

THE EAP COLLECTION

Our collection includes modern comparative and archaeological specimens of zoological, botanical, and pedological materials. It is one of only a few such collections in the United



States or the world. Our modern specimens, used as comparative material in our research as well as for biological studies, include over 10,000 animals and plants. Most specimens are accompanied by additional data such as location and season of collection, animal weight and size, sex, and age. The comparative zoological collection is available on-line at www.flmnh.ufl.edu/databases/zooarch/intro.htm

The over three million archaeological materials



housed by the EA Program are ancient specimens of animals, plants, and soils from over 600 sites. These are primarily archaeological animal specimens but include important dry and

waterlogged archaeological plant remains and anthropogenic (human-influenced) soils. Our archaeological collections have extensive associated cultural documentation including site reports, analyses, and selected background literature.



EAP RESEARCH

The FLMNH EAP researchers specialize in the zooarchaeology of vertebrates and invertebrates, macrobotanical analysis particularly of charred and waterlogged plant remains and woods, and archaeopedology, the study of ancient soils from archaeological landscapes. Our research is both field and



collections-based. When possible, our projects combine the three components of environmental archaeology to provide a holistic interpretation of ancient environments and cultures. Examples include Lake Munroe, Florida, St. Catherines Island, Georgia, and the Guatemalan site of Motul de San Jose.



www.flmnh.ufl.edu/envarch. [Images: Drilled sharks teeth and a soil profile from Lake Munroe, Dr. Kitty Emery coring for agricultural soils at Motul de San Jose]

Our research is funded by grants, contracts, and private donations. Student researchers gain valuable experience by working with us.

EAP ZOOARCHAEOLOGY RESEARCH

Zooarchaeologists study the skeletons of vertebrate and invertebrate animals, including both the large animals (macrofauna) and the very small animals (microfauna including anything from rodents to shrimp or foraminifera).

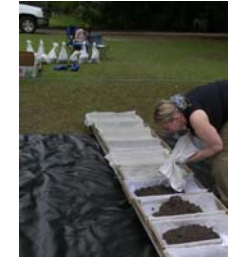


- Ethnozooarchaeology of hunting caches in the highlands of Guatemala to understand ancient ritual deposits [UF MA student Elyse Anderson and UF PhD student Michelle LeFebvre working with Emery and Maya ritual practitioners, Guatemala]
- Regional analyses of Central American archaeological animal remains to reveal ancient human impact on the Maya environments (using foraging ecology models and carbon isotopic ratios) [Emery, Emery and UF PhD student Erin Thornton]
- Identification of birds, fish, and shrimp from elite tombs at the Maya city of Copan [Emery, UF PhD student Erin Thornton, and Irv Quitmyer collecting samples from ceramic feasting vessels; Elyse Anderson and David Steadman have since aided in bird identifications]
- Oxygen-18 isotope ratios from archaeological hard shelled clams and coquina shells as indicators of climate change [Irv Quitmyer and Doug Jones]



EAP ARCHAEOBOTANICAL RESEARCH

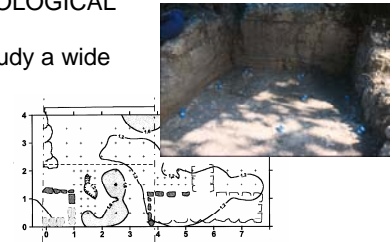
Archaeobotanists study plant remains that are preserved at archaeological sites including macroremains such as wood, seeds, nuts, etc. Because these are fragile, they are only preserved in special conditions (dessicated, charred, frozen, waterlogged, or preserved as impressions in baked clay or daub). Archaeobotanists also study microremains including pollen, phytoliths, and spores, often found in the soils and vessel residues. Some of our recent projects combine collection-based curation and research.



- Analyses from Spanish colonial sites in Florida: colonial foodways, economies, changing roles of plants, and interactions between Europeans and Native Americans
- Prehistoric research including analyses of plant remains from sites in the Everglades National Park: changing plant use through time and across microhabitats, analysis of Weeden Island period (@ A.D. 300-900) plant remains, and continued analysis of Florida's prehistoric dugout canoes.
- Rehabilitation and analysis of both wet and dry collections from St. Catherines Island, Georgia. These date to some of the earliest Native American sites on the Atlantic to the famous Spanish Mission site of Santa Catalina de Guale. [Donna Ruhl and Johanna Talcott, UF student, processing the St. Catherines Island Shell Ring samples].

EAP ARCHAEOPEDEOLOGICAL RESEARCH

Geoarchaeologists study a wide range of data, including everything from global climate, regional distribution of geological resources, local geomorphology or topography, and the clues that soil can provide in studies of ancient land-use. Studies employ analyses of chemical and grain-size characteristics to answer questions about site configuration and settlement patterns, environmental changes such as sea level



rise, and post-depositional alterations in site structure.

- In the Maya world, mapping associations between settlements and ancient agricultural products using phosphates and soil isotopes [Emery's floor sampling at the site of Motul de San Jose and chemical contour mapping to show use areas]
- Determining the original shape of Archaic shell rings in NE Florida, the source of sand that buried an early coastal site in the Turks and Caicos Islands, and post-depositional changes in midden deposits on Water Island in the U.S. Virgin Islands [Sylvia Scudder sampling soils in the EAP laboratory]



EAP STUDENTS

Students are an important part of our program and UF graduate students are actively pursuing degrees through research on such projects as:

- Comparing zooarchaeological deposits to modern ritual deposits to evaluate ceremonialism in the Maya archaeological record [UF MA student Elyse Anderson]
- Evaluating trade of Mesoamerican fauna using strontium analysis of zooarchaeological remains [UF PhD student Erin Thornton preparing chemical samples for strontium analysis]
- Using zooarchaeology to assess ancient human impact on coral reef fishes on Carriacou and re-evaluate models of resource "overexploitation" on Tobago [UF PhD student Michelle LeFebvre]



- Documenting periodicity of modern shell formation in oysters from St. Catherine's Island, (GA) to determine season of shellfish collection in the archaeological record [UF MA student Nicole Cannarozzi collecting marine shell at St. Catherine's Island]



- Linking GIS databases of environmental and archaeological data to estimate agricultural carrying capacity at an ancient Maya site [UF MA student Lisa Tromley]
- Combining zooarchaeology and paleolimnology to assess Archaic period relationships with the environment in the middle St. Johns River valley of Florida [UF PhD student Meggan Blessing]
- Tracking the use of exotic resources by ancient Maya elite [UF MA student Erol Kavountzis doing zooarchaeological analysis of Maya assemblages]



The Environmental Archaeology Program faculty and affiliates teach both University of Florida and other students through internships and formal courses. Students are also welcomed into the EAP as Federal College Work Study students, student research employees, and as volunteers. These are valuable research opportunities that contribute to a broad educational experience.

RESEARCH CONTRACT SERVICES

The EAP provides identification and analysis of archaeological animals, plants, and soils through contracts to private consulting firms, and county, state, and federal agencies involved in environmental and archaeological impact assessment, as well as to educational, avocational, and private organizations.

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THE ENVIRONMENTAL ARCHAEOLOGY PROGRAM

FLORIDA MUSEUM OF NATURAL HISTORY



The Environmental Archaeology Program (EAP) is a research and teaching laboratory devoted to the reconstruction of the ancient environments of the circum-Caribbean (including the SE USA, Mesoamerica, the Caribbean and northern South America). Our aim is to understand the deep-time history of the relationship between humans and their environments. Our research reveals important lessons about ancient successes and failures in environmental management.



WHAT IS ENVIRONMENTAL ARCHAEOLOGY?

Environmental archaeology is the interdisciplinary study of past human interactions with the natural world. It combines zooarchaeology (the study of animal remains), archaeobotany (the study of plant remains) and geoarchaeology (the study of the abiotic landscape).



Environmental archaeology researchers use both modern comparative and archaeological collections to reconstruct the environment associated with archaeological sites, and the use of plants, animals, and landscapes by past inhabitants of these sites. The impact people had on the world around them and the way ancient peoples perceived and were affected by their surroundings and the plants and animals on which they relied are among the research questions studied by environmental



archaeologists. [Images: typical Florida archaeological site sediments, modern queen triggerfish cranium used to identify marine zooarchaeological remains, modern examples of seeds and nuts used to identify archaeobotanical materials from the Lake Monroe site.]