


Cave Elephants and the Search for Our Early Human Ancestors on Mount Elgon





Mt Elgon, which straddles the Kenya-Uganda border, is home to the only elephants in the world known to go deep underground to mine salt. Visitors to Kitum Cave in Kenya's Mt Elgon National Park have, for many years, been able to find their way 150 metres into the mountain where they can sometimes see fresh elephant dung as well as gouge marks made by elephants with their tusks in the salt-rich, volcanic ash walls of the cave.

In contrast to the well-known Kitum Cave, there is an extensive network of caves also mined by elephants in a remote area on the Kenya side of Mt Elgon that is almost entirely unknown to the outside world and is undescribed in any media. To date, 12 elephant 'salt mine caves' have been identified as part of a new conservation programme, the East African Wild Life Society-Mt Elgon Elephant Project (EAWLS-MEEP)

In a country with so much environmental and conservation activity, why is Mt Elgon only now beginning to reveal this long-hidden and fascinating secret? The answer lies in research being undertaken by the National Museums of Kenya (NMK).

Since 2006, NMK has been working to reveal another of the mountain's secrets. One of the authors, Emmanuel Ndiema, Senior Research Scientist at NMK and whose ancestors lived in the many caves that penetrate the mountain, leads a programme of archaeological research and recording of cultural heritage on Mt Elgon. The Powles family who lived on Mt Elgon from the 1920s to the end of the 1960s supports this work. A key find is a prolific Mid-to-Late Stone Age habitation site characterised by stone tools, pottery, semi-fossilised bone and dried plant remains at Chepnyalil cave in Mt Elgon National Park. The site is at an altitude of 2,250 metres and has been dated to 23,000 years before



Emmanuel Ndiema, a Senior Research Scientist and Head of Archaeology at National Museums of Kenya, was born on Mt Elgon.



Christopher Powles, a University of Oxford zoology graduate, is a grandson of the founder of Mt Elgon National Park.



present. The occupation of caves by ancient humans on Mt Elgon had, hitherto, attracted little archaeological research.

These findings suggest that the tropical highlands of western Kenya contain numerous previously occupied caves with good organic preservation. Therefore, they have the potential of 1) establishing the region's cultural chronology that can be compared with better-studied areas, 2) contributing to a regional environmental record, and 3) reconstructing hunter-gatherer, farming and/or herding economics, social organisation and land use during past periods of increasing climatic variability.

In January 2017, the authors mounted an expedition to find other caves in which to examine the changing pattern of human occupation of the mountain over time at different altitudes in response to historic climate change. To the south of Mt Elgon National Park they were led, often by local people living high in Mt Elgon's inaccessible forests, to 14 caves. On entering several of these caves, they not only found signs of possible ancient human occupation but also extensive evidence of recent elephant occupation.

The elephants, in pitch darkness, sometimes along difficult routes - knowledge of which is

ABOVE: A mother elephant with an adolescent lifting salt to their mouths in Tubkebir Cave. The elephants usually visit the caves at night to dig the salt from the walls and floors - a vital nutritional supplement.

passed down from generation to generation - find their way to areas of the cave walls or floors rich in the minerals they need to supplement their diets. In at least one cave the elephants also drink salt-rich water from a pool. Elsewhere in Africa and Asia, elephants and other herbivores find minerals from soil-based salt licks, by selectively eating mineral-rich plants or in other ways. On Mt Elgon, dense vegetation covers the ground and high rainfall leaches the minerals from the soil.

The elephants, other herbivores and even bats on Mt Elgon obtain the salt they need from strata of volcanic ash. This forms a softer rock and yields easily to gouging with tusks. The result is not just a receding cliff face but caves where the ash is overlain by hard lava that resists collapse. Whether digging by elephants results in just enlargement of the caves or the creation of caves is unknown - but it is not impossible that some have been dug entirely by elephants. That said,

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PHOTOS BY CHRISTOPHER POWLES



there is also evidence that water erosion has played a part in forming some of the caves.

Just as the extent of the elephants' unique mining behaviour is beginning to be revealed, so too are threats to their survival. This, along with the wider precarious environmental status of Mt Elgon, provides a strong call to urgent action or this important regional population of elephants may be lost. In response, the EAWLS-MEEP conservation project has been formed to investigate the status, behaviour and spatial distribution of the elephants and to propose ways to mitigate the threats to their survival.

It is currently unknown how many elephants remain on Mt Elgon. Local estimates range from 300 up to around 375. Some are being lost to poachers but their short tusks, worn down by mining in the caves, make them less attractive as an ivory resource. The key risk lies in human-elephant conflict.

ABOVE: Baby elephant learning from its lactating mother to dig for salt, in Tubkebir Cave.

INSERT: A lone elephant emerging from Chesikwa Cave.

In recent years, crops grown under the Plantation Establishment Livelihood Improvement Scheme (PELIS) (colloquially referred to as the *Shamba System*) in or adjacent to elephant range areas in Kenya Forest Service (KFS) land to the south of Mt Elgon National Park have experienced widespread raiding by elephants. This has resulted in the tragic death of local people, as well as elephants. Hence, there is an urgent need for up-to-date data to inform decision making about PELIS deployment and place human-elephant co-existence at the core of that activity. Without a land-use plan that mitigates human-elephant conflict, as the density of human occupation grows, the number of elephants will fall until they are locally extinct. While a remnant population might survive in the Park, both the extensive culture of 'elephant mining' now being revealed as well as a potentially significant opportunity to boost tourism could be lost forever.

To begin supporting KFS and to help improve PELIS deployment, the authors have been instrumental in the restoration of a near-100-year-old water channel that originally brought water down the mountain to a long-gone coffee



PHOTO BY STEPHEN POWLES

processing area. The little water that still flowed served the main KFS seedling nursery. Restoration of the channel, now largely complete, should increase seedling production from around 1 million to between 3 to 5 million seedlings per annum. Other ways to support KFS' work are being explored.

Partners in EAWLS-MEEP, as well as NMK and KFS, are Kenya Wildlife Service (KWS), the Elephant Crisis Fund (ECF) and the Powles family. Critical knowledge has been provided by a former local resident, Charles Kerfoot who, with others, is working to galvanise support from the Mt Elgon diaspora. Project management and data analysis are provided by Lizbeth Mate and Clarine Kigoli respectively, who are supported by a Strategic Adviser, Zeke Davidson, and EAWLS Director of Operations, Daniel Letoiye. Their work builds on important earlier work since 2000 led by the well-known conservationist, Ian Redmond.

Camera trapping has provided photographs of elephants in three of the caves and some preliminary behaviour information. Initial maps have been produced and the next stage is to produce more detailed maps of the elephants' range area and habitat use. The work on the ground is being carried out by locally-employed scouts and KWS personnel, led by KWS Senior

ABOVE: Elephant tusking marks in Kitum Cave, Mt Elgon National Park, Kenya. Mt Elgon offers untamed wilderness, in secluded splendour. The mountain is unique in that it has two parks, split by the Kenya-Uganda boundary, and is managed by the parks departments of the individual countries. It has been declared a UNESCO Man & Biosphere Reserve.

Research Scientist, Anastacia Mwaura, and supported by the EAWLS-MEEP team. This structure reflects the local working environment which is challenging due to altitude, climate and inaccessibility. It is also important for capacity-building and to stimulate the creation of local alternative livelihoods linked to conservation. Work has begun to evaluate what community-based conservation initiatives could be implemented to foster the creation of alternative livelihoods.

The elephants historically ranged across the whole mountain, including on the Ugandan side. During the 1970s, however, the population there was wiped out. Now the entire Ugandan side of the mountain is a National Park with no elephants, while on the Kenyan side there is only a small National Park and an elephant population under significant pressure. As a longer-term objective, EAWLS-MEEP will explore drawing elephants to caves on the Ugandan side, reported to have once been used by them, perhaps by laying salt trails and scent attractants.

Mt Elgon is not on the traditional tourist circuit, so is less visited than many of East Africa's national parks. However, the area is now easily accessible to visitors using scheduled flights to Kitale. The journey then to the National Park takes only around 40 minutes where there



PHOTOS BY CHRISTOPHER POWLES

ABOVE: An indigenous forest valley in Mt Elgon Forest Reserve leading to Kebenob Sabiny rock shelter.

BELOW: A high wall of salt in Tubkebir Cave that is mined by a large bull elephant.



are self-catering facilities that provide a base from which to explore Kitum Cave, Chepnyalil Cave and the forest. Currently, a 4x4 vehicle is advisable. Exploration of Mt Elgon on foot offers a very different experience to visiting most of Kenya's national parks and trans-boundary hiking up to the caldera and down into Uganda can be organised.

Unlike other high mountains in East Africa, the upper regions of Mt Elgon are little visited. Scaling the caldera's peaks that rise to over 4,300 metres is not difficult with the right planning. At roughly 80km by 50km, Mt Elgon is said to have the largest base of any free-standing volcano in the world and so offers extensive areas of remote wilderness. The study area is currently very inaccessible but, as the elephant activity in the area is increasingly understood and land use recommendations are made, it is proposed that trails are developed into the area. Then this, hitherto, little-visited mountain will reveal more of its fascinating secrets to the outside world. ●

Anyone wishing to contribute to MEEP's work is advised to visit: www.gofundme.com/f/mt-elgon-elephant-project.