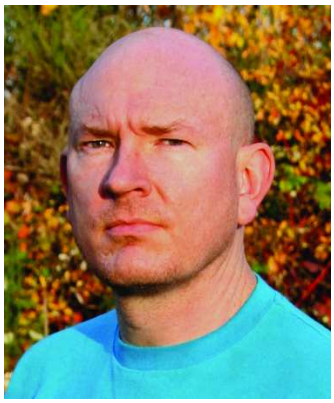
Matt Crowley & the Dermal Ridges Controversy

I requested Matt Crowley to prepare the following report so that we would have a complete understanding and a proper record of his unique discovery. I highly commend Matt for the work he has done in both this area and other areas of sasquatch research.



Matt Crowley

Dermal Ridges & Plaster Artifacts

by Matt Crowley

Among Dr. Jeff Meldrum's collection of plaster casts of alleged Sasquatch footprints are a set of casts claimed by Meldrum to be original casts from the 1967 Onion Mountain–Blue Creek Mountain trackway. These casts were given unique designations by Grover Krantz in the form of the letters "CA" then a serial number written in ink on the dorsal surfaces of the casts.

CA-20 is more or less a featureless blob, lacking fine detail. It is reasonable to assume that whatever made the track in first place was foot shaped and well defined, whether it was a Sasquatch foot or a human hoax. Either the impression in the soil was not clear to begin with, or the track degraded, or both, resulting in the featureless cast seen in Figure 1.

Figure 1: Cast called CA-20.

Since the gross track morphology was so degraded by the time the cast was made, any fine surface detail would be gone too. Thus it is unreasonable to infer that the ridge detail seen on the surface of CA-20 represents the texture of what made the track in the first place. Indeed, the ridges are obviously not dermal ridges, as they are much too large, much too irregular, and abut deep and meandering fissures.

So what exactly are these spontaneous ridges? They are *desiccation* ridges, a term coined by a geologist, Dr. Anton Wroblewski. Desiccation ridges are spontaneous ridges that often form on plaster casts made in substrates that are desiccants, or materials that strongly "wick" water. Law enforcement officers usually use "fixatives" like hair spray in tracks before casting, partly to avoid this misleading phenomenon. According to John Green, who cast the tracks, no fixatives were used.

Figure 2: Meldrum s loess soil cast.

Desiccation ridges have been demonstrated in casts made in a variety of purified inorganic substrates and natural soils. Regardless of substrate, the resulting ridges exhibit a familial resemblance to each other. Two fundamental characteristics of desiccation ridges are shown here in a cast made by Jeff Meldrum in the loess soil of Idaho (Figure 2).

The innermost circle is where the poured plaster slurry first hit the substrate. The arched bands of ridges further out from the center are characteristic as well, and can be used to infer the original center if it is not readily evident. Desiccation ridges usually occur in arched bands that form about a center, somewhat similar to rings on a tree stump.

Desiccation ridges often cluster at the very perimeter of the casts, and also exhibit a "ridge flow pattern" that is a function of the shape of the track they were made in. Here is a photo of a test cast made in pumice (Figure 3).

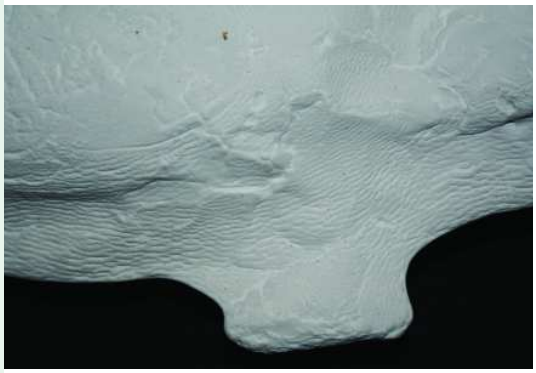


Figure 3: Pumice test cast.

Figure 4: CA-19 dermals.

Figure 5: Cast made in silica.

Figure 6: CA-19 band of ridges.

Figure 7: Test cast.

Figure 8: CA-19, side of cast.

The cast that has been claimed to exhibit “dermal ridges” is labeled “CA-19”. It is slightly more defined than CA-20, but not by much. The majority of ridges on CA-19 run in an elliptic band roughly in the center of the cast. At the center of this band is a subtle semi-circle that likely represents the point of first slurry impact. This simple feature, the elliptic band of ridges about a center, is one of the fundamental clues that these are desiccation ridges, not dermal ridges. One section of ridges located on the medial side has been specifically suggested to be “dermal ridges” (Figure 4).

However, even the most well ordered segment of ridges on CA-19 falls well within the familial resemblance of known desiccation ridges, as seen here in a test cast made in silica (Figure 5).

But the segment of ridges that is located 9 cm anterior of the heel on CA-19 exhibits an absolute hallmark of known desiccation ridges, namely an arched furrow bounded by ridges (Figure 6).

This patch of texture obviously looks nothing like real dermal rides, but is a perfect match for known desiccation ridges (Figure 7).

Furthermore, the ridges on the lateral margin of CA-19 are grossly irregular and much larger than real dermal ridges; some approach 2 mm in width. The clustering of ridges on the side of the cast is highly anomalous for real dermal ridges, but is totally characteristic of known desiccation ridges (Figure 8).

A third cast, labeled CA-6, also exhibits ridges completely consistent with known desiccation ridges.

For those unfamiliar with desiccation ridges, the textures on CA-20, CA-19 and CA-6 may seem unusual, but they indeed have a prosaic explanation.

Matt pouring plaster for an experimental cast. He has done considerable work on footprints and plaster casting, bringing to light much-needed information on these subjects. I have known him for some years now and can attest that he is highly methodical and very exacting in everything he does.