



## *Brief Communication*

# STRANGE FOOTPRINTS IN KENYA

Esteban Sarmiento<sup>1\*</sup>, Jeff Meldrum<sup>2</sup>

<sup>1</sup>*Human Evolution Foundation, East Brunswick, NJ;*

<sup>2</sup>*Department of Biological Sciences, Idaho State University, 921 S. 8th Ave, Pocatello, ID 83209*

**ABSTRACT.** Footprints can often provide evidence of the existence of a specific animal and may be crucial in verifying the presence of cryptic species. Because of varying substrate conditions and preservation, the evidence they provide can be very ambiguous and may be susceptible to hoaxing. We present the reported description of the footprints of an unknown animal that appeared in a cattle boma in Lakipia, Kenya, followed by our analysis that suggested the prints were hoaxed. In this case, that fact was subsequently borne out by the admission of the hoaxers. It is our hope that more rigorous description and documentation of prints in the literature will help us to more effectively distinguish hoaxes from *bona fide* animal prints, and help to identify *bona fide* cryptic species and their distribution.

**KEY WORDS:** Africa, primates, hoax

On February 23, 2012 on the Suiyan ranch in west Lakipia district, Kenya, herders discovered the unusual trackways of an unknown animal they assumed had spent the previous night in a nearby cattle boma. They based their assumption on trackways leading to what appeared to be an impression of an animal body and unusual sounds that had been emanating from the boma during the past week. The herders reported the trackways and their observations to the office of the Living With Lions Project, the proprietors of the boma. Project biologist Steven Ekwanga and Gilfrid Powys confirmed the presence of tracks and photographed trackways and some of the individual prints using a Nikon camera lens cap (57 mm diameter) as a scale (Fig. 1). Similar trackways on the same property were subsequently found around a nearby goat boma. At the time, Powys and Ekwanga believed the prints resembled those of a chimpanzee (Fig. 2, 3.). Gilfrid and Anne Powys sent photographs

of the individual prints and trackways to African field biologist Tom Butynski for identification who in turn sent them to one us (EES).

Of the three individual prints photographed close-up, two are short from front to back and one is relatively longer. Given a known diameter for the lens cap we were able to measure the prints from the photographs. The longer print is approximately 126 mm (5 in) long and 83 mm (3.3 in) wide. Although approximately the same width, the other prints are shorter: 102 mm (4 in) and 89 mm (3.5 in) (Fig 1).

All prints have what appears to be a palmar/plantar pad with a 4 digit impression. Without examining the original trackways the initial assumption was that the printmaker was likely a quadruped. The long print represented the hindfoot impression and the shorter set of prints the forefoot impressions. On the longest photographed print, the impression of the

supposed plantar pad is 85 mm long. On the shorter prints the impression of the presumed palmar pad is 62 mm long. The two middle digit impressions are 27 mm (1.0 in) long and 17 mm (0.7 in) wide. The impressions of the outside digits have a similar width but are shorter, approximately 23 – 25 mm (0.9 – 1.0 in). None of the impressions made by the digits radiate outwards; all are parallel and close to each other.

Presence of what appears to be large plantar/palmar pads eliminates the possibility that a bird could be responsible for the prints. The fact that there are no claw prints associated with any of the digits eliminates the possibility of the prints being made by a known African reptile and also by a large number of mammals (Kavanagh, 1999; Jaeger, 2001). Most carnivores, aardvarks, scaly anteaters, porcupines and other large rodents, all leave evident claw marks. With the exception of bears, the prints are too elongate to belong to any known carnivore. The absence of bears in Africa and of claw marks in the prints, render it unlikely that it could have been made by a bear. The presence of an even number of digits eliminates all the odd-toed ungulates (i.e. perissodactyls, equids, rhinoceroses, and tapirs) as possible print makers. The presence of clear digits with what appear as plantar/palmar pads eliminates all those mammals with hoofs i.e. most ungulates. Although hyraxes have large palmar/plantar pads and do not have claws, they have four-toed forefoot and three-toed hind foot impressions that are smaller in size, also ruling them out as the possible printmakers.

The long print is in the size range of a large baboon and exhibits a superficial resemblance to that of a primate (Fig. 4). The impressions of the digits, however, seem to be too large for baboons, but too small proportionately to be the knuckles of gorilla or chimpanzee. They are more or less the size of an adolescent human. Since neither one of us had seen prints like this before, and could not infer what

common animal could have made them, we questioned their veracity and enlarged the photographs for closer inspection.

On an enlargement it can be seen that the circumference (outside edge) of the plantar/palmar pads are very well defined and form a deeper imprint than the central part of the pad. In fact, the central part of the pad has a rear-pointing, delta-shaped midline ridge with high relief. Here the substrate is very lightly compressed dividing the pad impression in two. As such, what we initially interpreted as a plantar/palmar pad impression, actually bear a striking resemblance to a hoof print (Fig. 5). Due to incompleteness of the print there is some question as to whether the hoof is fully cloven and belongs to an artiodactyl or it is a single hoof and belongs to an equine. The contour of the longest hoof print suggests a large cow-sized artiodactyl. Notably, the digit impressions appear to be fresher than those of the pads (i.e. hoof), i.e. in the digit prints the substrate is better compressed with fewer collapsed edges and less debris. The digits also appear to imprint deeper than the pads. All of the above suggests the impressions are overprints. After an unspecified span of time elapsed, the hoof prints were overprinted by the knuckle prints of an adolescent chimpanzee or human, or less likely the digit impressions could represent the paw prints of a leopard, with the leopard's palmar/plantar pad impression being lost in the overprinted hoof. Because this superimposition of prints occurred repeatedly there is a strong possibility that it was fabricated and not a serendipitous occurrence.

According to the herders, the trackmaker returned a second night to the cattle boma and banged on the mabati trying to get in, while making jackal-like noises. On the second day Anne and Gilfrid Powys proceeded to track the unknown print-makers. After three hours of thorough searching throughout the bushes surrounding the boma, they determined that the printmaker had never left the general area,

not even to drink at a nearby waterhole. Guided by our suggestion that the prints were fabricated and the observation that left and right prints were not discernible, they concluded that the prints were a hoax. Attempts by them to make similar impressions with their knuckles on the trailing edge of a hoof impression produced prints similar to those in question.

Eventually one of the herders acknowledged responsibility for the prints. He explained that a nearby sheep boma had been raided by armed men two nights before, and the herders had lost all their belongings. Therefore, they were feeling vulnerable and wanted to be moved to a safer area. Fabricating the strange tracks of an unknown menacing creature was the best plan they came up with.

Footprints often provide the most readily available evidence for the existence of reclusive, often nocturnal species of mammal.

Tracks are often crucial in verifying the presence of cryptic species. When conditions are less than ideal, ambiguities in track morphology may lead to misidentifications. The possibility of intentional hoaxing must be taken into account in all situations. The growth of the field of ichnotaxonomy has heightened awareness of tracks as a source of vital information about animal species (Lucas, et al., 2007). It is our hope that the reporting of footprint evidence will include more rigorous description and documentation of prints, resulting in the accurate identification of footprints, to more effectively distinguish hoaxes from *bona fide* animal prints, and help to identify valid cryptic species and their distribution.

**Acknowledgements.** We thank the staff of the Living With Lions Project for bringing this case to our attention and sharing their insights, and reviewers for helpful comments.

### LITERATURE CITED

Jaeger, E (2001) Tracks and Trailcraft. Gilford, CT: Lyons Press.  
Kavanagh, J (1999) African Animal Tracks: An Introduction to the Tracks & Signs of Familiar

Species. Dunedin, FL: Waterford Press.  
Lucas SG, Spielman, JA and Lockley MG (2007) Cenozoic Vertebrate Tracks and Traces. New Mexico Museum of Natural History Bulletin 42. Albuquerque, NM: New Mexico Museum of Natural History. 330 pp.



**Figure 1.** Unusual footprints discovered by herders near cattle boma in Kenya. The lens cap measures 57 mm (2.2 in) in diameter.



**Figure 2.** Footprint in sand of a juvenile chimpanzee (scale in cm).



**Figure 3.** Plantar view of the foot of a chimpanzee.



**Figure 4.** Handprint and footprint of a chacma baboon (credit: AfriPics.com).



**Figure 5.** Cape Buffalo hoofprint.