

ANCIENT SETTLEMENTS AND TROPICAL FOREST LANDSCAPE CHANGES IN W. UGANDA

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An interdisciplinary and collaborative project involving investigators from the University of Florida, Mbarara University of Science and Technology, the School for International Training, and the National Museum of Uganda continued in 2015 to document and characterize the interactions between human settlement and environmental change in western Uganda over the Holocene. The results of two seasons of research provide important new insights into the culture history of western Uganda, throw significant light on cultural practices associated with several major occupational periods and provide significant new information on the diets and life-ways of human populations in the region. The presence of significant numbers of well preserved burials on the rims of calderas points to a major breakthrough for a frustrating lack of such evidence in East African archaeology. Nineteen C14 AMS dates from swamp cores and archaeological sites provide excellent chronological control and help to show that there are several major cycles of occupation and abandonment reflected in the paleoenvironmental record.

Our findings grow out of

systematic archaeological survey and excavations in the Ndali Crater Lakes region where there were intact human remains interred on the rims of volcanic calderas. The human burials are associated with large urns of Kanyore Ware and Boudiné ware. Nearly complete urns associated with the human burials have been securely dated to the first half of the first millennium CE. All documented burials are on the western rims of calderas, where the rising sun first strikes—a feature with possible cultural implications. Isotopic assays conducted include analysis of bone collagen (carbon and nitrogen stable isotope ratios) and bone apatite (carbon stable isotope ratios) to infer protein and ‘total’ dietary patterns. Human tooth enamel was sampled to assess childhood diet (carbon and oxygen stable isotope ratios) as well as to assess residential mobility using strontium and lead isotope ratios. Results are consistent with folks eating a mixed C3/C4 agricultural diet, but not exclusively. Nitrogen isotope ratios suggest significant animal protein in the diet—possibly hunted game and/or fish—findings consistent with numerous lakes and fish resources contiguous to human settlements.

The Ndali crater landscape of western Uganda is rich in proxies of palaeo-environmental records. Recent analysis of phytolith (silica structures in plants) and charcoal assemblages from sedimentary cores extracted from Kabata swamp and Lake Rwankwenzi provide evidence of long term forest dynamics and human interaction. The early Holocene, ca. 10,000 yr. BP, is characterized by pronounced grassland habitat with variable forested environment and significantly low assemblages of *Palmae* (palms). The charcoal record obtained from cores has proved to be an important proxy for forest fires during the last ca. 5000 to 1000 yr. BP at Kabata swamp. Since charcoal can be transported only from the rims and internal side of calderas, it appears to provide evidence for anthropogenic fires and deforestation in the immediate,

restricted catchment. The presence of many human burials along caldera rims show that these physical features were considered important parts of a sacred landscape.

These environmental findings highlight forest disturbance at ca. 2500 BP, marking the start of the Early Iron Age in East Africa (ca. 500 BC). It now appears that the human presence during this period may relate not to iron producers, but to hunters and fishers who also practiced some agriculture. The forest cover experienced periodic disruptions on the calderas up until about 1500 yr. BP (500 AD), indicating reduced human activity at that time. The last deforestation episode, ca. 1000 yr. BP, is characterized by increased grassland habitat at the expense of forest habitat, correlating with episodes of increased human influence. Populations making Ntusi/Bigo ware occupied the flanks of calderas, signaling a possible movement of pastoral people from the central region of Uganda during a dryer climatic episode.

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