist and later assisted in field work on the ecology of copperheads. I was also a curatorial assistant in the Kansas herpetology collection and then became a graduate student in herpetology at the University of Michigan's Museum of Zoology. Along the way I did field work in Mexico and Central America, collecting reptiles and amphibians and ultimately discovering and describing two new species of frogs from Mexico. But exposure to a wider world caused my interests to change and I drifted away from museum work, completing my Ph.D. in population genetics. From there I taught a variety of biology courses at several small, liberal arts colleges and the University of Georgia. Eventually I left academia and worked as a computer programmer/systems analyst for the Southern Company from which I retired after 15 years. But all those years away from direct involvement with museums and academia did not dampen my enthusiasm for the natural world and the museums that discover and preserve our natural heritage and I have reconnected in many ways. At present I, along with Hugh Nourse, lead the weekly Nature Rambles at the State Botanical Garden. (Every Thursday morning at 8:00 AM during July and August, 8:30 AM otherwise.) I also write a weekly blog based on each Ramble (<http://naturerambling.blogspot.com>).

In this age of "Nature-deficit disorder" more and more of our children are missing experiences that connect them with the natural world. Museums have always played a vital role in this regard. To support this goal our museum needs all the help it can get and the Friends of the Georgia Museum of Natural History are important supporters of its outreach efforts. Please continue your support by making a donation or participating in our field trips; a portion of the amount you pay goes to support educational outreach and other activities of the museum.

Our fall field trip will be to St. Catherine's Island September 26-28 and spaces are limited, so sign up as soon as you can for this rare opportunity. Details can be found elsewhere in this issue.

You should have already received a notification of our annual fund raiser Celebration on October 18. Our speaker for the evening will be the well known writer, naturalist and environmentalist Janisse Ray.

--Dale Hoyt





Friends Trip to Broxton Rocks 2-4 May 2014

Drosera rotundifolia, a carnivorous sundew that traps insects with sticky hairs on its leaves.

Robert Wyatt

A small but intrepid band of Friends traveled to the southeastern part of Georgia to explore Broxton Rocks, the single largest exposure of sandstone in the Altamaha Grit. The area consists of a series of cracks, pools, damp cliff walls, waterfalls, and rugged outcrops, all carved into a shallow gorge over many centuries by Rocky Creek. A substantial part of the area is a protected preserve of 3,799 acres, of which 1,528 are managed by The Nature Conservancy. The area is located in northeastern Coffee County, Georgia.

Upon arrival, we checked into the lodge at Little Ocmulgee State Park near McRae, Georgia. That evening we were treated to an orientation talk by Frankie Snow of South Georgia College. He showed images of the rocks and the unusual plants and animals that occur there, preparing us for our all-day excursion on Saturday. We were fortunate to catch pleasant late spring weather with many plant species at peak flowering, including several showy species (and

hybrids) of Wild Indigoes (*Baptisia*), the endemic Cutleaf Beardtongue (*Penstemon dissectifolius*), Sensitive Brier (*Schrankia microphylla*), and Virginia Goat's Rue (*Tephrosia virginiana*).

There were also many species of carnivorous plants such as Yellow Trumpets (*Sarracenia flava*), Sundews (*Drosera rotundifolia*), and Bladderworts (*Utricularia*) in wetter places on and of the outcrops. Among a surprising number of species that also occur on granite outcrops in the Piedmont were Quillworts (*Isoetes*). Frankie explained to us that one of the quillworts has recently been determined by experts to be a new species.

In the afternoon we ventured to other rock formations that were more cave-like, rather than flat, where we saw a number of additional rare plants, including the tropical Shoe-string Fern (*Vittaria lineata*). On a smaller scale we noted the presence

of a moss, *Plagiomnium floridanum*, known from only one other locality in Georgia.

On Sunday we visited the Moody Forest Natural Area, another Nature Conservancy Preserve on the Altamaha River. We walked through an unusual old-growth longleaf pine/blackjack oak forest with a disturbed area dominated by a fourth species of Wild Indigo (*Baptisia perfoliata*), whose dried leaves persist for years. En route to this site we also saw that many of the Sassafras (*Sassafras albidum*) trees had five-lobed leaves! This species is known for having variously unlobed, one-lobed, or two-lobed leaves, but none of us had ever seen five.

As we made a close approach to the Altamaha River, we were assailed by large clouds of hungry mosquitoes. We briefly admired the giant bald cypress (*Taxodium distichum*) and water tupelo (*Nyssa aquatica*) trees before heading back to Athens.

Ambrosia Beetles and Alcohol

Rick Hoebeke

Ambrosia beetles, specialized members of the weevil family (Curculionidae), must locate a suitable tree host from among the many scattered trees in a forest; almost certainly it is a tree under some physical or environmental duress. It is a well-known fact that ethanol, or ethyl alcohol, is a compound naturally produced by stressed and dying trees and is highly attractive to a wide variety of beetle species, including ambrosia beetles. After locating a suitable tree or shrub, an ambrosia beetle then excavates a tunnel in the wood and releases spores (from a special structure called a mycangium which can be found on various parts of the body) to cultivate a fungus garden upon which they feed; the fungus is their sole food source. The presence of toothpick-like strands of boring dust protruding from tree trunks or piles of sawdust at the base of the trunk are probably the best indicators of an infestation by an ambrosia beetle.

In northern Georgia, there are at least two species of exotic, or non-native, ambrosia beetles that are commonly encountered in our forests.

One of these is the granulate ambrosia beetle, *Xylosandrus crassiusculus* (Motschulsky). It was apparently accidentally introduced from Asia

Beetles, continued on page 7

Join the Friends of the Georgia Museum of Natural History on Our Upcoming Field Trip to St. Catherines' Island -26-28, September

Please join us for a chance to add to your life list of Georgia Sea Islands! St. Catherine's is privately owned by the St. Catherine's Island Foundation, Inc., which is affiliated with the American Museum of Natural History in New York. The Museum has used it to conduct archaeological research and breeding programs for endangered animals. We will be hosted by Royce Hayes, longtime manager of the island, and his wife, Christa Frangiamore Hayes, whom many of us knew as a graduate student in Ecology at UGA.

We plan to depart from the dock Friday afternoon and return Sunday evening. We will stay in renovated tabby cottages that were once used as slave quarters and do group cooking in a modern, commercial kitchen. Our days will be filled with explorations of the natural history of the island, including everything from archaeology and botany through marine biology and zoology. A highlight of the trip will be the opportunity to see a free-ranging troop of lemurs who roam the island.

The cost is \$200, which includes housing and meals and a tax-deductible donation of \$100 to the Georgia Museum of Natural History. We are limited to 20 participants, whose reservations will be taken in the order in which they contact me (rewyatt@uga.edu). Further details of the trip will be sent to the first 20 to sign up.



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Collections Donated

Joe McHugh and Rick Hoebeke

In June, we visited Tuscaloosa, Alabama, to retrieve two important donated collections of aquatic insects. The first collection filled four cartons filled with vials of specimens collected during aquatic ecology studies at the Coweeta Hydrologic Laboratory in Macon Co., North Carolina. This material was donated by Dr. Alex Huryn, a current member of the faculty at the University of Alabama and alumnus of the University of Georgia.

Dr. Arthur Benke donated the other collection which included 35 large cartons filled with vials of specimens, one carton filled with slide-mounted specimens, and a cabinet of

pinned specimens. This material represents more than 40 years of aquatic ecology research by Dr. Benke that was conducted at various locations in the southeastern U.S., including urban streams in Atlanta, ponds and swamps at the Savannah River Ecological Lab in Aiken, S.C., Satilla River, Black Creek, Ogeechee River, and various small tributaries of the Ogeechee. Dr. Benke retired from the faculty at the University of Alabama in 2012 and is an alumnus of UGA.

Many of the donated specimens have been given identifications by Dr. Benke, Dr. Huryn, or other

taxonomic authorities. The material mainly comprises aquatic insects; however, various non-insect taxa are included (e.g., mollusks, gastropods, crustaceans).

This new material significantly improves the aquatic invertebrate holdings of the UGCA. In addition to strengthening the taxonomic reference collection, it also provides invaluable snapshots of the biodiversity that inhabited these bodies of water as far back

as the early 1970s. As concerns grow about the impact of urbanization, climate change, industrial wastewater input, and agricultural runoff on our water systems, these

aquatic collections will become increasingly important since they can provide concrete historical data.

In the last five years the UGCA received two other large aquatic insect collections. One from Dr. Bruce Wallace and another from Dr. Rick Duffield. We are now working to secure funding to have all four of these recently donated aquatic collections properly prepared and curated for incorporation in the museum where they will be available to the public and scientific community in perpetuity.



Art Benke (l) and Joe McHugh (r)
at Black Warrior River

UGCA Receives Donation of Books

Joe McHugh and Rick Hoebeke

This summer the UGCA received a generous gift of books, most about Coleoptera (beetles), from Blaine Mathison, a GMNH collection associate. Blaine's donation of 40 publications included field guides, taxonomic monographs, catalogues, and other texts focusing on biology and natural history. The value of this donation is estimated at \$2,900.



Blaine Mathison, GMNH Collection Associate

Welcome New Board Member

We are delighted to have Dr. Cecil Smith as a new member of Friend's board. Cecil retired from UGA in 2011 as Assistant Curator and Collections Manager of the arthropods. He worked with entomologists from around the world to obtain donations of valuable specimens to enhance the Museum holdings. During his tenure as curator, the number of prepared insect specimens in the collection grew from 300,000 to 1.4 million.

Beetles, continued from page five

into South Carolina in 1974 and has since spread to many states in the eastern and mid-western U.S. and the West coast. It is not an uncommon occurrence to notice these beetles hovering around while enjoying an alcoholic beverage outdoors. They, too, are also interested (to anthropomorphize) in the alcohol.

The other common species is *Cnestus mutilatus* (Blandford), better known as the camphor shoot borer. Also an introduced Asian wood-boring beetle, it was first reported in the United States in Mississippi in 1999. Since then, it has been found in Hawaii, and many other states in the eastern and southeastern U.S. Perhaps one of the strangest cases of damage caused by an ambrosia beetle is that exhibited by the camphor shoot borer. On several occasions in the Southeast, researchers have documented unusual boring damage to plastic gasoline containers used for home fuel storage. Burrowing females bore completely through the heavy-gage plastic exterior so that when the containers are lifted to pour, the gasoline leaks from the bore holes. Of course, almost all unleaded gasoline now includes up to 10% ethanol. As a result, these containers leach various volatiles (for example, ethanol) that stimulate boring by the female beetles. A similar case in Jackson County, GA, found rubber hosing of a portable spray apparatus being attacked and damaged by burrowing females. While in storage during the off-season, the rubber hosing, filled with ethylene glycol, was attacked because of the winterizing agent; ethylene is the non-fermentative precursor to ethanol.

Archaeology, continued from page one

in Estavayer-le-lac, Fribourg but as near as a phone call and several emails. Together, Jackie, Phyllis and I successfully extracted a modern transcription and translation from the elegant 1916 script. As I indicate in the title of this piece, we were “doing archaeology of archaeology” in the hope of recovering a long-forgotten professional study of a Middle Paleolithic archaeological site in the French Basque Country.

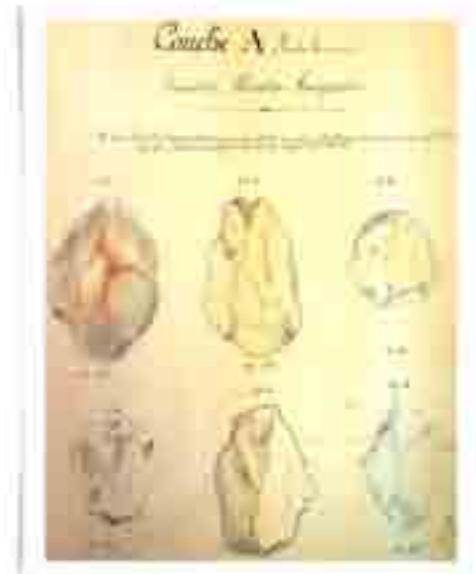
Without delving to deeply into the complexity and breadth of the Paleolithic Period, which stretches, chronologically from nearly 2 million years ago to roughly the advent of agriculture sometime after 10,000 years ago. The “Middle” Paleolithic Period – roughly lasting from a quarter million years ago to the advent of Cromagnon around 40,000 years ago in SW France – is the temporal domain of our close human relative – “Neanderthal.” So it is readily apparent, now, why the Bidart report intrigued me. It was an original professional archaeological report of a Neanderthal habitation site! Again, my initial question – “How

did this report get out of France?” Perhaps, we should add, “How did it find its way to the Georgia Museum of Natural History?” Athens, Georgia

is long way from the foothills of the French Pyrenees. The answer to the latter question is by way of the generosity of Ms. Maria Crespo Parkerson.

Now, the transcription and translation of this report is part of the collections of the museum. Is

it important or just a small footnote in the vast literature detailing French Paleolithic research since the 19th century? I might have thought as much until, while doing some research into more modern research of this early site. Just four years ago, a significant dissertation, using new information from this same site of Bidart formed more than a third of a 2010 doctoral dissertation from the University of Bordeaux. With the recent genomic evidence of our genetic inheritance from Neanderthal, renewed interest in the archaeology of our close relative has burgeoned. Publication of this “lost” report is now the only option. It must, in print, at least, finally “go home.”



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Membership includes: a subscription to *The Nature of Things* newsletter, invitations to museum events, Friends programs, and field trips. Membership and donations are tax-deductible to the extent allowed by law.

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