



## Mummified Fingers Produce Identifiable Fingerprints

By: Anthony Mead, M.S.

Challenges come in all shapes and sizes. How we handle these challenges and the results we are willing to accept, at times, determine the outcome of a case. The ability to take a simple process and not settle for the obvious solution cannot only help a Department, but also may reach further than you think.

Case in point. Our office was presented with a partial skeleton. The body was that of a white male. There was some clothing with the body, but mostly it would crumble and disintegrate upon touch. No identification was located and the skin that was present was mummified. The police developed a lead within a week. A gentleman in another state contacted the police department after reading about the case in a newspaper. This man identified himself as the possible father of the person recovered. According to the father, his son had been missing for several years and had an alcohol problem. He wanted to confirm if in fact, this was or was not his son. The police notified our office of the possible identification provided by the father. A record check determined the person having the name given by the father had been arrested in our county and a set of fingerprints was available for comparison.

**PROBLEM:** Upon reviewing the remains, I observed they were predominantly skeletal. The only tissue located was very leathery and referred to as mummified tissue. I observed that the victim had mummified tissue on the palmer aspect of the right hand. Upon checking the tissue (see photos 1&2), I noticed the tissue was non-pliable, wrinkled, and blackened. The only viable tissue present was the first joint of the ring finger of the right hand. All other fingertips of the right hand had decomposed to a point where the bone protruded the tissue of the distal joint of each finger. I was left with the tissue of the number four finger pad. No ridge detail was visible.

**PROCEDURE:** I decided to attempt to hydrate the finger. I first amputated the finger at the head tuber-

cle of the fourth digit of the right hand. Upon removal, a soft scrub brush and liquid soap were used to clean the digit under warm water. A very light brushing was done just to remove the exterior dirt. I then soaked the finger for 24 hours in warm water to introduce fluid into the tissue. At the 24-hour mark the finger was removed from the water and ridge detail was visible. The tissue was somewhat pliable at this point, but not pliable enough to print. At this time the tissue of the finger was removed by making a lateral incision starting at the second joint and crossing the distal end at the base of what had been the anterior aspect of the nail bed. An incision was then made from the lateral incision around the palmer aspect of the finger to the opposite lateral incision line. All tissue was then separated from the bone (see photo 3). The tissue was again soaked for 24 hours in warm tap water. The remainder of the finger was returned to the skeletal remains. After the 24 hours had elapsed, the tissue was removed from the water and checked for a viable fingerprint. The tissue was found to be pliable and still retained its elasticity. Ridge detail was observed. The tissue was dried by the use of a clean towel.

**SOLUTION:** The tip area was then treated with fingerprint ink and printed onto a fingerprint strip. Upon initial review, we could see a definite whorl type pattern. There were areas that the ink had not adhered and a void was left on the impression. I next took a #11 scalpel blade and removed underlying tissue. Great care was taken so as not to cut the surface of edges of the tissue. This was a fragile print that could easily tear. After removing some of the underlying fat, another attempt was made to acquire a good rolled impression. This process was the longest in terms of actual work with the tissue. In the end, I worked for over four hours in removing tissue and rolling impressions. I was able to obtain a fairly good impression that included the core and one of the deltas (see photo 4). Thirty rolled impressions were made

and then turned over to the Latent Fingerprint Section for comparison (see photo 5). The latent examiners viewed the impressions and initially determined that there were no dissimilarities between the rolled impression of the unidentified and the tenprint card of the missing person, but that positive identification would take more examination.

Disheartened, I returned to the morgue and decided that his was not good enough. I then cleaned the finger to remove the ink and again dried the tissue by the use of a hand towel. I decided to place black powder on the fingertip. I used black volcanic powder and a nylon brush. I attempted to roll the impression onto a fingerprint card. I did not encounter the best results. The impression was smudged. I placed the ridge area onto fingerprint tape. This seemed to work well and left a good impression. I placed the impression on a fingerprint card and marked the impression as reversed. I delivered this impression to the Latent Examiner Section. After initial review the Latent Examiner advised that the rolled impressions were of better quality and detail.

**CONCLUSION:** Working closely with the Latent Examiners, I was finally advised that there was a positive identification of the deceased. With the results, we did not have to go to the expense of DNA testing. Especially when you consider that the only next of kin available (living) was the missing man's father who resided in New York. We were facing collection technique and transportation problems as well as the delay in testing itself prior to identification.

Keeping a good working relationship with the laboratory personnel is essential for proper results. I was happy to see that we have persons we can rely on that care enough to assist in experimental projects. This is a team effort and we all must be willing to break out of the "norm" and try something different. The end result was a positive identification and a letter of appreciation to the Latent Examiners



for their assistance in a difficult task.

As a note of interest, I attempted the same process with another finger and it took 48 hours of initial soaking to hydrate the tissue. This process may not work all of the time, but if we stop looking and attempting different processes, then we need not advance our careers. To become stagnant in our field is the greatest disrespect we can exhibit.

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Mark McDonald of the Palm Beach Sheriff's Office, Identification Division for their efforts in assisting in the identification. Without their assistance, identification would still be pending.

*(Anthony Mead works for the District 15 Medical Examiner's Office as the Forensic Investigations Supervisor.)*

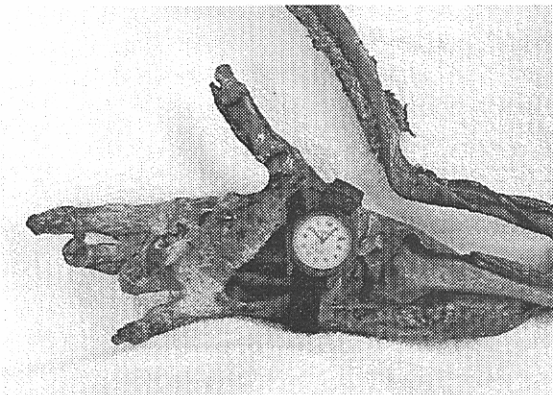


Photo 1



Photo 2

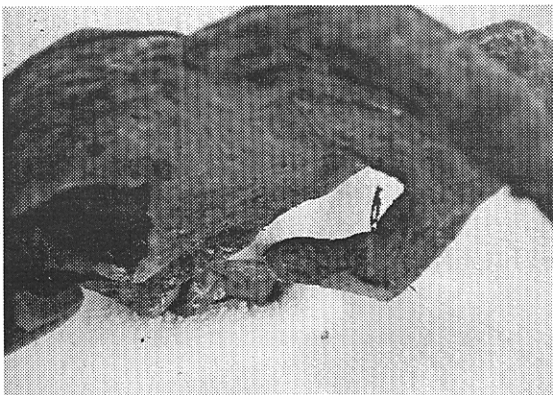


Photo 3

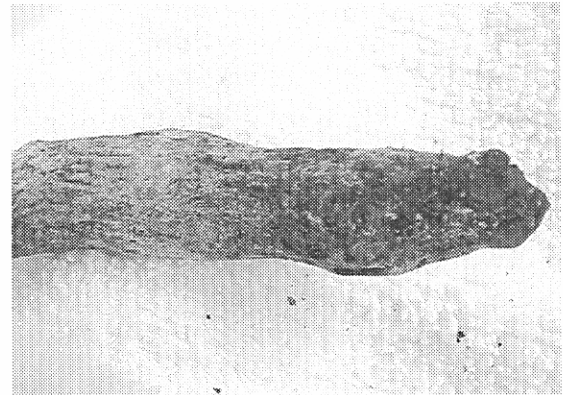


Photo 4

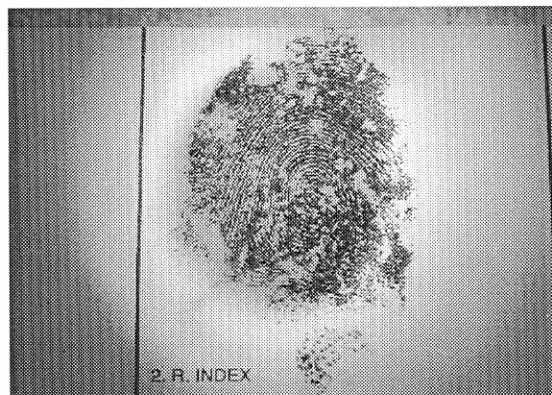


Photo 5