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MISSOURI DIVISION INTERNATIONAL ASSOCIATION FOR IDENTIFICATION

2012-13 MOIAI OFFICERS

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QUARTERLY NEWSLETTER

Who What Why: How durable is a fingerprint?

Hans Galassi lost several fingers in a wakeboarding accident several months ago. Now one of them has been found in a trout - and identified as Galassi's from its fingerprints. So how long do fingerprints last?

The vast majority of people are born with a unique set of fingerprints which remain the same for life.

These patterns, known as friction ridges by experts, are found not only on our finger-tips but also on the flanges of our fingers, on our palms, our toes and on the soles of our feet.

The patterns are permanent, but can wear down. Builders who lay bricks and people who frequently

wash dishes by hand lose some of the detail. Once they stop these activities, the ridges will grow back.

As fans of crime movies will know, from time to time people have tried to change their fingerprints patterns artificially.

A deep cut through the outer layer of the skin, the epidermis, and down to the dermis leaves a scar that will change a fingerprint, but not make it any less unique.

People have also sought to erase their fingerprints by burning the finger-tips with fire and acid, as the notorious 1930s American

gangster John Dillinger did. It works for a while but the skin grows back.

Another criminal, Robert Phillips, famously grafted skin from his chest on to his fingers to erase his fingerprints - but he was

(see FINGERPRINT page 2)



John Dillinger (in waistcoat) tried to burn off his fingerprints

Burn victim identified by maggots on body

When Mexican police found a body in the woods it was burned beyond recognition, its DNA too damaged to be used for identification. Luckily, investigators were able to extract DNA from elsewhere - the digestive systems of maggots that had

been feeding on the body. This is the first time that human DNA from a maggot gut has been analyzed in this way to successfully identify a victim in a legal case.

Police suspected that the body was that of a woman who had been abducted 10 weeks earlier because they

found her high-school graduation ring near the crime scene. But when forensic investigators failed to obtain a decent DNA sample from any of the body's tissues, they turned to a team of pathologists at the Autonomous University of Nuevo León in San Nicolás, Mexico.

See MAGGOTS page 3

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It Just Got Easier...

The Missouri Division now accepts credit cards for payment of membership dues, registration fees, and merchandise sales. For more information, see the story on page 3.

Fingerprint (from page 1)

identified from the prints of his palms. Others have tried smoothing their fingertips with glue and nail varnish. Again they were caught from palm prints.

Friction ridges are remarkably long lasting even after death, says fingerprint expert Allen Bayle, author of the UK's standard police manual on dead hands.

"If a hand is found in water you will see that the epidermis starts to come away from the dermis like a glove. This sounds gruesome but if a hand has been badly damaged, I cut the epidermis off and put my own hand inside that glove and try to fingerprint it like that," says Bayle.

"Some boys we get out of the water, the fish have been at them already and the fish will have pecked at the epidermis. But you can still get ridge detail from the underside of the epidermis. And if that

has gone, then you can do the dermis. For every ridge you have on the epidermis, you have two on the dermis - we call it a tramline effect."

The speed at which a hand disintegrates in water depends on many things, not the least of which is the temperature of the water itself.

"If the water is very cold, it could stay for a long time," says Bayle. And the body of a trout, the fish that swallowed Galassi's finger, is just as cold as the water it swims in.

Galassi's finger was found in the trout's digestive tract - why hadn't it been digested? We shall never know how long after the accident the fish ate the finger, but Bayle thinks even if the thick layer of epidermis had been digested, Galassi's

finger could still have been identified from its dermis.

"We can cast [the finger], for example in latex, and then we can ink the cast. Or we can ink the dermis and roll it on a fingerprint form. When we have got some ridge detail then we can put it on the computer."

In the case of Galassi, Idaho police took a day searching case files and reports to narrow down where the finger could have come from. They then fingerprinted the stray digit and sent it to the state police forensic lab where technicians were able to identify its owner.

"One of the last things to disappear when you die are your fingerprints," says Bayle. "They're very durable."

Reprinted from *Forensic Magazine* based on an article from the BBC.

Who are the Missouri Division Officer's

President—Stephen Warlen—Steve has been with the Kansas City Police Department Crime Lab since 1972. He is a member of the Missouri Division IAI and the parent body IAI. Steve has served as president twice before and chairman of the board.

1st Vice President—Kevin Bushery—Kevin is currently employed at Ballwin Police department, and has been for 30 years. His current assignment is command of the Division of Criminal Investigations. He is a life active member to both the Missouri Division IAI and the parent body IAI. Kevin has served as secretary and 2nd Vice President.

2nd Vice President—Dale Perry—Dale is currently employed with the Independence Police Department and has been for 19 years. His current assignment is a Crime Scene Investigator. Dale is a member of the Missouri Division IAI. Dale is certified as a Crime Scene Analyst. Dale has served as a board member.

Treasurer—Holly Haarmann—Holly is currently employed with the Missouri State Highway Patrol and has been for 12

years. She is a Senior CJIS Manager of the Biometrics Serviced Unit. She is a member of the Missouri Division IAI and has recently served as Regional Representative.

Secretary—Kimberly Clarkston—Kim is currently employed with the Missouri State Highway Patrol in the CJIS Department as a Fingerprint Technician Supervisor. Kim is a member of the Missouri Division IAI and has served as a Regional Representative and Board Member.

Board Member—Shirley Talken—Shirley is currently an instructor at Columbia College in fingerprinting and fingerprint identification. Shirley is retired from The Missouri State Highway Patrol where she was employed for 31 years. Shirley is a member of the Missouri Division IAI.

Board Member—Jackie Pace—Jackie is currently employed with the Independence Police Department and has been for 23 years. Jackie is currently assigned to the position of Latent Examiner. Jackie is a member of the Missouri Division IAI and Parent Body IAI.

Chairman of the Board—Robert Paul—Robert is currently employed with the Boone County Sheriff's office and has been for 9 years. Robert is a member of the Missouri Division IAI. Robert has held the offices of Board Member, 2nd Vice President, 1st Vice President, and President.

Historian—Don Smallwood—Don is currently employed with the St. Charles County Sheriff's Office in the Forensic Service Unit. Don has been in this position for 14 years. Don is certified as a Crime Scene Investigator. Don is a member of the Missouri Division IAI.

Editor—Teresa Clerkin—Teresa is currently employed with the Jefferson City Police Department, assigned to the position of Evidence Technician. Teresa is a member of the Missouri IAI.

Regional Representative—Kim Hardin—Kim is currently employed at the Missouri State Highway Patrol as a Criminalist III in the latent print section for 12 years. This is Kim's first year as an officer. Kim is a member of the Missouri IAI.

Maggots (from page 1)

María de Lourdes Chávez-Briones, Marta Ortega-Martínez and their colleagues dissected three maggot larvae collected from the body and extracted the contents of their gastrointestinal tracts. The human DNA they isolated allowed them to determine that the body was female. They then performed a paternity test between this DNA and that of the abducted woman's father. It revealed a 99.7 per cent chance that she was his daughter (*Journal of Forensic Science*, doi.org/jdv).

Although it is rare for a body to be so damaged that investigators would have to resort to this technique, there are other instances in which the process could be useful, says Jeffrey Wells of Florida International University in Miami. For instance, a maggot found in a car could be

used as evidence that the vehicle had been used to transport a particular corpse.

The past decade has seen a lot of research on isolating human DNA from insects, says Martin Hall of the Natural History Museum in London, but it has only rarely

been used in courts. Last year, DNA from the guts of maggots found on a headless corpse and on a head discovered nearby were used as evidence in a Chinese court that the body parts were from the same person (*Tropical Biomedicine*, vol 28, p 333).



You are what they eat

Insects at crime scenes are too often ignored, says Hall. He hopes that the new paper will alert police and pathologists to their potential as crime-fighters

Reprinted from the October 1 on-line issue of *Forensic Magazine*



Tricks of the Trade

Did you know that there is a simpler way to attempt to find fingerprints on vehicle surfaces?

- 1.) Place fingerprint powder on cotton wadding.
- 2) In a circular motion lightly place the fingerprint powder on the vehicle.
- 3.) Use your fingerprint brush to further develop the fingerprint.
- 4.) Then use normal lifting techniques.

Do you have a new way of processing or developing a picture that you created while processing or developing evidence? Forward this new method to the Missouri Division of the IAI editor and your technique may be featured in the next Newsletter.



MOIAI Now Accepts Credit Card Payments

Last month, the Missouri Division began accepting credit card payments for annual dues, conference registration fees, and MOIAI logo items.

The service is provided through "SQUARE", a nation-wide retail service that allows payments to be directly deposited into any bank account by sliding a credit or



debit card through a card reader which is attached to a smart phone or tablet.

This process will enable members and their departments the convenience of paying annual dues and conference registration fees by credit card instead of issuing a check and mailing it in.

The process is as easy as downloading the annual dues renewal

form from the Missouri Division website and completing the requested information. Then just send the page to the Secretary or Treasurer. A small administrative fee will be applied to the total cost and a receipt will be emailed to you. For transactions which use the members card to slide through the reader, you will have the option of having a receipt texted to you if you wish.

**MISSOURI DIVISION
INTERNATIONAL ASSOCIATION FOR
IDENTIFICATION**

Office of the Secretary

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Did you know that the Missouri Division of The International Association for Identification is turning 50?

The division is asking for your help. We are asking that you help us create a new logo to celebrate our 50th anniversary as a division. Send your ideas to 1st Vice President Kevin Bushery at kbushery@ballwin.mo.us.

Look for more details in the MOIAI Spring Newsletter.

Winning entries will be used for all promotional items during the 50th anniversary conference in 2014.

James Gang member exhumation near Kearney canceled

By Kevin M. Smith
Kearney Courier
Reprinted with permission

The exhumation of a James Gang member's grave in Clay County has been canceled.

The Jackson County Medical Examiner's office, which has jurisdiction in Clay County, called off the exhumation order last week for Clell Miller at Muddy Fork Cemetery, on Missouri Highway 33 between Kearney and Holt.

In an email to the James Farm Museum, Hayes Scriven of the Northfield (Minn.) Historical Society said ground-penetrating radar at the gravesite found four graves in a row.

"Because they are not sure who is who in the ground they will not go forward with the exhumation," Scriven wrote in an email to staff at the James Farm, which they shared with The Courier.

Jim Bailey, the forensics professor who was to lead the exhumation, said he was disappointed.

"We had everything in place," Bailey said.

He had a team paying out of their own pockets for expenses related to the exhumation scheduled to come to Kearney the first week of October to begin digging.

"We thought we provided enough evidence in court," Bailey said.

A Clay County judge recently approved the exhumation request.

"I think we'll do some more research on it and apply again in the future," Bailey said.

But, he said, if that research fails to provide more answers or better pinpoint which body it might be then another motion in court would be moot.

Miller was, a member of the James-

Younger Gang, was killed in the botched Northfield, Minn., bank robbery in 1876. A medical student who shot Miller took the body to school in Michigan. The Clay County family asked for the body to be returned home, where it was buried in Muddy Fork Cemetery. Since then, the medical student claimed a skeleton in his closet was Miller's. It was eventually donated to an Odd Fellow's home then acquired by a private individual through an auction. When Bailey, a forensics expert and history buff, learned this he wanted to find answers through DNA. A descendent of Miller's sibling agreed to it.

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