

Sasquatch Footprints: Can Dermal Ridges be Faked?

Introduction

In May 1987 six very fresh giant human-like footprints (approximately 45 x 15 cm) were discovered in the Blue Mountains of southeastern Washington State by myself and a student. These tracks resembled those that have been reported throughout the Pacific Northwest and which some attribute to the Sasquatch, or Bigfoot, a legendary, bipedal, human-like creature (Green 1978). With the exception of a single scuff mark, and one print over a bent shrub, each footprint was a complete, very clear impression, approximately one centimeter deep in the firm damp soil of the trail, or somewhat deeper in the softer soil beside the trail. These particular tracks were of special interest because they were extremely fresh and because upon close inspection they were found to contain distinct impressions of dermal ridges. Dermal ridges are the tiny swirls or concentric ridges on palms and digits of hands and feet that leave "finger prints" or "toe prints." Such friction skin is found only in primates.

Given the presence of the ridges, the general crispness of the footprints, and the fact that it had been raining lightly during the afternoon the prints were found, it seemed likely that the prints were perhaps only a half-hour old when first found. Unfortunately, the ridges did not transfer to plaster of Paris castings that were made the following day. These casts were made by Paul Freeman who, unlike us, had the necessary materials with him.

However, several years earlier, in June of 1982, plaster casts made by Paul Freeman, then a U.S. Forest Service patrolman, from similar tracks in the same general region did yield distinct dermal ridge impressions. Casts of these earlier tracks were analyzed by several dermatoglyphic experts (including Douglas M. Monsoor, a Colorado criminologist; Robert D. Olsen, with the Kansas Bureau of Investigation, and Edward Palma and Benny Kling, with Wyoming law enforcement offices) who all concluded that

it would be extremely difficult, if not impossible, for someone wishing to make fraudulent "Sasquatch" tracks to also produce such fine detail as these ridges (Krantz 1983). They all found the pattern consistent with foot arrangements, and not patched together from several hand impressions. Even though Krantz's analysis of the 1982 casts led him to discount the possibility of deliberate faking in that case, the circumstances of the 1987 tracks led me to test the feasibility of artificially producing prints of dermal ridges. I was especially puzzled by the remarkable perfection of the tracks and their distribution along the trail. Although the tracks were randomly distributed along a quarter-mile stretch of trail over basically uniform ground, only a single pair of sequential left-right prints were found. The other associated print was a single scuff mark found 10 meters up the trail from a print very deeply pressed into the center of the trail. It was difficult to explain why so few tracks were found on so much available soft soil. The possibility that they had been artificially planted could not be ruled out, but it was necessary to account for the presence of the detailed dermal ridge impressions.

Krantz (1983:72) reported that some critics had speculated that dermal ridges could be produced using rubber castings. He also observed that the wind-blown loess topsoil of southeastern Washington was fine enough to hold the imprint of dermal ridges and demonstrated with his own thumbprint that ridges could be transferred from skin-to-soil and then to a plaster cast. I was interested to see if entire footprints could be produced, complete with such ridges. The purpose of this experiment was to determine if dermal ridges could in fact be produced in a deliberately faked footprint.

Methods

In order to produce dermal ridges, a mold of a 44 cm sasquatch-like footprint was shaped from modeling clay. I then carefully rolled my bare big toe in the soft clay to leave clear dermal ridge impressions. I rolled my heel across the heel of

the mold, and imprinted my forehead on the center of the clay footprint. Additionally, impressions of hand and feet skin were made with Elmer's glue and dried pieces of glue pressed into the clay. Plaster of Paris was then poured into the mold and allowed to harden. Upon removal, impressions of dermal ridges were clearly visible in the resulting cast. An outline of the track was then traced on the damp ground, the soil beneath was loosened with a screw-driver, and the plaster cast was pressed firmly into this prepared soil. In order to make a good impression, it was necessary to stamp on the cast. (The cast was broken in the process, but this seemed not to affect the impression). Fresh plaster was then poured into the impression in the soil, and the second cast was examined. It also faithfully reproduced the dermal ridges that were imprinted into the original clay mold.



Figure 1. Human-like footprint, "Sasquatch," next to shoe of the author. Photograph taken in May 1987 in the Blue Mountains of southeastern Washington.

Discussion

Under the right soil conditions, impressions of dermal ridges can easily be transferred from skin-to-clay, from clay-to-plaster, from plaster-to-soil

and finally from soil back into plaster. Even more remarkable was the transfer from first skin-to-glue and then into the same transfer sequence: clay to plaster to soil and into plaster again, although the resulting cast in this case was a "negative" print.

Krantz (personal communication) readily recognized that the resulting cast I produced was a clumsy fake because of the crudely-shaped toes, and seven dermatoglyphic experts (certified latent print examiners in Washington, Oregon, and California, and another visitor from Scotland Yard) readily determined that the ridges were not correctly situated.

Dermal ridges can be faked in footprints with relative ease, at least under certain soil conditions. This experiment certainly does not prove that the specific tracks examined in May 1987 were fakes, but it does suggest that any purported sasquatch prints containing impressions of dermal ridges need to be carefully evaluated for the possible presence of patching or other irregularities throughout the entire footprint.

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Literature Cited

- Green, John. 1978. *Sasquatch: The Apes Among Us*. Seattle: Hancock House.
- Krantz, Grover S. 1983. Anatomy and Dermatoglyphics of Three Sasquatch Footprints. *Cryptozoology* 2:53-81.

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